# Ontwerprapport Geotechniek Deeltraject 3

## Onderdeel van het Definitief Ontwerp

**BAM**

Documentnummer: N468-DO-RAP-GEO-0003

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| B | Definitief | | 09-06-23 | | 09-06-23 | | |
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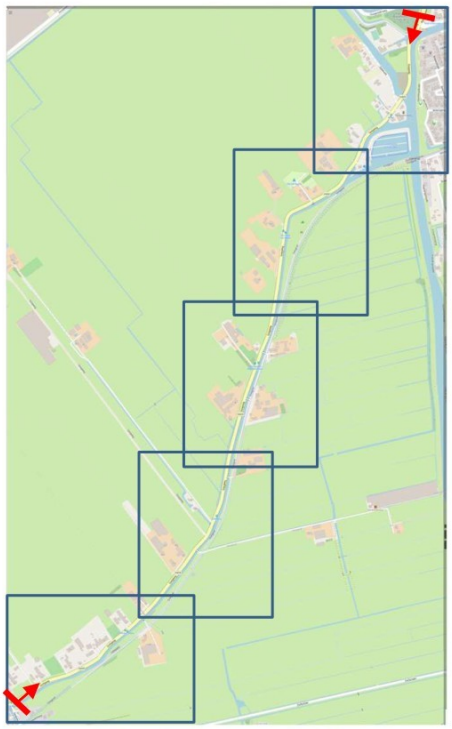
# Documenthistorie Ontwerprapport Geotechniek aardenbaan Deeltraject 3

In onderstaande tabel worden de wijzigingen van de ontwerpnota bijgehouden.

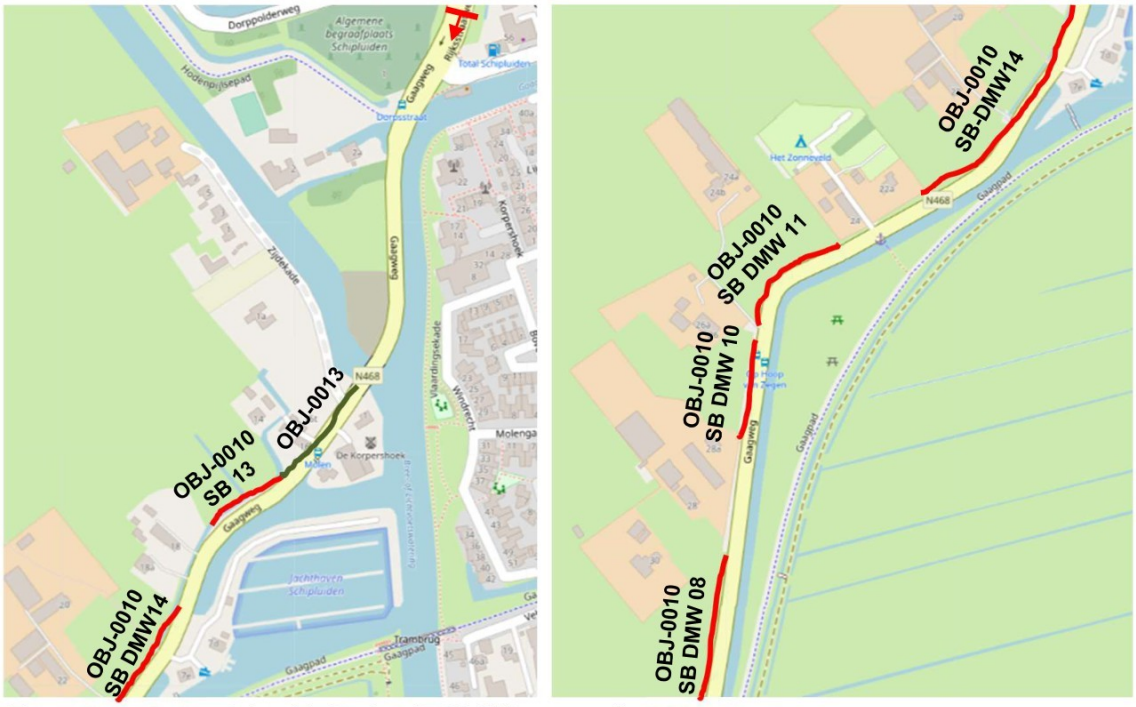
| Rev. | Gewijzigde hoofdstukken en bijlagen | Toets-aspect | Opmerkingen | Wijzigingen |
|---|---|---|---|---|
| A | N.v.t | Inhoudelijk | Voor beoordeling projectteam (extern) | Opmerkingen verwerkt |
| B | N.v.t. | Inhoudelijk | Beoordeling toetser (extern) | Opmerkingen verwerkt |
| C | | | Tekstuele aanpassingen | |
| D | Alle hoofdstukken | | Koevriendelijke variant | Steunbermen uitgevoerd als koevriendelijk |
| E | N.v.t | Inhoudelijk | Voor beoordeling projectteam (extern) | Opmerkingen verwerkt |
| F | 6.2.2 | | Voor beoordeling projectteam (extern) | Controle stabiliteit door toevoegen smalle teensloot SB06 |

# 1. Inleiding

BAM Infra voert in een Bouwteam met de Provincie Zuid-Holland, Het Hoogheemraadschap van Delfland en de gemeente Midden Delfland (contract DOS-2021-0000342) het Groot Onderhoud uit aan de N468 tussen km.10,00 en km. 17,75. In dit Ontwerprapport wordt de geotechniek aardebaan van Deeltraject 3: Gaagweg beschreven. Het deeltraject loopt van km 12,35 tot km 15,3, zie Figuur 1. In Figuur 2 tot en met Figuur 4 zijn de verschillende objecten weergegeven.



*Figuur 1 Overzicht trajectdeel 3*




*Figuur 2 Deeltraject 3: km 14,05 - km 15,30 Objecten en ligging*




*Figuur 3 Deeltraject 3: km 12,95 - km 14,05 Objecten en ligging*




*Figuur 4 Deeltraject 3: km 12,35 - km 12,95 Objecten en ligging*

Het ontwerprapport behandeld de onderstaande geotechnisch ontwerpen:

- OBJ-0010: Stabiliteit en zettingen steunbermen SB06, SB07, SB08, SB-DMW06, SB-DMW07, SB-DMW10, SB-DMW11 en SB13 ten behoeve van Projectplan Waterwet;
- OBJ-0013: Stabiliteit;
- OBJ-0056: Bepaling ontwerphoogtes as N468.
-

Onderstaand is de objectenboom gegeven met de relevante objecten ten behoeve van het ontwerp van Systeem N468. De **rood** gearceerde objecten maken onderdeel uit van deze ontwerprapportage:

- OBJ-0001 Systeem N468:
  - OBJ-0002 Waterkeringen:
    - **OBJ-0010 Steunberm;**
    - OBJ-0011 Damwand (HHD);
    - **OBJ-0013 Bestaande waterkering.**
  - OBJ-0003 Wegen.
  - OBJ-0004 Kabels en Leidingen.
  - OBJ-0005 Waterhuishouding:
    - OBJ-0021 Duikers;
    - OBJ-0222 Inlaten;
    - OBJ-0036 Watergangen;
    - OBJ-0037 Overlaten;
    - OBJ-0045 Primaire watergangen;
    - OBJ-0046 Secundaire watergangen;
    - **OBJ-0056 Boezemkade.**
  - OBJ-0006 Landschappelijke inpassing.
  - OBJ-0009 Constructies:
    - OBJ-0012 Oeverbescherming (bestaand);
    - OBJ-0016 Uitstroom duikers (bestaand);
    - OBJ-0017 Bruggen;
    - OBJ-0018 Grondkering (PZH)
    - OBJ-0020 Beschoeiing
  - OBJ-0024 Installaties.
  - OBJ-0025 Weggebonden objecten.
  - OBJ-0048 Bruggen en duikers

De aangehouden uitgangspunten zijn beschreven in de Uitgangspuntennotitie Geotechniek Aardenbaan (N468-DO-UNO-GEO-0001) hierin staan de eisen en de voorwaarden beschreven. De ligging, vorm en afmetingen van de steunbermen moeten voor een periode van minimaal 12 jaar gewaarborgd zijn. De steunbermen dienen minimaal voor deze planperiode te voldoen aan de minimale hoogte-eis.

Het doel van het geotechnisch ontwerp betreft een goed en veilig ontwerp te realiseren dat onder andere voldoet aan het projectplan waterwet. In dit ontwerprapport lichten we het ontwerp van de geotechniek aardenbaan toe en onderbouwen we de gemaakte keuzes. Daarnaast wordt het ontwerp van de aardebaan getoetst, de risico's worden beschreven en de aandachtspunten bij de realisatie worden gegeven.
Vanuit de omgeving is de wens ontstaan om de steunbermen zogenaamd 'koevriendelijk' in te richten. Door het hoogheemraadschap van Delfland is deze wens vertaald als een eis voor het verdere ontwerp. Dit betekent dat het eindbeeld bestaat uit een dijk met een talud van 1 op 3 en een teen op ca. NAP -1,00 m. vanuit de teen verloopt het maaiveld onder een talud van ca 1 op 10 naar het polderniveau. De teensloot komt te vervallen. De gevolgen voor de waterhuishouding op micro niveau in de dijk, op meso niveau in het achterliggende poldermaaiveld en op macro niveau in de polder door het ontbreken van de teensloot zijn niet nader onderzocht. De gevolgen voor de waterhuishouding rondom opstallen is ook niet nader onderzocht, echter door een lokaal drainage systeem aan te leggen nabij gevoelige funderingen kan dit risico worden gemitigeerd.

## 1.1 Fase ontwerp

Deze rapportage betreft het definitieve ontwerp (DO) van de Geotechniek Aardebaan van de N468 deeltraject 3 de Gaagweg.

In de voorgaande fase is door het Hoogheemraadschap van Delfland een toetsing uitgevoerd (2012 tot en met 2016) op de waterveiligheid van de bestaande waterkering. De waterveiligheid wordt bepaald door de eisen welke vanuit de keur van het Hoogheemraadschap van Delfland worden gesteld. Door het Hoogheemraadschap van Delfland is naar aanleiding van deze toetsing een eindrapportage [16] opgesteld waarbij is vastgesteld welke trajecten van de N468 niet voldoen aan de waterveiligheid.

Door Arcadis zijn oplossingsrichtingen beschouwd en is een voorlopig ontwerp (VO+) [21] uitgewerkt om de waterveiligheid van de bestaand waterkering te borgen. Dit is door TAUW in de vervolgfase verder uitgewerkt tot een basisontwerp (status DO). Het basisontwerp, opgeteld door TAUW, is meerdere malen door het bouwteam getoetst. Vanaf het definitieve ontwerp versie 4.0 d.d. 31-05-2022 is het basisontwerp overgedragen naar het bouwteam.

Het VO+ en het basisontwerp hebben als basis gediend voor de verdere uitwerking van het definitieve ontwerp van de steunbermen, aanberming en de bepaling van de hoogte van de as van de toekomstige N468. Vanuit Delfland is opgelegd dat er scherp getoetst en robuust ontworpen dient te worden. De steunbermen ter hoogte van SB06, SB07, SB08, SB-DMW 06a, SB-DMW07, SB-DMW08, SB-DMW10, SBDMW11, SB13 en SB-DMW 14 zijn robuust ontworpen. Aangezien traject 12.40-12.45 en traject 14.94 – 14.99 volgens de toetsing reeds stabiel zijn is het ontwerp van de wegverbreding slechts getoetst aan de normstabiliteit.

Dit definitieve ontwerp zal in een latere fase worden uitgewerkt in een Uitvoeringsontwerp (UO). De volgende onderdelen worden in het UO verder uitgewerkt:

- Ophoogplan steunbermen (uitvoeringsstabiliteit), incl. verwijderen damwand/beschoeiingen polderzijde;
- Monitoringsplan (zakbakens, waterspanningsmeters etc.).

# 2. Samenvatting

## 2.1 Visualisatie van het object

Deeltraject 3 Gaagweg loopt vanaf de Kwakelweg (km 12,35) tot de Dorpstraat Schipluiden (km 15,30). De steunbermen en de aanbermingen worden gerealiseerd aan de noordzijde van de N468. Op in totaal 10 locaties worden de steunbermen gerealiseerd in verband met de waterveiligheid van de waterkering. In Tabel 1 zijn de locaties van de steunbermen weergegeven.

*Tabel 1 locaties steunbermen*

| Naam | Start traject | Eind traject | Lengte |
|---|---|---|---|
| SB06 | 12.980 | 13.090 | 110 |
| SB07 | 13.195 | 13.300 | 110 |
| SB08 | 13.350 | 13.660 | 310 |
| SBDMW06a | 13.830 | 13.880 | 50 |
| SBDMW07 | 13.885 | 13.965 | 80 |
| SBDMW08 | 13.980 | 14.190 | 210 |
| SBDMW10 | 14.315 | 14.390 | 75 |
| SBDMW11 | 14.400 | 14.490 | 90 |
| SBDMW14 | 14.580 | 14.790 | 210 |
| SB13 | 14.830 | 14.910 | 80 |

Zie onderstaande figuren voor de weergave van de bestaande situatie ter hoogte van de toekomstige steunbermen.



*Figuur 5: Bestaande situatie steunberm SB06*



*Figuur 6 Bestaande situatie steunberm SB06*



*Figuur 7: Bestaande situatie steunberm SB07*



*Figuur 8: Bestaande situatie steunberm SB07*



*Figuur 9: Bestaande situatie steunberm SB08*



*Figuur 10: Bestaande situatie steunberm SB08*



*Figuur 11: Bestaande situatie steunberm SB08*



*Figuur 12 : Bestaande situatie steunberm SB08*



Figuur 13: Bestaande situatie steunberm SBDMW06a



Figuur 14 : Bestaande situatie steunberm SBDMW06a



Figuur 15: Bestaande situatie steunberm SBDMW07



Figuur 16 : Bestaande situatie steunberm SBDMW07



Figuur 17: Bestaande situatie steunberm SBDMW08



Figuur 18: Bestaande situatie steunberm SBDMW08



Figuur 19: Bestaande situatie steunberm SBDMW10



Figuur 20: Bestaande situatie steunberm SBDMW10



Figuur 21: Bestaande situatie steunberm SBDMW11



Figuur 22: Bestaande situatie steunberm SBDMW11



Figuur 23: Bestaande situatie steunberm SBDMW14



Figuur 24: Bestaande situatie steunberm SBDMW14



Figuur 25: Bestaande situatie steunberm SBDMW14



Figuur 26: Bestaande situatie steunberm SBDMW14



Figuur 27: Bestaande situatie steunberm SB13



Figuur 28: Bestaande situatie steunberm SB13

## 2.2 Samenvatting voor uitvoering/voorbereiding

Voor de steunbermen van deeltraject 3 Gaagweg is het geotechnische ontwerp opgesteld zoals weergeven in Tabel 2.

De bestaande watergangen ter plaatse van SB06, SB07, SB08, SBDMW06A, SBDMW07 SBDMW14 en SB13 dienen tot aan de huidige waterlijn met zand te worden gedempt.

Ten behoeve van de stabiliteit van de waterkering en het beperken van de breedte van de steunberm dienen in de nieuw te graven watergangen een bodem van 1,00 tot 1,50 meter zand te worden aangebracht, welke afgedekt wordt met ca. 0,20m met oorspronkelijk bodemmateriaal.

De ophoging van alle steunbermen dient uitgevoerd te worden met droog, goed verwerkbaar materiaal zijnde zandige klei met een minimaal soortelijk gewicht van 16 kN/m3, indien mogelijk gebiedseigen. De bovenste 0,6 meter van de steunberm dient uitgevoerd te worden in klei met een erosie bestendigheid klasse II. De aansluiting op het bestaande maaiveld wordt in een kielspit uitgevoerd.

*Tabel 2 maatvoering steunberm*

| Naam | km | Talud | Hoogte steunberm [NAP+m] | Helling steun berm |
|---|---|---|---|---|
| SB06 | 12.98 t/m 13.08 | 1:3 | -1,00 | 1:10 |
| SB07 | 13.17 t/m 13.3 | 1:3 | -1,00 | 1:10 |
| SB08 | 13.35 t/m 13.66 | 1:3 | -1,00 | 1:10 |
| SBDMW 06A | 13.83 t/m 13.88 | 1:3 | -1,00 | 1:10 |
| SBDMW 07 | 13.89 t/m 13.96 | 1:3 | -1,00 | 1:10 |
| SBDMW 08 | 13.97 t/m 14.2 | 1:3 | -1,00 | 1:10 |
| SBDMW 10 | 14.315 t/m 14.39 | 1:3 | -0,80 | 1:10 |
| SBDMW 11 | 14.40t/m 14.49 | 1:3 | -0,90 | 1:10 |
| SBDMW 14 | 14.58 t/m 14.80 | 1:3 | -1,00 | 1:10 |
| SB13 | 14.84 t/m 14.91 | 1:3 | -1,00 | 1:10 |

De hoogte van de as van de N468 is bepaald op basis van de optredende zettingen en de autonome bodemdaling binnen de planperiode van 12 jaar. Waarbij wordt voldaan aan de gestelde restzettingseisen na 12 jaar. Ter plaatse van de buitenkruinlijn wordt na 12 jaar voldaan aan de eis BAM-0030 van NAP+0,10 m. Op tekening met kenmerk **N468-T-W-DO-LP-3003 Lengteprofiel** is het verticale alignement van de N468 weergegeven.

## 2.3 Samenvatting voor toetsers

De samenvatting voor toetsers is voor dit rapport niet van toepassing. Het ontwerp is samengevat in de voorgaande paragraaf: 2.2 Samenvatting voor uitvoering/voorbereiding.

# 3. Eisen

Een overzicht van de, voor het ontwerpen van de steunbermen, aanberming en hoogte N468, relevante eisen zijn in de uitgangspuntennotitie (N468-DO-UNO-GEO-0001) opgenomen. De verificatie van de eisen is opgenomen in bijlage 3.

## 3.1 Afgeleide eisen

Voor ontwerp geotechniek aardebaan, Deeltraject 3, zijn geen afgeleide eisen vastgesteld.

# 4. Van toepassing zijnde documenten

De volgende documenten zijn gehanteerd bij het opstellen van deze ontwerprapportage:

[1] Hoogheemraadschap van Delfland; Beleidsregel Medegebruik Waterkeringen (BMW); d.d.
- 15-01-2021;

[2] Het juiste waterpeil (arcgis.com) Peilbesluiten Delfland;
[3] www.grondwatertools.nl;
[4] Bodemdalingskaart, expertversie 2023, SkyGeo;
[5] Proevenverzameling 2.2 (gebruikershandleiding); Hoogheemraadschap van Delfland; versie 2.2; status definitief; maart 2018;
[6] Van Dijk Geo- en milieutechniek; Rapport Herinrichting N468
- Molenweg/Oostgaag/Gaagweg; opdrachtnr. 119166 versie 9; d.d. 06-05-2022;

[7] PIM360;
[8] Geotechnisch onderzoek BAM met kenmerk JS/BM220407/COP.02532.01.20 d.d. 27 september 2022.
-

De volgende documenten betreffen de complete toetsing waterveiligheid en zijn gehanteerd bij het opstellen van deze ontwerprapportage:

[9] RPS/Oranjewoud; Rapport 'Verfijning RRD-Analyse – Cluster 3'; projectnr. NC11040201-03; d.d. 10-08-2012;
[10] RPS/Oranjewoud; Rapport 'Verfijning RRD-Analyse – Cluster 5'; projectnr. NC11040201-05; d.d. 10-08-2012;
[11] RPS/Oranjewoud; Rapport 'Verfijning RRD-Analyse – Cluster 10'; projectnr. NC11040201-10; d.d. 10-08-2012;
[12] RPS/Oranjewoud; Rapport 'Aanscherping RRD-Toetsing - Verfijning van 43 toetsprofielen';
- projectnr. NC12040107; d.d. 07-11-2012;

[13] Fugro; Rapport 'Onderzoek kadelichaam en kunstwerk N468 – Rapportage veldonderzoek';
- opdrachtnr. 1210-0079-016; d.d. 21-02-2014;

[14] Fugro; Rapport 'Onderzoek kadelichaam en kunstwerk N468 -Toetsrapportage'; opdrachtnr.
- 1210-0079-016; d.d. 22-04-2014;

[15] Fugro; Rapport 'Aanvullend onderzoek stabiliteit kadelichaam en kunstwerk N468';
- opdrachtnr. 1210-0079-016; d.d. 25-04-2014;

[16] Hoogheemraadschap van Delfland; Rapport 'Nadere toetsing regionale keringen 2013
- Delfland – stabiliteit binnentalud N468'; kenmerk 1146812; d.d. 28-07-2014;

[17] Hoogheemraadschap van Delfland; Memo 'Veiligheidsoordeel N468 – stabiliteit
- binnenwaarts'; d.d. 20-06-2014;

[18] Arcadis; Rapport 'Binnenwaartse stabiliteit N468 – afweging oplossingsrichtingen';
- documentcode 078984218; d.d. 05-08-2016;

[19] Arcadis; Rapport 'Draagkracht dijk en weg N468'; documentcode 079137368; d.d. 11-11-2016;
[20] Arcadis; Rapport 'Uitgangspunten geotechniek – trajectaanpak N468'; documentcode 079810683; d.d. 03-09-2018.
[21] Arcadis; Rapport 'Dimensionering steunbermen – Trajectaanpak N468', documentcode
- 083797364; d.d. 04-03-2019.

Voor het uitvoeren van de geotechnische berekeningen zijn onderstaande normen en richtlijnen van toepassing:

- Bindend (vanuit overheden)
  [22] Keur Delfland;
  [23] Provinciale wegenverordening, provincie Zuid Holland;
  [24] Gemeentelijke verordening gemeente Midden Delfland.
  -
- Bindend (vanuit normgeving):
  [25] Eurocode
  [26] NEN 9997-1; Eurocode 7 Geotechnisch Ontwerp inclusief nationale annex en bijlage, 2017;
  [27] NEN-EN 1991-2, Belastingen op constructies – Deel 2: Verkeersbelastingen op bruggen, inclusief nationale annex en bijlage, december 2011.

[28] STOWA2015-15; Leidraad toetsen op veiligheid regionale waterkeringen, 2015

- Niet bindend:
  [29] CROW 204 Betrouwbaarheid van zettingsprognoses, 2004;
  [30] CROW 304; Van langsvlakheid naar restzetting, 2011;
  [31] CROW 325; Lichte ophoogmaterialen in de wegenbouw, 2013;
  [32] CROW 04-04; Verdichting van de zandbaan, 2004;
  [33] CUR151; Geokunststoffen in de civiele techniek, 1991;
  [34] CUR162; Construeren met grond - Grondconstructies op en in weinig draagkrachtige en sterk
    - samendrukbare grond, 1992;
  [35] CUR 166; Damwandconstructies, 6e herziene druk 2012;
  [36] CUR175; Geokunststoffen in wegenbouw en als grondwapening, 1995;
  [37] CUR 198; Ontwerprichtlijn kerende constructies van gewapende grond 2017;
  [38] CUR2003-7; Bepaling geotechnische parameters, 2003;
  [39] CUR2005-1; Geforceerde consolidatie door het afpompen van water, 2005;
  [40] CUR2008-2; Van onzekerheid naar betrouwbaarheid, 2008.

## 4.1 Tekeningen

De volgende tekeningen zijn opgenomen in bijlage 6:
- N468-T-WEG-DO-DP-3003 - Dwarsprofielen wegontwerp DT3;
- N468-T-WEG-DO-SI-3003 - Situatie wegontwerp DT3;

# 5. Beschrijving van het ontwerp

## 5.1 Procesbeschrijving

Om te komen tot een integraal ontwerp is allereerst een analyse van de eisen gemaakt, hieruit bleek dat de eis met betrekking tot de hoogte van de buitenkruinlijn leidend is in het verdere ontwerpproces. Op basis van ontwerphoogte buitenkruinlijn is aansluitend de hoogte van wegas en steunberm bepaald. Lengte van de steunbermen is afhankelijk van de ontwerpstabiliteit van de waterkering. Hieruit volgt ook de insteek van de polderwatergang. Detail oplossingen nabij aansluitingen met opstallen van derden zijn nog niet uitgewerkt. Ook inritten zijn nog niet uitgewerkt. Beiden volgen in het Uitvoerings Ontwerp.

## 5.2 Veiligheid

De onderstaande veiligheidsaspecten worden verder uitgewerkt in het UO:

- Tijdelijke verkeersmaatregelen op N468 zijn nodig om de steunbermen en de aanberming aan te brengen en werkruimte te creëren, hierbij dient rekening gehouden te worden met de richtlijnen en eisen vanuit het bevoegd gezag.
- Bij werkzaamheden binnen het waterstaatswerk van waterkeringen moet speciale aandacht worden gegeven aan de uitvoering en de wijze van monitoring. Hieraan worden door Delfland richtlijnen gesteld (bijlage 7 BMW). De monitoring is bedoeld om tijdens de uitvoering de veiligheid en het functioneren van de waterkering te bewaken. Gecontroleerd wordt of aan de uitvoeringseisen wordt voldaan en of de kade door onvoorziene omstandigheden een onacceptabele risico heeft om te bezwijken.
- Deeltraject 3 is over zijn gehele lengte een waterkering die permanent in functie is. Ten allen tijde dient de waterkerende functie in stand te blijven. Bij extreme omstandigheden (droogte of neerslag) dient binnen door de beheerder van de waterkering vastgestelde tijdcriteria de waterkerende functie gegarandeerd op het minimale niveau gehandhaafd te worden.

Voor risico's met betrekking tot Arbowetgeving zie "Ontwerpnota DO N468" met het kenmerk N468-DO-ONO-AL-0001.

## 5.3 Ontwerpkeuzes

In overleg met de omgeving (aanwonenden en belanghebbenden) is door het Hoogheemraadschap van Delfland afgesproken om langs ter plaatste van de steunbermen welke vanuit waterveiligheid noodzakelijk zijn deze uit te voeren als 'koevriendelijke' variant. Dit betekent dat het talud van de waterkering onder 1 op 3 afloopt tot NAP -1,00m. Vanaf NAP-1,00 m wordt een koevriendelijk talud aangelegd tot aan het bestaande maaiveld in het achterland. In dit ontwerp is geen ruimte opgenomen voor een teensloot.

## 5.4 Inspectie, beheer en onderhoud

Voor de geotechnische berekeningen zijn er geen uitgangspunten ten aanzien van inspectie, beheer en onderhoud. Tijdens de uitvoeringsfase dienen de steunbermen en aanberming bereikbaar te zijn voor beheer en onderhoud.

## 5.5 Uitvoeringsuitgangspunten

### 5.5.1 Interne raakvlakken

Interne raakvlakken ten aanzien van steunbermen, aanbermingen en hoogte N468 met overige objecten zijn:

- Het object Wegen: Afhankelijk van de ashoogte van de weg kan pas aangevangen worden met de geotechnische berekeningen van de steunbermen en het grondlichaam van de verhardingsconstructie.
- Het object Waterhuishouding: Door het dempen van de watergangen ten behoeve van de koevriendelijke bermen zal de waterhuishouding wijzigen.

Bovenstaande interne raakvlakken zijn in het definitieve ontwerp ondervangen.

### 5.5.2 Externe raakvlakken

Externe raakvlakken ten aanzien van geotechniek met de overige objecten zijn:

- Kabels en leidingen;
- betreding op percelen derden door aanbrengen van steunbermen;
- Aansluitingen steunbermen op bestaande situaties;
- Archeologische vindplaatsen.
- Het object waterhuishouding in de polder
- Het object funderingen van opstallen nabij de waterkering

Bovenstaande raakvlakken worden verder opgepakt en beheerst in het UO.

## 5.6 Risico's

Ten aanzien van het ontwerp zijn diverse risico's in kaart gebracht. In deze paragraaf zullen de belangrijkste risico's worden aangegeven die samenhangen met ontwerp. Een verdere uitwerking van de risico's is in de bijlage 1 opgenomen.

*Stabiliteit tijdens uitvoering*

Gedurende de uitvoering zorgen de grondaanvullingen voor een wateroverspanning in de ondergrond. Afhankelijk van hoe snel de wateroverspanningen afnemen binnen de uitvoeringstijd, leiden de wateroverspanningen tot een vermindering van de stabiliteit van het grondlichaam en/of squeezing ter plaatse van watergangen. In het definitieve ontwerp is nog niet aan de uitvoeringsstabiliteit gerekend. Dit dient in het UO nader onderbouwd te worden.

*Ongelijke zettingen*

Tijdens de uitvoering treden er ongelijke verschilzettingen op tussen bestaande verharding en de steunbermen waardoor scheuren in het asfalt ontstaan. Herstellen van de eventueel ontstaande scheuren tijdens de uitvoering.

*Grotere zettingen steunbermen*

De zetting in de steunbermen is groter dan berekend. Waardoor eventueel scheuren in het asfalt ontstaan. Ook kunnen hierdoor mogelijk ongewenste zettingen op de K&L ontstaan. Dit dient in het UO, ontwerp K&L en fasering aanleg K&L nader beschouwd te worden.

*Ongelijke zettingen steunbermen ter plaatse van archeologische vindplaatsen*

De zetting van de steunbermen ter plaatse van de archeologische vindplaatsen is ongelijk. Waardoor eventueel een hoogteverschil ontstaat in de archeologische vindplaats. Dit dient in het UO, ontwerp steunbermen nader beschouwd te worden, hiertoe is ook de TU Delft ingeschakeld door de opdrachtgever.

*OG heeft aangegeven dat geohydrologie niet nader beschouwd hoeft te worden*
Het ontwerp van de koevriendelijke berm leidt er toe dat de teensloot komt te vervallen. De gevolgen voor de waterhuishouding op micro niveau in de dijk, op meso niveau in het achterliggende poldermaaiveld en op macro niveau in de polder door het ontbreken van de teensloot zijn niet nader onderzocht. De gevolgen voor de waterhuishouding rondom opstallen is ook niet nader onderzocht, echter door een lokaal drainage systeem aan te leggen nabij gevoelige funderingen kan dit risico worden gemitigeerd.

*Vernatting van de teen en het poldermaaiveld*
Door het dempen van de teensloot zonder dat deze teruggegraven wordt ontstaat er een wijziging in de geohydrologische situatie. Dit kan een vernatting van de teen van de dijk tot gevolg hebben waardoor de stabiliteit van de dijk negatief wordt beïnvloed. Dit dient in het UO, ontwerp steunbermen nader beschouwd te worden.

*Vernatting/verdroging van funderingen van opstallen nabij de waterkering*
Door het dempen van de teensloot zonder dat deze teruggegraven wordt ontstaat er een wijziging in de geohydrologische situatie bij funderingen van nabij gelegen opstallen. Dit kan een vernatting of verdroging van de fundering van opstallen nabij de waterkering tot gevolg hebben waardoor de stabiliteit van fundering van de opstallen negatief wordt beïnvloed. Dit risico kan worden gemitigeerd door het aanbrengen van een lokaal drainagesysteem nabij gevoelige funderingen. Dit wordt in het UO nader beschouwd.

# 6. Toetsing van het ontwerp

Het ontwerp bestaat uit een aantal verschillende objecten:

- Object Boezemkade (OBJ-0056)
- Object steunberm (OBJ-0010)
- Object bestaande waterkering (OBJ-0013)

Zoals in hoofdstuk 5 aangegeven is allereerst de aanleghoogte van de toekomstige waterkering bepaald. Deze is namelijk leidend voor het ontwerp van de overige objecten.

Per object zijn hieronder de relevante uitgangspunten, berekeningen en toetsing aan de eisen weergegeven.

## 6.1 Object Boezemkade OBJ-0056

Ten behoeve van dit object wordt de hoogte van de wegas berekend. Deze wordt bepaald door de hoogte van de buitenkruinlijn. Conform de eisen dient de buitenkruinlijn vanuit de legger 12 jaar (4500dagen) na ingebruikname op minimaal NAP +0,10m te liggen. Na 30 jaar dient de hoogte van de buitenkruinlijn minimaal NAP -0,10 m te bedragen.

### 6.1.1 Uitgangspunten

Voor de berekening van het object zijn de navolgende uitgangspunten gehanteerd.

**Geometrie (huidig)**
De huidige geometrie is ontleend aan de ontvangen inmeting van Geomaat (DTM). De inmeting is in mei 2021 gemaakt. Uit dit 3 dimensionale model zijn diverse dwarsdoorsnedes gegenereerd. Ook is de asfaltconstructie opbouw bepaald aan de hand van de beschikbare gegevens.

**Geometrie (toekomstig)**
In de zettingsberekeningen is er rekening mee gehouden dat de bestaande asfaltconstructie in het geheel verwijderd worden en vervolgens aangevuld worden met een nieuwe constructie van 0,3 m menggranulaat en 0,2 m asfalt. In de praktijk zullen deze laagdiktes minder dik zijn. Het is daarmee een conservatief uitgangspunt. Ter plaatse van de bermen wordt opgehoogd met goede grond/klei, deze kent een soortelijk gewicht van 16 kN/m3.

**Freatische lijn**
Ten behoeve van de zettingsberekeningen is de freatische lijn als volgt geschematiseerd:
Boezempeil tot aan de buitenkruinlijn(BKL) conform legger, verloop naar het lage polderpeil in de binnenteen van de waterkering.




*Figuur 29 verloop freatische lijn zettingsberekeningen*

### Bodemopbouw

Op basis van het uitgevoerde grondonderzoek is een Geotechnisch lengteprofiel opgesteld. Dit geotechnisch lengteprofiel geeft inzicht in de bodemopbouw van het gehele trajectdeel. (zie Bijlage 7)
Per berekende doorsnede is de lokale bodemopbouw gehanteerd.

### Grondparameters

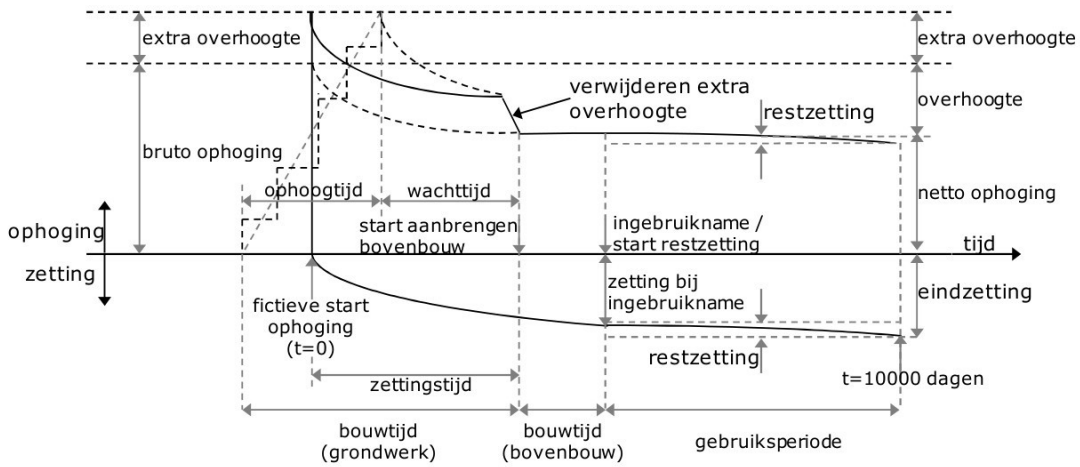
De in deze paragraaf gepresenteerde parameters hebben alleen betrekking op het berekenen van de zettingen. De grondparameters zijn bepaald op basis van het uitgevoerde grondonderzoek en tabel 2.b van NEN 1997-1. De gehanteerde grondparameters zijn in Tabel 3 weergegeven. In deze tabel zijn de NEN-Bjerrum-parameters voor de D-Settlement berekeningen weergegeven.

*Tabel 3 Representatieve grondparameters NEN-Bjerrum*

| Laag | $\gamma_{dr}$ [kN/m³] | $\gamma_{nat}$ [kN/m³] | RR [-] | CR [-] | $C\alpha$ [-] | OCR [-] | $C_v$ [m²/s] |
|---|---|---|---|---|---|---|---|
| Dijksmateriaal | 16,0 | 16,0 | 0,0285 | 0,2190 | 0,01 | 1,5 | 1,0$^{e}$-8 |
| Klei Hum DK (onder/naast) | 13,5 | 13,5 | 0,0338 | 0,2712 | 0,0174 | 1,5 | 2,07$^{e}$-8 |
| Klei Silt DK (onder/naast) | 15,1 | 15,1 | 0,0285 | 0,2190 | 0,0139 | 1,5 | 2,54$^{e}$-8 |
| Klei DK (onder/naast) | 15,1 | 15,1 | 0,0285 | 0,2190 | 0,0139 | 1,5 | 2,54$^{e}$-8 |
| Klei Zand DK (onder/naast) | 17,0 | 17,0 | 0,0190 | 0,1500 | 0,0060 | 1,39 | 1,0$^{e}$-7 |
| Hollandveen | 10,5 | 10,5 | 0,0845 | 0,4570 | 0,0361 | 1,5 | 2,37$^{e}$-8 |
| Klei Hum CA (onder/naast) | 14,9 | 14,9 | 0,0289 | 0,2114 | 0,0129 | 1,5 | 9,27$^{e}$-8 |
| Klei Silt CA (onder/naast) | 15,9 | 15,9 | 0,0289 | 0,2114 | 0,0129 | 1,5 | 9,27$^{e}$-8 |
| Klei CA (onder/naast) | 15,9 | 15,9 | 0,0288 | 0,2190 | 0,0110 | 1,5 | 6,02$^{e}$-7 |
| Klei Zand CA (onder/naast) | 17,0 | 17,0 | 0,0190 | 0,1500 | 0,0060 | 1,39 | 1,0$^{e}$-7 |
| Zand CA | 18,0 | 20,0 | 0,0100 | 0,1062 | 0,0033 | 1,39 | Drained |
| Zand Pleis | 18,0 | 20,0 | 0,0100 | 0,1062 | 0,0033 | 1,39 | Drained |

### Beschikbare bouwtijd

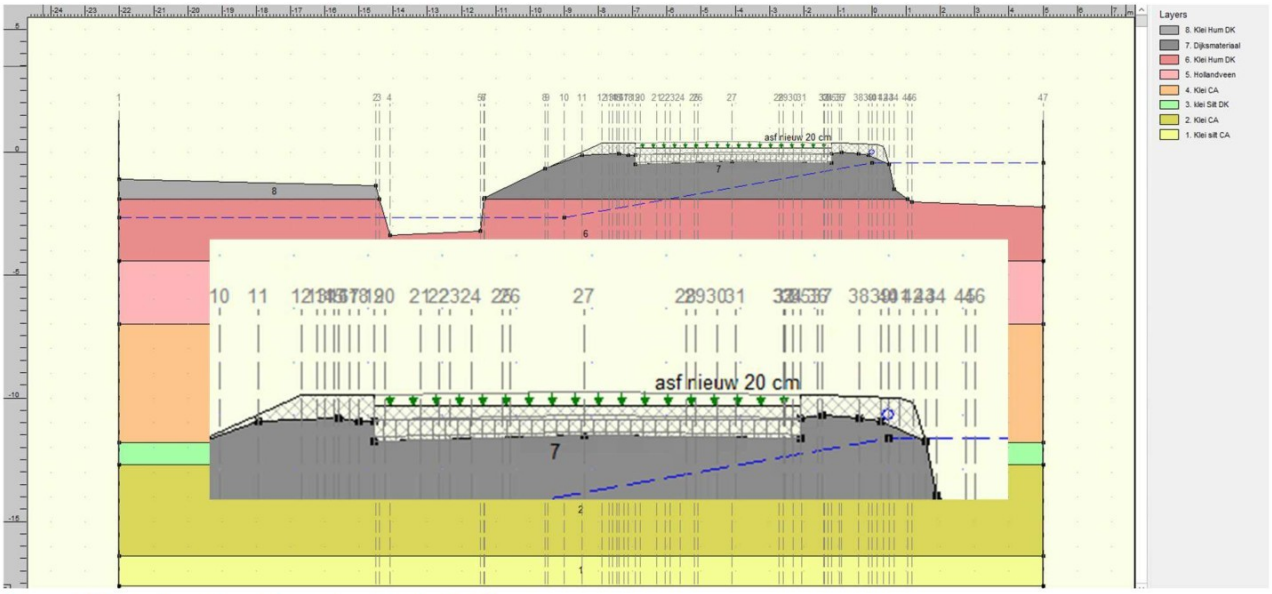
Conform het gestelde in hoofdstuk 9.1 wordt de weg met daarop de buitenkruinlijn pas vervangen nadat de steunberm is aangebracht en enige rusttijd heeft ondergaan. Dit is noodzakelijk om de stabiliteit van de waterkering niet tijdelijk te verlagen. Op het moment dat de wegconstructie wordt aangelegd begint direct de gebruiksperiode. Aan het eind van deze gebruiksperiode van 12 jaar  is de minimale hoogte van de buitenkruinlijn NAP + 0.10 m.



### 6.1.2 Berekening

De zettingsberekeningen zijn uitgevoerd met het model Bjerrum. In de onderstaande tabel staat voor 8 sneden de berekende weg-as. Daarnaast zijn ook de restzettingen na aanleg in 3 sneden (berm as berm) aangegeven. Deze betreffen een zettingsperiode van 12 jaar (4500 dagen).

In onderstaand figuur is de berekeningsinput van doorsnede 13.36 als voorbeeld weergegeven.




*Figuur 30 berekening zetting doorsnede 13.36*

*Tabel 4 ontwerphoogte buitenkruinlijn*

| Door-snede | Ontwerphoogte Buitenkruinlijn [NAP+m] | Ontwerphoogte wegas [NAP+m] | Zetting 4500dgn berm boezemzijde buitenkruinlijn[m] | Zetting 4500dgn wegas [m] | Zetting 4500dgn berm polder-zijde Binnenkruinlijn [m] |
|---|---|---|---|---|---|
| 12.44 | 0.37 | 0.45 | 0.18 (vert. 31) | 0.13 (vert. 22) | 0.14 (vert. 16) |
| 12.47 | 0.34 | 0.45 | 0.2 (vert. 35) | 0.14 (vert. 25) | 0.14 (vert. 19) |
| 12.58 | 0.31 | 0.40 | 0.18 (vert. 34) | 0.14 (vert. 24) | 0.15 (vert. 17) |
| 12.80 | 0.31 | 0.40 | 0.15 (vert. 34) | 0.13 (vert. 25) | 0.13 (vert. 17) |
| 13.05 | 0.40 | 0.50 | 0.27 (vert. 38) | 0.2 (vert. 26) | 0.19 (vert. 19) |
| 13.28 | 0.33 | 0.40 | 0.15 (vert. 41) | 0.11 (vert. 29) | 0.13 (vert. 21) |
| 13.36 | 0.32 | 0.45 | 0.21 (vert. 40) | 0.16 (vert. 27) | 0.15 (vert. 19) |
| 13.46 | 0.39 | 0.50 | 0.25 (vert. 32) | 0.2 (vert. 22) | 0.19 (vert. 14) |
| 13.62 | 0.36 | 0.45 | 0.25 (vert. 34) | 0.19 (vert. 23) | 0.17 (vert. 17) |
| 13.71 | 0.36 | 0.45 | 0.23 (vert. 42) | 0.17 (vert. 29) | 0.18 (vert. 22) |
| 13.85 | 0.33 | 0.45 | 0.21 (vert. 33) | 0.13 (vert. 25) | 0.14 (vert. 21) |
| 13.98 | 0.36 | 0.45 | 0.2 (vert. 31) | 0.16 (vert. 24) | 0.18 (vert. 21) |
| 14.07 | 0.46 | 0.55 | 0.32 (vert. 34) | 0.27 (vert. 25) | 0.27 (vert. 21) |
| 14.20 | 0.33 | 0.45 | 0.21 (vert. 36) | 0.15 (vert. 26) | 0.18 (vert. 19) |
| 14.43 | 0.35 | 0.45 | 0.2 (vert. 25) | 0.14 (vert. 17) | 0.11 (vert. 12) |
| 14.54 | 0.34 | 0.45 | 0.24 (vert. 26) | 0.13 (vert. 19) | 0.14 (vert. 16) |
| 14.63 | 0.30 | 0.40 | 0.16 (vert. 32) | 0.12 (vert. 25) | 0.13 (vert. 22) |
| 14.72 | 0.32 | 0.40 | 0.2 (vert. 40) | 0.15 (vert. 31) | 0.14 (vert. 24) |
| 14.91 | 0.32 | 0.40 | 0.18 (vert. 28) | 0.15 (vert. 19) | 0.18 (vert. 14) |
| 15.10 | | 0.5 | 0 (vert. buitendijks) | | |
| 15.24 | 0.34 | 0.55 | 0.22 (vert. 46) | | |

# verholen land boezemzijde

### 6.1.3 Toetsing

In de onderstaande tabel zijn de resultaten en toetsingen van het object weergegeven.

*Tabel 5 Toetsing hoogte buitenkruinlijn*

| Door-snede | Ontwerphoogte Buitenkruinlijn [NAP+m] | Zetting 4500dgn berm boezemzijde [m] | Hoogte na 4500dgn Buitenkruin-lijn [NAP+m] | Zetting 30 jaar berm boezemzijde [m] | Hoogte 30 jaar Buitenkruin-lijn [NAP+m] | Conclusie |
|---|---|---|---|---|---|---|
| 12.44 | 0.37 | 0.18 (vert. 31) | 0.19 | 0.26 | 0.11 | Voldoet |
| 12.47 | 0.34 | 0.20 (vert. 35) | 0.14 | 0.23 | 0.11 | Voldoet |
| 12.58 | 0.31 | 0.18 (vert. 34) | 0.13 | 0.23 | 0.08 | Voldoet |
| 12.8 | 0.31 | 0.15 (vert. 34) | 0.16 | 0.18 | 0.13 | Voldoet |
| 13.05 | 0.40 | 0.27 (vert. 38) | 0.13 | 0.39 | 0.01 | Voldoet |
| 13.28 | 0.33 | 0.15 (vert. 41) | 0.19 | 0.17 | 0.16 | Voldoet |
| 13.36 | 0.32 | 0.21 (vert. 40) | 0.11 | 0.26 | 0.07 | Voldoet |
| 13.46 | 0.39 | 0.25 (vert. 32) | 0.14 | 0.30 | 0.09 | Voldoet |
| 13.62 | 0.36 | 0.25 (vert. 34) | 0.12 | 0.36 | 0.00 | Voldoet |
| 13.71 | 0.36 | 0.23 (vert. 42) | 0.13 | 0.36 | 0.00 | Voldoet |
| 13.85 | 0.33 | 0.21 (vert. 33) | 0.12 | 0.25 | 0.08 | Voldoet |
| 13.98 | 0.36 | 0.20 (vert. 31) | 0.16 | 0.24 | 0.12 | Voldoet |
| 14.07 | 0.46 | 0.32 (vert. 34) | 0.14 | 0.35 | 0.11 | Voldoet |
| 14.2 | 0.33 | 0.21 (vert. 36) | 0.12 | 0.29 | 0.04 | Voldoet |
| 14.43 | 0.35 | 0.20 (vert. 25) | 0.15 | 0.24 | 0.11 | Voldoet |
| 14.54 | 0.34 | 0.24 (vert. 26) | 0.1 | 0.22 | 0.12 | Voldoet |
| 14.63 | 0.30 | 0.16 (vert. 32) | 0.14 | 0.19 | 0.11 | Voldoet |
| 14.72 | 0.32 | 0.20 (vert. 40) | 0.12 | 0.30 | 0.02 | Voldoet |
| 14.91 | 0.32 | 0.18 (vert. 28) | 0.14 | 0.28 | 0.04 | Voldoet |
| 15.24 | 0.34 | 0.22 (vert. 46) | 0.12 | 0.33 | 0.01 | Voldoet |

# verholen land boezemzijde

## 6.2 Object steunberm OBJ-0010

In dit hoofdstuk komen alle steunbermen terug. Het ontwerp van de steunbermen bestaat uit het bepalen van de huidige stabiliteit, de eindstabiliteit en het bepalen van de zettingen incl. zettingscompensatie. Het object steunberm wordt enkel toegepast daar waar uit de toetsing van het hoogheemraadschap van Delfland is gebleken dat de huidige stabiliteit van de waterkering niet voldoet. Indien de huidige stabiliteit van de waterkering wel voldoet dan wordt de locatie beschouwd als een berm van de bestaande waterkering (OBJ-0013).

### 6.2.1 Uitgangspunten

**Veiligheidsbenadering**

Conform de eisen van Delfland valt het ontwerp van trajectdeel 3 in IPO klasse III.

Voor het ontwerp van de waterkering is uitgegaan van een eindstabiliteit en een normstabiliteit. Tijdens de aanleg van de verbetering van de waterkering dient de stabiliteit van de kering niet lager te worden dan in een voorgaande fase. Ten tijde van de oplevering van de waterkering dient deze minimaal te voldoen aan de normstabiliteit. Aan het eind van de onderhoudsperiode (na 12 jaar) dient de waterkering te voldoen aan de eindstabiliteit.

De benodigde ontwerpveiligheid (eindstabiliteit) is 1,09, dit is de schade factor inclusief modelfactor, CSSM factor, schematiseringsfactor en additie voor robuustheid. ((1,1*0,90*1,05*1,00)+ 0,05 = 1,09)
De benodigde normstabiliteit is 0,94. Dit is de schadefactor inclusief modelfactor en schematiseringsfactor maar exclusief de CSSM factor en additie voor robuustheid. ((0,90*1,05) = 0,94)

Voor de stabiliteit tijdens de uitvoering geldt een schadefactor van 0,85. Indien niet kan worden voldaan aan deze eis tijdens de uitvoering, omdat de waterkering een (aanzienlijk) lagere stabiliteitsfactor heeft, moet de stabiliteitsfactor minimaal gelijk zijn aan de huidige situatie en verbeteren met iedere ophoogslag.

De veiligheid van het ontwerp wordt op 3 momenten bepaald :
1. De huidige stabiliteit van de waterkering (dag 0);
2. De stabiliteit na aanbrengen van de weegconstructie, oplevering (dag 540)
3. De stabiliteit aan het eind van de onderhoudsperiode, na 12 jaar (dag 5050, 4500 dagen na oplevering)

**Geometrie (huidig)**
De huidige geometrie is ontleend aan de ontvangen inmeting van Geomaat (DTM). De inmeting is in mei 2021 gemaakt. Uit dit 3 dimensionale model zijn diverse dwarsdoorsnedes gegenereerd. Ook is de asfaltconstructie opbouw bepaald aan de hand van de beschikbare gegevens.

**Geometrie (toekomstig)**
De eindhoogte van de steunbermen is ontleend aan de rapportage van Arcadis.
In de navolgende tabel zijn de steunberm(eind)hoogten opgenomen. Deze zijn bepaald door het gemiddelde verschil van de aanleghoogte van de waterkering en het achterland. De minimale steunbermlengte is 3 m vanuit onderhoud. Op basis van de verschillende berekeningsmomenten wordt de definitieve steunbermlengte vastgesteld. De steunberm kan ook richting het achterliggende maaiveld afgewerkt worden als koevriendelijke berm.

Indien het noodzakelijk is om een watergang te dempen dan wordt deze tot aan de huidige waterlijn aangevuld met zand. Boven de waterlijn wordt de nieuwe steunberm aangevuld met goede verdichtbare grond/klei met een minimaal soortelijk gewicht van 16 kN/m3.

**Freatische lijn**
Ten behoeve van de zettingsberekeningen is de freatische lijn als volgt geschematiseerd:
Streefpeil tot aan de buitenkruinlijn(BKL) conform legger, verloop naar het lage polderpeil in de binnenteen van de waterkering.




*Figuur 31 Verloop freatische lijn zettingsberekeningen*

Ten behoeve van de stabiliteitsberekeningen is de freatische lijn geschematiseerd conform de eisen uit de BMW. In de onderstaande tabel is het maatgevend boezempeil weergegeven.

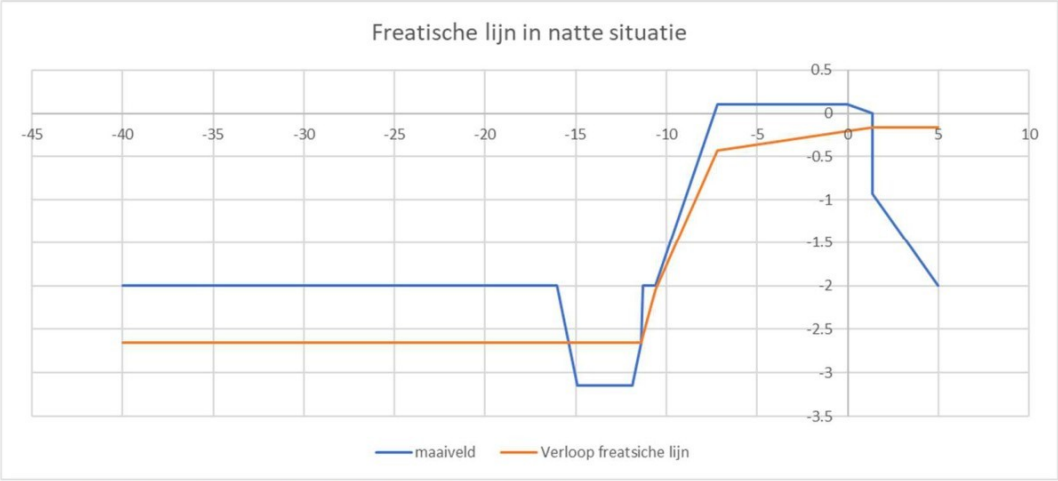
*Tabel 6 Maatgevende boezempeilen*

| Start km | Eind km | Maatgevend boezempeil [NAP+m] |
|---|---|---|
| 12.35 | 12.87 | -0,22 |
| 12.87 | 13.83 | -0,26 |
| 13.83 | 15.00 | -0,31 |
| 15.19 | 15.28 | -0,30 |

Op het maatgevend boezempeil dient een robuustheidstoeslag van 0,10 m te worden gehanteerd. Door de eisen in de BMW worden 3 situaties veronderstelt:

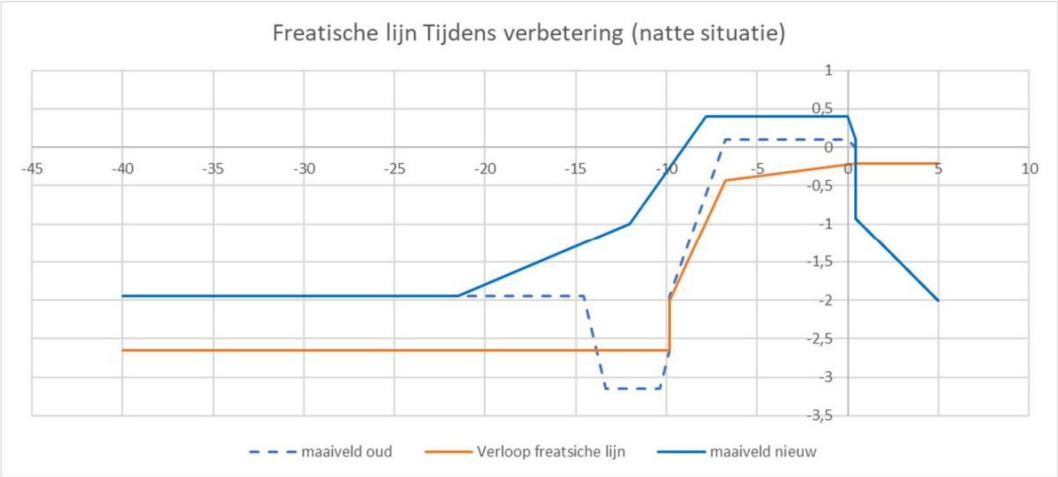
- Huidige situatie
- Situatie tijdens uitvoering
- Situatie na uitvoering

De freatische lijn voor de huidige situatie Nat is als volgt geschematiseerd:
Maatgevend boezempeil incl. robuustheid ter plaats van de boezem, in het grondlichaam verlopend naar het streefpeil (NAP -0,43m) ter hoogte van de binnenkruinlijn. Vanaf dat punt verlopend naar 0,05 m onder de binnenteen. Om vervolgens ter hoogte van de watergang aan te sluiten op het polderpeil. (zie Figuur 32)



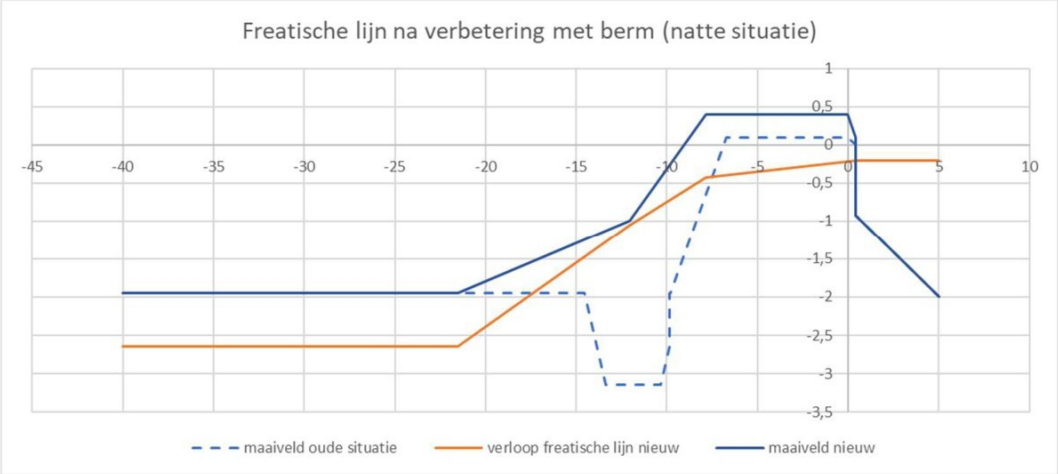

*Figuur 32 Verloop freatische lijn STBI huidige situatie*

Deze ligging van de freatische lijn mag ook worden gehanteerd tijdens de situatie tijdens uitvoering, Figuur 33




*Figuur 33 Verloop freatische lijn tijdens uitvoering*

In de situatie na uitvoering dient rekening gehouden te worden met de nieuwe geometrie.(zie Figuur 34)




*Figuur 34 Verloop freatische lijn na oplevering*

**Polderpeilen**

In de navolgende tabel zijn de voor dit deeltraject gehanteerde polderpeilen weergegeven.

*Tabel 7 Polderpeilen*

| | | WP | ZP |
|---|---|---|---|
| Start km | Eind km | [NAP+m] | [NAP+m] |
| 12.23 | 12.37 | -2.45 | -2.45 |
| 12.37 | 12.38 | -1.49 | -1.49 |
| 12.38 | 12.45 | -1.82 | -1.82 |
| 12.45 | 12.58 | -1.95 | -1.95 |
| 12.58 | 12.7 | -1.90 | -1.90 |
| 12.70 | 12.77 | -2.35 | -2.35 |
| 12.77 | 12.82 | -2.30 | -2.30 |
| 12.82 | 12.83 | -1.75 | -1.75 |
| 12.83 | 12.97 | -2.30 | -2.30 |
| 12.97 | 13.3 | -2.65 | -2.65 |

| | | WP | ZP |
|---|---|---|---|
| Start km | Eind km | [NAP+m] | [NAP+m] |
| 13.32 | 15 | -2.65 | -2.65 |
| 15.20 | 15.23 | -1.40 | -1.40 |
| 15.23 | 15.27 | -2.71 | -2.71 |
| 15.27 | 16.25 | -2.80 | -2.70 |

**Stijghoogte diepe zandlagen**

Uit een kaart uit bijlage 5 van de BMW “Toename stijghoogte eerste watervoerende pakket bij stopzetting onttrekking DSM” volgt dat na de stopzetting van de onttrekking van DSM in Delft de stijghoogte tussen NAP –1,0 à -2,5 m ligt. Tevens is de stijghoogte afgeleid uit de isohypsenkaart van de Geologische Dienst Nederland, onderdeel van TNO en is in de volgende kaart weergeven.




*Figuur 35 Isohypsen 1e watervoerend pakket (bron TNO)*

Per traject zal een gemiddelde stijghoogte worden aangehouden, op basis van bovenstaande gegevens.

Traject 3 (Gaagweg): Stijghoogte 1e wvp: NAP - 1,50 m (voor het gehele traject)

In de zandlagen zal de stijghoogte lager zijn dan het heersende waterpeil of grondwaterstand. Over de lagen met Calais klei zal de stijghoogte gelijkmatig oplopen over een indringingszone van ca. 2 m.

**Bodemopbouw**

Op basis van het uitgevoerde grondonderzoek is een Geotechnisch lengteprofiel opgesteld. Dit geotechnisch lengteprofiel geeft inzicht in de bodemopbouw van het gehele trajectdeel. (zie Bijlage 7)
Per berekende doorsnede is de lokale bodemopbouw gehanteerd.

**Grondparameters**
Ten behoeve van de zettingsberekeningen zijn de parameters uit Tabel 3 gehanteerd. Deze grondparameters zijn bepaald op basis van het uitgevoerde grondonderzoek en tabel 2.b van NEN 1997-1.

Ten behoeve van de stabiliteitsberekeningen is gebruik gemaakt van de proevenverzameling 2.2 van het hoogheemraadschap van Delfland. In de onderstaande tabel is de koppeling tussen de verschillende lagen weergeven.

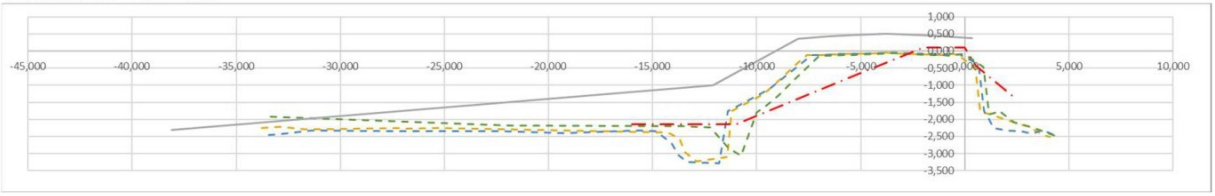
*Tabel 8 grondparameters stress-table proevenverzameling Delfland*

| Grondlaag | 'Stress table' bestaande verzameling | $\gamma_{dr}$ / $\gamma_{nat}$ (1) [kN/m³] |
|---|---|---|
| Toplaag | Antropogeen klei | 16,0/16,0 |
| Klei, humeus | Duinkerke klei | 13,5/13,5 |
| Klei, siltig | Duinkerke klei | 15,1/15,1 |
| Klei, zandig | Duinkerke klei | 17,0/17,0 |
| Zand | Zand ondiep/Calais zand | 18,0/20,0 |
| Veen | Hollandveen | 10,5/10,5 |
| Klei, siltig | Calais klei | 16,0/16,0 |
| Klei, siltig/zandig | Calais klei | 17,0/17,0 |
| Klei, humeus | Calais klei | 15,1/15,1 |
| Klei, zandig | Calais klei | 17,0/17,0 |
| Basisveen | Hollandveen | 12,0/12,0 |
| Zand diep | Zand diep | 18,0/20,0 |

**Variabele belasting**
Als maatgevend voertuig wordt gezien een standaard 8x8-vrachtwagen. Een standaard 8x8-vrachtwagen weegt volbeladen 40 ton. Dit gewicht wordt verdeeld over 4 assen. De totale lengte bedraagt zo'n 9 meter. Dit komt neer op een vlaklast van 40 / (9 * 2,6) = 17 kN/m².
Door Delfland is als uitgangspunt meegegeven dat een standaard belasting van 15 kN/m2 over een breedte van 2,5 m ter plaatse van de asfaltconstructie gelijk staat aan deze vlaklast. Hierbij mag in cohesieve lagen rekening gehouden worden met een consolidatie percentage van 50% en 100% voor zandlagen, zie Ref [21].
De belasting vanuit zandzakken is niet meegenomen in het ontwerp, echter is ook niet maatgevend.

### 6.2.2 Berekening SB06 12,980-13,080

Op basis van de geometrische kenmerken zijn voor steunberm SB06 10 dwarsprofielen gegenereerd. Deze profielen zijn in de onderstaande figuur samengevat. het betreft de profielen ter plaatse van 12.980, 13.030 en 13.080.




*Figuur 36 alle profielen*

Uit de geometrische analyse blijkt dat het profiel ter plaatse van 13.030 in de huidige situatie het minimale profiel is. De huidige geometrie van profiel 13.030 is, gezien het korte traject, tevens als gemiddeld beschouwd.

Voor profiel 13.030 zijn een aantal ontwerpberekeningen gemaakt. In bijlage 5.2 (13.030) zijn de ontwerpberekeningen uitgewerkt. Ter plaatse van het gehele traject SB06 wordt een koevriendelijke steunberm zoals bepaald ter plaatse van profiel 13.030 aangebracht. Hierbij wordt de huidige teensloot gedempt. De koevriendelijke steunberm bestaat uit een talud van ca. 1 op 10 vanaf ca. NAP -1,00 m tot aan het bestaande maaiveld. Ter plaatse van het gehele traject SB06 wordt de steunberm op deze wijze aangebracht.

*Tabel 9 stabiliteit SB06*

| Situatie | Berekende stabiliteitsfactor |
|---|---|
| | 13.030 |
| Huidige situatie | 0,69 |
| Opleverstabiliteit 540 dagen na start ophoging | 1,00 |
| Eindstabiliteit 5050 dagen na start ophoging/ 12 jaar na oplevering | 1,38 |

Omwille van de eindstabiliteit waarbij de volledige consolidatie nog niet bereikt is, is een maatregel in de nieuwe watergang getroffen. Deze maatregel behelst het ten tijde van de aanleg van de watergang een laag van 1,0 m zand aanbrengen onder de bodem van de nieuwe watergang. In de hierboven berekende stabiliteitsfactoren is reeds rekening gehouden met deze maatregel.

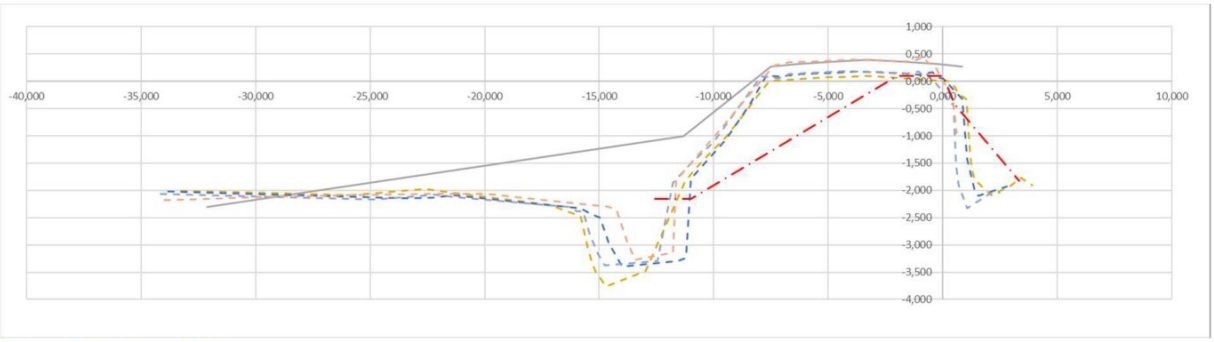
*Tabel 10 Zetting SB06 (Hoogte afgerond op 0,05 m)*

| Situatie | Dagen | Berekende zetting steunberm |
|---|---|---|
| | | 13.030 |
| Insteek steunberm (vert 17) | 540 (oplevering) | 0,46 (NAP +0,09m) |
| | 5050 ( na 12 jaar) | 1,29 (NAP – 0,74 m) |
| | 10.000 (na 30 jaar) | 1,53 (NAP – 0,98 m) |
| Hart watergang (vert 16) | 540 (oplevering) | 0,47 (NAP -0,03m) |
| | 5050 ( na 12 jaar) | 1,29 (NAP – 0,85 m) |
| | 10.000 (na 30 jaar) | 1,52 (NAP – 1,08 m) |
| Hart koevriendelijke berm (vert 8) | 540 (oplevering) | 0,36 (NAP – 1,16 m) |
| | 5050 ( na 12 jaar) | 0,90(NAP – 1,70 m) |
| | 10.000 (na 30 jaar) | 1,07 (NAP – 1,87 m) |

Tussen 12.98 en 13.02 is een smalle teensloot voorzien in SB06. Hiertoe is ter plaatse van 12.98 een aanvullende stabiliteitsberekening gemaakt voor de eindstabiliteit. De berekende stabiliteitsfactor bedraagt 1,31 en voldoet daarmee.

### 6.2.3 Berekening SB07 13,200-13,295

Op basis van de geometrische kenmerken zijn voor steunberm SB07 4 dwarsprofielen gegenereerd. Deze profielen zijn in de onderstaande figuur samengevat, het betreft de profielen ter plaatse van 13.200, 13.230, 13.250 en 13.295.




*Figuur 37 alle profielen*

Voor profiel 13.200 en 13.295 zijn een aantal ontwerpberekeningen gemaakt. In bijlage 5.2 (13.200, 13.295) zijn de ontwerpberekeningen uitgewerkt. In de navolgende tabellen zijn de berekende stabiliteit en de te verwachten zettingen weergegeven. Ook volgt hieruit de benodigde lengte van de steunberm. Uit de analyses blijkt dat profiel 13.295 maatgevend is voor de te nemen maatregelen. Ter plaatse van het gehele traject SB07 wordt een koevriendelijke steunberm zoals bepaald ter plaatse van profiel 13.295 aangebracht. Hierbij wordt de huidige teensloot gedempt. De koevriendelijke steunberm bestaat uit een talud van ca. 1 op 10 vanaf ca. NAP -1,00 m tot aan het bestaande maaiveld.  Ter plaatse van het gehele traject SB7 wordt de steunberm op deze wijze aangebracht.

*Tabel 11 stabiliteit SB07*

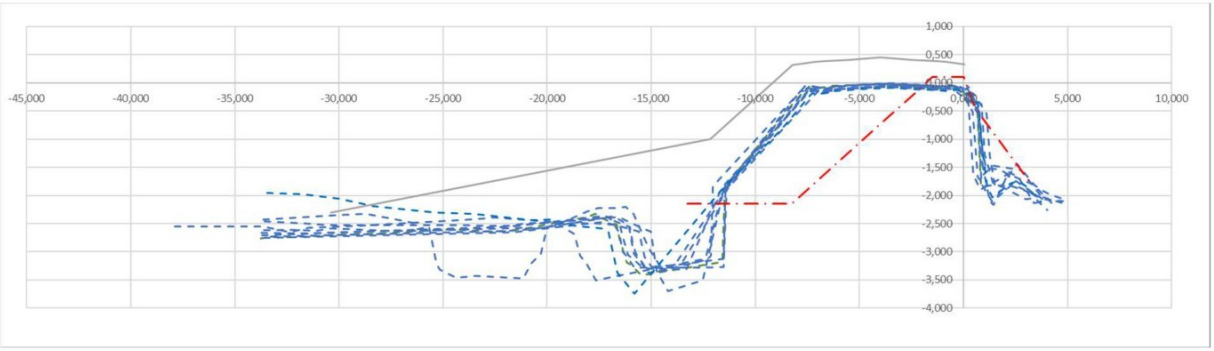
| Situatie | Berekende stabiliteitsfactor |
|---|---|
| | **13.295** |
| Huidige situatie | 0,43 |
| Opleverstabiliteit 540 dagen na start ophoging | 1,25 |
| Eindstabiliteit  5050 dagen na start ophoging/ 12 jaar na oplevering | 1,20 |

*Tabel 12 Zetting SB07 (Hoogte afgerond op 0,05 m)*

| Situatie | Dagen | Berekende zetting steunberm |
|---|---|---|
| | | **13.295** |
| Insteek steunberm (vert 21) | 540 (oplevering) | 0,28m (NAP -0,63 m) |
| | 5050 ( na 12 jaar) | 0,73m (NAP -1,08 m) |
| | 10.000 (na 30 jaar) | 0,89m (NAP -1,24 m) |
| Hart watergang (vert 20) | 540 (oplevering) | 0,28m (NAP -0,71 m) |
| | 5050 ( na 12 jaar) | 0,75m (NAP -1,18 m) |
| | 10.000 (na 30 jaar) | 0,91m (NAP -1,34 m) |
| Hart koevriendelijke berm (vert 8) | 540 (oplevering) | 0,33m (NAP -1,56 m) |
| | 5050 ( na 12 jaar) | 0,65m (NAP -1,88 m) |
| | 10.000 (na 30 jaar) | 0,75m (NAP -1,98 m) |

### 6.2.4 Berekening SB08 13,380-13,650

Op basis van de geometrische kenmerken zijn voor steunberm SB08 10 dwarsprofielen gegenereerd. Deze profielen zijn in de onderstaande figuur samengevat, het betreft de profielen ter plaatse van 13.380, 13.410, 13.440, 13.470, 13.500, 13.530, 13.560, 13.590, 13.620 en 13.650.




*Figuur 38 alle profielen*

Voor profiel 13.440, 13.560 en 13.650 zijn een aantal ontwerpberekeningen gemaakt. In bijlage 5.2 zijn de ontwerpberekeningen uitgewerkt. In de navolgende tabellen zijn de berekende stabiliteit en de te verwachten zettingen weergegeven. Ook volgt hieruit de benodigde lengte van de steunberm. Uit de eerdere analyses blijkt dat profiel 13.650 maatgevend is voor de te nemen maatregelen. Ter plaatse van het gehele traject SB08 wordt een koevriendelijke steunberm zoals bepaald ter plaatse van profiel 13.650 aangebracht. Hierbij wordt de huidige teensloot gedempt. De koevriendelijke steunberm bestaat uit een talud van ca. 1 op 10 vanaf ca. NAP -1,00 m tot aan het bestaande maaiveld.  Ter plaatse van het gehele traject SB08 wordt de steunberm op deze wijze aangebracht.

*Tabel 13 stabiliteit SB08*

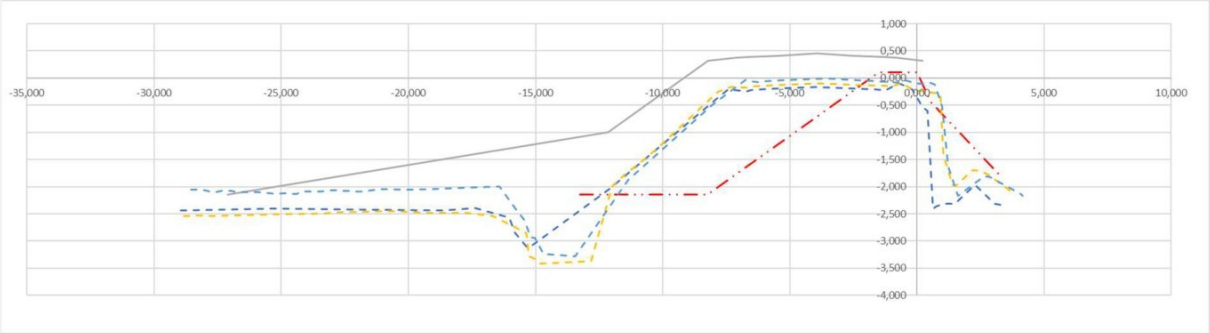
| Situatie | Berekende stabiliteitsfactor |
|---|---|
| | **13.650** |
| Huidige situatie | 0,56 |
| Opleverstabiliteit 540 dagen na start ophoging | 1,21 |
| Eindstabiliteit  5050 dagen na start ophoging/ 12 jaar na oplevering | 1,35 |

*Tabel 14 Zetting SB08 (Hoogte afgerond op 0,05 m)*

| Situatie | Dagen | Berekende zetting steunberm |
|---|---|---|
| | | **13.650** |
| Insteek steunberm (vert 22) | 540 (oplevering) | 0,37m (NAP 0,03 m) |
| | 5050 ( na 12 jaar) | 1,13m (NAP -0,73 m) |
| | 10.000 (na 30 jaar) | 1,43m (NAP -1,03 m) |
| Hart watergang (vert 20) | 540 (oplevering) | 0,38m (NAP -0,2 m) |
| | 5050 ( na 12 jaar) | 1,15m (NAP -0,97 m) |
| | 10.000 (na 30 jaar) | 1,44m (NAP -1,26 m) |
| Hart koevriendelijke berm (vert 12) | 540 (oplevering) | 0,33m (NAP -1,39 m) |
| | 5050 ( na 12 jaar) | 0,87m (NAP -1,93 m) |
| | 10.000 (na 30 jaar) | 1,09m (NAP -2,15 m) |

### 6.2.5 Berekening SBDMW06a 13.800 – 13.860

Op basis van de geometrische kenmerken zijn voor steunberm SBDMW06a 3 dwarsprofielen gegenereerd. Deze profielen zijn in de onderstaande figuur samengevat, het betreft de profielen ter plaatse van KM 13.800, 13.830 en 13.860.




*Figuur 39 alle profielen*

Uit de geometrische analyse blijkt dat het profiel ter plaatse van 13.830 in de huidige situatie het minimale profiel is. De huidige geometrie van profiel 13.830 kan tevens als gemiddeld beschouwd worden gezien de profielkenmerken en bodemopbouw.

Voor profiel 13.830 is een aantal ontwerpberekeningen gemaakt. In bijlage 5.2 (13.830) zijn de ontwerpberekeningen uitgewerkt. Ter plaatse van het gehele traject SBDMW06a wordt een koevriendelijke steunberm zoals bepaald ter plaatse van profiel 13.830 aangebracht. Hierbij wordt de huidige teensloot gedempt. De koevriendelijke steunberm bestaat uit een talud van ca. 1 op 10 vanaf ca. NAP -1,00 m tot aan het bestaande maaiveld.  Ter plaatse van het gehele traject SBDMW06a wordt de steunberm op deze wijze aangebracht.

*Tabel 15 stabiliteit SBDMW06a*

| Situatie | Berekende stabiliteitsfactor |
|---|---|
| | 13.830 |
| Huidige situatie | 0,68 |
| Opleverstabiliteit 540 dagen na start ophoging | 1,11 |
| Eindstabiliteit  5050 dagen na start ophoging/ 12 jaar na oplevering | 1,43 |

Omwille van de eindstabiliteit waarbij de volledige consolidatie nog niet bereikt is, is een maatregel ter plaatse van de nieuwe watergang getroffen. Deze maatregel behelst het aanbrengen van een bodemverbetering met een dikte van 1,0 m onder de bodem van de nieuwe watergang. In de hierboven berekende stabiliteitsfactoren is reeds rekening gehouden met deze maatregel.

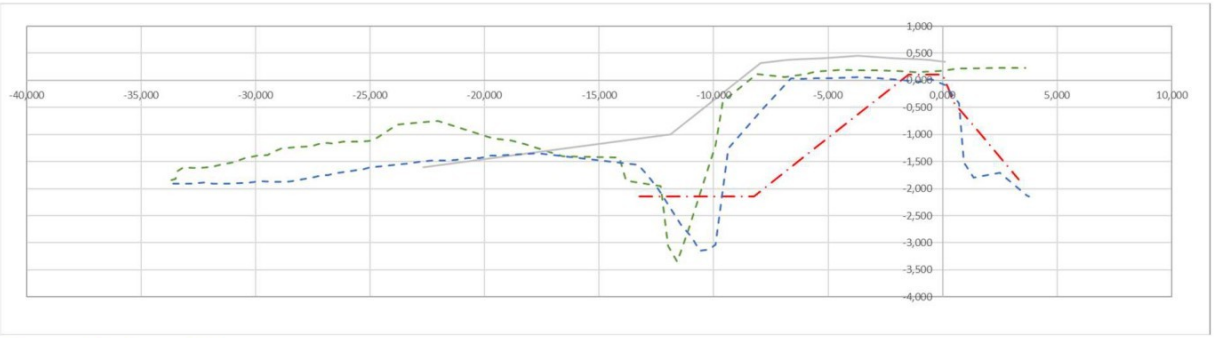
*Tabel 16 Zetting SBDMW06a*

| Situatie | Dagen | Berekende zetting steunberm [m] |
|---|---|---|
| | | 13.830 |
| Insteek steunberm (vert 17) | 540 (oplevering) | 0,19m (NAP -0,44 m) |
| | 5050 ( na 12 jaar) | 0,61m (NAP -0,86 m) |
| | 10.000 (na 30 jaar) | 0,82m (NAP -1,07 m) |

| Situatie | Dagen | Berekende zetting steunberm [m] |
|---|---|---|
| | | 13.830 |
| Hart watergang (vert 14) | 540 (oplevering) | 0,33m (NAP -0,81 m) |
| | 5050 ( na 12 jaar) | 0,93m (NAP -1,41 m) |
| | 10.000 (na 30 jaar) | 1,17m (NAP -1,65 m) |
| Hart koevriendelijke berm (vert 6) | 540 (oplevering) | 0,23m (NAP -1,43 m) |
| | 5050 ( na 12 jaar) | 0,59m (NAP -1,79 m) |
| | 10.000 (na 30 jaar) | 0,77m (NAP -1,97 m) |

### 6.2.6 Berekening SBDMW07 13.865 – 13.955

Op basis van de geometrische kenmerken zijn voor steunberm SBDMW07 2 dwarsprofielen gegenereerd. Deze profielen zijn in de onderstaande figuur samengevat, het betreft de profielen ter plaatse van KM 13.918 en 13.940.




*Figuur 40 alle profielen*

Voor profiel 13.918 en 13.940 zijn een aantal ontwerpberekeningen gemaakt. In bijlage 5.2 (13.918, 13.940) zijn de ontwerpberekeningen uitgewerkt. In de navolgende tabellen zijn de berekende stabiliteit en de te verwachten zettingen weergegeven. Ook volgt hieruit de benodigde lengte van de steunberm. Uit de analyses blijkt dat profiel 13.940 maatgevend is voor de te nemen maatregelen. Ter plaatse van het gehele traject SBDW07 wordt een koevriendelijke steunberm zoals bepaald ter plaatse van profiel 13.940 aangebracht. Hierbij wordt de huidige teensloot gedempt. De koevriendelijke steunberm bestaat uit een talud van ca. 1 op 10 vanaf ca. NAP -1,00 m tot aan het bestaande maaiveld. Ter plaatse van het gehele traject SB DW07 wordt de steunberm op deze wijze aangebracht.

*Tabel 17 stabiliteit SBDMW07*

| Situatie | Berekende stabiliteitsfactor | |
|---|---|---|
| | 13.918 | 13.940 |
| Huidige situatie | 0.46 | 0.38 |
| Stabilteit 300 dagen na start ophoging | 1.35 | 1.35 |
| Opleverstabiliteit 540 dagen na start ophoging | 1.35 | 1.35 |
| Eindstabiliteit 5050 dagen na start ophoging/ 12 jaar na oplevering | 1.35 | 1.10 |

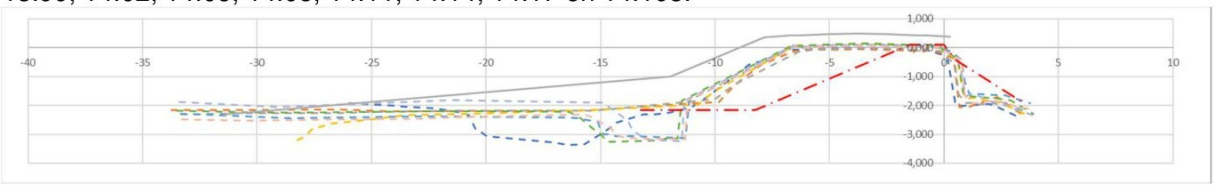
Voor de lengte van de steunberm blijkt de eindstabiliteit bij 5050 dagen maatgevend.

*Tabel 18 Zetting SBDMW07*

| Situatie | Dagen | Berekende zetting steunberm [m] | |
|---|---|---|---|
| | | 13.918 | 13.940 |
| Insteek steunberm | 540 (oplevering) | 0,24 (NAP -0,59 m) | 0,25 (NAP -0,48 m) |
| | 5050 ( na 12 jaar) | 0,67 (NAP -1,02 m) | 0,78 (NAP -1,01 m) |
| | 10.000 (na 30 jaar) | 0,90 (NAP -1,25 m) | 1,07 (NAP -1,30 m) |
| Steunberm tpv achterland | 540 (oplevering) | 0,18 (NAP -0,78 m) | 0,18 (NAP -0,79 m) |
| | 5050 ( na 12 jaar) | 0,50 (NAP -1,10 m) | 0,49 (NAP -1,10 m) |
| | 10.000 (na 30 jaar) | 0,66 (NAP -1,26 m) | 0,65 (NAP -1,26 m) |

### 6.2.7 Berekening SBDMW08 13.960-14.200

Op basis van de geometrische kenmerken zijn voor steunberm SBDMW08 8 dwarsprofielen gegenereerd. Deze profielen zijn in de onderstaande figuur samengevat, het betreft de profielen ter plaatse van KM 13.99, 14.02, 14.05, 14.08, 14.11, 14.14, 14.17 en 14.193.




*Figuur 41 alle profielen*

Uit de geometrische analyse blijkt dat het profiel ter plaatse van 13.99 in de huidige situatie het minimale profiel is. Ter aanvulling is een berekening gemaakt ter plaatse van KM 14.05 (hier bevindt zich een tussenzandlaag tussen NAP -8 en -12 m, welke mogelijk invloed heeft op de berekeningen) en ter plaatse van KM 14.17 (hier is in de huidige situatie geen watergang aanwezig). Opgemerkt moet worden dat de toekomstige steunberm in de toekomstige situatie aan weerszijden wordt begrensd door een watergang, welke mogelijk invloed heeft op de stabiliteit in zijwaartse richting. Dit is in voorliggende berekeningen niet beschouwd.

Voor profiel 14.17 zijn de ontwerpberekeningen gemaakt. Ter plaatse van het gehele traject SBDMW08 wordt een koevriendelijke steunberm zoals bepaald ter plaatse van profiel 14.17 aangebracht. Hierbij wordt de huidige teensloot gedempt. De koevriendelijke steunberm bestaat uit een talud van ca. 1 op 10 vanaf ca. NAP -1,00 m tot aan het bestaande maaiveld.  Ter plaatse van het gehele traject SBDMW08 wordt de steunberm op deze wijze aangebracht.

*Tabel 19 stabiliteit SBDMW08*

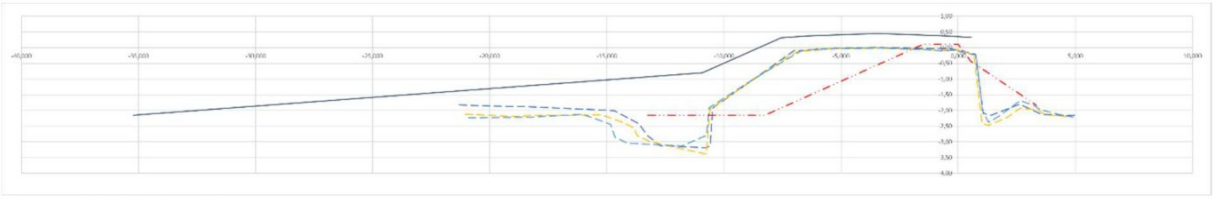
| Situatie | Berekende stabiliteitsfactor |
|---|---|
| | 14.170 |
| Huidige situatie | 0,90 |
| Opleverstabiliteit 540 dagen na start ophoging | 1,15 |
| Eindstabiliteit  5050 dagen na start ophoging/ 12 jaar na oplevering | 1,16* |

*Tabel 20 Zetting SBDMW08 (Hoogte afgerond op 0,05 m)*

| Situatie | Dagen | Berekende zetting steunberm [m] |
|---|---|---|
| | | 14.170 |
| Insteek steunberm (vert 11) | 540 (oplevering) | 0,27m (NAP -0,72 m) |
| | 5050 ( na 12 jaar) | 0,73m (NAP -1,18 m) |
| | 10.000 (na 30 jaar) | 0,93m (NAP -1,38 m) |
| Hart watergang | 540 (oplevering) | nvt |
| | 5050 ( na 12 jaar) | nvt |
| | 10.000 (na 30 jaar) | nvt |
| Hart koevriendelijke berm (vert 8) | 540 (oplevering) | 0,22m (NAP -1,53 m) |
| | 5050 ( na 12 jaar) | 0,58m (NAP -1,89 m) |
| | 10.000 (na 30 jaar) | 0,72m (NAP -2,03 m) |

### 6.2.8 Berekening SBDMW10 14.320-14.380

Op basis van de geometrische kenmerken zijn voor steunberm SBDW10 3 dwarsprofielen gegenereerd. Deze profielen zijn in de onderstaande figuur samengevat, het betreft de profielen ter plaatse van 14.320, 14.350 en 14.380.



*Figuur 42 Alle profielen*

Uit de geometrische analyse blijkt dat het profiel ter plaatse van 14.320 in de huidige situatie het minimale profiel is. De huidige geometrie van profiel 14.320 is, gezien het korte traject, tevens als gemiddeld beschouwd.

Voor profiel 14.320 zijn een aantal ontwerpberekeningen gemaakt. In bijlage 5.2 (14.320) zijn de ontwerpberekeningen uitgewerkt Ter plaatse van het gehele traject SBDMW10 wordt een koevriendelijke steunberm zoals bepaald ter plaatse van profiel 14.320 aangebracht. Hierbij wordt de huidige teensloot gedempt. De koevriendelijke steunberm bestaat uit een talud van ca. 1 op 10 vanaf ca. NAP -0,80 m tot aan het bestaande maaiveld.  Ter plaatse van het gehele traject SBDMW10 wordt de steunberm op deze wijze aangebracht.

*Tabel 21 stabiliteit SBDMW10*

| Situatie | Berekende stabiliteitsfactor |
|---|---|
| | 14.320 |
| Huidige situatie | 0,70 |
| Opleverstabiliteit 540 dagen na start ophoging | 1,20 |
| Eindstabiliteit  5050 dagen na start ophoging/ 12 jaar na oplevering | 1,47 |

Aangezien er ter plaatse van SBDMW10 een archeologische vindplaats is aangetroffen wordt de bestaande watergang niet direct aansluitend op de steunberm gegraven. Omwille van de eindstabiliteit

waarbij de volledige consolidatie nog niet bereikt is, is er wel een maatregel noodzakelijk. Deze maatregel behelst een verflauwing van het eindtalud, 1 op 7. In de hierboven berekende stabiliteitsfactoren is reeds rekening gehouden met deze maatregel.

*Tabel 22 zetting SBDMW10 (Hoogte afgerond op 0,05 m)*

| Situatie | Dagen | Berekende zetting steunberm |
|---|---|---|
| | | 14.320 |
| Insteek steunberm (vert 15) | 540 (oplevering) | 0,36m (NAP -0,41 m) |
| | 5050 ( na 12 jaar) | 1,07m (NAP -1,12 m) |
| | 10.000 (na 30 jaar) | 1,41m (NAP -1,46 m) |
| Hart watergang (vert 13) | 540 (oplevering) | 0,37m (NAP -0,56 m) |
| | 5050 ( na 12 jaar) | 1,10m (NAP -1,29 m) |
| | 10.000 (na 30 jaar) | 1,42m (NAP -1,61 m) |
| Hart koevriendelijke berm (vert 3) | 540 (oplevering) | 0,25m (NAP -1,39 m) |
| | 5050 ( na 12 jaar) | 0,65m (NAP -1,79 m) |
| | 10.000 (na 30 jaar) | 0,82m (NAP -1,96 m) |

### 6.2.9 Berekening SBDMW11 14.430-14.480

Op basis van de geometrische kenmerken zijn voor steunberm SBDW11 3 dwarsprofielen gegenereerd. Deze profielen zijn in de onderstaande figuur samengevat, het betreft de profielen ter plaatse van 14.430, 14.460 en 14.480.




*Figuur 43 Alle profielen*

Uit de geometrische analyse blijkt dat het profiel ter plaatse van 14.430 in de huidige situatie het minimale profiel is. De huidige geometrie van profiel 14.430 is, gezien het korte traject, tevens als gemiddeld beschouwd.

Voor profiel 14.430 zijn een aantal ontwerpberekeningen gemaakt. In bijlage 5.2 (14.430) zijn de ontwerpberekeningen uitgewerkt. Ter plaatse van het gehele traject SBDMW11 wordt een koevriendelijke steunberm zoals bepaald ter plaatse van profiel 14.430 aangebracht. Hierbij wordt de huidige teensloot gedempt. De koevriendelijke steunberm bestaat uit een talud van ca. 1 op 10 vanaf ca. NAP -0,90 m tot aan het bestaande maaiveld.  Ter plaatse van het gehele traject SBDMW11 wordt de steunberm op deze wijze aangebracht.

*Tabel 23 stabiliteit SBDMW11*

| Situatie | Berekende stabiliteitsfactor |
|---|---|
| | 14.430 |
| Huidige situatie | 0,74 |
| Opleverstabiliteit 540 dagen na start ophoging | 1,18 |

| Situatie | Berekende stabiliteitsfactor |
|---|---|
| | 14.430 |
| Eindstabiliteit 5050 dagen na start ophoging/ 12 jaar na oplevering | 1,40 |

Aangezien er ter plaatse van SBDMW11 een archeologische vindplaats is aangetroffen wordt de bestaande watergang niet direct aansluitend op de steunberm gegraven. Omwille van de eindstabiliteit waarbij de volledige consolidatie nog niet bereikt is, is er wel een maatregel noodzakelijk. Deze maatregel behelst een verflauwing van het eindtalud, 1 op 10. In de hierboven berekende stabiliteitsfactoren is reeds rekening gehouden met deze maatregel.

*Tabel 24 zetting SBDMW11 (Hoogte afgerond op 0,05 m)*

| Situatie | Dagen | Berekende zetting steunberm |
|---|---|---|
| | | 14.430 |
| Insteek steunberm (vert 19) | 540 (oplevering) | 0,32m (NAP -0,62 m) |
| | 5050 ( na 12 jaar) | 0,89m (NAP -1,19 m) |
| | 10.000 (na 30 jaar) | 1,14m (NAP -1,44 m) |
| Hart watergang (vert 17) | 540 (oplevering) | 0,30m (NAP -0,92 m) |
| | 5050 ( na 12 jaar) | 0,85m (NAP -1,47 m) |
| | 10.000 (na 30 jaar) | 1,09m (NAP -1,71 m) |
| Hart koevriendelijke berm (vert 11) | 540 (oplevering) | 0,24m (NAP -1,42 m) |
| | 5050 ( na 12 jaar) | 0,65m (NAP -1,83 m) |
| | 10.000 (na 30 jaar) | 0,77m (NAP -1,95 m) |

### 6.2.10 Berekening SBDMW14 14,600-14,785

Op basis van de geometrische kenmerken zijn voor steunberm SBDW14 8 dwarsprofielen gegenereerd. Deze profielen zijn in de onderstaande figuur samengevat, het betreft de profielen ter plaatse van 14.600, 14.630, 14.660, 14.690, 14.715, 14.750, 14.770, 13.590, en 14.785.




*Figuur 44 Alle profielen*

Voor profiel 14.600, 14.660 en 14.785 zijn een aantal ontwerpberekeningen gemaakt. In bijlage 5.2 (14.600, 14.660, 14.785) zijn de ontwerpberekeningen uitgewerkt. In de navolgende tabellen zijn de berekende stabiliteit en de te verwachten zettingen weergegeven. Ook volgt hieruit de benodigde lengte van de steunberm. Uit de analyses blijkt dat profiel 14.660 maatgevend is voor de te nemen maatregelen. Ter plaatse van het gehele traject SBDW14 wordt een koevriendelijke steunberm zoals bepaald ter plaatse van profiel 14.600 aangebracht. Hierbij wordt de huidige teensloot gedempt. De koevriendelijke steunberm bestaat uit een talud van ca. 1 op 10 vanaf ca. NAP -1,00 m tot aan het bestaande maaiveld. Ter plaatse van het gehele traject SBDW14 wordt de steunberm op deze wijze aangebracht.

*Tabel 25 stabiliteit SBDW14*

| Situatie | Berekende stabiliteitsfactor |
|---|---|
| | 14.600 |
| Huidige situatie | 0,68 |
| Opleverstabiliteit 540 dagen na start ophoging | 1,22 |
| Eindstabiliteit 5050 dagen na start ophoging/ 12 jaar na oplevering | 1,30 |

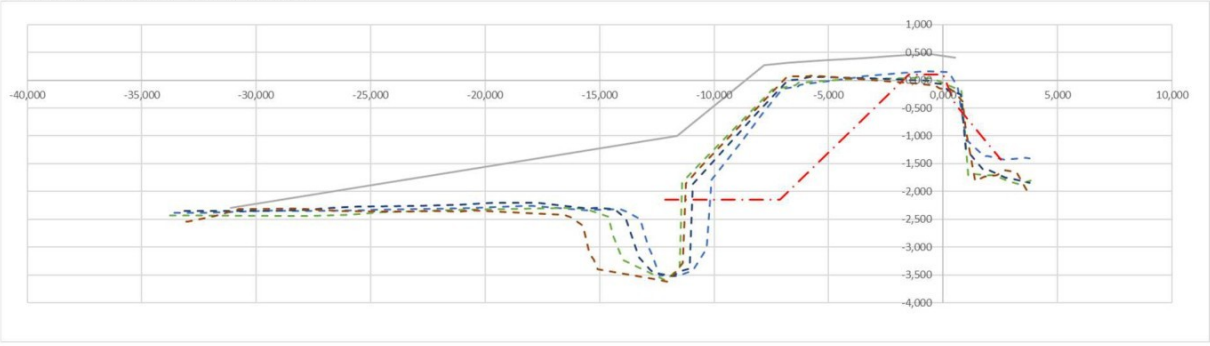
Voor de lengte van de steunberm blijkt de eindstabiliteit bij 5050 dagen maatgevend.

*Tabel 26 Zetting SBDW14 (Hoogte afgerond op 0,05 m)*

| Situatie | Dagen | Berekende zetting steunberm |
|---|---|---|
| | | 14.600 |
| Insteek steunberm (vert 29) | 540 (oplevering) | 0,21m (NAP -0,56 m) |
| | 5050 ( na 12 jaar) | 0,62m (NAP -0,97 m) |
| | 10.000 (na 30 jaar) | 0,82m (NAP -1,17 m) |
| Hart watergang (vert 18) | 540 (oplevering) | 0,26m (NAP -0,79 m) |
| | 5050 ( na 12 jaar) | 0,8m (NAP -1,33 m) |
| | 10.000 (na 30 jaar) | 1,03m (NAP -1,56 m) |
| Hart koevriendelijke berm (vert 8) | 540 (oplevering) | 0,29m (NAP -1,49 m) |
| | 5050 ( na 12 jaar) | 0,73m (NAP -1,93 m) |
| | 10.000 (na 30 jaar) | 0,91m (NAP -2,11 m) |

### 6.2.11 Berekening SB13 14.840 -14.900

Op basis van de geometrische kenmerken zijn voor steunberm SB13 4 dwarsprofielen gegenereerd. Deze profielen zijn in de onderstaande figuur samengevat, het betreft de profielen ter plaatse van KM 14.840, 14.860, 14.880 en 14.900.




*Figuur 45 Alle profielen*

Uit de geometrische analyse blijkt dat het profiel ter plaatse van 14.840 in de huidige situatie het minimale profiel is. De huidige geometrie van profiel 14.840 kan tevens als gemiddeld beschouwd worden gezien de profielkenmerken. Voor de bodemopbouw is uitgegaan van profiel 14.860.

Voor profiel 14.840 is een aantal ontwerpberekeningen gemaakt. In bijlage 5.2 (14.840) zijn de ontwerpberekeningen uitgewerkt. In de navolgende tabellen zijn de berekende stabiliteit en de te verwachten zettingen weergegeven. Ter plaatse van het gehele traject SB13 wordt een koevriendelijke steunberm zoals bepaald ter plaatse van profiel 14.840 aangebracht. Hierbij wordt de huidige teensloot

gedempt. De koevriendelijke steunberm bestaat uit een talud van ca. 1 op 10 vanaf ca. NAP -1,00 m tot aan het bestaande maaiveld. Ter plaatse van het gehele traject SB13 wordt de steunberm op deze wijze aangebracht.

*Tabel 27 stabiliteit SB13*

| Situatie | Berekende stabiliteitsfactor |
|---|---|
| | **14.840** |
| Huidige situatie | 0,74 |
| Opleverstabiliteit 540 dagen na start ophoging | 1,15 |
| Eindstabiliteit 5050 dagen na start ophoging/ 12 jaar na oplevering | 1,50 |

Omwille van de eindstabiliteit waarbij de volledige consolidatie nog niet bereikt is, is een maatregel ter plaatse van de nieuwe watergang getroffen. Deze maatregel behelst het aanbrengen van een bodemverbetering met een dikte van 1,5 m onder de bodem van de nieuwe watergang. In de hierboven berekende stabiliteitsfactoren is reeds rekening gehouden met deze maatregel.

*Tabel 28 Zetting SB13 (Hoogte afgerond op 0,05 m)*

| Situatie | Dagen | Berekende zetting steunberm [m] |
|---|---|---|
| | | **14.840** |
| Insteek steunberm (vert 21) | 540 (oplevering) | 0,27m (NAP -0,62 m) |
| | 5050 ( na 12 jaar) | 0,83m (NAP -1,18 m) |
| | 10.000 (na 30 jaar) | 1,11m (NAP -1,46 m) |
| Hart watergang (vert 19) | 540 (oplevering) | 0,28m (NAP -0,84 m) |
| | 5050 ( na 12 jaar) | 0,86m (NAP -1,42 m) |
| | 10.000 (na 30 jaar) | 1,14m (NAP -1,7 m) |
| Hart koevriendelijke berm (vert 9) | 540 (oplevering) | 0,23m (NAP -1,62 m) |
| | 5050 ( na 12 jaar) | 0,58m (NAP -1,97 m) |
| | 10.000 (na 30 jaar) | 0,75m (NAP -2,14 m) |

### 6.2.12 Toetsing

In de onderstaande tabel zijn de resultaten en toetsingen van het object weergegeven,

*Tabel 29 Toetsing stabiliteit steunbermen*

| Doorsnede | Stabiliteits factor bij oplevering | akkoord | Stabiliteits factor na 12 jaar | Akkoord | Conclusie |
|---|---|---|---|---|---|
| SB06 (13.030) | 1,00 | Ja, aanzienlijke verbetering tov begin stabiliteit | 1,09 | Ja | Voldoet |
| SB07 (13.200) | 1,00 | Ja | 1,10 | Ja | Voldoet |
| SB07 (13.295) | 1,42 | Ja | 1,15 | Ja | Voldoet |
| SB08 (13.440) | 0,87 | Ja, aanzienlijke verbetering tov begin stabiliteit | 1,44 | Ja | Voldoet |
| SB08 (13.560) | 1,01 | Ja | 1,31 | Ja | Voldoet |
| SB08 (13.650) | 0,90 | Ja, aanzienlijke verbetering tov begin stabiliteit | 1,19 | Ja | Voldoet |

| Doorsnede | Stabiliteits factor bij oplevering | akkoord | Stabiliteits factor na 12 jaar | Akkoord | Conclusie |
|---|---|---|---|---|---|
| SBDW06 (13.830) | 1,04 | Ja | 1,09 | Ja | Voldoet |
| SBDW07 (13.918) | 1,35 | Ja | 1,35 | Ja | Voldoet |
| SBDW07 (13.940) | 1,35 | Ja | 1,10 | Ja | Voldoet |
| SBDW08 (13.990) | 0,91 | Ja | 1,10 | Ja | Voldoet |
| SBDW08 (14.050) | 1,09 | Ja | 1,29 | Ja | Voldoet |
| SBDW08 (14.170) | 1,08 | Ja | 1,09 | Ja | Voldoet |
| SBDW10 (14.320) | 1,09 | Ja | 1,09 | Ja | Voldoet |
| SBDW11 (14.430) | 1,18 | Ja | 1,09 | Ja | Voldoet |
| SBDW14 (14.600) | 0,97 | Ja | 1,11 | Ja | Voldoet |
| SBDW14 (14.660) | 0,88 | Ja, aanzienlijke verbetering tov begin stabiliteit | 1,10 | Ja | Voldoet |
| SBDW14 (14.785) | 1,12 | Ja | 1,13 | Ja | Voldoet |
| SB13 (14.840) | 1,09 | Ja | 1,10 | Ja | Voldoet |

Ter plaatse van SB06, SB08, SBDW08 en SBDW14 is de berekende stabiliteitsfactor bij oplevering in de basis lager dan vereist. Dit wordt veroorzaakt door de langzame dissipatie. In de consolidatie berekeningen is rekening gehouden met een relatief lage Cv -waarde (verticale consolidatiecoefficient). Dit betreft een laag gemiddelde waarde op basis van de uitgevoerde proeven. In de praktijk zal de consolidatie sneller optreden wat zal leiden tot een hogere veiligheidsfactor. In de praktijk wordt dit gemonitord middels waterspanningsmeters. Het toepassen van waterspanningsmeters en de uitvoering daar op sturen is onderdeel van het normale werkproces. Indien blijkt dat bij oplevering er nog niet voldoende consolidatie is geweest kan er een tijdelijk maatregel getroffen worden door bijvoorbeeld het verkeer te beperken, in de praktijk betekent dit dat de maximale verkeersbelasting dan gedurende een periode nog niet verhoogd van 20 ton naar 40 ton kan worden.

## 6.3 Object bestaande waterkering OBJ-0013

Indien er geen stabiliteitsverhogende maatregel (steunberm OBJ-0010 of damwand OBJ 0011) is voorzien in het ontwerp en de wegas OBJ-0003 wel hoger gelegen is dan in de huidige situatie dan dient de waterkering getoetst te worden.

### 6.3.1 Uitgangspunten

**Veiligheidsbenadering**
Conform de toetsing van Delfland is er ter hoogte van de bestaande waterkering (OBJ-0013) geen stabiliteits issue. Het ontwerp van de grondkering is onderdeel van de waterkering en dient daarom te voldoen aan de normstabiliteit. De waterkering van trajectdeel 2 is ingedeeld in IPO klasse III.

De benodigde normstabiliteit is 0,94. Dit is de schadefactor inclusief modelfactor en schematiseringsfactor maar exclusief de CSSM factor en additie voor robuustheid. ((0,90*1,05*1,00) = 0,94)

Tijdens de aanleg van de verbetering van de waterkering dient de veiligheid tegen afschuiven minimaal groter te zijn dan in de voorafgaande fase met een minimale schadefactor van 0,85.

De veiligheid van het ontwerp wordt op 3 momenten bepaald :

1. De huidige stabiliteit van de waterkering (dag 0);
2. De stabiliteit na aanbrengen van de weegconstructie, oplevering (dag 540)
3. De stabiliteit aan het eind van de onderhoudsperiode, na 12 jaar (dag 5050, 4500 dagen na oplevering)

**Geometrie (huidig)**

De huidige geometrie is ontleend aan de ontvangen inmeting van Geomaat (DTM). De inmeting is in mei 2021 gemaakt. Uit dit 3 dimensionale model zijn diverse dwarsdoorsnedes gegenereerd. Ook is de asfaltconstructie opbouw bepaald aan de hand van de beschikbare gegevens.

**Geometrie (toekomstig)**

Indien het noodzakelijk is om de normstabiliteit te behalen dat een steunberm aangelegd wordt dan kent deze een minimale breedte van 3,0m.

Indien het noodzakelijk is om een watergang te dempen dan wordt deze tot aan de huidige waterlijn aangevuld met zand. Boven de waterlijn wordt de nieuwe steunberm aangevuld met goede verdichtbare grond met een minimaal soortelijk gewicht van 16 kN/m3.

**Freatische lijn**

Ten behoeve van de zettingsberekeningen is de freatische lijn als volgt geschematiseerd:
Streefpeil tot aan de buitenkruinlijn(BKL) conform legger, verloop naar het lage polderpeil in de binnenteen van de waterkering, zie Figuur 31.

Ten behoeve van de stabiliteitsberekeningen is de freatische lijn geschematiseerd conform de eisen uit de BMW. In Tabel 6 is het maatgevend boezempeil weergegeven. Op het maatgevend boezempeil dient een robuustheidstoeslag van 0,10 m te worden gehanteerd.. Hier is een robuustheidstoeslag van 0,10 m op gehanteerd. Door de eisen in de BMW worden 3 situaties veronderstelt:

- Huidige situatie
- Situatie tijdens uitvoering
- Situatie na uitvoering

De freatische lijn voor de huidige situatie Nat is als volgt geschematiseerd:
Maatgevend boezempeil incl. robuustheid ter plaats van de boezem, in het grondlichaam verlopend naar het streefpeil (NAP -0,43m) ter hoogte van de binnenkruinlijn. Vanaf dat punt verlopend naar 0,05 m onder de binnenteen. Om vervolgens ter hoogte van de watergang aan te sluiten op het polderpeil. (zie Figuur 32). Deze ligging van de freatische lijn wordt ook gehanteerd tijdens de situatie tijdens uitvoering, Figuur 33.In de situatie na uitvoering dient rekening gehouden te worden met de nieuwe geometrie.(zie Figuur 34)

**Polderpeilen**

In Tabel 7 zijn de voor dit deeltraject gehanteerde polderpeilen weergegeven.

**Stijghoogte diepe zandlagen**

Uit een kaart uit bijlage 5 van de BMW “Toename stijghoogte eerste watervoerende pakket bij stopzetting onttrekking DSM” volgt dat na de stopzetting van de onttrekking van DSM in Delft de stijghoogte tussen NAP –1,0 à -2,5 m ligt. Tevens is de stijghoogte afgeleid uit de isohypsenkaart van de Geologische Dienst Nederland, onderdeel van TNO en is in de volgende kaart weergeven, zie Figuur 35.
Per traject zal een gemiddelde stijghoogte worden aangehouden, op basis van bovenstaande gegevens en veldmetingen op locatie.

Traject 3 (Gaagweg): Stijghoogte 1e wvp: NAP - 1,50 m

In de zandlagen zal de stijghoogte lager zijn dan het heersende waterpeil of grondwaterstand. Over de lagen met Calais klei zal de stijghoogte gelijkmatig oplopen over een indringingszone van ca. 2 m.

**Bodemopbouw**
Op basis van het uitgevoerde grondonderzoek is een Geotechnisch lengteprofiel opgesteld. Dit geotechnisch lengteprofiel geeft inzicht in de bodemopbouw van het gehele trajectdeel. (Bijlage 7 )
Per berekende doorsnede is de lokale bodemopbouw gehanteerd.

**Grondparameters**
Ten behoeve van de zettingsberekeningen zijn de parameters uit Tabel 3 gehanteerd. Deze grondparameters zijn bepaald op basis van het uitgevoerde grondonderzoek en tabel 2.b van NEN 1997-1.
Ten behoeve van de stabiliteitsberekeningen is gebruik gemaakt van de proevenverzameling van het hoogheemraadschap van Delfland. In Tabel 8 is de koppeling tussen de verschillende lagen weergeven.

**Variabele belasting**
Als maatgevend voertuig wordt gezien een standaard 8x8-vrachtwagen. Een standaard 8x8-vrachtwagen weegt volbeladen 40 ton. Dit gewicht wordt verdeeld over 4 assen. De totale lengte bedraagt zo’n 9 meter. Dit komt neer op een vlaklast van 40 / (9 * 2,6) = 17 kN/m².
Door Delfland is als uitgangspunt meegegeven dat een standaard belasting van 15 kN/m2 over een breedte van 2,5 m ter plaatse van de asfaltconstructie gelijk staat aan deze vlaklast. Hierbij mag in cohesieve lagen rekening gehouden worden met een consolidatie percentage van 50% en 100% voor zandlagen.
De belasting vanuit zandzakken is niet meegenomen in het ontwerp, echter is ook niet maatgevend.

### 6.3.2 Berekening

Voor 4 profielen is een toetsing van de stabiliteit uitgevoerd. Hierbij is per profiel zowel de huidige stabiliteit bepaald als de eindstabiliteit na ophoging van de kruin. De eindstabiliteit is bepaald met een veilig talud 1 op 3. In bijlage 5.3 zijn de ontwerpberekeningen uitgewerkt. In de navolgende tabel is de berekende stabiliteit weergegeven.

*Tabel 30 stabiliteit object 13*

| Situatie | Berekende stabiliteitsfactor | | | |
|---|---|---|---|---|
| | 12.420 | 12.450 | 14.915 | 14.970 |
| Huidige situatie | 1,72 | 1,08 | 0,82 | 1,30 |
| Eindstabiliteit 5050 dagen na start ophoging/ 12 jaar na oplevering | 1,47 | 1,08 | 0,97 | 1,16 |

### 6.3.3 Toetsing

In de onderstaande tabel zijn de resultaten en toetsingen van het object weergegeven,

*Tabel 31 Toetsing stabiliteit*

| Doorsnede | Stabiliteits factor na 12 jaar | Conclusie |
|---|---|---|
| 12.420 | 1,47 | Voldoet |
| 12.450 | 1,08 | Voldoet |
| 14.915 | 0,97 | Voldoet |
| 14.970 | 1,16 | Voldoet |

# 7. Afwijkingen / wijzigingen

Er zijn twee afwijkingen vanuit het ontwerp, deze zijn opgenomen in relatics:

**AFW-0025** Niet kunnen voldoen aan de restzettingseis van 0,10 meter in 30 jaar (exclusief optredende bodemdaling), deeltraject 3 Gaagweg.

*Omschrijving:* In verband met waterveiligheid zijn geforceerde zettingen, middels een voorbelasting, niet toegestaan (SYS-0018). Principe keuze in het ontwerp is het aanbrengen van een overhoogte waarmee de maatgevende zetting in de planperiode geborgd wordt. Op basis van de uitgevoerde zettingsberekeningen treedt er tussen km. 10,90 en 11,14 een restzetting van maximaal 0,20 na 30 jaar (exclusief optredende bodemdaling) op. Dit heeft te maken met het feit dat hier de maximale ophoging van de weg aanwezig is in combinatie met een slechte bodemopbouw.

**AFW-0016** Niet kunnen voldoen aan de drooglegginsgeis van 0,70 meter, na 30 jaar, deeltraject 3 Gaagweg.

*Omschrijving:* Drooglegging conform eis kan niet behaald worden in verband met de bestaande hoogte van het boezempeil. Het streefpeil van de boezem is NAP-0,43 meter. De ontwerphoogte (laagste punt) van de N468 voor deeltraject 3 is NAP + 0,40 m. Hier is een zetting berekend van ca 0,25 m in 30 jaar. Derhalve zal de wegas na 30 jaar op NAP +0,15 m liggen en een drooglegging hebben van 0,58 m.

Door toepassen van cunnetdrainage wordt de drooglegging zovele mogelijk gewaarborgd en zal de sterkte-reductie van de wegfundering minimaal zijn.

# 8. Inkoop

## 8.1 Duurzaamheid

Vanuit het ontwerp zijn er geen specifieke eisen t.a.v. duurzaamheid in relatie tot het inkoopproces.

## 8.2 Specificatie

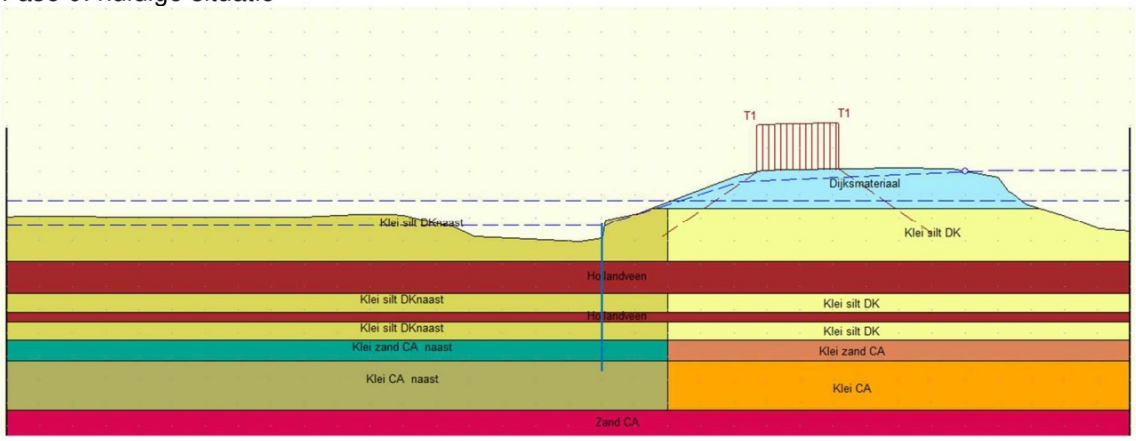
Vanuit het ontwerp is geen nadere specificatie voor wat betreft de inkoop van materialen.

# 9. Realisatie

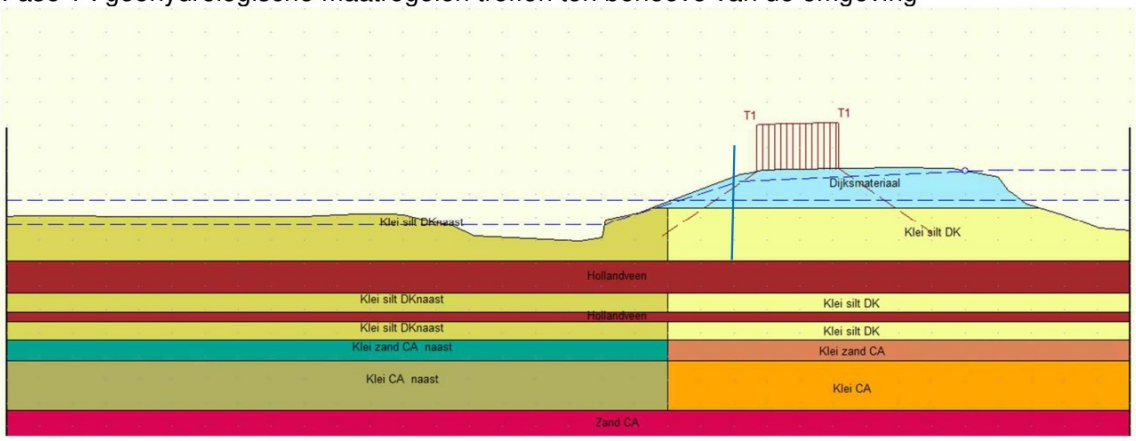
## 9.1 Bouwfasering steunbermen (HHD)

In de onderstaande figuren is de voorziene bouwfasering ten behoeve van de steunbermen (HHD) weergegeven. Hierbij zijn de essentiële werkzaamheden aangegeven. Deze bouwfasering is globaal en geldt voor het gehele deeltraject. Indien er in de huidige situatie geen watergang aanwezig is dan wordt deze ook niet teruggebracht. In de bouwfasering is ook aangegeven wanneer de beschoeiing aan de boezemzijde aanwezig dient te zijn, deze kan ook in een eerder stadium worden aangebracht. Details over het aanbrengen van de steunbermen worden in het UO verder omschreven in het ophogingsplan en monitoringsplan.

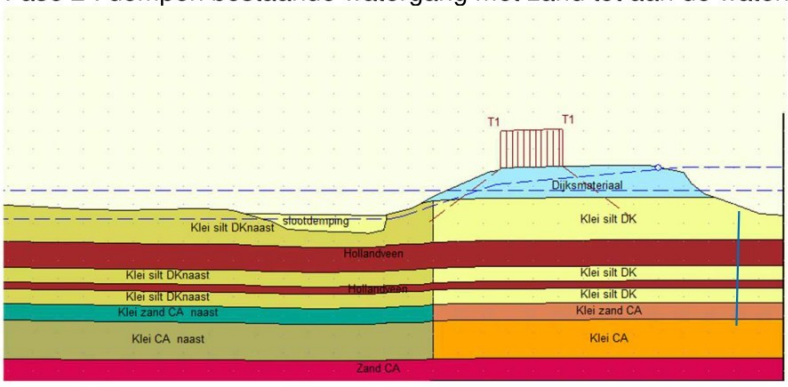
Fase 0: huidige situatie



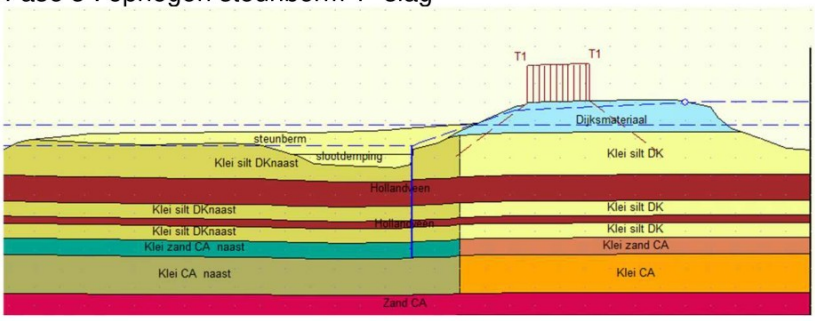

Fase 1 : geohydrologische maatregelen treffen ten behoeve van de omgeving



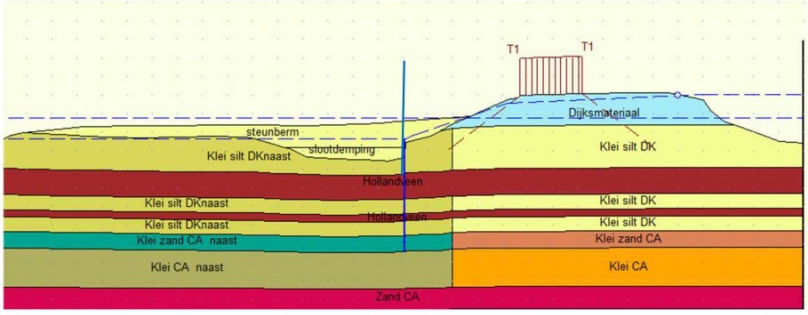
Fase 2 : dempen bestaande watergang met zand tot aan de waterlijn.



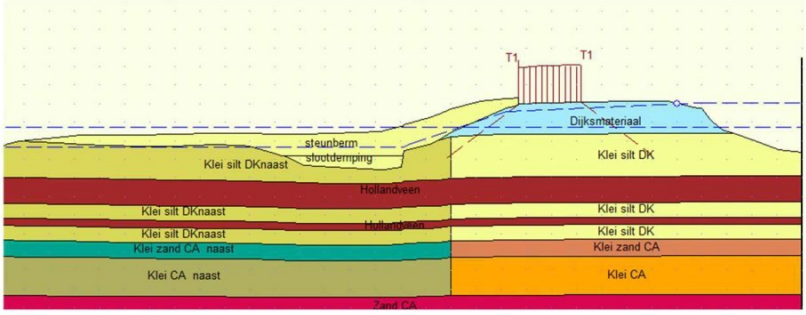

Fase 3 : ophogen steunberm 1e slag



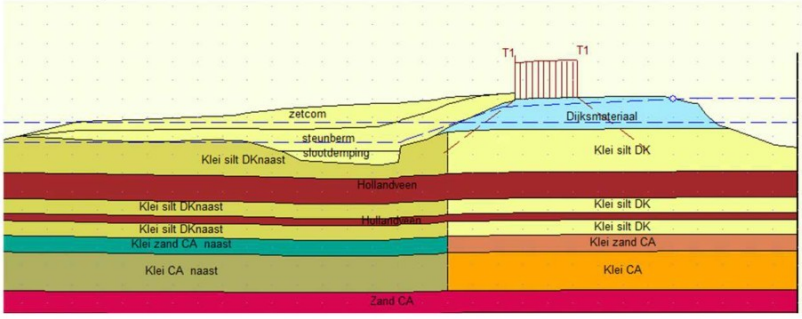

Fase 3a : trekken bestaande houten damwand in teen gedempte watergang



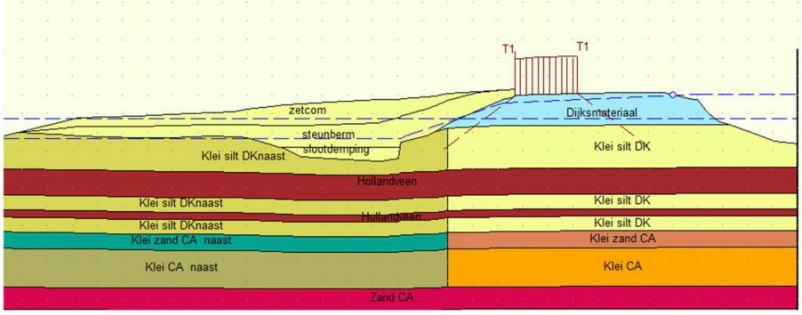

Fase 4 : ophogen steunberm in slagen



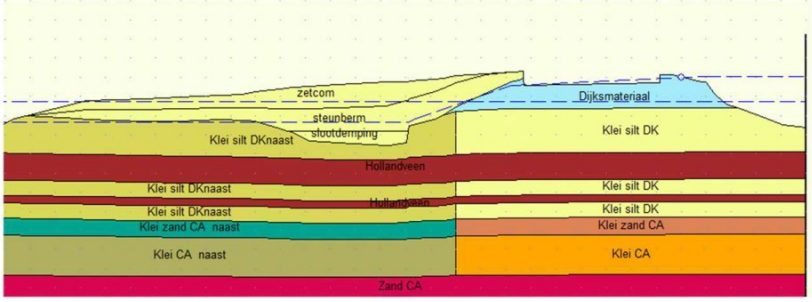
Fase 5 ophogen steunberm inclusief overhoogte/zettingscompensatie, minimale hoogte nabij wegberm NAP +0,10 m.



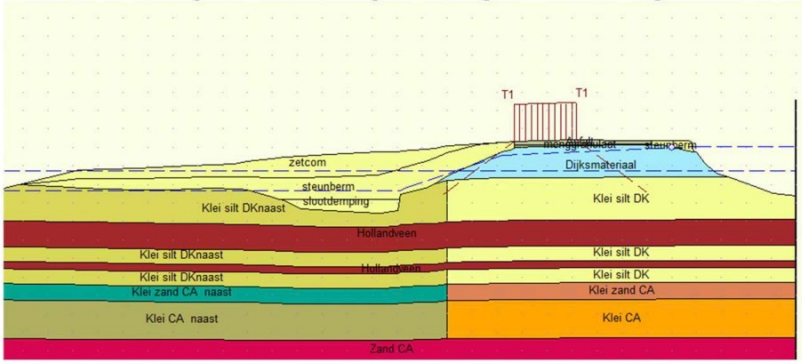

Fase 6 rust tijd, vanaf dit moment dient de nieuwe beschoeiing/damwand boezemzijde aangebracht te zijn




Fase 7 verwijderen bestaande verharding en wegfundering




Fase 8 aanbrengen nieuwe wegfundering en verharding



## 9.2 Bouwmethode

Het betreft hoofdzakelijk het uitvoeren van grondwerk. Meer specifiek het graven van watergangen, dempen van watergangen en aanbrengen van de steunbermen met overhoogte, De werkzaamheden zullen deels vanuit de weg en de aangrenzende percelen worden uitgevoerd.
Details over het aanbrengen van de steunbermen worden in het UO verder omschreven in het ophogingsplan en monitoringsplan.

## 9.3 Aandachtspunten voor uitvoering

Grondwerk dient zorgvuldig te worden uitgevoerd en objecten dienen zorgvuldig verwijderd te worden. De waterkering dient zijn functie te behouden.

De ophoging zal geschieden in lagen en wordt per laag verdicht. Zoals ook uit de bouwfasering blijkt dient de steunberm minimaal een hoogte van NAP + 0,10m te hebben voorafgaand aan het verwijderen van de huidige asfaltconstructie ( inclusief de wegfundering). De stabiliteitborgende damwand in de hoofdwatergang mag niet eerder verwijderd worden dan na het aanbrengen van de demping van de hoofdwatergang en de eerste ophoogslag.

# 10. Conclusie

Het geotechnische ontwerp van de steunberm (zettingen en stabiliteit), ophoging N468 (zetting) en de aanberming is getoetst en voldoet aan de gestelde eisen en wensen op basis van de uitgangspunten van 1 mei 2023, aangevuld met de eis vanuit het hoogheemraadschap om de steunbermen als een koevriendelijke berm uit te voeren.

# Bijlage 1. RI&E

Zie “Ontwerpnota DO N468” met het kenmerk N468-DO-ONO-AL-0001.

# Risicoanalyse - N468 t.b.v. ontwerprapportages

**Projectnaam :** N468
**Contract:** 40216
**Datum opgesteld :** 20-2-2025
**Versie:** 5.0

**LEGENDA**
**Risicoscore**
klein
gemiddeld
groot

| Omschrijving | | | | | Kwantificering Risico | | | | | | | | Kwantificering Restrisico na uitvoering beheermaatregel | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Risiconr. | Object | Risico | Oorzaak | Gevolg | Kans (0-5) | Gevolg [0-5] (0-5) | | | | | Score | Eigenaar | Beheersmaatregelen | Kans (0-5) | Gevolg [0-5] (0-5) | | | | | Score |
| 2 | Geotechniek | Ongelijke zettingen tijdens de uitvoering | Tijdens de uitvoering treden er ongelijke verschilzettingen op tussen bestaande verharding en de steunbermen | Scheuren in het asfalt | 2 | 2 | 1 | 2 | 4 | 2 | 22 | ON | BM01: Herstellen van de eventueel ontstaande scheuren tijden de uitvoering. | 1 | 1 | 1 | 1 | 1 | 1 | 5 |
| 3 | Geotechniek | Grotere zettingen steunbermen | De zetting in de steunbermen in groter dan berekend. | Scheuren in het asfalt | 2 | 2 | 1 | 2 | 4 | 2 | 22 | ON | BM01: Herstellen van de eventueel ontstaande scheuren tijden de uitvoering. | 1 | 1 | 1 | 1 | 1 | 1 | 5 |
| 5 | Geotechniek | Stabiliteit van de steunbermen tijdens de uitvoering | Gedurende de uitvoering zorgen de grondaanvullingen voor grotere een wateroverspanning in de ondergrond dan verwacht. | Vermindering van de stabiliteit van het grondlichaam en uitloop van de planning (niet voldoen aan ophoogschema) | 2 | 4 | 1 | 4 | 0 | 1 | 20 | ON | BM01: In het definitieve ontwerp is conservatief gerekend aan de uitvoeringsstabilieit en deze voldoet. BM02: Nadere uitwerken van de ophoogfasering in het UO met realistcische doorlooptijden | 1 | 1 | 1 | 1 | 0 | 1 | 4 |
| 8 | Geotechniek | OG heeft aangegeven dat geohydrologie niet nader beschouwd hoeft te worden | Het ontwerp van de koevriendelijke berm leidt er toe dat de teensloot komt te vervallen. | De gevolgen voor de waterhuishouding op micro niveau in de dijk, op meso niveau in het achterliggende poldermaaiveld en op macro niveau in de polder door het ontbreken van de teensloot zijn niet nader onderzocht. | 4 | 2 | 4 | 2 | 3 | 2 | 52 | OG | Alsnog de geohydrologische siituatie beschouwen en eisen opnemen welke in het UO worden geverifieert. | 1 | 1 | 1 | 1 | 1 | 1 | 5 |
| 10 | Geotechniek | Vernatting van de teen en het poldermaaiveld | Door het dempen van de teensloot zonder dat deze teruggegraven wordt ontstaat er een wijziging in de geohydrologische situatie. | Dit kan een vernatting van de teen van de dijk tot gevolg hebben waardoor de stabiliteit van de dijk negatief wordt beïnvloed. | 2 | 1 | 1 | 1 | 2 | 0 | 10 | OG | BM03: Aanleggen van een drainage systeem ter hoogte van de gedempte watergangen. | 1 | 1 | 1 | 1 | 1 | 1 | 5 |
| 12 | Geotechniek | Vernatting/verdroging van funderingen van opstallen nabij de waterkering | Door het dempen van de teensloot zonder dat deze teruggegraven wordt ontstaat er een wijziging in de geohydrologische situatie bij funderingen van nabij gelegen opstallen. | Dit kan een vernatting of verdroging van de fundering van opstallen nabij de waterkering tot gevolg hebben waardoor de stabiliteit van fundering van de opstallen negatief wordt beïnvloed. | 3 | 2 | 3 | 3 | 2 | 2 | 36 | OG | BM03: Aanleggen van een drainage systeem ter hoogte van de gedempte watergangen. | 1 | 1 | 1 | 1 | 1 | 1 | 5 |

| Scores kans | Scores gevolg tijd | Score gevolg Kwaliteit | Score gevolg Kosten | Score gevolg Veiligheid | Score gevolg Omgeving |
|---|---|---|---|---|---|
| 0 - Komt niet voor | 0 : Geen gevolgen | 0 - geen invloed | 0 - Geen meerkosten | 0 - Geen gevolgen | 0 - Geen gevolgen |
| 1 - Onwaarschijnlijk | 1 : 0 t/m 2 weken | 1 - Geringe invloed (neg.) | 1 - tot € 5000 | 1 - Verhoogd/ verminderd gevoel van veiligheid | 1 - Opgmerkt in de omgeving |
| 2 - klein | 2 : 2 t/m 4 weken | 2 - Matige invloed (neg.) | 2 - € 5000 - € 10.000 | 2 - Meer/minder verwachte blessure | 2 - Meer/minder klachten |
| 3 - Gemiddeld | 3 : 4 t/m 8 weken | 3 - Slecht | 3 - € 10.000 - € 50.000 | 3 - Meer/minder verwachte ongevallen met verzuim | 3 - Meer/minder protesten tegen vergunningen |
| 4 - Waarschijnlijk | 4 : 8 t/m 12 weken | 4 - Beneden norm | 4 - € 50.000 - € 100.000 | 4 - Meer/minder verwachte ernstige ongevallen | 4 - Negatieve/ postitieve publiciteit |
| 5 - Vrijwel zeker | 5 : > 12 weken | 5 - Zeer slecht | 5 - > € 100.000 | 5 - Meer/minder verwachte zeer ernsitge ongevallen | 5 - Imagoschade/imagoverbetering |

# Bijlage 2. Trade-off matrices (TOM)

Niet van toepassing.

# Bijlage 3. Verificatierapport

## N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3

**Eis geverifieerd in document N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3:**

| Eiscode<br>*Status* | Titel<br>Eistekst | Toelichting | Onderliggende eisen | *Verificatiemethode*<br>Aandachtspunt | Voldoet | Uitleg | Verificateur | Verificatie-moment | Specifiek Bewijsdocument | Afwijking<br>*Status* |
|---|---|---|---|---|---|---|---|---|---|---|
| BAM-0001<br>*Definitief* | **Maatgevend Boezempeil**<br>Het maatgevend boezempeil dient te worden ontleend aan tekening W2002 131 3 d.d. 29-6-2020 welke als bijlage 3 bij BMW is toegevoegd. Op basis van de kaart is per hectometrering aangegeven welke MBP gehanteerd dient te worden:Hm 10.0 - 11.4 NAP-0,09 m, hm11.4 - 12.3 NAP -0,06m, hm12.3 - 14.3 NAP -0,26 m, Hm 14.3 - 15.3 NAP -0,31 m, Hm 16.0 - 17.05 NAP -0,22 m | **Toelichting opsteller eis:**<br>Bespreken met HHvD. | | *Documentinspectie* | Ja | Zie ontwerprapportage. | [redacted] | 2025-02-14 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |
| BAM-0002<br>*Definitief* | **uitvoeringseisen Monitoring**<br>In een monitoringsplan is de wijze waarop registratie van metingen plaatsvindt en hoe deze aan Delfland worden overlegd beschreven. De risico's en beheersmaatregelen dienen eveneens beschreven te zijn. Voor het uitvoeren van de monitoring wordt uitgegaan van een door de vergunninghouder beschikbaar gestelde onafhankelijke, ter zake deskundige, controleur. Gedurende de uitvoering van de heiwerkzaamheden dient de controleur aanwezig te zijn.<br><br>In het monitoringsplan dient beschreven te zijn hoe het verloop van de volgende onderdelen wordt gevolgd:<br>- Zettingen<br>- Horizontale en verticale vervormingen van de kade in de kruin en de teen<br>- Horizontaal versnellingsniveau bij heiwerkzaamheden<br>- Verdichting<br>- Toepassen van grondsoorten en materiaal<br>- Waterspanningen (Indien nodig uit geotechnische beoordeling, interpretatie in overleg met geotechnisch specialist) | | | *Documentinspectie* | Ja | Eis wordt geverifieerd in UO | [redacted] | 2025-02-14 | | |
| BAM-0008<br>*Definitief* | **Passend in de omgeving**<br>De N468 dient fysiek, functioneel en visueel te passen in en aan te sluiten op de omgeving. | | | *Documentinspectie* | Ja | Zie tekeningen en ontwerprapportage | [redacted] | 2025-02-14 | | |
| BAM-0021<br>*Definitief* | **Grondonderzoek** | | | *Documentinspectie* | Ja | zie uitgangspuntendocument geotechniek | [redacted] | 2025-02-14 | | |

| Eiscode<br>*Status* | Titel<br>Eistekst | Toelichting | Onderliggende eisen | *Verificatiemethode*<br>Aandachtspunt | Voldoet | Uitleg | Verificateur | Verificatie-moment | Specifiek<br>Bewijsdocument | Afwijking<br>*Status* |
|---|---|---|---|---|---|---|---|---|---|---|
| | Voor de uitvoering en omvang van het grond- en laboratoriumonderzoek wordt onderscheid gemaakt in drie gradaties:<br>- Eenvoudig grondonderzoek; kleinschalige werken zonder significante invloed op de veiligheid van de waterkering<br>- Gedetailleerd grond- en laboratoriumonderzoek; werken waarvan niet is uit te sluiten dat deze invloed hebben op de veiligheid van de waterkering<br>- Geavanceerd grond- en laboratoriumonderzoek; complexe projecten waarin het ontwerp van de waterkering geoptimaliseerd dient te worden | | | | | | | | | |
| BAM-0022<br>*Definitief* | **uitvoeringseisen**<br>Voor de volgende werkzaamheden binnen het waterstaatswerk van een waterkering moet een uitvoerings- en monitoringsplan conform onze richtlijnen worden opgesteld:<br>- Structurele kadeverbetering al dan niet in combinatie met andere werkzaamheden<br>- Het aanbrengen of verwijderen van een vervangende waterkering<br>- Significante aanpassing (> 0,5 m) van de afmetingen van de waterkering | | | *Documentinspectie* | Ja | Eis wordt geverifieerd in het [redacted] | [redacted] | 2025-02-14 | | |
| BAM-0023<br>*Definitief* | **uitvoeringseisen Kadeverbetering in grond**<br>De uitvoering vindt bij voorkeur plaats vanaf het poldermaaiveld, waarbij tegen de kade aan wordt gewerkt | | | *Documentinspectie* | Ja | Eis wordt geverifieerd in het [redacted] | [redacted] | 2025-02-14 | | |
| BAM-0024<br>*Definitief* | **uitvoeringseisen Kadeverbetering in grond**<br>Indien er géén sprake is van een wegverharding maar de kade gebruikt wordt voor de uitvoering van werkzaamheden op of via de kruin \ boventalud moet worden gewerkt (bereikbaarheid, snelheid), dan dient rekening te worden gehouden met 5 kN \m2, over 2,5 meter breedte (uitgaande van uitvoering met kraan van 8 ton op rupsbanden). | | | *Documentinspectie* | Ja | Eis wordt geverifieerd in het [redacted] | [redacted] | 2025-02-14 | | |
| BAM-0025<br>*Definitief* | **uitvoeringseisen Kadeverbetering in grond**<br>Het ophogen en verdichten moet laagsgewijs worden uitgevoerd.<br>De laagdikte per ophoogslag mag | | | *Documentinspectie* | Ja | Eis wordt geverifieerd in het [redacted] | [redacted] | 2025-02-14 | | |

| Eiscode<br>*Status* | Titel<br>Eistekst | Toelichting | Onderliggende eisen | *Verificatiemethode*<br>Aandachtspunt | Voldoet | Uitleg | Verificateur | Verificatie-moment | Specifiek Bewijsdocument | Afwijking<br>*Status* |
|---|---|---|---|---|---|---|---|---|---|---|
| | niet meer bedragen dan 0,50 m. De wachttijd tussen de ophoogslagen is voldoende om de wateroverspanningen in de ondergrond te laten afnemen om de veiligheid tegen afschuiven voldoende te borgen (indien relevant). Het verdichten wordt uitgevoerd met lichtgewicht materieel (rupsen), de voertuigen dienen versporend te rijden of de klei te drukken met een bak, laagsgewijs maximaal 0,30 m. | | | | | | | | | |
| BAM-0026<br>*Definitief* | **uitvoeringseisen Kadeverbetering in grond**<br>De klei mag niet onder te natte omstandigheden worden aangebracht. Klei op het werk dient 'afwaterend' geplaatst te worden. Er dienen afspraken gemaakt te worden met de aannemer hoe wordt voorkomen dat de aan te voeren klei te nat wordt. | | | *Documentinspectie* | Ja | Eis wordt geverifieerd in het [redacted] | | 2025-02-14 | | |
| BAM-0027<br>*Definitief* | **eisen randvoorwaarden technisch ontwerp waterkering**<br>De waterkeringen dienen conform de vigerende leidraden te worden berekend. Zowel de belastingsituatie 'hoogwater' als de belastingsituatie 'droogte' dient te worden doorgerekend. | | | *Documentinspectie* | Ja | Zie hoofdstuk 6 | [redacted] | 2025-02-14 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |
| BAM-0029<br>*Definitief* | **eisen randvoorwaarden technisch ontwerp waterkering te verwijderen objecten**<br>Een object dient zorgvuldig verwijderd te worden, de waterkering moet zijn functie kunnen behouden. | | | *Documentinspectie* | Ja | zie hoofdstuk 6 & 9 | [redacted] | 2025-02-14 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |
| BAM-0030<br>*Definitief* | **eisen randvoorwaarden technisch ontwerp waterkering aanleghoogte**<br>De aanleghoogte dient zodanig te worden gekozen dat de kruin tot het eind van de planperiode (na zettingen) boven de leggerhoogte blijft. | | | *Documentinspectie* | Ja | zie hoofdstuk 6.1 | [redacted] | 2025-02-14 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |
| BAM-0031<br>*Definitief* | **eisen randvoorwaarden technisch ontwerp waterkering belastingsituatie Hoogwater** | | | *Documentinspectie* | Ja | zie hoofdstuk 6.1 | [redacted] | 2025-02-14 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |

| Eiscode<br>*Status* | Titel<br>Eistekst | Toelichting | Onderliggende eisen | *Verificatiemethode*<br>Aandachtspunt | Voldoet | Uitleg | Verificateur | Verificatie-moment | Specifiek<br>Bewijsdocument | Afwijking<br>*Status* |
|---|---|---|---|---|---|---|---|---|---|---|
| | Voor het ontwerppeil van de regionale waterkeringen wordt het Maatgevend Boezempeil gebruikt (bijlage 3). In het kader van robuustheid wordt hierop een toeslag gehanteerd van 0,10 m. Het ontwerppeil wordt gehanteerd bij de stabiliteitsbeoordeling en niet bij de bepaling van de kruinhoogte. | | | | | | | | | |
| BAM-0032<br>*Definitief* | **eisen randvoorwaarden technisch ontwerp waterkering Polderpeilen (binnendijks)**<br>De maatgevende polderpeilen en de toelaatbare peilstijgingen zijn vastgelegd in de peilbesluiten en eventuele relevante watervergunningen (op te vragen bij Delfland). Indien nodig worden in overleg met team Peilbeheer toeslagen op het peil bepaald (standaard kan hiervoor 0,20 m worden aangehouden). | | | *Documentinspectie* | Ja | zie hoofdstuk 6.2 en 6.3 | [redacted] | 2025-02-14 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |
| BAM-0033<br>*Definitief* | **eisen randvoorwaarden technisch ontwerp waterkering Toepassing van grond**<br>Categorie 1 (erosieklasse 1) wordt gebruikt bij herstelwerkzaamheden of verbetering van het buitentalud/ de oeverlijn of indien een kleikist wordt aangebracht.<br>Categorie 2 (erosieklasse 2) wordt gebruikt voor deklaag van het binnentalud, steunberm en kruin. | | | *Documentinspectie* | Ja | Eis wordt geverifieerd in het UO Sake | [redacted] | 2025-02-14 | | |
| BAM-0035<br>*Definitief* | **Waterkerend vermogen,1**<br>Indien met de onderhoudswerkzaamheden het gewicht van de weg significant wijzigt, wordt met berekeningen aangetoond dat het waterkerend vermogen gegarandeerd is:<br>a in de aanlegfase, rekening houdend met tijdelijke graafwerkzaamheden en inzet van materieel en opslag van materiaal;<br>b in de gebruiksfase inclusief verkeersbelasting;<br>c bij gebruik van snelheid reducerende maatregelen.<br>Uitgangspunten voor deze berekeningen zijn genoemd in bijlage 8. | | | *Documentinspectie* | Ja | zie hoofdstuk 6.3 | [redacted] | 2025-02-14 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |

| Eiscode<br>*Status* | Titel<br>Eistekst | Toelichting | Onderliggende eisen | *Verificatiemethode*<br>Aandachtspunt | Voldoet | Uitleg | Verificateur | Verificatie-moment | Specifiek<br>Bewijsdocument | Afwijking<br>*Status* |
|---|---|---|---|---|---|---|---|---|---|---|
| BAM-0039<br>*Definitief* | **eisen randvoorwaarden technisch ontwerp waterkering Verkeersbelasting**<br>Bij waterkeringen zonder wegverharding is het toepassen van verkeersbelasting afhankelijk van de uitvoermethode. | | | *Documentinspectie* | Ja | Niet van toepassing | [redacted] | 2025-02-14 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |
| BAM-0065<br>*Definitief* | **eisen randvoorwaarden technisch ontwerp waterkering Freatische lijn en stijghoogte in watervoerende lagen**<br>De freatische lijn, stijghoogte tussenzandlaag en pleistoceen worden geschematiseerd op basis van lokaal onderzoek naar de grondwaterstand (inclusief een opzet voor maatgevende omstandigheden). Indien beschikbaar kan gebruik worden gemaakt van de gegevens uit de toetsrapportage (na te vragen bij Delfland). Het verloop van de waterspanningen is een belangrijk uitgangspunt voor de berekeningen en moet worden toegelicht in het ontwerp. | | | *Documentinspectie* | Ja | Zie hoofdstuk 6.2 | [redacted] | 2025-02-14 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |
| BAM-0067<br>*Definitief* | **eisen randvoorwaarden technisch ontwerp waterkering Invloed DSM-Gist onttrekking Delft**<br>Indien de locatie binnen de invloedszone (meer dan 0,5 m toename in eerste watervoerende pakket, pleistoceen) van de DSM-Gist onttrekking gelegen is, wordt hier rekening mee gehouden in het ontwerp. | | | *Documentinspectie* | Ja | zie hoofdstuk 6.2 | [redacted] | 2025-02-14 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |
| BAM-0076<br>*Definitief* | **eisen randvoorwaarden technisch ontwerp waterkering Steunberm**<br>Indien een steunberm met zand wordt aangebracht dan dient de deklaag van klei minimaal 0,60 m dik te zijn. Bij een slootverplaatsing wordt de oude sloot gevuld met zand (en afgedekt met klei). | | | *Documentinspectie* | Ja | zie dwarsprofielen | [redacted] | 2025-02-14 | N468-T-WEG-DO-DP-3003 - Dwarsprofielen wegontwerp DT3 | |
| BAM-0089<br>*Definitief* | **Ontwerpeisen bijzondere waterkerende constructies Grondlichaam achter constructie**<br>Het theoretisch profiel van het minimaal benodigde grondlichaam | | | *Documentinspectie* | Ja | zie hoofdstuk 6.2 | [redacted] | 2025-02-20 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |

| Eiscode<br>*Status* | Titel<br>Eistekst | Toelichting | Onderliggende eisen | *Verificatiemethode*<br>Aandachtspunt | Voldoet | Uitleg | Verificateur | Verificatie-moment | Specifiek<br>Bewijsdocument | Afwijking<br>*Status* |
|---|---|---|---|---|---|---|---|---|---|---|
| | achter de bijzonder waterkerende constructie moet voldoen aan de minimale stabiliteitsfactor die geldt voor de binnenwaartse stabiliteit. | | | | | | | | | |
| BAM-0149<br>*Definitief* | **Weginfrastructuur, restzetting**<br>De Weginfrastructuur en Bermen dienen na de uitvoeringsperiode een gelijkmatige restzetting van ten hoogste 0,10 meter in de eerste 30 jaar te hebben exclusief optredende bodemdaling. | | | *Documentinspectie* | Nee | Wordt niet aan voldaan, zie afwijking AFW-0025 | [redacted] | 2025-02-14 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | AFW-0025<br>*Voltooid* |
| BAM-0154<br>*Definitief* | **Dragen wegverkeer, Betrouwbaarheid, drooglegging na 30 jaar**<br>De drooglegging dient tot 30 jaar na oplevering zodanig te zijn, dat de bovenkant verharding ten minste 0,70m boven het winterpeil (streefpeil) ligt. | | | *Documentinspectie* | Nee | Wordt niet aan voldaan. hoogteligging buitenkruinlijn is leidend voor ontwerp zie afwijking 0016 | [redacted] | 2025-02-14 | | AFW-0016<br>*Voltooid* |
| BAM-0156<br>*Definitief* | **Onderbouw, draagkracht**<br>De onderbouw dient voldoende stevig te zijn om de weg voor de minimale levensduur te kunnen dragen. | | | *Documentinspectie* | Ja | zien hoofdstuk 6.2 en 6.3 stabiliteitsberekeningen | [redacted] | 2025-02-14 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |
| BAM-0234<br>*Definitief* | **Boezemkade**<br>De top van Boezemkade dient ten minste op een niveau van NAP +0,22 te liggen om water te keren tussen de boezem en de polder. | | | *Documentinspectie* | Ja | Buitenkruinlijn ligt hoger dan NAP + 0,22 m bij aanleg. Aan eind planperiode ligt buitenkruinlijn hoger dan NAP + 0,10 m | [redacted] | 2025-02-14 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |
| BAM-0235<br>*Definitief* | **Boezemkering**<br>De Boezemkade dient ter plaatse van de systeemgren-zen aan te sluiten op de bestaande kades, zodanig dat er geen waterdoorlatend gat ontstaat in de boezemkering. | | | *Documentinspectie* | Ja | zie hoofdstuk 6.1 | [redacted] | 2023-03-09 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |
| BAM-0236<br>*Definitief* | **Boezemkade, kruinhoogte**<br>De kruinhoogte van de Boezemkade dient ten minste NAP +0,22 m te bedragen op het moment van opleveren, of zoveel overhoogte te hebben als uit een zettings-berekening blijkt uitgaande van levensduur van 30 jaar met ondergrens NAP -0,10 m. | | | *Documentinspectie* | Ja | zie hoofdstuk 6.1 | [redacted] | 2023-03-09 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |

| Eiscode<br>*Status* | Titel<br>Eistekst | Toelichting | Onderliggende eisen | *Verificatiemethode*<br>Aandachtspunt | Voldoet | Uitleg | Verificateur | Verificatie-moment | Specifiek<br>Bewijsdocument | Afwijking<br>*Status* |
|---|---|---|---|---|---|---|---|---|---|---|
| BAM-0237<br>*Definitief* | **Boezemkade, dimensies**<br>De Boezemkade, zijnde waar geen steunberm aanwezig is, dient de volgende dimensies te hebben:<br>- kruinbreedte: 1,50 m;<br>- helling buitentalud: 1:1,5;<br>- helling binnentalud: 1:3,5. | | | *Documentinspectie* | Ja | Binnentalud is 1 : 3. Deze is stabiel. zie hoofdstuk 6.3 | [redacted] | 2023-05-12 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |
| BAM-0334<br>*Definitief* | **Zettingen i.r.t. K&L**<br>Zettingen en/of restzettingen dienen met de netbeheerders te worden afgestemd. | | | *Documentinspectie* | Ja | Eis wordt geverifieerd in het [redacted] | | 2023-05-12 | | |
| Dialog-031<br>*Definitief* | **Inpassing steunberm op bestaande situatie**<br>Inpassing steunberm op bestaande situatie i.c.m. goede bereikbaarheid van de achterliggende percelen | | | *Documentinspectie* | Ja | Zie tekening | [redacted] | 2023-05-12 | N468-T-WEG-DO-SI-3003 - Situatie wegontwerp DT3 | |
| Dialog-040<br>*Definitief* | **Beheer en onderhoud steunberm**<br>Toekomstig beheer en onderhoud steunberm dient te worden afgestemd met afdeling Beheer en Onderhoud van het Waterschap | | | *Documentinspectie* | Ja | Eis wordt geverifieerd in het [redacted] | | 2023-05-12 | | |
| SYS-0005<br>*Definitief* | **Dijk, Beschermen tegen hoog water, Aanbrengen klei**<br>De op de Dijk aan te brengen klei dient te worden verdicht met een maximale spleethoogte van 10 mm. | | | *Documentinspectie* | Ja | Eis wordt geverifieerd in het [redacted] | | 2023-03-09 | | |
| SYS-0006<br>*Definitief* | **Dijk, Beschermen tegen hoog water, Aanbrengen klei, type klei**<br>De klei dient laagsgewijs te worden aangebracht in lagen van 0,30 m (na verdichting). Type klei conform ontwerprapportage/ PVE. | | | *Documentinspectie* | Ja | Eis wordt geverifieerd in het [redacted] | | 2023-03-09 | | |
| SYS-0007<br>*Definitief* | **Dijk, Beschermen tegen hoog water, Aanbrengen klei, verdichting**<br>De aan te brengen klei dient te worden verdicht met maximaal 2,5% holle ruimte. | | | *Documentinspectie* | Ja | Eis wordt geverifieerd in het [redacted] | | 2023-03-09 | | |
| SYS-0008<br>*Definitief* | **Dijk, Beschermen tegen hoog water, Belasting zandzakken**<br>De Dijk dient belast te kunnen worden met zandzakken van 0,5 kN/m2 over een breedte van een 0,5 meter op de kruin van de Dijk (alleen bij de situatie „extreem nat#). | | | *Documentinspectie* | Ja | Zie hoofdstuk 6.2 | [redacted] | 2023-03-09 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |

| Eiscode<br>*Status* | Titel<br>Eistekst | Toelichting | Onderliggende eisen | *Verificatiemethode*<br>Aandachtspunt | Voldoet | Uitleg | Verificateur | Verificatie-moment | Specifiek Bewijsdocument | Afwijking<br>*Status* |
|---|---|---|---|---|---|---|---|---|---|---|
| SYS-0009<br>*Definitief* | **Dijk, Beschermen tegen hoog water, Calamiteitenverkeer**<br>De Dijk dient een verkeersbelasting van 40 ton in geval van calamiteiten te kunnen dragen. | | | *Documentinspectie* | Ja | zie hoofdstuk 6.2 en 6.3 | [redacted] | 2023-03-09 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |
| SYS-0011<br>*Definitief* | **Dijk, Beschermen tegen hoog water, Grondaanvullingen**<br>Grondaanvullingen dienen maximaal 0,5 m te bedragen aan het eind van een werkdag. Ophoogslagen en tussentijd dienen berekend te worden i.v.m. wateroverspanningen. | | | *Documentinspectie* | Ja | Eis wordt geverifieerd in het | [redacted] | 2023-03-09 | | |
| SYS-0018<br>*Definitief* | **Dijk, Beschermen tegen hoog water, Tijdelijke belastingen**<br>Ten alle tijde dient de Dijk ter plaatse van het buitentalud, de kruin en het bovenste deel van het binnentalud vrij te zijn van extra belastingen, behoudens grondaanvullingen. Dit houdt in dat er geen materiaal, grond of overige belastingen geplaatst mag worden, ook niet tijdelijk. | | | *Documentinspectie* | Ja | Eis wordt geverifieerd in het | [redacted] | 2023-03-09 | | |
| SYS-0019<br>*Definitief* | **Dijk, Beschermen tegen hoog water, Verwerken grond**<br>Op de Dijk dient grond te worden verwerkt van onder naar boven. | | | *Documentinspectie* | Ja | Eis wordt geverifieerd in het | [redacted] | 2023-03-09 | | |
| SYS-0022<br>*Definitief* | **Dijk, Beschermen tegen hoog water, Wegverkeer**<br>De Dijk dient indien er sprake is van een Wegvak op de Dijk rekening te houden met een verkeersbelasting van 15 kN/m2, over 2,5 meter breedte (ter plaatse van de wegverharding). | | | *Documentinspectie* | Ja | zie hoofdstuk 6.2 | [redacted] | 2023-03-09 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |
| SYS-0023<br>*Definitief* | **Dijk, Onderhoudbaarheid, Visueel inspecteren**<br>De Dijk dient volledig visueel te inspecteren te zijn. | | | *Documentinspectie* | Ja | zie tekening | [redacted] | 2023-05-12 | N468-T-WEG-DO-SI-3003 - Situatie wegontwerp DT3 | |
| SYS-0024<br>*Definitief* | **Systeem N468, Aanleghoogte**<br>Het Systeem N468 dient zodanig te zijn aangelegd dat gedurende de planperiode minimaal de vereiste hoogte van de waterkering en de waterdichtheid geborgd zijn. | | | *Documentinspectie* | Ja | zie hoofdstuk 6.1 | [redacted] | 2023-03-09 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |

| Eiscode<br>*Status* | Titel<br>Eistekst | Toelichting | Onderliggende eisen | *Verificatiemethode*<br>Aandachtspunt | Voldoet | Uitleg | Verificateur | Verificatie-moment | Specifiek<br>Bewijsdocument | Afwijking<br>*Status* |
|---|---|---|---|---|---|---|---|---|---|---|
| SYS-0036<br>*Definitief* | **Wegvak, Rijden mogelijk maken, Draagvermogen bieden, Belasting**<br>Het Wegvak dient in de normaalsituatie een belasting van ten minste 40 ton te kunnen dragen. | | | *Documentinspectie* | Ja | zie hoofdstuk 6.2 | [redacted] | 2023-03-09 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |
| SYS-0113<br>*Definitief* | **Waterkering - Hoogte door grondlichaam**<br>De hoogte van de waterkering dient gedurende de levensduur verzorgd te worden door het grondlichaam | | | *Documentinspectie* | Ja | Zie tekening | [redacted] | 2023-05-12 | N468-T-WEG-DO-SI-3003 - Situatie wegontwerp DT3 | |
| SYS-0115<br>*Definitief* | **Waterkering - Restzetting**<br>Bij de hoogte van de waterkering dient rekening gehouden te worden met restzetting. | | | *Documentinspectie* | Ja | zie hoofdstuk 6.1 | [redacted] | 2023-03-09 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |
| SYS-0139<br>*Definitief* | **Steunberm - Beleidsregel Medegebruik waterkeringen**<br>De steunberm dient te voldoen aan de eisen gesteld in document "Beleidsregel Medegebruik waterkeringen Hoogheemraadschap Delfland 2021 | | | *Documentinspectie* | Ja | | [redacted] | 2023-03-09 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |
| SYS-0142<br>*Definitief* | **Grondlichaam - Beleidsregel Medegebruik waterkeringen**<br>Het grondlichaam dient te voldoen aan de eisen gesteld in document "Beleidsregel Medegebruik waterkeringen Hoogheemraadschap Delfland 2021" | | | *Documentinspectie* | Ja | zie hoofdstuk 6.2 en 6.3 | [redacted] | 2023-03-09 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |
| SYS-0147<br>*Definitief* | **Grondlichaam - Bieden stabliliteit**<br>Het grondlichaam dient minimaal gedurende de planperiode (12 jaar) stabiliteit te bieden. | | | *Documentinspectie* | Ja | zie hoofdstuk 6.2 en 6.3 | [redacted] | 2023-03-09 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |
| SYS-0156<br>*Definitief* | **Rijbaan - Verkeersbelasting**<br>De rijbaan dient een verkeersbelasting van 15kPa te kunnen dragen | | | *Documentinspectie* | Ja | zie hoofdstuk 6.2 en 6.3 | [redacted] | 2023-03-09 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |
| SYS-0241<br>*Definitief* | **Dijk, Beschermen tegen hoog water, STBI**<br>De binnenwaartse veiligheid (SF) tegen afschuiven langs een cirkelvormig of horizontaal glijvlak (STBI) dient tenminste SF = 1,15 te zijn behorende bij een waterkering met IPO-klasse IV | | | *Documentinspectie* | Ja | Zie hoofdstuk 6.2 en 6.3 | [redacted] | 2023-03-09 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |

| Eiscode<br>*Status* | Titel<br>Eistekst | Toelichting | Onderliggende eisen | *Verificatiemethode*<br>Aandachtspunt | Voldoet | Uitleg | Verificateur | Verificatie-moment | Specifiek Bewijsdocument | Afwijking<br>*Status* |
|---|---|---|---|---|---|---|---|---|---|---|
| | en SF = 1,09 bij IPO-klasse III. Daarbij zijn modelfactoren niet meegenomen. | | | | | | | | | |
| SYS-0246<br>*Definitief* | **Grondlichaam - Planhoogte berm en taluds, restzetting**<br>De restzetting na oplevering is maximaal 0,10 m in 30 jaar | | | *Documentinspectie* | Nee | Wordt niet aan voldaan, zie Afwijking AFW-0025 | [redacted] | 2023-03-09 | | AFW-0025<br>*Voltooid* |
| SYS-AC01<br>*Definitief* | **Grondparameters antropogene grondlagen**<br>Grondparameters antropogene grondlagen modelleren conform VO Arcadis of onderbouwd afwijken. | | | *Documentinspectie* | Ja | zie hoofdstuk 6.2 | [redacted] | 2023-03-09 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |
| SYS-BMW 01<br>*Definitief* | **Ontgravingen in waterstaatswerk**<br>Een ontgraving in het waterstaatswerk dient te voldoen aan de eisen gesteld in document "Beleidsregel Medegebruik waterkeringen" | | | *Documentinspectie* | Ja | Eis wordt geverifieerd in het [redacted] | | 2023-03-09 | | |
| SYS-BMW 02<br>*Definitief* | **Ophoging in waterstaatswerk**<br>Een ophoging in het waterstaatswerk dient te voldoen aan de eisen gesteld in document "Beleidsregel Medegebruik waterkeringen Hoogheemraadschap Delfland 2021" | | | *Documentinspectie* | Ja | Eis wordt geverifieerd in het [redacted] | | 2023-03-09 | | |
| SYS-BMW 09<br>*Definitief* | **Onderhoud steunberm irt waterkerend vermogen waterkering**<br>De ten behoeve van het werk aangelegde steunberm of aanheling (zie voorwaarde 3) kan in goede staat en afmetingen worden onderhouden en dient te voldoen aan de eisen zoals beschreven in "Beleidsregel Medegebruik waterkeringen Hoogheemraadschap Delfland 2021". | | | *Documentinspectie* | Ja | Eis wordt geverifieerd in het [redacted] | | 2023-03-09 | | |
| SYS-BMW 10<br>*Definitief* | **Grondonderzoek**<br>Het grondonderzoek dient te voldoen aan gestelde eisen in bijlage 6 van "Beleidsregel Medegebruik waterkeringen Hoogheemraadschap Delfland 2021". | | | *Documentinspectie* | Ja | zie uitgangspunten notitie geotechniek | [redacted] | 2023-03-09 | | |
| SYS-BMW 11<br>*Definitief* | **Stabiliteit waterkering in grond**<br>De stabiliteit van de waterkering in grond moet voldoen aan de eisen gesteld in bijlage 8 paragraaf 2.1 van "Beleidsregel Medegebruik | | | *Documentinspectie* | Ja | zie hoofstuk 6.2 en 6.3 | [redacted] | 2023-03-09 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |

| Eiscode<br>*Status* | Titel<br>Eistekst | Toelichting | Onderliggende eisen | *Verificatiemethode*<br>Aandachtspunt | Voldoet | Uitleg | Verificateur | Verificatie-moment | Specifiek<br>Bewijsdocument | Afwijking<br>*Status* |
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| | waterkeringen Hoogheemraadschap Delfland 2021" | | | | | | | | | |
| SYS-BMW 12<br>*Definitief* | **Planperiode**<br>Delfland hanteert een planperiode van minimaal 10 jaar. Dit betekent dat de ligging, vorm, afmetingen en constructie van de waterkering voor een periode van minimaal 10 jaar gewaarborgd dient te zijn. Voor dit project geldt een planperiode voor de waterkering van 12 jaar. Zie "Beleidsregel Medegebruik waterkeringen Hoogheemraadschap Delfland 2021". | | | *Documentinspectie* | Ja | zie hoofdstuk 6 | [redacted] | 2023-03-09 | N468-DO-RAP-GEO-0003 - Ontwerprapport Geotechniek, Deeltraject 3 | |
| SYS-BMW 16<br>*Definitief* | **Aanleghoogte en klink**<br>Voor initiële klink wordt een marge van 0,05 m aangehouden. Zie "Beleidsregel Medegebruik waterkeringen Hoogheemraadschap Delfland 2021". | | | *Documentinspectie* | Ja | Eis wordt geverifieerd in het [redacted] | | 2023-03-09 | | |

# Bijlage 4. Verwerkt DBF commentaar

bam infra

# Documentbeoordelingsformulier (DBF)

| | | | |
|---|---|---|---|
| **Documentnummer** | N468-DO-RAP-GEO-0003 | **Revisie nr** | D |
| **Document Titel** | Ontwerprapport geotechniek deeltraject 3 | | |
| **Opsteller** | [redacted] | **Datum** | 28-01-2025 |

| **Nr.** | **Controleur verificatierapport** | **Niv.** | **Speciaal aandacht voor** | **Beoordeling retour (datum)** |
|---|---|---|---|---|
| [redacted] | [redacted] | C | Integrale toets | |
| **Nr.** | **Beoordelaar** | **Niv.** | **Speciaal aandacht voor** | **Beoordeling retour (datum)** |
| 1. | [redacted] | 2 | Inhoudelijke toets | 07-02-2025 |
| 2. | | | | |
| 3. | | | | |

| | | |
|---|---|---|
| **Niveau C:** | *Alle documenten:* | *Controle op proces en raakvlakken*<br>*Controle op gebruik laatste versies van bovenliggende en/of gerelateerde documenten.* |
| **Niveau 1:** | Rapport:<br>*Tekening:* | *Controle op uitgangspunten, randvoorwaarden en grenstoestanden.*<br>*Controle op hoofdmaatvoering, raakvlakken, ontwerp- en uitvoeringsaspecten.* |
| **Niveau 2:** | *Rapport:*<br>*Tekening:* | *Als bij niveau 1 plus stap voor stap doorlopen van berekeningen.*<br>*Als bij niveau 1 plus stap voor stap doorlopen van detailmaatvoering, verwijzingen naar specificaties, afstemming op andere tekeningen.* |
| **Niveau 3:** | *Rapport:* | *Onafhankelijke heruitvoering van werkzaamheden.* |

**Opmerking beoordelaar**

☐ In orde ☒ Niet in orde, zie onder

**Toelichting:**

- Aangeven in hoofdstuk 1 Inleiding dat het ontwerp aangepast is van steunbermen naar koe-vriendelijke steunbermen en wat de gevolgen hiervan zijn.
  *Aangepast en verduidelijkt in hoofdstuk 1.*
- Locaties start koe-vriendelijke steunberm aanpassen in tabel 1.
  *Tabel aangepast incl. de lengtes van de koe-vriendelijke steunbermen.*
- Tabel 2 aanpassen naar talud, hoogte koe-vriendelijke steunbem en de hellening van de steunberm.
  *Tabels aangepast.*
- Tekening maatregelen waterveiligheid is komen te vervallen.
  *Verwijderd uit hoofdstuk tekeningen*
- In hoofdstuk ontwerpkeuzes aanpassen dat er geen watergangen meer ter hoogte van de koe-vriendelijke steunbermen zijn
  *Tekstueel aangepast.*
- Risco en raakvlak dempen watergangen en niet terug brengen watergangen toevoegen incl. beheersmaatregel.
  *Verduidelijkt en toegevoegd bij raakvlakken en risico's.*
- In de berekeningen staat nog diverse keren aangegeven dat het een steunberm wordt toegpast van een lengte van 12,0 meter.
  *Tekstueel aangepast.*
- Hoofstuk Realisatie aanpassen figuren zonder watergang na steunberm. Deze zijn komen te vervallen.
  *Figuren aangepast zonder watergangen.*

Aantal bijgevoegde commentaarbladen:

| **Naam** | [redacted] | **Paraaf** |  | **Datum** | 07-02-2025 |
|---|---|---|---|---|---|

**Door opsteller document**

Commentaar verwerkt ☒ Ja ☐ Nee, voor reden zie onderstaand

| **Naam** | [redacted] | **Paraaf** | | **Datum** | 11-02-2025 |
|---|---|---|---|---|---|

| **Door leidinggevende** | | **Paraaf** | | **Datum** | |
|---|---|---|---|---|---|

Archivering:
(1) Sla elke DBF op als D*ocument titel_initiaal beoordelaar_DBF_Rev.x.x.pdf* op sharepoint leestafel.

bam infra

# Documentbeoordelingsformulier (DBF)

| | | | |
|---|---|---|---|
| **Documentnummer** | N468-DO-RAP-GEO-0003 | **Revisie nr** | D |
| **Document Titel** | Ontwerprapport geotechniek deeltraject 3 | | |
| **Opsteller** | [redacted] | **Datum** | 11-02-2025 |

| **Nr.** | **Controleur verificatierapport** | **Niv.** | **Speciaal aandacht voor** | **Beoordeling retour (datum)** |
|---|---|---|---|---|
| C | [redacted] | C | | |
| **Nr.** | **Beoordelaar** | [redacted] | **Speciaal aandacht voor** | **Beoordeling retour (datum)** |
| 1. | [redacted] | 2 | Inhoudelijke toets | 21-02-2025 |
| 2. | [redacted] | 1 | | |
| 3. | [redacted] | 1 | | |
| 4. | [redacted] | 1 | | |
| 5. | | | | |
| 6. | | | | |

| | | |
|---|---|---|
| **Niveau C:** | *Alle documenten:* | *Controle op proces en raakvlakken*<br>*Controle op gebruik laatste versies van bovenliggende en/of gerelateerde documenten.* |
| **Niveau 1:** | Rapport:<br>*Tekening:* | *Controle op uitgangspunten, randvoorwaarden en grenstoestanden.*<br>*Controle op hoofdmaatvoering, raakvlakken, ontwerp- en uitvoeringsaspecten.* |
| **Niveau 2:** | *Rapport:*<br>*Tekening:* | *Als bij niveau 1 plus stap voor stap doorlopen van berekeningen.*<br>*Als bij niveau 1 plus stap voor stap doorlopen van detailmaatvoering, verwijzingen naar specificaties, afstemming op andere tekeningen.* |
| **Niveau 3:** | *Rapport:* | *Onafhankelijke heruitvoering van werkzaamheden.* |

**Opmerking beoordelaar**

bam infra

# Documentbeoordelingsformulier (DBF)

☐ In orde ☒ Niet in orde, zie onder

**Toelichting:**
Proces: Proces: documenten gaan in concept in de beoordeling en zijn na verwerking commentaar pas definitief
Akkoord, Versie D had daarmee een Concept dienen te zijn. De opmerkingen vanuit het voorliggende DBF formulier zijn verwerkt in Versie E. Dit betreft daarmee een definitief product.

Hfdst 3: hier wordt nog gesproken over het ontwerp wat op HOLD zou staan omdat er nog met HHD gesproken moet worden??
De tekst is verwijderd. Het ontwerp staat niet meer ON HOLD.

Blz 9: in welk ontwerp wordt genoemde drainage uitgewerkt?
Dit wordt in het UO Nader beschouwd. Tekstueel toegevoegd.

Hoofdstuk 10Conclusie sluit af met *"Hierbij zijn eventuele wensen ontvangen vanuit HHD met betrekking tot koe-vriendelijke steunbermen, hoog gelegen teensloten en niet toepassen van teensloten. Deze aspecten worden eerst afgestemd met de aangelanden n door HHD en zijn nog niet beschouwd en verwerkt in dit DO" …….*Best verwarrend, dit rapport is toch juist de afgestemde vesie?

Correct, huidige versie is de afgestemde versie. Tekstueel aangepast: Zin "*Hierbij zijn …. in dit DO"* is verwijderd. Voorgaande zin is aangepast. De conclusie luidt nu: Het geotechnische ontwerp van de steunberm (zettingen en stabiliteit), ophoging N468 (zetting) en de aanberming is getoetst en voldoet aan de gestelde eisen en wensen op basis van de uitgangspunten van 1 mei 2023, aangevuld met de eis vanuit het hoogheemraadschap om de steunbermen als een koevriendelijke berm uit te voeren.
OG heeft de keus gemaakt om niet naar de geohydrologie te kijken, risico opnemen in het rapport en juist alloceren iom [redacted] In hoofdstuk 5.6 is het risico toegevoegd dat er door de OG besloten is om niet verder naar geohydrologie te kijken. Deze is als volgt verwoord:
*OG heeft aangegeven dat geohydrologie niet nader beschouwd hoeft te worden*
Het ontwerp van de koevriendelijke berm leidt er toe dat de teensloot komt te vervallen. De gevolgen voor de waterhuishouding op micro niveau in de dijk, op meso niveau in het achterliggende poldermaaiveld en op macro niveau in de polder door het ontbreken van de teensloot zijn niet nader onderzocht. De gevolgen voor de waterhuishouding rondom opstallen is ook niet nader onderzocht, echter door een lokaal drainage systeem aan te leggen nabij gevoelige funderingen kan dit risico worden gemitigeerd.

VR: eis 076 wordt met Ja, zonder uitleg geverifieerd. Gekoppeld bewijsdocument is de set situatietekeningen wegontwerp. Onduidelijk is hoe zand of kleiopbouw dmv situatietekeningen aangetoond wordt. Verificatie aanpassen svp
Dit is correct, het gekoppelde bewijsdocument is onjuist. Dit is wel terug te vinden op de dwarsprofielen tek nr. N468-T-WEG-DO-DP-3003. Verificatie is aangepast.

Aantal bijgevoegde commentaarbladen:

| | | | | | |
|---|---|---|---|---|---|
| **Naam** | [redacted] | **Paraaf** | | **Datum** | 17-02-2025 |

**Door opsteller document**

Commentaar verwerkt ☒ Ja ☐ Nee, voor reden zie onderstaand

Zie reacties in het ROOD

OPENSTAANDE ACTIE [redacted] risico geohydrologie opnemen en juist alloceren in risicodossier.

| | | | | | |
|---|---|---|---|---|---|
| **Naam** | | **Paraaf** | | **Datum** | 20-02-2025 |
| **Door leidinggevende** | | **Paraaf** | | **Datum** | 21-02-2025 |

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# Bijlage 5. Berekening

- Bijlage 5.1: Toetsing object buitenkruinlijn
- Bijlage 5.2: Toetsing object steunbermen
- Bijlage 5.3: Toetsing object bestaande waterkering

Bijlage 5.1 Zetting

# Report for D-Settlement 21.2

Settlement Calculations
Developed by Deltares




| | |
|---|---|
| Company: | Waalpartners bv |
| Date of report: | 11/24/2022 |
| Time of report: | 1:35:52 PM |
| Report with version: | 21.2.1.34213 |
| Date of calculation: | 11/24/2022 |
| Time of calculation: | 1:32:42 PM |
| Calculated with version: | 21.2.1.34213 |
| File name: | 12.44 bkl |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 9 - X - | -20.000 | -13.174 | -10.653 | -9.740 | -7.456 |
| 9 - Y - | -1.458 | -1.511 | -1.418 | -1.353 | -0.331 |
| 9 - X - | -7.064 | -6.040 | -6.040 | -4.159 | -3.174 |
| 9 - Y - | -0.172 | -0.077 | -0.517 | -0.452 | -0.415 |
| 9 - X - | -0.769 | -0.350 | -0.350 | 0.026 | 0.247 |
| 9 - Y - | -0.458 | -0.465 | -0.025 | -0.061 | -0.110 |
| 9 - X - | 0.998 | 1.427 | 1.837 | 2.955 | 4.226 |
| 9 - Y - | -0.379 | -1.115 | -1.202 | -1.870 | -2.106 |
| 9 - X - | 5.000 | | | | |
| 9 - Y - | -2.061 | | | | |
| 8 - X - | -20.000 | 5.000 | | | |
| 8 - Y - | -3.200 | -3.200 | | | |
| 7 - X - | -20.000 | 5.000 | | | |
| 7 - Y - | -4.100 | -4.100 | | | |
| 6 - X - | -20.000 | 5.000 | | | |
| 6 - Y - | -4.500 | -4.500 | | | |
| 5 - X - | -20.000 | 5.000 | | | |
| 5 - Y - | -6.200 | -6.200 | | | |
| 4 - X - | -20.000 | 5.000 | | | |
| 4 - Y - | -8.500 | -8.500 | | | |
| 3 - X - | -20.000 | 5.000 | | | |
| 3 - Y - | -10.500 | -10.500 | | | |
| 2 - X - | -20.000 | 5.000 | | | |
| 2 - Y - | -15.000 | -15.000 | | | |
| 1 - X - | -20.000 | 5.000 | | | |
| 1 - Y - | -17.000 | -17.000 | | | |
| 0 - X - | -20.000 | 5.000 | | | |
| 0 - Y - | -20.000 | -20.000 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -20.000 | -9.000 | 0.000 | 5.000 | |
| 1 - Y - | -1.820 | -1.820 | -0.430 | -0.430 | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | |
| - Loads: | None |
| End of consolidation: | 10000.00 [days] |
| No maintain profile | |
| Pc (initial): | Variable parallel to the initial effective stress |
| Pc (per step): | Automatic increased to the final effective stresses |
| Creep rate reference time: | 1.000 [days] |
| No imaginary surface | |
| With submerging | |
| (only for non uniform loads) | |
| - Iteration stop criterium : | 0.10 [m] |
| Load column width | |
| - Non-Uniform Loads : | 1.00 [m] |
| - Trapeziform Loads : | 1.00 [m] |

## 2.4 Soil Profiles

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 9 | Dijksmateriaal | 1 | 1 |
| 8 | Hollandveen | 1 | 1 |
| 7 | klei Silt DK | 1 | 1 |
| 6 | Klei zand CA | 1 | 1 |
| 5 | Hollandveen | 1 | 1 |
| 4 | Klei CA | 1 | 1 |
| 3 | Klei zand CA | 1 | 1 |
| 2 | Zand CA | 1 | 1 |
| 1 | Klei zand CA | 1 | 1 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 9 | No | 16.00 | 16.00 |
| 8 | No | 10.50 | 10.50 |
| 7 | No | 15.10 | 15.10 |
| 6 | No | 17.00 | 17.00 |
| 5 | No | 10.50 | 10.50 |
| 4 | No | 15.90 | 15.90 |
| 3 | No | 17.00 | 17.00 |
| 2 | Yes | 18.00 | 20.00 |
| 1 | No | 17.00 | 17.00 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|---|---|
| 9 | Vert. cons. | 1.00E-08 | - | - | - |
| 8 | Vert. cons. | 2.37E-08 | - | - | - |
| 7 | Vert. cons. | 2.54E-08 | - | - | - |
| 6 | Vert. cons. | 1.00E-07 | - | - | - |
| 5 | Vert. cons. | 2.37E-08 | - | - | - |
| 4 | Vert. cons. | 6.02E-07 | - | - | - |
| 3 | Vert. cons. | 1.00E-07 | - | - | - |
| 2 | Vert. cons. | - | - | - | - |
| 1 | Vert. cons. | 1.00E-07 | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 9 | - | 1.50 | - |
| 8 | - | 1.80 | - |
| 7 | - | 1.50 | - |
| 6 | - | 1.39 | - |
| 5 | - | 1.80 | - |
| 4 | - | 1.50 | - |
| 3 | - | 1.39 | - |
| 2 | - | 1.39 | - |
| 1 | - | 1.39 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 9 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 8 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 7 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 6 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 5 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 4 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 3 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 2 | 0.0100000 | 0.1062000 | 0.0033000 | - | - | - |
| 1 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time [days] | Unit weight Unsaturated [kN/m³] | Unit weight Saturated [kN/m³] |
|---|---|---|---|
| 1 | -1 | 19.00 | 19.00 |
| 2 | -1 | 24.00 | 24.00 |
| 3 | 2 | 16.00 | 16.00 |
| 4 | 3 | 18.00 | 20.00 |
| 5 | 4 | 19.00 | 19.00 |
| 6 | 5 | 25.00 | 25.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -6.04 | -4.16 | -3.17 | -0.77 | -0.35 | |
| 1 - Y - | -0.44 | -0.37 | -0.34 | -0.38 | -0.39 | |
| 2 - X - | -6.04 | -5.89 | -5.27 | -4.96 | -3.55 | -3.17 |
| 2 - Y - | -0.08 | -0.05 | -0.03 | -0.02 | 0.01 | 0.03 |
| 2 - X - | -2.64 | -1.37 | -0.81 | -0.42 | -0.35 | |
| 2 - Y - | 0.02 | 0.00 | -0.01 | -0.02 | -0.03 | |
| 3 - X - | -9.74 | -6.96 | -6.32 | -6.04 | -6.04 | -4.16 |
| 3 - Y - | -1.35 | 0.37 | 0.37 | 0.38 | -0.52 | -0.45 |
| 3 - X - | -3.17 | -0.77 | -0.35 | -0.35 | -0.02 | 0.82 |
| 3 - Y - | -0.41 | -0.46 | -0.47 | 0.38 | 0.37 | 0.32 |
| 3 - X - | 1.00 | | | | | |
| 3 - Y - | -0.38 | | | | | |
| 4 - X - | -6.04 | -0.35 | | | | |
| 4 - Y - | -0.07 | -0.07 | | | | |
| 5 - X - | -6.04 | -0.35 | | | | |
| 5 - Y - | 0.18 | 0.18 | | | | |
| 6 - X - | -6.04 | -4.67 | -3.17 | -1.67 | -0.35 | |
| 6 - Y - | 0.38 | 0.41 | 0.45 | 0.41 | 0.38 | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -20.000 | -13.174 | -10.653 | -9.740 | -9.000 |
| 6 - 10 | -7.456 | -7.064 | -6.963 | -6.931 | -6.797 |
| 11 - 15 | -6.685 | -6.579 | -6.462 | -6.324 | -6.040 |
| 16 - 20 | -5.890 | -5.267 | -4.962 | -4.675 | -4.159 |
| 21 - 25 | -3.551 | -3.174 | -2.642 | -1.673 | -1.366 |
| 26 - 30 | -0.810 | -0.769 | -0.420 | -0.350 | -0.024 |
| 31 - 35 | 0.000 | 0.026 | 0.247 | 0.823 | 0.998 |
| 36 - 40 | 1.427 | 1.837 | 2.955 | 4.226 | 5.000 |

# 3 Results per Vertical

## 3.1 Results for Vertical 16 (X = -5.89 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.512 | 16.208 | -0.512 | 5.711 | 0.226 |
| -0.612 | 18.169 | -0.593 | 6.939 | 0.221 |
| -0.712 | 19.329 | -0.673 | 7.589 | 0.216 |
| -0.812 | 20.263 | -0.753 | 7.825 | 0.211 |
| -0.912 | 21.238 | -0.831 | 7.904 | 0.207 |
| -1.012 | 22.275 | -0.909 | 7.913 | 0.203 |
| -1.112 | 23.359 | -0.986 | 7.885 | 0.199 |
| -1.212 | 24.127 | -1.063 | 7.487 | 0.195 |
| -1.312 | 24.292 | -1.139 | 6.449 | 0.192 |
| -1.340 | 24.343 | -1.160 | 6.159 | 0.192 |
| -1.412 | 24.483 | -1.143 | 6.114 | 0.190 |
| -1.512 | 24.694 | -1.119 | 6.051 | 0.188 |
| -1.856 | 25.537 | -1.039 | 5.835 | 0.181 |
| -2.500 | 27.394 | -0.892 | 5.465 | 0.173 |
| -3.200 | 29.607 | -0.737 | 5.103 | 0.169 |
| -3.200 | 29.607 | -0.737 | 5.103 | 0.169 |
| -3.650 | 29.346 | -0.715 | 4.884 | 0.152 |
| -4.100 | 29.175 | -0.701 | 4.672 | 0.136 |
| -4.100 | 29.175 | -0.701 | 4.672 | 0.136 |
| -4.300 | 30.012 | -0.694 | 4.580 | 0.133 |
| -4.500 | 30.860 | -0.687 | 4.490 | 0.131 |
| -4.500 | 30.860 | -0.687 | 4.490 | 0.131 |
| -5.350 | 36.280 | -0.680 | 4.123 | 0.129 |
| -6.200 | 41.733 | -0.674 | 3.782 | 0.128 |
| -6.200 | 41.733 | -0.674 | 3.782 | 0.128 |
| -6.750 | 41.746 | -0.675 | 3.575 | 0.110 |
| -7.350 | 41.940 | -0.692 | 3.361 | 0.091 |
| -7.900 | 42.285 | -0.724 | 3.176 | 0.072 |
| -8.500 | 42.844 | -0.775 | 2.985 | 0.052 |
| -8.500 | 42.844 | -0.775 | 2.985 | 0.052 |
| -9.500 | 48.447 | -0.783 | 2.691 | 0.047 |
| -10.500 | 54.117 | -0.792 | 2.425 | 0.041 |
| -10.500 | 54.117 | -0.792 | 2.425 | 0.041 |
| -11.350 | 60.573 | -0.868 | 2.218 | 0.039 |
| -12.350 | 68.360 | -0.972 | 1.997 | 0.036 |
| -12.750 | 71.535 | -1.019 | 1.914 | 0.034 |
| -13.400 | 76.770 | -1.101 | 1.786 | 0.031 |
| -14.400 | 85.013 | -1.244 | 1.604 | 0.025 |
| -15.000 | 90.072 | -1.340 | 1.503 | 0.021 |
| -15.000 | 90.072 | -1.340 | 1.503 | 0.021 |
| -16.000 | 99.962 | -1.340 | 1.346 | 0.020 |
| -17.000 | 109.878 | -1.340 | 1.203 | 0.019 |
| -17.000 | 109.878 | -1.340 | 1.203 | 0.019 |
| -17.800 | 115.368 | -1.334 | 1.097 | 0.014 |
| -18.500 | 120.217 | -1.332 | 1.010 | 0.009 |
| -19.200 | 125.110 | -1.333 | 0.929 | 0.005 |
| -20.000 | 130.758 | -1.340 | 0.841 | 0.000 |

## 3.2 Results for Vertical 22 (X = -3.17 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.415 | 17.463 | -0.415 | 7.383 | 0.221 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.515 | 18.951 | -0.496 | 7.361 | 0.215 |
| -0.615 | 20.308 | -0.577 | 7.346 | 0.211 |
| -0.715 | 21.652 | -0.656 | 7.322 | 0.206 |
| -0.815 | 22.354 | -0.734 | 6.651 | 0.202 |
| -0.915 | 22.724 | -0.812 | 5.643 | 0.199 |
| -0.920 | 22.743 | -0.816 | 5.590 | 0.199 |
| -1.015 | 23.096 | -0.795 | 5.564 | 0.197 |
| -1.115 | 23.468 | -0.772 | 5.537 | 0.194 |
| -1.215 | 23.838 | -0.750 | 5.509 | 0.192 |
| -1.315 | 24.203 | -0.727 | 5.481 | 0.189 |
| -1.415 | 24.564 | -0.704 | 5.453 | 0.187 |
| -1.808 | 25.933 | -0.615 | 5.340 | 0.181 |
| -2.500 | 28.175 | -0.461 | 5.150 | 0.173 |
| -3.200 | 30.271 | -0.309 | 4.965 | 0.170 |
| -3.200 | 30.271 | -0.309 | 4.965 | 0.170 |
| -3.650 | 29.822 | -0.287 | 4.840 | 0.153 |
| -4.100 | 29.427 | -0.274 | 4.705 | 0.138 |
| -4.100 | 29.427 | -0.274 | 4.705 | 0.138 |
| -4.300 | 30.162 | -0.268 | 4.642 | 0.135 |
| -4.500 | 30.907 | -0.262 | 4.577 | 0.132 |
| -4.500 | 30.907 | -0.262 | 4.577 | 0.132 |
| -5.350 | 35.883 | -0.256 | 4.282 | 0.131 |
| -6.200 | 40.945 | -0.251 | 3.971 | 0.129 |
| -6.200 | 40.945 | -0.251 | 3.971 | 0.129 |
| -6.750 | 40.748 | -0.253 | 3.768 | 0.111 |
| -7.350 | 40.739 | -0.272 | 3.550 | 0.091 |
| -7.900 | 40.920 | -0.305 | 3.355 | 0.073 |
| -8.500 | 41.320 | -0.357 | 3.151 | 0.052 |
| -8.500 | 41.320 | -0.357 | 3.151 | 0.052 |
| -9.500 | 46.703 | -0.364 | 2.830 | 0.047 |
| -10.500 | 52.202 | -0.373 | 2.537 | 0.042 |
| -10.500 | 52.202 | -0.373 | 2.537 | 0.042 |
| -11.350 | 58.541 | -0.449 | 2.310 | 0.039 |
| -12.350 | 66.217 | -0.553 | 2.066 | 0.036 |
| -12.750 | 69.355 | -0.599 | 1.975 | 0.034 |
| -13.400 | 74.538 | -0.681 | 1.835 | 0.031 |
| -14.400 | 82.714 | -0.824 | 1.637 | 0.026 |
| -15.000 | 87.741 | -0.920 | 1.527 | 0.021 |
| -15.000 | 87.741 | -0.920 | 1.527 | 0.021 |
| -16.000 | 97.584 | -0.920 | 1.358 | 0.020 |
| -17.000 | 107.463 | -0.920 | 1.204 | 0.019 |
| -17.000 | 107.463 | -0.920 | 1.204 | 0.019 |
| -17.800 | 112.929 | -0.914 | 1.091 | 0.014 |
| -18.500 | 117.759 | -0.912 | 0.999 | 0.009 |
| -19.200 | 122.634 | -0.914 | 0.912 | 0.005 |
| -20.000 | 128.264 | -0.920 | 0.819 | 0.000 |

### 3.3 Results for Vertical 28 (X = -0.42 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.464 | 14.722 | -0.464 | 5.157 | 0.259 |
| -0.495 | 15.046 | -0.488 | 5.574 | 0.257 |
| -0.564 | 15.014 | -0.474 | 6.308 | 0.254 |
| -0.664 | 14.802 | -0.453 | 6.596 | 0.248 |
| -0.764 | 14.862 | -0.433 | 6.716 | 0.242 |
| -0.864 | 15.039 | -0.413 | 6.761 | 0.236 |
| -0.964 | 15.274 | -0.393 | 6.767 | 0.231 |
| -1.064 | 15.542 | -0.372 | 6.750 | 0.226 |
| -1.164 | 15.829 | -0.352 | 6.719 | 0.222 |
| -1.264 | 16.129 | -0.332 | 6.679 | 0.218 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.364 | 16.436 | -0.312 | 6.631 | 0.214 |
| -1.464 | 16.747 | -0.291 | 6.577 | 0.210 |
| -1.832 | 17.912 | -0.216 | 6.344 | 0.199 |
| -2.500 | 20.088 | -0.079 | 5.882 | 0.187 |
| -3.200 | 22.469 | 0.063 | 5.451 | 0.181 |
| -3.200 | 22.469 | 0.063 | 5.451 | 0.181 |
| -3.650 | 22.258 | 0.084 | 5.215 | 0.163 |
| -4.100 | 22.138 | 0.098 | 5.007 | 0.146 |
| -4.100 | 22.138 | 0.098 | 5.007 | 0.146 |
| -4.300 | 22.997 | 0.106 | 4.923 | 0.143 |
| -4.500 | 23.866 | 0.112 | 4.843 | 0.140 |
| -4.500 | 23.866 | 0.112 | 4.843 | 0.140 |
| -5.350 | 29.400 | 0.121 | 4.543 | 0.139 |
| -6.200 | 34.968 | 0.129 | 4.288 | 0.137 |
| -6.200 | 34.968 | 0.129 | 4.288 | 0.137 |
| -6.750 | 35.032 | 0.131 | 4.141 | 0.118 |
| -7.350 | 35.261 | 0.119 | 3.991 | 0.098 |
| -7.900 | 35.618 | 0.093 | 3.862 | 0.079 |
| -8.500 | 36.171 | 0.050 | 3.729 | 0.057 |
| -8.500 | 36.171 | 0.050 | 3.729 | 0.057 |
| -9.500 | 41.870 | 0.043 | 3.520 | 0.052 |
| -10.500 | 47.619 | 0.035 | 3.327 | 0.045 |
| -10.500 | 47.619 | 0.035 | 3.327 | 0.045 |
| -11.350 | 54.086 | -0.035 | 3.173 | 0.043 |
| -12.350 | 61.882 | -0.134 | 3.004 | 0.039 |
| -12.750 | 65.061 | -0.179 | 2.940 | 0.037 |
| -13.400 | 70.305 | -0.259 | 2.839 | 0.034 |
| -14.400 | 78.565 | -0.400 | 2.693 | 0.027 |
| -15.000 | 83.639 | -0.495 | 2.611 | 0.023 |
| -15.000 | 83.639 | -0.495 | 2.611 | 0.023 |
| -16.000 | 93.559 | -0.495 | 2.481 | 0.021 |
| -17.000 | 103.501 | -0.495 | 2.360 | 0.020 |
| -17.000 | 103.501 | -0.495 | 2.360 | 0.020 |
| -17.800 | 109.001 | -0.488 | 2.270 | 0.015 |
| -18.500 | 113.861 | -0.486 | 2.195 | 0.010 |
| -19.200 | 118.767 | -0.488 | 2.123 | 0.005 |
| -20.000 | 124.434 | -0.495 | 2.046 | 0.000 |

### 3.4 Results for Vertical 31 (X = 0.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.059 | 6.934 | -0.059 | 6.933 | 0.268 |
| -0.159 | 6.084 | -0.152 | 4.549 | 0.248 |
| -0.259 | 7.235 | -0.245 | 4.168 | 0.237 |
| -0.359 | 11.012 | -0.335 | 6.439 | 0.229 |
| -0.430 | 12.185 | -0.398 | 6.554 | 0.223 |
| -0.459 | 12.525 | -0.394 | 6.751 | 0.221 |
| -0.559 | 13.457 | -0.381 | 7.127 | 0.213 |
| -0.659 | 14.177 | -0.367 | 7.140 | 0.206 |
| -0.759 | 14.838 | -0.352 | 6.967 | 0.200 |
| -0.859 | 15.474 | -0.336 | 6.726 | 0.194 |
| -0.959 | 16.080 | -0.321 | 6.471 | 0.190 |
| -1.059 | 16.648 | -0.305 | 6.221 | 0.185 |
| -1.629 | 19.359 | -0.208 | 5.059 | 0.169 |
| -2.400 | 22.518 | -0.070 | 4.080 | 0.158 |
| -3.200 | 25.712 | 0.078 | 3.469 | 0.155 |
| -3.200 | 25.712 | 0.078 | 3.469 | 0.155 |
| -3.650 | 25.673 | 0.097 | 3.225 | 0.140 |
| -4.100 | 25.700 | 0.110 | 3.025 | 0.127 |
| -4.100 | 25.700 | 0.110 | 3.025 | 0.127 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -4.300 | 26.620 | 0.117 | 2.947 | 0.125 |
| -4.500 | 27.546 | 0.123 | 2.874 | 0.122 |
| -4.500 | 27.546 | 0.123 | 2.874 | 0.122 |
| -5.350 | 33.276 | 0.131 | 2.608 | 0.122 |
| -6.200 | 38.997 | 0.139 | 2.391 | 0.121 |
| -6.200 | 38.997 | 0.139 | 2.391 | 0.121 |
| -6.750 | 39.142 | 0.142 | 2.266 | 0.104 |
| -7.350 | 39.445 | 0.130 | 2.139 | 0.086 |
| -7.900 | 39.859 | 0.105 | 2.029 | 0.069 |
| -8.500 | 40.462 | 0.062 | 1.915 | 0.049 |
| -8.500 | 40.462 | 0.062 | 1.915 | 0.049 |
| -9.500 | 46.241 | 0.056 | 1.735 | 0.044 |
| -10.500 | 52.051 | 0.048 | 1.567 | 0.039 |
| -10.500 | 52.051 | 0.048 | 1.567 | 0.039 |
| -11.350 | 58.514 | -0.017 | 1.431 | 0.037 |
| -12.350 | 66.270 | -0.108 | 1.279 | 0.034 |
| -12.750 | 69.422 | -0.149 | 1.221 | 0.033 |
| -13.400 | 74.608 | -0.220 | 1.130 | 0.030 |
| -14.400 | 82.747 | -0.346 | 0.997 | 0.024 |
| -15.000 | 87.728 | -0.430 | 0.920 | 0.020 |
| -15.000 | 87.729 | -0.430 | 0.920 | 0.020 |
| -16.000 | 97.669 | -0.430 | 0.800 | 0.019 |
| -17.000 | 107.627 | -0.430 | 0.687 | 0.018 |
| -17.000 | 107.627 | -0.430 | 0.687 | 0.018 |
| -17.800 | 113.147 | -0.424 | 0.602 | 0.013 |
| -18.500 | 118.018 | -0.422 | 0.532 | 0.009 |
| -19.200 | 122.930 | -0.424 | 0.464 | 0.005 |
| -20.000 | 128.596 | -0.430 | 0.391 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -20.00 | 0.00 | -1.46 | 0.128 |
| 2 | -13.17 | 0.00 | -1.51 | 0.143 |
| 3 | -10.65 | 0.00 | -1.42 | 0.166 |
| 4 | -9.74 | 0.00 | -1.35 | 0.192 |
| 5 | -9.00 | 0.00 | -1.02 | 0.216 |
| 6 | -7.46 | 0.00 | -0.33 | 0.262 |
| 7 | -7.06 | 0.00 | -0.17 | 0.271 |
| 8 | -6.96 | 0.00 | -0.16 | 0.273 |
| 9 | -6.93 | 0.00 | -0.16 | 0.274 |
| 10 | -6.80 | 0.00 | -0.15 | 0.276 |
| 11 | -6.68 | 0.00 | -0.14 | 0.276 |
| 12 | -6.58 | 0.00 | -0.13 | 0.277 |
| 13 | -6.46 | 0.00 | -0.12 | 0.277 |
| 14 | -6.32 | 0.00 | -0.10 | 0.284 |
| 15 | -6.04 | 0.00 | -0.52 | 0.215 |
| 16 | -5.89 | 0.00 | -0.51 | 0.226 |
| 17 | -5.27 | 0.00 | -0.49 | 0.218 |
| 18 | -4.96 | 0.00 | -0.48 | 0.218 |
| 19 | -4.67 | 0.00 | -0.47 | 0.219 |
| 20 | -4.16 | 0.00 | -0.45 | 0.220 |
| 21 | -3.55 | 0.00 | -0.43 | 0.221 |
| 22 | -3.17 | 0.00 | -0.42 | 0.221 |
| 23 | -2.64 | 0.00 | -0.42 | 0.220 |
| 24 | -1.67 | 0.00 | -0.44 | 0.218 |
| 25 | -1.37 | 0.00 | -0.45 | 0.217 |
| 26 | -0.81 | 0.00 | -0.46 | 0.227 |
| 27 | -0.77 | 0.00 | -0.46 | 0.228 |
| 28 | -0.42 | 0.00 | -0.46 | 0.259 |
| 29 | -0.35 | 0.00 | -0.47 | 0.210 |
| 30 | -0.02 | 0.00 | -0.06 | 0.276 |
| 31 | 0.00 | 0.00 | -0.06 | 0.268 |
| 32 | 0.03 | 0.00 | -0.06 | 0.269 |
| 33 | 0.25 | 0.00 | -0.11 | 0.274 |
| 34 | 0.82 | 0.00 | -0.32 | 0.279 |
| 35 | 1.00 | 0.00 | -0.38 | 0.284 |
| 36 | 1.43 | 0.00 | -1.11 | 0.294 |
| 37 | 1.84 | 0.00 | -1.20 | 0.266 |
| 38 | 2.96 | 0.00 | -1.87 | 0.251 |
| 39 | 4.23 | 0.00 | -2.11 | 0.226 |
| 40 | 5.00 | 0.00 | -2.06 | 0.208 |

## 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 100 | -0.004 | -3.243 | 0.132 |
| | 4500 | 0.069 | 54.317 | 0.058 |
| 2 | 100 | -0.003 | -2.233 | 0.146 |
| | 4500 | 0.080 | 56.209 | 0.063 |
| 3 | 100 | -0.002 | -1.216 | 0.168 |
| | 4500 | 0.095 | 57.287 | 0.071 |
| 4 | 100 | 0.005 | 2.778 | 0.186 |
| | 4500 | 0.115 | 60.176 | 0.076 |
| 5 | 100 | 0.016 | 7.431 | 0.200 |
| | 4500 | 0.135 | 62.293 | 0.081 |
| 6 | 100 | 0.035 | 13.407 | 0.227 |
| | 4500 | 0.174 | 66.247 | 0.088 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 7 | 100 | 0.039 | 14.220 | 0.232 |
| | 4500 | 0.181 | 66.951 | 0.090 |
| 8 | 100 | 0.039 | 14.177 | 0.234 |
| | 4500 | 0.183 | 67.065 | 0.090 |
| 9 | 100 | 0.039 | 14.245 | 0.235 |
| | 4500 | 0.184 | 67.119 | 0.090 |
| 10 | 100 | 0.040 | 14.377 | 0.236 |
| | 4500 | 0.185 | 67.260 | 0.090 |
| 11 | 100 | 0.040 | 14.330 | 0.237 |
| | 4500 | 0.186 | 67.290 | 0.090 |
| 12 | 100 | 0.039 | 14.208 | 0.237 |
| | 4500 | 0.186 | 67.294 | 0.090 |
| 13 | 100 | 0.039 | 13.973 | 0.238 |
| | 4500 | 0.186 | 67.287 | 0.091 |
| 14 | 100 | 0.044 | 15.605 | 0.240 |
| | 4500 | 0.194 | 68.105 | 0.091 |
| 15 | 100 | 0.007 | 3.242 | 0.208 |
| | 4500 | 0.127 | 59.286 | 0.087 |
| 16 | 100 | 0.007 | 3.085 | 0.219 |
| | 4500 | 0.136 | 60.124 | 0.090 |
| 17 | 100 | 0.005 | 2.502 | 0.212 |
| | 4500 | 0.128 | 58.912 | 0.089 |
| 18 | 100 | 0.006 | 2.605 | 0.212 |
| | 4500 | 0.129 | 58.982 | 0.089 |
| 19 | 100 | 0.006 | 2.696 | 0.213 |
| | 4500 | 0.129 | 59.095 | 0.089 |
| 20 | 100 | 0.006 | 2.831 | 0.214 |
| | 4500 | 0.130 | 59.294 | 0.089 |
| 21 | 100 | 0.007 | 2.954 | 0.214 |
| | 4500 | 0.131 | 59.503 | 0.089 |
| 22 | 100 | 0.007 | 2.997 | 0.214 |
| | 4500 | 0.132 | 59.602 | 0.089 |
| 23 | 100 | 0.006 | 2.942 | 0.214 |
| | 4500 | 0.131 | 59.665 | 0.089 |
| 24 | 100 | 0.006 | 2.785 | 0.212 |
| | 4500 | 0.130 | 59.790 | 0.088 |
| 25 | 100 | 0.006 | 2.709 | 0.211 |
| | 4500 | 0.130 | 59.900 | 0.087 |
| 26 | 100 | 0.006 | 2.440 | 0.221 |
| | 4500 | 0.132 | 58.111 | 0.095 |
| 27 | 100 | 0.005 | 2.402 | 0.223 |
| | 4500 | 0.133 | 58.050 | 0.096 |
| 28 | 100 | 0.010 | 4.002 | 0.249 |
| | 4500 | 0.156 | 60.022 | 0.104 |
| 29 | 100 | 0.007 | 3.338 | 0.203 |
| | 4500 | 0.127 | 60.458 | 0.083 |
| 30 | 100 | 0.042 | 15.026 | 0.235 |
| | 4500 | 0.191 | 69.113 | 0.085 |
| 31 | 100 | 0.035 | 13.201 | 0.233 |
| | 4500 | 0.183 | 68.376 | 0.085 |
| 32 | 100 | 0.036 | 13.348 | 0.233 |
| | 4500 | 0.184 | 68.483 | 0.085 |
| 33 | 100 | 0.040 | 14.467 | 0.234 |
| | 4500 | 0.189 | 69.156 | 0.084 |
| 34 | 100 | 0.038 | 13.808 | 0.240 |
| | 4500 | 0.184 | 66.152 | 0.094 |
| 35 | 100 | 0.033 | 11.710 | 0.250 |
| | 4500 | 0.183 | 64.467 | 0.101 |
| 36 | 100 | 0.029 | 9.829 | 0.265 |
| | 4500 | 0.187 | 63.434 | 0.108 |
| 37 | 100 | 0.017 | 6.219 | 0.249 |
| | 4500 | 0.161 | 60.527 | 0.105 |
| 38 | 100 | 0.007 | 2.774 | 0.244 |
| | 4500 | 0.149 | 59.366 | 0.102 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 39 | 100 | 0.001 | 0.385 | 0.225 |
| | 4500 | 0.131 | 58.103 | 0.095 |
| 40 | 100 | -0.001 | -0.633 | 0.210 |
| | 4500 | 0.118 | 56.819 | 0.090 |

## 5 Warnings and errors

List of non-fatal warnings and errors generated during calculation.

1 Non-uniform load [1]: Co-ordinate (1) lies below surface

2 Non-uniform load [1]: Co-ordinate (5) lies below surface

3 Non-uniform load [2]: Co-ordinate (11) lies below surface

4 Non-uniform load [3]: Co-ordinate (5) lies below surface

5 Non-uniform load [3]: Co-ordinate (9) lies below surface

6 Non-uniform load [4]: Co-ordinate (2) lies below surface

## End of Report

# Report for D-Settlement 21.2

Settlement Calculations
Developed by Deltares




| | |
|---|---|
| Company: | Waalpartners bv |
| Date of report: | 11/24/2022 |
| Time of report: | 1:43:28 PM |
| Report with version: | 21.2.1.34213 |
| Date of calculation: | 11/24/2022 |
| Time of calculation: | 1:42:37 PM |
| Calculated with version: | 21.2.1.34213 |
| File name: | 12.47 bkl |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 12 - X - | -20.000 | -13.801 | -13.061 | -12.153 | -11.618 |
| 12 - Y - | -1.587 | -1.572 | -1.577 | -1.776 | -2.500 |
| 12 - X - | -11.425 | -10.918 | -10.880 | -10.508 | -9.751 |
| 12 - Y - | -2.761 | -2.629 | -2.500 | -1.239 | -0.900 |
| 12 - X - | -8.354 | -7.658 | -7.261 | -6.510 | -6.510 |
| 12 - Y - | -0.275 | -0.023 | 0.059 | 0.088 | -0.272 |
| 12 - X - | -3.801 | -1.100 | -1.100 | -0.867 | -0.667 |
| 12 - Y - | -0.198 | -0.249 | 0.091 | 0.148 | 0.121 |
| 12 - X - | 0.494 | 0.637 | 0.658 | 1.349 | 2.536 |
| 12 - Y - | -0.323 | -0.900 | -0.987 | -1.157 | -1.797 |
| 12 - X - | 3.865 | 5.000 | | | |
| 12 - Y - | -2.080 | -2.141 | | | |
| 11 - X - | -20.000 | -11.618 | -11.425 | -10.918 | -10.880 |
| 11 - Y - | -2.500 | -2.500 | -2.761 | -2.629 | -2.500 |
| 11 - X - | -10.508 | -9.751 | -8.354 | -7.658 | -7.261 |
| 11 - Y - | -1.239 | -0.900 | -0.275 | -0.023 | 0.059 |
| 11 - X - | -6.510 | -6.510 | -3.801 | -1.100 | -1.100 |
| 11 - Y - | 0.088 | -0.272 | -0.198 | -0.249 | 0.091 |
| 11 - X - | -0.867 | -0.667 | 0.494 | 0.637 | 0.658 |
| 11 - Y - | 0.148 | 0.121 | -0.323 | -0.900 | -0.987 |
| 11 - X - | 1.349 | 2.536 | 3.865 | 5.000 | |
| 11 - Y - | -1.157 | -1.797 | -2.080 | -2.141 | |
| 10 - X - | -20.000 | -11.618 | -11.425 | -10.918 | -10.880 |
| 10 - Y - | -2.500 | -2.500 | -2.761 | -2.629 | -2.500 |
| 10 - X - | -10.508 | -9.751 | 0.637 | 0.658 | 1.349 |
| 10 - Y - | -1.239 | -0.900 | -0.900 | -0.987 | -1.157 |
| 10 - X - | 2.536 | 3.865 | 5.000 | | |
| 10 - Y - | -1.797 | -2.080 | -2.141 | | |
| 9 - X - | -20.000 | -11.618 | -11.425 | -10.918 | -10.880 |
| 9 - Y - | -2.500 | -2.500 | -2.761 | -2.629 | -2.500 |
| 9 - X - | 5.000 | | | | |
| 9 - Y - | -2.500 | | | | |
| 8 - X - | -20.000 | 5.000 | | | |
| 8 - Y - | -3.500 | -3.500 | | | |
| 7 - X - | -20.000 | 5.000 | | | |
| 7 - Y - | -4.000 | -4.000 | | | |
| 6 - X - | -20.000 | 5.000 | | | |
| 6 - Y - | -6.500 | -6.500 | | | |
| 5 - X - | -20.000 | 5.000 | | | |
| 5 - Y - | -9.000 | -9.000 | | | |
| 4 - X - | -20.000 | 5.000 | | | |
| 4 - Y - | -11.000 | -11.000 | | | |
| 3 - X - | -20.000 | 5.000 | | | |
| 3 - Y - | -15.700 | -15.700 | | | |
| 2 - X - | -20.000 | 5.000 | | | |
| 2 - Y - | -16.000 | -16.000 | | | |
| 1 - X - | -20.000 | 5.000 | | | |
| 1 - Y - | -17.000 | -17.000 | | | |
| 0 - X - | -20.000 | 5.000 | | | |
| 0 - Y - | -19.000 | -19.000 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -20.000 | -9.000 | 0.000 | 5.000 | |
| 1 - Y - | -1.950 | -1.950 | -0.430 | -0.430 | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | |
| - Loads: | None |
| End of consolidation: | 10000.00 [days] |
| No maintain profile | |
| Pc (initial): | Variable parallel to the initial effective stress |
| Pc (per step): | Automatic increased to the final effective stresses |
| Creep rate reference time: | 1.000 [days] |
| No imaginary surface | |
| With submerging | |
| (only for non uniform loads) | |
| - Iteration stop criterium : | 0.10 [m] |
| Load column width | |
| - Non-Uniform Loads : | 1.00 [m] |
| - Trapeziform Loads : | 1.00 [m] |

## 2.4 Soil Profiles

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 12 | Klei Hum DK | 1 | 1 |
| 11 | Dijksmateriaal | 1 | 1 |
| 10 | Klei Hum DK | 1 | 1 |
| 9 | Hollandveen | 1 | 1 |
| 8 | klei Silt DK | 1 | 1 |
| 7 | Klei zand DK | 1 | 1 |
| 6 | Hollandveen | 1 | 1 |
| 5 | Klei CA | 1 | 1 |
| 4 | Klei zand CA | 1 | 1 |
| 3 | Klei CA | 1 | 1 |
| 2 | Zand CA | 1 | 1 |
| 1 | Klei zand CA | 1 | 1 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 12 | No | 13.50 | 13.50 |
| 11 | No | 16.00 | 16.00 |
| 10 | No | 13.50 | 13.50 |
| 9 | No | 10.50 | 10.50 |
| 8 | No | 15.10 | 15.10 |
| 7 | No | 17.00 | 17.00 |
| 6 | No | 10.50 | 10.50 |
| 5 | No | 15.90 | 15.90 |
| 4 | No | 17.00 | 17.00 |
| 3 | No | 15.90 | 15.90 |
| 2 | Yes | 18.00 | 20.00 |
| 1 | No | 17.00 | 17.00 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|---|---|
| 12 | Vert. cons. | 2.07E-08 | - | - | - |
| 11 | Vert. cons. | 1.00E-08 | - | - | - |
| 10 | Vert. cons. | 2.07E-08 | - | - | - |
| 9 | Vert. cons. | 2.37E-08 | - | - | - |
| 8 | Vert. cons. | 2.54E-08 | - | - | - |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|---|---|
| 7 | Vert. cons. | 1.00E-07 | - | - | - |
| 6 | Vert. cons. | 2.37E-08 | - | - | - |
| 5 | Vert. cons. | 6.02E-07 | - | - | - |
| 4 | Vert. cons. | 1.00E-07 | - | - | - |
| 3 | Vert. cons. | 6.02E-07 | - | - | - |
| 2 | Vert. cons. | - | - | - | - |
| 1 | Vert. cons. | 1.00E-07 | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 12 | - | 1.50 | - |
| 11 | - | 1.50 | - |
| 10 | - | 1.50 | - |
| 9 | - | 1.80 | - |
| 8 | - | 1.50 | - |
| 7 | - | 1.39 | - |
| 6 | - | 1.80 | - |
| 5 | - | 1.50 | - |
| 4 | - | 1.39 | - |
| 3 | - | 1.50 | - |
| 2 | - | 1.39 | - |
| 1 | - | 1.39 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 12 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 11 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 10 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 9 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 8 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 7 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 6 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 5 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 4 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 3 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 2 | 0.0100000 | 0.1062000 | 0.0033000 | - | - | - |
| 1 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time [days] | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 1 | -1 | 19.00 | 19.00 |
| 2 | -1 | 24.00 | 24.00 |
| 3 | 2 | 16.00 | 16.00 |
| 4 | 3 | 18.00 | 20.00 |
| 5 | 4 | 19.00 | 19.00 |
| 6 | 5 | 25.00 | 25.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -6.51 | -4.99 | -3.80 | -2.79 | -1.10 | |
| 1 - Y - | -0.19 | -0.15 | -0.12 | -0.14 | -0.17 | |
| 2 - X - | -6.51 | -5.99 | -5.59 | -4.92 | -3.80 | -2.83 |
| 2 - Y - | 0.09 | 0.11 | 0.12 | 0.14 | 0.16 | 0.15 |
| 2 - X - | -1.99 | -1.70 | -1.10 | | | |
| 2 - Y - | 0.13 | 0.13 | 0.09 | | | |
| 3 - X - | -10.51 | -7.54 | -6.51 | -6.51 | -4.99 | -3.80 |
| 3 - Y - | -1.24 | 0.37 | 0.38 | -0.27 | -0.23 | -0.20 |
| 3 - X - | -2.79 | -1.10 | -1.10 | -0.70 | 0.32 | 0.49 |
| 3 - Y - | -0.22 | -0.25 | 0.38 | 0.37 | 0.32 | -0.32 |
| 4 - X - | -6.51 | -1.10 | | | | |
| 4 - Y - | -0.07 | -0.07 | | | | |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 5 - X - | -6.51 | -1.10 | | | | |
| 5 - Y - | 0.18 | 0.18 | | | | |
| 6 - X - | -6.51 | -5.25 | -3.80 | -2.35 | -1.10 | |
| 6 - Y - | 0.38 | 0.41 | 0.45 | 0.41 | 0.38 | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -20.000 | -13.801 | -13.061 | -12.153 | -11.618 |
| 6 - 10 | -11.425 | -10.918 | -10.880 | -10.508 | -9.751 |
| 11 - 15 | -9.000 | -8.354 | -7.658 | -7.540 | -7.464 |
| 16 - 20 | -7.261 | -7.008 | -6.901 | -6.510 | -5.987 |
| 21 - 25 | -5.586 | -5.252 | -4.993 | -4.921 | -3.801 |
| 26 - 30 | -2.827 | -2.788 | -2.350 | -1.990 | -1.695 |
| 31 - 35 | -1.100 | -0.867 | -0.701 | -0.667 | 0.000 |
| 36 - 40 | 0.319 | 0.494 | 0.637 | 0.658 | 1.349 |
| 41 - 43 | 2.536 | 3.865 | 5.000 | | |

# 3 Results per Vertical

## 3.1 Results for Vertical 19 (X = -6.51 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.272 | 16.451 | -0.272 | 6.518 | 0.239 |
| -0.372 | 17.827 | -0.346 | 6.542 | 0.233 |
| -0.472 | 19.108 | -0.419 | 6.481 | 0.229 |
| -0.572 | 20.324 | -0.490 | 6.367 | 0.225 |
| -0.586 | 20.490 | -0.500 | 6.348 | 0.225 |
| -0.672 | 21.505 | -0.560 | 6.231 | 0.222 |
| -0.772 | 22.672 | -0.629 | 6.096 | 0.219 |
| -0.872 | 23.834 | -0.696 | 5.969 | 0.217 |
| -0.900 | 24.159 | -0.715 | 5.936 | 0.216 |
| -0.900 | 24.159 | -0.715 | 5.936 | 0.216 |
| -0.972 | 24.944 | -0.776 | 5.855 | 0.213 |
| -1.072 | 26.040 | -0.860 | 5.752 | 0.208 |
| -1.172 | 27.142 | -0.944 | 5.660 | 0.204 |
| -1.272 | 28.249 | -1.028 | 5.577 | 0.200 |
| -1.529 | 29.516 | -1.242 | 3.792 | 0.192 |
| -1.700 | 29.762 | -1.214 | 3.691 | 0.187 |
| -2.500 | 31.090 | -1.091 | 3.320 | 0.167 |
| -2.500 | 31.090 | -1.091 | 3.320 | 0.167 |
| -3.000 | 30.827 | -1.054 | 3.130 | 0.148 |
| -3.500 | 30.661 | -1.026 | 2.957 | 0.131 |
| -3.500 | 30.661 | -1.026 | 2.957 | 0.131 |
| -3.750 | 31.679 | -1.007 | 2.874 | 0.128 |
| -4.000 | 32.707 | -0.989 | 2.794 | 0.125 |
| -4.000 | 32.707 | -0.989 | 2.794 | 0.125 |
| -4.650 | 36.927 | -0.975 | 2.596 | 0.124 |
| -5.250 | 40.815 | -0.961 | 2.424 | 0.123 |
| -5.900 | 45.026 | -0.946 | 2.248 | 0.123 |
| -6.500 | 48.917 | -0.932 | 2.095 | 0.122 |
| -6.500 | 48.917 | -0.932 | 2.095 | 0.122 |
| -7.150 | 48.889 | -0.913 | 1.938 | 0.102 |
| -7.750 | 49.073 | -0.917 | 1.802 | 0.083 |
| -8.400 | 49.500 | -0.943 | 1.661 | 0.063 |
| -9.000 | 50.108 | -0.988 | 1.539 | 0.044 |
| -9.000 | 50.108 | -0.988 | 1.539 | 0.044 |
| -10.000 | 55.885 | -0.994 | 1.350 | 0.040 |
| -11.000 | 61.711 | -1.003 | 1.177 | 0.035 |
| -11.000 | 61.711 | -1.003 | 1.177 | 0.035 |
| -11.750 | 67.452 | -1.063 | 1.057 | 0.033 |
| -12.750 | 75.255 | -1.155 | 0.910 | 0.030 |
| -13.350 | 80.023 | -1.218 | 0.828 | 0.028 |
| -14.100 | 86.076 | -1.305 | 0.732 | 0.025 |
| -15.100 | 94.318 | -1.436 | 0.613 | 0.020 |
| -15.700 | 99.360 | -1.524 | 0.547 | 0.017 |
| -15.700 | 99.360 | -1.524 | 0.547 | 0.017 |
| -15.850 | 100.270 | -1.527 | 0.531 | 0.015 |
| -16.000 | 101.181 | -1.529 | 0.515 | 0.013 |
| -16.000 | 101.181 | -1.529 | 0.515 | 0.013 |
| -16.500 | 106.174 | -1.529 | 0.463 | 0.013 |
| -17.000 | 111.173 | -1.529 | 0.414 | 0.012 |
| -17.000 | 111.173 | -1.529 | 0.414 | 0.012 |
| -18.000 | 118.147 | -1.526 | 0.322 | 0.006 |
| -19.000 | 125.205 | -1.529 | 0.237 | 0.000 |

### 3.2 Results for Vertical 25 (X = -3.80 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.198 | 13.502 | -0.198 | 5.409 | 0.240 |
| -0.298 | 14.942 | -0.277 | 5.425 | 0.235 |
| -0.398 | 16.317 | -0.353 | 5.393 | 0.230 |
| -0.498 | 17.690 | -0.428 | 5.374 | 0.227 |
| -0.549 | 18.379 | -0.466 | 5.365 | 0.225 |
| -0.598 | 19.033 | -0.502 | 5.357 | 0.223 |
| -0.698 | 20.350 | -0.574 | 5.341 | 0.221 |
| -0.798 | 21.645 | -0.645 | 5.325 | 0.218 |
| -0.898 | 22.861 | -0.714 | 5.248 | 0.216 |
| -0.900 | 22.867 | -0.715 | 5.228 | 0.216 |
| -0.900 | 22.867 | -0.715 | 5.228 | 0.216 |
| -0.998 | 23.062 | -0.799 | 4.249 | 0.212 |
| -1.072 | 23.207 | -0.862 | 3.510 | 0.209 |
| -1.098 | 23.257 | -0.858 | 3.505 | 0.209 |
| -1.198 | 23.448 | -0.844 | 3.486 | 0.205 |
| -1.700 | 24.367 | -0.774 | 3.388 | 0.190 |
| -2.500 | 25.706 | -0.670 | 3.239 | 0.170 |
| -2.500 | 25.706 | -0.670 | 3.239 | 0.170 |
| -3.000 | 25.264 | -0.639 | 3.146 | 0.151 |
| -3.500 | 24.865 | -0.616 | 3.045 | 0.134 |
| -3.500 | 24.865 | -0.616 | 3.045 | 0.134 |
| -3.750 | 25.769 | -0.600 | 2.990 | 0.130 |
| -4.000 | 26.682 | -0.585 | 2.933 | 0.127 |
| -4.000 | 26.682 | -0.585 | 2.933 | 0.127 |
| -4.650 | 30.561 | -0.573 | 2.774 | 0.126 |
| -5.250 | 34.165 | -0.562 | 2.615 | 0.125 |
| -5.900 | 38.107 | -0.549 | 2.436 | 0.124 |
| -6.500 | 41.787 | -0.537 | 2.270 | 0.124 |
| -6.500 | 41.787 | -0.537 | 2.270 | 0.124 |
| -7.150 | 41.572 | -0.521 | 2.093 | 0.103 |
| -7.750 | 41.584 | -0.525 | 1.934 | 0.084 |
| -8.400 | 41.822 | -0.547 | 1.769 | 0.064 |
| -9.000 | 42.246 | -0.585 | 1.624 | 0.044 |
| -9.000 | 42.246 | -0.585 | 1.624 | 0.044 |
| -10.000 | 47.851 | -0.591 | 1.399 | 0.040 |
| -11.000 | 53.541 | -0.598 | 1.195 | 0.035 |
| -11.000 | 53.541 | -0.598 | 1.195 | 0.035 |
| -11.750 | 59.137 | -0.651 | 1.055 | 0.034 |
| -12.750 | 66.758 | -0.733 | 0.885 | 0.031 |
| -13.350 | 71.421 | -0.789 | 0.791 | 0.029 |
| -14.100 | 77.348 | -0.868 | 0.681 | 0.025 |
| -15.100 | 85.423 | -0.987 | 0.547 | 0.020 |
| -15.700 | 90.366 | -1.067 | 0.472 | 0.017 |
| -15.700 | 90.366 | -1.067 | 0.472 | 0.017 |
| -15.850 | 91.268 | -1.069 | 0.454 | 0.015 |
| -16.000 | 92.171 | -1.072 | 0.437 | 0.013 |
| -16.000 | 92.171 | -1.072 | 0.437 | 0.013 |
| -16.500 | 97.148 | -1.072 | 0.380 | 0.013 |
| -17.000 | 102.131 | -1.072 | 0.325 | 0.012 |
| -17.000 | 102.131 | -1.072 | 0.325 | 0.012 |
| -18.000 | 109.084 | -1.069 | 0.223 | 0.006 |
| -19.000 | 116.116 | -1.072 | 0.131 | 0.000 |

### 3.3 Results for Vertical 31 (X = -1.10 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.249 | 15.575 | -0.249 | 6.112 | 0.231 |
| -0.349 | 16.740 | -0.325 | 5.908 | 0.227 |
| -0.449 | 17.688 | -0.400 | 5.497 | 0.222 |
| -0.549 | 17.904 | -0.474 | 4.361 | 0.219 |
| -0.575 | 17.967 | -0.493 | 4.079 | 0.218 |
| -0.616 | 18.073 | -0.523 | 3.628 | 0.217 |
| -0.649 | 18.162 | -0.514 | 3.595 | 0.217 |
| -0.749 | 18.450 | -0.487 | 3.515 | 0.215 |
| -0.849 | 18.757 | -0.461 | 3.455 | 0.213 |
| -0.900 | 18.918 | -0.447 | 3.430 | 0.212 |
| -0.900 | 18.918 | -0.447 | 3.430 | 0.212 |
| -0.949 | 19.022 | -0.441 | 3.409 | 0.210 |
| -1.049 | 19.239 | -0.429 | 3.371 | 0.206 |
| -1.149 | 19.461 | -0.416 | 3.337 | 0.203 |
| -1.249 | 19.684 | -0.404 | 3.306 | 0.199 |
| -1.700 | 20.684 | -0.351 | 3.161 | 0.185 |
| -2.500 | 22.410 | -0.261 | 2.839 | 0.165 |
| -2.500 | 22.410 | -0.261 | 2.839 | 0.165 |
| -3.000 | 22.233 | -0.233 | 2.629 | 0.147 |
| -3.500 | 22.123 | -0.211 | 2.433 | 0.130 |
| -3.500 | 22.123 | -0.211 | 2.433 | 0.130 |
| -3.750 | 23.180 | -0.197 | 2.342 | 0.127 |
| -4.000 | 24.244 | -0.183 | 2.255 | 0.123 |
| -4.000 | 24.244 | -0.183 | 2.255 | 0.123 |
| -4.650 | 28.493 | -0.171 | 2.050 | 0.123 |
| -5.250 | 32.414 | -0.160 | 1.882 | 0.122 |
| -5.900 | 36.663 | -0.146 | 1.718 | 0.122 |
| -6.500 | 40.587 | -0.133 | 1.581 | 0.121 |
| -6.500 | 40.587 | -0.133 | 1.581 | 0.121 |
| -7.150 | 40.586 | -0.115 | 1.444 | 0.101 |
| -7.750 | 40.757 | -0.115 | 1.326 | 0.082 |
| -8.400 | 41.130 | -0.133 | 1.206 | 0.062 |
| -9.000 | 41.648 | -0.166 | 1.102 | 0.043 |
| -9.000 | 41.649 | -0.166 | 1.102 | 0.043 |
| -10.000 | 47.441 | -0.172 | 0.940 | 0.039 |
| -11.000 | 53.277 | -0.178 | 0.791 | 0.034 |
| -11.000 | 53.277 | -0.178 | 0.791 | 0.034 |
| -11.750 | 58.922 | -0.227 | 0.688 | 0.033 |
| -12.750 | 66.579 | -0.302 | 0.559 | 0.030 |
| -13.350 | 71.250 | -0.354 | 0.487 | 0.028 |
| -14.100 | 77.173 | -0.427 | 0.401 | 0.025 |
| -15.100 | 85.222 | -0.537 | 0.295 | 0.020 |
| -15.700 | 90.138 | -0.611 | 0.235 | 0.016 |
| -15.700 | 90.138 | -0.611 | 0.235 | 0.016 |
| -15.850 | 91.045 | -0.613 | 0.221 | 0.015 |
| -16.000 | 91.954 | -0.616 | 0.206 | 0.013 |
| -16.000 | 91.954 | -0.616 | 0.206 | 0.013 |
| -16.500 | 96.952 | -0.616 | 0.160 | 0.012 |
| -17.000 | 101.955 | -0.616 | 0.115 | 0.012 |
| -17.000 | 101.955 | -0.616 | 0.115 | 0.012 |
| -18.000 | 108.942 | -0.613 | 0.030 | 0.006 |
| -19.000 | 116.002 | -0.616 | -0.049 | 0.000 |

### 3.4 Results for Vertical 35 (X = 0.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.134 | 6.576 | -0.134 | 6.575 | 0.289 |
| -0.234 | 8.363 | -0.223 | 6.877 | 0.267 |
| -0.334 | 8.826 | -0.309 | 5.872 | 0.254 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.430 | 9.138 | -0.391 | 4.783 | 0.245 |
| -0.434 | 9.149 | -0.390 | 4.775 | 0.245 |
| -0.517 | 9.357 | -0.378 | 4.583 | 0.239 |
| -0.534 | 9.398 | -0.375 | 4.541 | 0.238 |
| -0.634 | 9.642 | -0.360 | 4.293 | 0.232 |
| -0.734 | 9.900 | -0.345 | 4.047 | 0.228 |
| -0.834 | 10.178 | -0.330 | 3.808 | 0.224 |
| -0.900 | 10.374 | -0.319 | 3.658 | 0.221 |
| -0.900 | 10.374 | -0.319 | 3.657 | 0.221 |
| -0.934 | 10.423 | -0.317 | 3.582 | 0.219 |
| -1.034 | 10.586 | -0.310 | 3.372 | 0.213 |
| -1.134 | 10.778 | -0.302 | 3.180 | 0.208 |
| -1.700 | 12.231 | -0.261 | 2.382 | 0.185 |
| -2.500 | 14.678 | -0.200 | 1.766 | 0.164 |
| -2.500 | 14.678 | -0.200 | 1.766 | 0.164 |
| -3.000 | 14.903 | -0.180 | 1.530 | 0.146 |
| -3.500 | 15.149 | -0.163 | 1.355 | 0.130 |
| -3.500 | 15.149 | -0.163 | 1.355 | 0.130 |
| -3.750 | 16.373 | -0.151 | 1.283 | 0.127 |
| -4.000 | 17.590 | -0.139 | 1.218 | 0.124 |
| -4.000 | 17.591 | -0.139 | 1.218 | 0.124 |
| -4.650 | 22.165 | -0.128 | 1.077 | 0.124 |
| -5.250 | 26.337 | -0.116 | 0.970 | 0.123 |
| -5.900 | 30.811 | -0.101 | 0.868 | 0.123 |
| -6.500 | 34.908 | -0.087 | 0.784 | 0.122 |
| -6.500 | 34.908 | -0.087 | 0.784 | 0.122 |
| -7.150 | 35.028 | -0.064 | 0.699 | 0.101 |
| -7.750 | 35.262 | -0.056 | 0.624 | 0.082 |
| -8.400 | 35.656 | -0.063 | 0.547 | 0.062 |
| -9.000 | 36.153 | -0.084 | 0.478 | 0.043 |
| -9.000 | 36.153 | -0.084 | 0.478 | 0.043 |
| -10.000 | 42.071 | -0.087 | 0.367 | 0.039 |
| -11.000 | 48.002 | -0.092 | 0.261 | 0.034 |
| -11.000 | 48.002 | -0.092 | 0.261 | 0.034 |
| -11.750 | 53.593 | -0.128 | 0.185 | 0.032 |
| -12.750 | 61.146 | -0.185 | 0.088 | 0.029 |
| -13.350 | 65.737 | -0.225 | 0.032 | 0.027 |
| -14.100 | 71.542 | -0.281 | -0.035 | 0.024 |
| -15.100 | 79.404 | -0.368 | -0.121 | 0.019 |
| -15.700 | 84.193 | -0.426 | -0.170 | 0.016 |
| -15.700 | 84.193 | -0.426 | -0.170 | 0.016 |
| -15.850 | 85.100 | -0.428 | -0.182 | 0.014 |
| -16.000 | 86.009 | -0.430 | -0.194 | 0.012 |
| -16.000 | 86.009 | -0.430 | -0.194 | 0.012 |
| -16.500 | 91.025 | -0.430 | -0.233 | 0.012 |
| -17.000 | 96.043 | -0.430 | -0.270 | 0.012 |
| -17.000 | 96.043 | -0.430 | -0.270 | 0.012 |
| -18.000 | 103.059 | -0.427 | -0.342 | 0.006 |
| -19.000 | 110.140 | -0.430 | -0.410 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -20.00 | 0.00 | -1.59 | 0.154 |
| 2 | -13.80 | 0.00 | -1.57 | 0.167 |
| 3 | -13.06 | 0.00 | -1.58 | 0.171 |
| 4 | -12.15 | 0.00 | -1.78 | 0.164 |
| 5 | -11.62 | 0.00 | -2.50 | 0.430 |
| 6 | -11.43 | 0.00 | -2.76 | 0.415 |
| 7 | -10.92 | 0.00 | -2.63 | 0.479 |
| 8 | -10.88 | 0.00 | -2.50 | 0.505 |
| 9 | -10.51 | 0.00 | -1.24 | 0.223 |
| 10 | -9.75 | 0.00 | -0.90 | 0.257 |
| 11 | -9.00 | 0.00 | -0.56 | 0.266 |
| 12 | -8.35 | 0.00 | -0.28 | 0.272 |
| 13 | -7.66 | 0.00 | -0.02 | 0.279 |
| 14 | -7.54 | 0.00 | 0.00 | 0.281 |
| 15 | -7.46 | 0.00 | 0.02 | 0.281 |
| 16 | -7.26 | 0.00 | 0.06 | 0.280 |
| 17 | -7.01 | 0.00 | 0.07 | 0.281 |
| 18 | -6.90 | 0.00 | 0.07 | 0.288 |
| 19 | -6.51 | 0.00 | -0.27 | 0.239 |
| 20 | -5.99 | 0.00 | -0.26 | 0.242 |
| 21 | -5.59 | 0.00 | -0.25 | 0.240 |
| 22 | -5.25 | 0.00 | -0.24 | 0.240 |
| 23 | -4.99 | 0.00 | -0.23 | 0.240 |
| 24 | -4.92 | 0.00 | -0.23 | 0.240 |
| 25 | -3.80 | 0.00 | -0.20 | 0.240 |
| 26 | -2.83 | 0.00 | -0.22 | 0.238 |
| 27 | -2.79 | 0.00 | -0.22 | 0.237 |
| 28 | -2.35 | 0.00 | -0.23 | 0.236 |
| 29 | -1.99 | 0.00 | -0.23 | 0.236 |
| 30 | -1.70 | 0.00 | -0.24 | 0.236 |
| 31 | -1.10 | 0.00 | -0.25 | 0.231 |
| 32 | -0.87 | 0.00 | 0.15 | 0.272 |
| 33 | -0.70 | 0.00 | 0.13 | 0.267 |
| 34 | -0.67 | 0.00 | 0.12 | 0.272 |
| 35 | 0.00 | 0.00 | -0.13 | 0.289 |
| 36 | 0.32 | 0.00 | -0.26 | 0.293 |
| 37 | 0.49 | 0.00 | -0.32 | 0.303 |
| 38 | 0.64 | 0.00 | -0.90 | 0.463 |
| 39 | 0.66 | 0.00 | -0.99 | 0.461 |
| 40 | 1.35 | 0.00 | -1.16 | 0.386 |
| 41 | 2.54 | 0.00 | -1.80 | 0.326 |
| 42 | 3.87 | 0.00 | -2.08 | 0.281 |
| 43 | 5.00 | 0.00 | -2.14 | 0.255 |

## 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 100 | -0.003 | -1.690 | 0.157 |
| | 4500 | 0.098 | 63.415 | 0.056 |
| 2 | 100 | -0.002 | -1.070 | 0.169 |
| | 4500 | 0.107 | 64.058 | 0.060 |
| 3 | 100 | -0.001 | -0.853 | 0.172 |
| | 4500 | 0.110 | 64.378 | 0.061 |
| 4 | 100 | 0.000 | 0.257 | 0.164 |
| | 4500 | 0.111 | 67.457 | 0.054 |
| 5 | 100 | 0.088 | 20.442 | 0.342 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 4500 | 0.335 | 77.914 | 0.095 |
| 6 | 100 | 0.096 | 23.064 | 0.319 |
| | 4500 | 0.324 | 78.138 | 0.091 |
| 7 | 100 | 0.115 | 24.064 | 0.364 |
| | 4500 | 0.383 | 80.034 | 0.096 |
| 8 | 100 | 0.119 | 23.542 | 0.386 |
| | 4500 | 0.406 | 80.470 | 0.099 |
| 9 | 100 | 0.007 | 3.214 | 0.216 |
| | 4500 | 0.147 | 65.779 | 0.076 |
| 10 | 100 | 0.018 | 7.152 | 0.239 |
| | 4500 | 0.172 | 66.839 | 0.085 |
| 11 | 100 | 0.016 | 5.947 | 0.250 |
| | 4500 | 0.173 | 65.230 | 0.092 |
| 12 | 100 | 0.021 | 7.738 | 0.251 |
| | 4500 | 0.176 | 64.559 | 0.097 |
| 13 | 100 | 0.028 | 9.900 | 0.252 |
| | 4500 | 0.181 | 64.713 | 0.099 |
| 14 | 100 | 0.029 | 10.222 | 0.252 |
| | 4500 | 0.182 | 64.790 | 0.099 |
| 15 | 100 | 0.029 | 10.192 | 0.252 |
| | 4500 | 0.182 | 64.730 | 0.099 |
| 16 | 100 | 0.028 | 10.001 | 0.252 |
| | 4500 | 0.181 | 64.571 | 0.099 |
| 17 | 100 | 0.027 | 9.579 | 0.254 |
| | 4500 | 0.182 | 64.597 | 0.100 |
| 18 | 100 | 0.032 | 11.184 | 0.256 |
| | 4500 | 0.188 | 65.327 | 0.100 |
| 19 | 100 | 0.004 | 1.495 | 0.235 |
| | 4500 | 0.141 | 59.269 | 0.097 |
| 20 | 100 | 0.003 | 1.071 | 0.239 |
| | 4500 | 0.143 | 59.266 | 0.098 |
| 21 | 100 | 0.003 | 1.133 | 0.237 |
| | 4500 | 0.142 | 59.149 | 0.098 |
| 22 | 100 | 0.003 | 1.204 | 0.237 |
| | 4500 | 0.142 | 59.181 | 0.098 |
| 23 | 100 | 0.003 | 1.235 | 0.237 |
| | 4500 | 0.142 | 59.214 | 0.098 |
| 24 | 100 | 0.003 | 1.330 | 0.237 |
| | 4500 | 0.143 | 59.280 | 0.098 |
| 25 | 100 | 0.004 | 1.484 | 0.236 |
| | 4500 | 0.142 | 59.353 | 0.097 |
| 26 | 100 | 0.003 | 1.348 | 0.234 |
| | 4500 | 0.141 | 59.380 | 0.096 |
| 27 | 100 | 0.003 | 1.285 | 0.234 |
| | 4500 | 0.141 | 59.341 | 0.096 |
| 28 | 100 | 0.003 | 1.208 | 0.233 |
| | 4500 | 0.140 | 59.334 | 0.096 |
| 29 | 100 | 0.003 | 1.124 | 0.233 |
| | 4500 | 0.140 | 59.358 | 0.096 |
| 30 | 100 | 0.003 | 1.141 | 0.234 |
| | 4500 | 0.141 | 59.541 | 0.096 |
| 31 | 100 | 0.003 | 1.331 | 0.228 |
| | 4500 | 0.138 | 59.480 | 0.094 |
| 32 | 100 | 0.028 | 10.388 | 0.244 |
| | 4500 | 0.176 | 64.777 | 0.096 |
| 33 | 100 | 0.022 | 8.299 | 0.245 |
| | 4500 | 0.172 | 64.214 | 0.096 |
| 34 | 100 | 0.027 | 9.758 | 0.246 |
| | 4500 | 0.177 | 64.854 | 0.096 |
| 35 | 100 | 0.034 | 11.840 | 0.254 |
| | 4500 | 0.196 | 68.003 | 0.092 |
| 36 | 100 | 0.034 | 11.463 | 0.259 |
| | 4500 | 0.196 | 67.041 | 0.097 |
| 37 | 100 | 0.025 | 8.141 | 0.279 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 4500 | 0.193 | 63.473 | 0.111 |
| 38 | 100 | 0.074 | 15.886 | 0.390 |
| | 4500 | 0.333 | 71.872 | 0.130 |
| 39 | 100 | 0.072 | 15.527 | 0.389 |
| | 4500 | 0.331 | 71.842 | 0.130 |
| 40 | 100 | 0.037 | 9.706 | 0.348 |
| | 4500 | 0.265 | 68.812 | 0.120 |
| 41 | 100 | 0.019 | 5.695 | 0.308 |
| | 4500 | 0.220 | 67.482 | 0.106 |
| 42 | 100 | 0.008 | 3.004 | 0.273 |
| | 4500 | 0.185 | 65.660 | 0.097 |
| 43 | 100 | 0.004 | 1.371 | 0.252 |
| | 4500 | 0.163 | 63.977 | 0.092 |

## 5 Warnings and errors

List of non-fatal warnings and errors generated during calculation.

1 Non-uniform load [1]: Co-ordinate (1) lies below surface

2 Non-uniform load [1]: Co-ordinate (5) lies below surface

3 Non-uniform load [3]: Co-ordinate (4) lies below surface

4 Non-uniform load [3]: Co-ordinate (8) lies below surface

5 Non-uniform load [4]: Co-ordinate (1) lies below surface

6 Non-uniform load [4]: Co-ordinate (2) lies below surface

## End of Report

# Report for D-Settlement 21.2

Settlement Calculations
Developed by Deltares




| | |
|---|---|
| Company: | Waalpartners bv |
| Date of report: | 11/24/2022 |
| Time of report: | 1:46:39 PM |
| Report with version: | 21.2.1.34213 |
| Date of calculation: | 11/24/2022 |
| Time of calculation: | 1:45:22 PM |
| Calculated with version: | 21.2.1.34213 |
| File name: | 12.58bkl |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 13 - X - | -22.000 | -13.319 | -11.119 | -9.409 | -8.340 |
| 13 - Y - | -0.252 | -0.406 | -0.403 | -0.343 | -0.260 |
| 13 - X - | -7.876 | -6.091 | -5.975 | -5.975 | -4.275 |
| 13 - Y - | -0.212 | -0.024 | -0.013 | -0.363 | -0.325 |
| 13 - X - | -3.319 | -0.530 | -0.530 | -0.291 | -0.089 |
| 13 - Y - | -0.285 | -0.325 | 0.025 | 0.050 | 0.026 |
| 13 - X - | 0.427 | 0.883 | 0.978 | 0.994 | 2.021 |
| 13 - Y - | -0.145 | -0.329 | -1.000 | -1.115 | -1.503 |
| 13 - X - | 2.497 | 3.627 | 5.000 | | |
| 13 - Y - | -1.809 | -2.025 | -2.076 | | |
| 12 - X - | -22.000 | 0.978 | 0.994 | 2.021 | 2.497 |
| 12 - Y - | -1.000 | -1.000 | -1.115 | -1.503 | -1.809 |
| 12 - X - | 3.627 | 5.000 | | | |
| 12 - Y - | -2.025 | -2.076 | | | |
| 11 - X - | -22.000 | 5.000 | | | |
| 11 - Y - | -2.500 | -2.500 | | | |
| 10 - X - | -22.000 | 5.000 | | | |
| 10 - Y - | -3.400 | -3.400 | | | |
| 9 - X - | -22.000 | 5.000 | | | |
| 9 - Y - | -4.000 | -4.000 | | | |
| 8 - X - | -22.000 | 5.000 | | | |
| 8 - Y - | -5.000 | -5.000 | | | |
| 7 - X - | -22.000 | 5.000 | | | |
| 7 - Y - | -5.700 | -5.700 | | | |
| 6 - X - | -22.000 | 5.000 | | | |
| 6 - Y - | -6.700 | -6.700 | | | |
| 5 - X - | -22.000 | 5.000 | | | |
| 5 - Y - | -7.400 | -7.400 | | | |
| 4 - X - | -22.000 | 5.000 | | | |
| 4 - Y - | -8.800 | -8.800 | | | |
| 3 - X - | -22.000 | 5.000 | | | |
| 3 - Y - | -11.600 | -11.600 | | | |
| 2 - X - | -22.000 | 5.000 | | | |
| 2 - Y - | -14.600 | -14.600 | | | |
| 1 - X - | -22.000 | 5.000 | | | |
| 1 - Y - | -17.000 | -17.000 | | | |
| 0 - X - | -22.000 | 5.000 | | | |
| 0 - Y - | -18.400 | -18.400 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -22.000 | -9.000 | 0.000 | 5.000 | |
| 1 - Y - | -1.950 | -1.950 | -0.430 | -0.430 | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | |
| - Loads: | None |
| End of consolidation: | 10000.00 [days] |
| No maintain profile | |
| Pc (initial): | Variable parallel to the initial effective stress |
| Pc (per step): | Automatic increased to the final effective stresses |

Creep rate reference time: 1.000 [days]
No imaginary surface
With submerging
(only for non uniform loads)
- Iteration stop criterium : 0.10 [m]
Load column width
- Non-Uniform Loads : 1.00 [m]
- Trapeziform Loads : 1.00 [m]

## 2.4 Soil Profiles

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 13 | Dijksmateriaal | 1 | 1 |
| 12 | Klei Hum DK | 1 | 1 |
| 11 | Hollandveen | 1 | 1 |
| 10 | klei Silt DK | 1 | 1 |
| 9 | Klei zand DK | 1 | 1 |
| 8 | klei Silt DK | 1 | 1 |
| 7 | Klei Hum DK | 1 | 1 |
| 6 | klei Silt DK | 1 | 1 |
| 5 | Hollandveen | 1 | 1 |
| 4 | Klei CA | 1 | 1 |
| 3 | Klei zand CA | 1 | 1 |
| 2 | Klei CA | 1 | 1 |
| 1 | Klei zand CA | 1 | 1 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 13 | No | 16.00 | 16.00 |
| 12 | No | 13.50 | 13.50 |
| 11 | No | 10.50 | 10.50 |
| 10 | No | 15.10 | 15.10 |
| 9 | No | 17.00 | 17.00 |
| 8 | No | 15.10 | 15.10 |
| 7 | No | 13.50 | 13.50 |
| 6 | No | 15.10 | 15.10 |
| 5 | No | 10.50 | 10.50 |
| 4 | No | 15.90 | 15.90 |
| 3 | No | 17.00 | 17.00 |
| 2 | No | 15.90 | 15.90 |
| 1 | No | 17.00 | 17.00 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|---|---|
| 13 | Vert. cons. | 1.00E-08 | - | - | - |
| 12 | Vert. cons. | 2.07E-08 | - | - | - |
| 11 | Vert. cons. | 2.37E-08 | - | - | - |
| 10 | Vert. cons. | 2.54E-08 | - | - | - |
| 9 | Vert. cons. | 1.00E-07 | - | - | - |
| 8 | Vert. cons. | 2.54E-08 | - | - | - |
| 7 | Vert. cons. | 2.07E-08 | - | - | - |
| 6 | Vert. cons. | 2.54E-08 | - | - | - |
| 5 | Vert. cons. | 2.37E-08 | - | - | - |
| 4 | Vert. cons. | 6.02E-07 | - | - | - |
| 3 | Vert. cons. | 1.00E-07 | - | - | - |
| 2 | Vert. cons. | 6.02E-07 | - | - | - |
| 1 | Vert. cons. | 1.00E-07 | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 13 | - | 1.50 | - |
| 12 | - | 1.50 | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 11 | - | 1.80 | - |
| 10 | - | 1.50 | - |
| 9 | - | 1.39 | - |
| 8 | - | 1.50 | - |
| 7 | - | 1.50 | - |
| 6 | - | 1.50 | - |
| 5 | - | 1.80 | - |
| 4 | - | 1.50 | - |
| 3 | - | 1.39 | - |
| 2 | - | 1.50 | - |
| 1 | - | 1.39 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 13 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 12 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 11 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 10 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 9 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 8 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 7 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 6 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 5 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 4 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 3 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 2 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 1 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time [days] | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 1 | -1 | 19.00 | 19.00 |
| 2 | -1 | 24.00 | 24.00 |
| 3 | 2 | 16.00 | 16.00 |
| 4 | 3 | 18.00 | 20.00 |
| 5 | 4 | 19.00 | 19.00 |
| 6 | 5 | 25.00 | 25.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -5.97 | -0.53 | | | | |
| 1 - Y - | -0.29 | -0.24 | | | | |
| 2 - X - | -5.97 | -5.28 | -5.13 | -4.38 | -3.32 | -2.61 |
| 2 - Y - | -0.01 | 0.01 | 0.01 | 0.04 | 0.07 | 0.06 |
| 2 - X - | -1.55 | -1.11 | -0.53 | | | |
| 2 - Y - | 0.05 | 0.04 | 0.03 | | | |
| 3 - X - | -9.88 | -7.06 | -5.97 | -5.97 | -4.76 | -3.32 |
| 3 - Y - | -0.36 | 0.32 | 0.33 | -0.36 | -0.37 | -0.28 |
| 3 - X - | -2.44 | -0.53 | -0.53 | -0.22 | 0.71 | 0.88 |
| 3 - Y - | -0.29 | -0.33 | 0.33 | 0.32 | 0.27 | -0.33 |
| 4 - X - | -5.97 | -0.53 | | | | |
| 4 - Y - | -0.07 | -0.07 | | | | |
| 5 - X - | -5.97 | -0.53 | | | | |
| 5 - Y - | 0.13 | 0.13 | | | | |
| 6 - X - | -5.97 | -4.77 | -3.32 | -1.87 | -0.53 | |
| 6 - Y - | 0.33 | 0.36 | 0.40 | 0.36 | 0.33 | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -22.000 | -13.319 | -11.119 | -9.873 | -9.409 |
| 6 - 10 | -9.000 | -8.340 | -7.876 | -7.058 | -7.034 |
| 11 - 15 | -6.933 | -6.823 | -6.700 | -6.563 | -6.419 |

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 16 - 20 | -6.091 | -5.975 | -5.276 | -5.134 | -4.770 |
| 21 - 25 | -4.757 | -4.375 | -4.275 | -3.319 | -2.609 |
| 26 - 30 | -2.441 | -1.868 | -1.546 | -1.106 | -0.530 |
| 31 - 35 | -0.291 | -0.219 | -0.089 | 0.000 | 0.427 |
| 36 - 40 | 0.708 | 0.883 | 0.978 | 0.994 | 2.021 |
| 41 - 43 | 2.497 | 3.627 | 5.000 | | |

# 3 Results per Vertical

## 3.1 Results for Vertical 17 (X = -5.97 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.363 | 17.453 | -0.363 | 7.773 | 0.248 |
| -0.463 | 18.271 | -0.435 | 7.266 | 0.243 |
| -0.563 | 19.261 | -0.506 | 6.940 | 0.238 |
| -0.663 | 20.371 | -0.575 | 6.744 | 0.234 |
| -0.681 | 20.585 | -0.588 | 6.717 | 0.233 |
| -0.763 | 21.546 | -0.644 | 6.623 | 0.230 |
| -0.863 | 22.752 | -0.711 | 6.546 | 0.227 |
| -0.963 | 23.973 | -0.777 | 6.496 | 0.225 |
| -1.000 | 24.426 | -0.801 | 6.482 | 0.224 |
| -1.000 | 24.426 | -0.801 | 6.482 | 0.224 |
| -1.063 | 25.159 | -0.854 | 6.461 | 0.221 |
| -1.163 | 26.326 | -0.937 | 6.437 | 0.216 |
| -1.263 | 27.494 | -1.020 | 6.417 | 0.212 |
| -1.363 | 27.693 | -1.103 | 5.432 | 0.208 |
| -1.439 | 27.835 | -1.166 | 4.672 | 0.205 |
| -1.750 | 28.413 | -1.113 | 4.614 | 0.195 |
| -2.500 | 29.795 | -0.995 | 4.397 | 0.174 |
| -2.500 | 29.795 | -0.995 | 4.397 | 0.174 |
| -2.950 | 29.563 | -0.960 | 4.228 | 0.154 |
| -3.400 | 29.382 | -0.932 | 4.045 | 0.137 |
| -3.400 | 29.382 | -0.932 | 4.045 | 0.137 |
| -3.700 | 30.559 | -0.907 | 3.920 | 0.132 |
| -4.000 | 31.747 | -0.883 | 3.795 | 0.127 |
| -4.000 | 31.747 | -0.883 | 3.795 | 0.127 |
| -4.500 | 34.941 | -0.871 | 3.590 | 0.126 |
| -5.000 | 38.125 | -0.858 | 3.390 | 0.126 |
| -5.000 | 38.125 | -0.858 | 3.390 | 0.126 |
| -5.350 | 39.509 | -0.831 | 3.255 | 0.121 |
| -5.700 | 40.927 | -0.807 | 3.125 | 0.116 |
| -5.700 | 40.927 | -0.807 | 3.125 | 0.116 |
| -6.200 | 42.231 | -0.781 | 2.946 | 0.108 |
| -6.700 | 43.644 | -0.765 | 2.775 | 0.100 |
| -6.700 | 43.644 | -0.765 | 2.775 | 0.100 |
| -7.050 | 45.256 | -0.760 | 2.661 | 0.096 |
| -7.400 | 46.917 | -0.759 | 2.551 | 0.091 |
| -7.400 | 46.917 | -0.759 | 2.551 | 0.091 |
| -8.100 | 47.189 | -0.774 | 2.343 | 0.070 |
| -8.800 | 47.733 | -0.815 | 2.150 | 0.049 |
| -8.800 | 47.733 | -0.815 | 2.150 | 0.049 |
| -9.500 | 51.718 | -0.818 | 1.970 | 0.046 |
| -10.200 | 55.730 | -0.823 | 1.804 | 0.043 |
| -10.900 | 59.769 | -0.828 | 1.649 | 0.040 |
| -11.600 | 63.835 | -0.835 | 1.505 | 0.037 |
| -11.600 | 63.835 | -0.835 | 1.505 | 0.037 |
| -12.400 | 69.959 | -0.900 | 1.353 | 0.036 |
| -13.100 | 75.406 | -0.965 | 1.229 | 0.034 |
| -13.800 | 80.941 | -1.038 | 1.114 | 0.032 |
| -14.600 | 87.379 | -1.130 | 0.992 | 0.029 |
| -14.600 | 87.379 | -1.130 | 0.992 | 0.029 |
| -15.200 | 90.973 | -1.140 | 0.906 | 0.024 |
| -15.800 | 94.584 | -1.150 | 0.825 | 0.018 |
| -16.400 | 98.212 | -1.162 | 0.748 | 0.013 |
| -17.000 | 101.858 | -1.174 | 0.676 | 0.007 |
| -17.000 | 101.858 | -1.174 | 0.676 | 0.007 |
| -17.700 | 107.993 | -1.301 | 0.596 | 0.004 |
| -18.400 | 114.246 | -1.439 | 0.521 | 0.000 |

### 3.2 Results for Vertical 24 (X = -3.32 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.285 | 14.121 | -0.285 | 6.014 | 0.245 |
| -0.385 | 15.827 | -0.361 | 6.113 | 0.240 |
| -0.485 | 17.161 | -0.436 | 6.097 | 0.235 |
| -0.585 | 18.474 | -0.509 | 6.076 | 0.231 |
| -0.642 | 19.219 | -0.550 | 6.062 | 0.229 |
| -0.685 | 19.766 | -0.580 | 6.052 | 0.228 |
| -0.785 | 21.042 | -0.650 | 6.026 | 0.225 |
| -0.885 | 21.486 | -0.719 | 5.183 | 0.222 |
| -0.985 | 21.760 | -0.787 | 4.178 | 0.220 |
| -0.991 | 21.775 | -0.790 | 4.123 | 0.220 |
| -1.000 | 21.801 | -0.787 | 4.120 | 0.220 |
| -1.000 | 21.801 | -0.787 | 4.120 | 0.220 |
| -1.085 | 21.965 | -0.775 | 4.102 | 0.217 |
| -1.185 | 22.157 | -0.760 | 4.082 | 0.213 |
| -1.285 | 22.349 | -0.746 | 4.064 | 0.210 |
| -1.750 | 23.219 | -0.680 | 3.996 | 0.194 |
| -2.500 | 24.495 | -0.582 | 3.888 | 0.174 |
| -2.500 | 24.495 | -0.582 | 3.888 | 0.174 |
| -2.950 | 24.095 | -0.553 | 3.810 | 0.155 |
| -3.400 | 23.716 | -0.530 | 3.719 | 0.138 |
| -3.400 | 23.716 | -0.530 | 3.719 | 0.138 |
| -3.700 | 24.771 | -0.509 | 3.650 | 0.133 |
| -4.000 | 25.834 | -0.490 | 3.575 | 0.128 |
| -4.000 | 25.834 | -0.490 | 3.575 | 0.128 |
| -4.500 | 28.783 | -0.479 | 3.440 | 0.127 |
| -5.000 | 31.742 | -0.469 | 3.294 | 0.127 |
| -5.000 | 31.742 | -0.469 | 3.294 | 0.127 |
| -5.350 | 33.008 | -0.446 | 3.187 | 0.122 |
| -5.700 | 34.313 | -0.426 | 3.078 | 0.117 |
| -5.700 | 34.313 | -0.426 | 3.078 | 0.117 |
| -6.200 | 35.464 | -0.403 | 2.921 | 0.108 |
| -6.700 | 36.730 | -0.389 | 2.763 | 0.100 |
| -6.700 | 36.730 | -0.389 | 2.763 | 0.100 |
| -7.050 | 38.243 | -0.384 | 2.654 | 0.096 |
| -7.400 | 39.806 | -0.384 | 2.546 | 0.092 |
| -7.400 | 39.806 | -0.384 | 2.546 | 0.092 |
| -8.100 | 39.887 | -0.396 | 2.337 | 0.070 |
| -8.800 | 40.230 | -0.429 | 2.139 | 0.049 |
| -8.800 | 40.230 | -0.429 | 2.139 | 0.049 |
| -9.500 | 44.096 | -0.433 | 1.951 | 0.046 |
| -10.200 | 48.009 | -0.437 | 1.776 | 0.044 |
| -10.900 | 51.963 | -0.441 | 1.612 | 0.041 |
| -11.600 | 55.956 | -0.447 | 1.459 | 0.037 |
| -11.600 | 55.956 | -0.447 | 1.459 | 0.037 |
| -12.400 | 61.939 | -0.504 | 1.297 | 0.036 |
| -13.100 | 67.268 | -0.562 | 1.166 | 0.034 |
| -13.800 | 72.687 | -0.626 | 1.043 | 0.032 |
| -14.600 | 78.994 | -0.709 | 0.914 | 0.029 |
| -14.600 | 78.994 | -0.709 | 0.914 | 0.029 |
| -15.200 | 82.555 | -0.717 | 0.823 | 0.024 |
| -15.800 | 86.136 | -0.727 | 0.738 | 0.018 |
| -16.400 | 89.735 | -0.737 | 0.657 | 0.013 |
| -17.000 | 93.354 | -0.748 | 0.581 | 0.007 |
| -17.000 | 93.354 | -0.748 | 0.581 | 0.007 |
| -17.700 | 99.362 | -0.864 | 0.497 | 0.004 |
| -18.400 | 105.485 | -0.991 | 0.419 | 0.000 |

### 3.3 Results for Vertical 30 (X = -0.53 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.325 | 16.331 | -0.325 | 6.675 | 0.232 |
| -0.425 | 16.529 | -0.400 | 5.520 | 0.227 |
| -0.520 | 16.662 | -0.470 | 4.379 | 0.223 |
| -0.525 | 16.670 | -0.469 | 4.367 | 0.223 |
| -0.625 | 16.847 | -0.443 | 4.177 | 0.220 |
| -0.662 | 16.926 | -0.433 | 4.117 | 0.219 |
| -0.725 | 17.071 | -0.417 | 4.031 | 0.217 |
| -0.825 | 17.331 | -0.391 | 3.921 | 0.215 |
| -0.925 | 17.615 | -0.366 | 3.835 | 0.213 |
| -1.000 | 17.838 | -0.346 | 3.781 | 0.211 |
| -1.000 | 17.838 | -0.346 | 3.781 | 0.211 |
| -1.025 | 17.885 | -0.343 | 3.765 | 0.210 |
| -1.125 | 18.080 | -0.331 | 3.704 | 0.206 |
| -1.225 | 18.281 | -0.320 | 3.648 | 0.203 |
| -1.325 | 18.484 | -0.308 | 3.594 | 0.199 |
| -1.750 | 19.355 | -0.259 | 3.371 | 0.185 |
| -2.500 | 20.918 | -0.177 | 2.980 | 0.165 |
| -2.500 | 20.918 | -0.177 | 2.980 | 0.165 |
| -2.950 | 20.750 | -0.152 | 2.772 | 0.147 |
| -3.400 | 20.649 | -0.132 | 2.591 | 0.131 |
| -3.400 | 20.649 | -0.132 | 2.591 | 0.131 |
| -3.700 | 21.912 | -0.114 | 2.483 | 0.127 |
| -4.000 | 23.186 | -0.095 | 2.385 | 0.123 |
| -4.000 | 23.186 | -0.095 | 2.385 | 0.123 |
| -4.500 | 26.468 | -0.086 | 2.240 | 0.123 |
| -5.000 | 29.748 | -0.075 | 2.111 | 0.122 |
| -5.000 | 29.748 | -0.075 | 2.111 | 0.122 |
| -5.350 | 31.223 | -0.052 | 2.029 | 0.118 |
| -5.700 | 32.720 | -0.031 | 1.952 | 0.113 |
| -5.700 | 32.720 | -0.031 | 1.952 | 0.113 |
| -6.200 | 34.113 | -0.005 | 1.848 | 0.105 |
| -6.700 | 35.586 | 0.012 | 1.751 | 0.098 |
| -6.700 | 35.586 | 0.012 | 1.751 | 0.098 |
| -7.050 | 37.221 | 0.020 | 1.686 | 0.094 |
| -7.400 | 38.891 | 0.025 | 1.622 | 0.090 |
| -7.400 | 38.891 | 0.025 | 1.622 | 0.090 |
| -8.100 | 39.175 | 0.018 | 1.501 | 0.069 |
| -8.800 | 39.672 | -0.010 | 1.385 | 0.048 |
| -8.800 | 39.672 | -0.010 | 1.385 | 0.048 |
| -9.500 | 43.716 | -0.013 | 1.273 | 0.046 |
| -10.200 | 47.777 | -0.016 | 1.167 | 0.043 |
| -10.900 | 51.857 | -0.020 | 1.064 | 0.040 |
| -11.600 | 55.955 | -0.025 | 0.966 | 0.037 |
| -11.600 | 55.955 | -0.025 | 0.966 | 0.037 |
| -12.400 | 61.984 | -0.076 | 0.859 | 0.036 |
| -13.100 | 67.334 | -0.128 | 0.769 | 0.034 |
| -13.800 | 72.758 | -0.185 | 0.684 | 0.032 |
| -14.600 | 79.052 | -0.260 | 0.591 | 0.029 |
| -14.600 | 79.052 | -0.260 | 0.591 | 0.029 |
| -15.200 | 82.648 | -0.268 | 0.525 | 0.024 |
| -15.800 | 86.258 | -0.277 | 0.461 | 0.018 |
| -16.400 | 89.883 | -0.286 | 0.400 | 0.013 |
| -17.000 | 93.522 | -0.296 | 0.341 | 0.007 |
| -17.000 | 93.522 | -0.296 | 0.341 | 0.007 |
| -17.700 | 99.471 | -0.403 | 0.276 | 0.004 |
| -18.400 | 105.525 | -0.520 | 0.214 | 0.000 |

### 3.4 Results for Vertical 34 (X = 0.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.004 | 4.820 | -0.004 | 4.819 | 0.277 |
| -0.103 | 7.009 | -0.094 | 5.499 | 0.257 |
| -0.203 | 8.325 | -0.183 | 5.329 | 0.245 |
| -0.303 | 8.940 | -0.269 | 4.476 | 0.237 |
| -0.403 | 9.460 | -0.355 | 3.531 | 0.232 |
| -0.430 | 9.622 | -0.377 | 3.302 | 0.231 |
| -0.502 | 10.094 | -0.366 | 3.405 | 0.228 |
| -0.503 | 10.106 | -0.366 | 3.408 | 0.228 |
| -0.603 | 10.806 | -0.349 | 3.550 | 0.224 |
| -0.703 | 11.511 | -0.332 | 3.650 | 0.220 |
| -0.803 | 12.194 | -0.314 | 3.698 | 0.217 |
| -0.903 | 12.841 | -0.295 | 3.700 | 0.215 |
| -1.000 | 13.426 | -0.276 | 3.667 | 0.212 |
| -1.000 | 13.427 | -0.276 | 3.667 | 0.212 |
| -1.003 | 13.442 | -0.276 | 3.666 | 0.212 |
| -1.750 | 16.060 | -0.206 | 3.035 | 0.184 |
| -2.500 | 18.171 | -0.135 | 2.491 | 0.164 |
| -2.500 | 18.171 | -0.135 | 2.491 | 0.164 |
| -2.950 | 18.230 | -0.113 | 2.260 | 0.146 |
| -3.400 | 18.317 | -0.095 | 2.081 | 0.131 |
| -3.400 | 18.317 | -0.095 | 2.081 | 0.131 |
| -3.700 | 19.693 | -0.077 | 1.982 | 0.127 |
| -4.000 | 21.067 | -0.060 | 1.896 | 0.123 |
| -4.000 | 21.067 | -0.060 | 1.896 | 0.123 |
| -4.500 | 24.487 | -0.050 | 1.773 | 0.123 |
| -5.000 | 27.886 | -0.040 | 1.670 | 0.122 |
| -5.000 | 27.886 | -0.040 | 1.670 | 0.122 |
| -5.350 | 29.433 | -0.016 | 1.605 | 0.118 |
| -5.700 | 30.991 | 0.006 | 1.545 | 0.113 |
| -5.700 | 30.991 | 0.006 | 1.545 | 0.113 |
| -6.200 | 32.456 | 0.033 | 1.465 | 0.105 |
| -6.700 | 33.982 | 0.053 | 1.390 | 0.098 |
| -6.700 | 33.982 | 0.053 | 1.390 | 0.098 |
| -7.050 | 35.646 | 0.063 | 1.340 | 0.094 |
| -7.400 | 37.337 | 0.070 | 1.291 | 0.090 |
| -7.400 | 37.337 | 0.070 | 1.291 | 0.090 |
| -8.100 | 37.665 | 0.066 | 1.197 | 0.069 |
| -8.800 | 38.184 | 0.043 | 1.105 | 0.048 |
| -8.800 | 38.184 | 0.043 | 1.105 | 0.048 |
| -9.500 | 42.281 | 0.041 | 1.015 | 0.046 |
| -10.200 | 46.387 | 0.038 | 0.927 | 0.043 |
| -10.900 | 50.504 | 0.034 | 0.842 | 0.041 |
| -11.600 | 54.633 | 0.030 | 0.759 | 0.037 |
| -11.600 | 54.633 | 0.030 | 0.759 | 0.037 |
| -12.400 | 60.652 | -0.017 | 0.667 | 0.036 |
| -13.100 | 65.985 | -0.064 | 0.590 | 0.034 |
| -13.800 | 71.386 | -0.118 | 0.515 | 0.032 |
| -14.600 | 77.645 | -0.187 | 0.432 | 0.029 |
| -14.600 | 77.645 | -0.187 | 0.432 | 0.029 |
| -15.200 | 81.249 | -0.194 | 0.373 | 0.024 |
| -15.800 | 84.866 | -0.202 | 0.316 | 0.018 |
| -16.400 | 88.496 | -0.211 | 0.260 | 0.013 |
| -17.000 | 92.139 | -0.221 | 0.207 | 0.007 |
| -17.000 | 92.139 | -0.221 | 0.207 | 0.007 |
| -17.700 | 98.034 | -0.321 | 0.147 | 0.004 |
| -18.400 | 104.028 | -0.430 | 0.089 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -22.00 | 0.00 | -0.25 | 0.164 |
| 2 | -13.32 | 0.00 | -0.41 | 0.176 |
| 3 | -11.12 | 0.00 | -0.40 | 0.187 |
| 4 | -9.87 | 0.00 | -0.36 | 0.211 |
| 5 | -9.41 | 0.00 | -0.34 | 0.235 |
| 6 | -9.00 | 0.00 | -0.31 | 0.255 |
| 7 | -8.34 | 0.00 | -0.26 | 0.278 |
| 8 | -7.88 | 0.00 | -0.21 | 0.290 |
| 9 | -7.06 | 0.00 | -0.13 | 0.302 |
| 10 | -7.03 | 0.00 | -0.12 | 0.302 |
| 11 | -6.93 | 0.00 | -0.11 | 0.302 |
| 12 | -6.82 | 0.00 | -0.10 | 0.302 |
| 13 | -6.70 | 0.00 | -0.09 | 0.302 |
| 14 | -6.56 | 0.00 | -0.07 | 0.301 |
| 15 | -6.42 | 0.00 | -0.06 | 0.299 |
| 16 | -6.09 | 0.00 | -0.02 | 0.296 |
| 17 | -5.97 | 0.00 | -0.36 | 0.248 |
| 18 | -5.28 | 0.00 | -0.35 | 0.253 |
| 19 | -5.13 | 0.00 | -0.34 | 0.253 |
| 20 | -4.77 | 0.00 | -0.34 | 0.252 |
| 21 | -4.76 | 0.00 | -0.34 | 0.252 |
| 22 | -4.38 | 0.00 | -0.33 | 0.251 |
| 23 | -4.28 | 0.00 | -0.33 | 0.250 |
| 24 | -3.32 | 0.00 | -0.29 | 0.245 |
| 25 | -2.61 | 0.00 | -0.30 | 0.243 |
| 26 | -2.44 | 0.00 | -0.30 | 0.242 |
| 27 | -1.87 | 0.00 | -0.31 | 0.240 |
| 28 | -1.55 | 0.00 | -0.31 | 0.239 |
| 29 | -1.11 | 0.00 | -0.32 | 0.240 |
| 30 | -0.53 | 0.00 | -0.33 | 0.232 |
| 31 | -0.29 | 0.00 | 0.05 | 0.276 |
| 32 | -0.22 | 0.00 | 0.04 | 0.271 |
| 33 | -0.09 | 0.00 | 0.03 | 0.272 |
| 34 | 0.00 | 0.00 | 0.00 | 0.277 |
| 35 | 0.43 | 0.00 | -0.14 | 0.282 |
| 36 | 0.71 | 0.00 | -0.26 | 0.284 |
| 37 | 0.88 | 0.00 | -0.33 | 0.293 |
| 38 | 0.98 | 0.00 | -1.00 | 0.454 |
| 39 | 0.99 | 0.00 | -1.11 | 0.450 |
| 40 | 2.02 | 0.00 | -1.50 | 0.362 |
| 41 | 2.50 | 0.00 | -1.81 | 0.340 |
| 42 | 3.63 | 0.00 | -2.02 | 0.288 |
| 43 | 5.00 | 0.00 | -2.08 | 0.248 |

## 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 100 | -0.006 | -3.378 | 0.169 |
| | 4500 | 0.087 | 52.871 | 0.077 |
| 2 | 100 | -0.005 | -2.806 | 0.181 |
| | 4500 | 0.096 | 54.488 | 0.080 |
| 3 | 100 | -0.005 | -2.462 | 0.192 |
| | 4500 | 0.103 | 55.095 | 0.084 |
| 4 | 100 | -0.001 | -0.400 | 0.212 |
| | 4500 | 0.121 | 57.322 | 0.090 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 5 | 100 | 0.009 | 3.648 | 0.226 |
| | 4500 | 0.141 | 60.244 | 0.093 |
| 6 | 100 | 0.017 | 6.710 | 0.238 |
| | 4500 | 0.159 | 62.310 | 0.096 |
| 7 | 100 | 0.024 | 8.782 | 0.253 |
| | 4500 | 0.178 | 64.059 | 0.100 |
| 8 | 100 | 0.029 | 10.150 | 0.261 |
| | 4500 | 0.188 | 64.896 | 0.102 |
| 9 | 100 | 0.033 | 11.081 | 0.269 |
| | 4500 | 0.197 | 65.346 | 0.105 |
| 10 | 100 | 0.033 | 10.993 | 0.269 |
| | 4500 | 0.197 | 65.314 | 0.105 |
| 11 | 100 | 0.033 | 11.055 | 0.269 |
| | 4500 | 0.197 | 65.309 | 0.105 |
| 12 | 100 | 0.033 | 11.038 | 0.269 |
| | 4500 | 0.197 | 65.253 | 0.105 |
| 13 | 100 | 0.033 | 10.952 | 0.269 |
| | 4500 | 0.197 | 65.151 | 0.105 |
| 14 | 100 | 0.033 | 10.830 | 0.268 |
| | 4500 | 0.195 | 65.025 | 0.105 |
| 15 | 100 | 0.032 | 10.634 | 0.267 |
| | 4500 | 0.194 | 64.834 | 0.105 |
| 16 | 100 | 0.036 | 12.067 | 0.261 |
| | 4500 | 0.192 | 64.756 | 0.104 |
| 17 | 100 | 0.004 | 1.630 | 0.244 |
| | 4500 | 0.146 | 58.864 | 0.102 |
| 18 | 100 | 0.003 | 1.142 | 0.250 |
| | 4500 | 0.150 | 59.075 | 0.104 |
| 19 | 100 | 0.003 | 1.256 | 0.250 |
| | 4500 | 0.150 | 59.100 | 0.103 |
| 20 | 100 | 0.003 | 1.357 | 0.249 |
| | 4500 | 0.149 | 59.099 | 0.103 |
| 21 | 100 | 0.003 | 1.353 | 0.249 |
| | 4500 | 0.149 | 59.098 | 0.103 |
| 22 | 100 | 0.003 | 1.296 | 0.247 |
| | 4500 | 0.148 | 58.981 | 0.103 |
| 23 | 100 | 0.003 | 1.381 | 0.247 |
| | 4500 | 0.148 | 58.983 | 0.103 |
| 24 | 100 | 0.004 | 1.502 | 0.242 |
| | 4500 | 0.144 | 58.728 | 0.101 |
| 25 | 100 | 0.003 | 1.314 | 0.240 |
| | 4500 | 0.142 | 58.662 | 0.100 |
| 26 | 100 | 0.003 | 1.321 | 0.239 |
| | 4500 | 0.142 | 58.691 | 0.100 |
| 27 | 100 | 0.003 | 1.158 | 0.237 |
| | 4500 | 0.141 | 58.696 | 0.099 |
| 28 | 100 | 0.003 | 1.111 | 0.237 |
| | 4500 | 0.141 | 58.754 | 0.099 |
| 29 | 100 | 0.003 | 1.060 | 0.237 |
| | 4500 | 0.142 | 59.036 | 0.098 |
| 30 | 100 | 0.003 | 1.277 | 0.229 |
| | 4500 | 0.137 | 58.889 | 0.095 |
| 31 | 100 | 0.030 | 10.996 | 0.246 |
| | 4500 | 0.179 | 64.812 | 0.097 |
| 32 | 100 | 0.024 | 9.035 | 0.246 |
| | 4500 | 0.174 | 64.211 | 0.097 |
| 33 | 100 | 0.025 | 9.308 | 0.247 |
| | 4500 | 0.176 | 64.553 | 0.097 |
| 34 | 100 | 0.029 | 10.305 | 0.248 |
| | 4500 | 0.180 | 65.218 | 0.096 |
| 35 | 100 | 0.033 | 11.650 | 0.249 |
| | 4500 | 0.188 | 66.783 | 0.094 |
| 36 | 100 | 0.031 | 11.029 | 0.253 |
| | 4500 | 0.187 | 65.906 | 0.097 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 37 | 100 | 0.022 | 7.576 | 0.271 |
| | 4500 | 0.182 | 62.123 | 0.111 |
| 38 | 100 | 0.071 | 15.660 | 0.383 |
| | 4500 | 0.325 | 71.528 | 0.129 |
| 39 | 100 | 0.068 | 15.103 | 0.382 |
| | 4500 | 0.322 | 71.487 | 0.128 |
| 40 | 100 | 0.032 | 8.919 | 0.330 |
| | 4500 | 0.248 | 68.496 | 0.114 |
| 41 | 100 | 0.026 | 7.512 | 0.315 |
| | 4500 | 0.233 | 68.326 | 0.108 |
| 42 | 100 | 0.012 | 4.164 | 0.276 |
| | 4500 | 0.189 | 65.563 | 0.099 |
| 43 | 100 | 0.003 | 1.311 | 0.245 |
| | 4500 | 0.155 | 62.440 | 0.093 |

## 5 Warnings and errors

List of non-fatal warnings and errors generated during calculation.

1 Non-uniform load [1]: Co-ordinate (1) lies below surface

2 Non-uniform load [1]: Co-ordinate (2) lies below surface

3 Non-uniform load [3]: Co-ordinate (4) lies below surface

4 Non-uniform load [3]: Co-ordinate (5) lies below surface

5 Non-uniform load [3]: Co-ordinate (8) lies below surface

6 Non-uniform load [4]: Co-ordinate (1) lies below surface

7 Non-uniform load [4]: Co-ordinate (2) lies below surface

## End of Report

# Report for D-Settlement 21.2

Settlement Calculations
Developed by Deltares




| | |
|---|---|
| Company: | Waalpartners bv |
| Date of report: | 11/24/2022 |
| Time of report: | 1:50:39 PM |
| Report with version: | 21.2.1.34213 |
| Date of calculation: | 11/24/2022 |
| Time of calculation: | 1:49:48 PM |
| Calculated with version: | 21.2.1.34213 |
| File name: | 12.8 |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 9 - X - | -22.000 | -13.454 | -13.165 | -11.023 | -10.647 |
| 9 - Y - | -1.464 | -1.451 | -1.465 | -1.599 | -1.416 |
| 9 - X - | -9.389 | -7.769 | -7.206 | -6.664 | -6.280 |
| 9 - Y - | -0.800 | -0.007 | 0.284 | 0.276 | 0.295 |
| 9 - X - | -6.280 | -3.454 | -0.620 | -0.620 | -0.288 |
| 9 - Y - | 0.035 | 0.099 | 0.012 | 0.272 | 0.272 |
| 9 - X - | 0.347 | 0.682 | 0.893 | 1.039 | 1.104 |
| 9 - Y - | 0.133 | -0.041 | -0.113 | -0.167 | -0.800 |
| 9 - X - | 1.152 | 2.100 | 3.124 | 3.133 | 4.311 |
| 9 - Y - | -1.263 | -1.540 | -2.000 | -2.004 | -2.073 |
| 9 - X - | 5.000 | | | | |
| 9 - Y - | -2.000 | | | | |
| 8 - X - | -22.000 | -13.454 | -13.165 | -11.023 | -10.647 |
| 8 - Y - | -1.464 | -1.451 | -1.465 | -1.599 | -1.416 |
| 8 - X - | -9.389 | 1.104 | 1.152 | 2.100 | 3.124 |
| 8 - Y - | -0.800 | -0.800 | -1.263 | -1.540 | -2.000 |
| 8 - X - | 3.133 | 4.311 | 5.000 | | |
| 8 - Y - | -2.004 | -2.073 | -2.000 | | |
| 7 - X - | -22.000 | 3.124 | 3.133 | 4.311 | 5.000 |
| 7 - Y - | -2.000 | -2.000 | -2.004 | -2.073 | -2.000 |
| 6 - X - | -22.000 | 5.000 | | | |
| 6 - Y - | -2.400 | -2.400 | | | |
| 5 - X - | -22.000 | 5.000 | | | |
| 5 - Y - | -3.200 | -3.200 | | | |
| 4 - X - | -22.000 | 5.000 | | | |
| 4 - Y - | -8.200 | -8.200 | | | |
| 3 - X - | -22.000 | 5.000 | | | |
| 3 - Y - | -10.800 | -10.800 | | | |
| 2 - X - | -22.000 | 5.000 | | | |
| 2 - Y - | -11.300 | -11.300 | | | |
| 1 - X - | -22.000 | 5.000 | | | |
| 1 - Y - | -15.400 | -15.400 | | | |
| 0 - X - | -22.000 | 5.000 | | | |
| 0 - Y - | -16.300 | -16.300 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -22.000 | -9.000 | 0.000 | 5.000 | |
| 1 - Y - | -2.300 | -2.300 | -0.430 | -0.430 | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | |
| - Loads: | None |
| End of consolidation: | 10000.00 [days] |
| No maintain profile | |
| Pc (initial): | Variable parallel to the initial effective stress |
| Pc (per step): | Automatic increased to the final effective stresses |
| Creep rate reference time: | 1.000 [days] |
| No imaginary surface | |
| With submerging | |
| (only for non uniform loads) | |

- Iteration stop criterium : 0.10 [m]

Load column width

- Non-Uniform Loads : 1.00 [m]
- Trapeziform Loads : 1.00 [m]

## 2.4 Soil Profiles

| Layer number | Material name | PI-line top | PI-line bottom |
|---|---|---|---|
| 9 | Dijksmateriaal | 1 | 1 |
| 8 | Klei Hum DK | 1 | 1 |
| 7 | Hollandveen | 1 | 1 |
| 6 | klei Silt DK | 1 | 1 |
| 5 | Zand CA | 1 | 1 |
| 4 | Klei CA | 1 | 1 |
| 3 | Klei silt CA | 1 | 1 |
| 2 | Klei CA | 1 | 1 |
| 1 | Zand CA | 1 | 1 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 9 | No | 16.00 | 16.00 |
| 8 | No | 13.50 | 13.50 |
| 7 | No | 10.50 | 10.50 |
| 6 | No | 15.10 | 15.10 |
| 5 | Yes | 18.00 | 20.00 |
| 4 | No | 15.90 | 15.90 |
| 3 | No | 15.90 | 15.90 |
| 2 | No | 15.90 | 15.90 |
| 1 | Yes | 18.00 | 20.00 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|---|---|
| 9 | Vert. cons. | 1.00E-08 | - | - | - |
| 8 | Vert. cons. | 2.07E-08 | - | - | - |
| 7 | Vert. cons. | 2.37E-08 | - | - | - |
| 6 | Vert. cons. | 2.54E-08 | - | - | - |
| 5 | Vert. cons. | - | - | - | - |
| 4 | Vert. cons. | 6.02E-07 | - | - | - |
| 3 | Vert. cons. | 9.27E-08 | - | - | - |
| 2 | Vert. cons. | 6.02E-07 | - | - | - |
| 1 | Vert. cons. | - | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 9 | - | 1.50 | - |
| 8 | - | 1.50 | - |
| 7 | - | 1.80 | - |
| 6 | - | 1.50 | - |
| 5 | - | 1.39 | - |
| 4 | - | 1.50 | - |
| 3 | - | 1.50 | - |
| 2 | - | 1.50 | - |
| 1 | - | 1.39 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 9 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 8 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 7 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 6 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 5 | 0.0100000 | 0.1062000 | 0.0033000 | - | - | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 4 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 3 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 2 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 1 | 0.0100000 | 0.1062000 | 0.0033000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time [days] | Unit weight Unsaturated [kN/m³] | Unit weight Saturated [kN/m³] |
|---|---|---|---|
| 1 | -1 | 19.00 | 19.00 |
| 2 | -1 | 24.00 | 24.00 |
| 3 | 2 | 16.00 | 16.00 |
| 4 | 5 | 25.00 | 25.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -6.28 | -5.39 | -3.45 | -2.29 | -0.62 | |
| 1 - Y - | 0.12 | 0.13 | 0.18 | 0.14 | 0.09 | |
| 2 - X - | -6.28 | -6.16 | -5.49 | -5.26 | -4.63 | -3.45 |
| 2 - Y - | 0.29 | 0.31 | 0.33 | 0.33 | 0.34 | 0.36 |
| 2 - X - | -2.67 | -1.65 | -1.05 | -0.62 | | |
| 2 - Y - | 0.33 | 0.31 | 0.28 | 0.27 | | |
| 3 - X - | -11.02 | -7.24 | -6.28 | -6.28 | -5.39 | -3.45 |
| 3 - Y - | -1.60 | 0.32 | 0.33 | 0.04 | 0.05 | 0.10 |
| 3 - X - | -2.29 | -0.62 | -0.62 | -0.30 | 0.80 | 0.86 |
| 3 - Y - | 0.06 | 0.01 | 0.33 | 0.32 | 0.26 | 0.24 |
| 3 - X - | 1.04 | | | | | |
| 3 - Y - | -0.17 | | | | | |
| 4 - X - | -6.28 | -4.96 | -3.45 | -1.95 | -0.62 | |
| 4 - Y - | 0.33 | 0.36 | 0.40 | 0.36 | 0.33 | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -22.000 | -13.454 | -13.165 | -11.023 | -10.647 |
| 6 - 10 | -9.389 | -9.000 | -7.769 | -7.243 | -7.206 |
| 11 - 15 | -7.079 | -6.903 | -6.725 | -6.664 | -6.604 |
| 16 - 20 | -6.280 | -6.213 | -6.210 | -6.155 | -5.487 |
| 21 - 25 | -5.393 | -5.256 | -4.955 | -4.626 | -3.454 |
| 26 - 30 | -2.668 | -2.292 | -1.953 | -1.651 | -1.055 |
| 31 - 35 | -0.620 | -0.304 | -0.288 | 0.000 | 0.347 |
| 36 - 40 | 0.682 | 0.796 | 0.864 | 0.893 | 1.039 |
| 41 - 45 | 1.104 | 1.152 | 2.100 | 3.124 | 3.133 |
| 46 - 48 | 4.295 | 4.311 | 5.000 | | |

# 3 Results per Vertical

## 3.1 Results for Vertical 17 (X = -6.21 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.037 | 7.828 | 0.037 | 2.105 | 0.179 |
| -0.063 | 8.940 | -0.061 | 2.559 | 0.176 |
| -0.163 | 9.518 | -0.159 | 2.160 | 0.172 |
| -0.263 | 10.591 | -0.256 | 1.959 | 0.169 |
| -0.363 | 11.864 | -0.354 | 1.832 | 0.167 |
| -0.382 | 12.108 | -0.371 | 1.813 | 0.167 |
| -0.463 | 13.229 | -0.451 | 1.736 | 0.165 |
| -0.563 | 14.645 | -0.548 | 1.659 | 0.164 |
| -0.663 | 16.093 | -0.645 | 1.595 | 0.162 |
| -0.763 | 17.563 | -0.741 | 1.542 | 0.161 |
| -0.800 | 18.104 | -0.777 | 1.525 | 0.160 |
| -0.800 | 18.105 | -0.777 | 1.525 | 0.160 |
| -0.863 | 18.902 | -0.839 | 1.497 | 0.158 |
| -0.963 | 20.170 | -0.938 | 1.460 | 0.155 |
| -1.400 | 25.810 | -1.370 | 1.348 | 0.141 |
| -1.721 | 28.844 | -1.689 | 0.112 | 0.132 |
| -2.000 | 29.816 | -1.690 | 0.084 | 0.124 |
| -2.000 | 29.816 | -1.690 | 0.084 | 0.124 |
| -2.200 | 29.926 | -1.692 | 0.068 | 0.115 |
| -2.400 | 30.049 | -1.694 | 0.056 | 0.105 |
| -2.400 | 30.049 | -1.694 | 0.056 | 0.105 |
| -2.800 | 32.210 | -1.706 | 0.036 | 0.096 |
| -3.200 | 34.411 | -1.721 | 0.021 | 0.087 |
| -3.200 | 34.411 | -1.721 | 0.021 | 0.087 |
| -4.100 | 43.431 | -1.721 | -0.009 | 0.086 |
| -5.100 | 53.438 | -1.721 | -0.042 | 0.086 |
| -5.700 | 59.436 | -1.721 | -0.065 | 0.085 |
| -6.600 | 68.426 | -1.721 | -0.101 | 0.084 |
| -7.600 | 78.415 | -1.721 | -0.145 | 0.084 |
| -8.200 | 84.411 | -1.721 | -0.173 | 0.083 |
| -8.200 | 84.411 | -1.721 | -0.173 | 0.083 |
| -8.900 | 88.512 | -1.718 | -0.205 | 0.075 |
| -9.500 | 92.035 | -1.716 | -0.232 | 0.069 |
| -10.100 | 95.566 | -1.714 | -0.259 | 0.062 |
| -10.800 | 99.697 | -1.713 | -0.290 | 0.055 |
| -10.800 | 99.697 | -1.713 | -0.290 | 0.055 |
| -11.050 | 101.155 | -1.710 | -0.301 | 0.050 |
| -11.300 | 102.623 | -1.709 | -0.312 | 0.045 |
| -11.300 | 102.623 | -1.709 | -0.312 | 0.045 |
| -11.950 | 106.480 | -1.709 | -0.340 | 0.038 |
| -12.950 | 112.439 | -1.710 | -0.380 | 0.027 |
| -13.350 | 114.831 | -1.711 | -0.395 | 0.023 |
| -14.000 | 118.727 | -1.713 | -0.419 | 0.016 |
| -15.000 | 124.747 | -1.718 | -0.455 | 0.005 |
| -15.400 | 127.163 | -1.721 | -0.468 | 0.001 |
| -15.400 | 127.163 | -1.721 | -0.468 | 0.001 |
| -15.850 | 131.700 | -1.721 | -0.483 | 0.000 |
| -16.300 | 136.238 | -1.721 | -0.497 | 0.000 |

## 3.2 Results for Vertical 25 (X = -3.45 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.099 | 7.366 | 0.099 | 1.665 | 0.177 |
| -0.001 | 9.114 | 0.001 | 1.736 | 0.174 |
| -0.101 | 10.641 | -0.097 | 1.687 | 0.171 |
| -0.201 | 12.218 | -0.194 | 1.674 | 0.169 |
| -0.301 | 13.801 | -0.291 | 1.672 | 0.168 |
| -0.350 | 14.582 | -0.340 | 1.672 | 0.167 |
| -0.401 | 15.378 | -0.389 | 1.671 | 0.166 |
| -0.501 | 16.948 | -0.486 | 1.670 | 0.164 |
| -0.601 | 18.515 | -0.582 | 1.669 | 0.163 |
| -0.701 | 20.080 | -0.679 | 1.668 | 0.162 |
| -0.800 | 21.628 | -0.775 | 1.667 | 0.160 |
| -0.800 | 21.628 | -0.775 | 1.667 | 0.160 |
| -0.801 | 21.641 | -0.776 | 1.667 | 0.160 |
| -0.901 | 22.970 | -0.875 | 1.667 | 0.157 |
| -1.148 | 24.892 | -1.119 | 0.313 | 0.150 |
| -1.400 | 25.764 | -1.117 | 0.317 | 0.143 |
| -2.000 | 27.807 | -1.118 | 0.324 | 0.126 |
| -2.000 | 27.807 | -1.118 | 0.324 | 0.126 |
| -2.200 | 27.875 | -1.119 | 0.324 | 0.116 |
| -2.400 | 27.942 | -1.121 | 0.322 | 0.106 |
| -2.400 | 27.942 | -1.121 | 0.322 | 0.106 |
| -2.800 | 29.955 | -1.133 | 0.313 | 0.097 |
| -3.200 | 31.980 | -1.148 | 0.297 | 0.088 |
| -3.200 | 31.980 | -1.148 | 0.297 | 0.088 |
| -4.100 | 40.587 | -1.148 | 0.239 | 0.087 |
| -5.100 | 50.175 | -1.148 | 0.154 | 0.086 |
| -5.700 | 55.958 | -1.148 | 0.099 | 0.085 |
| -6.600 | 64.682 | -1.148 | 0.014 | 0.084 |
| -7.600 | 74.441 | -1.148 | -0.078 | 0.083 |
| -8.200 | 80.328 | -1.148 | -0.131 | 0.083 |
| -8.200 | 80.328 | -1.148 | -0.131 | 0.083 |
| -8.900 | 84.323 | -1.145 | -0.189 | 0.075 |
| -9.500 | 87.770 | -1.143 | -0.236 | 0.069 |
| -10.100 | 91.237 | -1.141 | -0.281 | 0.062 |
| -10.800 | 95.305 | -1.140 | -0.330 | 0.054 |
| -10.800 | 95.305 | -1.140 | -0.330 | 0.054 |
| -11.050 | 96.744 | -1.138 | -0.346 | 0.050 |
| -11.300 | 98.194 | -1.136 | -0.362 | 0.045 |
| -11.300 | 98.194 | -1.136 | -0.362 | 0.045 |
| -11.950 | 102.008 | -1.136 | -0.402 | 0.038 |
| -12.950 | 107.911 | -1.137 | -0.459 | 0.027 |
| -13.350 | 110.284 | -1.138 | -0.480 | 0.023 |
| -14.000 | 114.152 | -1.140 | -0.513 | 0.016 |
| -15.000 | 120.135 | -1.145 | -0.559 | 0.005 |
| -15.400 | 122.539 | -1.148 | -0.576 | 0.001 |
| -15.400 | 122.539 | -1.148 | -0.576 | 0.001 |
| -15.850 | 127.063 | -1.148 | -0.595 | 0.000 |
| -16.300 | 131.591 | -1.148 | -0.613 | 0.000 |

### 3.3 Results for Vertical 31 (X = -0.62 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.012 | 9.603 | 0.012 | 2.528 | 0.177 |
| -0.088 | 11.161 | -0.086 | 2.501 | 0.174 |
| -0.188 | 12.687 | -0.184 | 2.437 | 0.171 |
| -0.288 | 14.199 | -0.281 | 2.361 | 0.169 |
| -0.388 | 15.713 | -0.379 | 2.291 | 0.167 |
| -0.394 | 15.804 | -0.384 | 2.287 | 0.167 |
| -0.488 | 16.436 | -0.476 | 1.434 | 0.165 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.559 | 16.826 | -0.545 | 0.705 | 0.164 |
| -0.588 | 16.988 | -0.544 | 0.693 | 0.164 |
| -0.688 | 17.551 | -0.542 | 0.659 | 0.163 |
| -0.788 | 18.123 | -0.539 | 0.635 | 0.162 |
| -0.800 | 18.192 | -0.539 | 0.632 | 0.162 |
| -0.800 | 18.192 | -0.539 | 0.632 | 0.162 |
| -0.888 | 18.494 | -0.538 | 0.617 | 0.159 |
| -0.988 | 18.842 | -0.537 | 0.605 | 0.156 |
| -1.400 | 20.300 | -0.534 | 0.570 | 0.144 |
| -2.000 | 22.432 | -0.535 | 0.498 | 0.126 |
| -2.000 | 22.432 | -0.535 | 0.498 | 0.126 |
| -2.200 | 22.540 | -0.536 | 0.465 | 0.116 |
| -2.400 | 22.652 | -0.538 | 0.430 | 0.105 |
| -2.400 | 22.652 | -0.538 | 0.430 | 0.105 |
| -2.800 | 24.760 | -0.547 | 0.355 | 0.096 |
| -3.200 | 26.890 | -0.559 | 0.280 | 0.086 |
| -3.200 | 26.891 | -0.559 | 0.280 | 0.086 |
| -4.100 | 35.820 | -0.559 | 0.124 | 0.085 |
| -5.100 | 45.741 | -0.559 | -0.023 | 0.084 |
| -5.700 | 51.698 | -0.559 | -0.099 | 0.084 |
| -6.600 | 60.640 | -0.559 | -0.200 | 0.083 |
| -7.600 | 70.589 | -0.559 | -0.296 | 0.082 |
| -8.200 | 76.567 | -0.559 | -0.347 | 0.082 |
| -8.200 | 76.567 | -0.559 | -0.347 | 0.082 |
| -8.900 | 80.654 | -0.556 | -0.402 | 0.074 |
| -9.500 | 84.167 | -0.554 | -0.445 | 0.068 |
| -10.100 | 87.690 | -0.553 | -0.486 | 0.061 |
| -10.800 | 91.813 | -0.552 | -0.529 | 0.054 |
| -10.800 | 91.813 | -0.552 | -0.529 | 0.054 |
| -11.050 | 93.270 | -0.549 | -0.544 | 0.049 |
| -11.300 | 94.736 | -0.548 | -0.558 | 0.044 |
| -11.300 | 94.736 | -0.548 | -0.558 | 0.044 |
| -11.950 | 98.588 | -0.548 | -0.594 | 0.037 |
| -12.950 | 104.538 | -0.549 | -0.644 | 0.027 |
| -13.350 | 106.927 | -0.550 | -0.663 | 0.022 |
| -14.000 | 110.818 | -0.552 | -0.692 | 0.016 |
| -15.000 | 116.829 | -0.556 | -0.733 | 0.005 |
| -15.400 | 119.242 | -0.559 | -0.748 | 0.001 |
| -15.400 | 119.242 | -0.559 | -0.748 | 0.001 |
| -15.850 | 123.777 | -0.559 | -0.765 | 0.000 |
| -16.300 | 128.314 | -0.559 | -0.781 | 0.000 |

### 3.4 Results for Vertical 34 (X = 0.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.209 | 1.247 | 0.209 | 1.246 | 0.192 |
| 0.109 | 3.140 | 0.109 | 1.545 | 0.182 |
| 0.009 | 4.705 | 0.010 | 1.517 | 0.176 |
| -0.091 | 6.281 | -0.089 | 1.497 | 0.173 |
| -0.191 | 7.920 | -0.187 | 1.524 | 0.170 |
| -0.291 | 9.482 | -0.286 | 1.445 | 0.168 |
| -0.296 | 9.516 | -0.290 | 1.405 | 0.168 |
| -0.391 | 10.257 | -0.384 | 0.550 | 0.166 |
| -0.430 | 10.566 | -0.423 | 0.201 | 0.165 |
| -0.491 | 11.056 | -0.421 | 0.253 | 0.165 |
| -0.591 | 11.863 | -0.420 | 0.332 | 0.164 |
| -0.691 | 12.664 | -0.418 | 0.400 | 0.163 |
| -0.791 | 13.452 | -0.416 | 0.454 | 0.162 |
| -0.800 | 13.522 | -0.416 | 0.459 | 0.162 |
| -0.800 | 13.522 | -0.416 | 0.459 | 0.162 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.400 | 16.421 | -0.412 | 0.534 | 0.143 |
| -2.000 | 18.900 | -0.411 | 0.413 | 0.125 |
| -2.000 | 18.900 | -0.411 | 0.413 | 0.125 |
| -2.200 | 19.087 | -0.412 | 0.364 | 0.115 |
| -2.400 | 19.267 | -0.413 | 0.315 | 0.105 |
| -2.400 | 19.267 | -0.413 | 0.315 | 0.105 |
| -2.800 | 21.478 | -0.420 | 0.223 | 0.095 |
| -3.200 | 23.689 | -0.430 | 0.141 | 0.086 |
| -3.200 | 23.689 | -0.430 | 0.141 | 0.086 |
| -4.100 | 32.808 | -0.430 | -0.014 | 0.085 |
| -5.100 | 42.888 | -0.430 | -0.147 | 0.084 |
| -5.700 | 48.920 | -0.430 | -0.213 | 0.083 |
| -6.600 | 57.955 | -0.430 | -0.300 | 0.083 |
| -7.600 | 67.984 | -0.430 | -0.383 | 0.082 |
| -8.200 | 74.001 | -0.430 | -0.427 | 0.081 |
| -8.200 | 74.001 | -0.430 | -0.427 | 0.081 |
| -8.900 | 78.127 | -0.427 | -0.475 | 0.074 |
| -9.500 | 81.669 | -0.426 | -0.513 | 0.067 |
| -10.100 | 85.217 | -0.424 | -0.548 | 0.061 |
| -10.800 | 89.364 | -0.423 | -0.587 | 0.054 |
| -10.800 | 89.364 | -0.423 | -0.587 | 0.054 |
| -11.050 | 90.830 | -0.421 | -0.600 | 0.049 |
| -11.300 | 92.303 | -0.419 | -0.613 | 0.044 |
| -11.300 | 92.303 | -0.419 | -0.613 | 0.044 |
| -11.950 | 96.172 | -0.419 | -0.644 | 0.037 |
| -12.950 | 102.143 | -0.420 | -0.690 | 0.027 |
| -13.350 | 104.539 | -0.421 | -0.707 | 0.022 |
| -14.000 | 108.440 | -0.423 | -0.733 | 0.015 |
| -15.000 | 114.464 | -0.428 | -0.771 | 0.005 |
| -15.400 | 116.881 | -0.430 | -0.785 | 0.001 |
| -15.400 | 116.881 | -0.430 | -0.785 | 0.001 |
| -15.850 | 121.421 | -0.430 | -0.800 | 0.000 |
| -16.300 | 125.962 | -0.430 | -0.815 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -22.00 | 0.00 | -1.46 | 0.127 |
| 2 | -13.45 | 0.00 | -1.45 | 0.130 |
| 3 | -13.16 | 0.00 | -1.47 | 0.129 |
| 4 | -11.02 | 0.00 | -1.60 | 0.131 |
| 5 | -10.65 | 0.00 | -1.42 | 0.142 |
| 6 | -9.39 | 0.00 | -0.80 | 0.173 |
| 7 | -9.00 | 0.00 | -0.61 | 0.174 |
| 8 | -7.77 | 0.00 | -0.01 | 0.178 |
| 9 | -7.24 | 0.00 | 0.26 | 0.176 |
| 10 | -7.21 | 0.00 | 0.28 | 0.176 |
| 11 | -7.08 | 0.00 | 0.28 | 0.177 |
| 12 | -6.90 | 0.00 | 0.28 | 0.179 |
| 13 | -6.72 | 0.00 | 0.28 | 0.181 |
| 14 | -6.66 | 0.00 | 0.28 | 0.183 |
| 15 | -6.60 | 0.00 | 0.28 | 0.190 |
| 16 | -6.28 | 0.00 | 0.04 | 0.174 |
| 17 | -6.21 | 0.00 | 0.04 | 0.179 |
| 18 | -6.21 | 0.00 | 0.04 | 0.179 |
| 19 | -6.16 | 0.00 | 0.04 | 0.178 |
| 20 | -5.49 | 0.00 | 0.05 | 0.171 |
| 21 | -5.39 | 0.00 | 0.06 | 0.171 |
| 22 | -5.26 | 0.00 | 0.06 | 0.172 |
| 23 | -4.96 | 0.00 | 0.07 | 0.172 |
| 24 | -4.63 | 0.00 | 0.07 | 0.172 |
| 25 | -3.45 | 0.00 | 0.10 | 0.177 |
| 26 | -2.67 | 0.00 | 0.07 | 0.176 |
| 27 | -2.29 | 0.00 | 0.06 | 0.176 |
| 28 | -1.95 | 0.00 | 0.05 | 0.176 |
| 29 | -1.65 | 0.00 | 0.04 | 0.176 |
| 30 | -1.05 | 0.00 | 0.03 | 0.178 |
| 31 | -0.62 | 0.00 | 0.01 | 0.177 |
| 32 | -0.30 | 0.00 | 0.27 | 0.194 |
| 33 | -0.29 | 0.00 | 0.27 | 0.189 |
| 34 | 0.00 | 0.00 | 0.21 | 0.192 |
| 35 | 0.35 | 0.00 | 0.13 | 0.204 |
| 36 | 0.68 | 0.00 | -0.04 | 0.211 |
| 37 | 0.80 | 0.00 | -0.08 | 0.212 |
| 38 | 0.86 | 0.00 | -0.10 | 0.208 |
| 39 | 0.89 | 0.00 | -0.11 | 0.204 |
| 40 | 1.04 | 0.00 | -0.17 | 0.183 |
| 41 | 1.10 | 0.00 | -0.80 | 0.291 |
| 42 | 1.15 | 0.00 | -1.26 | 0.259 |
| 43 | 2.10 | 0.00 | -1.54 | 0.202 |
| 44 | 3.12 | 0.00 | -2.00 | 0.194 |
| 45 | 3.13 | 0.00 | -2.00 | 0.193 |
| 46 | 4.29 | 0.00 | -2.07 | 0.155 |
| 47 | 4.31 | 0.00 | -2.07 | 0.155 |
| 48 | 5.00 | 0.00 | -2.00 | 0.148 |

## 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 100 | 0.006 | 4.366 | 0.121 |
| | 4500 | 0.093 | 73.458 | 0.034 |
| 2 | 100 | 0.006 | 4.649 | 0.124 |
| | 4500 | 0.095 | 73.710 | 0.034 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 3 | 100 | 0.006 | 4.696 | 0.123 |
| | 4500 | 0.095 | 73.732 | 0.034 |
| 4 | 100 | 0.008 | 6.205 | 0.123 |
| | 4500 | 0.098 | 74.712 | 0.033 |
| 5 | 100 | 0.010 | 7.147 | 0.131 |
| | 4500 | 0.107 | 75.289 | 0.035 |
| 6 | 100 | 0.017 | 9.527 | 0.157 |
| | 4500 | 0.133 | 76.514 | 0.041 |
| 7 | 100 | 0.013 | 7.364 | 0.161 |
| | 4500 | 0.132 | 75.751 | 0.042 |
| 8 | 100 | 0.013 | 7.115 | 0.165 |
| | 4500 | 0.133 | 74.572 | 0.045 |
| 9 | 100 | 0.010 | 5.682 | 0.166 |
| | 4500 | 0.130 | 73.549 | 0.047 |
| 10 | 100 | 0.010 | 5.839 | 0.166 |
| | 4500 | 0.129 | 73.482 | 0.047 |
| 11 | 100 | 0.011 | 6.231 | 0.166 |
| | 4500 | 0.130 | 73.636 | 0.047 |
| 12 | 100 | 0.012 | 6.607 | 0.167 |
| | 4500 | 0.132 | 73.867 | 0.047 |
| 13 | 100 | 0.013 | 6.911 | 0.169 |
| | 4500 | 0.135 | 74.155 | 0.047 |
| 14 | 100 | 0.013 | 7.014 | 0.170 |
| | 4500 | 0.136 | 74.319 | 0.047 |
| 15 | 100 | 0.018 | 9.491 | 0.172 |
| | 4500 | 0.143 | 75.211 | 0.047 |
| 16 | 100 | 0.008 | 4.524 | 0.166 |
| | 4500 | 0.128 | 73.452 | 0.046 |
| 17 | 100 | 0.010 | 5.411 | 0.170 |
| | 4500 | 0.133 | 74.249 | 0.046 |
| 18 | 100 | 0.010 | 5.374 | 0.170 |
| | 4500 | 0.133 | 74.234 | 0.046 |
| 19 | 100 | 0.009 | 4.903 | 0.169 |
| | 4500 | 0.132 | 74.021 | 0.046 |
| 20 | 100 | 0.007 | 3.916 | 0.165 |
| | 4500 | 0.126 | 73.460 | 0.045 |
| 21 | 100 | 0.007 | 3.924 | 0.165 |
| | 4500 | 0.126 | 73.472 | 0.045 |
| 22 | 100 | 0.007 | 4.176 | 0.165 |
| | 4500 | 0.126 | 73.528 | 0.046 |
| 23 | 100 | 0.007 | 4.239 | 0.165 |
| | 4500 | 0.127 | 73.695 | 0.045 |
| 24 | 100 | 0.007 | 4.341 | 0.164 |
| | 4500 | 0.127 | 73.758 | 0.045 |
| 25 | 100 | 0.009 | 5.029 | 0.168 |
| | 4500 | 0.131 | 74.401 | 0.045 |
| 26 | 100 | 0.009 | 4.904 | 0.167 |
| | 4500 | 0.131 | 74.647 | 0.045 |
| 27 | 100 | 0.009 | 5.020 | 0.167 |
| | 4500 | 0.132 | 74.876 | 0.044 |
| 28 | 100 | 0.009 | 5.100 | 0.167 |
| | 4500 | 0.132 | 75.066 | 0.044 |
| 29 | 100 | 0.009 | 5.204 | 0.167 |
| | 4500 | 0.133 | 75.272 | 0.044 |
| 30 | 100 | 0.010 | 5.507 | 0.168 |
| | 4500 | 0.135 | 75.833 | 0.043 |
| 31 | 100 | 0.010 | 5.846 | 0.167 |
| | 4500 | 0.134 | 75.688 | 0.043 |
| 32 | 100 | 0.021 | 10.869 | 0.173 |
| | 4500 | 0.151 | 77.529 | 0.044 |
| 33 | 100 | 0.016 | 8.714 | 0.172 |
| | 4500 | 0.145 | 76.932 | 0.044 |
| 34 | 100 | 0.021 | 10.769 | 0.171 |
| | 4500 | 0.149 | 77.822 | 0.043 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 35 | 100 | 0.029 | 14.020 | 0.176 |
| | 4500 | 0.162 | 79.406 | 0.042 |
| 36 | 100 | 0.036 | 16.937 | 0.175 |
| | 4500 | 0.171 | 81.088 | 0.040 |
| 37 | 100 | 0.038 | 17.814 | 0.174 |
| | 4500 | 0.172 | 81.399 | 0.039 |
| 38 | 100 | 0.036 | 17.490 | 0.171 |
| | 4500 | 0.169 | 81.339 | 0.039 |
| 39 | 100 | 0.034 | 16.876 | 0.169 |
| | 4500 | 0.165 | 81.160 | 0.038 |
| 40 | 100 | 0.023 | 12.556 | 0.160 |
| | 4500 | 0.146 | 79.954 | 0.037 |
| 41 | 100 | 0.065 | 22.514 | 0.225 |
| | 4500 | 0.242 | 83.357 | 0.048 |
| 42 | 100 | 0.055 | 21.405 | 0.204 |
| | 4500 | 0.215 | 82.929 | 0.044 |
| 43 | 100 | 0.032 | 15.796 | 0.170 |
| | 4500 | 0.161 | 79.705 | 0.041 |
| 44 | 100 | 0.046 | 23.798 | 0.148 |
| | 4500 | 0.157 | 80.910 | 0.037 |
| 45 | 100 | 0.046 | 23.710 | 0.147 |
| | 4500 | 0.156 | 80.863 | 0.037 |
| 46 | 100 | 0.023 | 14.821 | 0.132 |
| | 4500 | 0.120 | 77.187 | 0.035 |
| 47 | 100 | 0.023 | 14.719 | 0.132 |
| | 4500 | 0.120 | 77.144 | 0.035 |
| 48 | 100 | 0.016 | 10.506 | 0.133 |
| | 4500 | 0.112 | 75.676 | 0.036 |

## 5 Warnings and errors

List of non-fatal warnings and errors generated during calculation.

1 Non-uniform load [1]: Co-ordinate (1) lies below surface

2 Non-uniform load [1]: Co-ordinate (5) lies below surface

3 Non-uniform load [3]: Co-ordinate (4) lies below surface

4 Non-uniform load [3]: Co-ordinate (5) lies below surface

5 Non-uniform load [3]: Co-ordinate (7) lies below surface

6 Non-uniform load [3]: Co-ordinate (8) lies below surface

## End of Report

# Report for D-Settlement 21.2

Settlement Calculations
Developed by Deltares




| | |
|---|---|
| Company: | Waalpartners bv |
| Date of report: | 11/22/2022 |
| Time of report: | 9:05:48 AM |
| Report with version: | 21.2.1.34213 |
| Date of calculation: | 11/4/2022 |
| Time of calculation: | 3:48:43 PM |
| Calculated with version: | 21.2.1.34213 |
| File name: | 13.05 BKL |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 9 - X - | -22.000 | -15.826 | -14.494 | -13.488 | -11.770 |
| 9 - Y - | -1.852 | -1.910 | -3.055 | -3.142 | -1.763 |
| 9 - X - | -11.572 | -9.621 | -7.491 | -7.204 | -6.310 |
| 9 - Y - | -1.700 | -1.078 | -0.099 | -0.093 | -0.084 |
| 9 - X - | -6.310 | -3.576 | -0.890 | -0.890 | -0.431 |
| 9 - Y - | -0.684 | -0.635 | -0.712 | -0.112 | -0.118 |
| 9 - X - | -0.008 | 0.301 | 0.562 | 0.726 | 0.906 |
| 9 - Y - | -0.219 | -0.350 | -0.590 | -1.195 | -1.700 |
| 9 - X - | 0.941 | 1.201 | 2.479 | 3.571 | 4.065 |
| 9 - Y - | -1.798 | -2.067 | -2.265 | -2.227 | -2.495 |
| 9 - X - | 5.000 | | | | |
| 9 - Y - | -2.492 | | | | |
| 8 - X - | -22.000 | -15.826 | -14.494 | -13.488 | -11.770 |
| 8 - Y - | -1.852 | -1.910 | -3.055 | -3.142 | -1.763 |
| 8 - X - | -11.572 | 0.906 | 0.941 | 1.201 | 2.479 |
| 8 - Y - | -1.700 | -1.700 | -1.798 | -2.067 | -2.265 |
| 8 - X - | 3.571 | 4.065 | 5.000 | | |
| 8 - Y - | -2.227 | -2.495 | -2.492 | | |
| 7 - X - | -22.000 | 5.000 | | | |
| 7 - Y - | -4.000 | -4.000 | | | |
| 6 - X - | -22.000 | 5.000 | | | |
| 6 - Y - | -6.000 | -6.000 | | | |
| 5 - X - | -22.000 | 5.000 | | | |
| 5 - Y - | -7.600 | -7.600 | | | |
| 4 - X - | -22.000 | 5.000 | | | |
| 4 - Y - | -9.100 | -9.100 | | | |
| 3 - X - | -22.000 | 5.000 | | | |
| 3 - Y - | -10.800 | -10.800 | | | |
| 2 - X - | -22.000 | 5.000 | | | |
| 2 - Y - | -11.800 | -11.800 | | | |
| 1 - X - | -22.000 | 5.000 | | | |
| 1 - Y - | -16.400 | -16.400 | | | |
| 0 - X - | -22.000 | 5.000 | | | |
| 0 - Y - | -17.000 | -17.000 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -22.000 | -9.000 | 0.000 | 5.000 | |
| 1 - Y - | -2.650 | -2.650 | -0.430 | -0.430 | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | |
| - Loads: | None |
| End of consolidation: | 10000.00 [days] |
| No maintain profile | |
| Pc (initial): | Variable parallel to the initial effective stress |
| Pc (per step): | Automatic increased to the final effective stresses |
| Creep rate reference time: | 1.000 [days] |
| No imaginary surface | |
| With submerging | |
| (only for non uniform loads) | |

- Iteration stop criterium : 0.10 [m]

Load column width

- Non-Uniform Loads : 1.00 [m]
- Trapeziform Loads : 1.00 [m]

## 2.4 Soil Profiles

| Layer number | Material name | PI-line top | PI-line bottom |
|---|---|---|---|
| 9 | Dijksmateriaal | 1 | 1 |
| 8 | Klei Hum DK | 1 | 1 |
| 7 | Hollandveen | 1 | 1 |
| 6 | klei Silt DK | 1 | 1 |
| 5 | Klei zand CA | 1 | 1 |
| 4 | Klei CA | 1 | 1 |
| 3 | Klei silt CA | 1 | 1 |
| 2 | Klei CA | 1 | 1 |
| 1 | Zand CA | 1 | 1 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 9 | No | 16.00 | 16.00 |
| 8 | No | 13.50 | 13.50 |
| 7 | No | 10.50 | 10.50 |
| 6 | No | 15.10 | 15.10 |
| 5 | No | 17.00 | 17.00 |
| 4 | No | 15.90 | 15.90 |
| 3 | No | 15.90 | 15.90 |
| 2 | No | 15.90 | 15.90 |
| 1 | Yes | 18.00 | 20.00 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|---|---|
| 9 | Vert. cons. | 1.00E-08 | - | - | - |
| 8 | Vert. cons. | 2.07E-08 | - | - | - |
| 7 | Vert. cons. | 2.37E-08 | - | - | - |
| 6 | Vert. cons. | 2.54E-08 | - | - | - |
| 5 | Vert. cons. | 1.00E-07 | - | - | - |
| 4 | Vert. cons. | 6.02E-07 | - | - | - |
| 3 | Vert. cons. | 9.27E-08 | - | - | - |
| 2 | Vert. cons. | 6.02E-07 | - | - | - |
| 1 | Vert. cons. | - | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 9 | - | 1.50 | - |
| 8 | - | 1.50 | - |
| 7 | - | 1.80 | - |
| 6 | - | 1.50 | - |
| 5 | - | 1.39 | - |
| 4 | - | 1.50 | - |
| 3 | - | 1.50 | - |
| 2 | - | 1.50 | - |
| 1 | - | 1.39 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 9 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 8 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 7 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 6 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 5 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 4 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 3 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 2 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 1 | 0.0100000 | 0.1062000 | 0.0033000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time [days] | Unit weight Unsaturated [kN/m³] | Unit weight Saturated [kN/m³] |
|---|---|---|---|
| 1 | -1 | 19.00 | 19.00 |
| 2 | -1 | 24.00 | 24.00 |
| 3 | 2 | 16.00 | 16.00 |
| 4 | 3 | 18.00 | 20.00 |
| 5 | 4 | 19.00 | 19.00 |
| 6 | 5 | 25.00 | 25.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -6.31 | -4.35 | -3.58 | -1.90 | -0.89 | |
| 1 - Y - | -0.60 | -0.57 | -0.56 | -0.61 | -0.64 | |
| 2 - X - | -6.31 | -6.18 | -5.62 | -5.39 | -4.91 | -3.58 |
| 2 - Y - | -0.08 | -0.07 | -0.06 | -0.06 | -0.05 | -0.04 |
| 2 - X - | -2.35 | -1.79 | -1.54 | -0.98 | -0.89 | |
| 2 - Y - | -0.07 | -0.08 | -0.09 | -0.11 | -0.11 | |
| 3 - X - | -11.15 | -7.32 | -7.21 | -7.10 | -6.99 | -6.88 |
| 3 - Y - | -1.56 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 |
| 3 - X - | -6.78 | -6.68 | -6.31 | -6.31 | -4.35 | -3.58 |
| 3 - Y - | 0.42 | 0.42 | 0.43 | -0.68 | -0.65 | -0.64 |
| 3 - X - | -1.89 | -0.89 | -0.89 | -0.48 | 0.39 | 0.56 |
| 3 - Y - | -0.69 | -0.71 | 0.43 | 0.42 | 0.38 | -0.59 |
| 4 - X - | -6.31 | -0.89 | | | | |
| 4 - Y - | -0.07 | -0.07 | | | | |
| 5 - X - | -6.31 | -0.89 | | | | |
| 5 - Y - | 0.23 | 0.23 | | | | |
| 6 - X - | -6.31 | -5.03 | -3.58 | -2.13 | -0.89 | |
| 6 - Y - | 0.43 | 0.46 | 0.50 | 0.46 | 0.43 | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -22.000 | -15.826 | -14.494 | -13.488 | -11.770 |
| 6 - 10 | -11.572 | -11.147 | -9.621 | -9.000 | -7.491 |
| 11 - 15 | -7.315 | -7.205 | -7.204 | -7.099 | -6.992 |
| 16 - 20 | -6.878 | -6.776 | -6.676 | -6.310 | -6.182 |
| 21 - 25 | -5.616 | -5.388 | -5.027 | -4.908 | -4.352 |
| 26 - 30 | -3.576 | -2.348 | -2.125 | -1.897 | -1.890 |
| 31 - 35 | -1.786 | -1.543 | -0.979 | -0.890 | -0.476 |
| 36 - 40 | -0.431 | -0.008 | 0.000 | 0.301 | 0.387 |
| 41 - 45 | 0.562 | 0.726 | 0.906 | 0.941 | 1.201 |
| 46 - 49 | 2.479 | 3.571 | 4.065 | 5.000 | |

# 3 Results per Vertical

## 3.1 Results for Vertical 19 (X = -6.31 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.684 | 27.758 | -0.684 | 11.071 | 0.297 |
| -0.784 | 28.861 | -0.750 | 10.849 | 0.291 |
| -0.884 | 29.859 | -0.815 | 10.579 | 0.287 |
| -0.984 | 30.804 | -0.880 | 10.274 | 0.283 |
| -1.084 | 31.761 | -0.944 | 9.984 | 0.279 |
| -1.184 | 32.744 | -1.008 | 9.723 | 0.276 |
| -1.192 | 32.824 | -1.013 | 9.704 | 0.275 |
| -1.284 | 33.754 | -1.071 | 9.492 | 0.273 |
| -1.384 | 34.786 | -1.134 | 9.288 | 0.270 |
| -1.484 | 35.837 | -1.196 | 9.108 | 0.268 |
| -1.584 | 36.904 | -1.258 | 8.947 | 0.266 |
| -1.684 | 37.985 | -1.320 | 8.804 | 0.264 |
| -1.700 | 38.159 | -1.330 | 8.783 | 0.263 |
| -1.700 | 38.159 | -1.330 | 8.783 | 0.263 |
| -1.986 | 39.015 | -1.567 | 6.268 | 0.253 |
| -2.850 | 40.210 | -1.438 | 5.626 | 0.229 |
| -3.400 | 41.229 | -1.373 | 5.340 | 0.216 |
| -4.000 | 42.510 | -1.318 | 5.066 | 0.203 |
| -4.000 | 42.510 | -1.318 | 5.066 | 0.203 |
| -5.000 | 42.344 | -1.301 | 4.645 | 0.167 |
| -6.000 | 42.695 | -1.342 | 4.242 | 0.132 |
| -6.000 | 42.695 | -1.342 | 4.242 | 0.132 |
| -6.800 | 47.427 | -1.454 | 3.930 | 0.119 |
| -7.600 | 52.577 | -1.608 | 3.631 | 0.104 |
| -7.600 | 52.578 | -1.608 | 3.631 | 0.104 |
| -8.350 | 57.966 | -1.662 | 3.363 | 0.100 |
| -9.100 | 63.463 | -1.725 | 3.109 | 0.096 |
| -9.100 | 63.463 | -1.725 | 3.109 | 0.096 |
| -9.950 | 68.191 | -1.735 | 2.838 | 0.087 |
| -10.800 | 72.972 | -1.747 | 2.586 | 0.078 |
| -10.800 | 72.972 | -1.747 | 2.586 | 0.078 |
| -11.300 | 76.312 | -1.806 | 2.446 | 0.068 |
| -11.800 | 79.723 | -1.871 | 2.312 | 0.058 |
| -11.800 | 79.723 | -1.871 | 2.312 | 0.058 |
| -12.500 | 83.758 | -1.885 | 2.134 | 0.049 |
| -13.500 | 89.585 | -1.907 | 1.899 | 0.037 |
| -14.100 | 93.115 | -1.921 | 1.768 | 0.029 |
| -14.800 | 97.265 | -1.939 | 1.623 | 0.021 |
| -15.800 | 103.251 | -1.968 | 1.432 | 0.008 |
| -16.400 | 106.874 | -1.986 | 1.325 | 0.001 |
| -16.400 | 106.874 | -1.986 | 1.325 | 0.001 |
| -16.700 | 109.828 | -1.986 | 1.274 | 0.000 |
| -17.000 | 112.785 | -1.986 | 1.224 | 0.000 |

## 3.2 Results for Vertical 26 (X = -3.58 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.635 | 22.276 | -0.635 | 8.437 | 0.307 |
| -0.735 | 23.794 | -0.708 | 8.422 | 0.302 |
| -0.835 | 25.081 | -0.780 | 8.392 | 0.298 |
| -0.935 | 26.350 | -0.850 | 8.361 | 0.294 |
| -1.035 | 27.604 | -0.920 | 8.327 | 0.290 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.135 | 28.124 | -0.989 | 7.569 | 0.287 |
| -1.167 | 28.207 | -1.011 | 7.238 | 0.286 |
| -1.235 | 28.377 | -1.058 | 6.550 | 0.285 |
| -1.312 | 28.570 | -1.111 | 5.763 | 0.283 |
| -1.335 | 28.628 | -1.103 | 5.754 | 0.283 |
| -1.435 | 28.877 | -1.072 | 5.715 | 0.281 |
| -1.535 | 29.126 | -1.041 | 5.675 | 0.279 |
| -1.635 | 29.373 | -1.011 | 5.635 | 0.278 |
| -1.700 | 29.533 | -0.991 | 5.609 | 0.277 |
| -1.700 | 29.533 | -0.991 | 5.609 | 0.277 |
| -2.250 | 30.350 | -0.919 | 5.406 | 0.259 |
| -2.850 | 31.135 | -0.852 | 5.215 | 0.241 |
| -3.400 | 31.812 | -0.802 | 5.053 | 0.227 |
| -4.000 | 32.594 | -0.760 | 4.868 | 0.214 |
| -4.000 | 32.594 | -0.760 | 4.868 | 0.214 |
| -5.000 | 31.456 | -0.749 | 4.525 | 0.175 |
| -6.000 | 30.876 | -0.782 | 4.145 | 0.137 |
| -6.000 | 30.876 | -0.782 | 4.145 | 0.137 |
| -6.800 | 34.835 | -0.870 | 3.833 | 0.124 |
| -7.600 | 39.248 | -0.993 | 3.524 | 0.108 |
| -7.600 | 39.248 | -0.993 | 3.524 | 0.108 |
| -8.350 | 44.216 | -1.037 | 3.243 | 0.104 |
| -9.100 | 49.350 | -1.088 | 2.975 | 0.099 |
| -9.100 | 49.350 | -1.088 | 2.975 | 0.099 |
| -9.950 | 53.835 | -1.097 | 2.689 | 0.089 |
| -10.800 | 58.421 | -1.107 | 2.423 | 0.080 |
| -10.800 | 58.421 | -1.107 | 2.423 | 0.080 |
| -11.300 | 61.586 | -1.157 | 2.275 | 0.070 |
| -11.800 | 64.827 | -1.212 | 2.134 | 0.059 |
| -11.800 | 64.827 | -1.212 | 2.134 | 0.059 |
| -12.500 | 68.754 | -1.224 | 1.947 | 0.050 |
| -13.500 | 74.448 | -1.243 | 1.700 | 0.038 |
| -14.100 | 77.909 | -1.255 | 1.563 | 0.030 |
| -14.800 | 81.985 | -1.271 | 1.412 | 0.021 |
| -15.800 | 87.877 | -1.296 | 1.213 | 0.008 |
| -16.400 | 91.448 | -1.312 | 1.101 | 0.001 |
| -16.400 | 91.448 | -1.312 | 1.101 | 0.001 |
| -16.700 | 94.388 | -1.312 | 1.048 | 0.000 |
| -17.000 | 97.333 | -1.312 | 0.996 | 0.000 |

### 3.3 Results for Vertical 33 (X = -0.98 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.709 | 19.632 | -0.671 | 6.227 | 0.390 |
| -0.809 | 19.801 | -0.636 | 8.014 | 0.385 |
| -0.909 | 19.127 | -0.602 | 8.385 | 0.380 |
| -1.009 | 18.794 | -0.569 | 8.505 | 0.374 |
| -1.109 | 18.675 | -0.538 | 8.537 | 0.369 |
| -1.205 | 18.663 | -0.508 | 8.520 | 0.364 |
| -1.209 | 18.664 | -0.506 | 8.519 | 0.364 |
| -1.309 | 18.718 | -0.476 | 8.472 | 0.359 |
| -1.409 | 18.814 | -0.446 | 8.409 | 0.355 |
| -1.509 | 18.939 | -0.416 | 8.337 | 0.351 |
| -1.609 | 19.086 | -0.386 | 8.259 | 0.347 |
| -1.700 | 19.235 | -0.360 | 8.186 | 0.344 |
| -1.700 | 19.235 | -0.360 | 8.186 | 0.344 |
| -1.709 | 19.242 | -0.359 | 8.178 | 0.343 |
| -2.250 | 19.803 | -0.291 | 7.719 | 0.314 |
| -2.850 | 20.664 | -0.225 | 7.228 | 0.287 |
| -3.400 | 21.625 | -0.174 | 6.829 | 0.268 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -4.000 | 22.840 | -0.129 | 6.454 | 0.249 |
| -4.000 | 22.840 | -0.129 | 6.454 | 0.249 |
| -5.000 | 22.512 | -0.111 | 5.947 | 0.202 |
| -6.000 | 22.653 | -0.135 | 5.546 | 0.158 |
| -6.000 | 22.653 | -0.135 | 5.546 | 0.158 |
| -6.800 | 27.040 | -0.210 | 5.275 | 0.142 |
| -7.600 | 31.831 | -0.323 | 5.034 | 0.124 |
| -7.600 | 31.831 | -0.323 | 5.034 | 0.124 |
| -8.350 | 37.155 | -0.366 | 4.829 | 0.119 |
| -9.100 | 42.607 | -0.419 | 4.639 | 0.113 |
| -9.100 | 42.607 | -0.419 | 4.639 | 0.113 |
| -9.950 | 47.383 | -0.429 | 4.438 | 0.102 |
| -10.800 | 52.211 | -0.440 | 4.252 | 0.090 |
| -10.800 | 52.212 | -0.440 | 4.252 | 0.090 |
| -11.300 | 55.546 | -0.495 | 4.148 | 0.079 |
| -11.800 | 58.953 | -0.556 | 4.047 | 0.068 |
| -11.800 | 58.953 | -0.556 | 4.047 | 0.068 |
| -12.500 | 63.023 | -0.569 | 3.913 | 0.057 |
| -13.500 | 68.895 | -0.591 | 3.733 | 0.043 |
| -14.100 | 72.451 | -0.605 | 3.630 | 0.034 |
| -14.800 | 76.630 | -0.623 | 3.516 | 0.024 |
| -15.800 | 82.656 | -0.652 | 3.363 | 0.010 |
| -16.400 | 86.303 | -0.671 | 3.276 | 0.001 |
| -16.400 | 86.303 | -0.671 | 3.276 | 0.001 |
| -16.700 | 89.266 | -0.671 | 3.234 | 0.001 |
| -17.000 | 92.231 | -0.671 | 3.193 | 0.000 |

### 3.4 Results for Vertical 38 (X = 0.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.222 | 12.166 | -0.222 | 12.165 | 0.380 |
| -0.322 | 9.897 | -0.305 | 8.467 | 0.354 |
| -0.422 | 10.200 | -0.389 | 7.324 | 0.339 |
| -0.430 | 10.219 | -0.396 | 7.233 | 0.338 |
| -0.522 | 10.368 | -0.381 | 6.954 | 0.328 |
| -0.622 | 10.496 | -0.365 | 6.616 | 0.318 |
| -0.722 | 10.743 | -0.350 | 6.398 | 0.310 |
| -0.822 | 11.130 | -0.334 | 6.317 | 0.303 |
| -0.922 | 11.599 | -0.318 | 6.306 | 0.296 |
| -0.961 | 11.790 | -0.311 | 6.306 | 0.294 |
| -1.022 | 12.096 | -0.301 | 6.301 | 0.291 |
| -1.122 | 12.596 | -0.284 | 6.267 | 0.285 |
| -1.222 | 13.091 | -0.267 | 6.193 | 0.280 |
| -1.700 | 15.444 | -0.180 | 5.514 | 0.265 |
| -1.700 | 15.445 | -0.180 | 5.514 | 0.265 |
| -2.250 | 17.352 | -0.133 | 4.702 | 0.241 |
| -2.850 | 19.395 | -0.085 | 4.071 | 0.222 |
| -3.400 | 21.219 | -0.046 | 3.672 | 0.209 |
| -4.000 | 23.182 | -0.009 | 3.356 | 0.196 |
| -4.000 | 23.182 | -0.009 | 3.356 | 0.196 |
| -5.000 | 23.721 | 0.006 | 2.985 | 0.161 |
| -6.000 | 24.432 | -0.011 | 2.715 | 0.128 |
| -6.000 | 24.432 | -0.011 | 2.715 | 0.128 |
| -6.800 | 29.050 | -0.070 | 2.536 | 0.115 |
| -7.600 | 33.917 | -0.158 | 2.377 | 0.101 |
| -7.600 | 33.917 | -0.158 | 2.377 | 0.101 |
| -8.350 | 39.393 | -0.192 | 2.239 | 0.097 |
| -9.100 | 44.928 | -0.233 | 2.108 | 0.094 |
| -9.100 | 44.929 | -0.233 | 2.108 | 0.094 |
| -9.950 | 49.873 | -0.240 | 1.967 | 0.085 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -10.800 | 54.832 | -0.249 | 1.832 | 0.076 |
| -10.800 | 54.832 | -0.249 | 1.832 | 0.076 |
| -11.300 | 58.122 | -0.291 | 1.755 | 0.066 |
| -11.800 | 61.464 | -0.339 | 1.680 | 0.056 |
| -11.800 | 61.464 | -0.339 | 1.680 | 0.056 |
| -12.500 | 65.591 | -0.349 | 1.577 | 0.048 |
| -13.500 | 71.520 | -0.366 | 1.436 | 0.036 |
| -14.100 | 75.098 | -0.377 | 1.355 | 0.029 |
| -14.800 | 79.293 | -0.392 | 1.263 | 0.020 |
| -15.800 | 85.324 | -0.415 | 1.137 | 0.008 |
| -16.400 | 88.966 | -0.430 | 1.065 | 0.001 |
| -16.400 | 88.966 | -0.430 | 1.065 | 0.001 |
| -16.700 | 91.944 | -0.430 | 1.029 | 0.000 |
| -17.000 | 94.923 | -0.430 | 0.995 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -22.00 | 0.00 | -1.85 | 0.182 |
| 2 | -15.83 | 0.00 | -1.91 | 0.193 |
| 3 | -14.49 | 0.00 | -3.06 | 0.301 |
| 4 | -13.49 | 0.00 | -3.14 | 0.349 |
| 5 | -11.77 | 0.00 | -1.76 | 0.250 |
| 6 | -11.57 | 0.00 | -1.70 | 0.258 |
| 7 | -11.15 | 0.00 | -1.56 | 0.281 |
| 8 | -9.62 | 0.00 | -1.08 | 0.342 |
| 9 | -9.00 | 0.00 | -0.79 | 0.346 |
| 10 | -7.49 | 0.00 | -0.10 | 0.354 |
| 11 | -7.32 | 0.00 | -0.10 | 0.358 |
| 12 | -7.21 | 0.00 | -0.09 | 0.361 |
| 13 | -7.20 | 0.00 | -0.09 | 0.360 |
| 14 | -7.10 | 0.00 | -0.09 | 0.362 |
| 15 | -6.99 | 0.00 | -0.09 | 0.364 |
| 16 | -6.88 | 0.00 | -0.09 | 0.366 |
| 17 | -6.78 | 0.00 | -0.09 | 0.367 |
| 18 | -6.68 | 0.00 | -0.09 | 0.378 |
| 19 | -6.31 | 0.00 | -0.68 | 0.297 |
| 20 | -6.18 | 0.00 | -0.68 | 0.317 |
| 21 | -5.62 | 0.00 | -0.67 | 0.304 |
| 22 | -5.39 | 0.00 | -0.67 | 0.304 |
| 23 | -5.03 | 0.00 | -0.66 | 0.304 |
| 24 | -4.91 | 0.00 | -0.66 | 0.305 |
| 25 | -4.35 | 0.00 | -0.65 | 0.306 |
| 26 | -3.58 | 0.00 | -0.64 | 0.307 |
| 27 | -2.35 | 0.00 | -0.67 | 0.306 |
| 28 | -2.13 | 0.00 | -0.68 | 0.305 |
| 29 | -1.90 | 0.00 | -0.68 | 0.309 |
| 30 | -1.89 | 0.00 | -0.68 | 0.310 |
| 31 | -1.79 | 0.00 | -0.69 | 0.314 |
| 32 | -1.54 | 0.00 | -0.69 | 0.329 |
| 33 | -0.98 | 0.00 | -0.71 | 0.390 |
| 34 | -0.89 | 0.00 | -0.71 | 0.343 |
| 35 | -0.48 | 0.00 | -0.12 | 0.374 |
| 36 | -0.43 | 0.00 | -0.12 | 0.365 |
| 37 | -0.01 | 0.00 | -0.22 | 0.377 |
| 38 | 0.00 | 0.00 | -0.22 | 0.380 |
| 39 | 0.30 | 0.00 | -0.35 | 0.424 |
| 40 | 0.39 | 0.00 | -0.43 | 0.479 |
| 41 | 0.56 | 0.00 | -0.59 | 0.464 |
| 42 | 0.73 | 0.00 | -1.20 | 0.488 |
| 43 | 0.91 | 0.00 | -1.70 | 0.545 |
| 44 | 0.94 | 0.00 | -1.80 | 0.539 |
| 45 | 1.20 | 0.00 | -2.07 | 0.517 |
| 46 | 2.48 | 0.00 | -2.27 | 0.426 |
| 47 | 3.57 | 0.00 | -2.23 | 0.353 |
| 48 | 4.07 | 0.00 | -2.50 | 0.340 |
| 49 | 5.00 | 0.00 | -2.49 | 0.304 |

## 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 100 | -0.001 | -0.386 | 0.183 |
| | 4500 | 0.120 | 65.953 | 0.062 |
| 2 | 100 | 0.001 | 0.351 | 0.192 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 4500 | 0.130 | 67.184 | 0.063 |
| 3 | 100 | 0.010 | 3.435 | 0.290 |
| | 4500 | 0.206 | 68.690 | 0.094 |
| 4 | 100 | 0.020 | 5.694 | 0.329 |
| | 4500 | 0.248 | 71.068 | 0.101 |
| 5 | 100 | 0.006 | 2.387 | 0.244 |
| | 4500 | 0.173 | 69.140 | 0.077 |
| 6 | 100 | 0.007 | 2.757 | 0.251 |
| | 4500 | 0.179 | 69.237 | 0.079 |
| 7 | 100 | 0.014 | 5.149 | 0.267 |
| | 4500 | 0.197 | 69.901 | 0.085 |
| 8 | 100 | 0.033 | 9.719 | 0.309 |
| | 4500 | 0.240 | 70.230 | 0.102 |
| 9 | 100 | 0.035 | 10.125 | 0.311 |
| | 4500 | 0.240 | 69.354 | 0.106 |
| 10 | 100 | 0.040 | 11.212 | 0.314 |
| | 4500 | 0.242 | 68.451 | 0.112 |
| 11 | 100 | 0.041 | 11.367 | 0.317 |
| | 4500 | 0.246 | 68.657 | 0.112 |
| 12 | 100 | 0.042 | 11.597 | 0.319 |
| | 4500 | 0.248 | 68.823 | 0.112 |
| 13 | 100 | 0.042 | 11.592 | 0.319 |
| | 4500 | 0.248 | 68.822 | 0.112 |
| 14 | 100 | 0.042 | 11.655 | 0.320 |
| | 4500 | 0.250 | 68.925 | 0.113 |
| 15 | 100 | 0.042 | 11.641 | 0.322 |
| | 4500 | 0.251 | 69.020 | 0.113 |
| 16 | 100 | 0.042 | 11.540 | 0.323 |
| | 4500 | 0.253 | 69.108 | 0.113 |
| 17 | 100 | 0.041 | 11.294 | 0.325 |
| | 4500 | 0.254 | 69.198 | 0.113 |
| 18 | 100 | 0.049 | 13.046 | 0.328 |
| | 4500 | 0.265 | 70.033 | 0.113 |
| 19 | 100 | 0.009 | 2.894 | 0.288 |
| | 4500 | 0.189 | 63.828 | 0.107 |
| 20 | 100 | 0.010 | 3.138 | 0.307 |
| | 4500 | 0.206 | 64.855 | 0.111 |
| 21 | 100 | 0.007 | 2.418 | 0.297 |
| | 4500 | 0.195 | 63.967 | 0.110 |
| 22 | 100 | 0.008 | 2.515 | 0.296 |
| | 4500 | 0.195 | 64.018 | 0.109 |
| 23 | 100 | 0.008 | 2.623 | 0.296 |
| | 4500 | 0.195 | 64.128 | 0.109 |
| 24 | 100 | 0.008 | 2.674 | 0.296 |
| | 4500 | 0.196 | 64.182 | 0.109 |
| 25 | 100 | 0.009 | 2.787 | 0.297 |
| | 4500 | 0.197 | 64.357 | 0.109 |
| 26 | 100 | 0.009 | 2.892 | 0.298 |
| | 4500 | 0.198 | 64.559 | 0.109 |
| 27 | 100 | 0.008 | 2.612 | 0.298 |
| | 4500 | 0.199 | 64.920 | 0.107 |
| 28 | 100 | 0.007 | 2.347 | 0.298 |
| | 4500 | 0.198 | 64.954 | 0.107 |
| 29 | 100 | 0.007 | 2.298 | 0.302 |
| | 4500 | 0.198 | 64.066 | 0.111 |
| 30 | 100 | 0.007 | 2.294 | 0.303 |
| | 4500 | 0.198 | 64.018 | 0.111 |
| 31 | 100 | 0.007 | 2.238 | 0.307 |
| | 4500 | 0.198 | 63.116 | 0.116 |
| 32 | 100 | 0.007 | 2.111 | 0.322 |
| | 4500 | 0.203 | 61.769 | 0.126 |
| 33 | 100 | 0.014 | 3.497 | 0.377 |
| | 4500 | 0.247 | 63.322 | 0.143 |
| 34 | 100 | 0.010 | 3.031 | 0.332 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 4500 | 0.214 | 62.475 | 0.129 |
| 35 | 100 | 0.050 | 13.383 | 0.324 |
| | 4500 | 0.269 | 71.841 | 0.105 |
| 36 | 100 | 0.043 | 11.743 | 0.322 |
| | 4500 | 0.260 | 71.411 | 0.104 |
| 37 | 100 | 0.047 | 12.579 | 0.329 |
| | 4500 | 0.265 | 70.267 | 0.112 |
| 38 | 100 | 0.048 | 12.554 | 0.332 |
| | 4500 | 0.267 | 70.200 | 0.113 |
| 39 | 100 | 0.051 | 11.927 | 0.373 |
| | 4500 | 0.292 | 68.805 | 0.132 |
| 40 | 100 | 0.063 | 13.107 | 0.416 |
| | 4500 | 0.335 | 70.025 | 0.144 |
| 41 | 100 | 0.055 | 11.912 | 0.409 |
| | 4500 | 0.323 | 69.499 | 0.142 |
| 42 | 100 | 0.049 | 10.083 | 0.439 |
| | 4500 | 0.344 | 70.578 | 0.144 |
| 43 | 100 | 0.077 | 14.118 | 0.468 |
| | 4500 | 0.404 | 74.189 | 0.141 |
| 44 | 100 | 0.074 | 13.719 | 0.465 |
| | 4500 | 0.399 | 74.065 | 0.140 |
| 45 | 100 | 0.065 | 12.630 | 0.451 |
| | 4500 | 0.381 | 73.674 | 0.136 |
| 46 | 100 | 0.039 | 9.107 | 0.387 |
| | 4500 | 0.306 | 71.797 | 0.120 |
| 47 | 100 | 0.019 | 5.445 | 0.334 |
| | 4500 | 0.244 | 68.983 | 0.110 |
| 48 | 100 | 0.018 | 5.151 | 0.322 |
| | 4500 | 0.235 | 69.180 | 0.105 |
| 49 | 100 | 0.010 | 3.334 | 0.294 |
| | 4500 | 0.205 | 67.458 | 0.099 |

## 5 Warnings and errors

List of non-fatal warnings and errors generated during calculation.

1 Non-uniform load [1]: Co-ordinate (1) lies below surface

2 Non-uniform load [1]: Co-ordinate (5) lies below surface

3 Non-uniform load [3]: Co-ordinate (10) lies below surface

4 Non-uniform load [3]: Co-ordinate (13) lies below surface

5 Non-uniform load [3]: Co-ordinate (14) lies below surface

## End of Report

# Report for D-Settlement 21.2

Settlement Calculations
Developed by Deltares




| | |
|---|---|
| Company: | Waalpartners bv |
| Date of report: | 11/24/2022 |
| Time of report: | 1:53:27 PM |
| Report with version: | 21.2.1.34213 |
| Date of calculation: | 11/24/2022 |
| Time of calculation: | 1:52:27 PM |
| Calculated with version: | 21.2.1.34213 |
| File name: | 13.28BKL |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 11 - X - | -22.000 | -14.873 | -14.679 | -14.212 | -14.077 |
| 11 - Y - | -1.218 | -1.302 | -1.800 | -3.000 | -3.348 |
| 11 - X - | -13.370 | -11.490 | -11.448 | -10.864 | -10.832 |
| 11 - Y - | -3.358 | -3.000 | -2.992 | -1.800 | -1.734 |
| 11 - X - | -9.450 | -9.179 | -7.875 | -7.588 | -7.345 |
| 11 - Y - | -1.000 | -0.856 | -0.048 | 0.130 | 0.140 |
| 11 - X - | -6.860 | -6.860 | -4.077 | -1.430 | -1.240 |
| 11 - Y - | 0.136 | -0.174 | 0.012 | 0.035 | 0.037 |
| 11 - X - | -1.240 | -1.106 | -0.842 | -0.387 | 0.450 |
| 11 - Y - | 0.347 | 0.376 | 0.422 | 0.258 | -0.309 |
| 11 - X - | 0.642 | 0.693 | 0.962 | 1.031 | 5.000 |
| 11 - Y - | -1.000 | -1.183 | -1.800 | -1.958 | -1.979 |
| 10 - X - | -22.000 | -14.679 | -14.212 | -14.077 | -13.370 |
| 10 - Y - | -1.800 | -1.800 | -3.000 | -3.348 | -3.358 |
| 10 - X - | -11.490 | -11.448 | -10.864 | -10.832 | -9.450 |
| 10 - Y - | -3.000 | -2.992 | -1.800 | -1.734 | -1.000 |
| 10 - X - | -9.179 | -7.875 | -7.588 | -7.345 | -6.860 |
| 10 - Y - | -0.856 | -0.048 | 0.130 | 0.140 | 0.136 |
| 10 - X - | -6.860 | -4.077 | -1.430 | -1.240 | -1.240 |
| 10 - Y - | -0.174 | 0.012 | 0.035 | 0.037 | 0.347 |
| 10 - X - | -1.106 | -0.842 | -0.387 | 0.450 | 0.642 |
| 10 - Y - | 0.376 | 0.422 | 0.258 | -0.309 | -1.000 |
| 10 - X - | 0.693 | 0.962 | 1.031 | 5.000 | |
| 10 - Y - | -1.183 | -1.800 | -1.958 | -1.979 | |
| 9 - X - | -22.000 | -14.212 | -14.077 | -13.370 | -11.490 |
| 9 - Y - | -3.000 | -3.000 | -3.348 | -3.358 | -3.000 |
| 9 - X - | -11.448 | -10.864 | -10.832 | -9.450 | -9.179 |
| 9 - Y - | -2.992 | -1.800 | -1.734 | -1.000 | -0.856 |
| 9 - X - | -7.875 | -7.588 | -7.345 | -6.860 | -6.860 |
| 9 - Y - | -0.048 | 0.130 | 0.140 | 0.136 | -0.174 |
| 9 - X - | -4.077 | -1.430 | -1.240 | -1.240 | -1.106 |
| 9 - Y - | 0.012 | 0.035 | 0.037 | 0.347 | 0.376 |
| 9 - X - | -0.842 | -0.387 | 0.450 | 0.642 | 0.693 |
| 9 - Y - | 0.422 | 0.258 | -0.309 | -1.000 | -1.183 |
| 9 - X - | 0.962 | 1.031 | 5.000 | | |
| 9 - Y - | -1.800 | -1.958 | -1.979 | | |
| 8 - X - | -22.000 | -14.212 | -14.077 | -13.370 | -11.490 |
| 8 - Y - | -3.000 | -3.000 | -3.348 | -3.358 | -3.000 |
| 8 - X - | -11.448 | -10.864 | -10.832 | -9.450 | 0.642 |
| 8 - Y - | -2.992 | -1.800 | -1.734 | -1.000 | -1.000 |
| 8 - X - | 0.693 | 0.962 | 1.031 | 5.000 | |
| 8 - Y - | -1.183 | -1.800 | -1.958 | -1.979 | |
| 7 - X - | -22.000 | -14.212 | -14.077 | -13.370 | -11.490 |
| 7 - Y - | -3.000 | -3.000 | -3.348 | -3.358 | -3.000 |
| 7 - X - | -11.448 | -10.864 | 0.962 | 1.031 | 5.000 |
| 7 - Y - | -2.992 | -1.800 | -1.800 | -1.958 | -1.979 |
| 6 - X - | -22.000 | -14.212 | -14.077 | -13.370 | -11.490 |
| 6 - Y - | -3.000 | -3.000 | -3.348 | -3.358 | -3.000 |
| 6 - X - | 5.000 | | | | |
| 6 - Y - | -3.000 | | | | |
| 5 - X - | -22.000 | 5.000 | | | |
| 5 - Y - | -5.000 | -5.000 | | | |
| 4 - X - | -22.000 | 5.000 | | | |
| 4 - Y - | -6.300 | -6.300 | | | |
| 3 - X - | -22.000 | 5.000 | | | |
| 3 - Y - | -11.300 | -11.300 | | | |
| 2 - X - | -22.000 | 5.000 | | | |
| 2 - Y - | -12.000 | -12.000 | | | |
| 1 - X - | -22.000 | 5.000 | | | |

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - Y - | -16.200 | -16.200 | | | |
| 0 - X - | -22.000 | 5.000 | | | |
| 0 - Y - | -17.800 | -17.800 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -22.000 | -9.000 | 0.000 | 5.000 | |
| 1 - Y - | -2.650 | -2.650 | -0.430 | -0.430 | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | |
| - Loads: | None |
| End of consolidation: | 10000.00 [days] |
| No maintain profile | |
| Pc (initial): | Variable parallel to the initial effective stress |
| Pc (per step): | Automatic increased to the final effective stresses |
| Creep rate reference time: | 1.000 [days] |
| No imaginary surface | |
| With submerging | |
| (only for non uniform loads) | |
| - Iteration stop criterium : | 0.10 [m] |
| Load column width | |
| - Non-Uniform Loads : | 1.00 [m] |
| - Trapeziform Loads : | 1.00 [m] |

## 2.4 Soil Profiles

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 11 | Klei Hum DK | 1 | 1 |
| 10 | Hollandveen | 1 | 1 |
| 9 | Dijksmateriaal | 1 | 1 |
| 8 | Klei Hum DK | 1 | 1 |
| 7 | Hollandveen | 1 | 1 |
| 6 | Klei zand DK | 1 | 1 |
| 5 | klei Silt DK | 1 | 1 |
| 4 | Klei CA | 1 | 1 |
| 3 | Klei silt CA | 1 | 1 |
| 2 | Klei CA | 1 | 1 |
| 1 | Klei silt CA | 1 | 1 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 11 | No | 13.50 | 13.50 |
| 10 | No | 10.50 | 10.50 |
| 9 | No | 16.00 | 16.00 |
| 8 | No | 13.50 | 13.50 |
| 7 | No | 10.50 | 10.50 |
| 6 | No | 17.00 | 17.00 |
| 5 | No | 15.10 | 15.10 |
| 4 | No | 15.90 | 15.90 |
| 3 | No | 15.90 | 15.90 |
| 2 | No | 15.90 | 15.90 |
| 1 | No | 15.90 | 15.90 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|---|---|
| 11 | Vert. cons. | 2.07E-08 | - | - | - |
| 10 | Vert. cons. | 2.37E-08 | - | - | - |
| 9 | Vert. cons. | 1.00E-08 | - | - | - |
| 8 | Vert. cons. | 2.07E-08 | - | - | - |
| 7 | Vert. cons. | 2.37E-08 | - | - | - |
| 6 | Vert. cons. | 1.00E-07 | - | - | - |
| 5 | Vert. cons. | 2.54E-08 | - | - | - |
| 4 | Vert. cons. | 6.02E-07 | - | - | - |
| 3 | Vert. cons. | 9.27E-08 | - | - | - |
| 2 | Vert. cons. | 6.02E-07 | - | - | - |
| 1 | Vert. cons. | 9.27E-08 | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 11 | - | 1.50 | - |
| 10 | - | 1.80 | - |
| 9 | - | 1.50 | - |
| 8 | - | 1.50 | - |
| 7 | - | 1.80 | - |
| 6 | - | 1.39 | - |
| 5 | - | 1.50 | - |
| 4 | - | 1.50 | - |
| 3 | - | 1.50 | - |
| 2 | - | 1.50 | - |
| 1 | - | 1.50 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 11 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 10 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 9 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 8 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 7 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 6 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 5 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 4 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 3 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 2 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 1 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time [days] | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 1 | -1 | 19.00 | 19.00 |
| 2 | -1 | 24.00 | 24.00 |
| 3 | 2 | 16.00 | 16.00 |
| 4 | 3 | 18.00 | 20.00 |
| 5 | 4 | 19.00 | 19.00 |
| 6 | 5 | 25.00 | 25.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -6.86 | -5.81 | -4.08 | -1.43 | -1.24 | |
| 1 - Y - | -0.09 | -0.03 | 0.09 | 0.12 | 0.12 | |
| 2 - X - | -6.86 | -6.72 | -6.32 | -5.83 | -5.21 | -4.08 |
| 2 - Y - | 0.14 | 0.18 | 0.20 | 0.24 | 0.27 | 0.33 |
| 2 - X - | -3.15 | -2.20 | -1.36 | -1.24 | | |
| 2 - Y - | 0.34 | 0.35 | 0.36 | 0.35 | | |
| 3 - X - | -10.83 | -7.82 | -7.73 | -7.59 | -7.46 | -7.18 |
| 3 - Y - | -1.73 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 |
| 3 - X - | -6.86 | -6.86 | -5.81 | -4.08 | -1.43 | -1.24 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 3 - Y - | 0.33 | -0.17 | -0.11 | 0.01 | 0.04 | 0.04 |
| 3 - X - | -1.24 | -0.98 | 0.12 | 0.31 | 0.45 | |
| 3 - Y - | 0.33 | 0.32 | 0.27 | 0.20 | -0.31 | |
| 4 - X - | -6.86 | -5.25 | | | | |
| 4 - Y - | -0.07 | -0.07 | | | | |
| 5 - X - | -6.86 | -1.24 | | | | |
| 5 - Y - | 0.23 | 0.23 | | | | |
| 6 - X - | -6.86 | -5.53 | -4.08 | -2.63 | -1.24 | |
| 6 - Y - | 0.33 | 0.36 | 0.40 | 0.36 | 0.33 | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -22.000 | -14.873 | -14.679 | -14.212 | -14.077 |
| 6 - 10 | -13.370 | -11.490 | -11.448 | -10.864 | -10.832 |
| 11 - 15 | -9.450 | -9.179 | -9.000 | -7.875 | -7.816 |
| 16 - 20 | -7.732 | -7.588 | -7.456 | -7.345 | -7.177 |
| 21 - 25 | -6.860 | -6.720 | -6.318 | -5.825 | -5.809 |
| 26 - 30 | -5.528 | -5.251 | -5.209 | -4.077 | -3.155 |
| 31 - 35 | -2.626 | -2.199 | -1.430 | -1.365 | -1.240 |
| 36 - 40 | -1.239 | -1.106 | -0.977 | -0.842 | -0.387 |
| 41 - 45 | 0.000 | 0.123 | 0.311 | 0.450 | 0.642 |
| 46 - 49 | 0.693 | 0.962 | 1.031 | 5.000 | |

# 3 Results per Vertical

## 3.1 Results for Vertical 21 (X = -6.86 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.174 | 12.863 | -0.174 | 4.138 | 0.214 |
| -0.274 | 14.305 | -0.258 | 4.036 | 0.210 |
| -0.374 | 15.625 | -0.342 | 3.879 | 0.206 |
| -0.474 | 16.893 | -0.423 | 3.700 | 0.204 |
| -0.574 | 18.153 | -0.504 | 3.530 | 0.201 |
| -0.587 | 18.317 | -0.515 | 3.509 | 0.201 |
| -0.674 | 19.419 | -0.584 | 3.381 | 0.199 |
| -0.774 | 20.692 | -0.663 | 3.254 | 0.198 |
| -0.874 | 21.973 | -0.741 | 3.148 | 0.196 |
| -0.974 | 23.260 | -0.817 | 3.060 | 0.195 |
| -1.000 | 23.596 | -0.837 | 3.040 | 0.195 |
| -1.000 | 23.596 | -0.837 | 3.040 | 0.195 |
| -1.074 | 24.464 | -0.903 | 2.988 | 0.193 |
| -1.174 | 25.644 | -0.992 | 2.929 | 0.189 |
| -1.400 | 28.337 | -1.192 | 2.834 | 0.183 |
| -1.800 | 33.144 | -1.544 | 2.738 | 0.172 |
| -1.800 | 33.144 | -1.544 | 2.738 | 0.172 |
| -2.122 | 34.878 | -1.844 | 1.334 | 0.159 |
| -2.400 | 34.836 | -1.827 | 1.290 | 0.148 |
| -3.000 | 34.827 | -1.802 | 1.189 | 0.126 |
| -3.000 | 34.827 | -1.802 | 1.189 | 0.126 |
| -4.000 | 41.515 | -1.786 | 0.997 | 0.124 |
| -5.000 | 48.175 | -1.771 | 0.799 | 0.122 |
| -5.000 | 48.175 | -1.771 | 0.799 | 0.122 |
| -5.650 | 51.129 | -1.748 | 0.675 | 0.112 |
| -6.300 | 54.237 | -1.739 | 0.560 | 0.102 |
| -6.300 | 54.237 | -1.739 | 0.560 | 0.102 |
| -7.200 | 59.396 | -1.739 | 0.414 | 0.097 |
| -8.200 | 65.166 | -1.741 | 0.271 | 0.092 |
| -8.800 | 68.648 | -1.742 | 0.195 | 0.088 |
| -9.700 | 73.902 | -1.746 | 0.091 | 0.083 |
| -10.700 | 79.782 | -1.751 | -0.010 | 0.076 |
| -11.300 | 83.332 | -1.755 | -0.065 | 0.072 |
| -11.300 | 83.332 | -1.755 | -0.065 | 0.072 |
| -11.650 | 85.575 | -1.774 | -0.095 | 0.067 |
| -12.000 | 87.845 | -1.796 | -0.124 | 0.062 |
| -12.000 | 87.845 | -1.796 | -0.124 | 0.062 |
| -12.700 | 92.029 | -1.803 | -0.178 | 0.057 |
| -13.700 | 98.044 | -1.815 | -0.248 | 0.049 |
| -14.100 | 100.461 | -1.820 | -0.274 | 0.046 |
| -14.800 | 104.708 | -1.830 | -0.317 | 0.040 |
| -15.800 | 110.811 | -1.847 | -0.372 | 0.032 |
| -16.200 | 113.263 | -1.855 | -0.393 | 0.029 |
| -16.200 | 113.263 | -1.855 | -0.393 | 0.029 |
| -17.000 | 119.244 | -1.979 | -0.432 | 0.015 |
| -17.800 | 125.417 | -2.122 | -0.469 | 0.000 |

## 3.2 Results for Vertical 29 (X = -4.08 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.012 | 8.102 | 0.012 | 0.987 | 0.180 |
| -0.088 | 9.542 | -0.079 | 1.051 | 0.179 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.188 | 10.993 | -0.169 | 0.960 | 0.177 |
| -0.288 | 12.577 | -0.258 | 0.965 | 0.176 |
| -0.388 | 14.125 | -0.345 | 0.976 | 0.175 |
| -0.488 | 15.627 | -0.431 | 0.981 | 0.174 |
| -0.494 | 15.716 | -0.436 | 0.981 | 0.174 |
| -0.588 | 17.097 | -0.516 | 0.980 | 0.173 |
| -0.688 | 18.541 | -0.599 | 0.976 | 0.173 |
| -0.788 | 19.965 | -0.682 | 0.970 | 0.172 |
| -0.888 | 21.373 | -0.763 | 0.964 | 0.171 |
| -0.988 | 22.766 | -0.843 | 0.957 | 0.171 |
| -1.000 | 22.932 | -0.853 | 0.957 | 0.171 |
| -1.000 | 22.932 | -0.853 | 0.957 | 0.171 |
| -1.400 | 26.844 | -1.215 | -0.090 | 0.163 |
| -1.436 | 26.931 | -1.247 | -0.440 | 0.162 |
| -1.800 | 27.813 | -1.211 | -0.441 | 0.156 |
| -1.800 | 27.813 | -1.211 | -0.441 | 0.156 |
| -2.400 | 27.682 | -1.183 | -0.410 | 0.138 |
| -3.000 | 27.586 | -1.164 | -0.353 | 0.121 |
| -3.000 | 27.586 | -1.164 | -0.353 | 0.121 |
| -4.000 | 34.057 | -1.152 | -0.246 | 0.121 |
| -5.000 | 40.540 | -1.139 | -0.162 | 0.120 |
| -5.000 | 40.540 | -1.139 | -0.162 | 0.120 |
| -5.650 | 43.410 | -1.116 | -0.129 | 0.110 |
| -6.300 | 46.422 | -1.106 | -0.111 | 0.101 |
| -6.300 | 46.422 | -1.106 | -0.111 | 0.101 |
| -7.200 | 51.497 | -1.106 | -0.109 | 0.097 |
| -8.200 | 57.194 | -1.107 | -0.128 | 0.092 |
| -8.800 | 60.641 | -1.108 | -0.147 | 0.088 |
| -9.700 | 65.848 | -1.110 | -0.182 | 0.083 |
| -10.700 | 71.684 | -1.114 | -0.227 | 0.077 |
| -11.300 | 75.209 | -1.118 | -0.256 | 0.073 |
| -11.300 | 75.209 | -1.118 | -0.256 | 0.073 |
| -11.650 | 77.408 | -1.134 | -0.272 | 0.067 |
| -12.000 | 79.632 | -1.152 | -0.289 | 0.062 |
| -12.000 | 79.632 | -1.152 | -0.289 | 0.062 |
| -12.700 | 83.791 | -1.157 | -0.323 | 0.057 |
| -13.700 | 89.770 | -1.167 | -0.369 | 0.049 |
| -14.100 | 92.174 | -1.172 | -0.388 | 0.046 |
| -14.800 | 96.397 | -1.180 | -0.419 | 0.041 |
| -15.800 | 102.466 | -1.195 | -0.461 | 0.032 |
| -16.200 | 104.905 | -1.202 | -0.477 | 0.029 |
| -16.200 | 104.905 | -1.202 | -0.477 | 0.029 |
| -17.000 | 110.725 | -1.310 | -0.509 | 0.015 |
| -17.800 | 116.722 | -1.436 | -0.538 | 0.000 |

### 3.3 Results for Vertical 35 (X = -1.24 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.037 | 13.186 | 0.037 | 0.930 | 0.166 |
| -0.063 | 10.835 | -0.052 | 0.755 | 0.165 |
| -0.163 | 12.174 | -0.142 | 0.614 | 0.164 |
| -0.263 | 13.573 | -0.230 | 0.526 | 0.163 |
| -0.363 | 14.998 | -0.317 | 0.473 | 0.162 |
| -0.463 | 16.433 | -0.403 | 0.443 | 0.161 |
| -0.481 | 16.699 | -0.419 | 0.439 | 0.161 |
| -0.563 | 17.873 | -0.488 | 0.429 | 0.161 |
| -0.663 | 18.669 | -0.572 | -0.218 | 0.160 |
| -0.736 | 19.004 | -0.633 | -0.928 | 0.160 |
| -0.763 | 19.129 | -0.628 | -0.925 | 0.160 |
| -0.863 | 19.592 | -0.611 | -0.910 | 0.160 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.963 | 20.055 | -0.593 | -0.890 | 0.160 |
| -1.000 | 20.226 | -0.587 | -0.882 | 0.160 |
| -1.000 | 20.226 | -0.587 | -0.882 | 0.160 |
| -1.400 | 21.488 | -0.555 | -0.781 | 0.154 |
| -1.800 | 22.742 | -0.525 | -0.694 | 0.149 |
| -1.800 | 22.742 | -0.525 | -0.694 | 0.149 |
| -2.400 | 22.985 | -0.502 | -0.616 | 0.133 |
| -3.000 | 23.248 | -0.486 | -0.581 | 0.118 |
| -3.000 | 23.248 | -0.486 | -0.581 | 0.118 |
| -4.000 | 30.262 | -0.475 | -0.555 | 0.118 |
| -5.000 | 37.218 | -0.463 | -0.536 | 0.117 |
| -5.000 | 37.218 | -0.463 | -0.536 | 0.117 |
| -5.650 | 40.349 | -0.440 | -0.524 | 0.108 |
| -6.300 | 43.572 | -0.428 | -0.513 | 0.099 |
| -6.300 | 43.572 | -0.428 | -0.513 | 0.099 |
| -7.200 | 48.911 | -0.428 | -0.500 | 0.096 |
| -8.200 | 54.845 | -0.429 | -0.492 | 0.091 |
| -8.800 | 58.409 | -0.430 | -0.490 | 0.088 |
| -9.700 | 63.765 | -0.432 | -0.491 | 0.082 |
| -10.700 | 69.732 | -0.435 | -0.498 | 0.076 |
| -11.300 | 73.323 | -0.438 | -0.505 | 0.072 |
| -11.300 | 73.323 | -0.438 | -0.505 | 0.072 |
| -11.650 | 75.543 | -0.452 | -0.509 | 0.067 |
| -12.000 | 77.783 | -0.469 | -0.515 | 0.062 |
| -12.000 | 77.783 | -0.469 | -0.515 | 0.062 |
| -12.700 | 81.997 | -0.474 | -0.526 | 0.057 |
| -13.700 | 88.041 | -0.483 | -0.544 | 0.049 |
| -14.100 | 90.467 | -0.487 | -0.552 | 0.046 |
| -14.800 | 94.723 | -0.495 | -0.567 | 0.041 |
| -15.800 | 100.830 | -0.509 | -0.588 | 0.032 |
| -16.200 | 103.282 | -0.515 | -0.597 | 0.029 |
| -16.200 | 103.282 | -0.515 | -0.597 | 0.029 |
| -17.000 | 109.069 | -0.617 | -0.614 | 0.015 |
| -17.800 | 115.023 | -0.736 | -0.632 | 0.000 |

### 3.4 Results for Vertical 41 (X = 0.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.004 | 3.498 | -0.004 | 3.497 | 0.215 |
| -0.104 | 5.367 | -0.100 | 3.810 | 0.198 |
| -0.204 | 6.456 | -0.194 | 3.353 | 0.189 |
| -0.304 | 7.624 | -0.287 | 2.981 | 0.183 |
| -0.404 | 8.251 | -0.379 | 2.073 | 0.179 |
| -0.430 | 8.389 | -0.402 | 1.814 | 0.178 |
| -0.502 | 8.737 | -0.396 | 1.761 | 0.176 |
| -0.504 | 8.747 | -0.396 | 1.759 | 0.176 |
| -0.604 | 9.177 | -0.387 | 1.625 | 0.174 |
| -0.704 | 9.582 | -0.377 | 1.460 | 0.172 |
| -0.804 | 9.982 | -0.367 | 1.283 | 0.170 |
| -0.904 | 10.390 | -0.357 | 1.109 | 0.169 |
| -1.000 | 10.792 | -0.347 | 0.950 | 0.168 |
| -1.000 | 10.792 | -0.347 | 0.950 | 0.168 |
| -1.004 | 10.801 | -0.347 | 0.943 | 0.168 |
| -1.400 | 11.847 | -0.328 | 0.410 | 0.158 |
| -1.800 | 13.076 | -0.308 | 0.043 | 0.150 |
| -1.800 | 13.076 | -0.308 | 0.043 | 0.150 |
| -2.400 | 13.392 | -0.293 | -0.305 | 0.133 |
| -3.000 | 13.793 | -0.281 | -0.513 | 0.118 |
| -3.000 | 13.793 | -0.281 | -0.513 | 0.118 |
| -4.000 | 21.039 | -0.271 | -0.695 | 0.118 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -5.000 | 28.201 | -0.257 | -0.774 | 0.117 |
| -5.000 | 28.201 | -0.257 | -0.774 | 0.117 |
| -5.650 | 31.397 | -0.228 | -0.797 | 0.108 |
| -6.300 | 34.633 | -0.206 | -0.808 | 0.100 |
| -6.300 | 34.633 | -0.206 | -0.808 | 0.100 |
| -7.200 | 40.104 | -0.205 | -0.812 | 0.096 |
| -8.200 | 46.156 | -0.204 | -0.809 | 0.091 |
| -8.800 | 49.780 | -0.204 | -0.807 | 0.088 |
| -9.700 | 55.209 | -0.205 | -0.804 | 0.083 |
| -10.700 | 61.238 | -0.207 | -0.803 | 0.077 |
| -11.300 | 64.858 | -0.208 | -0.804 | 0.073 |
| -11.300 | 64.858 | -0.208 | -0.804 | 0.073 |
| -11.650 | 67.042 | -0.216 | -0.805 | 0.067 |
| -12.000 | 69.241 | -0.226 | -0.807 | 0.062 |
| -12.000 | 69.241 | -0.226 | -0.807 | 0.062 |
| -12.700 | 73.475 | -0.230 | -0.811 | 0.057 |
| -13.700 | 79.537 | -0.236 | -0.820 | 0.049 |
| -14.100 | 81.966 | -0.239 | -0.824 | 0.046 |
| -14.800 | 86.226 | -0.245 | -0.832 | 0.041 |
| -15.800 | 92.329 | -0.255 | -0.845 | 0.032 |
| -16.200 | 94.777 | -0.259 | -0.850 | 0.029 |
| -16.200 | 94.777 | -0.259 | -0.850 | 0.029 |
| -17.000 | 100.349 | -0.338 | -0.862 | 0.015 |
| -17.800 | 106.065 | -0.430 | -0.874 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -22.00 | 0.00 | -1.22 | 0.190 |
| 2 | -14.87 | 0.00 | -1.30 | 0.193 |
| 3 | -14.68 | 0.00 | -1.80 | 0.183 |
| 4 | -14.21 | 0.00 | -3.00 | 0.166 |
| 5 | -14.08 | 0.00 | -3.35 | 0.169 |
| 6 | -13.37 | 0.00 | -3.36 | 0.174 |
| 7 | -11.49 | 0.00 | -3.00 | 0.198 |
| 8 | -11.45 | 0.00 | -2.99 | 0.202 |
| 9 | -10.86 | 0.00 | -1.80 | 0.253 |
| 10 | -10.83 | 0.00 | -1.73 | 0.250 |
| 11 | -9.45 | 0.00 | -1.00 | 0.316 |
| 12 | -9.18 | 0.00 | -0.86 | 0.311 |
| 13 | -9.00 | 0.00 | -0.75 | 0.301 |
| 14 | -7.88 | 0.00 | -0.05 | 0.272 |
| 15 | -7.82 | 0.00 | -0.01 | 0.268 |
| 16 | -7.73 | 0.00 | 0.04 | 0.263 |
| 17 | -7.59 | 0.00 | 0.13 | 0.255 |
| 18 | -7.46 | 0.00 | 0.14 | 0.252 |
| 19 | -7.34 | 0.00 | 0.14 | 0.250 |
| 20 | -7.18 | 0.00 | 0.14 | 0.256 |
| 21 | -6.86 | 0.00 | -0.17 | 0.214 |
| 22 | -6.72 | 0.00 | -0.16 | 0.215 |
| 23 | -6.32 | 0.00 | -0.14 | 0.203 |
| 24 | -5.83 | 0.00 | -0.10 | 0.196 |
| 25 | -5.81 | 0.00 | -0.10 | 0.196 |
| 26 | -5.53 | 0.00 | -0.08 | 0.193 |
| 27 | -5.25 | 0.00 | -0.07 | 0.189 |
| 28 | -5.21 | 0.00 | -0.06 | 0.190 |
| 29 | -4.08 | 0.00 | 0.01 | 0.180 |
| 30 | -3.15 | 0.00 | 0.02 | 0.171 |
| 31 | -2.63 | 0.00 | 0.02 | 0.165 |
| 32 | -2.20 | 0.00 | 0.03 | 0.161 |
| 33 | -1.43 | 0.00 | 0.04 | 0.162 |
| 34 | -1.36 | 0.00 | 0.04 | 0.163 |
| 35 | -1.24 | 0.00 | 0.04 | 0.166 |
| 36 | -1.24 | 0.00 | 0.04 | 0.167 |
| 37 | -1.11 | 0.00 | 0.38 | 0.185 |
| 38 | -0.98 | 0.00 | 0.40 | 0.184 |
| 39 | -0.84 | 0.00 | 0.42 | 0.179 |
| 40 | -0.39 | 0.00 | 0.26 | 0.196 |
| 41 | 0.00 | 0.00 | 0.00 | 0.215 |
| 42 | 0.12 | 0.00 | -0.09 | 0.223 |
| 43 | 0.31 | 0.00 | -0.21 | 0.218 |
| 44 | 0.45 | 0.00 | -0.31 | 0.217 |
| 45 | 0.64 | 0.00 | -1.00 | 0.345 |
| 46 | 0.69 | 0.00 | -1.18 | 0.341 |
| 47 | 0.96 | 0.00 | -1.80 | 0.397 |
| 48 | 1.03 | 0.00 | -1.96 | 0.366 |
| 49 | 5.00 | 0.00 | -1.98 | 0.223 |

## 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 100 | 0.000 | 0.189 | 0.190 |
| | 4500 | 0.124 | 65.158 | 0.066 |
| 2 | 100 | 0.001 | 0.382 | 0.192 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 4500 | 0.127 | 65.584 | 0.066 |
| 3 | 100 | 0.002 | 1.135 | 0.181 |
| | 4500 | 0.123 | 67.427 | 0.060 |
| 4 | 100 | 0.002 | 1.071 | 0.165 |
| | 4500 | 0.107 | 64.000 | 0.060 |
| 5 | 100 | 0.003 | 1.513 | 0.166 |
| | 4500 | 0.109 | 64.745 | 0.060 |
| 6 | 100 | 0.004 | 2.268 | 0.170 |
| | 4500 | 0.114 | 65.367 | 0.060 |
| 7 | 100 | 0.014 | 7.073 | 0.184 |
| | 4500 | 0.134 | 67.934 | 0.063 |
| 8 | 100 | 0.017 | 8.499 | 0.185 |
| | 4500 | 0.138 | 68.513 | 0.064 |
| 9 | 100 | 0.031 | 12.230 | 0.222 |
| | 4500 | 0.189 | 74.467 | 0.065 |
| 10 | 100 | 0.026 | 10.433 | 0.224 |
| | 4500 | 0.184 | 73.686 | 0.066 |
| 11 | 100 | 0.047 | 14.948 | 0.269 |
| | 4500 | 0.235 | 74.110 | 0.082 |
| 12 | 100 | 0.036 | 11.638 | 0.274 |
| | 4500 | 0.225 | 72.548 | 0.085 |
| 13 | 100 | 0.030 | 10.064 | 0.271 |
| | 4500 | 0.215 | 71.215 | 0.087 |
| 14 | 100 | 0.029 | 10.625 | 0.243 |
| | 4500 | 0.182 | 67.089 | 0.089 |
| 15 | 100 | 0.028 | 10.323 | 0.241 |
| | 4500 | 0.179 | 66.779 | 0.089 |
| 16 | 100 | 0.026 | 9.690 | 0.238 |
| | 4500 | 0.175 | 66.257 | 0.089 |
| 17 | 100 | 0.022 | 8.596 | 0.233 |
| | 4500 | 0.167 | 65.349 | 0.088 |
| 18 | 100 | 0.020 | 8.028 | 0.232 |
| | 4500 | 0.164 | 65.037 | 0.088 |
| 19 | 100 | 0.020 | 7.951 | 0.231 |
| | 4500 | 0.163 | 65.000 | 0.088 |
| 20 | 100 | 0.025 | 9.858 | 0.231 |
| | 4500 | 0.169 | 65.902 | 0.087 |
| 21 | 100 | 0.002 | 1.079 | 0.211 |
| | 4500 | 0.130 | 60.756 | 0.084 |
| 22 | 100 | 0.001 | 0.588 | 0.214 |
| | 4500 | 0.131 | 60.944 | 0.084 |
| 23 | 100 | 0.000 | -0.162 | 0.204 |
| | 4500 | 0.121 | 59.704 | 0.082 |
| 24 | 100 | -0.001 | -0.428 | 0.197 |
| | 4500 | 0.116 | 59.263 | 0.080 |
| 25 | 100 | -0.001 | -0.388 | 0.197 |
| | 4500 | 0.116 | 59.294 | 0.080 |
| 26 | 100 | -0.001 | -0.479 | 0.194 |
| | 4500 | 0.114 | 59.097 | 0.079 |
| 27 | 100 | -0.002 | -0.820 | 0.191 |
| | 4500 | 0.111 | 58.722 | 0.078 |
| 28 | 100 | -0.001 | -0.713 | 0.191 |
| | 4500 | 0.112 | 58.770 | 0.078 |
| 29 | 100 | -0.002 | -0.902 | 0.182 |
| | 4500 | 0.105 | 58.299 | 0.075 |
| 30 | 100 | -0.002 | -1.369 | 0.173 |
| | 4500 | 0.098 | 57.581 | 0.072 |
| 31 | 100 | -0.003 | -1.695 | 0.168 |
| | 4500 | 0.094 | 57.194 | 0.071 |
| 32 | 100 | -0.003 | -1.901 | 0.164 |
| | 4500 | 0.092 | 57.002 | 0.069 |
| 33 | 100 | -0.003 | -1.826 | 0.165 |
| | 4500 | 0.093 | 57.316 | 0.069 |
| 34 | 100 | -0.003 | -1.699 | 0.166 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 4500 | 0.094 | 57.502 | 0.069 |
| 35 | 100 | -0.002 | -1.363 | 0.168 |
| | 4500 | 0.095 | 57.406 | 0.071 |
| 36 | 100 | -0.002 | -1.186 | 0.169 |
| | 4500 | 0.096 | 57.635 | 0.071 |
| 37 | 100 | 0.006 | 3.447 | 0.179 |
| | 4500 | 0.113 | 60.841 | 0.073 |
| 38 | 100 | 0.005 | 2.681 | 0.179 |
| | 4500 | 0.111 | 60.449 | 0.073 |
| 39 | 100 | 0.000 | 0.146 | 0.179 |
| | 4500 | 0.106 | 59.155 | 0.073 |
| 40 | 100 | 0.011 | 5.349 | 0.186 |
| | 4500 | 0.124 | 62.934 | 0.073 |
| 41 | 100 | 0.023 | 10.506 | 0.193 |
| | 4500 | 0.145 | 67.341 | 0.070 |
| 42 | 100 | 0.029 | 12.929 | 0.194 |
| | 4500 | 0.154 | 68.915 | 0.069 |
| 43 | 100 | 0.027 | 12.349 | 0.191 |
| | 4500 | 0.152 | 69.741 | 0.066 |
| 44 | 100 | 0.020 | 9.179 | 0.197 |
| | 4500 | 0.144 | 66.229 | 0.073 |
| 45 | 100 | 0.047 | 13.661 | 0.298 |
| | 4500 | 0.251 | 72.595 | 0.095 |
| 46 | 100 | 0.043 | 12.541 | 0.298 |
| | 4500 | 0.249 | 72.898 | 0.092 |
| 47 | 100 | 0.077 | 19.360 | 0.320 |
| | 4500 | 0.315 | 79.346 | 0.082 |
| 48 | 100 | 0.069 | 18.954 | 0.297 |
| | 4500 | 0.288 | 78.580 | 0.078 |
| 49 | 100 | 0.008 | 3.624 | 0.214 |
| | 4500 | 0.151 | 67.674 | 0.072 |

## 5 Warnings and errors

List of non-fatal warnings and errors generated during calculation.

| | |
|---|---|
| 1 | Non-uniform load [1]: Co-ordinate (1) lies below surface |
| 2 | Non-uniform load [1]: Co-ordinate (5) lies below surface |
| 3 | Non-uniform load [3]: Co-ordinate (8) lies below surface |
| 4 | Non-uniform load [3]: Co-ordinate (9) lies below surface |
| 5 | Non-uniform load [3]: Co-ordinate (12) lies below surface |
| 6 | Non-uniform load [3]: Co-ordinate (13) lies below surface |
| 7 | Non-uniform load [3]: Co-ordinate (14) lies below surface |
| 8 | Non-uniform load [4]: Co-ordinate (1) lies below surface |
| 9 | Non-uniform load [4]: Co-ordinate (2) lies below surface |
| 10 | Non-uniform load [5]: Co-ordinate (2) lies below surface |
| 11 | Non-uniform load [6]: Co-ordinate (5) lies below surface |

## End of Report

# Report for D-Settlement 21.2

Settlement Calculations
Developed by Deltares




| | |
|---|---|
| Company: | Waalpartners bv |
| Date of report: | 11/24/2022 |
| Time of report: | 2:12:25 PM |
| Report with version: | 21.2.1.34213 |
| Date of calculation: | 11/24/2022 |
| Time of calculation: | 2:11:28 PM |
| Calculated with version: | 21.2.1.34213 |
| File name: | 13.36 bkl |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 8 - X - | -22.000 | -14.503 | -14.393 | -14.100 | -11.460 |
| 8 - Y - | -1.092 | -1.344 | -1.900 | -3.383 | -3.201 |
| 8 - X - | -11.340 | -11.334 | -9.554 | -8.473 | -7.390 |
| 8 - Y - | -1.900 | -1.834 | -0.655 | -0.123 | -0.038 |
| 8 - X - | -7.122 | -6.930 | -6.930 | -4.100 | -1.180 |
| 8 - Y - | -0.117 | -0.098 | -0.478 | -0.379 | -0.436 |
| 8 - X - | -1.180 | -0.888 | -0.397 | -0.097 | 0.508 |
| 8 - Y - | -0.056 | 0.011 | -0.052 | -0.123 | -0.473 |
| 8 - X - | 0.650 | 1.034 | 1.154 | 5.000 | |
| 8 - Y - | -1.505 | -1.900 | -2.024 | -2.219 | |
| 7 - X - | -22.000 | -14.393 | -14.100 | -11.460 | -11.340 |
| 7 - Y - | -1.900 | -1.900 | -3.383 | -3.201 | -1.900 |
| 7 - X - | -11.334 | -9.554 | -8.473 | -7.390 | -7.122 |
| 7 - Y - | -1.834 | -0.655 | -0.123 | -0.038 | -0.117 |
| 7 - X - | -6.930 | -6.930 | -4.100 | -1.180 | -1.180 |
| 7 - Y - | -0.098 | -0.478 | -0.379 | -0.436 | -0.056 |
| 7 - X - | -0.888 | -0.397 | -0.097 | 0.508 | 0.650 |
| 7 - Y - | 0.011 | -0.052 | -0.123 | -0.473 | -1.505 |
| 7 - X - | 1.034 | 1.154 | 5.000 | | |
| 7 - Y - | -1.900 | -2.024 | -2.219 | | |
| 6 - X - | -22.000 | -14.393 | -14.100 | -11.460 | -11.340 |
| 6 - Y - | -1.900 | -1.900 | -3.383 | -3.201 | -1.900 |
| 6 - X - | 1.034 | 1.154 | 5.000 | | |
| 6 - Y - | -1.900 | -2.024 | -2.219 | | |
| 5 - X - | -22.000 | 5.000 | | | |
| 5 - Y - | -4.400 | -4.400 | | | |
| 4 - X - | -22.000 | 5.000 | | | |
| 4 - Y - | -7.000 | -7.000 | | | |
| 3 - X - | -22.000 | 5.000 | | | |
| 3 - Y - | -11.800 | -11.800 | | | |
| 2 - X - | -22.000 | 5.000 | | | |
| 2 - Y - | -12.700 | -12.700 | | | |
| 1 - X - | -22.000 | 5.000 | | | |
| 1 - Y - | -16.400 | -16.400 | | | |
| 0 - X - | -22.000 | 5.000 | | | |
| 0 - Y - | -17.600 | -17.600 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -22.000 | -9.000 | 0.000 | 5.000 | |
| 1 - Y - | -2.650 | -2.650 | -0.430 | -0.430 | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | |
| - Loads: | None |
| End of consolidation: | 10000.00 [days] |
| No maintain profile | |
| Pc (initial): | Variable parallel to the initial effective stress |
| Pc (per step): | Automatic increased to the final effective stresses |
| Creep rate reference time: | 1.000 [days] |
| No imaginary surface | |

With submerging
(only for non uniform loads)
- Iteration stop criterium : 0.10 [m]
Load column width
- Non-Uniform Loads : 1.00 [m]
- Trapeziform Loads : 1.00 [m]

## 2.4 Soil Profiles

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 8 | Klei Hum DK | 1 | 1 |
| 7 | Dijksmateriaal | 1 | 1 |
| 6 | Klei Hum DK | 1 | 1 |
| 5 | Hollandveen | 1 | 1 |
| 4 | Klei CA | 1 | 1 |
| 3 | klei Silt DK | 1 | 1 |
| 2 | Klei CA | 1 | 1 |
| 1 | Klei silt CA | 1 | 1 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 8 | No | 13.50 | 13.50 |
| 7 | No | 16.00 | 16.00 |
| 6 | No | 13.50 | 13.50 |
| 5 | No | 10.50 | 10.50 |
| 4 | No | 15.90 | 15.90 |
| 3 | No | 15.10 | 15.10 |
| 2 | No | 15.90 | 15.90 |
| 1 | No | 15.90 | 15.90 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|---|---|
| 8 | Vert. cons. | 2.07E-08 | - | - | - |
| 7 | Vert. cons. | 1.00E-08 | - | - | - |
| 6 | Vert. cons. | 2.07E-08 | - | - | - |
| 5 | Vert. cons. | 2.37E-08 | - | - | - |
| 4 | Vert. cons. | 6.02E-07 | - | - | - |
| 3 | Vert. cons. | 2.54E-08 | - | - | - |
| 2 | Vert. cons. | 6.02E-07 | - | - | - |
| 1 | Vert. cons. | 9.27E-08 | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 8 | - | 1.50 | - |
| 7 | - | 1.50 | - |
| 6 | - | 1.50 | - |
| 5 | - | 1.80 | - |
| 4 | - | 1.50 | - |
| 3 | - | 1.50 | - |
| 2 | - | 1.50 | - |
| 1 | - | 1.50 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 8 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 7 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 6 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 5 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 4 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 3 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 2 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 1 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time [days] | Unit weight Unsaturated [kN/m³] | Unit weight Saturated [kN/m³] |
|---|---|---|---|
| 1 | -1 | 19.00 | 19.00 |
| 2 | -1 | 24.00 | 24.00 |
| 3 | 2 | 16.00 | 16.00 |
| 4 | 3 | 18.00 | 20.00 |
| 5 | 4 | 19.00 | 19.00 |
| 6 | 5 | 25.00 | 25.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -6.93 | -5.19 | -4.10 | -1.40 | -1.28 | -1.18 |
| 1 - Y - | -0.40 | -0.35 | -0.30 | -0.35 | -0.36 | -0.36 |
| 2 - X - | -6.93 | -6.78 | -6.06 | -5.89 | -5.10 | -4.10 |
| 2 - Y - | -0.10 | -0.09 | -0.06 | -0.06 | -0.04 | 0.00 |
| 2 - X - | -2.72 | -2.31 | -2.06 | -1.42 | -1.18 | |
| 2 - Y - | -0.02 | -0.02 | -0.03 | -0.04 | -0.06 | |
| 3 - X - | -9.47 | -7.89 | -6.93 | -6.93 | -5.19 | -4.10 |
| 3 - Y - | -0.61 | 0.37 | 0.38 | -0.48 | -0.43 | -0.38 |
| 3 - X - | -1.40 | -1.28 | -1.18 | -1.18 | -0.95 | 0.15 |
| 3 - Y - | -0.43 | -0.44 | -0.44 | 0.38 | 0.37 | 0.31 |
| 3 - X - | 0.33 | 0.51 | | | | |
| 3 - Y - | 0.25 | -0.47 | | | | |
| 4 - X - | -6.93 | -1.18 | | | | |
| 4 - Y - | -0.07 | -0.07 | | | | |
| 5 - X - | -6.93 | -1.18 | | | | |
| 5 - Y - | 0.18 | 0.18 | | | | |
| 6 - X - | -6.93 | -5.60 | -4.10 | -2.60 | -1.18 | |
| 6 - Y - | 0.38 | 0.41 | 0.45 | 0.41 | 0.38 | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -22.000 | -14.503 | -14.393 | -14.100 | -11.460 |
| 6 - 10 | -11.340 | -11.334 | -9.554 | -9.469 | -9.000 |
| 11 - 15 | -8.473 | -7.889 | -7.690 | -7.586 | -7.471 |
| 16 - 20 | -7.390 | -7.250 | -7.122 | -6.930 | -6.784 |
| 21 - 25 | -6.300 | -6.058 | -5.895 | -5.601 | -5.190 |
| 26 - 30 | -5.099 | -4.100 | -2.723 | -2.599 | -2.312 |
| 31 - 35 | -2.062 | -1.415 | -1.397 | -1.281 | -1.180 |
| 36 - 40 | -0.950 | -0.888 | -0.397 | -0.097 | 0.000 |
| 41 - 45 | 0.150 | 0.333 | 0.508 | 0.650 | 1.034 |
| 46 - 47 | 1.154 | 5.000 | | | |

# 3 Results per Vertical

## 3.1 Results for Vertical 19 (X = -6.93 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.478 | 21.033 | -0.478 | 10.520 | 0.260 |
| -0.578 | 21.963 | -0.551 | 10.065 | 0.253 |
| -0.678 | 22.832 | -0.622 | 9.606 | 0.247 |
| -0.778 | 23.749 | -0.694 | 9.210 | 0.242 |
| -0.878 | 24.743 | -0.764 | 8.894 | 0.238 |
| -0.978 | 25.793 | -0.834 | 8.640 | 0.234 |
| -1.078 | 26.880 | -0.903 | 8.429 | 0.231 |
| -1.178 | 27.990 | -0.971 | 8.250 | 0.228 |
| -1.189 | 28.113 | -0.978 | 8.231 | 0.227 |
| -1.278 | 29.114 | -1.038 | 8.092 | 0.225 |
| -1.378 | 30.246 | -1.105 | 7.951 | 0.223 |
| -1.478 | 31.383 | -1.171 | 7.823 | 0.220 |
| -1.900 | 36.197 | -1.443 | 7.368 | 0.214 |
| -1.900 | 36.197 | -1.443 | 7.368 | 0.214 |
| -2.139 | 37.086 | -1.642 | 5.426 | 0.207 |
| -2.650 | 37.761 | -1.563 | 5.027 | 0.194 |
| -3.150 | 38.559 | -1.495 | 4.695 | 0.183 |
| -3.800 | 39.779 | -1.420 | 4.328 | 0.171 |
| -4.400 | 41.076 | -1.365 | 4.036 | 0.161 |
| -4.400 | 41.076 | -1.365 | 4.036 | 0.161 |
| -5.100 | 40.928 | -1.344 | 3.737 | 0.141 |
| -5.700 | 40.997 | -1.344 | 3.506 | 0.125 |
| -6.400 | 41.298 | -1.365 | 3.260 | 0.106 |
| -7.000 | 41.747 | -1.402 | 3.065 | 0.089 |
| -7.000 | 41.747 | -1.402 | 3.065 | 0.089 |
| -7.800 | 46.247 | -1.406 | 2.823 | 0.087 |
| -8.800 | 51.916 | -1.413 | 2.547 | 0.084 |
| -9.400 | 55.341 | -1.417 | 2.393 | 0.082 |
| -10.200 | 59.937 | -1.425 | 2.201 | 0.079 |
| -11.200 | 65.730 | -1.436 | 1.978 | 0.075 |
| -11.800 | 69.233 | -1.443 | 1.854 | 0.072 |
| -11.800 | 69.233 | -1.443 | 1.854 | 0.072 |
| -12.250 | 73.077 | -1.609 | 1.766 | 0.065 |
| -12.700 | 77.123 | -1.795 | 1.680 | 0.057 |
| -12.700 | 77.123 | -1.795 | 1.680 | 0.057 |
| -13.650 | 82.765 | -1.812 | 1.511 | 0.049 |
| -14.550 | 88.155 | -1.830 | 1.363 | 0.041 |
| -15.500 | 93.893 | -1.852 | 1.219 | 0.032 |
| -16.400 | 99.372 | -1.875 | 1.093 | 0.023 |
| -16.400 | 99.372 | -1.875 | 1.093 | 0.023 |
| -17.000 | 104.123 | -2.001 | 1.013 | 0.012 |
| -17.600 | 108.998 | -2.139 | 0.938 | 0.000 |

## 3.2 Results for Vertical 27 (X = -4.10 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.379 | 16.712 | -0.379 | 8.213 | 0.273 |
| -0.479 | 18.412 | -0.456 | 8.280 | 0.267 |
| -0.579 | 19.754 | -0.532 | 8.267 | 0.261 |
| -0.679 | 21.078 | -0.606 | 8.251 | 0.256 |
| -0.779 | 22.385 | -0.679 | 8.232 | 0.251 |
| -0.879 | 23.676 | -0.750 | 8.212 | 0.247 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.979 | 24.953 | -0.821 | 8.190 | 0.244 |
| -1.079 | 26.218 | -0.890 | 8.167 | 0.241 |
| -1.139 | 26.977 | -0.932 | 8.152 | 0.239 |
| -1.179 | 27.471 | -0.959 | 8.143 | 0.238 |
| -1.279 | 28.362 | -1.026 | 7.767 | 0.235 |
| -1.379 | 28.616 | -1.093 | 6.760 | 0.233 |
| -1.441 | 28.772 | -1.135 | 6.133 | 0.232 |
| -1.900 | 29.903 | -0.986 | 6.006 | 0.226 |
| -1.900 | 29.903 | -0.986 | 6.006 | 0.226 |
| -2.550 | 30.911 | -0.897 | 5.799 | 0.207 |
| -3.150 | 31.791 | -0.826 | 5.574 | 0.193 |
| -3.800 | 32.768 | -0.763 | 5.294 | 0.179 |
| -4.400 | 33.759 | -0.718 | 5.011 | 0.167 |
| -4.400 | 33.759 | -0.718 | 5.011 | 0.167 |
| -5.100 | 33.180 | -0.701 | 4.665 | 0.145 |
| -5.700 | 32.875 | -0.703 | 4.366 | 0.127 |
| -6.400 | 32.754 | -0.723 | 4.024 | 0.107 |
| -7.000 | 32.851 | -0.756 | 3.743 | 0.090 |
| -7.000 | 32.851 | -0.756 | 3.743 | 0.090 |
| -7.800 | 36.992 | -0.760 | 3.390 | 0.087 |
| -8.800 | 42.295 | -0.766 | 2.987 | 0.084 |
| -9.400 | 45.540 | -0.770 | 2.766 | 0.082 |
| -10.200 | 49.932 | -0.777 | 2.494 | 0.079 |
| -11.200 | 55.519 | -0.787 | 2.188 | 0.075 |
| -11.800 | 58.918 | -0.794 | 2.021 | 0.073 |
| -11.800 | 58.918 | -0.794 | 2.021 | 0.073 |
| -12.250 | 62.572 | -0.946 | 1.903 | 0.066 |
| -12.700 | 66.423 | -1.118 | 1.791 | 0.057 |
| -12.700 | 66.423 | -1.118 | 1.791 | 0.057 |
| -13.650 | 71.949 | -1.134 | 1.573 | 0.049 |
| -14.550 | 77.246 | -1.151 | 1.387 | 0.041 |
| -15.500 | 82.900 | -1.171 | 1.209 | 0.032 |
| -16.400 | 88.312 | -1.193 | 1.056 | 0.023 |
| -16.400 | 88.312 | -1.193 | 1.056 | 0.023 |
| -17.000 | 92.955 | -1.311 | 0.962 | 0.012 |
| -17.600 | 97.722 | -1.441 | 0.873 | 0.000 |

### 3.3 Results for Vertical 35 (X = -1.18 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.436 | 19.585 | -0.436 | 9.105 | 0.255 |
| -0.536 | 20.427 | -0.511 | 8.550 | 0.249 |
| -0.636 | 20.479 | -0.585 | 7.238 | 0.244 |
| -0.721 | 20.547 | -0.647 | 6.158 | 0.241 |
| -0.736 | 20.563 | -0.643 | 6.120 | 0.240 |
| -0.836 | 20.697 | -0.617 | 5.890 | 0.237 |
| -0.936 | 20.880 | -0.591 | 5.708 | 0.234 |
| -1.036 | 21.100 | -0.565 | 5.563 | 0.231 |
| -1.136 | 21.347 | -0.539 | 5.444 | 0.228 |
| -1.168 | 21.430 | -0.531 | 5.410 | 0.227 |
| -1.236 | 21.613 | -0.513 | 5.344 | 0.226 |
| -1.336 | 21.892 | -0.487 | 5.257 | 0.224 |
| -1.436 | 22.179 | -0.462 | 5.180 | 0.222 |
| -1.900 | 23.565 | -0.341 | 4.881 | 0.216 |
| -1.900 | 23.565 | -0.341 | 4.881 | 0.216 |
| -2.550 | 24.839 | -0.268 | 4.506 | 0.198 |
| -3.150 | 26.094 | -0.209 | 4.184 | 0.184 |
| -3.800 | 27.557 | -0.153 | 3.871 | 0.171 |
| -4.400 | 29.010 | -0.110 | 3.613 | 0.161 |
| -4.400 | 29.010 | -0.110 | 3.613 | 0.161 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -5.100 | 28.927 | -0.092 | 3.342 | 0.141 |
| -5.700 | 28.992 | -0.090 | 3.130 | 0.124 |
| -6.400 | 29.225 | -0.103 | 2.900 | 0.106 |
| -7.000 | 29.558 | -0.126 | 2.716 | 0.090 |
| -7.000 | 29.558 | -0.126 | 2.716 | 0.090 |
| -7.800 | 34.056 | -0.129 | 2.485 | 0.088 |
| -8.800 | 39.714 | -0.134 | 2.217 | 0.085 |
| -9.400 | 43.130 | -0.138 | 2.067 | 0.083 |
| -10.200 | 47.712 | -0.143 | 1.878 | 0.080 |
| -11.200 | 53.484 | -0.151 | 1.659 | 0.075 |
| -11.800 | 56.971 | -0.157 | 1.536 | 0.073 |
| -11.800 | 56.971 | -0.157 | 1.536 | 0.073 |
| -12.250 | 60.469 | -0.288 | 1.448 | 0.065 |
| -12.700 | 64.136 | -0.435 | 1.363 | 0.057 |
| -12.700 | 64.136 | -0.435 | 1.363 | 0.057 |
| -13.650 | 69.746 | -0.448 | 1.195 | 0.049 |
| -14.550 | 75.103 | -0.463 | 1.048 | 0.041 |
| -15.500 | 80.802 | -0.481 | 0.904 | 0.032 |
| -16.400 | 86.243 | -0.500 | 0.778 | 0.023 |
| -16.400 | 86.243 | -0.500 | 0.778 | 0.023 |
| -17.000 | 90.787 | -0.605 | 0.699 | 0.012 |
| -17.600 | 95.442 | -0.721 | 0.624 | 0.000 |

### 3.4 Results for Vertical 40 (X = 0.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.179 | 7.950 | -0.179 | 7.949 | 0.304 |
| -0.279 | 9.087 | -0.268 | 7.599 | 0.281 |
| -0.379 | 8.835 | -0.355 | 5.872 | 0.267 |
| -0.430 | 8.776 | -0.399 | 5.062 | 0.262 |
| -0.479 | 8.880 | -0.393 | 4.923 | 0.258 |
| -0.579 | 9.244 | -0.380 | 4.792 | 0.250 |
| -0.679 | 9.598 | -0.367 | 4.651 | 0.244 |
| -0.779 | 9.930 | -0.353 | 4.484 | 0.238 |
| -0.879 | 10.258 | -0.340 | 4.305 | 0.233 |
| -0.979 | 10.595 | -0.325 | 4.124 | 0.228 |
| -1.040 | 10.807 | -0.317 | 4.018 | 0.226 |
| -1.079 | 10.950 | -0.311 | 3.951 | 0.224 |
| -1.179 | 11.327 | -0.296 | 3.789 | 0.221 |
| -1.900 | 14.542 | -0.179 | 2.999 | 0.208 |
| -1.900 | 14.542 | -0.179 | 2.999 | 0.208 |
| -2.550 | 16.676 | -0.127 | 2.626 | 0.191 |
| -3.150 | 18.643 | -0.079 | 2.407 | 0.179 |
| -3.800 | 20.729 | -0.030 | 2.237 | 0.167 |
| -4.400 | 22.629 | 0.011 | 2.114 | 0.158 |
| -4.400 | 22.629 | 0.011 | 2.114 | 0.158 |
| -5.100 | 22.944 | 0.032 | 1.990 | 0.139 |
| -5.700 | 23.262 | 0.041 | 1.893 | 0.124 |
| -6.400 | 23.700 | 0.039 | 1.784 | 0.106 |
| -7.000 | 24.145 | 0.028 | 1.691 | 0.091 |
| -7.000 | 24.145 | 0.028 | 1.691 | 0.091 |
| -7.800 | 28.890 | 0.026 | 1.568 | 0.089 |
| -8.800 | 34.795 | 0.023 | 1.414 | 0.086 |
| -9.400 | 38.331 | 0.021 | 1.322 | 0.084 |
| -10.200 | 43.045 | 0.017 | 1.200 | 0.081 |
| -11.200 | 48.946 | 0.011 | 1.052 | 0.076 |
| -11.800 | 52.494 | 0.007 | 0.966 | 0.073 |
| -11.800 | 52.494 | 0.007 | 0.966 | 0.073 |
| -12.250 | 55.711 | -0.090 | 0.902 | 0.065 |
| -12.700 | 59.063 | -0.200 | 0.840 | 0.057 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -12.700 | 59.063 | -0.200 | 0.840 | 0.057 |
| -13.650 | 64.726 | -0.210 | 0.714 | 0.048 |
| -14.550 | 70.117 | -0.221 | 0.599 | 0.040 |
| -15.500 | 75.838 | -0.235 | 0.485 | 0.032 |
| -16.400 | 81.287 | -0.251 | 0.382 | 0.023 |
| -16.400 | 81.287 | -0.251 | 0.382 | 0.023 |
| -17.000 | 85.659 | -0.336 | 0.317 | 0.012 |
| -17.600 | 90.126 | -0.430 | 0.254 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -22.00 | 0.00 | -1.09 | 0.196 |
| 2 | -14.50 | 0.00 | -1.34 | 0.202 |
| 3 | -14.39 | 0.00 | -1.90 | 0.190 |
| 4 | -14.10 | 0.00 | -3.38 | 0.295 |
| 5 | -11.46 | 0.00 | -3.20 | 0.383 |
| 6 | -11.34 | 0.00 | -1.90 | 0.221 |
| 7 | -11.33 | 0.00 | -1.83 | 0.220 |
| 8 | -9.55 | 0.00 | -0.66 | 0.221 |
| 9 | -9.47 | 0.00 | -0.61 | 0.224 |
| 10 | -9.00 | 0.00 | -0.38 | 0.238 |
| 11 | -8.47 | 0.00 | -0.12 | 0.262 |
| 12 | -7.89 | 0.00 | -0.08 | 0.293 |
| 13 | -7.69 | 0.00 | -0.06 | 0.301 |
| 14 | -7.59 | 0.00 | -0.05 | 0.302 |
| 15 | -7.47 | 0.00 | -0.04 | 0.304 |
| 16 | -7.39 | 0.00 | -0.04 | 0.306 |
| 17 | -7.25 | 0.00 | -0.08 | 0.311 |
| 18 | -7.12 | 0.00 | -0.12 | 0.320 |
| 19 | -6.93 | 0.00 | -0.48 | 0.260 |
| 20 | -6.78 | 0.00 | -0.47 | 0.272 |
| 21 | -6.30 | 0.00 | -0.46 | 0.267 |
| 22 | -6.06 | 0.00 | -0.45 | 0.267 |
| 23 | -5.89 | 0.00 | -0.44 | 0.268 |
| 24 | -5.60 | 0.00 | -0.43 | 0.270 |
| 25 | -5.19 | 0.00 | -0.42 | 0.271 |
| 26 | -5.10 | 0.00 | -0.41 | 0.272 |
| 27 | -4.10 | 0.00 | -0.38 | 0.273 |
| 28 | -2.72 | 0.00 | -0.41 | 0.268 |
| 29 | -2.60 | 0.00 | -0.41 | 0.268 |
| 30 | -2.31 | 0.00 | -0.41 | 0.266 |
| 31 | -2.06 | 0.00 | -0.42 | 0.265 |
| 32 | -1.42 | 0.00 | -0.43 | 0.267 |
| 33 | -1.40 | 0.00 | -0.43 | 0.267 |
| 34 | -1.28 | 0.00 | -0.43 | 0.272 |
| 35 | -1.18 | 0.00 | -0.44 | 0.255 |
| 36 | -0.95 | 0.00 | 0.00 | 0.309 |
| 37 | -0.89 | 0.00 | 0.01 | 0.301 |
| 38 | -0.40 | 0.00 | -0.05 | 0.299 |
| 39 | -0.10 | 0.00 | -0.12 | 0.300 |
| 40 | 0.00 | 0.00 | -0.18 | 0.304 |
| 41 | 0.15 | 0.00 | -0.27 | 0.317 |
| 42 | 0.33 | 0.00 | -0.37 | 0.355 |
| 43 | 0.51 | 0.00 | -0.47 | 0.379 |
| 44 | 0.65 | 0.00 | -1.51 | 0.431 |
| 45 | 1.03 | 0.00 | -1.90 | 0.473 |
| 46 | 1.15 | 0.00 | -2.02 | 0.466 |
| 47 | 5.00 | 0.00 | -2.22 | 0.279 |

## 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 100 | -0.003 | -1.485 | 0.199 |
| | 4500 | 0.117 | 59.425 | 0.080 |
| 2 | 100 | -0.002 | -1.080 | 0.204 |
| | 4500 | 0.122 | 60.333 | 0.080 |
| 3 | 100 | -0.002 | -0.915 | 0.192 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 4500 | 0.118 | 62.017 | 0.072 |
| 4 | 100 | 0.007 | 2.433 | 0.288 |
| | 4500 | 0.189 | 63.906 | 0.107 |
| 5 | 100 | 0.025 | 6.614 | 0.358 |
| | 4500 | 0.256 | 66.758 | 0.127 |
| 6 | 100 | 0.002 | 0.815 | 0.220 |
| | 4500 | 0.141 | 63.725 | 0.080 |
| 7 | 100 | 0.001 | 0.421 | 0.219 |
| | 4500 | 0.139 | 63.080 | 0.081 |
| 8 | 100 | -0.002 | -0.732 | 0.223 |
| | 4500 | 0.126 | 57.071 | 0.095 |
| 9 | 100 | 0.000 | -0.105 | 0.224 |
| | 4500 | 0.128 | 57.359 | 0.095 |
| 10 | 100 | 0.006 | 2.476 | 0.232 |
| | 4500 | 0.139 | 58.625 | 0.098 |
| 11 | 100 | 0.019 | 7.094 | 0.243 |
| | 4500 | 0.160 | 61.288 | 0.101 |
| 12 | 100 | 0.031 | 10.755 | 0.261 |
| | 4500 | 0.188 | 64.133 | 0.105 |
| 13 | 100 | 0.034 | 11.422 | 0.266 |
| | 4500 | 0.195 | 64.723 | 0.106 |
| 14 | 100 | 0.034 | 11.351 | 0.268 |
| | 4500 | 0.196 | 64.782 | 0.106 |
| 15 | 100 | 0.034 | 11.255 | 0.270 |
| | 4500 | 0.197 | 64.843 | 0.107 |
| 16 | 100 | 0.035 | 11.321 | 0.271 |
| | 4500 | 0.199 | 64.968 | 0.107 |
| 17 | 100 | 0.037 | 11.740 | 0.275 |
| | 4500 | 0.203 | 65.416 | 0.108 |
| 18 | 100 | 0.044 | 13.620 | 0.277 |
| | 4500 | 0.212 | 66.322 | 0.108 |
| 19 | 100 | 0.007 | 2.814 | 0.252 |
| | 4500 | 0.154 | 59.441 | 0.105 |
| 20 | 100 | 0.008 | 2.766 | 0.265 |
| | 4500 | 0.164 | 60.314 | 0.108 |
| 21 | 100 | 0.005 | 2.001 | 0.261 |
| | 4500 | 0.159 | 59.476 | 0.108 |
| 22 | 100 | 0.006 | 2.113 | 0.262 |
| | 4500 | 0.159 | 59.498 | 0.108 |
| 23 | 100 | 0.006 | 2.200 | 0.262 |
| | 4500 | 0.160 | 59.537 | 0.108 |
| 24 | 100 | 0.006 | 2.315 | 0.263 |
| | 4500 | 0.161 | 59.622 | 0.109 |
| 25 | 100 | 0.006 | 2.358 | 0.265 |
| | 4500 | 0.162 | 59.658 | 0.109 |
| 26 | 100 | 0.007 | 2.680 | 0.265 |
| | 4500 | 0.163 | 59.807 | 0.110 |
| 27 | 100 | 0.008 | 2.840 | 0.265 |
| | 4500 | 0.163 | 59.821 | 0.110 |
| 28 | 100 | 0.006 | 2.340 | 0.262 |
| | 4500 | 0.160 | 59.618 | 0.108 |
| 29 | 100 | 0.006 | 2.290 | 0.262 |
| | 4500 | 0.160 | 59.601 | 0.108 |
| 30 | 100 | 0.006 | 2.223 | 0.260 |
| | 4500 | 0.159 | 59.630 | 0.108 |
| 31 | 100 | 0.006 | 2.170 | 0.260 |
| | 4500 | 0.158 | 59.663 | 0.107 |
| 32 | 100 | 0.006 | 2.123 | 0.262 |
| | 4500 | 0.161 | 60.372 | 0.106 |
| 33 | 100 | 0.005 | 1.862 | 0.262 |
| | 4500 | 0.161 | 60.327 | 0.106 |
| 34 | 100 | 0.007 | 2.594 | 0.265 |
| | 4500 | 0.166 | 61.126 | 0.106 |
| 35 | 100 | 0.006 | 2.468 | 0.249 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 4500 | 0.153 | 59.758 | 0.103 |
| 36 | 100 | 0.038 | 12.395 | 0.271 |
| | 4500 | 0.205 | 66.144 | 0.105 |
| 37 | 100 | 0.032 | 10.561 | 0.269 |
| | 4500 | 0.197 | 65.307 | 0.104 |
| 38 | 100 | 0.033 | 11.138 | 0.266 |
| | 4500 | 0.197 | 65.915 | 0.102 |
| 39 | 100 | 0.035 | 11.723 | 0.265 |
| | 4500 | 0.201 | 66.951 | 0.099 |
| 40 | 100 | 0.038 | 12.428 | 0.267 |
| | 4500 | 0.206 | 67.801 | 0.098 |
| 41 | 100 | 0.041 | 12.814 | 0.277 |
| | 4500 | 0.211 | 66.385 | 0.107 |
| 42 | 100 | 0.043 | 12.112 | 0.312 |
| | 4500 | 0.231 | 65.082 | 0.124 |
| 43 | 100 | 0.045 | 11.814 | 0.334 |
| | 4500 | 0.247 | 65.197 | 0.132 |
| 44 | 100 | 0.037 | 8.650 | 0.394 |
| | 4500 | 0.287 | 66.521 | 0.144 |
| 45 | 100 | 0.060 | 12.595 | 0.414 |
| | 4500 | 0.329 | 69.513 | 0.144 |
| 46 | 100 | 0.056 | 12.048 | 0.410 |
| | 4500 | 0.323 | 69.220 | 0.143 |
| 47 | 100 | 0.003 | 1.052 | 0.276 |
| | 4500 | 0.169 | 60.572 | 0.110 |

## 5 Warnings and errors

List of non-fatal warnings and errors generated during calculation.

1 Non-uniform load [1]: Co-ordinate (1) lies below surface

2 Non-uniform load [1]: Co-ordinate (6) lies below surface

3 Non-uniform load [3]: Co-ordinate (4) lies below surface

4 Non-uniform load [3]: Co-ordinate (5) lies below surface

5 Non-uniform load [3]: Co-ordinate (7) lies below surface

6 Non-uniform load [3]: Co-ordinate (8) lies below surface

7 Non-uniform load [3]: Co-ordinate (9) lies below surface

8 Non-uniform load [4]: Co-ordinate (2) lies below surface

## End of Report

# Report for D-Settlement 21.2

Settlement Calculations
Developed by Deltares




| | |
|---|---|
| Company: | Waalpartners bv |
| Date of report: | 11/22/2022 |
| Time of report: | 11:18:11 AM |
| Report with version: | 21.2.1.34213 |
| Date of calculation: | 11/7/2022 |
| Time of calculation: | 4:36:58 PM |
| Calculated with version: | 21.2.1.34213 |
| File name: | 13.46 bkl |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 7 - X - | -22.000 | -13.969 | -13.665 | -11.525 | -11.402 |
| 7 - Y - | -1.889 | -1.847 | -3.217 | -3.110 | -1.856 |
| 7 - X - | -10.855 | -10.028 | -9.134 | -7.507 | -6.858 |
| 7 - Y - | -1.600 | -1.213 | -0.812 | -0.078 | -0.097 |
| 7 - X - | -6.365 | -6.365 | -3.541 | -0.965 | -0.965 |
| 7 - Y - | -0.067 | -0.551 | -0.454 | -0.539 | -0.099 |
| 7 - X - | -0.597 | -0.196 | 0.082 | 0.914 | 1.093 |
| 7 - Y - | -0.060 | -0.112 | -0.195 | -0.431 | -1.600 |
| 7 - X - | 5.000 | | | | |
| 7 - Y - | -1.600 | | | | |
| 6 - X - | -22.000 | -13.969 | -13.665 | -11.525 | -11.402 |
| 6 - Y - | -1.889 | -1.847 | -3.217 | -3.110 | -1.856 |
| 6 - X - | -10.855 | 1.093 | 5.000 | | |
| 6 - Y - | -1.600 | -1.600 | -1.600 | | |
| 5 - X - | -22.000 | 5.000 | | | |
| 5 - Y - | -4.100 | -4.100 | | | |
| 4 - X - | -22.000 | 5.000 | | | |
| 4 - Y - | -7.000 | -7.000 | | | |
| 3 - X - | -22.000 | 5.000 | | | |
| 3 - Y - | -11.600 | -11.600 | | | |
| 2 - X - | -22.000 | 5.000 | | | |
| 2 - Y - | -13.000 | -13.000 | | | |
| 1 - X - | -22.000 | 5.000 | | | |
| 1 - Y - | -16.200 | -16.200 | | | |
| 0 - X - | -22.000 | 5.000 | | | |
| 0 - Y - | -17.000 | -17.000 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -22.000 | -11.000 | 0.000 | 5.000 | |
| 1 - Y - | -2.650 | -2.650 | -0.430 | -0.430 | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | |
| - Loads: | None |
| End of consolidation: | 10000.00 [days] |
| No maintain profile | |
| Pc (initial): | Variable parallel to the initial effective stress |
| Pc (per step): | Automatic increased to the final effective stresses |
| Creep rate reference time: | 1.000 [days] |
| No imaginary surface | |
| With submerging | |
| (only for non uniform loads) | |
| - Iteration stop criterium : | 0.10 [m] |
| Load column width | |
| - Non-Uniform Loads : | 1.00 [m] |
| - Trapeziform Loads : | 1.00 [m] |

## 2.4 Soil Profiles

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 7 | Dijksmateriaal | 1 | 1 |
| 6 | Klei Hum DK | 1 | 1 |
| 5 | Hollandveen | 1 | 1 |
| 4 | Klei CA | 1 | 1 |
| 3 | Klei silt CA | 1 | 1 |
| 2 | Klei CA | 1 | 1 |
| 1 | Klei silt CA | 1 | 1 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 7 | No | 16.00 | 16.00 |
| 6 | No | 13.50 | 13.50 |
| 5 | No | 10.50 | 10.50 |
| 4 | No | 15.90 | 15.90 |
| 3 | No | 15.90 | 15.90 |
| 2 | No | 15.90 | 15.90 |
| 1 | No | 15.90 | 15.90 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|---|---|
| 7 | Vert. cons. | 1.00E-08 | - | - | - |
| 6 | Vert. cons. | 2.07E-08 | - | - | - |
| 5 | Vert. cons. | 2.37E-08 | - | - | - |
| 4 | Vert. cons. | 6.02E-07 | - | - | - |
| 3 | Vert. cons. | 9.27E-08 | - | - | - |
| 2 | Vert. cons. | 6.02E-07 | - | - | - |
| 1 | Vert. cons. | 9.27E-08 | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 7 | - | 1.50 | - |
| 6 | - | 1.50 | - |
| 5 | - | 1.80 | - |
| 4 | - | 1.50 | - |
| 3 | - | 1.50 | - |
| 2 | - | 1.50 | - |
| 1 | - | 1.50 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 7 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 6 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 5 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 4 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 3 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 2 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 1 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time [days] | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 1 | -1 | 19.00 | 19.00 |
| 2 | -1 | 24.00 | 24.00 |
| 3 | 2 | 16.00 | 16.00 |

| Load number | Time [days] | Unit weight Unsaturated [kN/m³] | Unit weight Saturated [kN/m³] |
|---|---|---|---|
| 4 | 3 | 18.00 | 20.00 |
| 5 | 4 | 19.00 | 19.00 |
| 6 | 5 | 25.00 | 25.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -6.37 | -3.95 | -3.80 | -3.67 | -3.54 | -0.96 |
| 1 - Y - | -0.47 | -0.38 | -0.37 | -0.37 | -0.37 | -0.46 |
| 2 - X - | -6.37 | -6.21 | -6.00 | -5.47 | -3.67 | -1.86 |
| 2 - Y - | -0.07 | -0.06 | -0.06 | -0.04 | -0.01 | -0.04 |
| 2 - X - | -1.22 | -1.11 | -0.96 | | | |
| 2 - Y - | -0.06 | -0.06 | -0.10 | | | |
| 3 - X - | -11.40 | -7.40 | -6.76 | -6.37 | -6.37 | -3.95 |
| 3 - Y - | -1.86 | 0.42 | 0.42 | 0.43 | -0.55 | -0.46 |
| 3 - X - | -3.80 | -3.67 | -3.54 | -0.96 | -0.96 | -0.56 |
| 3 - Y - | -0.45 | -0.45 | -0.45 | -0.54 | 0.43 | 0.42 |
| 3 - X - | 0.54 | 0.74 | 0.91 | | | |
| 3 - Y - | 0.37 | 0.30 | -0.43 | | | |
| 4 - X - | -6.37 | -0.96 | | | | |
| 4 - Y - | -0.07 | -0.07 | | | | |
| 5 - X - | -6.37 | -0.96 | | | | |
| 5 - Y - | 0.23 | 0.23 | | | | |
| 6 - X - | -6.37 | -5.12 | -3.67 | -2.21 | -0.96 | |
| 6 - Y - | 0.43 | 0.46 | 0.50 | 0.46 | 0.43 | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -22.000 | -13.969 | -13.665 | -11.525 | -11.402 |
| 6 - 10 | -11.000 | -10.855 | -10.028 | -9.134 | -7.507 |
| 11 - 15 | -7.404 | -6.858 | -6.765 | -6.365 | -6.210 |
| 16 - 20 | -6.002 | -5.475 | -5.116 | -3.948 | -3.802 |
| 21 - 25 | -3.665 | -3.541 | -2.214 | -1.858 | -1.215 |
| 26 - 30 | -1.112 | -0.965 | -0.962 | -0.597 | -0.565 |
| 31 - 35 | -0.196 | 0.000 | 0.082 | 0.535 | 0.739 |
| 36 - 40 | 0.914 | 1.093 | 1.112 | 1.506 | 4.940 |
| 41 | 5.000 | | | | |

# 3 Results per Vertical

## 3.1 Results for Vertical 14 (X = -6.37 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.551 | 24.023 | -0.551 | 10.593 | 0.307 |
| -0.651 | 25.396 | -0.620 | 10.650 | 0.301 |
| -0.751 | 26.543 | -0.689 | 10.503 | 0.295 |
| -0.851 | 27.617 | -0.756 | 10.297 | 0.291 |
| -0.951 | 28.661 | -0.823 | 10.072 | 0.287 |
| -1.051 | 29.702 | -0.890 | 9.850 | 0.283 |
| -1.075 | 29.958 | -0.906 | 9.798 | 0.282 |
| -1.151 | 30.751 | -0.955 | 9.643 | 0.279 |
| -1.251 | 31.813 | -1.021 | 9.454 | 0.276 |
| -1.351 | 32.887 | -1.085 | 9.282 | 0.274 |
| -1.451 | 33.973 | -1.150 | 9.127 | 0.271 |
| -1.551 | 34.434 | -1.214 | 8.352 | 0.269 |
| -1.600 | 34.494 | -1.245 | 7.807 | 0.268 |
| -1.600 | 34.494 | -1.245 | 7.807 | 0.268 |
| -1.715 | 34.581 | -1.341 | 6.544 | 0.264 |
| -2.250 | 35.181 | -1.259 | 6.034 | 0.247 |
| -2.850 | 36.122 | -1.181 | 5.622 | 0.230 |
| -3.500 | 37.366 | -1.112 | 5.262 | 0.214 |
| -4.100 | 38.686 | -1.064 | 4.966 | 0.202 |
| -4.100 | 38.686 | -1.064 | 4.966 | 0.202 |
| -4.850 | 38.528 | -1.048 | 4.623 | 0.175 |
| -5.550 | 38.632 | -1.059 | 4.321 | 0.151 |
| -6.300 | 39.014 | -1.098 | 4.013 | 0.125 |
| -7.000 | 39.629 | -1.160 | 3.739 | 0.099 |
| -7.000 | 39.629 | -1.160 | 3.739 | 0.099 |
| -7.700 | 43.483 | -1.165 | 3.478 | 0.095 |
| -8.700 | 49.040 | -1.174 | 3.128 | 0.089 |
| -9.300 | 52.405 | -1.181 | 2.932 | 0.085 |
| -10.000 | 56.363 | -1.190 | 2.714 | 0.081 |
| -11.000 | 62.076 | -1.204 | 2.426 | 0.075 |
| -11.600 | 65.538 | -1.214 | 2.265 | 0.071 |
| -11.600 | 65.538 | -1.214 | 2.265 | 0.071 |
| -12.300 | 70.418 | -1.309 | 2.088 | 0.060 |
| -13.000 | 75.451 | -1.418 | 1.922 | 0.048 |
| -13.000 | 75.451 | -1.418 | 1.922 | 0.048 |
| -13.800 | 80.192 | -1.437 | 1.744 | 0.040 |
| -14.600 | 84.975 | -1.458 | 1.578 | 0.032 |
| -15.400 | 89.801 | -1.481 | 1.424 | 0.024 |
| -16.200 | 94.668 | -1.507 | 1.281 | 0.016 |
| -16.200 | 94.668 | -1.507 | 1.281 | 0.016 |
| -16.600 | 97.974 | -1.607 | 1.212 | 0.008 |
| -17.000 | 101.344 | -1.715 | 1.146 | 0.000 |

## 3.2 Results for Vertical 22 (X = -3.54 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.454 | 19.042 | -0.454 | 8.880 | 0.321 |
| -0.554 | 20.533 | -0.529 | 8.863 | 0.315 |
| -0.654 | 21.837 | -0.603 | 8.842 | 0.309 |
| -0.754 | 23.131 | -0.676 | 8.811 | 0.304 |
| -0.854 | 24.417 | -0.747 | 8.778 | 0.300 |
| -0.954 | 25.087 | -0.818 | 8.135 | 0.296 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.027 | 25.301 | -0.869 | 7.394 | 0.294 |
| -1.054 | 25.380 | -0.888 | 7.119 | 0.293 |
| -1.145 | 25.644 | -0.952 | 6.198 | 0.291 |
| -1.154 | 25.671 | -0.949 | 6.195 | 0.291 |
| -1.254 | 25.961 | -0.919 | 6.159 | 0.288 |
| -1.354 | 26.248 | -0.889 | 6.122 | 0.286 |
| -1.454 | 26.532 | -0.859 | 6.085 | 0.284 |
| -1.600 | 26.940 | -0.816 | 6.030 | 0.282 |
| -1.600 | 26.940 | -0.816 | 6.030 | 0.282 |
| -2.250 | 28.052 | -0.734 | 5.785 | 0.259 |
| -2.850 | 28.973 | -0.669 | 5.570 | 0.242 |
| -3.500 | 29.953 | -0.612 | 5.335 | 0.225 |
| -4.100 | 30.928 | -0.573 | 5.106 | 0.211 |
| -4.100 | 30.928 | -0.573 | 5.106 | 0.211 |
| -4.850 | 30.260 | -0.560 | 4.801 | 0.181 |
| -5.550 | 29.889 | -0.570 | 4.502 | 0.155 |
| -6.300 | 29.777 | -0.602 | 4.176 | 0.127 |
| -7.000 | 29.941 | -0.651 | 3.876 | 0.101 |
| -7.000 | 29.941 | -0.651 | 3.876 | 0.101 |
| -7.700 | 33.513 | -0.655 | 3.584 | 0.096 |
| -8.700 | 38.744 | -0.663 | 3.190 | 0.090 |
| -9.300 | 41.950 | -0.668 | 2.967 | 0.086 |
| -10.000 | 45.750 | -0.676 | 2.722 | 0.082 |
| -11.000 | 51.278 | -0.688 | 2.397 | 0.075 |
| -11.600 | 54.647 | -0.697 | 2.217 | 0.071 |
| -11.600 | 54.647 | -0.697 | 2.217 | 0.071 |
| -12.300 | 59.331 | -0.780 | 2.020 | 0.060 |
| -13.000 | 64.172 | -0.876 | 1.836 | 0.048 |
| -13.000 | 64.172 | -0.876 | 1.836 | 0.048 |
| -13.800 | 68.828 | -0.893 | 1.640 | 0.040 |
| -14.600 | 73.536 | -0.912 | 1.459 | 0.032 |
| -15.400 | 78.294 | -0.933 | 1.292 | 0.024 |
| -16.200 | 83.099 | -0.956 | 1.136 | 0.016 |
| -16.200 | 83.100 | -0.956 | 1.136 | 0.016 |
| -16.600 | 86.297 | -1.047 | 1.063 | 0.008 |
| -17.000 | 89.557 | -1.145 | 0.992 | 0.000 |

### 3.3 Results for Vertical 27 (X = -0.96 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.539 | 18.349 | -0.539 | 5.947 | 0.301 |
| -0.625 | 18.684 | -0.604 | 5.019 | 0.297 |
| -0.639 | 18.743 | -0.601 | 5.012 | 0.296 |
| -0.739 | 19.146 | -0.576 | 4.989 | 0.292 |
| -0.839 | 19.536 | -0.552 | 4.990 | 0.289 |
| -0.939 | 19.922 | -0.528 | 4.999 | 0.286 |
| -1.039 | 20.306 | -0.503 | 5.008 | 0.283 |
| -1.069 | 20.423 | -0.496 | 5.011 | 0.282 |
| -1.139 | 20.688 | -0.478 | 5.017 | 0.280 |
| -1.239 | 21.066 | -0.454 | 5.023 | 0.278 |
| -1.339 | 21.439 | -0.429 | 5.026 | 0.275 |
| -1.439 | 21.806 | -0.404 | 5.024 | 0.273 |
| -1.539 | 22.168 | -0.379 | 5.017 | 0.272 |
| -1.600 | 22.385 | -0.363 | 5.011 | 0.271 |
| -1.600 | 22.385 | -0.363 | 5.011 | 0.271 |
| -2.250 | 23.843 | -0.292 | 4.832 | 0.247 |
| -2.850 | 25.124 | -0.233 | 4.555 | 0.229 |
| -3.500 | 26.553 | -0.178 | 4.225 | 0.212 |
| -4.100 | 27.960 | -0.137 | 3.931 | 0.199 |
| -4.100 | 27.960 | -0.137 | 3.931 | 0.199 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -4.850 | 27.818 | -0.120 | 3.595 | 0.171 |
| -5.550 | 27.878 | -0.124 | 3.314 | 0.147 |
| -6.300 | 28.147 | -0.146 | 3.043 | 0.122 |
| -7.000 | 28.590 | -0.185 | 2.811 | 0.097 |
| -7.000 | 28.590 | -0.185 | 2.811 | 0.097 |
| -7.700 | 32.481 | -0.189 | 2.597 | 0.094 |
| -8.700 | 38.084 | -0.195 | 2.315 | 0.088 |
| -9.300 | 41.474 | -0.200 | 2.157 | 0.085 |
| -10.000 | 45.454 | -0.206 | 1.983 | 0.080 |
| -11.000 | 51.191 | -0.217 | 1.751 | 0.074 |
| -11.600 | 54.661 | -0.224 | 1.620 | 0.070 |
| -11.600 | 54.661 | -0.224 | 1.620 | 0.070 |
| -12.300 | 59.361 | -0.298 | 1.474 | 0.059 |
| -13.000 | 64.190 | -0.383 | 1.337 | 0.047 |
| -13.000 | 64.190 | -0.383 | 1.337 | 0.047 |
| -13.800 | 68.923 | -0.398 | 1.188 | 0.040 |
| -14.600 | 73.692 | -0.415 | 1.048 | 0.032 |
| -15.400 | 78.497 | -0.433 | 0.917 | 0.024 |
| -16.200 | 83.338 | -0.454 | 0.793 | 0.016 |
| -16.200 | 83.338 | -0.454 | 0.793 | 0.016 |
| -16.600 | 86.474 | -0.537 | 0.733 | 0.008 |
| -17.000 | 89.667 | -0.625 | 0.676 | 0.000 |

### 3.4 Results for Vertical 32 (X = 0.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.171 | 8.475 | -0.171 | 8.474 | 0.366 |
| -0.271 | 8.681 | -0.258 | 7.201 | 0.343 |
| -0.371 | 8.958 | -0.345 | 6.005 | 0.329 |
| -0.430 | 9.545 | -0.397 | 5.720 | 0.323 |
| -0.471 | 9.877 | -0.391 | 5.858 | 0.319 |
| -0.571 | 10.508 | -0.376 | 6.015 | 0.311 |
| -0.671 | 11.003 | -0.361 | 6.036 | 0.303 |
| -0.771 | 11.446 | -0.345 | 6.000 | 0.296 |
| -0.871 | 11.872 | -0.329 | 5.931 | 0.290 |
| -0.885 | 11.934 | -0.327 | 5.919 | 0.289 |
| -0.971 | 12.294 | -0.313 | 5.840 | 0.284 |
| -1.071 | 12.719 | -0.296 | 5.728 | 0.279 |
| -1.171 | 13.149 | -0.279 | 5.601 | 0.275 |
| -1.600 | 15.054 | -0.202 | 4.980 | 0.261 |
| -1.600 | 15.054 | -0.202 | 4.980 | 0.261 |
| -2.250 | 17.053 | -0.148 | 4.164 | 0.235 |
| -2.850 | 18.912 | -0.100 | 3.638 | 0.217 |
| -3.500 | 20.910 | -0.053 | 3.240 | 0.201 |
| -4.100 | 22.758 | -0.016 | 2.967 | 0.189 |
| -4.100 | 22.758 | -0.016 | 2.967 | 0.189 |
| -4.850 | 23.045 | 0.001 | 2.703 | 0.163 |
| -5.550 | 23.405 | 0.003 | 2.502 | 0.141 |
| -6.300 | 23.906 | -0.012 | 2.315 | 0.118 |
| -7.000 | 24.492 | -0.041 | 2.158 | 0.095 |
| -7.000 | 24.492 | -0.041 | 2.158 | 0.095 |
| -7.700 | 28.582 | -0.044 | 2.012 | 0.092 |
| -8.700 | 34.416 | -0.049 | 1.816 | 0.087 |
| -9.300 | 37.918 | -0.052 | 1.704 | 0.084 |
| -10.000 | 42.010 | -0.058 | 1.578 | 0.080 |
| -11.000 | 47.875 | -0.067 | 1.406 | 0.073 |
| -11.600 | 51.407 | -0.073 | 1.306 | 0.070 |
| -11.600 | 51.407 | -0.073 | 1.306 | 0.070 |
| -12.300 | 56.084 | -0.137 | 1.193 | 0.059 |
| -13.000 | 60.873 | -0.211 | 1.084 | 0.047 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -13.000 | 60.873 | -0.211 | 1.084 | 0.047 |
| -13.800 | 65.650 | -0.225 | 0.965 | 0.039 |
| -14.600 | 70.454 | -0.240 | 0.851 | 0.032 |
| -15.400 | 75.286 | -0.256 | 0.741 | 0.024 |
| -16.200 | 80.146 | -0.275 | 0.637 | 0.016 |
| -16.200 | 80.146 | -0.275 | 0.637 | 0.016 |
| -16.600 | 83.224 | -0.350 | 0.587 | 0.008 |
| -17.000 | 86.354 | -0.430 | 0.537 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -22.00 | 0.00 | -1.89 | 0.181 |
| 2 | -13.97 | 0.00 | -1.85 | 0.206 |
| 3 | -13.66 | 0.00 | -3.22 | 0.354 |
| 4 | -11.53 | 0.00 | -3.11 | 0.498 |
| 5 | -11.40 | 0.00 | -1.86 | 0.262 |
| 6 | -11.00 | 0.00 | -1.67 | 0.288 |
| 7 | -10.86 | 0.00 | -1.60 | 0.297 |
| 8 | -10.03 | 0.00 | -1.21 | 0.311 |
| 9 | -9.13 | 0.00 | -0.81 | 0.328 |
| 10 | -7.51 | 0.00 | -0.08 | 0.354 |
| 11 | -7.40 | 0.00 | -0.08 | 0.357 |
| 12 | -6.86 | 0.00 | -0.10 | 0.370 |
| 13 | -6.76 | 0.00 | -0.09 | 0.379 |
| 14 | -6.37 | 0.00 | -0.55 | 0.307 |
| 15 | -6.21 | 0.00 | -0.55 | 0.323 |
| 16 | -6.00 | 0.00 | -0.54 | 0.317 |
| 17 | -5.47 | 0.00 | -0.52 | 0.315 |
| 18 | -5.12 | 0.00 | -0.51 | 0.317 |
| 19 | -3.95 | 0.00 | -0.47 | 0.321 |
| 20 | -3.80 | 0.00 | -0.46 | 0.321 |
| 21 | -3.67 | 0.00 | -0.46 | 0.321 |
| 22 | -3.54 | 0.00 | -0.45 | 0.321 |
| 23 | -2.21 | 0.00 | -0.50 | 0.317 |
| 24 | -1.86 | 0.00 | -0.51 | 0.315 |
| 25 | -1.22 | 0.00 | -0.53 | 0.337 |
| 26 | -1.11 | 0.00 | -0.53 | 0.348 |
| 27 | -0.96 | 0.00 | -0.54 | 0.301 |
| 28 | -0.96 | 0.00 | -0.10 | 0.352 |
| 29 | -0.60 | 0.00 | -0.06 | 0.362 |
| 30 | -0.56 | 0.00 | -0.06 | 0.362 |
| 31 | -0.20 | 0.00 | -0.11 | 0.362 |
| 32 | 0.00 | 0.00 | -0.17 | 0.366 |
| 33 | 0.08 | 0.00 | -0.20 | 0.372 |
| 34 | 0.54 | 0.00 | -0.32 | 0.404 |
| 35 | 0.74 | 0.00 | -0.38 | 0.426 |
| 36 | 0.91 | 0.00 | -0.43 | 0.442 |
| 37 | 1.09 | 0.00 | -1.60 | 0.563 |
| 38 | 1.11 | 0.00 | -1.60 | 0.562 |
| 39 | 1.51 | 0.00 | -1.60 | 0.525 |
| 40 | 4.94 | 0.00 | -1.60 | 0.293 |
| 41 | 5.00 | 0.00 | -1.60 | 0.291 |

## 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 100 | -0.003 | -1.527 | 0.183 |
| | 4500 | 0.112 | 62.144 | 0.068 |
| 2 | 100 | -0.001 | -0.659 | 0.208 |
| | 4500 | 0.130 | 63.140 | 0.076 |
| 3 | 100 | 0.014 | 3.829 | 0.341 |
| | 4500 | 0.232 | 65.592 | 0.122 |
| 4 | 100 | 0.048 | 9.663 | 0.450 |
| | 4500 | 0.346 | 69.552 | 0.152 |
| 5 | 100 | 0.009 | 3.333 | 0.253 |
| | 4500 | 0.174 | 66.523 | 0.088 |
| 6 | 100 | 0.018 | 6.309 | 0.269 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 4500 | 0.194 | 67.483 | 0.094 |
| 7 | 100 | 0.022 | 7.390 | 0.275 |
| | 4500 | 0.202 | 67.908 | 0.095 |
| 8 | 100 | 0.017 | 5.571 | 0.294 |
| | 4500 | 0.206 | 66.256 | 0.105 |
| 9 | 100 | 0.024 | 7.430 | 0.304 |
| | 4500 | 0.215 | 65.610 | 0.113 |
| 10 | 100 | 0.036 | 10.103 | 0.318 |
| | 4500 | 0.232 | 65.495 | 0.122 |
| 11 | 100 | 0.036 | 10.129 | 0.321 |
| | 4500 | 0.234 | 65.626 | 0.123 |
| 12 | 100 | 0.038 | 10.361 | 0.331 |
| | 4500 | 0.245 | 66.325 | 0.124 |
| 13 | 100 | 0.045 | 11.867 | 0.334 |
| | 4500 | 0.254 | 67.028 | 0.125 |
| 14 | 100 | 0.007 | 2.211 | 0.300 |
| | 4500 | 0.186 | 60.690 | 0.121 |
| 15 | 100 | 0.007 | 2.259 | 0.316 |
| | 4500 | 0.199 | 61.556 | 0.124 |
| 16 | 100 | 0.006 | 1.774 | 0.311 |
| | 4500 | 0.193 | 60.923 | 0.124 |
| 17 | 100 | 0.006 | 1.961 | 0.309 |
| | 4500 | 0.192 | 60.758 | 0.124 |
| 18 | 100 | 0.007 | 2.127 | 0.310 |
| | 4500 | 0.193 | 60.893 | 0.124 |
| 19 | 100 | 0.008 | 2.426 | 0.313 |
| | 4500 | 0.196 | 61.233 | 0.124 |
| 20 | 100 | 0.008 | 2.457 | 0.313 |
| | 4500 | 0.197 | 61.280 | 0.124 |
| 21 | 100 | 0.008 | 2.501 | 0.313 |
| | 4500 | 0.197 | 61.321 | 0.124 |
| 22 | 100 | 0.008 | 2.470 | 0.313 |
| | 4500 | 0.197 | 61.303 | 0.124 |
| 23 | 100 | 0.007 | 2.253 | 0.310 |
| | 4500 | 0.195 | 61.497 | 0.122 |
| 24 | 100 | 0.007 | 2.155 | 0.308 |
| | 4500 | 0.194 | 61.635 | 0.121 |
| 25 | 100 | 0.007 | 2.012 | 0.330 |
| | 4500 | 0.200 | 59.246 | 0.137 |
| 26 | 100 | 0.008 | 2.231 | 0.340 |
| | 4500 | 0.206 | 59.214 | 0.142 |
| 27 | 100 | 0.006 | 1.943 | 0.295 |
| | 4500 | 0.185 | 61.684 | 0.115 |
| 28 | 100 | 0.040 | 11.480 | 0.311 |
| | 4500 | 0.234 | 66.449 | 0.118 |
| 29 | 100 | 0.040 | 11.079 | 0.321 |
| | 4500 | 0.244 | 67.561 | 0.117 |
| 30 | 100 | 0.040 | 11.063 | 0.322 |
| | 4500 | 0.245 | 67.618 | 0.117 |
| 31 | 100 | 0.040 | 11.050 | 0.322 |
| | 4500 | 0.248 | 68.403 | 0.114 |
| 32 | 100 | 0.042 | 11.394 | 0.325 |
| | 4500 | 0.252 | 68.865 | 0.114 |
| 33 | 100 | 0.044 | 11.859 | 0.328 |
| | 4500 | 0.255 | 68.605 | 0.117 |
| 34 | 100 | 0.047 | 11.497 | 0.358 |
| | 4500 | 0.267 | 65.998 | 0.138 |
| 35 | 100 | 0.048 | 11.174 | 0.378 |
| | 4500 | 0.281 | 65.909 | 0.145 |
| 36 | 100 | 0.047 | 10.566 | 0.395 |
| | 4500 | 0.291 | 65.880 | 0.151 |
| 37 | 100 | 0.082 | 14.506 | 0.482 |
| | 4500 | 0.403 | 71.584 | 0.160 |
| 38 | 100 | 0.081 | 14.476 | 0.481 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 4500 | 0.402 | 71.555 | 0.160 |
| 39 | 100 | 0.069 | 13.229 | 0.455 |
| | 4500 | 0.370 | 70.595 | 0.154 |
| 40 | 100 | 0.001 | 0.375 | 0.292 |
| | 4500 | 0.175 | 59.873 | 0.118 |
| 41 | 100 | 0.001 | 0.327 | 0.291 |
| | 4500 | 0.174 | 59.808 | 0.117 |

## 5 Warnings and errors

List of non-fatal warnings and errors generated during calculation.

1 Non-uniform load [1]: Co-ordinate (1) lies below surface

2 Non-uniform load [1]: Co-ordinate (6) lies below surface

3 Non-uniform load [2]: Co-ordinate (1) lies below surface

4 Non-uniform load [3]: Co-ordinate (5) lies below surface

5 Non-uniform load [3]: Co-ordinate (10) lies below surface

6 Non-uniform load [4]: Co-ordinate (1) lies below surface

## End of Report

# Report for D-Settlement 21.2

Settlement Calculations
Developed by Deltares




| | |
|---|---|
| Company: | Waalpartners bv |
| Date of report: | 11/25/2022 |
| Time of report: | 9:37:50 AM |
| Report with version: | 21.2.1.34213 |
| Date of calculation: | 11/25/2022 |
| Time of calculation: | 9:36:50 AM |
| Calculated with version: | 21.2.1.34213 |
| File name: | 13.62 bkl |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 12 - X - | -22.000 | -15.216 | -15.005 | -14.646 | -13.468 |
| 12 - Y - | -1.799 | -1.881 | -2.400 | -3.281 | -3.472 |
| 12 - X - | -12.208 | -11.621 | -8.733 | -8.190 | -7.425 |
| 12 - Y - | -2.400 | -1.901 | -0.819 | -0.582 | -0.248 |
| 12 - X - | -7.278 | -6.736 | -6.362 | -6.362 | -3.468 |
| 12 - Y - | -0.192 | -0.187 | -0.169 | -0.549 | -0.465 |
| 12 - X - | -1.689 | -1.679 | -0.800 | -0.167 | 0.305 |
| 12 - Y - | -0.504 | -0.122 | -0.143 | -0.139 | -0.196 |
| 12 - X - | 0.719 | 0.918 | 1.152 | 1.393 | 5.000 |
| 12 - Y - | -0.401 | -1.244 | -1.846 | -2.038 | -2.087 |
| 11 - X - | -22.000 | -15.005 | -14.646 | -13.468 | -12.208 |
| 11 - Y - | -2.400 | -2.400 | -3.281 | -3.472 | -2.400 |
| 11 - X - | -11.621 | -8.733 | -8.190 | -7.425 | -7.278 |
| 11 - Y - | -1.901 | -0.819 | -0.582 | -0.248 | -0.192 |
| 11 - X - | -6.736 | -6.362 | -6.362 | -3.468 | -1.689 |
| 11 - Y - | -0.187 | -0.169 | -0.549 | -0.465 | -0.504 |
| 11 - X - | -1.679 | -0.800 | -0.167 | 0.305 | 0.719 |
| 11 - Y - | -0.122 | -0.143 | -0.139 | -0.196 | -0.401 |
| 11 - X - | 0.918 | 1.152 | 1.393 | 5.000 | |
| 11 - Y - | -1.244 | -1.846 | -2.038 | -2.087 | |
| 10 - X - | -22.000 | -15.005 | -14.646 | -13.468 | -12.208 |
| 10 - Y - | -2.400 | -2.400 | -3.281 | -3.472 | -2.400 |
| 10 - X - | 5.000 | | | | |
| 10 - Y - | -2.400 | | | | |
| 9 - X - | -22.000 | 5.000 | | | |
| 9 - Y - | -3.800 | -3.800 | | | |
| 8 - X - | -22.000 | 5.000 | | | |
| 8 - Y - | -4.800 | -4.800 | | | |
| 7 - X - | -22.000 | 5.000 | | | |
| 7 - Y - | -5.700 | -5.700 | | | |
| 6 - X - | -22.000 | 5.000 | | | |
| 6 - Y - | -6.500 | -6.500 | | | |
| 5 - X - | -22.000 | 5.000 | | | |
| 5 - Y - | -8.500 | -8.500 | | | |
| 4 - X - | -22.000 | 5.000 | | | |
| 4 - Y - | -9.000 | -9.000 | | | |
| 3 - X - | -22.000 | 5.000 | | | |
| 3 - Y - | -10.300 | -10.300 | | | |
| 2 - X - | -22.000 | 5.000 | | | |
| 2 - Y - | -11.300 | -11.300 | | | |
| 1 - X - | -22.000 | 5.000 | | | |
| 1 - Y - | -16.000 | -16.000 | | | |
| 0 - X - | -22.000 | 5.000 | | | |
| 0 - Y - | -17.800 | -17.800 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -22.000 | -11.000 | 0.000 | 5.000 | |
| 1 - Y - | -2.650 | -2.650 | -0.430 | -0.430 | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |

| | |
|---|---|
| - Soil: | |
| - Loads: | None |
| End of consolidation: | 10000.00 [days] |
| No maintain profile | |
| Pc (initial): | Variable parallel to the initial effective stress |
| Pc (per step): | Automatic increased to the final effective stresses |
| Creep rate reference time: | 1.000 [days] |
| No imaginary surface | |
| With submerging | |
| (only for non uniform loads) | |
| - Iteration stop criterium : | 0.10 [m] |
| Load column width | |
| - Non-Uniform Loads : | 1.00 [m] |
| - Trapeziform Loads : | 1.00 [m] |

## 2.4 Soil Profiles

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 12 | Dijksmateriaal | 1 | 1 |
| 11 | Dijksmateriaal | 1 | 1 |
| 10 | Klei Hum DK | 1 | 1 |
| 9 | Hollandveen | 1 | 1 |
| 8 | Klei Hum DK | 1 | 1 |
| 7 | Hollandveen | 1 | 1 |
| 6 | Klei CA | 1 | 1 |
| 5 | Hollandveen | 1 | 1 |
| 4 | Klei CA | 1 | 1 |
| 3 | Klei silt CA | 1 | 1 |
| 2 | Klei CA | 1 | 1 |
| 1 | Klei silt CA | 1 | 1 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 12 | No | 16.00 | 16.00 |
| 11 | No | 16.00 | 16.00 |
| 10 | No | 13.50 | 13.50 |
| 9 | No | 10.50 | 10.50 |
| 8 | No | 13.50 | 13.50 |
| 7 | No | 10.50 | 10.50 |
| 6 | No | 15.90 | 15.90 |
| 5 | No | 10.50 | 10.50 |
| 4 | No | 15.90 | 15.90 |
| 3 | No | 15.90 | 15.90 |
| 2 | No | 15.90 | 15.90 |
| 1 | No | 15.90 | 15.90 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|---|---|
| 12 | Vert. cons. | 1.00E-08 | - | - | - |
| 11 | Vert. cons. | 1.00E-08 | - | - | - |
| 10 | Vert. cons. | 2.07E-08 | - | - | - |
| 9 | Vert. cons. | 2.37E-08 | - | - | - |
| 8 | Vert. cons. | 2.07E-08 | - | - | - |
| 7 | Vert. cons. | 2.37E-08 | - | - | - |
| 6 | Vert. cons. | 6.02E-07 | - | - | - |
| 5 | Vert. cons. | 2.37E-08 | - | - | - |
| 4 | Vert. cons. | 6.02E-07 | - | - | - |
| 3 | Vert. cons. | 9.27E-08 | - | - | - |
| 2 | Vert. cons. | 6.02E-07 | - | - | - |
| 1 | Vert. cons. | 9.27E-08 | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 12 | - | 1.50 | - |
| 11 | - | 1.50 | - |
| 10 | - | 1.50 | - |
| 9 | - | 1.80 | - |
| 8 | - | 1.50 | - |
| 7 | - | 1.80 | - |
| 6 | - | 1.50 | - |
| 5 | - | 1.80 | - |
| 4 | - | 1.50 | - |
| 3 | - | 1.50 | - |
| 2 | - | 1.50 | - |
| 1 | - | 1.50 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 12 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 11 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 10 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 9 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 8 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 7 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 6 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 5 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 4 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 3 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 2 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 1 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time [days] | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 1 | -1 | 24.00 | 24.00 |
| 2 | 2 | 16.00 | 16.00 |
| 3 | 3 | 18.00 | 20.00 |
| 4 | 4 | 19.00 | 19.00 |
| 5 | 5 | 25.00 | 25.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -6.36 | -6.17 | -5.29 | -4.98 | -3.47 | -1.91 |
| 1 - Y - | -0.17 | -0.14 | -0.12 | -0.11 | -0.09 | -0.12 |
| 1 - X - | -1.68 | -1.20 | -0.80 | -0.69 | | |
| 1 - Y - | -0.12 | -0.13 | -0.14 | -0.14 | | |
| 2 - X - | -11.62 | -7.26 | -6.36 | -6.36 | -4.85 | -3.47 |
| 2 - Y - | -1.90 | 0.37 | 0.38 | -0.55 | -0.50 | -0.47 |
| 2 - X - | -1.69 | -0.69 | -0.69 | -0.32 | 0.54 | 0.72 |
| 2 - Y - | -0.50 | -0.53 | 0.38 | 0.37 | 0.33 | -0.40 |
| 3 - X - | -6.36 | -0.69 | | | | |
| 3 - Y - | -0.07 | -0.07 | | | | |
| 4 - X - | -6.36 | -0.69 | | | | |
| 4 - Y - | 0.18 | 0.18 | | | | |
| 5 - X - | -6.36 | -4.97 | -3.47 | -1.97 | -0.69 | |
| 5 - Y - | 0.38 | 0.41 | 0.45 | 0.41 | 0.38 | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -22.000 | -15.216 | -15.005 | -14.646 | -13.468 |
| 6 - 10 | -12.208 | -11.621 | -11.000 | -8.733 | -8.190 |
| 11 - 15 | -7.425 | -7.278 | -7.257 | -7.041 | -6.736 |
| 16 - 20 | -6.618 | -6.362 | -6.170 | -5.292 | -4.976 |
| 21 - 25 | -4.969 | -4.849 | -3.468 | -1.967 | -1.912 |

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 26 - 30 | -1.689 | -1.687 | -1.679 | -1.199 | -0.800 |
| 31 - 35 | -0.691 | -0.318 | -0.167 | 0.000 | 0.305 |
| 36 - 40 | 0.544 | 0.719 | 0.918 | 1.152 | 1.393 |
| 41 | 5.000 | | | | |

# 3 Results per Vertical

## 3.1 Results for Vertical 17 (X = -6.36 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.549 | 22.033 | -0.549 | 11.270 | 0.289 |
| -0.649 | 23.267 | -0.621 | 11.118 | 0.282 |
| -0.749 | 24.329 | -0.693 | 10.794 | 0.276 |
| -0.849 | 25.317 | -0.764 | 10.459 | 0.271 |
| -0.949 | 26.325 | -0.834 | 10.166 | 0.266 |
| -1.049 | 27.375 | -0.903 | 9.921 | 0.262 |
| -1.149 | 28.462 | -0.972 | 9.717 | 0.258 |
| -1.249 | 29.577 | -1.040 | 9.547 | 0.255 |
| -1.349 | 30.713 | -1.107 | 9.404 | 0.252 |
| -1.449 | 31.864 | -1.174 | 9.282 | 0.249 |
| -1.474 | 32.159 | -1.191 | 9.253 | 0.248 |
| -1.549 | 32.602 | -1.240 | 8.753 | 0.246 |
| -1.714 | 32.920 | -1.348 | 6.987 | 0.243 |
| -2.400 | 34.481 | -1.122 | 6.571 | 0.236 |
| -2.400 | 34.481 | -1.122 | 6.571 | 0.236 |
| -3.100 | 35.772 | -1.029 | 6.289 | 0.218 |
| -3.800 | 37.255 | -0.955 | 6.055 | 0.203 |
| -3.800 | 37.255 | -0.955 | 6.055 | 0.203 |
| -4.300 | 37.116 | -0.934 | 5.897 | 0.185 |
| -4.800 | 37.086 | -0.925 | 5.737 | 0.168 |
| -4.800 | 37.086 | -0.925 | 5.737 | 0.168 |
| -5.250 | 38.484 | -0.926 | 5.590 | 0.160 |
| -5.700 | 39.970 | -0.937 | 5.439 | 0.151 |
| -5.700 | 39.970 | -0.937 | 5.439 | 0.151 |
| -6.100 | 40.114 | -0.949 | 5.302 | 0.138 |
| -6.500 | 40.336 | -0.970 | 5.162 | 0.124 |
| -6.500 | 40.336 | -0.970 | 5.162 | 0.124 |
| -7.500 | 45.835 | -0.974 | 4.804 | 0.119 |
| -8.500 | 51.369 | -0.981 | 4.446 | 0.114 |
| -8.500 | 51.369 | -0.981 | 4.446 | 0.114 |
| -8.750 | 51.687 | -1.011 | 4.358 | 0.105 |
| -9.000 | 52.046 | -1.045 | 4.270 | 0.095 |
| -9.000 | 52.046 | -1.045 | 4.270 | 0.095 |
| -9.650 | 55.695 | -1.052 | 4.047 | 0.091 |
| -10.300 | 59.371 | -1.059 | 3.830 | 0.087 |
| -10.300 | 59.371 | -1.059 | 3.830 | 0.087 |
| -10.800 | 62.616 | -1.106 | 3.669 | 0.080 |
| -11.300 | 65.928 | -1.159 | 3.513 | 0.072 |
| -11.300 | 65.928 | -1.159 | 3.513 | 0.072 |
| -12.050 | 70.259 | -1.171 | 3.289 | 0.067 |
| -13.050 | 76.092 | -1.189 | 3.009 | 0.059 |
| -13.650 | 79.624 | -1.202 | 2.851 | 0.054 |
| -14.400 | 84.072 | -1.219 | 2.665 | 0.048 |
| -15.400 | 90.060 | -1.245 | 2.433 | 0.040 |
| -16.000 | 93.684 | -1.262 | 2.302 | 0.035 |
| -16.000 | 93.684 | -1.262 | 2.302 | 0.035 |
| -16.900 | 100.953 | -1.473 | 2.118 | 0.019 |
| -17.800 | 108.542 | -1.714 | 1.947 | 0.000 |

## 3.2 Results for Vertical 23 (X = -3.47 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.465 | 18.289 | -0.465 | 9.336 | 0.308 |
| -0.565 | 19.769 | -0.541 | 9.261 | 0.301 |
| -0.665 | 21.074 | -0.615 | 9.239 | 0.295 |
| -0.765 | 22.365 | -0.688 | 9.220 | 0.290 |
| -0.865 | 23.654 | -0.760 | 9.200 | 0.285 |
| -0.965 | 24.231 | -0.831 | 8.470 | 0.281 |
| -1.065 | 24.533 | -0.901 | 7.469 | 0.277 |
| -1.130 | 24.728 | -0.946 | 6.820 | 0.275 |
| -1.165 | 24.833 | -0.936 | 6.814 | 0.274 |
| -1.265 | 25.130 | -0.906 | 6.800 | 0.271 |
| -1.365 | 25.424 | -0.876 | 6.790 | 0.269 |
| -1.433 | 25.621 | -0.856 | 6.787 | 0.268 |
| -1.465 | 25.716 | -0.846 | 6.785 | 0.267 |
| -2.400 | 28.325 | -0.575 | 6.887 | 0.253 |
| -2.400 | 28.325 | -0.575 | 6.887 | 0.253 |
| -3.100 | 29.440 | -0.493 | 6.927 | 0.233 |
| -3.800 | 30.552 | -0.428 | 6.823 | 0.216 |
| -3.800 | 30.552 | -0.428 | 6.823 | 0.216 |
| -4.300 | 30.076 | -0.410 | 6.672 | 0.195 |
| -4.800 | 29.702 | -0.403 | 6.476 | 0.175 |
| -4.800 | 29.702 | -0.403 | 6.476 | 0.175 |
| -5.250 | 30.802 | -0.404 | 6.274 | 0.166 |
| -5.700 | 32.002 | -0.414 | 6.057 | 0.156 |
| -5.700 | 32.002 | -0.414 | 6.057 | 0.156 |
| -6.100 | 31.910 | -0.425 | 5.858 | 0.141 |
| -6.500 | 31.903 | -0.442 | 5.656 | 0.126 |
| -6.500 | 31.904 | -0.442 | 5.656 | 0.126 |
| -7.500 | 36.985 | -0.446 | 5.154 | 0.120 |
| -8.500 | 42.206 | -0.452 | 4.675 | 0.115 |
| -8.500 | 42.206 | -0.452 | 4.675 | 0.115 |
| -8.750 | 42.429 | -0.479 | 4.560 | 0.105 |
| -9.000 | 42.691 | -0.509 | 4.447 | 0.096 |
| -9.000 | 42.691 | -0.509 | 4.447 | 0.096 |
| -9.650 | 46.199 | -0.515 | 4.165 | 0.092 |
| -10.300 | 49.757 | -0.521 | 3.898 | 0.088 |
| -10.300 | 49.757 | -0.521 | 3.898 | 0.088 |
| -10.800 | 52.883 | -0.563 | 3.704 | 0.080 |
| -11.300 | 56.083 | -0.611 | 3.518 | 0.072 |
| -11.300 | 56.083 | -0.611 | 3.518 | 0.072 |
| -12.050 | 60.323 | -0.622 | 3.255 | 0.067 |
| -13.050 | 66.056 | -0.639 | 2.933 | 0.059 |
| -13.650 | 69.536 | -0.651 | 2.755 | 0.054 |
| -14.400 | 73.928 | -0.667 | 2.545 | 0.048 |
| -15.400 | 79.850 | -0.691 | 2.288 | 0.040 |
| -16.000 | 83.438 | -0.707 | 2.145 | 0.035 |
| -16.000 | 83.439 | -0.707 | 2.145 | 0.035 |
| -16.900 | 90.542 | -0.904 | 1.944 | 0.019 |
| -17.800 | 97.961 | -1.130 | 1.760 | 0.000 |

### 3.3 Results for Vertical 30 (X = -0.80 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.143 | 8.398 | -0.143 | 8.397 | 0.396 |
| -0.243 | 9.505 | -0.232 | 8.013 | 0.373 |
| -0.343 | 10.934 | -0.319 | 7.966 | 0.358 |
| -0.443 | 11.711 | -0.405 | 7.282 | 0.348 |
| -0.543 | 21.670 | -0.483 | 15.861 | 0.336 |
| -0.591 | 21.737 | -0.517 | 15.294 | 0.330 |
| -0.643 | 21.459 | -0.502 | 14.845 | 0.324 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.743 | 20.803 | -0.473 | 13.839 | 0.313 |
| -0.843 | 20.504 | -0.446 | 13.165 | 0.303 |
| -0.943 | 20.456 | -0.419 | 12.712 | 0.295 |
| -1.043 | 20.537 | -0.393 | 12.361 | 0.287 |
| -1.143 | 20.683 | -0.367 | 12.049 | 0.280 |
| -1.272 | 20.917 | -0.334 | 11.663 | 0.271 |
| -1.800 | 22.050 | -0.200 | 10.095 | 0.246 |
| -2.400 | 23.516 | -0.055 | 8.561 | 0.231 |
| -2.400 | 23.516 | -0.055 | 8.561 | 0.231 |
| -3.100 | 24.632 | 0.014 | 7.217 | 0.206 |
| -3.800 | 26.032 | 0.068 | 6.235 | 0.188 |
| -3.800 | 26.032 | 0.068 | 6.235 | 0.188 |
| -4.300 | 25.826 | 0.082 | 5.686 | 0.169 |
| -4.800 | 25.749 | 0.087 | 5.228 | 0.152 |
| -4.800 | 25.749 | 0.087 | 5.228 | 0.152 |
| -5.250 | 27.126 | 0.084 | 4.875 | 0.144 |
| -5.700 | 28.594 | 0.074 | 4.565 | 0.137 |
| -5.700 | 28.594 | 0.074 | 4.565 | 0.137 |
| -6.100 | 28.722 | 0.063 | 4.319 | 0.124 |
| -6.500 | 28.917 | 0.047 | 4.096 | 0.112 |
| -6.500 | 28.917 | 0.047 | 4.096 | 0.112 |
| -7.500 | 34.473 | 0.043 | 3.612 | 0.108 |
| -8.500 | 40.086 | 0.038 | 3.205 | 0.104 |
| -8.500 | 40.086 | 0.038 | 3.205 | 0.104 |
| -8.750 | 40.373 | 0.013 | 3.112 | 0.096 |
| -9.000 | 40.691 | -0.014 | 3.022 | 0.088 |
| -9.000 | 40.691 | -0.014 | 3.022 | 0.088 |
| -9.650 | 44.392 | -0.019 | 2.802 | 0.085 |
| -10.300 | 48.117 | -0.025 | 2.598 | 0.081 |
| -10.300 | 48.117 | -0.025 | 2.598 | 0.081 |
| -10.800 | 51.327 | -0.064 | 2.450 | 0.075 |
| -11.300 | 54.594 | -0.108 | 2.309 | 0.068 |
| -11.300 | 54.595 | -0.108 | 2.309 | 0.068 |
| -12.050 | 58.967 | -0.118 | 2.110 | 0.063 |
| -13.050 | 64.844 | -0.134 | 1.865 | 0.056 |
| -13.650 | 68.397 | -0.145 | 1.728 | 0.052 |
| -14.400 | 72.865 | -0.159 | 1.565 | 0.046 |
| -15.400 | 78.869 | -0.182 | 1.363 | 0.039 |
| -16.000 | 82.498 | -0.197 | 1.250 | 0.034 |
| -16.000 | 82.498 | -0.197 | 1.250 | 0.034 |
| -16.900 | 89.538 | -0.380 | 1.088 | 0.018 |
| -17.800 | 96.866 | -0.591 | 0.938 | 0.000 |

### 3.4 Results for Vertical 34 (X = 0.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.159 | 7.814 | -0.159 | 7.813 | 0.359 |
| -0.259 | 8.512 | -0.248 | 7.024 | 0.336 |
| -0.359 | 9.030 | -0.335 | 6.070 | 0.322 |
| -0.430 | 9.344 | -0.396 | 5.345 | 0.315 |
| -0.459 | 9.476 | -0.392 | 5.336 | 0.312 |
| -0.559 | 9.950 | -0.378 | 5.330 | 0.304 |
| -0.659 | 10.435 | -0.363 | 5.338 | 0.297 |
| -0.759 | 10.909 | -0.348 | 5.340 | 0.291 |
| -0.859 | 11.380 | -0.333 | 5.342 | 0.285 |
| -0.959 | 11.861 | -0.317 | 5.355 | 0.280 |
| -1.059 | 12.358 | -0.300 | 5.386 | 0.275 |
| -1.159 | 12.870 | -0.283 | 5.430 | 0.271 |
| -1.280 | 13.499 | -0.262 | 5.495 | 0.266 |
| -1.800 | 16.175 | -0.164 | 5.692 | 0.250 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.400 | 18.971 | -0.040 | 5.580 | 0.239 |
| -2.400 | 18.972 | -0.040 | 5.580 | 0.239 |
| -3.100 | 21.033 | 0.025 | 5.202 | 0.217 |
| -3.800 | 23.034 | 0.083 | 4.775 | 0.199 |
| -3.800 | 23.034 | 0.083 | 4.775 | 0.199 |
| -4.300 | 23.139 | 0.102 | 4.489 | 0.179 |
| -4.800 | 23.295 | 0.113 | 4.227 | 0.161 |
| -4.800 | 23.295 | 0.113 | 4.227 | 0.161 |
| -5.250 | 24.788 | 0.120 | 4.012 | 0.153 |
| -5.700 | 26.326 | 0.122 | 3.815 | 0.145 |
| -5.700 | 26.326 | 0.122 | 3.815 | 0.145 |
| -6.100 | 26.532 | 0.119 | 3.654 | 0.132 |
| -6.500 | 26.784 | 0.110 | 3.503 | 0.119 |
| -6.500 | 26.784 | 0.110 | 3.503 | 0.119 |
| -7.500 | 32.603 | 0.108 | 3.164 | 0.114 |
| -8.500 | 38.415 | 0.104 | 2.867 | 0.110 |
| -8.500 | 38.415 | 0.104 | 2.867 | 0.110 |
| -8.750 | 38.681 | 0.087 | 2.797 | 0.101 |
| -9.000 | 38.974 | 0.066 | 2.730 | 0.092 |
| -9.000 | 38.974 | 0.066 | 2.730 | 0.092 |
| -9.650 | 42.765 | 0.062 | 2.562 | 0.089 |
| -10.300 | 46.564 | 0.058 | 2.403 | 0.085 |
| -10.300 | 46.564 | 0.058 | 2.403 | 0.085 |
| -10.800 | 49.756 | 0.027 | 2.286 | 0.078 |
| -11.300 | 52.995 | -0.009 | 2.174 | 0.070 |
| -11.300 | 52.995 | -0.009 | 2.174 | 0.070 |
| -12.050 | 57.418 | -0.017 | 2.013 | 0.065 |
| -13.050 | 63.348 | -0.030 | 1.811 | 0.058 |
| -13.650 | 66.924 | -0.039 | 1.696 | 0.053 |
| -14.400 | 71.414 | -0.052 | 1.558 | 0.047 |
| -15.400 | 77.437 | -0.071 | 1.385 | 0.039 |
| -16.000 | 81.072 | -0.084 | 1.286 | 0.034 |
| -16.000 | 81.072 | -0.084 | 1.286 | 0.034 |
| -16.900 | 87.917 | -0.244 | 1.145 | 0.018 |
| -17.800 | 95.023 | -0.430 | 1.012 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -22.00 | 0.00 | -1.80 | 0.171 |
| 2 | -15.22 | 0.00 | -1.88 | 0.187 |
| 3 | -15.01 | 0.00 | -2.40 | 0.181 |
| 4 | -14.65 | 0.00 | -3.28 | 0.334 |
| 5 | -13.47 | 0.00 | -3.47 | 0.423 |
| 6 | -12.21 | 0.00 | -2.40 | 0.240 |
| 7 | -11.62 | 0.00 | -1.90 | 0.250 |
| 8 | -11.00 | 0.00 | -1.67 | 0.274 |
| 9 | -8.73 | 0.00 | -0.82 | 0.333 |
| 10 | -8.19 | 0.00 | -0.58 | 0.338 |
| 11 | -7.42 | 0.00 | -0.25 | 0.344 |
| 12 | -7.28 | 0.00 | -0.19 | 0.344 |
| 13 | -7.26 | 0.00 | -0.19 | 0.344 |
| 14 | -7.04 | 0.00 | -0.19 | 0.348 |
| 15 | -6.74 | 0.00 | -0.19 | 0.352 |
| 16 | -6.62 | 0.00 | -0.18 | 0.358 |
| 17 | -6.36 | 0.00 | -0.55 | 0.289 |
| 18 | -6.17 | 0.00 | -0.54 | 0.300 |
| 19 | -5.29 | 0.00 | -0.52 | 0.297 |
| 20 | -4.98 | 0.00 | -0.51 | 0.298 |
| 21 | -4.97 | 0.00 | -0.51 | 0.298 |
| 22 | -4.85 | 0.00 | -0.51 | 0.299 |
| 23 | -3.47 | 0.00 | -0.47 | 0.308 |
| 24 | -1.97 | 0.00 | -0.50 | 0.331 |
| 25 | -1.91 | 0.00 | -0.50 | 0.333 |
| 26 | -1.69 | 0.00 | -0.50 | 0.364 |
| 27 | -1.69 | 0.00 | -0.43 | 0.360 |
| 28 | -1.68 | 0.00 | -0.12 | 0.373 |
| 29 | -1.20 | 0.00 | -0.13 | 0.406 |
| 30 | -0.80 | 0.00 | -0.14 | 0.396 |
| 31 | -0.69 | 0.00 | -0.14 | 0.391 |
| 32 | -0.32 | 0.00 | -0.14 | 0.370 |
| 33 | -0.17 | 0.00 | -0.14 | 0.363 |
| 34 | 0.00 | 0.00 | -0.16 | 0.359 |
| 35 | 0.30 | 0.00 | -0.20 | 0.350 |
| 36 | 0.54 | 0.00 | -0.31 | 0.369 |
| 37 | 0.72 | 0.00 | -0.40 | 0.393 |
| 38 | 0.92 | 0.00 | -1.24 | 0.450 |
| 39 | 1.15 | 0.00 | -1.85 | 0.496 |
| 40 | 1.39 | 0.00 | -2.04 | 0.506 |
| 41 | 5.00 | 0.00 | -2.09 | 0.289 |

## 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 100 | -0.004 | -2.305 | 0.175 |
| | 4500 | 0.100 | 58.524 | 0.071 |
| 2 | 100 | -0.003 | -1.583 | 0.190 |
| | 4500 | 0.112 | 60.071 | 0.075 |
| 3 | 100 | -0.001 | -0.289 | 0.182 |
| | 4500 | 0.120 | 66.408 | 0.061 |
| 4 | 100 | 0.011 | 3.206 | 0.323 |
| | 4500 | 0.222 | 66.555 | 0.112 |
| 5 | 100 | 0.029 | 6.824 | 0.394 |
| | 4500 | 0.303 | 71.507 | 0.121 |
| 6 | 100 | 0.008 | 3.486 | 0.232 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 4500 | 0.168 | 70.078 | 0.072 |
| 7 | 100 | 0.004 | 1.742 | 0.245 |
| | 4500 | 0.159 | 63.823 | 0.090 |
| 8 | 100 | 0.013 | 4.927 | 0.260 |
| | 4500 | 0.176 | 64.206 | 0.098 |
| 9 | 100 | 0.037 | 11.089 | 0.296 |
| | 4500 | 0.219 | 65.860 | 0.114 |
| 10 | 100 | 0.039 | 11.395 | 0.300 |
| | 4500 | 0.223 | 65.925 | 0.115 |
| 11 | 100 | 0.040 | 11.763 | 0.304 |
| | 4500 | 0.227 | 66.063 | 0.117 |
| 12 | 100 | 0.040 | 11.515 | 0.304 |
| | 4500 | 0.227 | 65.957 | 0.117 |
| 13 | 100 | 0.040 | 11.543 | 0.304 |
| | 4500 | 0.227 | 65.969 | 0.117 |
| 14 | 100 | 0.041 | 11.910 | 0.307 |
| | 4500 | 0.231 | 66.234 | 0.118 |
| 15 | 100 | 0.042 | 11.978 | 0.310 |
| | 4500 | 0.234 | 66.495 | 0.118 |
| 16 | 100 | 0.047 | 13.260 | 0.311 |
| | 4500 | 0.240 | 67.069 | 0.118 |
| 17 | 100 | 0.010 | 3.303 | 0.280 |
| | 4500 | 0.174 | 60.253 | 0.115 |
| 18 | 100 | 0.008 | 2.819 | 0.291 |
| | 4500 | 0.181 | 60.501 | 0.118 |
| 19 | 100 | 0.009 | 2.920 | 0.288 |
| | 4500 | 0.178 | 60.090 | 0.118 |
| 20 | 100 | 0.009 | 2.964 | 0.289 |
| | 4500 | 0.179 | 60.174 | 0.119 |
| 21 | 100 | 0.009 | 2.963 | 0.289 |
| | 4500 | 0.179 | 60.175 | 0.119 |
| 22 | 100 | 0.009 | 3.041 | 0.290 |
| | 4500 | 0.180 | 60.256 | 0.119 |
| 23 | 100 | 0.010 | 3.245 | 0.298 |
| | 4500 | 0.187 | 60.661 | 0.121 |
| 24 | 100 | 0.011 | 3.385 | 0.319 |
| | 4500 | 0.207 | 62.588 | 0.124 |
| 25 | 100 | 0.012 | 3.487 | 0.322 |
| | 4500 | 0.210 | 62.898 | 0.124 |
| 26 | 100 | 0.027 | 7.285 | 0.337 |
| | 4500 | 0.239 | 65.708 | 0.125 |
| 27 | 100 | 0.027 | 7.631 | 0.333 |
| | 4500 | 0.237 | 65.928 | 0.123 |
| 28 | 100 | 0.042 | 11.243 | 0.331 |
| | 4500 | 0.252 | 67.444 | 0.121 |
| 29 | 100 | 0.056 | 13.690 | 0.350 |
| | 4500 | 0.286 | 70.364 | 0.120 |
| 30 | 100 | 0.053 | 13.261 | 0.344 |
| | 4500 | 0.278 | 70.094 | 0.119 |
| 31 | 100 | 0.049 | 12.579 | 0.342 |
| | 4500 | 0.273 | 69.782 | 0.118 |
| 32 | 100 | 0.042 | 11.441 | 0.328 |
| | 4500 | 0.254 | 68.530 | 0.117 |
| 33 | 100 | 0.041 | 11.370 | 0.322 |
| | 4500 | 0.248 | 68.351 | 0.115 |
| 34 | 100 | 0.041 | 11.525 | 0.318 |
| | 4500 | 0.245 | 68.354 | 0.114 |
| 35 | 100 | 0.042 | 11.927 | 0.308 |
| | 4500 | 0.237 | 67.822 | 0.113 |
| 36 | 100 | 0.040 | 10.848 | 0.329 |
| | 4500 | 0.238 | 64.538 | 0.131 |
| 37 | 100 | 0.037 | 9.530 | 0.355 |
| | 4500 | 0.251 | 63.894 | 0.142 |
| 38 | 100 | 0.044 | 9.677 | 0.407 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 4500 | 0.295 | 65.442 | 0.156 |
| 39 | 100 | 0.042 | 8.474 | 0.454 |
| | 4500 | 0.333 | 67.087 | 0.163 |
| 40 | 100 | 0.040 | 7.875 | 0.466 |
| | 4500 | 0.344 | 67.929 | 0.162 |
| 41 | 100 | 0.000 | 0.107 | 0.289 |
| | 4500 | 0.172 | 59.603 | 0.117 |

## 5 Warnings and errors

List of non-fatal warnings and errors generated during calculation.

1 Non-uniform load [2]: Co-ordinate (4) lies below surface

2 Non-uniform load [2]: Co-ordinate (8) lies below surface

## End of Report

# Report for D-Settlement 21.2

Settlement Calculations
Developed by Deltares




| | |
|---|---|
| Company: | Waalpartners bv |
| Date of report: | 11/25/2022 |
| Time of report: | 9:49:36 AM |
| Report with version: | 21.2.1.34213 |
| Date of calculation: | 11/25/2022 |
| Time of calculation: | 9:42:18 AM |
| Calculated with version: | 21.2.1.34213 |
| File name: | 13.71bkl |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 10 - X - | -22.000 | -13.730 | -13.618 | -13.456 | -13.048 |
| 10 - Y - | -1.140 | -1.305 | -2.000 | -2.999 | -3.267 |
| 10 - X - | -11.661 | -10.156 | -10.053 | -8.935 | -8.263 |
| 10 - Y - | -3.329 | -2.056 | -2.000 | -1.393 | -1.046 |
| 10 - X - | -6.772 | -6.170 | -6.160 | -5.661 | -3.456 |
| 10 - Y - | -0.264 | -0.307 | -1.037 | -1.017 | -0.918 |
| 10 - X - | -0.702 | -0.700 | -0.140 | 0.527 | 0.823 |
| 10 - Y - | -0.993 | -0.263 | -0.162 | -0.262 | -0.352 |
| 10 - X - | 1.050 | 1.141 | 1.167 | 1.627 | 5.000 |
| 10 - Y - | -1.548 | -2.000 | -2.132 | -2.354 | -2.499 |
| 9 - X - | -22.000 | -13.618 | -13.456 | -13.048 | -11.661 |
| 9 - Y - | -2.000 | -2.000 | -2.999 | -3.267 | -3.329 |
| 9 - X - | -10.156 | -10.053 | -8.935 | -8.263 | -6.772 |
| 9 - Y - | -2.056 | -2.000 | -1.393 | -1.046 | -0.264 |
| 9 - X - | -6.170 | -6.160 | -5.661 | -3.456 | -0.702 |
| 9 - Y - | -0.307 | -1.037 | -1.017 | -0.918 | -0.993 |
| 9 - X - | -0.700 | -0.140 | 0.527 | 0.823 | 1.050 |
| 9 - Y - | -0.263 | -0.162 | -0.262 | -0.352 | -1.548 |
| 9 - X - | 1.141 | 1.167 | 1.627 | 5.000 | |
| 9 - Y - | -2.000 | -2.132 | -2.354 | -2.499 | |
| 8 - X - | -22.000 | -13.618 | -13.456 | -13.048 | -11.661 |
| 8 - Y - | -2.000 | -2.000 | -2.999 | -3.267 | -3.329 |
| 8 - X - | -10.156 | -10.053 | 1.141 | 1.167 | 1.627 |
| 8 - Y - | -2.056 | -2.000 | -2.000 | -2.132 | -2.354 |
| 8 - X - | 5.000 | | | | |
| 8 - Y - | -2.499 | | | | |
| 7 - X - | -22.000 | 5.000 | | | |
| 7 - Y - | -4.800 | -4.800 | | | |
| 6 - X - | -22.000 | 5.000 | | | |
| 6 - Y - | -6.700 | -6.700 | | | |
| 5 - X - | -22.000 | 5.000 | | | |
| 5 - Y - | -8.300 | -8.300 | | | |
| 4 - X - | -22.000 | 5.000 | | | |
| 4 - Y - | -9.800 | -9.800 | | | |
| 3 - X - | -22.000 | 5.000 | | | |
| 3 - Y - | -11.400 | -11.400 | | | |
| 2 - X - | -22.000 | 5.000 | | | |
| 2 - Y - | -12.000 | -12.000 | | | |
| 1 - X - | -22.000 | 5.000 | | | |
| 1 - Y - | -16.200 | -16.200 | | | |
| 0 - X - | -22.000 | 5.000 | | | |
| 0 - Y - | -18.500 | -18.500 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -22.000 | -11.000 | 0.000 | 5.000 | |
| 1 - Y - | -2.650 | -2.650 | -0.430 | -0.430 | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | |
| - Loads: | None |

| | |
|---|---|
| End of consolidation: | 10000.00 [days] |
| No maintain profile | |
| Pc (initial): | Variable parallel to the initial effective stress |
| Pc (per step): | Automatic increased to the final effective stresses |
| Creep rate reference time: | 1.000 [days] |
| No imaginary surface | |
| With submerging | |
| (only for non uniform loads) | |
| - Iteration stop criterium : | 0.10 [m] |
| Load column width | |
| - Non-Uniform Loads : | 1.00 [m] |
| - Trapeziform Loads : | 1.00 [m] |

## 2.4 Soil Profiles

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 10 | Dijksmateriaal | 1 | 1 |
| 9 | Dijksmateriaal | 1 | 1 |
| 8 | Klei Hum DK | 1 | 1 |
| 7 | Hollandveen | 1 | 1 |
| 6 | klei Silt DK | 1 | 1 |
| 5 | Hollandveen | 1 | 1 |
| 4 | Klei CA | 1 | 1 |
| 3 | Klei silt CA | 1 | 1 |
| 2 | Klei CA | 1 | 1 |
| 1 | Klei silt CA | 1 | 1 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 10 | No | 16.00 | 16.00 |
| 9 | No | 16.00 | 16.00 |
| 8 | No | 13.50 | 13.50 |
| 7 | No | 10.50 | 10.50 |
| 6 | No | 15.10 | 15.10 |
| 5 | No | 10.50 | 10.50 |
| 4 | No | 15.90 | 15.90 |
| 3 | No | 15.90 | 15.90 |
| 2 | No | 15.90 | 15.90 |
| 1 | No | 15.90 | 15.90 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|---|---|
| 10 | Vert. cons. | 1.00E-08 | - | - | - |
| 9 | Vert. cons. | 1.00E-08 | - | - | - |
| 8 | Vert. cons. | 2.07E-08 | - | - | - |
| 7 | Vert. cons. | 2.37E-08 | - | - | - |
| 6 | Vert. cons. | 2.54E-08 | - | - | - |
| 5 | Vert. cons. | 2.37E-08 | - | - | - |
| 4 | Vert. cons. | 6.02E-07 | - | - | - |
| 3 | Vert. cons. | 9.27E-08 | - | - | - |
| 2 | Vert. cons. | 6.02E-07 | - | - | - |
| 1 | Vert. cons. | 9.27E-08 | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 10 | - | 1.50 | - |
| 9 | - | 1.50 | - |
| 8 | - | 1.50 | - |
| 7 | - | 1.80 | - |
| 6 | - | 1.50 | - |
| 5 | - | 1.80 | - |
| 4 | - | 1.50 | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 3 | - | 1.50 | - |
| 2 | - | 1.50 | - |
| 1 | - | 1.50 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 10 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 9 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 8 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 7 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 6 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 5 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 4 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 3 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 2 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 1 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time [days] | Unit weight Unsaturated [kN/m³] | Unit weight Saturated [kN/m³] |
|---|---|---|---|
| 1 | -1 | 24.00 | 24.00 |
| 2 | 2 | 16.00 | 16.00 |
| 3 | 3 | 18.00 | 20.00 |
| 4 | 4 | 19.00 | 19.00 |
| 5 | 5 | 25.00 | 25.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -6.28 | -6.09 | -5.99 | -5.39 | -5.27 | -4.68 |
| 1 - Y - | -0.30 | -0.25 | -0.24 | -0.23 | -0.23 | -0.22 |
| 1 - X - | -3.46 | -1.95 | -1.66 | -1.46 | -0.88 | -0.77 |
| 1 - Y - | -0.19 | -0.22 | -0.22 | -0.23 | -0.24 | -0.25 |
| 1 - X - | -0.38 | | | | | |
| 1 - Y - | -0.20 | | | | | |
| 2 - X - | -10.16 | -7.20 | -6.16 | -6.16 | -5.66 | -3.46 |
| 2 - Y - | -2.06 | 0.37 | 0.38 | -1.04 | -1.02 | -0.92 |
| 2 - X - | -2.72 | -0.70 | -0.70 | -0.36 | 0.74 | 0.74 |
| 2 - Y - | -0.94 | -0.99 | 0.38 | 0.37 | 0.32 | 0.31 |
| 2 - X - | 0.82 | | | | | |
| 2 - Y - | -0.35 | | | | | |
| 3 - X - | -6.16 | -0.70 | | | | |
| 3 - Y - | -0.07 | -0.07 | | | | |
| 4 - X - | -6.16 | -0.70 | | | | |
| 4 - Y - | 0.18 | 0.18 | | | | |
| 5 - X - | -6.16 | -4.91 | -3.46 | -2.00 | -0.70 | |
| 5 - Y - | 0.38 | 0.41 | 0.45 | 0.41 | 0.38 | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -22.000 | -13.730 | -13.618 | -13.456 | -13.048 |
| 6 - 10 | -11.661 | -11.000 | -10.156 | -10.053 | -8.935 |
| 11 - 15 | -8.263 | -7.195 | -6.962 | -6.852 | -6.772 |
| 16 - 20 | -6.659 | -6.556 | -6.285 | -6.170 | -6.161 |
| 21 - 25 | -6.160 | -6.091 | -5.990 | -5.661 | -5.389 |
| 26 - 30 | -5.269 | -4.907 | -4.682 | -3.456 | -2.724 |
| 31 - 35 | -2.005 | -1.947 | -1.657 | -1.463 | -0.879 |
| 36 - 40 | -0.765 | -0.702 | -0.700 | -0.365 | -0.356 |
| 41 - 45 | -0.140 | 0.000 | 0.527 | 0.743 | 0.744 |
| 46 - 50 | 0.823 | 1.050 | 1.141 | 1.167 | 1.627 |
| 51 | 5.000 | | | | |

# 3 Results per Vertical

## 3.1 Results for Vertical 22 (X = -6.09 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.034 | 27.444 | -1.034 | 8.527 | 0.305 |
| -1.134 | 26.801 | -1.091 | 8.627 | 0.301 |
| -1.234 | 25.381 | -1.150 | 8.759 | 0.297 |
| -1.334 | 25.262 | -1.212 | 8.809 | 0.293 |
| -1.434 | 25.570 | -1.273 | 8.659 | 0.289 |
| -1.517 | 25.366 | -1.324 | 7.853 | 0.286 |
| -1.534 | 25.339 | -1.334 | 7.686 | 0.286 |
| -1.634 | 25.255 | -1.396 | 6.709 | 0.283 |
| -1.659 | 25.249 | -1.411 | 6.464 | 0.282 |
| -1.734 | 25.259 | -1.383 | 6.467 | 0.281 |
| -1.834 | 25.321 | -1.345 | 6.469 | 0.279 |
| -1.934 | 25.423 | -1.308 | 6.471 | 0.277 |
| -2.000 | 25.504 | -1.284 | 6.472 | 0.276 |
| -2.000 | 25.504 | -1.284 | 6.472 | 0.276 |
| -2.034 | 25.532 | -1.278 | 6.471 | 0.275 |
| -2.700 | 26.314 | -1.171 | 6.400 | 0.251 |
| -3.400 | 27.305 | -1.071 | 6.173 | 0.231 |
| -4.100 | 28.368 | -0.985 | 5.845 | 0.214 |
| -4.800 | 29.519 | -0.913 | 5.470 | 0.201 |
| -4.800 | 29.519 | -0.913 | 5.470 | 0.201 |
| -5.750 | 28.810 | -0.877 | 4.947 | 0.173 |
| -6.700 | 28.431 | -0.875 | 4.444 | 0.148 |
| -6.700 | 28.431 | -0.875 | 4.444 | 0.148 |
| -7.500 | 32.128 | -0.904 | 4.049 | 0.140 |
| -8.300 | 36.088 | -0.956 | 3.683 | 0.130 |
| -8.300 | 36.088 | -0.956 | 3.683 | 0.130 |
| -9.050 | 36.385 | -1.003 | 3.367 | 0.108 |
| -9.800 | 36.957 | -1.074 | 3.075 | 0.084 |
| -9.800 | 36.957 | -1.074 | 3.075 | 0.084 |
| -10.600 | 41.261 | -1.080 | 2.790 | 0.080 |
| -11.400 | 45.626 | -1.087 | 2.528 | 0.077 |
| -11.400 | 45.626 | -1.087 | 2.528 | 0.077 |
| -11.700 | 47.470 | -1.110 | 2.435 | 0.073 |
| -12.000 | 49.338 | -1.134 | 2.346 | 0.069 |
| -12.000 | 49.338 | -1.134 | 2.346 | 0.069 |
| -12.700 | 53.245 | -1.143 | 2.147 | 0.065 |
| -13.700 | 58.898 | -1.157 | 1.888 | 0.059 |
| -14.100 | 61.182 | -1.164 | 1.791 | 0.056 |
| -14.800 | 65.209 | -1.176 | 1.632 | 0.052 |
| -15.800 | 71.025 | -1.195 | 1.421 | 0.045 |
| -16.200 | 73.372 | -1.204 | 1.343 | 0.042 |
| -16.200 | 73.372 | -1.204 | 1.343 | 0.042 |
| -16.750 | 77.414 | -1.298 | 1.240 | 0.033 |
| -17.350 | 81.940 | -1.411 | 1.133 | 0.023 |
| -17.900 | 86.197 | -1.524 | 1.040 | 0.012 |
| -18.500 | 90.965 | -1.659 | 0.944 | 0.000 |

## 3.2 Results for Vertical 29 (X = -3.46 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.918 | 25.779 | -0.918 | 8.374 | 0.286 |
| -1.018 | 26.043 | -0.981 | 7.281 | 0.282 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.118 | 26.101 | -1.043 | 6.290 | 0.279 |
| -1.127 | 26.111 | -1.049 | 6.196 | 0.279 |
| -1.218 | 26.275 | -1.014 | 6.178 | 0.276 |
| -1.318 | 26.521 | -0.977 | 6.144 | 0.273 |
| -1.418 | 26.769 | -0.939 | 6.101 | 0.271 |
| -1.459 | 26.865 | -0.924 | 6.082 | 0.270 |
| -1.518 | 26.997 | -0.902 | 6.053 | 0.268 |
| -1.618 | 27.208 | -0.865 | 6.000 | 0.266 |
| -1.718 | 27.405 | -0.828 | 5.946 | 0.265 |
| -1.818 | 27.590 | -0.791 | 5.890 | 0.263 |
| -1.918 | 27.768 | -0.754 | 5.835 | 0.262 |
| -2.000 | 27.909 | -0.724 | 5.790 | 0.261 |
| -2.000 | 27.909 | -0.724 | 5.790 | 0.261 |
| -2.700 | 28.571 | -0.614 | 5.467 | 0.239 |
| -3.400 | 29.035 | -0.517 | 5.240 | 0.222 |
| -4.100 | 29.445 | -0.436 | 5.057 | 0.208 |
| -4.800 | 29.956 | -0.369 | 4.876 | 0.197 |
| -4.800 | 29.956 | -0.369 | 4.876 | 0.197 |
| -5.750 | 28.475 | -0.338 | 4.605 | 0.171 |
| -6.700 | 27.488 | -0.339 | 4.302 | 0.148 |
| -6.700 | 27.488 | -0.339 | 4.302 | 0.148 |
| -7.500 | 30.797 | -0.371 | 4.034 | 0.140 |
| -8.300 | 34.451 | -0.424 | 3.762 | 0.131 |
| -8.300 | 34.451 | -0.424 | 3.762 | 0.131 |
| -9.050 | 34.511 | -0.472 | 3.511 | 0.108 |
| -9.800 | 34.882 | -0.541 | 3.268 | 0.084 |
| -9.800 | 34.882 | -0.541 | 3.268 | 0.084 |
| -10.600 | 39.023 | -0.547 | 3.020 | 0.081 |
| -11.400 | 43.257 | -0.554 | 2.785 | 0.077 |
| -11.400 | 43.257 | -0.554 | 2.785 | 0.077 |
| -11.700 | 45.056 | -0.577 | 2.700 | 0.073 |
| -12.000 | 46.882 | -0.601 | 2.618 | 0.069 |
| -12.000 | 46.882 | -0.601 | 2.618 | 0.069 |
| -12.700 | 50.709 | -0.609 | 2.433 | 0.065 |
| -13.700 | 56.270 | -0.623 | 2.188 | 0.059 |
| -14.100 | 58.523 | -0.630 | 2.095 | 0.057 |
| -14.800 | 62.503 | -0.642 | 1.941 | 0.052 |
| -15.800 | 68.263 | -0.661 | 1.737 | 0.045 |
| -16.200 | 70.591 | -0.670 | 1.660 | 0.043 |
| -16.200 | 70.591 | -0.670 | 1.660 | 0.043 |
| -16.750 | 74.612 | -0.764 | 1.559 | 0.034 |
| -17.350 | 79.118 | -0.877 | 1.454 | 0.023 |
| -17.900 | 83.362 | -0.991 | 1.362 | 0.012 |
| -18.500 | 88.121 | -1.127 | 1.267 | 0.000 |

### 3.3 Results for Vertical 37 (X = -0.70 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.993 | 15.140 | -0.572 | 8.079 | 0.360 |
| -1.093 | 15.496 | -0.540 | 7.973 | 0.353 |
| -1.193 | 15.796 | -0.508 | 7.881 | 0.346 |
| -1.293 | 16.062 | -0.477 | 7.794 | 0.339 |
| -1.393 | 16.319 | -0.445 | 7.708 | 0.334 |
| -1.493 | 16.574 | -0.413 | 7.621 | 0.329 |
| -1.496 | 16.583 | -0.411 | 7.618 | 0.328 |
| -1.593 | 16.830 | -0.380 | 7.533 | 0.324 |
| -1.693 | 17.084 | -0.348 | 7.444 | 0.320 |
| -1.793 | 17.338 | -0.316 | 7.354 | 0.316 |
| -1.893 | 17.591 | -0.284 | 7.264 | 0.313 |
| -1.993 | 17.842 | -0.251 | 7.175 | 0.310 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.000 | 17.860 | -0.249 | 7.169 | 0.309 |
| -2.000 | 17.860 | -0.249 | 7.169 | 0.309 |
| -2.700 | 19.097 | -0.148 | 6.593 | 0.277 |
| -3.400 | 20.411 | -0.054 | 6.137 | 0.253 |
| -4.100 | 21.811 | 0.031 | 5.788 | 0.235 |
| -4.800 | 23.292 | 0.107 | 5.514 | 0.220 |
| -4.800 | 23.292 | 0.107 | 5.514 | 0.220 |
| -5.750 | 23.017 | 0.149 | 5.223 | 0.191 |
| -6.700 | 22.995 | 0.162 | 4.986 | 0.165 |
| -6.700 | 22.995 | 0.162 | 4.985 | 0.165 |
| -7.500 | 26.853 | 0.151 | 4.810 | 0.156 |
| -8.300 | 30.907 | 0.120 | 4.648 | 0.146 |
| -8.300 | 30.907 | 0.120 | 4.648 | 0.146 |
| -9.050 | 31.324 | 0.085 | 4.503 | 0.122 |
| -9.800 | 31.980 | 0.028 | 4.364 | 0.096 |
| -9.800 | 31.980 | 0.028 | 4.364 | 0.096 |
| -10.600 | 36.463 | 0.022 | 4.220 | 0.091 |
| -11.400 | 40.980 | 0.015 | 4.081 | 0.087 |
| -11.400 | 40.980 | 0.015 | 4.081 | 0.087 |
| -11.700 | 42.860 | -0.006 | 4.030 | 0.082 |
| -12.000 | 44.762 | -0.028 | 3.979 | 0.078 |
| -12.000 | 44.762 | -0.028 | 3.979 | 0.078 |
| -12.700 | 48.769 | -0.037 | 3.864 | 0.073 |
| -13.700 | 54.543 | -0.050 | 3.705 | 0.065 |
| -14.100 | 56.870 | -0.057 | 3.644 | 0.062 |
| -14.800 | 60.965 | -0.069 | 3.539 | 0.057 |
| -15.800 | 66.866 | -0.089 | 3.397 | 0.049 |
| -16.200 | 69.243 | -0.097 | 3.342 | 0.046 |
| -16.200 | 69.243 | -0.097 | 3.342 | 0.046 |
| -16.750 | 73.350 | -0.194 | 3.268 | 0.036 |
| -17.350 | 77.952 | -0.311 | 3.191 | 0.025 |
| -17.900 | 82.287 | -0.430 | 3.122 | 0.013 |
| -18.500 | 87.149 | -0.572 | 3.049 | 0.000 |

### 3.4 Results for Vertical 42 (X = 0.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.183 | 8.033 | -0.183 | 8.032 | 0.346 |
| -0.283 | 8.795 | -0.270 | 7.323 | 0.323 |
| -0.383 | 9.334 | -0.355 | 6.405 | 0.308 |
| -0.430 | 9.594 | -0.395 | 5.982 | 0.303 |
| -0.483 | 9.885 | -0.387 | 6.024 | 0.298 |
| -0.583 | 10.428 | -0.371 | 6.099 | 0.290 |
| -0.683 | 10.951 | -0.354 | 6.160 | 0.282 |
| -0.783 | 11.438 | -0.337 | 6.190 | 0.275 |
| -0.883 | 11.880 | -0.319 | 6.181 | 0.268 |
| -0.983 | 12.280 | -0.301 | 6.135 | 0.262 |
| -1.083 | 12.645 | -0.283 | 6.058 | 0.257 |
| -1.091 | 12.675 | -0.281 | 6.051 | 0.257 |
| -1.183 | 12.995 | -0.264 | 5.957 | 0.252 |
| -2.000 | 16.892 | -0.097 | 4.647 | 0.232 |
| -2.000 | 16.892 | -0.097 | 4.647 | 0.232 |
| -2.700 | 19.600 | -0.025 | 3.731 | 0.211 |
| -3.400 | 22.003 | 0.045 | 3.152 | 0.197 |
| -4.100 | 24.221 | 0.112 | 2.775 | 0.186 |
| -4.800 | 26.345 | 0.172 | 2.514 | 0.177 |
| -4.800 | 26.345 | 0.172 | 2.514 | 0.177 |
| -5.750 | 26.674 | 0.206 | 2.263 | 0.156 |
| -6.700 | 27.100 | 0.214 | 2.076 | 0.138 |
| -6.700 | 27.100 | 0.214 | 2.076 | 0.138 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -7.500 | 31.258 | 0.201 | 1.943 | 0.131 |
| -8.300 | 35.540 | 0.171 | 1.822 | 0.123 |
| -8.300 | 35.540 | 0.171 | 1.822 | 0.123 |
| -9.050 | 36.120 | 0.137 | 1.714 | 0.103 |
| -9.800 | 36.897 | 0.082 | 1.609 | 0.081 |
| -9.800 | 36.897 | 0.082 | 1.609 | 0.081 |
| -10.600 | 41.512 | 0.077 | 1.499 | 0.078 |
| -11.400 | 46.134 | 0.071 | 1.390 | 0.075 |
| -11.400 | 46.134 | 0.071 | 1.390 | 0.075 |
| -11.700 | 48.030 | 0.052 | 1.349 | 0.071 |
| -12.000 | 49.942 | 0.032 | 1.309 | 0.067 |
| -12.000 | 49.942 | 0.032 | 1.309 | 0.067 |
| -12.700 | 54.013 | 0.025 | 1.216 | 0.064 |
| -13.700 | 59.858 | 0.013 | 1.086 | 0.058 |
| -14.100 | 62.206 | 0.007 | 1.035 | 0.055 |
| -14.800 | 66.332 | -0.003 | 0.947 | 0.051 |
| -15.800 | 72.262 | -0.020 | 0.825 | 0.044 |
| -16.200 | 74.646 | -0.028 | 0.777 | 0.042 |
| -16.200 | 74.646 | -0.028 | 0.777 | 0.042 |
| -16.750 | 78.637 | -0.110 | 0.714 | 0.033 |
| -17.350 | 83.090 | -0.210 | 0.646 | 0.022 |
| -17.900 | 87.268 | -0.310 | 0.585 | 0.012 |
| -18.500 | 91.935 | -0.430 | 0.521 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -22.00 | 0.00 | -1.14 | 0.190 |
| 2 | -13.73 | 0.00 | -1.30 | 0.211 |
| 3 | -13.62 | 0.00 | -2.00 | 0.220 |
| 4 | -13.46 | 0.00 | -3.00 | 0.336 |
| 5 | -13.05 | 0.00 | -3.27 | 0.367 |
| 6 | -11.66 | 0.00 | -3.33 | 0.458 |
| 7 | -11.00 | 0.00 | -2.77 | 0.477 |
| 8 | -10.16 | 0.00 | -2.06 | 0.333 |
| 9 | -10.05 | 0.00 | -2.00 | 0.344 |
| 10 | -8.94 | 0.00 | -1.39 | 0.371 |
| 11 | -8.26 | 0.00 | -1.05 | 0.382 |
| 12 | -7.20 | 0.00 | -0.49 | 0.382 |
| 13 | -6.96 | 0.00 | -0.36 | 0.379 |
| 14 | -6.85 | 0.00 | -0.31 | 0.374 |
| 15 | -6.77 | 0.00 | -0.26 | 0.371 |
| 16 | -6.66 | 0.00 | -0.27 | 0.372 |
| 17 | -6.56 | 0.00 | -0.28 | 0.372 |
| 18 | -6.29 | 0.00 | -0.30 | 0.366 |
| 19 | -6.17 | 0.00 | -0.31 | 0.340 |
| 20 | -6.16 | 0.00 | -1.04 | 0.317 |
| 21 | -6.16 | 0.00 | -1.04 | 0.315 |
| 22 | -6.09 | 0.00 | -1.03 | 0.305 |
| 23 | -5.99 | 0.00 | -1.03 | 0.298 |
| 24 | -5.66 | 0.00 | -1.02 | 0.290 |
| 25 | -5.39 | 0.00 | -1.00 | 0.288 |
| 26 | -5.27 | 0.00 | -1.00 | 0.287 |
| 27 | -4.91 | 0.00 | -0.98 | 0.287 |
| 28 | -4.68 | 0.00 | -0.97 | 0.287 |
| 29 | -3.46 | 0.00 | -0.92 | 0.286 |
| 30 | -2.72 | 0.00 | -0.94 | 0.310 |
| 31 | -2.00 | 0.00 | -0.96 | 0.318 |
| 32 | -1.95 | 0.00 | -0.96 | 0.317 |
| 33 | -1.66 | 0.00 | -0.97 | 0.319 |
| 34 | -1.46 | 0.00 | -0.97 | 0.320 |
| 35 | -0.88 | 0.00 | -0.99 | 0.334 |
| 36 | -0.77 | 0.00 | -0.99 | 0.345 |
| 37 | -0.70 | 0.00 | -0.99 | 0.360 |
| 38 | -0.70 | 0.00 | -0.26 | 0.326 |
| 39 | -0.36 | 0.00 | -0.20 | 0.349 |
| 40 | -0.36 | 0.00 | -0.20 | 0.348 |
| 41 | -0.14 | 0.00 | -0.16 | 0.344 |
| 42 | 0.00 | 0.00 | -0.18 | 0.346 |
| 43 | 0.53 | 0.00 | -0.26 | 0.348 |
| 44 | 0.74 | 0.00 | -0.33 | 0.356 |
| 45 | 0.74 | 0.00 | -0.33 | 0.356 |
| 46 | 0.82 | 0.00 | -0.35 | 0.353 |
| 47 | 1.05 | 0.00 | -1.55 | 0.466 |
| 48 | 1.14 | 0.00 | -2.00 | 0.527 |
| 49 | 1.17 | 0.00 | -2.13 | 0.521 |
| 50 | 1.63 | 0.00 | -2.35 | 0.497 |
| 51 | 5.00 | 0.00 | -2.50 | 0.324 |

## 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 100 | -0.007 | -3.503 | 0.196 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 4500 | 0.101 | 53.387 | 0.088 |
| 2 | 100 | -0.006 | -2.614 | 0.217 |
| | 4500 | 0.117 | 55.231 | 0.095 |
| 3 | 100 | -0.003 | -1.323 | 0.223 |
| | 4500 | 0.133 | 60.233 | 0.088 |
| 4 | 100 | 0.007 | 1.949 | 0.330 |
| | 4500 | 0.203 | 60.375 | 0.133 |
| 5 | 100 | 0.013 | 3.580 | 0.354 |
| | 4500 | 0.229 | 62.318 | 0.138 |
| 6 | 100 | 0.035 | 7.590 | 0.423 |
| | 4500 | 0.302 | 66.017 | 0.156 |
| 7 | 100 | 0.040 | 8.485 | 0.436 |
| | 4500 | 0.315 | 66.071 | 0.162 |
| 8 | 100 | 0.026 | 7.757 | 0.307 |
| | 4500 | 0.228 | 68.409 | 0.105 |
| 9 | 100 | 0.031 | 8.931 | 0.313 |
| | 4500 | 0.236 | 68.787 | 0.107 |
| 10 | 100 | 0.034 | 9.026 | 0.338 |
| | 4500 | 0.247 | 66.412 | 0.125 |
| 11 | 100 | 0.041 | 10.637 | 0.341 |
| | 4500 | 0.252 | 66.073 | 0.130 |
| 12 | 100 | 0.043 | 11.255 | 0.339 |
| | 4500 | 0.251 | 65.749 | 0.131 |
| 13 | 100 | 0.045 | 11.874 | 0.334 |
| | 4500 | 0.249 | 65.616 | 0.130 |
| 14 | 100 | 0.043 | 11.412 | 0.331 |
| | 4500 | 0.244 | 65.323 | 0.130 |
| 15 | 100 | 0.042 | 11.285 | 0.329 |
| | 4500 | 0.242 | 65.170 | 0.129 |
| 16 | 100 | 0.043 | 11.464 | 0.329 |
| | 4500 | 0.242 | 65.249 | 0.129 |
| 17 | 100 | 0.044 | 11.765 | 0.329 |
| | 4500 | 0.243 | 65.387 | 0.129 |
| 18 | 100 | 0.043 | 11.739 | 0.323 |
| | 4500 | 0.239 | 65.236 | 0.127 |
| 19 | 100 | 0.032 | 9.313 | 0.308 |
| | 4500 | 0.214 | 63.106 | 0.125 |
| 20 | 100 | 0.006 | 2.052 | 0.310 |
| | 4500 | 0.189 | 59.525 | 0.128 |
| 21 | 100 | 0.005 | 1.582 | 0.310 |
| | 4500 | 0.186 | 59.260 | 0.128 |
| 22 | 100 | 0.002 | 0.680 | 0.303 |
| | 4500 | 0.178 | 58.236 | 0.127 |
| 23 | 100 | 0.001 | 0.315 | 0.297 |
| | 4500 | 0.172 | 57.601 | 0.126 |
| 24 | 100 | 0.000 | 0.087 | 0.289 |
| | 4500 | 0.165 | 57.034 | 0.124 |
| 25 | 100 | 0.000 | 0.110 | 0.287 |
| | 4500 | 0.164 | 57.004 | 0.124 |
| 26 | 100 | 0.000 | 0.167 | 0.287 |
| | 4500 | 0.164 | 57.063 | 0.123 |
| 27 | 100 | 0.001 | 0.251 | 0.286 |
| | 4500 | 0.164 | 57.186 | 0.123 |
| 28 | 100 | 0.001 | 0.339 | 0.286 |
| | 4500 | 0.165 | 57.350 | 0.122 |
| 29 | 100 | 0.002 | 0.543 | 0.285 |
| | 4500 | 0.165 | 57.705 | 0.121 |
| 30 | 100 | 0.001 | 0.442 | 0.309 |
| | 4500 | 0.172 | 55.516 | 0.138 |
| 31 | 100 | 0.001 | 0.328 | 0.317 |
| | 4500 | 0.177 | 55.685 | 0.141 |
| 32 | 100 | 0.000 | 0.151 | 0.316 |
| | 4500 | 0.176 | 55.547 | 0.141 |
| 33 | 100 | 0.001 | 0.438 | 0.317 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 4500 | 0.178 | 55.848 | 0.141 |
| 34 | 100 | 0.002 | 0.522 | 0.318 |
| | 4500 | 0.179 | 55.958 | 0.141 |
| 35 | 100 | 0.004 | 1.134 | 0.330 |
| | 4500 | 0.190 | 56.809 | 0.144 |
| 36 | 100 | 0.006 | 1.613 | 0.339 |
| | 4500 | 0.199 | 57.640 | 0.146 |
| 37 | 100 | 0.011 | 3.175 | 0.349 |
| | 4500 | 0.213 | 59.030 | 0.148 |
| 38 | 100 | 0.033 | 10.096 | 0.293 |
| | 4500 | 0.213 | 65.376 | 0.113 |
| 39 | 100 | 0.041 | 11.716 | 0.308 |
| | 4500 | 0.235 | 67.292 | 0.114 |
| 40 | 100 | 0.041 | 11.682 | 0.308 |
| | 4500 | 0.234 | 67.244 | 0.114 |
| 41 | 100 | 0.039 | 11.323 | 0.305 |
| | 4500 | 0.231 | 67.098 | 0.113 |
| 42 | 100 | 0.040 | 11.493 | 0.306 |
| | 4500 | 0.233 | 67.158 | 0.114 |
| 43 | 100 | 0.040 | 11.543 | 0.308 |
| | 4500 | 0.226 | 65.075 | 0.121 |
| 44 | 100 | 0.036 | 10.123 | 0.320 |
| | 4500 | 0.225 | 63.100 | 0.131 |
| 45 | 100 | 0.036 | 10.049 | 0.321 |
| | 4500 | 0.225 | 63.129 | 0.131 |
| 46 | 100 | 0.030 | 8.571 | 0.323 |
| | 4500 | 0.218 | 61.823 | 0.135 |
| 47 | 100 | 0.042 | 8.936 | 0.425 |
| | 4500 | 0.308 | 66.151 | 0.158 |
| 48 | 100 | 0.071 | 13.553 | 0.456 |
| | 4500 | 0.369 | 69.916 | 0.159 |
| 49 | 100 | 0.068 | 12.960 | 0.453 |
| | 4500 | 0.363 | 69.589 | 0.158 |
| 50 | 100 | 0.059 | 11.837 | 0.438 |
| | 4500 | 0.341 | 68.710 | 0.155 |
| 51 | 100 | 0.007 | 2.061 | 0.318 |
| | 4500 | 0.195 | 60.187 | 0.129 |

## 5 Warnings and errors

List of non-fatal warnings and errors generated during calculation.

1 Non-uniform load [1]: Co-ordinate (1) lies below surface

2 Non-uniform load [1]: Co-ordinate (13) lies below surface

3 Non-uniform load [2]: Co-ordinate (7) lies below surface

## End of Report

# Report for D-Settlement 21.2

Settlement Calculations
Developed by Deltares




| | |
|---|---|
| Company: | Waalpartners bv |
| Date of report: | 11/25/2022 |
| Time of report: | 9:54:53 AM |
| Report with version: | 21.2.1.34213 |
| Date of calculation: | 11/25/2022 |
| Time of calculation: | 9:52:59 AM |
| Calculated with version: | 21.2.1.34213 |
| File name: | 13.85 BKL |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 11 - X - | -22.000 | -14.382 | -14.123 | -13.981 | -12.526 |
| 11 - Y - | -1.818 | -1.771 | -2.700 | -3.207 | -3.366 |
| 11 - X - | -12.346 | -12.169 | -11.561 | -10.549 | -8.320 |
| 11 - Y - | -2.700 | -2.044 | -1.785 | -1.404 | -0.505 |
| 11 - X - | -7.357 | -6.742 | -6.742 | -3.981 | -1.240 |
| 11 - Y - | -0.163 | -0.208 | -0.938 | -0.870 | -0.941 |
| 11 - X - | -1.240 | -0.502 | -0.055 | 0.492 | 0.673 |
| 11 - Y - | -0.211 | -0.164 | -0.235 | -0.655 | -2.203 |
| 11 - X - | 1.074 | 5.000 | | | |
| 11 - Y - | -2.359 | -2.242 | | | |
| 10 - X - | -22.000 | -14.123 | -13.981 | -12.526 | -12.346 |
| 10 - Y - | -2.700 | -2.700 | -3.207 | -3.366 | -2.700 |
| 10 - X - | -12.169 | -11.561 | -10.549 | -8.320 | -7.357 |
| 10 - Y - | -2.044 | -1.785 | -1.404 | -0.505 | -0.163 |
| 10 - X - | -6.742 | -6.742 | -3.981 | -1.240 | -1.240 |
| 10 - Y - | -0.208 | -0.938 | -0.870 | -0.941 | -0.211 |
| 10 - X - | -0.502 | -0.055 | 0.492 | 0.673 | 1.074 |
| 10 - Y - | -0.164 | -0.235 | -0.655 | -2.203 | -2.359 |
| 10 - X - | 5.000 | | | | |
| 10 - Y - | -2.242 | | | | |
| 9 - X - | -22.000 | -14.123 | -13.981 | -12.526 | -12.346 |
| 9 - Y - | -2.700 | -2.700 | -3.207 | -3.366 | -2.700 |
| 9 - X - | 5.000 | | | | |
| 9 - Y - | -2.700 | | | | |
| 8 - X - | -22.000 | 5.000 | | | |
| 8 - Y - | -4.700 | -4.700 | | | |
| 7 - X - | -22.000 | 5.000 | | | |
| 7 - Y - | -6.300 | -6.300 | | | |
| 6 - X - | -22.000 | 5.000 | | | |
| 6 - Y - | -7.800 | -7.800 | | | |
| 5 - X - | -22.000 | 5.000 | | | |
| 5 - Y - | -8.700 | -8.700 | | | |
| 4 - X - | -22.000 | 5.000 | | | |
| 4 - Y - | -10.700 | -10.700 | | | |
| 3 - X - | -22.000 | 5.000 | | | |
| 3 - Y - | -12.500 | -12.500 | | | |
| 2 - X - | -22.000 | 5.000 | | | |
| 2 - Y - | -19.800 | -19.800 | | | |
| 1 - X - | -22.000 | 5.000 | | | |
| 1 - Y - | -23.300 | -23.300 | | | |
| 0 - X - | -22.000 | 5.000 | | | |
| 0 - Y - | -25.800 | -25.800 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -22.000 | -11.000 | 0.000 | 5.000 | |
| 1 - Y - | -2.650 | -2.650 | -0.430 | -0.430 | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | |
| - Loads: | None |

End of consolidation: 10000.00 [days]
No maintain profile
Pc (initial): Variable parallel to the initial effective stress
Pc (per step): Automatic increased to the final effective stresses
Creep rate reference time: 1.000 [days]
No imaginary surface
With submerging
(only for non uniform loads)
- Iteration stop criterium : 0.10 [m]
Load column width
- Non-Uniform Loads : 1.00 [m]
- Trapeziform Loads : 1.00 [m]

## 2.4 Soil Profiles

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 11 | Dijksmateriaal | 1 | 1 |
| 10 | Dijksmateriaal | 1 | 1 |
| 9 | Klei Hum DK | 1 | 1 |
| 8 | Hollandveen | 1 | 1 |
| 7 | klei DK | 1 | 1 |
| 6 | Hollandveen | 1 | 1 |
| 5 | Klei CA | 1 | 1 |
| 4 | Klei hum CA | 1 | 1 |
| 3 | Klei CA | 1 | 1 |
| 2 | Klei hum CA | 1 | 1 |
| 1 | Zand CA | 1 | 1 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 11 | No | 16.00 | 16.00 |
| 10 | No | 16.00 | 16.00 |
| 9 | No | 13.50 | 13.50 |
| 8 | No | 10.50 | 10.50 |
| 7 | No | 15.10 | 15.10 |
| 6 | No | 10.50 | 10.50 |
| 5 | No | 15.90 | 15.90 |
| 4 | No | 15.90 | 15.90 |
| 3 | No | 15.90 | 15.90 |
| 2 | No | 15.90 | 15.90 |
| 1 | Yes | 18.00 | 20.00 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|---|---|
| 11 | Vert. cons. | 1.00E-08 | - | - | - |
| 10 | Vert. cons. | 1.00E-08 | - | - | - |
| 9 | Vert. cons. | 2.07E-08 | - | - | - |
| 8 | Vert. cons. | 2.37E-08 | - | - | - |
| 7 | Vert. cons. | 2.54E-08 | - | - | - |
| 6 | Vert. cons. | 2.37E-08 | - | - | - |
| 5 | Vert. cons. | 6.02E-07 | - | - | - |
| 4 | Vert. cons. | 9.27E-08 | - | - | - |
| 3 | Vert. cons. | 6.02E-07 | - | - | - |
| 2 | Vert. cons. | 9.27E-08 | - | - | - |
| 1 | Vert. cons. | - | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 11 | - | 1.50 | - |
| 10 | - | 1.50 | - |
| 9 | - | 1.50 | - |
| 8 | - | 1.80 | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 7 | - | 1.50 | - |
| 6 | - | 1.80 | - |
| 5 | - | 1.50 | - |
| 4 | - | 1.50 | - |
| 3 | - | 1.50 | - |
| 2 | - | 1.50 | - |
| 1 | - | 1.39 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 11 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 10 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 9 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 8 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 7 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 6 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 5 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 4 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 3 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 2 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 1 | 0.0100000 | 0.1062000 | 0.0033000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time [days] | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 1 | -1 | 19.00 | 19.00 |
| 2 | -1 | 24.00 | 24.00 |
| 3 | 2 | 16.00 | 16.00 |
| 4 | 3 | 18.00 | 20.00 |
| 5 | 4 | 19.00 | 19.00 |
| 6 | 5 | 25.00 | 25.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -6.74 | -5.25 | -3.98 | -2.12 | -1.24 | |
| 1 - Y - | -0.86 | -0.82 | -0.79 | -0.84 | -0.86 | |
| 2 - X - | -7.36 | -6.68 | -4.62 | -3.98 | -1.04 | |
| 2 - Y - | -0.16 | -0.20 | -0.15 | -0.14 | -0.20 | |
| 3 - X - | -11.23 | -7.72 | -6.74 | -6.74 | -5.25 | -3.98 |
| 3 - Y - | -1.66 | 0.36 | 0.37 | -0.94 | -0.90 | -0.87 |
| 3 - X - | -2.12 | -1.24 | -1.24 | -0.88 | 0.22 | 0.32 |
| 3 - Y - | -0.92 | -0.94 | 0.37 | 0.36 | 0.32 | 0.29 |
| 3 - X - | 0.49 | | | | | |
| 3 - Y - | -0.66 | | | | | |
| 4 - X - | -6.74 | -1.24 | | | | |
| 4 - Y - | -0.07 | -0.07 | | | | |
| 5 - X - | -6.74 | -1.24 | | | | |
| 5 - Y - | 0.18 | 0.18 | | | | |
| 6 - X - | -6.74 | -5.43 | -3.98 | -2.53 | -1.24 | |
| 6 - Y - | 0.37 | 0.41 | 0.45 | 0.41 | 0.37 | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -22.000 | -14.382 | -14.123 | -13.981 | -12.526 |
| 6 - 10 | -12.346 | -12.169 | -11.561 | -11.224 | -11.000 |
| 11 - 15 | -10.549 | -8.320 | -7.720 | -7.635 | -7.534 |
| 16 - 20 | -7.434 | -7.357 | -7.185 | -7.081 | -6.742 |
| 21 - 25 | -6.679 | -5.432 | -5.252 | -4.620 | -3.981 |
| 26 - 30 | -2.530 | -2.116 | -1.240 | -1.043 | -0.881 |
| 31 - 35 | -0.502 | -0.055 | 0.000 | 0.219 | 0.317 |
| 36 - 39 | 0.492 | 0.673 | 1.074 | 5.000 | |

# 3 Results per Vertical

## 3.1 Results for Vertical 21 (X = -6.68 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.936 | 27.606 | -0.936 | 8.902 | 0.246 |
| -1.036 | 26.606 | -0.997 | 9.593 | 0.242 |
| -1.136 | 25.417 | -1.060 | 8.760 | 0.237 |
| -1.236 | 25.428 | -1.124 | 8.441 | 0.233 |
| -1.336 | 25.921 | -1.189 | 8.303 | 0.230 |
| -1.436 | 26.640 | -1.253 | 8.231 | 0.226 |
| -1.536 | 27.482 | -1.316 | 8.188 | 0.223 |
| -1.636 | 27.999 | -1.379 | 7.758 | 0.221 |
| -1.736 | 27.985 | -1.441 | 6.752 | 0.218 |
| -1.778 | 27.991 | -1.467 | 6.336 | 0.218 |
| -1.818 | 28.003 | -1.451 | 6.327 | 0.217 |
| -1.836 | 28.010 | -1.445 | 6.323 | 0.217 |
| -1.936 | 28.066 | -1.407 | 6.301 | 0.215 |
| -2.700 | 29.018 | -1.129 | 6.103 | 0.208 |
| -2.700 | 29.018 | -1.129 | 6.103 | 0.208 |
| -3.700 | 30.252 | -0.979 | 5.744 | 0.187 |
| -4.700 | 31.781 | -0.854 | 5.322 | 0.172 |
| -4.700 | 31.781 | -0.854 | 5.322 | 0.172 |
| -5.500 | 31.161 | -0.812 | 4.971 | 0.153 |
| -6.300 | 30.749 | -0.791 | 4.625 | 0.137 |
| -6.300 | 30.749 | -0.791 | 4.625 | 0.137 |
| -7.050 | 33.907 | -0.780 | 4.312 | 0.132 |
| -7.800 | 37.210 | -0.781 | 4.015 | 0.126 |
| -7.800 | 37.210 | -0.781 | 4.015 | 0.126 |
| -8.250 | 37.194 | -0.788 | 3.845 | 0.117 |
| -8.700 | 37.262 | -0.802 | 3.681 | 0.108 |
| -8.700 | 37.262 | -0.802 | 3.681 | 0.108 |
| -9.700 | 42.583 | -0.805 | 3.340 | 0.108 |
| -10.700 | 47.980 | -0.809 | 3.028 | 0.107 |
| -10.700 | 47.980 | -0.809 | 3.028 | 0.107 |
| -11.600 | 53.177 | -0.841 | 2.772 | 0.100 |
| -12.500 | 58.530 | -0.885 | 2.537 | 0.091 |
| -12.500 | 58.530 | -0.885 | 2.537 | 0.091 |
| -13.450 | 63.860 | -0.892 | 2.309 | 0.089 |
| -14.450 | 69.536 | -0.902 | 2.091 | 0.085 |
| -15.450 | 75.278 | -0.914 | 1.892 | 0.082 |
| -16.150 | 79.333 | -0.923 | 1.763 | 0.079 |
| -17.100 | 84.883 | -0.938 | 1.600 | 0.075 |
| -18.100 | 90.780 | -0.955 | 1.443 | 0.071 |
| -19.100 | 96.733 | -0.975 | 1.298 | 0.066 |
| -19.800 | 100.932 | -0.990 | 1.204 | 0.062 |
| -19.800 | 100.932 | -0.990 | 1.204 | 0.062 |
| -21.550 | 114.459 | -1.333 | 0.990 | 0.035 |
| -23.300 | 129.059 | -1.778 | 0.803 | 0.002 |
| -23.300 | 129.059 | -1.778 | 0.803 | 0.002 |
| -24.550 | 141.526 | -1.778 | 0.684 | 0.001 |
| -25.800 | 154.016 | -1.778 | 0.574 | 0.000 |

## 3.2 Results for Vertical 25 (X = -3.98 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.870 | 25.449 | -0.870 | 8.468 | 0.236 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.970 | 26.857 | -0.935 | 8.424 | 0.232 |
| -1.070 | 27.817 | -0.999 | 8.151 | 0.228 |
| -1.170 | 28.018 | -1.062 | 7.134 | 0.225 |
| -1.233 | 28.140 | -1.102 | 6.486 | 0.223 |
| -1.270 | 28.209 | -1.089 | 6.471 | 0.222 |
| -1.370 | 28.396 | -1.052 | 6.428 | 0.220 |
| -1.470 | 28.583 | -1.015 | 6.382 | 0.217 |
| -1.570 | 28.770 | -0.978 | 6.334 | 0.215 |
| -1.670 | 28.955 | -0.941 | 6.286 | 0.213 |
| -1.770 | 29.139 | -0.904 | 6.237 | 0.211 |
| -1.785 | 29.166 | -0.899 | 6.229 | 0.211 |
| -1.870 | 29.320 | -0.868 | 6.188 | 0.210 |
| -2.700 | 30.639 | -0.571 | 5.822 | 0.203 |
| -2.700 | 30.639 | -0.571 | 5.822 | 0.203 |
| -3.700 | 31.225 | -0.425 | 5.477 | 0.183 |
| -4.700 | 31.799 | -0.308 | 5.149 | 0.168 |
| -4.700 | 31.799 | -0.308 | 5.149 | 0.168 |
| -5.500 | 30.436 | -0.270 | 4.870 | 0.150 |
| -6.300 | 29.393 | -0.254 | 4.579 | 0.135 |
| -6.300 | 29.393 | -0.254 | 4.579 | 0.135 |
| -7.050 | 32.088 | -0.248 | 4.302 | 0.130 |
| -7.800 | 35.022 | -0.255 | 4.026 | 0.124 |
| -7.800 | 35.022 | -0.255 | 4.026 | 0.124 |
| -8.250 | 34.809 | -0.263 | 3.865 | 0.116 |
| -8.700 | 34.699 | -0.278 | 3.706 | 0.107 |
| -8.700 | 34.699 | -0.278 | 3.706 | 0.107 |
| -9.700 | 39.687 | -0.281 | 3.370 | 0.107 |
| -10.700 | 44.831 | -0.284 | 3.056 | 0.106 |
| -10.700 | 44.831 | -0.284 | 3.056 | 0.106 |
| -11.600 | 49.852 | -0.317 | 2.796 | 0.099 |
| -12.500 | 55.061 | -0.359 | 2.555 | 0.090 |
| -12.500 | 55.061 | -0.359 | 2.555 | 0.090 |
| -13.450 | 60.274 | -0.367 | 2.321 | 0.088 |
| -14.450 | 65.854 | -0.377 | 2.096 | 0.085 |
| -15.450 | 71.517 | -0.388 | 1.891 | 0.081 |
| -16.150 | 75.526 | -0.397 | 1.758 | 0.079 |
| -17.100 | 81.023 | -0.411 | 1.590 | 0.075 |
| -18.100 | 86.874 | -0.428 | 1.428 | 0.070 |
| -19.100 | 92.788 | -0.448 | 1.279 | 0.065 |
| -19.800 | 96.962 | -0.463 | 1.182 | 0.062 |
| -19.800 | 96.962 | -0.463 | 1.182 | 0.062 |
| -21.550 | 110.373 | -0.797 | 0.963 | 0.035 |
| -23.300 | 124.851 | -1.233 | 0.771 | 0.002 |
| -23.300 | 124.851 | -1.233 | 0.771 | 0.002 |
| -24.550 | 137.300 | -1.233 | 0.649 | 0.001 |
| -25.800 | 149.776 | -1.233 | 0.537 | 0.000 |

### 3.3 Results for Vertical 28 (X = -1.24 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.941 | 27.448 | -0.680 | 7.640 | 0.249 |
| -1.041 | 27.176 | -0.638 | 7.591 | 0.245 |
| -1.141 | 27.015 | -0.596 | 7.541 | 0.241 |
| -1.241 | 26.938 | -0.555 | 7.490 | 0.238 |
| -1.341 | 26.925 | -0.515 | 7.438 | 0.235 |
| -1.441 | 26.958 | -0.475 | 7.385 | 0.232 |
| -1.541 | 27.026 | -0.435 | 7.331 | 0.230 |
| -1.641 | 27.119 | -0.395 | 7.277 | 0.227 |
| -1.741 | 27.232 | -0.356 | 7.223 | 0.225 |
| -1.821 | 27.332 | -0.325 | 7.179 | 0.223 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.841 | 27.359 | -0.317 | 7.167 | 0.223 |
| -1.941 | 27.498 | -0.278 | 7.112 | 0.221 |
| -2.700 | 28.737 | 0.011 | 6.689 | 0.213 |
| -2.700 | 28.737 | 0.011 | 6.689 | 0.213 |
| -3.700 | 30.157 | 0.170 | 6.180 | 0.192 |
| -4.700 | 31.838 | 0.304 | 5.761 | 0.178 |
| -4.700 | 31.838 | 0.304 | 5.761 | 0.178 |
| -5.500 | 31.378 | 0.351 | 5.480 | 0.160 |
| -6.300 | 31.130 | 0.376 | 5.235 | 0.145 |
| -6.300 | 31.130 | 0.376 | 5.235 | 0.145 |
| -7.050 | 34.413 | 0.392 | 5.028 | 0.140 |
| -7.800 | 37.832 | 0.396 | 4.838 | 0.134 |
| -7.800 | 37.832 | 0.396 | 4.838 | 0.134 |
| -8.250 | 37.892 | 0.390 | 4.730 | 0.125 |
| -8.700 | 38.036 | 0.377 | 4.626 | 0.116 |
| -8.700 | 38.036 | 0.377 | 4.626 | 0.116 |
| -9.700 | 43.524 | 0.374 | 4.406 | 0.115 |
| -10.700 | 49.061 | 0.371 | 4.201 | 0.114 |
| -10.700 | 49.061 | 0.371 | 4.201 | 0.114 |
| -11.600 | 54.371 | 0.337 | 4.027 | 0.106 |
| -12.500 | 59.829 | 0.292 | 3.863 | 0.097 |
| -12.500 | 59.829 | 0.292 | 3.863 | 0.097 |
| -13.450 | 65.242 | 0.284 | 3.699 | 0.094 |
| -14.450 | 70.993 | 0.274 | 3.537 | 0.091 |
| -15.450 | 76.799 | 0.261 | 3.385 | 0.087 |
| -16.150 | 80.896 | 0.251 | 3.285 | 0.084 |
| -17.100 | 86.496 | 0.236 | 3.156 | 0.079 |
| -18.100 | 92.443 | 0.217 | 3.028 | 0.074 |
| -19.100 | 98.442 | 0.195 | 2.909 | 0.069 |
| -19.800 | 102.673 | 0.178 | 2.830 | 0.065 |
| -19.800 | 102.673 | 0.178 | 2.830 | 0.065 |
| -21.550 | 116.536 | -0.194 | 2.648 | 0.037 |
| -23.300 | 131.564 | -0.680 | 2.485 | 0.003 |
| -23.300 | 131.564 | -0.680 | 2.485 | 0.003 |
| -24.550 | 144.046 | -0.680 | 2.379 | 0.001 |
| -25.800 | 156.550 | -0.680 | 2.281 | 0.000 |

### 3.4 Results for Vertical 33 (X = 0.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.277 | 9.290 | -0.277 | 9.289 | 0.323 |
| -0.377 | 10.055 | -0.360 | 8.624 | 0.298 |
| -0.430 | 10.054 | -0.403 | 7.872 | 0.290 |
| -0.477 | 10.085 | -0.395 | 7.693 | 0.283 |
| -0.577 | 10.046 | -0.377 | 7.206 | 0.271 |
| -0.677 | 10.115 | -0.360 | 6.825 | 0.260 |
| -0.777 | 10.347 | -0.343 | 6.606 | 0.251 |
| -0.877 | 10.646 | -0.326 | 6.453 | 0.243 |
| -0.977 | 10.956 | -0.308 | 6.309 | 0.236 |
| -1.077 | 11.261 | -0.290 | 6.154 | 0.230 |
| -1.177 | 11.563 | -0.272 | 5.986 | 0.224 |
| -1.277 | 11.875 | -0.253 | 5.813 | 0.220 |
| -1.489 | 12.598 | -0.213 | 5.451 | 0.211 |
| -2.100 | 15.243 | -0.088 | 4.582 | 0.198 |
| -2.700 | 18.146 | 0.052 | 4.010 | 0.194 |
| -2.700 | 18.146 | 0.052 | 4.010 | 0.194 |
| -3.700 | 21.629 | 0.164 | 3.444 | 0.178 |
| -4.700 | 24.797 | 0.274 | 3.121 | 0.166 |
| -4.700 | 24.797 | 0.274 | 3.121 | 0.166 |
| -5.500 | 25.152 | 0.316 | 2.944 | 0.151 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -6.300 | 25.508 | 0.344 | 2.802 | 0.138 |
| -6.300 | 25.509 | 0.344 | 2.802 | 0.138 |
| -7.050 | 29.162 | 0.373 | 2.687 | 0.134 |
| -7.800 | 32.815 | 0.395 | 2.581 | 0.129 |
| -7.800 | 32.815 | 0.395 | 2.581 | 0.129 |
| -8.250 | 33.010 | 0.398 | 2.520 | 0.120 |
| -8.700 | 33.253 | 0.394 | 2.460 | 0.112 |
| -8.700 | 33.253 | 0.394 | 2.460 | 0.112 |
| -9.700 | 39.088 | 0.393 | 2.329 | 0.112 |
| -10.700 | 44.896 | 0.391 | 2.201 | 0.111 |
| -10.700 | 44.896 | 0.391 | 2.201 | 0.111 |
| -11.600 | 50.273 | 0.372 | 2.087 | 0.103 |
| -12.500 | 55.738 | 0.345 | 1.975 | 0.095 |
| -12.500 | 55.738 | 0.345 | 1.975 | 0.095 |
| -13.450 | 61.275 | 0.339 | 1.859 | 0.092 |
| -14.450 | 67.124 | 0.332 | 1.740 | 0.088 |
| -15.450 | 73.001 | 0.323 | 1.626 | 0.084 |
| -16.150 | 77.134 | 0.316 | 1.548 | 0.081 |
| -17.100 | 82.769 | 0.304 | 1.446 | 0.077 |
| -18.100 | 88.736 | 0.290 | 1.344 | 0.072 |
| -19.100 | 94.741 | 0.274 | 1.246 | 0.066 |
| -19.800 | 98.969 | 0.260 | 1.180 | 0.062 |
| -19.800 | 98.969 | 0.260 | 1.180 | 0.062 |
| -21.550 | 112.149 | -0.036 | 1.026 | 0.035 |
| -23.300 | 126.328 | -0.430 | 0.884 | 0.002 |
| -23.300 | 126.328 | -0.430 | 0.884 | 0.002 |
| -24.550 | 138.840 | -0.430 | 0.791 | 0.001 |
| -25.800 | 151.368 | -0.430 | 0.704 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -22.00 | 0.00 | -1.82 | 0.174 |
| 2 | -14.38 | 0.00 | -1.77 | 0.192 |
| 3 | -14.12 | 0.00 | -2.70 | 0.321 |
| 4 | -13.98 | 0.00 | -3.21 | 0.350 |
| 5 | -12.53 | 0.00 | -3.37 | 0.432 |
| 6 | -12.35 | 0.00 | -2.70 | 0.401 |
| 7 | -12.17 | 0.00 | -2.04 | 0.225 |
| 8 | -11.56 | 0.00 | -1.79 | 0.230 |
| 9 | -11.22 | 0.00 | -1.66 | 0.238 |
| 10 | -11.00 | 0.00 | -1.57 | 0.248 |
| 11 | -10.55 | 0.00 | -1.40 | 0.265 |
| 12 | -8.32 | 0.00 | -0.51 | 0.312 |
| 13 | -7.72 | 0.00 | -0.29 | 0.318 |
| 14 | -7.63 | 0.00 | -0.26 | 0.315 |
| 15 | -7.53 | 0.00 | -0.23 | 0.313 |
| 16 | -7.43 | 0.00 | -0.19 | 0.311 |
| 17 | -7.36 | 0.00 | -0.16 | 0.309 |
| 18 | -7.18 | 0.00 | -0.18 | 0.306 |
| 19 | -7.08 | 0.00 | -0.18 | 0.286 |
| 20 | -6.74 | 0.00 | -0.94 | 0.228 |
| 21 | -6.68 | 0.00 | -0.94 | 0.246 |
| 22 | -5.43 | 0.00 | -0.91 | 0.236 |
| 23 | -5.25 | 0.00 | -0.90 | 0.236 |
| 24 | -4.62 | 0.00 | -0.89 | 0.237 |
| 25 | -3.98 | 0.00 | -0.87 | 0.236 |
| 26 | -2.53 | 0.00 | -0.91 | 0.250 |
| 27 | -2.12 | 0.00 | -0.92 | 0.257 |
| 28 | -1.24 | 0.00 | -0.94 | 0.249 |
| 29 | -1.04 | 0.00 | -0.20 | 0.284 |
| 30 | -0.88 | 0.00 | -0.19 | 0.305 |
| 31 | -0.50 | 0.00 | -0.16 | 0.307 |
| 32 | -0.06 | 0.00 | -0.24 | 0.308 |
| 33 | 0.00 | 0.00 | -0.28 | 0.323 |
| 34 | 0.22 | 0.00 | -0.45 | 0.393 |
| 35 | 0.32 | 0.00 | -0.52 | 0.387 |
| 36 | 0.49 | 0.00 | -0.66 | 0.368 |
| 37 | 0.67 | 0.00 | -2.20 | 0.415 |
| 38 | 1.07 | 0.00 | -2.36 | 0.422 |
| 39 | 5.00 | 0.00 | -2.24 | 0.273 |

## 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 100 | -0.006 | -3.447 | 0.180 |
| | 4500 | 0.092 | 52.610 | 0.083 |
| 2 | 100 | -0.005 | -2.830 | 0.197 |
| | 4500 | 0.102 | 53.298 | 0.090 |
| 3 | 100 | 0.004 | 1.222 | 0.317 |
| | 4500 | 0.187 | 58.351 | 0.134 |
| 4 | 100 | 0.011 | 3.011 | 0.339 |
| | 4500 | 0.212 | 60.708 | 0.138 |
| 5 | 100 | 0.032 | 7.416 | 0.400 |
| | 4500 | 0.280 | 64.935 | 0.151 |
| 6 | 100 | 0.025 | 6.196 | 0.376 |
| | 4500 | 0.252 | 62.848 | 0.149 |
| 7 | 100 | -0.003 | -1.423 | 0.229 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 4500 | 0.128 | 56.904 | 0.097 |
| 8 | 100 | -0.003 | -1.202 | 0.232 |
| | 4500 | 0.128 | 55.833 | 0.101 |
| 9 | 100 | 0.001 | 0.257 | 0.237 |
| | 4500 | 0.134 | 56.471 | 0.104 |
| 10 | 100 | 0.007 | 2.734 | 0.241 |
| | 4500 | 0.143 | 57.754 | 0.105 |
| 11 | 100 | 0.016 | 6.086 | 0.249 |
| | 4500 | 0.158 | 59.652 | 0.107 |
| 12 | 100 | 0.038 | 12.136 | 0.274 |
| | 4500 | 0.199 | 63.943 | 0.112 |
| 13 | 100 | 0.041 | 13.014 | 0.276 |
| | 4500 | 0.206 | 64.668 | 0.112 |
| 14 | 100 | 0.039 | 12.468 | 0.276 |
| | 4500 | 0.203 | 64.413 | 0.112 |
| 15 | 100 | 0.039 | 12.414 | 0.275 |
| | 4500 | 0.201 | 64.276 | 0.112 |
| 16 | 100 | 0.038 | 12.251 | 0.273 |
| | 4500 | 0.199 | 64.081 | 0.112 |
| 17 | 100 | 0.037 | 12.122 | 0.272 |
| | 4500 | 0.198 | 63.941 | 0.111 |
| 18 | 100 | 0.038 | 12.450 | 0.268 |
| | 4500 | 0.196 | 63.836 | 0.111 |
| 19 | 100 | 0.028 | 9.932 | 0.258 |
| | 4500 | 0.176 | 61.594 | 0.110 |
| 20 | 100 | -0.001 | -0.619 | 0.229 |
| | 4500 | 0.122 | 53.414 | 0.106 |
| 21 | 100 | 0.002 | 0.702 | 0.244 |
| | 4500 | 0.136 | 55.386 | 0.110 |
| 22 | 100 | 0.000 | 0.129 | 0.236 |
| | 4500 | 0.129 | 54.514 | 0.107 |
| 23 | 100 | 0.000 | 0.166 | 0.236 |
| | 4500 | 0.129 | 54.576 | 0.107 |
| 24 | 100 | 0.001 | 0.246 | 0.236 |
| | 4500 | 0.130 | 54.761 | 0.107 |
| 25 | 100 | 0.001 | 0.293 | 0.235 |
| | 4500 | 0.130 | 54.936 | 0.106 |
| 26 | 100 | 0.001 | 0.284 | 0.250 |
| | 4500 | 0.134 | 53.405 | 0.117 |
| 27 | 100 | 0.001 | 0.383 | 0.256 |
| | 4500 | 0.138 | 53.671 | 0.119 |
| 28 | 100 | 0.000 | 0.135 | 0.248 |
| | 4500 | 0.133 | 53.371 | 0.116 |
| 29 | 100 | 0.031 | 10.863 | 0.253 |
| | 4500 | 0.180 | 63.431 | 0.104 |
| 30 | 100 | 0.040 | 13.114 | 0.265 |
| | 4500 | 0.201 | 65.854 | 0.104 |
| 31 | 100 | 0.038 | 12.511 | 0.268 |
| | 4500 | 0.203 | 66.085 | 0.104 |
| 32 | 100 | 0.039 | 12.528 | 0.270 |
| | 4500 | 0.206 | 66.677 | 0.103 |
| 33 | 100 | 0.042 | 13.086 | 0.281 |
| | 4500 | 0.213 | 65.847 | 0.110 |
| 34 | 100 | 0.057 | 14.517 | 0.336 |
| | 4500 | 0.264 | 67.236 | 0.129 |
| 35 | 100 | 0.056 | 14.392 | 0.331 |
| | 4500 | 0.258 | 66.624 | 0.129 |
| 36 | 100 | 0.048 | 13.101 | 0.320 |
| | 4500 | 0.238 | 64.738 | 0.130 |
| 37 | 100 | 0.030 | 7.276 | 0.385 |
| | 4500 | 0.264 | 63.662 | 0.151 |
| 38 | 100 | 0.028 | 6.642 | 0.394 |
| | 4500 | 0.271 | 64.088 | 0.152 |
| 39 | 100 | -0.003 | -1.140 | 0.276 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 4500 | 0.149 | 54.432 | 0.124 |

## 5 Warnings and errors

List of non-fatal warnings and errors generated during calculation.

1 Non-uniform load [1]: Co-ordinate (1) lies below surface

2 Non-uniform load [1]: Co-ordinate (5) lies below surface

3 Non-uniform load [3]: Co-ordinate (1) lies below surface

4 Non-uniform load [3]: Co-ordinate (4) lies below surface

5 Non-uniform load [3]: Co-ordinate (8) lies below surface

## End of Report

# Report for D-Settlement 21.2

Settlement Calculations
Developed by Deltares




| | |
|---|---|
| Company: | Waalpartners bv |
| Date of report: | 11/25/2022 |
| Time of report: | 9:59:19 AM |
| Report with version: | 21.2.1.34213 |
| Date of calculation: | 11/25/2022 |
| Time of calculation: | 9:57:33 AM |
| Calculated with version: | 21.2.1.34213 |
| File name: | 13.98 BKL |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 12 - X - | -22.000 | -13.879 | -13.276 | -12.202 | -10.960 |
| 12 - Y - | -1.707 | -1.654 | -3.227 | -3.265 | -1.847 |
| 12 - X - | -9.517 | -8.939 | -7.946 | -6.480 | -6.087 |
| 12 - Y - | -1.200 | -0.941 | -0.556 | 0.025 | -0.019 |
| 12 - X - | -6.044 | -5.483 | -3.276 | -1.610 | -0.548 |
| 12 - Y - | -0.351 | -0.333 | -0.241 | -0.298 | -0.325 |
| 12 - X - | -0.548 | -0.259 | 0.082 | 0.523 | 0.706 |
| 12 - Y - | -0.005 | 0.013 | -0.081 | -0.295 | -0.401 |
| 12 - X - | 0.825 | 0.855 | 1.250 | 5.000 | |
| 12 - Y - | -1.200 | -1.402 | -1.904 | -2.183 | |
| 11 - X - | -22.000 | -13.879 | -13.276 | -12.202 | -10.960 |
| 11 - Y - | -1.707 | -1.654 | -3.227 | -3.265 | -1.847 |
| 11 - X - | -9.517 | 0.825 | 0.855 | 1.250 | 5.000 |
| 11 - Y - | -1.200 | -1.200 | -1.402 | -1.904 | -2.183 |
| 10 - X - | -22.000 | 5.000 | | | |
| 10 - Y - | -4.600 | -4.600 | | | |
| 9 - X - | -22.000 | 5.000 | | | |
| 9 - Y - | -5.500 | -5.500 | | | |
| 8 - X - | -22.000 | 5.000 | | | |
| 8 - Y - | -6.300 | -6.300 | | | |
| 7 - X - | -22.000 | 5.000 | | | |
| 7 - Y - | -7.000 | -7.000 | | | |
| 6 - X - | -22.000 | 5.000 | | | |
| 6 - Y - | -7.500 | -7.500 | | | |
| 5 - X - | -22.000 | 5.000 | | | |
| 5 - Y - | -10.000 | -10.000 | | | |
| 4 - X - | -22.000 | 5.000 | | | |
| 4 - Y - | -11.500 | -11.500 | | | |
| 3 - X - | -22.000 | 5.000 | | | |
| 3 - Y - | -13.000 | -13.000 | | | |
| 2 - X - | -22.000 | 5.000 | | | |
| 2 - Y - | -15.800 | -15.800 | | | |
| 1 - X - | -22.000 | 5.000 | | | |
| 1 - Y - | -19.300 | -19.300 | | | |
| 0 - X - | -22.000 | 5.000 | | | |
| 0 - Y - | -20.000 | -20.000 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -22.000 | -11.000 | 0.000 | 5.000 | |
| 1 - Y - | -2.650 | -2.650 | -0.430 | -0.430 | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | |
| - Loads: | None |
| End of consolidation: | 10000.00 [days] |
| No maintain profile | |
| Pc (initial): | Variable parallel to the initial effective stress |
| Pc (per step): | Automatic increased to the final effective stresses |
| Creep rate reference time: | 1.000 [days] |
| No imaginary surface | |

With submerging
(only for non uniform loads)
- Iteration stop criterium : 0.10 [m]
Load column width
- Non-Uniform Loads : 1.00 [m]
- Trapeziform Loads : 1.00 [m]

## 2.4 Soil Profiles

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 12 | Dijksmateriaal | 1 | 1 |
| 11 | Klei Hum DK | 1 | 1 |
| 10 | Hollandveen | 1 | 1 |
| 9 | Klei Hum DK | 1 | 1 |
| 8 | Hollandveen | 1 | 1 |
| 7 | Klei CA | 1 | 1 |
| 6 | Klei zand CA | 1 | 1 |
| 5 | Klei CA | 1 | 1 |
| 4 | Klei hum CA | 1 | 1 |
| 3 | Klei CA | 1 | 1 |
| 2 | Klei hum CA | 1 | 1 |
| 1 | Zand CA | 1 | 1 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 12 | No | 16.00 | 16.00 |
| 11 | No | 13.50 | 13.50 |
| 10 | No | 10.50 | 10.50 |
| 9 | No | 13.50 | 13.50 |
| 8 | No | 10.50 | 10.50 |
| 7 | No | 15.90 | 15.90 |
| 6 | No | 17.00 | 17.00 |
| 5 | No | 15.90 | 15.90 |
| 4 | No | 15.90 | 15.90 |
| 3 | No | 15.90 | 15.90 |
| 2 | No | 15.90 | 15.90 |
| 1 | Yes | 18.00 | 20.00 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|---|---|
| 12 | Vert. cons. | 1.00E-08 | - | - | - |
| 11 | Vert. cons. | 2.07E-08 | - | - | - |
| 10 | Vert. cons. | 2.37E-08 | - | - | - |
| 9 | Vert. cons. | 2.07E-08 | - | - | - |
| 8 | Vert. cons. | 2.37E-08 | - | - | - |
| 7 | Vert. cons. | 6.02E-07 | - | - | - |
| 6 | Vert. cons. | 1.00E-07 | - | - | - |
| 5 | Vert. cons. | 6.02E-07 | - | - | - |
| 4 | Vert. cons. | 9.27E-08 | - | - | - |
| 3 | Vert. cons. | 6.02E-07 | - | - | - |
| 2 | Vert. cons. | 9.27E-08 | - | - | - |
| 1 | Vert. cons. | - | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 12 | - | 1.50 | - |
| 11 | - | 1.50 | - |
| 10 | - | 1.80 | - |
| 9 | - | 1.50 | - |
| 8 | - | 1.80 | - |
| 7 | - | 1.50 | - |
| 6 | - | 1.39 | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 5 | - | 1.50 | - |
| 4 | - | 1.50 | - |
| 3 | - | 1.50 | - |
| 2 | - | 1.50 | - |
| 1 | - | 1.39 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 12 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 11 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 10 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 9 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 8 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 7 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 6 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 5 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 4 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 3 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 2 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 1 | 0.0100000 | 0.1062000 | 0.0033000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time [days] | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 1 | -1 | 24.00 | 24.00 |
| 2 | 2 | 16.00 | 16.00 |
| 3 | 3 | 18.00 | 20.00 |
| 4 | 4 | 19.00 | 19.00 |
| 5 | 5 | 25.00 | 25.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -6.13 | -3.28 | -0.26 | | | |
| 1 - Y - | -0.01 | 0.08 | 0.01 | | | |
| 2 - X - | -10.96 | -7.01 | -6.09 | -6.09 | -6.04 | -5.48 |
| 2 - Y - | -1.85 | 0.37 | 0.38 | -0.34 | -0.35 | -0.33 |
| 2 - X - | -3.28 | -1.61 | -0.55 | -0.55 | -0.18 | 0.53 |
| 2 - Y - | -0.24 | -0.30 | -0.33 | 0.38 | 0.37 | 0.34 |
| 2 - X - | 0.71 | | | | | |
| 2 - Y - | -0.40 | | | | | |
| 3 - X - | -6.09 | -0.55 | | | | |
| 3 - Y - | -0.07 | -0.07 | | | | |
| 4 - X - | -6.09 | -0.55 | | | | |
| 4 - Y - | 0.18 | 0.18 | | | | |
| 5 - X - | -6.09 | -4.73 | -3.28 | -1.82 | -0.55 | |
| 5 - Y - | 0.38 | 0.41 | 0.45 | 0.41 | 0.38 | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -22.000 | -13.879 | -13.276 | -12.202 | -11.000 |
| 6 - 10 | -10.960 | -9.517 | -8.939 | -7.946 | -7.015 |
| 11 - 15 | -6.901 | -6.773 | -6.656 | -6.539 | -6.480 |
| 16 - 20 | -6.376 | -6.159 | -6.131 | -6.087 | -6.056 |
| 21 - 25 | -6.044 | -5.483 | -4.727 | -3.276 | -1.825 |
| 26 - 30 | -1.610 | -0.548 | -0.259 | -0.176 | -0.070 |
| 31 - 35 | 0.000 | 0.082 | 0.523 | 0.531 | 0.706 |
| 36 - 40 | 0.825 | 0.855 | 1.250 | 2.344 | 2.590 |
| 41 - 43 | 3.636 | 3.877 | 5.000 | | |

# 3 Results per Vertical

## 3.1 Results for Vertical 21 (X = -6.04 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.351 | 13.739 | -0.351 | 8.003 | 0.285 |
| -0.451 | 14.018 | -0.428 | 7.884 | 0.277 |
| -0.551 | 14.449 | -0.505 | 7.164 | 0.270 |
| -0.651 | 15.412 | -0.582 | 6.856 | 0.264 |
| -0.751 | 16.546 | -0.657 | 6.686 | 0.259 |
| -0.775 | 16.837 | -0.675 | 6.656 | 0.258 |
| -0.851 | 17.749 | -0.730 | 6.582 | 0.255 |
| -0.951 | 18.984 | -0.803 | 6.515 | 0.251 |
| -1.051 | 20.234 | -0.873 | 6.474 | 0.248 |
| -1.151 | 21.489 | -0.943 | 6.449 | 0.245 |
| -1.200 | 22.104 | -0.976 | 6.441 | 0.244 |
| -1.200 | 22.104 | -0.976 | 6.441 | 0.244 |
| -1.251 | 22.704 | -1.020 | 6.435 | 0.241 |
| -1.351 | 23.883 | -1.105 | 6.428 | 0.237 |
| -1.650 | 25.514 | -1.357 | 4.526 | 0.225 |
| -2.300 | 26.806 | -1.257 | 4.479 | 0.205 |
| -2.900 | 28.002 | -1.171 | 4.369 | 0.190 |
| -3.700 | 29.643 | -1.070 | 4.153 | 0.173 |
| -4.600 | 31.608 | -0.976 | 3.861 | 0.157 |
| -4.600 | 31.608 | -0.976 | 3.861 | 0.157 |
| -5.050 | 31.481 | -0.956 | 3.707 | 0.145 |
| -5.500 | 31.422 | -0.942 | 3.550 | 0.133 |
| -5.500 | 31.422 | -0.942 | 3.550 | 0.133 |
| -5.900 | 32.568 | -0.931 | 3.411 | 0.127 |
| -6.300 | 33.763 | -0.924 | 3.274 | 0.122 |
| -6.300 | 33.763 | -0.924 | 3.274 | 0.122 |
| -6.650 | 33.819 | -0.925 | 3.155 | 0.113 |
| -7.000 | 33.922 | -0.930 | 3.038 | 0.105 |
| -7.000 | 33.922 | -0.930 | 3.038 | 0.105 |
| -7.250 | 35.316 | -0.930 | 2.956 | 0.104 |
| -7.500 | 36.712 | -0.931 | 2.876 | 0.104 |
| -7.500 | 36.712 | -0.931 | 2.876 | 0.104 |
| -8.150 | 41.153 | -0.941 | 2.673 | 0.104 |
| -8.750 | 45.282 | -0.952 | 2.494 | 0.104 |
| -9.400 | 49.792 | -0.966 | 2.311 | 0.103 |
| -10.000 | 53.991 | -0.982 | 2.151 | 0.103 |
| -10.000 | 53.991 | -0.982 | 2.151 | 0.103 |
| -10.750 | 58.272 | -0.985 | 1.963 | 0.100 |
| -11.500 | 62.582 | -0.988 | 1.789 | 0.097 |
| -11.500 | 62.582 | -0.988 | 1.789 | 0.097 |
| -12.250 | 67.211 | -1.023 | 1.626 | 0.087 |
| -13.000 | 71.953 | -1.067 | 1.475 | 0.078 |
| -13.000 | 71.953 | -1.067 | 1.475 | 0.078 |
| -13.700 | 76.059 | -1.073 | 1.343 | 0.074 |
| -14.400 | 80.190 | -1.081 | 1.220 | 0.070 |
| -15.100 | 84.345 | -1.090 | 1.105 | 0.066 |
| -15.800 | 88.523 | -1.100 | 0.997 | 0.061 |
| -15.800 | 88.523 | -1.100 | 0.997 | 0.061 |
| -16.650 | 94.501 | -1.203 | 0.875 | 0.048 |
| -17.550 | 101.049 | -1.332 | 0.755 | 0.034 |
| -18.400 | 107.451 | -1.475 | 0.651 | 0.018 |
| -19.300 | 114.473 | -1.650 | 0.548 | 0.001 |
| -19.300 | 114.473 | -1.650 | 0.548 | 0.001 |
| -19.650 | 117.975 | -1.650 | 0.510 | 0.000 |
| -20.000 | 121.479 | -1.650 | 0.473 | 0.000 |

### 3.2 Results for Vertical 24 (X = -3.28 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.241 | 14.297 | -0.241 | 6.836 | 0.263 |
| -0.341 | 15.889 | -0.318 | 6.738 | 0.257 |
| -0.441 | 17.217 | -0.393 | 6.724 | 0.252 |
| -0.541 | 18.526 | -0.467 | 6.717 | 0.247 |
| -0.641 | 19.824 | -0.539 | 6.712 | 0.243 |
| -0.721 | 20.850 | -0.595 | 6.705 | 0.240 |
| -0.741 | 21.114 | -0.609 | 6.703 | 0.240 |
| -0.841 | 22.393 | -0.678 | 6.690 | 0.237 |
| -0.941 | 23.187 | -0.746 | 6.200 | 0.234 |
| -1.041 | 23.463 | -0.813 | 5.200 | 0.232 |
| -1.091 | 23.600 | -0.847 | 4.698 | 0.231 |
| -1.141 | 23.735 | -0.830 | 4.687 | 0.230 |
| -1.200 | 23.894 | -0.811 | 4.674 | 0.229 |
| -1.200 | 23.894 | -0.811 | 4.674 | 0.229 |
| -1.241 | 23.973 | -0.804 | 4.664 | 0.228 |
| -2.100 | 25.529 | -0.680 | 4.433 | 0.201 |
| -2.900 | 26.829 | -0.577 | 4.205 | 0.182 |
| -3.700 | 28.123 | -0.489 | 3.978 | 0.167 |
| -4.600 | 29.724 | -0.408 | 3.712 | 0.152 |
| -4.600 | 29.724 | -0.408 | 3.712 | 0.152 |
| -5.050 | 29.413 | -0.391 | 3.574 | 0.141 |
| -5.500 | 29.186 | -0.381 | 3.434 | 0.130 |
| -5.500 | 29.186 | -0.381 | 3.434 | 0.130 |
| -5.900 | 30.212 | -0.374 | 3.309 | 0.125 |
| -6.300 | 31.301 | -0.371 | 3.183 | 0.120 |
| -6.300 | 31.301 | -0.371 | 3.183 | 0.120 |
| -6.650 | 31.260 | -0.373 | 3.073 | 0.112 |
| -7.000 | 31.273 | -0.379 | 2.965 | 0.103 |
| -7.000 | 31.273 | -0.379 | 2.965 | 0.103 |
| -7.250 | 32.602 | -0.379 | 2.888 | 0.103 |
| -7.500 | 33.937 | -0.379 | 2.812 | 0.103 |
| -7.500 | 33.937 | -0.379 | 2.812 | 0.103 |
| -8.150 | 38.247 | -0.390 | 2.619 | 0.103 |
| -8.750 | 42.276 | -0.402 | 2.447 | 0.103 |
| -9.400 | 46.696 | -0.417 | 2.269 | 0.102 |
| -10.000 | 50.827 | -0.433 | 2.112 | 0.102 |
| -10.000 | 50.827 | -0.433 | 2.112 | 0.102 |
| -10.750 | 55.032 | -0.436 | 1.927 | 0.099 |
| -11.500 | 59.279 | -0.440 | 1.753 | 0.096 |
| -11.500 | 59.279 | -0.440 | 1.753 | 0.096 |
| -12.250 | 63.858 | -0.474 | 1.592 | 0.087 |
| -13.000 | 68.554 | -0.518 | 1.440 | 0.077 |
| -13.000 | 68.554 | -0.518 | 1.440 | 0.077 |
| -13.700 | 72.627 | -0.525 | 1.309 | 0.073 |
| -14.400 | 76.728 | -0.532 | 1.185 | 0.070 |
| -15.100 | 80.857 | -0.541 | 1.069 | 0.065 |
| -15.800 | 85.013 | -0.551 | 0.961 | 0.061 |
| -15.800 | 85.013 | -0.551 | 0.961 | 0.061 |
| -16.650 | 90.954 | -0.652 | 0.838 | 0.048 |
| -17.550 | 97.461 | -0.779 | 0.717 | 0.034 |
| -18.400 | 103.823 | -0.919 | 0.612 | 0.018 |
| -19.300 | 110.800 | -1.091 | 0.508 | 0.001 |
| -19.300 | 110.800 | -1.091 | 0.508 | 0.001 |
| -19.650 | 114.298 | -1.091 | 0.470 | 0.000 |
| -20.000 | 117.798 | -1.091 | 0.433 | 0.000 |

### 3.3 Results for Vertical 27 (X = -0.55 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.325 | 17.187 | -0.325 | 5.922 | 0.243 |
| -0.425 | 17.580 | -0.399 | 4.908 | 0.239 |
| -0.525 | 17.639 | -0.473 | 3.947 | 0.235 |
| -0.541 | 17.655 | -0.484 | 3.797 | 0.235 |
| -0.625 | 17.776 | -0.462 | 3.813 | 0.233 |
| -0.725 | 17.972 | -0.435 | 3.837 | 0.230 |
| -0.762 | 18.057 | -0.425 | 3.848 | 0.229 |
| -0.825 | 18.209 | -0.409 | 3.864 | 0.228 |
| -0.925 | 18.470 | -0.383 | 3.888 | 0.226 |
| -1.025 | 18.744 | -0.356 | 3.904 | 0.224 |
| -1.125 | 19.023 | -0.329 | 3.909 | 0.222 |
| -1.200 | 19.232 | -0.309 | 3.905 | 0.221 |
| -1.200 | 19.232 | -0.309 | 3.905 | 0.221 |
| -1.225 | 19.275 | -0.306 | 3.903 | 0.220 |
| -1.325 | 19.446 | -0.294 | 3.886 | 0.217 |
| -2.100 | 20.758 | -0.204 | 3.544 | 0.193 |
| -2.900 | 22.242 | -0.118 | 3.120 | 0.174 |
| -3.700 | 23.926 | -0.042 | 2.771 | 0.160 |
| -4.600 | 26.033 | 0.031 | 2.465 | 0.148 |
| -4.600 | 26.033 | 0.031 | 2.465 | 0.148 |
| -5.050 | 25.953 | 0.047 | 2.337 | 0.137 |
| -5.500 | 25.941 | 0.058 | 2.221 | 0.127 |
| -5.500 | 25.941 | 0.058 | 2.221 | 0.127 |
| -5.900 | 27.131 | 0.068 | 2.126 | 0.123 |
| -6.300 | 28.363 | 0.075 | 2.038 | 0.119 |
| -6.300 | 28.363 | 0.075 | 2.038 | 0.119 |
| -6.650 | 28.446 | 0.075 | 1.964 | 0.111 |
| -7.000 | 28.569 | 0.072 | 1.894 | 0.104 |
| -7.000 | 28.569 | 0.072 | 1.894 | 0.104 |
| -7.250 | 29.990 | 0.072 | 1.846 | 0.103 |
| -7.500 | 31.413 | 0.072 | 1.799 | 0.103 |
| -7.500 | 31.413 | 0.072 | 1.799 | 0.103 |
| -8.150 | 35.897 | 0.065 | 1.682 | 0.103 |
| -8.750 | 40.061 | 0.057 | 1.580 | 0.103 |
| -9.400 | 44.598 | 0.047 | 1.473 | 0.103 |
| -10.000 | 48.814 | 0.036 | 1.379 | 0.102 |
| -10.000 | 48.814 | 0.036 | 1.379 | 0.102 |
| -10.750 | 53.156 | 0.034 | 1.266 | 0.100 |
| -11.500 | 57.519 | 0.031 | 1.158 | 0.097 |
| -11.500 | 57.519 | 0.031 | 1.158 | 0.097 |
| -12.250 | 62.132 | 0.004 | 1.054 | 0.087 |
| -13.000 | 66.840 | -0.032 | 0.954 | 0.078 |
| -13.000 | 66.840 | -0.032 | 0.954 | 0.078 |
| -13.700 | 70.975 | -0.037 | 0.865 | 0.074 |
| -14.400 | 75.128 | -0.044 | 0.780 | 0.070 |
| -15.100 | 79.301 | -0.051 | 0.698 | 0.066 |
| -15.800 | 83.492 | -0.060 | 0.620 | 0.061 |
| -15.800 | 83.492 | -0.060 | 0.620 | 0.061 |
| -16.650 | 89.361 | -0.148 | 0.529 | 0.048 |
| -17.550 | 95.771 | -0.261 | 0.439 | 0.033 |
| -18.400 | 102.022 | -0.386 | 0.358 | 0.018 |
| -19.300 | 108.864 | -0.541 | 0.276 | 0.001 |
| -19.300 | 108.864 | -0.541 | 0.276 | 0.001 |
| -19.650 | 112.373 | -0.541 | 0.246 | 0.000 |
| -20.000 | 115.884 | -0.541 | 0.216 | 0.000 |

### 3.4 Results for Vertical 31 (X = 0.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.058 | 6.739 | -0.058 | 6.738 | 0.299 |
| -0.158 | 8.148 | -0.147 | 6.658 | 0.277 |
| -0.258 | 8.365 | -0.235 | 5.384 | 0.264 |
| -0.358 | 9.632 | -0.320 | 5.086 | 0.256 |
| -0.430 | 10.415 | -0.381 | 4.712 | 0.251 |
| -0.458 | 10.680 | -0.376 | 4.794 | 0.249 |
| -0.558 | 11.468 | -0.359 | 4.939 | 0.244 |
| -0.629 | 11.933 | -0.346 | 4.950 | 0.240 |
| -0.658 | 12.110 | -0.341 | 4.940 | 0.239 |
| -0.758 | 12.673 | -0.322 | 4.859 | 0.234 |
| -0.858 | 13.187 | -0.302 | 4.730 | 0.231 |
| -0.958 | 13.666 | -0.282 | 4.574 | 0.227 |
| -1.058 | 14.118 | -0.262 | 4.405 | 0.224 |
| -1.200 | 14.722 | -0.233 | 4.161 | 0.221 |
| -1.200 | 14.722 | -0.233 | 4.161 | 0.221 |
| -2.100 | 17.002 | -0.146 | 2.987 | 0.190 |
| -2.900 | 19.019 | -0.072 | 2.438 | 0.172 |
| -3.700 | 21.100 | -0.003 | 2.107 | 0.158 |
| -4.600 | 23.520 | 0.067 | 1.856 | 0.146 |
| -4.600 | 23.520 | 0.067 | 1.856 | 0.146 |
| -5.050 | 23.555 | 0.083 | 1.756 | 0.136 |
| -5.500 | 23.636 | 0.095 | 1.668 | 0.127 |
| -5.500 | 23.636 | 0.095 | 1.668 | 0.127 |
| -5.900 | 24.888 | 0.107 | 1.597 | 0.123 |
| -6.300 | 26.168 | 0.115 | 1.530 | 0.118 |
| -6.300 | 26.168 | 0.115 | 1.530 | 0.118 |
| -6.650 | 26.292 | 0.118 | 1.475 | 0.111 |
| -7.000 | 26.447 | 0.116 | 1.422 | 0.104 |
| -7.000 | 26.447 | 0.116 | 1.422 | 0.104 |
| -7.250 | 27.901 | 0.116 | 1.386 | 0.104 |
| -7.500 | 29.355 | 0.116 | 1.350 | 0.104 |
| -7.500 | 29.355 | 0.116 | 1.350 | 0.104 |
| -8.150 | 33.889 | 0.112 | 1.260 | 0.104 |
| -8.750 | 38.087 | 0.106 | 1.180 | 0.104 |
| -9.400 | 42.649 | 0.099 | 1.096 | 0.103 |
| -10.000 | 46.879 | 0.091 | 1.020 | 0.103 |
| -10.000 | 46.879 | 0.091 | 1.020 | 0.103 |
| -10.750 | 51.263 | 0.089 | 0.928 | 0.100 |
| -11.500 | 55.660 | 0.087 | 0.838 | 0.097 |
| -11.500 | 55.660 | 0.087 | 0.838 | 0.097 |
| -12.250 | 60.261 | 0.065 | 0.750 | 0.088 |
| -13.000 | 64.948 | 0.035 | 0.665 | 0.078 |
| -13.000 | 64.948 | 0.035 | 0.665 | 0.078 |
| -13.700 | 69.099 | 0.030 | 0.588 | 0.074 |
| -14.400 | 73.266 | 0.024 | 0.513 | 0.070 |
| -15.100 | 77.448 | 0.018 | 0.441 | 0.065 |
| -15.800 | 81.647 | 0.010 | 0.372 | 0.061 |
| -15.800 | 81.647 | 0.010 | 0.372 | 0.061 |
| -16.650 | 87.448 | -0.070 | 0.290 | 0.048 |
| -17.550 | 93.775 | -0.173 | 0.208 | 0.033 |
| -18.400 | 99.938 | -0.288 | 0.134 | 0.018 |
| -19.300 | 106.673 | -0.430 | 0.059 | 0.001 |
| -19.300 | 106.673 | -0.430 | 0.059 | 0.001 |
| -19.650 | 110.186 | -0.430 | 0.031 | 0.000 |
| -20.000 | 113.701 | -0.430 | 0.003 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -22.00 | 0.00 | -1.71 | 0.188 |
| 2 | -13.88 | 0.00 | -1.65 | 0.204 |
| 3 | -13.28 | 0.00 | -3.23 | 0.307 |
| 4 | -12.20 | 0.00 | -3.27 | 0.356 |
| 5 | -11.00 | 0.00 | -1.89 | 0.250 |
| 6 | -10.96 | 0.00 | -1.85 | 0.252 |
| 7 | -9.52 | 0.00 | -1.20 | 0.323 |
| 8 | -8.94 | 0.00 | -0.94 | 0.324 |
| 9 | -7.95 | 0.00 | -0.56 | 0.331 |
| 10 | -7.01 | 0.00 | -0.19 | 0.330 |
| 11 | -6.90 | 0.00 | -0.14 | 0.326 |
| 12 | -6.77 | 0.00 | -0.09 | 0.322 |
| 13 | -6.66 | 0.00 | -0.04 | 0.318 |
| 14 | -6.54 | 0.00 | 0.00 | 0.313 |
| 15 | -6.48 | 0.00 | 0.03 | 0.311 |
| 16 | -6.38 | 0.00 | 0.01 | 0.312 |
| 17 | -6.16 | 0.00 | -0.01 | 0.311 |
| 18 | -6.13 | 0.00 | -0.01 | 0.311 |
| 19 | -6.09 | 0.00 | -0.02 | 0.305 |
| 20 | -6.06 | 0.00 | -0.26 | 0.294 |
| 21 | -6.04 | 0.00 | -0.35 | 0.285 |
| 22 | -5.48 | 0.00 | -0.33 | 0.267 |
| 23 | -4.73 | 0.00 | -0.30 | 0.266 |
| 24 | -3.28 | 0.00 | -0.24 | 0.263 |
| 25 | -1.82 | 0.00 | -0.29 | 0.257 |
| 26 | -1.61 | 0.00 | -0.30 | 0.256 |
| 27 | -0.55 | 0.00 | -0.33 | 0.243 |
| 28 | -0.26 | 0.00 | 0.01 | 0.278 |
| 29 | -0.18 | 0.00 | -0.01 | 0.292 |
| 30 | -0.07 | 0.00 | -0.04 | 0.296 |
| 31 | 0.00 | 0.00 | -0.06 | 0.299 |
| 32 | 0.08 | 0.00 | -0.08 | 0.303 |
| 33 | 0.52 | 0.00 | -0.29 | 0.323 |
| 34 | 0.53 | 0.00 | -0.30 | 0.325 |
| 35 | 0.71 | 0.00 | -0.40 | 0.367 |
| 36 | 0.82 | 0.00 | -1.20 | 0.458 |
| 37 | 0.85 | 0.00 | -1.40 | 0.448 |
| 38 | 1.25 | 0.00 | -1.90 | 0.420 |
| 39 | 2.34 | 0.00 | -1.99 | 0.364 |
| 40 | 2.59 | 0.00 | -2.00 | 0.351 |
| 41 | 3.64 | 0.00 | -2.08 | 0.307 |
| 42 | 3.88 | 0.00 | -2.10 | 0.300 |
| 43 | 5.00 | 0.00 | -2.18 | 0.274 |

## 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 100 | -0.002 | -1.038 | 0.190 |
| | 4500 | 0.115 | 61.108 | 0.073 |
| 2 | 100 | -0.001 | -0.614 | 0.205 |
| | 4500 | 0.125 | 61.418 | 0.079 |
| 3 | 100 | 0.013 | 4.117 | 0.295 |
| | 4500 | 0.200 | 65.026 | 0.107 |
| 4 | 100 | 0.027 | 7.498 | 0.330 |
| | 4500 | 0.241 | 67.605 | 0.115 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 5 | 100 | 0.011 | 4.344 | 0.239 |
| | 4500 | 0.165 | 65.941 | 0.085 |
| 6 | 100 | 0.012 | 4.698 | 0.240 |
| | 4500 | 0.166 | 65.969 | 0.086 |
| 7 | 100 | 0.039 | 12.132 | 0.284 |
| | 4500 | 0.225 | 69.479 | 0.099 |
| 8 | 100 | 0.029 | 8.956 | 0.295 |
| | 4500 | 0.221 | 68.121 | 0.103 |
| 9 | 100 | 0.034 | 10.168 | 0.298 |
| | 4500 | 0.222 | 67.152 | 0.109 |
| 10 | 100 | 0.039 | 11.755 | 0.291 |
| | 4500 | 0.220 | 66.606 | 0.110 |
| 11 | 100 | 0.037 | 11.256 | 0.289 |
| | 4500 | 0.216 | 66.220 | 0.110 |
| 12 | 100 | 0.036 | 11.159 | 0.286 |
| | 4500 | 0.212 | 65.915 | 0.110 |
| 13 | 100 | 0.034 | 10.750 | 0.284 |
| | 4500 | 0.208 | 65.538 | 0.109 |
| 14 | 100 | 0.032 | 10.332 | 0.281 |
| | 4500 | 0.204 | 65.170 | 0.109 |
| 15 | 100 | 0.031 | 10.097 | 0.280 |
| | 4500 | 0.202 | 64.975 | 0.109 |
| 16 | 100 | 0.033 | 10.471 | 0.279 |
| | 4500 | 0.203 | 65.123 | 0.109 |
| 17 | 100 | 0.035 | 11.357 | 0.276 |
| | 4500 | 0.203 | 65.278 | 0.108 |
| 18 | 100 | 0.036 | 11.442 | 0.275 |
| | 4500 | 0.203 | 65.246 | 0.108 |
| 19 | 100 | 0.034 | 11.062 | 0.272 |
| | 4500 | 0.198 | 64.756 | 0.108 |
| 20 | 100 | 0.022 | 7.596 | 0.272 |
| | 4500 | 0.186 | 63.182 | 0.108 |
| 21 | 100 | 0.012 | 4.033 | 0.274 |
| | 4500 | 0.177 | 61.931 | 0.109 |
| 22 | 100 | 0.005 | 2.058 | 0.261 |
| | 4500 | 0.160 | 59.948 | 0.107 |
| 23 | 100 | 0.006 | 2.267 | 0.259 |
| | 4500 | 0.159 | 60.064 | 0.106 |
| 24 | 100 | 0.006 | 2.421 | 0.257 |
| | 4500 | 0.158 | 60.140 | 0.105 |
| 25 | 100 | 0.005 | 2.079 | 0.252 |
| | 4500 | 0.155 | 60.138 | 0.102 |
| 26 | 100 | 0.005 | 2.005 | 0.251 |
| | 4500 | 0.154 | 60.105 | 0.102 |
| 27 | 100 | 0.003 | 1.046 | 0.240 |
| | 4500 | 0.145 | 59.511 | 0.098 |
| 28 | 100 | 0.022 | 8.078 | 0.255 |
| | 4500 | 0.178 | 64.133 | 0.100 |
| 29 | 100 | 0.032 | 10.913 | 0.260 |
| | 4500 | 0.192 | 65.923 | 0.099 |
| 30 | 100 | 0.033 | 11.158 | 0.263 |
| | 4500 | 0.197 | 66.541 | 0.099 |
| 31 | 100 | 0.034 | 11.345 | 0.265 |
| | 4500 | 0.200 | 66.918 | 0.099 |
| 32 | 100 | 0.037 | 12.339 | 0.266 |
| | 4500 | 0.205 | 67.493 | 0.099 |
| 33 | 100 | 0.037 | 11.362 | 0.286 |
| | 4500 | 0.210 | 65.232 | 0.112 |
| 34 | 100 | 0.037 | 11.310 | 0.288 |
| | 4500 | 0.212 | 65.167 | 0.113 |
| 35 | 100 | 0.036 | 9.888 | 0.330 |
| | 4500 | 0.238 | 64.995 | 0.128 |
| 36 | 100 | 0.065 | 14.288 | 0.393 |
| | 4500 | 0.323 | 70.495 | 0.135 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 37 | 100 | 0.059 | 13.219 | 0.389 |
| | 4500 | 0.313 | 69.983 | 0.134 |
| 38 | 100 | 0.047 | 11.106 | 0.373 |
| | 4500 | 0.289 | 68.906 | 0.131 |
| 39 | 100 | 0.029 | 7.933 | 0.335 |
| | 4500 | 0.242 | 66.393 | 0.122 |
| 40 | 100 | 0.024 | 6.967 | 0.326 |
| | 4500 | 0.230 | 65.672 | 0.120 |
| 41 | 100 | 0.011 | 3.690 | 0.296 |
| | 4500 | 0.194 | 63.121 | 0.113 |
| 42 | 100 | 0.009 | 3.137 | 0.290 |
| | 4500 | 0.188 | 62.690 | 0.112 |
| 43 | 100 | 0.004 | 1.397 | 0.270 |
| | 4500 | 0.168 | 61.251 | 0.106 |

## 5 Warnings and errors

List of non-fatal warnings and errors generated during calculation.

1 Non-uniform load [1]: Co-ordinate (1) lies below surface

2 Non-uniform load [2]: Co-ordinate (4) lies below surface

3 Non-uniform load [2]: Co-ordinate (9) lies below surface

4 Non-uniform load [3]: Co-ordinate (1) lies below surface

5 Non-uniform load [3]: Co-ordinate (2) lies below surface

## End of Report

# Report for D-Settlement 21.2

Settlement Calculations
Developed by Deltares




| | |
|---|---|
| Company: | Waalpartners bv |
| Date of report: | 11/25/2022 |
| Time of report: | 10:03:44 AM |
| Report with version: | 21.2.1.34213 |
| Date of calculation: | 11/25/2022 |
| Time of calculation: | 10:02:15 AM |
| Calculated with version: | 21.2.1.34213 |
| File name: | 14.07 bkl |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 12 - X - | -22.000 | -13.436 | -13.323 | -11.400 | -11.196 |
| 12 - Y - | -2.024 | -1.972 | -3.097 | -3.161 | -1.817 |
| 12 - X - | -10.415 | -10.172 | -10.132 | -6.604 | -6.073 |
| 12 - Y - | -1.498 | -1.400 | -1.384 | 0.013 | 0.016 |
| 12 - X - | -6.073 | -3.323 | -0.670 | -0.670 | -0.183 |
| 12 - Y - | -0.524 | -0.429 | -0.487 | 0.053 | 0.074 |
| 12 - X - | 0.069 | 0.702 | 0.823 | 0.984 | 1.014 |
| 12 - Y - | -0.026 | -0.273 | -0.491 | -1.400 | -1.569 |
| 12 - X - | 1.651 | 5.000 | | | |
| 12 - Y - | -1.730 | -2.077 | | | |
| 11 - X - | -22.000 | -13.436 | -13.323 | -11.400 | -11.196 |
| 11 - Y - | -2.024 | -1.972 | -3.097 | -3.161 | -1.817 |
| 11 - X - | -10.415 | -10.172 | 0.984 | 1.014 | 1.651 |
| 11 - Y - | -1.498 | -1.400 | -1.400 | -1.569 | -1.730 |
| 11 - X - | 5.000 | | | | |
| 11 - Y - | -2.077 | | | | |
| 10 - X - | -22.000 | 5.000 | | | |
| 10 - Y - | -4.200 | -4.200 | | | |
| 9 - X - | -22.000 | 5.000 | | | |
| 9 - Y - | -5.000 | -5.000 | | | |
| 8 - X - | -22.000 | 5.000 | | | |
| 8 - Y - | -5.900 | -5.900 | | | |
| 7 - X - | -22.000 | 5.000 | | | |
| 7 - Y - | -6.800 | -6.800 | | | |
| 6 - X - | -22.000 | 5.000 | | | |
| 6 - Y - | -8.500 | -8.500 | | | |
| 5 - X - | -22.000 | 5.000 | | | |
| 5 - Y - | -12.400 | -12.400 | | | |
| 4 - X - | -22.000 | 5.000 | | | |
| 4 - Y - | -13.000 | -13.000 | | | |
| 3 - X - | -22.000 | 5.000 | | | |
| 3 - Y - | -16.400 | -16.400 | | | |
| 2 - X - | -22.000 | 5.000 | | | |
| 2 - Y - | -18.100 | -18.100 | | | |
| 1 - X - | -22.000 | 5.000 | | | |
| 1 - Y - | -19.100 | -19.100 | | | |
| 0 - X - | -22.000 | 5.000 | | | |
| 0 - Y - | -19.400 | -19.400 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -22.000 | -11.000 | 0.000 | 5.000 | |
| 1 - Y - | -2.650 | -2.650 | -0.430 | -0.430 | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | |
| - Loads: | None |
| End of consolidation: | 10000.00 [days] |
| No maintain profile | |
| Pc (initial): | Variable parallel to the initial effective stress |
| Pc (per step): | Automatic increased to the final effective stresses |

Creep rate reference time: 1.000 [days]
No imaginary surface
With submerging
(only for non uniform loads)
- Iteration stop criterium : 0.10 [m]
Load column width
- Non-Uniform Loads : 1.00 [m]
- Trapeziform Loads : 1.00 [m]

## 2.4 Soil Profiles

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 12 | Dijksmateriaal | 1 | 1 |
| 11 | Klei Hum DK | 1 | 1 |
| 10 | Hollandveen | 1 | 1 |
| 9 | Klei Hum DK | 1 | 1 |
| 8 | Hollandveen | 1 | 1 |
| 7 | Klei CA | 1 | 1 |
| 6 | Zand CA | 1 | 1 |
| 5 | Klei hum CA | 1 | 1 |
| 4 | Klei CA | 1 | 1 |
| 3 | Klei hum CA | 1 | 1 |
| 2 | Klei CA | 1 | 1 |
| 1 | Klei hum CA | 1 | 1 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 12 | No | 16.00 | 16.00 |
| 11 | No | 13.50 | 13.50 |
| 10 | No | 10.50 | 10.50 |
| 9 | No | 13.50 | 13.50 |
| 8 | No | 10.50 | 10.50 |
| 7 | No | 15.90 | 15.90 |
| 6 | Yes | 18.00 | 20.00 |
| 5 | No | 15.90 | 15.90 |
| 4 | No | 15.90 | 15.90 |
| 3 | No | 15.90 | 15.90 |
| 2 | No | 15.90 | 15.90 |
| 1 | No | 15.90 | 15.90 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|---|---|
| 12 | Vert. cons. | 1.00E-08 | - | - | - |
| 11 | Vert. cons. | 2.07E-08 | - | - | - |
| 10 | Vert. cons. | 2.37E-08 | - | - | - |
| 9 | Vert. cons. | 2.07E-08 | - | - | - |
| 8 | Vert. cons. | 2.37E-08 | - | - | - |
| 7 | Vert. cons. | 6.02E-07 | - | - | - |
| 6 | Vert. cons. | - | - | - | - |
| 5 | Vert. cons. | 9.27E-08 | - | - | - |
| 4 | Vert. cons. | 6.02E-07 | - | - | - |
| 3 | Vert. cons. | 9.27E-08 | - | - | - |
| 2 | Vert. cons. | 6.02E-07 | - | - | - |
| 1 | Vert. cons. | 9.27E-08 | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 12 | - | 1.50 | - |
| 11 | - | 1.50 | - |
| 10 | - | 1.80 | - |
| 9 | - | 1.50 | - |
| 8 | - | 1.80 | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 7 | - | 1.50 | - |
| 6 | - | 1.39 | - |
| 5 | - | 1.50 | - |
| 4 | - | 1.50 | - |
| 3 | - | 1.50 | - |
| 2 | - | 1.50 | - |
| 1 | - | 1.50 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 12 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 11 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 10 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 9 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 8 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 7 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 6 | 0.0100000 | 0.1062000 | 0.0033000 | - | - | - |
| 5 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 4 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 3 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 2 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 1 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time [days] | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 1 | -1 | 19.00 | 19.00 |
| 2 | -1 | 24.00 | 24.00 |
| 3 | 2 | 16.00 | 16.00 |
| 4 | 3 | 18.00 | 20.00 |
| 5 | 4 | 19.00 | 19.00 |
| 6 | 5 | 25.00 | 25.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -6.07 | -0.67 | | | | |
| 1 - Y - | -0.44 | -0.41 | | | | |
| 2 - X - | -6.07 | -3.96 | -3.32 | -0.83 | -0.67 | |
| 2 - Y - | 0.02 | 0.10 | 0.11 | 0.06 | 0.05 | |
| 3 - X - | -10.76 | -7.01 | -6.07 | -6.07 | -4.76 | -3.32 |
| 3 - Y - | -1.64 | 0.47 | 0.48 | -0.52 | -0.47 | -0.43 |
| 3 - X - | -1.75 | -0.67 | -0.67 | -0.27 | 0.61 | 0.82 |
| 3 - Y - | -0.47 | -0.49 | 0.48 | 0.47 | 0.42 | -0.49 |
| 4 - X - | -6.07 | -0.67 | | | | |
| 4 - Y - | -0.07 | -0.07 | | | | |
| 5 - X - | -6.07 | -0.67 | | | | |
| 5 - Y - | 0.28 | 0.28 | | | | |
| 6 - X - | -6.07 | -4.72 | -3.32 | -1.92 | -0.67 | |
| 6 - Y - | 0.48 | 0.51 | 0.55 | 0.51 | 0.48 | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -22.000 | -13.436 | -13.323 | -11.705 | -11.400 |
| 6 - 10 | -11.196 | -11.000 | -10.916 | -10.769 | -10.415 |
| 11 - 15 | -10.172 | -10.132 | -7.012 | -6.930 | -6.819 |
| 16 - 20 | -6.708 | -6.604 | -6.597 | -6.485 | -6.373 |
| 21 - 25 | -6.073 | -4.760 | -4.724 | -3.962 | -3.323 |
| 26 - 30 | -1.922 | -1.749 | -0.834 | -0.670 | -0.397 |
| 31 - 35 | -0.273 | -0.183 | -0.041 | 0.000 | 0.069 |
| 36 - 40 | 0.613 | 0.702 | 0.823 | 0.984 | 1.014 |
| 41 - 45 | 1.392 | 1.651 | 2.519 | 3.621 | 3.814 |
| 46 | 5.000 | | | | |

# 3 Results per Vertical

## 3.1 Results for Vertical 21 (X = -6.07 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.524 | 24.961 | -0.524 | 9.983 | 0.372 |
| -0.624 | 26.097 | -0.606 | 9.697 | 0.367 |
| -0.724 | 27.189 | -0.687 | 9.371 | 0.362 |
| -0.824 | 28.307 | -0.768 | 9.071 | 0.358 |
| -0.924 | 29.468 | -0.849 | 8.817 | 0.354 |
| -0.962 | 29.922 | -0.880 | 8.733 | 0.353 |
| -1.024 | 30.674 | -0.930 | 8.609 | 0.351 |
| -1.124 | 31.918 | -1.010 | 8.440 | 0.348 |
| -1.224 | 33.191 | -1.090 | 8.302 | 0.345 |
| -1.324 | 34.486 | -1.171 | 8.187 | 0.343 |
| -1.400 | 35.001 | -1.232 | 7.631 | 0.341 |
| -1.400 | 35.001 | -1.232 | 7.631 | 0.341 |
| -1.424 | 35.047 | -1.253 | 7.373 | 0.340 |
| -1.524 | 35.249 | -1.344 | 6.309 | 0.336 |
| -1.656 | 35.533 | -1.465 | 4.922 | 0.330 |
| -2.200 | 36.840 | -1.425 | 4.610 | 0.312 |
| -2.800 | 38.430 | -1.395 | 4.313 | 0.293 |
| -3.500 | 40.449 | -1.380 | 3.981 | 0.273 |
| -4.200 | 42.658 | -1.388 | 3.656 | 0.253 |
| -4.200 | 42.658 | -1.388 | 3.656 | 0.253 |
| -4.600 | 42.770 | -1.400 | 3.473 | 0.234 |
| -5.000 | 42.958 | -1.420 | 3.294 | 0.214 |
| -5.000 | 42.958 | -1.420 | 3.294 | 0.214 |
| -5.450 | 44.804 | -1.473 | 3.097 | 0.201 |
| -5.900 | 46.763 | -1.537 | 2.906 | 0.187 |
| -5.900 | 46.763 | -1.537 | 2.906 | 0.187 |
| -6.350 | 47.198 | -1.583 | 2.721 | 0.162 |
| -6.800 | 47.727 | -1.639 | 2.542 | 0.135 |
| -6.800 | 47.727 | -1.639 | 2.542 | 0.135 |
| -7.650 | 52.378 | -1.647 | 2.222 | 0.121 |
| -8.500 | 57.072 | -1.656 | 1.927 | 0.107 |
| -8.500 | 57.072 | -1.656 | 1.927 | 0.107 |
| -9.450 | 66.157 | -1.656 | 1.623 | 0.106 |
| -10.450 | 75.771 | -1.656 | 1.333 | 0.104 |
| -11.400 | 84.952 | -1.656 | 1.084 | 0.103 |
| -12.400 | 94.664 | -1.656 | 0.845 | 0.101 |
| -12.400 | 94.664 | -1.656 | 0.845 | 0.101 |
| -12.700 | 96.228 | -1.643 | 0.778 | 0.095 |
| -13.000 | 97.806 | -1.631 | 0.713 | 0.089 |
| -13.000 | 97.806 | -1.631 | 0.713 | 0.089 |
| -13.900 | 102.875 | -1.626 | 0.529 | 0.079 |
| -14.700 | 107.416 | -1.623 | 0.378 | 0.069 |
| -15.600 | 112.560 | -1.621 | 0.222 | 0.059 |
| -16.400 | 117.165 | -1.620 | 0.093 | 0.050 |
| -16.400 | 117.165 | -1.620 | 0.093 | 0.050 |
| -17.250 | 122.114 | -1.623 | -0.034 | 0.034 |
| -18.100 | 127.205 | -1.638 | -0.151 | 0.017 |
| -18.100 | 127.205 | -1.638 | -0.151 | 0.017 |
| -18.600 | 130.139 | -1.640 | -0.216 | 0.012 |
| -19.100 | 133.084 | -1.643 | -0.279 | 0.006 |
| -19.100 | 133.084 | -1.643 | -0.279 | 0.006 |
| -19.250 | 134.023 | -1.649 | -0.297 | 0.003 |
| -19.400 | 134.967 | -1.656 | -0.315 | 0.000 |

### 3.2 Results for Vertical 25 (X = -3.32 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.429 | 19.501 | -0.429 | 6.770 | 0.366 |
| -0.529 | 21.152 | -0.516 | 6.740 | 0.362 |
| -0.629 | 22.586 | -0.603 | 6.708 | 0.358 |
| -0.729 | 24.008 | -0.689 | 6.672 | 0.355 |
| -0.829 | 24.949 | -0.774 | 6.161 | 0.351 |
| -0.914 | 25.315 | -0.847 | 5.289 | 0.349 |
| -0.929 | 25.377 | -0.859 | 5.142 | 0.349 |
| -1.029 | 25.803 | -0.944 | 4.123 | 0.346 |
| -1.101 | 26.108 | -1.005 | 3.394 | 0.345 |
| -1.129 | 26.229 | -1.001 | 3.384 | 0.345 |
| -1.229 | 26.654 | -0.987 | 3.350 | 0.343 |
| -1.329 | 27.077 | -0.972 | 3.318 | 0.342 |
| -1.400 | 27.376 | -0.962 | 3.296 | 0.341 |
| -1.400 | 27.376 | -0.962 | 3.296 | 0.341 |
| -1.429 | 27.447 | -0.960 | 3.287 | 0.340 |
| -2.100 | 29.023 | -0.922 | 3.119 | 0.318 |
| -2.800 | 30.535 | -0.896 | 3.003 | 0.298 |
| -3.500 | 32.037 | -0.887 | 2.905 | 0.278 |
| -4.200 | 33.662 | -0.896 | 2.791 | 0.259 |
| -4.200 | 33.662 | -0.896 | 2.791 | 0.259 |
| -4.600 | 33.441 | -0.905 | 2.713 | 0.239 |
| -5.000 | 33.299 | -0.921 | 2.626 | 0.218 |
| -5.000 | 33.299 | -0.921 | 2.626 | 0.218 |
| -5.450 | 34.736 | -0.962 | 2.518 | 0.205 |
| -5.900 | 36.290 | -1.011 | 2.402 | 0.191 |
| -5.900 | 36.290 | -1.011 | 2.402 | 0.191 |
| -6.350 | 36.389 | -1.046 | 2.279 | 0.165 |
| -6.800 | 36.584 | -1.088 | 2.153 | 0.137 |
| -6.800 | 36.584 | -1.088 | 2.153 | 0.137 |
| -7.650 | 40.909 | -1.094 | 1.908 | 0.122 |
| -8.500 | 45.345 | -1.101 | 1.665 | 0.108 |
| -8.500 | 45.345 | -1.101 | 1.665 | 0.108 |
| -9.450 | 54.228 | -1.101 | 1.402 | 0.106 |
| -10.450 | 63.682 | -1.101 | 1.139 | 0.104 |
| -11.400 | 72.748 | -1.101 | 0.907 | 0.103 |
| -12.400 | 82.365 | -1.101 | 0.680 | 0.101 |
| -12.400 | 82.366 | -1.101 | 0.680 | 0.101 |
| -12.700 | 83.925 | -1.089 | 0.616 | 0.095 |
| -13.000 | 85.497 | -1.079 | 0.554 | 0.089 |
| -13.000 | 85.497 | -1.079 | 0.554 | 0.089 |
| -13.900 | 90.515 | -1.075 | 0.375 | 0.078 |
| -14.700 | 95.017 | -1.073 | 0.228 | 0.069 |
| -15.600 | 100.126 | -1.071 | 0.074 | 0.059 |
| -16.400 | 104.704 | -1.070 | -0.053 | 0.050 |
| -16.400 | 104.704 | -1.070 | -0.053 | 0.050 |
| -17.250 | 109.621 | -1.072 | -0.179 | 0.034 |
| -18.100 | 114.669 | -1.085 | -0.295 | 0.017 |
| -18.100 | 114.669 | -1.085 | -0.295 | 0.017 |
| -18.600 | 117.590 | -1.087 | -0.360 | 0.011 |
| -19.100 | 120.521 | -1.089 | -0.423 | 0.006 |
| -19.100 | 120.522 | -1.089 | -0.423 | 0.006 |
| -19.250 | 121.450 | -1.095 | -0.441 | 0.003 |
| -19.400 | 122.384 | -1.101 | -0.459 | 0.000 |

### 3.3 Results for Vertical 29 (X = -0.67 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.487 | 20.881 | -0.487 | 5.944 | 0.348 |
| -0.565 | 21.030 | -0.555 | 4.941 | 0.345 |
| -0.587 | 21.078 | -0.552 | 4.878 | 0.344 |
| -0.687 | 21.312 | -0.539 | 4.601 | 0.341 |
| -0.787 | 21.573 | -0.526 | 4.361 | 0.338 |
| -0.887 | 21.876 | -0.514 | 4.165 | 0.335 |
| -0.944 | 22.064 | -0.507 | 4.072 | 0.334 |
| -0.987 | 22.215 | -0.501 | 4.007 | 0.333 |
| -1.087 | 22.583 | -0.488 | 3.878 | 0.330 |
| -1.187 | 22.970 | -0.476 | 3.768 | 0.328 |
| -1.287 | 23.371 | -0.463 | 3.671 | 0.327 |
| -1.387 | 23.780 | -0.451 | 3.582 | 0.325 |
| -1.400 | 23.833 | -0.449 | 3.571 | 0.325 |
| -1.400 | 23.833 | -0.449 | 3.571 | 0.325 |
| -1.487 | 24.035 | -0.444 | 3.499 | 0.321 |
| -2.100 | 25.528 | -0.414 | 3.032 | 0.300 |
| -2.800 | 27.366 | -0.390 | 2.560 | 0.278 |
| -3.500 | 29.376 | -0.379 | 2.171 | 0.259 |
| -4.200 | 31.570 | -0.384 | 1.862 | 0.241 |
| -4.200 | 31.570 | -0.384 | 1.862 | 0.241 |
| -4.600 | 31.679 | -0.392 | 1.714 | 0.222 |
| -5.000 | 31.852 | -0.405 | 1.582 | 0.204 |
| -5.000 | 31.852 | -0.405 | 1.582 | 0.204 |
| -5.450 | 33.596 | -0.440 | 1.450 | 0.192 |
| -5.900 | 35.428 | -0.484 | 1.331 | 0.179 |
| -5.900 | 35.428 | -0.484 | 1.331 | 0.179 |
| -6.350 | 35.798 | -0.515 | 1.223 | 0.155 |
| -6.800 | 36.236 | -0.553 | 1.123 | 0.129 |
| -6.800 | 36.236 | -0.553 | 1.123 | 0.129 |
| -7.650 | 41.015 | -0.559 | 0.950 | 0.117 |
| -8.500 | 45.824 | -0.565 | 0.792 | 0.104 |
| -8.500 | 45.824 | -0.565 | 0.792 | 0.104 |
| -9.450 | 55.049 | -0.565 | 0.628 | 0.103 |
| -10.450 | 64.792 | -0.565 | 0.464 | 0.101 |
| -11.400 | 74.076 | -0.565 | 0.317 | 0.100 |
| -12.400 | 83.880 | -0.565 | 0.170 | 0.099 |
| -12.400 | 83.880 | -0.565 | 0.170 | 0.099 |
| -12.700 | 85.486 | -0.554 | 0.127 | 0.093 |
| -13.000 | 87.102 | -0.543 | 0.085 | 0.087 |
| -13.000 | 87.102 | -0.543 | 0.085 | 0.087 |
| -13.900 | 92.239 | -0.540 | -0.037 | 0.077 |
| -14.700 | 96.830 | -0.537 | -0.140 | 0.068 |
| -15.600 | 102.024 | -0.535 | -0.251 | 0.058 |
| -16.400 | 106.664 | -0.534 | -0.344 | 0.050 |
| -16.400 | 106.664 | -0.534 | -0.344 | 0.050 |
| -17.250 | 111.639 | -0.536 | -0.439 | 0.033 |
| -18.100 | 116.740 | -0.549 | -0.529 | 0.017 |
| -18.100 | 116.740 | -0.549 | -0.529 | 0.017 |
| -18.600 | 119.686 | -0.551 | -0.579 | 0.011 |
| -19.100 | 122.642 | -0.553 | -0.629 | 0.006 |
| -19.100 | 122.642 | -0.553 | -0.629 | 0.006 |
| -19.250 | 123.578 | -0.559 | -0.643 | 0.003 |
| -19.400 | 124.519 | -0.565 | -0.657 | 0.000 |

### 3.4 Results for Vertical 34 (X = 0.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.001 | 7.676 | 0.001 | 7.675 | 0.405 |
| -0.099 | 8.520 | -0.093 | 6.971 | 0.383 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.199 | 8.088 | -0.188 | 4.991 | 0.370 |
| -0.299 | 9.425 | -0.282 | 4.786 | 0.362 |
| -0.399 | 10.339 | -0.376 | 4.164 | 0.355 |
| -0.430 | 10.586 | -0.405 | 3.931 | 0.353 |
| -0.499 | 11.113 | -0.400 | 4.080 | 0.350 |
| -0.599 | 11.871 | -0.393 | 4.281 | 0.345 |
| -0.699 | 12.610 | -0.385 | 4.431 | 0.341 |
| -0.699 | 12.615 | -0.385 | 4.432 | 0.341 |
| -0.799 | 13.320 | -0.377 | 4.502 | 0.337 |
| -0.899 | 14.003 | -0.368 | 4.490 | 0.333 |
| -0.999 | 14.666 | -0.360 | 4.409 | 0.329 |
| -1.400 | 17.179 | -0.324 | 3.765 | 0.319 |
| -1.400 | 17.179 | -0.324 | 3.765 | 0.319 |
| -2.100 | 19.843 | -0.297 | 2.682 | 0.291 |
| -2.800 | 22.378 | -0.278 | 1.999 | 0.270 |
| -3.500 | 24.909 | -0.269 | 1.565 | 0.252 |
| -4.200 | 27.492 | -0.273 | 1.268 | 0.234 |
| -4.200 | 27.492 | -0.273 | 1.268 | 0.234 |
| -4.600 | 27.780 | -0.280 | 1.136 | 0.217 |
| -5.000 | 28.102 | -0.291 | 1.023 | 0.199 |
| -5.000 | 28.102 | -0.291 | 1.023 | 0.199 |
| -5.450 | 29.965 | -0.321 | 0.914 | 0.187 |
| -5.900 | 31.888 | -0.359 | 0.818 | 0.175 |
| -5.900 | 31.888 | -0.359 | 0.818 | 0.175 |
| -6.350 | 32.349 | -0.386 | 0.732 | 0.152 |
| -6.800 | 32.856 | -0.420 | 0.654 | 0.127 |
| -6.800 | 32.856 | -0.420 | 0.654 | 0.127 |
| -7.650 | 37.816 | -0.424 | 0.521 | 0.115 |
| -8.500 | 42.771 | -0.430 | 0.399 | 0.103 |
| -8.500 | 42.771 | -0.430 | 0.399 | 0.103 |
| -9.450 | 52.135 | -0.430 | 0.272 | 0.101 |
| -10.450 | 61.993 | -0.430 | 0.143 | 0.100 |
| -11.400 | 71.366 | -0.430 | 0.025 | 0.099 |
| -12.400 | 81.246 | -0.430 | -0.096 | 0.098 |
| -12.400 | 81.246 | -0.430 | -0.096 | 0.098 |
| -12.700 | 82.875 | -0.419 | -0.131 | 0.092 |
| -13.000 | 84.514 | -0.409 | -0.166 | 0.086 |
| -13.000 | 84.514 | -0.409 | -0.166 | 0.086 |
| -13.900 | 89.702 | -0.405 | -0.269 | 0.076 |
| -14.700 | 94.331 | -0.403 | -0.358 | 0.068 |
| -15.600 | 99.560 | -0.401 | -0.453 | 0.058 |
| -16.400 | 104.227 | -0.400 | -0.535 | 0.049 |
| -16.400 | 104.227 | -0.400 | -0.535 | 0.049 |
| -17.250 | 109.225 | -0.402 | -0.619 | 0.033 |
| -18.100 | 114.341 | -0.415 | -0.699 | 0.017 |
| -18.100 | 114.341 | -0.415 | -0.699 | 0.017 |
| -18.600 | 117.298 | -0.416 | -0.745 | 0.011 |
| -19.100 | 120.263 | -0.419 | -0.789 | 0.006 |
| -19.100 | 120.263 | -0.419 | -0.789 | 0.006 |
| -19.250 | 121.201 | -0.424 | -0.802 | 0.003 |
| -19.400 | 122.143 | -0.430 | -0.815 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -22.00 | 0.00 | -2.02 | 0.205 |
| 2 | -13.44 | 0.00 | -1.97 | 0.235 |
| 3 | -13.32 | 0.00 | -3.10 | 0.354 |
| 4 | -11.71 | 0.00 | -3.15 | 0.458 |
| 5 | -11.40 | 0.00 | -3.16 | 0.485 |
| 6 | -11.20 | 0.00 | -1.82 | 0.289 |
| 7 | -11.00 | 0.00 | -1.74 | 0.300 |
| 8 | -10.92 | 0.00 | -1.70 | 0.304 |
| 9 | -10.77 | 0.00 | -1.64 | 0.315 |
| 10 | -10.41 | 0.00 | -1.50 | 0.346 |
| 11 | -10.17 | 0.00 | -1.40 | 0.370 |
| 12 | -10.13 | 0.00 | -1.38 | 0.372 |
| 13 | -7.01 | 0.00 | -0.15 | 0.450 |
| 14 | -6.93 | 0.00 | -0.12 | 0.448 |
| 15 | -6.82 | 0.00 | -0.07 | 0.446 |
| 16 | -6.71 | 0.00 | -0.03 | 0.443 |
| 17 | -6.60 | 0.00 | 0.01 | 0.440 |
| 18 | -6.60 | 0.00 | 0.01 | 0.440 |
| 19 | -6.49 | 0.00 | 0.01 | 0.440 |
| 20 | -6.37 | 0.00 | 0.01 | 0.451 |
| 21 | -6.07 | 0.00 | -0.52 | 0.372 |
| 22 | -4.76 | 0.00 | -0.48 | 0.372 |
| 23 | -4.72 | 0.00 | -0.48 | 0.372 |
| 24 | -3.96 | 0.00 | -0.45 | 0.369 |
| 25 | -3.32 | 0.00 | -0.43 | 0.366 |
| 26 | -1.92 | 0.00 | -0.46 | 0.361 |
| 27 | -1.75 | 0.00 | -0.46 | 0.361 |
| 28 | -0.83 | 0.00 | -0.48 | 0.426 |
| 29 | -0.67 | 0.00 | -0.49 | 0.348 |
| 30 | -0.40 | 0.00 | 0.06 | 0.418 |
| 31 | -0.27 | 0.00 | 0.07 | 0.405 |
| 32 | -0.18 | 0.00 | 0.07 | 0.404 |
| 33 | -0.04 | 0.00 | 0.02 | 0.404 |
| 34 | 0.00 | 0.00 | 0.00 | 0.405 |
| 35 | 0.07 | 0.00 | -0.03 | 0.410 |
| 36 | 0.61 | 0.00 | -0.24 | 0.424 |
| 37 | 0.70 | 0.00 | -0.27 | 0.430 |
| 38 | 0.82 | 0.00 | -0.49 | 0.538 |
| 39 | 0.98 | 0.00 | -1.40 | 0.595 |
| 40 | 1.01 | 0.00 | -1.57 | 0.583 |
| 41 | 1.39 | 0.00 | -1.66 | 0.551 |
| 42 | 1.65 | 0.00 | -1.73 | 0.528 |
| 43 | 2.52 | 0.00 | -1.82 | 0.455 |
| 44 | 3.62 | 0.00 | -1.93 | 0.388 |
| 45 | 3.81 | 0.00 | -1.95 | 0.379 |
| 46 | 5.00 | 0.00 | -2.08 | 0.339 |

## 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 100 | 0.005 | 2.607 | 0.199 |
| | 4500 | 0.153 | 74.614 | 0.052 |
| 2 | 100 | 0.011 | 4.714 | 0.224 |
| | 4500 | 0.180 | 76.369 | 0.056 |
| 3 | 100 | 0.029 | 8.149 | 0.325 |
| | 4500 | 0.274 | 77.453 | 0.080 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 4 | 100 | 0.060 | 13.209 | 0.397 |
| | 4500 | 0.373 | 81.401 | 0.085 |
| 5 | 100 | 0.069 | 14.202 | 0.416 |
| | 4500 | 0.398 | 82.155 | 0.087 |
| 6 | 100 | 0.020 | 6.962 | 0.269 |
| | 4500 | 0.226 | 78.111 | 0.063 |
| 7 | 100 | 0.022 | 7.192 | 0.278 |
| | 4500 | 0.234 | 78.104 | 0.066 |
| 8 | 100 | 0.023 | 7.419 | 0.282 |
| | 4500 | 0.238 | 78.187 | 0.066 |
| 9 | 100 | 0.027 | 8.412 | 0.289 |
| | 4500 | 0.247 | 78.499 | 0.068 |
| 10 | 100 | 0.039 | 11.207 | 0.307 |
| | 4500 | 0.274 | 79.349 | 0.071 |
| 11 | 100 | 0.050 | 13.423 | 0.320 |
| | 4500 | 0.296 | 80.000 | 0.074 |
| 12 | 100 | 0.049 | 13.259 | 0.323 |
| | 4500 | 0.297 | 79.984 | 0.074 |
| 13 | 100 | 0.058 | 12.908 | 0.392 |
| | 4500 | 0.345 | 76.854 | 0.104 |
| 14 | 100 | 0.058 | 12.913 | 0.390 |
| | 4500 | 0.344 | 76.753 | 0.104 |
| 15 | 100 | 0.057 | 12.762 | 0.389 |
| | 4500 | 0.342 | 76.605 | 0.104 |
| 16 | 100 | 0.055 | 12.470 | 0.388 |
| | 4500 | 0.339 | 76.429 | 0.104 |
| 17 | 100 | 0.054 | 12.206 | 0.387 |
| | 4500 | 0.336 | 76.276 | 0.104 |
| 18 | 100 | 0.054 | 12.189 | 0.387 |
| | 4500 | 0.336 | 76.274 | 0.104 |
| 19 | 100 | 0.053 | 12.066 | 0.387 |
| | 4500 | 0.336 | 76.312 | 0.104 |
| 20 | 100 | 0.061 | 13.471 | 0.390 |
| | 4500 | 0.346 | 76.749 | 0.105 |
| 21 | 100 | 0.022 | 6.000 | 0.350 |
| | 4500 | 0.274 | 73.716 | 0.098 |
| 22 | 100 | 0.023 | 6.297 | 0.349 |
| | 4500 | 0.278 | 74.545 | 0.095 |
| 23 | 100 | 0.023 | 6.283 | 0.349 |
| | 4500 | 0.277 | 74.547 | 0.095 |
| 24 | 100 | 0.023 | 6.348 | 0.345 |
| | 4500 | 0.275 | 74.636 | 0.094 |
| 25 | 100 | 0.023 | 6.386 | 0.343 |
| | 4500 | 0.274 | 74.737 | 0.093 |
| 26 | 100 | 0.023 | 6.347 | 0.338 |
| | 4500 | 0.272 | 75.451 | 0.089 |
| 27 | 100 | 0.023 | 6.386 | 0.338 |
| | 4500 | 0.272 | 75.498 | 0.088 |
| 28 | 100 | 0.025 | 5.796 | 0.401 |
| | 4500 | 0.305 | 71.709 | 0.120 |
| 29 | 100 | 0.022 | 6.243 | 0.326 |
| | 4500 | 0.261 | 74.908 | 0.087 |
| 30 | 100 | 0.058 | 13.900 | 0.360 |
| | 4500 | 0.326 | 77.955 | 0.092 |
| 31 | 100 | 0.050 | 12.347 | 0.355 |
| | 4500 | 0.314 | 77.579 | 0.091 |
| 32 | 100 | 0.050 | 12.497 | 0.353 |
| | 4500 | 0.313 | 77.595 | 0.090 |
| 33 | 100 | 0.052 | 12.784 | 0.353 |
| | 4500 | 0.315 | 77.981 | 0.089 |
| 34 | 100 | 0.053 | 13.020 | 0.353 |
| | 4500 | 0.317 | 78.130 | 0.089 |
| 35 | 100 | 0.057 | 13.790 | 0.353 |
| | 4500 | 0.321 | 78.392 | 0.089 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 36 | 100 | 0.054 | 12.740 | 0.370 |
| | 4500 | 0.316 | 74.428 | 0.108 |
| 37 | 100 | 0.051 | 11.971 | 0.379 |
| | 4500 | 0.318 | 73.877 | 0.112 |
| 38 | 100 | 0.064 | 11.812 | 0.474 |
| | 4500 | 0.410 | 76.177 | 0.128 |
| 39 | 100 | 0.093 | 15.610 | 0.502 |
| | 4500 | 0.482 | 80.986 | 0.113 |
| 40 | 100 | 0.088 | 15.112 | 0.495 |
| | 4500 | 0.472 | 81.040 | 0.111 |
| 41 | 100 | 0.080 | 14.462 | 0.472 |
| | 4500 | 0.445 | 80.708 | 0.106 |
| 42 | 100 | 0.073 | 13.753 | 0.455 |
| | 4500 | 0.424 | 80.358 | 0.104 |
| 43 | 100 | 0.048 | 10.661 | 0.406 |
| | 4500 | 0.357 | 78.532 | 0.098 |
| 44 | 100 | 0.029 | 7.416 | 0.359 |
| | 4500 | 0.296 | 76.281 | 0.092 |
| 45 | 100 | 0.027 | 7.003 | 0.352 |
| | 4500 | 0.288 | 75.957 | 0.091 |
| 46 | 100 | 0.018 | 5.187 | 0.321 |
| | 4500 | 0.252 | 74.387 | 0.087 |

## 5 Warnings and errors

List of non-fatal warnings and errors generated during calculation.

1 Non-uniform load [1]: Co-ordinate (1) lies below surface

2 Non-uniform load [1]: Co-ordinate (2) lies below surface

3 Non-uniform load [3]: Co-ordinate (1) lies below surface

4 Non-uniform load [3]: Co-ordinate (4) lies below surface

5 Non-uniform load [3]: Co-ordinate (7) lies below surface

6 Non-uniform load [3]: Co-ordinate (8) lies below surface

7 Non-uniform load [4]: Co-ordinate (1) lies below surface

8 Non-uniform load [4]: Co-ordinate (2) lies below surface

## End of Report

# Report for D-Settlement 21.2

Settlement Calculations
Developed by Deltares




| | |
|---|---|
| Company: | Waalpartners bv |
| Date of report: | 11/25/2022 |
| Time of report: | 10:12:48 AM |
| Report with version: | 21.2.1.34213 |
| Date of calculation: | 11/25/2022 |
| Time of calculation: | 10:08:03 AM |
| Calculated with version: | 21.2.1.34213 |
| File name: | 14.2 bkl |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 13 - X - | -22.000 | -13.910 | -13.316 | -12.237 | -11.552 |
| 13 - Y - | -1.813 | -2.356 | -2.400 | -2.480 | -3.522 |
| 13 - X - | -10.912 | -10.646 | -7.839 | -7.050 | -6.637 |
| 13 - Y - | -2.400 | -1.933 | -0.559 | -0.145 | -0.137 |
| 13 - X - | -6.635 | -3.710 | -1.227 | -1.227 | -0.767 |
| 13 - Y - | -0.886 | -0.767 | -0.826 | -0.076 | -0.033 |
| 13 - X - | -0.191 | 0.220 | 0.657 | 5.000 | |
| 13 - Y - | -0.054 | -0.353 | -1.987 | -2.400 | |
| 12 - X - | -22.000 | -13.316 | -12.237 | -11.552 | -10.912 |
| 12 - Y - | -2.400 | -2.400 | -2.480 | -3.522 | -2.400 |
| 12 - X - | -10.646 | -7.839 | -7.050 | -6.637 | -6.635 |
| 12 - Y - | -1.933 | -0.559 | -0.145 | -0.137 | -0.886 |
| 12 - X - | -3.710 | -1.227 | -1.227 | -0.767 | -0.191 |
| 12 - Y - | -0.767 | -0.826 | -0.076 | -0.033 | -0.054 |
| 12 - X - | 0.220 | 0.657 | 5.000 | | |
| 12 - Y - | -0.353 | -1.987 | -2.400 | | |
| 11 - X - | -22.000 | -13.316 | -12.237 | -11.552 | -10.912 |
| 11 - Y - | -2.400 | -2.400 | -2.480 | -3.522 | -2.400 |
| 11 - X - | 5.000 | | | | |
| 11 - Y - | -2.400 | | | | |
| 10 - X - | -22.000 | 5.000 | | | |
| 10 - Y - | -4.100 | -4.100 | | | |
| 9 - X - | -22.000 | 5.000 | | | |
| 9 - Y - | -5.500 | -5.500 | | | |
| 8 - X - | -22.000 | 5.000 | | | |
| 8 - Y - | -6.300 | -6.300 | | | |
| 7 - X - | -22.000 | 5.000 | | | |
| 7 - Y - | -7.000 | -7.000 | | | |
| 6 - X - | -22.000 | 5.000 | | | |
| 6 - Y - | -9.000 | -9.000 | | | |
| 5 - X - | -22.000 | 5.000 | | | |
| 5 - Y - | -9.500 | -9.500 | | | |
| 4 - X - | -22.000 | 5.000 | | | |
| 4 - Y - | -11.000 | -11.000 | | | |
| 3 - X - | -22.000 | 5.000 | | | |
| 3 - Y - | -11.500 | -11.500 | | | |
| 2 - X - | -22.000 | 5.000 | | | |
| 2 - Y - | -16.700 | -16.700 | | | |
| 1 - X - | -22.000 | 5.000 | | | |
| 1 - Y - | -17.400 | -17.400 | | | |
| 0 - X - | -22.000 | 5.000 | | | |
| 0 - Y - | -19.800 | -19.800 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -22.000 | -11.000 | 0.000 | 5.000 | |
| 1 - Y - | -2.650 | -2.650 | -0.430 | -0.430 | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | |
| - Loads: | None |

End of consolidation: 10000.00 [days]
No maintain profile
Pc (initial): Variable parallel to the initial effective stress
Pc (per step): Automatic increased to the final effective stresses
Creep rate reference time: 1.000 [days]
No imaginary surface
With submerging
(only for non uniform loads)
- Iteration stop criterium : 0.10 [m]
Load column width
- Non-Uniform Loads : 1.00 [m]
- Trapeziform Loads : 1.00 [m]

## 2.4 Soil Profiles

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 13 | Dijksmateriaal | 1 | 1 |
| 12 | Dijksmateriaal | 1 | 1 |
| 11 | Klei Hum DK | 1 | 1 |
| 10 | Hollandveen | 1 | 1 |
| 9 | Klei Hum DK | 1 | 1 |
| 8 | Hollandveen | 1 | 1 |
| 7 | klei DK | 1 | 1 |
| 6 | Hollandveen | 1 | 1 |
| 5 | Klei CA | 1 | 1 |
| 4 | Klei hum CA | 1 | 1 |
| 3 | Klei CA | 1 | 1 |
| 2 | Klei hum CA | 1 | 1 |
| 1 | Klei CA | 1 | 1 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 13 | No | 16.00 | 16.00 |
| 12 | No | 16.00 | 16.00 |
| 11 | No | 13.50 | 13.50 |
| 10 | No | 10.50 | 10.50 |
| 9 | No | 13.50 | 13.50 |
| 8 | No | 10.50 | 10.50 |
| 7 | No | 15.10 | 15.10 |
| 6 | No | 10.50 | 10.50 |
| 5 | No | 15.90 | 15.90 |
| 4 | No | 15.90 | 15.90 |
| 3 | No | 15.90 | 15.90 |
| 2 | No | 15.90 | 15.90 |
| 1 | No | 15.90 | 15.90 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|---|---|
| 13 | Vert. cons. | 1.00E-08 | - | - | - |
| 12 | Vert. cons. | 1.00E-08 | - | - | - |
| 11 | Vert. cons. | 2.07E-08 | - | - | - |
| 10 | Vert. cons. | 2.37E-08 | - | - | - |
| 9 | Vert. cons. | 2.07E-08 | - | - | - |
| 8 | Vert. cons. | 2.37E-08 | - | - | - |
| 7 | Vert. cons. | 2.54E-08 | - | - | - |
| 6 | Vert. cons. | 2.37E-08 | - | - | - |
| 5 | Vert. cons. | 6.02E-07 | - | - | - |
| 4 | Vert. cons. | 9.27E-08 | - | - | - |
| 3 | Vert. cons. | 6.02E-07 | - | - | - |
| 2 | Vert. cons. | 9.27E-08 | - | - | - |
| 1 | Vert. cons. | 6.02E-07 | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 13 | - | 1.50 | - |
| 12 | - | 1.50 | - |
| 11 | - | 1.50 | - |
| 10 | - | 1.80 | - |
| 9 | - | 1.50 | - |
| 8 | - | 1.80 | - |
| 7 | - | 1.50 | - |
| 6 | - | 1.80 | - |
| 5 | - | 1.50 | - |
| 4 | - | 1.50 | - |
| 3 | - | 1.50 | - |
| 2 | - | 1.50 | - |
| 1 | - | 1.50 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 13 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 12 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 11 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 10 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 9 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 8 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 7 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 6 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 5 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 4 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 3 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 2 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 1 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time [days] | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 1 | -1 | 24.00 | 24.00 |
| 2 | 2 | 16.00 | 16.00 |
| 3 | 3 | 18.00 | 20.00 |
| 4 | 4 | 19.00 | 19.00 |
| 5 | 5 | 25.00 | 25.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -6.64 | -4.46 | -3.92 | -2.49 | -2.10 | -1.97 |
| 1 - Y - | -0.14 | -0.03 | -0.01 | -0.03 | -0.04 | -0.04 |
| 1 - X - | -1.39 | -1.23 | | | | |
| 1 - Y - | -0.05 | -0.08 | | | | |
| 2 - X - | -10.65 | -7.56 | -6.64 | -6.64 | -5.69 | -4.54 |
| 2 - Y - | -1.93 | 0.37 | 0.38 | -0.89 | -0.84 | -0.79 |
| 2 - X - | -4.23 | -3.92 | -3.71 | -1.23 | -1.23 | -0.92 |
| 2 - Y - | -0.77 | -0.76 | -0.77 | -0.83 | 0.38 | 0.37 |
| 2 - X - | 0.04 | 0.22 | | | | |
| 2 - Y - | 0.33 | -0.35 | | | | |
| 3 - X - | -6.64 | -1.23 | | | | |
| 3 - Y - | -0.07 | -0.07 | | | | |
| 4 - X - | -6.64 | -1.23 | | | | |
| 4 - Y - | 0.18 | 0.18 | | | | |
| 5 - X - | -6.64 | -5.28 | -3.92 | -2.57 | -1.23 | |
| 5 - Y - | 0.38 | 0.41 | 0.45 | 0.41 | 0.38 | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -22.000 | -13.910 | -13.316 | -12.237 | -11.552 |

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 6 - 10 | -11.000 | -10.912 | -10.646 | -7.839 | -7.563 |
| 11 - 15 | -7.487 | -7.377 | -7.265 | -7.152 | -7.050 |
| 16 - 20 | -7.027 | -6.924 | -6.637 | -6.635 | -5.689 |
| 21 - 25 | -5.275 | -4.541 | -4.461 | -4.232 | -3.924 |
| 26 - 30 | -3.710 | -2.573 | -2.494 | -2.096 | -1.966 |
| 31 - 35 | -1.393 | -1.227 | -0.924 | -0.767 | -0.191 |
| 36 - 40 | 0.000 | 0.045 | 0.220 | 0.657 | 5.000 |

# 3 Results per Vertical

## 3.1 Results for Vertical 19 (X = -6.63 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.886 | 16.206 | -0.886 | 7.170 | 0.299 |
| -0.986 | 18.268 | -0.964 | 7.463 | 0.293 |
| -1.086 | 19.411 | -1.040 | 7.272 | 0.288 |
| -1.186 | 20.594 | -1.114 | 7.212 | 0.284 |
| -1.286 | 21.854 | -1.188 | 7.191 | 0.280 |
| -1.386 | 23.153 | -1.261 | 7.185 | 0.277 |
| -1.486 | 24.464 | -1.332 | 7.186 | 0.273 |
| -1.586 | 25.307 | -1.402 | 6.721 | 0.271 |
| -1.643 | 25.494 | -1.442 | 6.164 | 0.269 |
| -1.686 | 25.634 | -1.472 | 5.743 | 0.268 |
| -1.769 | 25.903 | -1.529 | 4.930 | 0.267 |
| -1.786 | 25.957 | -1.524 | 4.930 | 0.267 |
| -1.886 | 26.277 | -1.493 | 4.929 | 0.265 |
| -2.400 | 27.854 | -1.335 | 4.874 | 0.260 |
| -2.400 | 27.854 | -1.335 | 4.874 | 0.260 |
| -3.250 | 29.558 | -1.225 | 4.619 | 0.238 |
| -4.100 | 31.230 | -1.133 | 4.252 | 0.222 |
| -4.100 | 31.230 | -1.133 | 4.252 | 0.222 |
| -4.800 | 30.855 | -1.103 | 3.921 | 0.200 |
| -5.500 | 30.615 | -1.091 | 3.589 | 0.180 |
| -5.500 | 30.615 | -1.091 | 3.589 | 0.180 |
| -5.900 | 31.738 | -1.092 | 3.405 | 0.175 |
| -6.300 | 32.914 | -1.098 | 3.227 | 0.169 |
| -6.300 | 32.914 | -1.098 | 3.227 | 0.169 |
| -6.650 | 32.911 | -1.105 | 3.076 | 0.160 |
| -7.000 | 32.957 | -1.117 | 2.931 | 0.151 |
| -7.000 | 32.957 | -1.117 | 2.931 | 0.151 |
| -8.000 | 38.258 | -1.206 | 2.545 | 0.138 |
| -9.000 | 44.084 | -1.343 | 2.201 | 0.123 |
| -9.000 | 44.084 | -1.343 | 2.201 | 0.123 |
| -9.250 | 44.318 | -1.369 | 2.121 | 0.114 |
| -9.500 | 44.587 | -1.398 | 2.044 | 0.104 |
| -9.500 | 44.587 | -1.398 | 2.044 | 0.104 |
| -10.250 | 48.680 | -1.404 | 1.825 | 0.098 |
| -11.000 | 52.822 | -1.412 | 1.624 | 0.093 |
| -11.000 | 52.822 | -1.412 | 1.624 | 0.093 |
| -11.250 | 54.384 | -1.432 | 1.561 | 0.089 |
| -11.500 | 55.962 | -1.453 | 1.499 | 0.085 |
| -11.500 | 55.962 | -1.453 | 1.499 | 0.085 |
| -12.300 | 60.466 | -1.463 | 1.314 | 0.078 |
| -13.300 | 66.168 | -1.478 | 1.104 | 0.070 |
| -14.100 | 70.785 | -1.492 | 0.951 | 0.064 |
| -14.900 | 75.448 | -1.508 | 0.810 | 0.057 |
| -15.900 | 81.340 | -1.530 | 0.649 | 0.048 |
| -16.700 | 86.102 | -1.549 | 0.531 | 0.041 |
| -16.700 | 86.102 | -1.549 | 0.531 | 0.041 |
| -17.050 | 88.781 | -1.618 | 0.482 | 0.034 |
| -17.400 | 91.502 | -1.690 | 0.435 | 0.027 |
| -17.400 | 91.502 | -1.690 | 0.435 | 0.027 |
| -18.000 | 95.132 | -1.708 | 0.357 | 0.021 |
| -18.600 | 98.784 | -1.727 | 0.284 | 0.014 |
| -19.200 | 102.458 | -1.748 | 0.214 | 0.007 |
| -19.800 | 106.153 | -1.769 | 0.148 | 0.000 |

### 3.2 Results for Vertical 26 (X = -3.71 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.767 | 23.588 | -0.767 | 5.606 | 0.260 |
| -0.867 | 25.038 | -0.842 | 5.543 | 0.257 |
| -0.967 | 26.286 | -0.916 | 5.531 | 0.254 |
| -1.067 | 26.586 | -0.988 | 4.524 | 0.252 |
| -1.167 | 26.879 | -1.061 | 3.491 | 0.250 |
| -1.179 | 26.913 | -1.069 | 3.369 | 0.249 |
| -1.267 | 27.167 | -1.045 | 3.321 | 0.248 |
| -1.367 | 27.453 | -1.017 | 3.269 | 0.247 |
| -1.467 | 27.737 | -0.990 | 3.219 | 0.245 |
| -1.567 | 28.019 | -0.962 | 3.171 | 0.244 |
| -1.583 | 28.065 | -0.957 | 3.163 | 0.244 |
| -1.667 | 28.297 | -0.934 | 3.125 | 0.243 |
| -1.767 | 28.569 | -0.906 | 3.080 | 0.242 |
| -2.400 | 30.135 | -0.731 | 2.844 | 0.239 |
| -2.400 | 30.135 | -0.731 | 2.844 | 0.239 |
| -3.250 | 31.037 | -0.634 | 2.683 | 0.224 |
| -4.100 | 31.849 | -0.556 | 2.624 | 0.211 |
| -4.100 | 31.849 | -0.556 | 2.624 | 0.211 |
| -4.800 | 30.783 | -0.532 | 2.583 | 0.193 |
| -5.500 | 29.947 | -0.525 | 2.524 | 0.176 |
| -5.500 | 29.947 | -0.525 | 2.524 | 0.176 |
| -5.900 | 30.785 | -0.528 | 2.478 | 0.172 |
| -6.300 | 31.706 | -0.537 | 2.426 | 0.167 |
| -6.300 | 31.706 | -0.537 | 2.426 | 0.167 |
| -6.650 | 31.494 | -0.545 | 2.373 | 0.158 |
| -7.000 | 31.350 | -0.557 | 2.317 | 0.150 |
| -7.000 | 31.350 | -0.557 | 2.317 | 0.150 |
| -8.000 | 36.183 | -0.643 | 2.136 | 0.138 |
| -9.000 | 41.622 | -0.773 | 1.940 | 0.124 |
| -9.000 | 41.622 | -0.773 | 1.940 | 0.124 |
| -9.250 | 41.777 | -0.797 | 1.889 | 0.114 |
| -9.500 | 41.968 | -0.824 | 1.839 | 0.104 |
| -9.500 | 41.968 | -0.824 | 1.839 | 0.104 |
| -10.250 | 45.901 | -0.830 | 1.689 | 0.099 |
| -11.000 | 49.913 | -0.837 | 1.543 | 0.094 |
| -11.000 | 49.913 | -0.837 | 1.543 | 0.094 |
| -11.250 | 51.428 | -0.856 | 1.495 | 0.090 |
| -11.500 | 52.960 | -0.876 | 1.447 | 0.086 |
| -11.500 | 52.960 | -0.876 | 1.447 | 0.086 |
| -12.300 | 57.365 | -0.886 | 1.300 | 0.079 |
| -13.300 | 62.967 | -0.900 | 1.126 | 0.071 |
| -14.100 | 67.518 | -0.913 | 0.995 | 0.064 |
| -14.900 | 72.125 | -0.928 | 0.872 | 0.057 |
| -15.900 | 77.958 | -0.949 | 0.728 | 0.048 |
| -16.700 | 82.679 | -0.968 | 0.621 | 0.041 |
| -16.700 | 82.679 | -0.968 | 0.621 | 0.041 |
| -17.050 | 85.317 | -1.034 | 0.576 | 0.034 |
| -17.400 | 87.997 | -1.103 | 0.532 | 0.028 |
| -17.400 | 87.997 | -1.103 | 0.532 | 0.028 |
| -18.000 | 91.601 | -1.120 | 0.460 | 0.021 |
| -18.600 | 95.230 | -1.138 | 0.392 | 0.014 |
| -19.200 | 98.882 | -1.158 | 0.326 | 0.007 |
| -19.800 | 102.557 | -1.179 | 0.264 | 0.000 |

### 3.3 Results for Vertical 32 (X = -1.23 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.826 | 27.431 | -0.678 | 8.515 | 0.287 |
| -0.926 | 27.358 | -0.642 | 7.988 | 0.283 |
| -1.026 | 27.293 | -0.607 | 7.501 | 0.279 |
| -1.126 | 27.250 | -0.572 | 7.108 | 0.276 |
| -1.226 | 27.256 | -0.538 | 6.782 | 0.273 |
| -1.326 | 27.309 | -0.504 | 6.506 | 0.271 |
| -1.426 | 27.400 | -0.471 | 6.271 | 0.268 |
| -1.526 | 27.520 | -0.437 | 6.069 | 0.266 |
| -1.613 | 27.644 | -0.409 | 5.914 | 0.265 |
| -1.626 | 27.664 | -0.404 | 5.893 | 0.265 |
| -1.726 | 27.827 | -0.371 | 5.738 | 0.263 |
| -1.826 | 28.004 | -0.339 | 5.600 | 0.261 |
| -2.400 | 29.201 | -0.154 | 5.021 | 0.256 |
| -2.400 | 29.201 | -0.154 | 5.021 | 0.256 |
| -3.250 | 30.628 | -0.041 | 4.491 | 0.238 |
| -4.100 | 32.332 | 0.052 | 4.145 | 0.224 |
| -4.100 | 32.332 | 0.052 | 4.145 | 0.224 |
| -4.800 | 32.099 | 0.082 | 3.940 | 0.206 |
| -5.500 | 32.052 | 0.094 | 3.782 | 0.188 |
| -5.500 | 32.052 | 0.094 | 3.782 | 0.188 |
| -5.900 | 33.296 | 0.093 | 3.706 | 0.184 |
| -6.300 | 34.599 | 0.086 | 3.639 | 0.178 |
| -6.300 | 34.599 | 0.086 | 3.639 | 0.178 |
| -6.650 | 34.705 | 0.078 | 3.585 | 0.170 |
| -7.000 | 34.863 | 0.066 | 3.535 | 0.161 |
| -7.000 | 34.863 | 0.066 | 3.535 | 0.161 |
| -8.000 | 40.516 | -0.032 | 3.405 | 0.149 |
| -9.000 | 46.717 | -0.183 | 3.286 | 0.134 |
| -9.000 | 46.717 | -0.183 | 3.286 | 0.134 |
| -9.250 | 47.033 | -0.212 | 3.257 | 0.124 |
| -9.500 | 47.388 | -0.244 | 3.228 | 0.113 |
| -9.500 | 47.388 | -0.244 | 3.228 | 0.113 |
| -10.250 | 51.628 | -0.251 | 3.143 | 0.108 |
| -11.000 | 55.900 | -0.260 | 3.058 | 0.102 |
| -11.000 | 55.900 | -0.260 | 3.058 | 0.102 |
| -11.250 | 57.528 | -0.283 | 3.030 | 0.097 |
| -11.500 | 59.172 | -0.307 | 3.003 | 0.093 |
| -11.500 | 59.172 | -0.307 | 3.003 | 0.093 |
| -12.300 | 63.792 | -0.319 | 2.915 | 0.086 |
| -13.300 | 69.622 | -0.337 | 2.807 | 0.077 |
| -14.100 | 74.331 | -0.353 | 2.723 | 0.069 |
| -14.900 | 79.079 | -0.371 | 2.641 | 0.062 |
| -15.900 | 85.071 | -0.396 | 2.542 | 0.052 |
| -16.700 | 89.909 | -0.419 | 2.466 | 0.044 |
| -16.700 | 89.909 | -0.419 | 2.466 | 0.044 |
| -17.050 | 92.721 | -0.500 | 2.434 | 0.037 |
| -17.400 | 95.582 | -0.585 | 2.402 | 0.030 |
| -17.400 | 95.582 | -0.585 | 2.402 | 0.030 |
| -18.000 | 99.267 | -0.606 | 2.349 | 0.023 |
| -18.600 | 102.974 | -0.628 | 2.297 | 0.015 |
| -19.200 | 106.703 | -0.652 | 2.247 | 0.008 |
| -19.800 | 110.454 | -0.678 | 2.199 | 0.000 |

### 3.4 Results for Vertical 36 (X = 0.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.193 | 7.847 | -0.193 | 7.846 | 0.307 |
| -0.293 | 7.219 | -0.284 | 5.706 | 0.285 |
| -0.393 | 7.340 | -0.375 | 4.317 | 0.273 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.430 | 7.486 | -0.408 | 3.905 | 0.270 |
| -0.493 | 7.616 | -0.402 | 3.704 | 0.265 |
| -0.593 | 7.733 | -0.393 | 3.297 | 0.258 |
| -0.693 | 7.892 | -0.383 | 2.932 | 0.253 |
| -0.793 | 8.135 | -0.373 | 2.651 | 0.249 |
| -0.893 | 8.456 | -0.363 | 2.452 | 0.245 |
| -0.993 | 8.844 | -0.353 | 2.321 | 0.242 |
| -1.093 | 9.286 | -0.342 | 2.243 | 0.239 |
| -1.193 | 9.772 | -0.331 | 2.201 | 0.237 |
| -1.296 | 10.311 | -0.319 | 2.182 | 0.235 |
| -1.800 | 13.252 | -0.252 | 2.118 | 0.228 |
| -2.400 | 16.910 | -0.155 | 1.854 | 0.225 |
| -2.400 | 16.910 | -0.155 | 1.854 | 0.225 |
| -3.250 | 20.481 | -0.086 | 1.422 | 0.210 |
| -4.100 | 23.703 | -0.019 | 1.112 | 0.198 |
| -4.100 | 23.703 | -0.019 | 1.112 | 0.198 |
| -4.800 | 24.315 | 0.006 | 0.939 | 0.181 |
| -5.500 | 24.886 | 0.020 | 0.816 | 0.166 |
| -5.500 | 24.886 | 0.020 | 0.816 | 0.166 |
| -5.900 | 26.375 | 0.027 | 0.760 | 0.162 |
| -6.300 | 27.865 | 0.030 | 0.713 | 0.157 |
| -6.300 | 27.865 | 0.030 | 0.713 | 0.157 |
| -6.650 | 28.133 | 0.028 | 0.677 | 0.149 |
| -7.000 | 28.417 | 0.023 | 0.644 | 0.141 |
| -7.000 | 28.417 | 0.023 | 0.644 | 0.141 |
| -8.000 | 34.068 | -0.023 | 0.565 | 0.130 |
| -9.000 | 39.980 | -0.105 | 0.495 | 0.117 |
| -9.000 | 39.980 | -0.105 | 0.495 | 0.117 |
| -9.250 | 40.259 | -0.121 | 0.478 | 0.108 |
| -9.500 | 40.562 | -0.140 | 0.462 | 0.099 |
| -9.500 | 40.562 | -0.140 | 0.462 | 0.099 |
| -10.250 | 44.987 | -0.145 | 0.412 | 0.094 |
| -11.000 | 49.407 | -0.150 | 0.361 | 0.090 |
| -11.000 | 49.407 | -0.150 | 0.361 | 0.090 |
| -11.250 | 51.002 | -0.164 | 0.344 | 0.086 |
| -11.500 | 52.607 | -0.180 | 0.327 | 0.082 |
| -11.500 | 52.607 | -0.180 | 0.327 | 0.082 |
| -12.300 | 57.329 | -0.187 | 0.271 | 0.076 |
| -13.300 | 63.250 | -0.198 | 0.200 | 0.068 |
| -14.100 | 68.004 | -0.209 | 0.142 | 0.062 |
| -14.900 | 72.778 | -0.221 | 0.084 | 0.055 |
| -15.900 | 78.776 | -0.238 | 0.012 | 0.047 |
| -16.700 | 83.601 | -0.253 | -0.045 | 0.039 |
| -16.700 | 83.602 | -0.253 | -0.045 | 0.039 |
| -17.050 | 86.184 | -0.308 | -0.069 | 0.033 |
| -17.400 | 88.802 | -0.366 | -0.094 | 0.027 |
| -17.400 | 88.802 | -0.366 | -0.094 | 0.027 |
| -18.000 | 92.457 | -0.380 | -0.135 | 0.020 |
| -18.600 | 96.128 | -0.396 | -0.176 | 0.013 |
| -19.200 | 99.813 | -0.412 | -0.216 | 0.007 |
| -19.800 | 103.514 | -0.430 | -0.255 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -22.00 | 0.00 | -1.81 | 0.195 |
| 2 | -13.91 | 0.00 | -2.36 | 0.213 |
| 3 | -13.32 | 0.00 | -2.40 | 0.219 |
| 4 | -12.24 | 0.00 | -2.48 | 0.256 |
| 5 | -11.55 | 0.00 | -3.52 | 0.564 |
| 6 | -11.00 | 0.00 | -2.55 | 0.407 |
| 7 | -10.91 | 0.00 | -2.40 | 0.324 |
| 8 | -10.65 | 0.00 | -1.93 | 0.308 |
| 9 | -7.84 | 0.00 | -0.56 | 0.380 |
| 10 | -7.56 | 0.00 | -0.41 | 0.378 |
| 11 | -7.49 | 0.00 | -0.37 | 0.375 |
| 12 | -7.38 | 0.00 | -0.32 | 0.372 |
| 13 | -7.26 | 0.00 | -0.26 | 0.368 |
| 14 | -7.15 | 0.00 | -0.20 | 0.363 |
| 15 | -7.05 | 0.00 | -0.14 | 0.359 |
| 16 | -7.03 | 0.00 | -0.14 | 0.358 |
| 17 | -6.92 | 0.00 | -0.14 | 0.357 |
| 18 | -6.64 | 0.00 | -0.14 | 0.325 |
| 19 | -6.63 | 0.00 | -0.89 | 0.299 |
| 20 | -5.69 | 0.00 | -0.85 | 0.270 |
| 21 | -5.28 | 0.00 | -0.83 | 0.267 |
| 22 | -4.54 | 0.00 | -0.80 | 0.263 |
| 23 | -4.46 | 0.00 | -0.80 | 0.263 |
| 24 | -4.23 | 0.00 | -0.79 | 0.262 |
| 25 | -3.92 | 0.00 | -0.78 | 0.261 |
| 26 | -3.71 | 0.00 | -0.77 | 0.260 |
| 27 | -2.57 | 0.00 | -0.79 | 0.259 |
| 28 | -2.49 | 0.00 | -0.80 | 0.261 |
| 29 | -2.10 | 0.00 | -0.81 | 0.276 |
| 30 | -1.97 | 0.00 | -0.81 | 0.283 |
| 31 | -1.39 | 0.00 | -0.82 | 0.301 |
| 32 | -1.23 | 0.00 | -0.83 | 0.287 |
| 33 | -0.92 | 0.00 | -0.05 | 0.334 |
| 34 | -0.77 | 0.00 | -0.03 | 0.320 |
| 35 | -0.19 | 0.00 | -0.05 | 0.310 |
| 36 | 0.00 | 0.00 | -0.19 | 0.307 |
| 37 | 0.04 | 0.00 | -0.23 | 0.310 |
| 38 | 0.22 | 0.00 | -0.35 | 0.334 |
| 39 | 0.66 | 0.00 | -1.99 | 0.433 |
| 40 | 5.00 | 0.00 | -2.40 | 0.318 |

## 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 100 | -0.005 | -2.414 | 0.200 |
| | 4500 | 0.116 | 59.282 | 0.079 |
| 2 | 100 | -0.001 | -0.317 | 0.214 |
| | 4500 | 0.141 | 66.204 | 0.072 |
| 3 | 100 | 0.001 | 0.238 | 0.219 |
| | 4500 | 0.148 | 67.443 | 0.071 |
| 4 | 100 | 0.005 | 1.981 | 0.251 |
| | 4500 | 0.167 | 65.450 | 0.088 |
| 5 | 100 | 0.051 | 8.964 | 0.514 |
| | 4500 | 0.407 | 72.133 | 0.157 |
| 6 | 100 | 0.029 | 7.158 | 0.378 |
| | 4500 | 0.265 | 65.200 | 0.142 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 7 | 100 | 0.025 | 7.634 | 0.299 |
| | 4500 | 0.228 | 70.524 | 0.095 |
| 8 | 100 | 0.013 | 4.115 | 0.296 |
| | 4500 | 0.205 | 66.486 | 0.103 |
| 9 | 100 | 0.047 | 12.378 | 0.333 |
| | 4500 | 0.257 | 67.614 | 0.123 |
| 10 | 100 | 0.047 | 12.476 | 0.331 |
| | 4500 | 0.256 | 67.565 | 0.123 |
| 11 | 100 | 0.046 | 12.188 | 0.330 |
| | 4500 | 0.253 | 67.376 | 0.122 |
| 12 | 100 | 0.045 | 11.998 | 0.327 |
| | 4500 | 0.250 | 67.201 | 0.122 |
| 13 | 100 | 0.043 | 11.735 | 0.325 |
| | 4500 | 0.246 | 66.953 | 0.122 |
| 14 | 100 | 0.041 | 11.409 | 0.321 |
| | 4500 | 0.242 | 66.679 | 0.121 |
| 15 | 100 | 0.040 | 11.179 | 0.319 |
| | 4500 | 0.239 | 66.477 | 0.120 |
| 16 | 100 | 0.040 | 11.149 | 0.318 |
| | 4500 | 0.238 | 66.446 | 0.120 |
| 17 | 100 | 0.040 | 11.336 | 0.316 |
| | 4500 | 0.237 | 66.495 | 0.120 |
| 18 | 100 | 0.027 | 8.183 | 0.298 |
| | 4500 | 0.208 | 64.160 | 0.116 |
| 19 | 100 | 0.006 | 2.045 | 0.293 |
| | 4500 | 0.182 | 60.688 | 0.118 |
| 20 | 100 | 0.000 | 0.053 | 0.269 |
| | 4500 | 0.158 | 58.479 | 0.112 |
| 21 | 100 | 0.000 | -0.010 | 0.267 |
| | 4500 | 0.156 | 58.481 | 0.111 |
| 22 | 100 | 0.000 | -0.038 | 0.263 |
| | 4500 | 0.154 | 58.545 | 0.109 |
| 23 | 100 | 0.000 | -0.041 | 0.263 |
| | 4500 | 0.154 | 58.564 | 0.109 |
| 24 | 100 | 0.000 | -0.088 | 0.262 |
| | 4500 | 0.153 | 58.552 | 0.108 |
| 25 | 100 | 0.000 | -0.079 | 0.261 |
| | 4500 | 0.153 | 58.615 | 0.108 |
| 26 | 100 | 0.000 | -0.042 | 0.260 |
| | 4500 | 0.152 | 58.691 | 0.107 |
| 27 | 100 | 0.000 | -0.183 | 0.259 |
| | 4500 | 0.149 | 57.660 | 0.109 |
| 28 | 100 | -0.001 | -0.200 | 0.261 |
| | 4500 | 0.149 | 57.081 | 0.112 |
| 29 | 100 | -0.001 | -0.228 | 0.277 |
| | 4500 | 0.154 | 55.779 | 0.122 |
| 30 | 100 | -0.001 | -0.224 | 0.284 |
| | 4500 | 0.158 | 55.805 | 0.125 |
| 31 | 100 | 0.001 | 0.270 | 0.300 |
| | 4500 | 0.171 | 56.820 | 0.130 |
| 32 | 100 | 0.002 | 0.703 | 0.285 |
| | 4500 | 0.163 | 56.914 | 0.124 |
| 33 | 100 | 0.041 | 12.238 | 0.293 |
| | 4500 | 0.228 | 68.324 | 0.106 |
| 34 | 100 | 0.033 | 10.280 | 0.287 |
| | 4500 | 0.214 | 66.952 | 0.106 |
| 35 | 100 | 0.034 | 10.804 | 0.277 |
| | 4500 | 0.207 | 66.668 | 0.103 |
| 36 | 100 | 0.034 | 10.927 | 0.274 |
| | 4500 | 0.207 | 67.191 | 0.101 |
| 37 | 100 | 0.034 | 10.808 | 0.277 |
| | 4500 | 0.206 | 66.437 | 0.104 |
| 38 | 100 | 0.027 | 8.141 | 0.307 |
| | 4500 | 0.207 | 61.830 | 0.128 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 39 | 100 | 0.027 | 6.263 | 0.406 |
| | 4500 | 0.282 | 65.221 | 0.151 |
| 40 | 100 | 0.003 | 1.004 | 0.315 |
| | 4500 | 0.194 | 61.141 | 0.124 |

## 5 Warnings and errors

List of non-fatal warnings and errors generated during calculation.

1 Non-uniform load [2]: Co-ordinate (4) lies below surface

2 Non-uniform load [2]: Co-ordinate (10) lies below surface

## End of Report

# Report for D-Settlement 21.2

Settlement Calculations
Developed by Deltares




| | |
|---|---|
| Company: | Waalpartners bv |
| Date of report: | 11/25/2022 |
| Time of report: | 10:38:05 AM |
| Report with version: | 21.2.1.34213 |
| Date of calculation: | 11/25/2022 |
| Time of calculation: | 10:36:51 AM |
| Calculated with version: | 21.2.1.34213 |
| File name: | 14.43 bkl |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 13 - X - | -22.000 | -14.607 | -14.272 | -13.661 | -12.686 |
| 13 - Y - | -1.125 | -1.548 | -2.200 | -3.387 | -2.200 |
| 13 - X - | -12.430 | -8.694 | -7.835 | -6.640 | -6.640 |
| 13 - Y - | -1.888 | -0.237 | 0.134 | 0.094 | -0.316 |
| 13 - X - | -3.661 | -0.924 | -0.924 | 0.568 | 0.734 |
| 13 - Y - | -0.411 | -0.546 | -0.136 | -0.133 | -0.184 |
| 13 - X - | 1.013 | 1.045 | 1.087 | 2.068 | 5.000 |
| 13 - Y - | -1.937 | -2.200 | -2.554 | -3.612 | -3.559 |
| 12 - X - | -22.000 | -14.272 | -13.661 | -12.686 | -12.430 |
| 12 - Y - | -2.200 | -2.200 | -3.387 | -2.200 | -1.888 |
| 12 - X - | -8.694 | -7.835 | -6.640 | -6.640 | -3.661 |
| 12 - Y - | -0.237 | 0.134 | 0.094 | -0.316 | -0.411 |
| 12 - X - | -0.924 | -0.924 | 0.568 | 0.734 | 1.013 |
| 12 - Y - | -0.546 | -0.136 | -0.133 | -0.184 | -1.937 |
| 12 - X - | 1.045 | 1.087 | 2.068 | 5.000 | |
| 12 - Y - | -2.200 | -2.554 | -3.612 | -3.559 | |
| 11 - X - | -22.000 | -14.272 | -13.661 | -12.686 | 1.045 |
| 11 - Y - | -2.200 | -2.200 | -3.387 | -2.200 | -2.200 |
| 11 - X - | 1.087 | 2.068 | 5.000 | | |
| 11 - Y - | -2.554 | -3.612 | -3.559 | | |
| 10 - X - | -22.000 | 5.000 | | | |
| 10 - Y - | -4.900 | -4.900 | | | |
| 9 - X - | -22.000 | 5.000 | | | |
| 9 - Y - | -5.800 | -5.800 | | | |
| 8 - X - | -22.000 | 5.000 | | | |
| 8 - Y - | -8.500 | -8.500 | | | |
| 7 - X - | -22.000 | 5.000 | | | |
| 7 - Y - | -9.000 | -9.000 | | | |
| 6 - X - | -22.000 | 5.000 | | | |
| 6 - Y - | -10.800 | -10.800 | | | |
| 5 - X - | -22.000 | 5.000 | | | |
| 5 - Y - | -11.900 | -11.900 | | | |
| 4 - X - | -22.000 | 5.000 | | | |
| 4 - Y - | -14.000 | -14.000 | | | |
| 3 - X - | -22.000 | 5.000 | | | |
| 3 - Y - | -16.000 | -16.000 | | | |
| 2 - X - | -22.000 | 5.000 | | | |
| 2 - Y - | -17.300 | -17.300 | | | |
| 1 - X - | -22.000 | 5.000 | | | |
| 1 - Y - | -18.200 | -18.200 | | | |
| 0 - X - | -22.000 | 5.000 | | | |
| 0 - Y - | -19.500 | -19.500 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -22.000 | -11.000 | 0.000 | 5.000 | |
| 1 - Y - | -2.650 | -2.650 | -0.430 | -0.430 | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | |
| - Loads: | None |

| | |
|---|---|
| End of consolidation: | 10000.00 [days] |
| No maintain profile | |
| Pc (initial): | Variable parallel to the initial effective stress |
| Pc (per step): | Automatic increased to the final effective stresses |
| Creep rate reference time: | 1.000 [days] |
| No imaginary surface | |
| With submerging | |
| (only for non uniform loads) | |
| - Iteration stop criterium : | 0.10 [m] |
| Load column width | |
| - Non-Uniform Loads : | 1.00 [m] |
| - Trapeziform Loads : | 1.00 [m] |

## 2.4 Soil Profiles

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 13 | Dijksmateriaal | 1 | 1 |
| 12 | Dijksmateriaal | 1 | 1 |
| 11 | Klei Hum DK | 1 | 1 |
| 10 | Hollandveen | 1 | 1 |
| 9 | klei DK | 1 | 1 |
| 8 | Hollandveen | 1 | 1 |
| 7 | Klei CA | 1 | 1 |
| 6 | Klei hum CA | 1 | 1 |
| 5 | Klei CA | 1 | 1 |
| 4 | Klei zand CA | 1 | 1 |
| 3 | Klei CA | 1 | 1 |
| 2 | Klei zand CA | 1 | 1 |
| 1 | Klei CA | 1 | 1 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 13 | No | 16.00 | 16.00 |
| 12 | No | 16.00 | 16.00 |
| 11 | No | 13.50 | 13.50 |
| 10 | No | 10.50 | 10.50 |
| 9 | No | 15.10 | 15.10 |
| 8 | No | 10.50 | 10.50 |
| 7 | No | 15.90 | 15.90 |
| 6 | No | 15.90 | 15.90 |
| 5 | No | 15.90 | 15.90 |
| 4 | No | 17.00 | 17.00 |
| 3 | No | 15.90 | 15.90 |
| 2 | No | 17.00 | 17.00 |
| 1 | No | 15.90 | 15.90 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|---|---|
| 13 | Vert. cons. | 1.00E-08 | - | - | - |
| 12 | Vert. cons. | 1.00E-08 | - | - | - |
| 11 | Vert. cons. | 2.07E-08 | - | - | - |
| 10 | Vert. cons. | 2.37E-08 | - | - | - |
| 9 | Vert. cons. | 2.54E-08 | - | - | - |
| 8 | Vert. cons. | 2.37E-08 | - | - | - |
| 7 | Vert. cons. | 6.02E-07 | - | - | - |
| 6 | Vert. cons. | 9.27E-08 | - | - | - |
| 5 | Vert. cons. | 6.02E-07 | - | - | - |
| 4 | Vert. cons. | 1.00E-07 | - | - | - |
| 3 | Vert. cons. | 6.02E-07 | - | - | - |
| 2 | Vert. cons. | 1.00E-07 | - | - | - |
| 1 | Vert. cons. | 6.02E-07 | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 13 | - | 1.50 | - |
| 12 | - | 1.50 | - |
| 11 | - | 1.50 | - |
| 10 | - | 1.80 | - |
| 9 | - | 1.50 | - |
| 8 | - | 1.80 | - |
| 7 | - | 1.50 | - |
| 6 | - | 1.50 | - |
| 5 | - | 1.50 | - |
| 4 | - | 1.39 | - |
| 3 | - | 1.50 | - |
| 2 | - | 1.39 | - |
| 1 | - | 1.50 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 13 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 12 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 11 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 10 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 9 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 8 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 7 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 6 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 5 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 4 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 3 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 2 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 1 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time [days] | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 1 | -1 | 19.00 | 19.00 |
| 2 | -1 | 24.00 | 24.00 |
| 3 | 2 | 16.00 | 16.00 |
| 4 | 3 | 18.00 | 20.00 |
| 5 | 4 | 19.00 | 19.00 |
| 6 | 5 | 25.00 | 25.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -6.64 | -3.66 | -0.92 | | | |
| 1 - Y - | -0.24 | -0.33 | -0.47 | | | |
| 2 - X - | -6.64 | -5.61 | -4.36 | -3.66 | -2.63 | -1.88 |
| 2 - Y - | 0.09 | 0.06 | 0.02 | 0.00 | -0.05 | -0.08 |
| 2 - X - | -1.43 | -0.92 | | | | |
| 2 - Y - | -0.11 | -0.14 | | | | |
| 3 - X - | -7.53 | -6.81 | -6.64 | -6.64 | -6.29 | -3.66 |
| 3 - Y - | 0.12 | 0.37 | 0.38 | -0.32 | -0.33 | -0.41 |
| 3 - X - | -1.25 | -0.92 | -0.92 | -0.51 | 0.59 | 0.63 |
| 3 - Y - | -0.53 | -0.55 | 0.38 | 0.37 | 0.32 | 0.31 |
| 3 - X - | 0.73 | | | | | |
| 3 - Y - | -0.18 | | | | | |
| 4 - X - | -6.64 | -0.92 | | | | |
| 4 - Y - | -0.07 | -0.07 | | | | |
| 5 - X - | -6.64 | -0.92 | | | | |
| 5 - Y - | 0.18 | 0.18 | | | | |
| 6 - X - | -6.64 | -5.16 | -3.66 | -2.16 | -0.92 | |
| 6 - Y - | 0.38 | 0.41 | 0.45 | 0.41 | 0.38 | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -22.000 | -14.607 | -14.272 | -13.661 | -12.686 |
| 6 - 10 | -12.430 | -11.000 | -8.694 | -7.835 | -7.534 |
| 11 - 15 | -6.811 | -6.640 | -6.290 | -5.610 | -5.162 |
| 16 - 20 | -4.356 | -3.661 | -2.631 | -2.160 | -1.883 |
| 21 - 25 | -1.425 | -1.252 | -0.924 | -0.511 | 0.000 |
| 26 - 30 | 0.568 | 0.589 | 0.632 | 0.734 | 1.013 |
| 31 - 34 | 1.045 | 1.087 | 2.068 | 5.000 | |

# 3 Results per Vertical

## 3.1 Results for Vertical 12 (X = -6.64 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.316 | 17.406 | -0.316 | 6.187 | 0.199 |
| -0.416 | 18.352 | -0.396 | 5.693 | 0.195 |
| -0.516 | 19.336 | -0.475 | 5.305 | 0.191 |
| -0.616 | 20.415 | -0.554 | 5.012 | 0.188 |
| -0.716 | 21.566 | -0.631 | 4.790 | 0.185 |
| -0.816 | 22.764 | -0.708 | 4.618 | 0.183 |
| -0.916 | 23.990 | -0.783 | 4.481 | 0.181 |
| -1.016 | 25.232 | -0.858 | 4.370 | 0.179 |
| -1.116 | 26.484 | -0.932 | 4.278 | 0.177 |
| -1.216 | 27.741 | -1.005 | 4.201 | 0.176 |
| -1.258 | 28.269 | -1.035 | 4.172 | 0.176 |
| -1.316 | 29.000 | -1.077 | 4.135 | 0.175 |
| -1.770 | 33.295 | -1.393 | 2.520 | 0.172 |
| -2.200 | 34.475 | -1.253 | 2.417 | 0.171 |
| -2.200 | 34.475 | -1.253 | 2.417 | 0.171 |
| -2.850 | 35.888 | -1.164 | 2.335 | 0.160 |
| -3.550 | 37.540 | -1.080 | 2.285 | 0.150 |
| -4.200 | 39.174 | -1.013 | 2.247 | 0.142 |
| -4.900 | 41.041 | -0.956 | 2.203 | 0.134 |
| -4.900 | 41.041 | -0.956 | 2.203 | 0.134 |
| -5.350 | 41.093 | -0.941 | 2.169 | 0.124 |
| -5.800 | 41.216 | -0.935 | 2.131 | 0.115 |
| -5.800 | 41.216 | -0.935 | 2.131 | 0.115 |
| -6.450 | 44.472 | -0.936 | 2.069 | 0.109 |
| -7.150 | 48.118 | -0.954 | 1.993 | 0.103 |
| -7.800 | 51.665 | -0.988 | 1.915 | 0.096 |
| -8.500 | 55.689 | -1.045 | 1.827 | 0.088 |
| -8.500 | 55.689 | -1.045 | 1.827 | 0.088 |
| -8.750 | 55.938 | -1.062 | 1.794 | 0.080 |
| -9.000 | 56.223 | -1.082 | 1.761 | 0.072 |
| -9.000 | 56.223 | -1.082 | 1.761 | 0.072 |
| -9.900 | 61.452 | -1.088 | 1.642 | 0.069 |
| -10.800 | 66.705 | -1.095 | 1.522 | 0.066 |
| -10.800 | 66.705 | -1.095 | 1.522 | 0.066 |
| -11.350 | 70.247 | -1.133 | 1.449 | 0.059 |
| -11.900 | 73.851 | -1.176 | 1.378 | 0.052 |
| -11.900 | 73.851 | -1.176 | 1.378 | 0.052 |
| -12.450 | 77.103 | -1.183 | 1.308 | 0.049 |
| -12.950 | 80.070 | -1.189 | 1.246 | 0.046 |
| -13.500 | 83.346 | -1.197 | 1.180 | 0.043 |
| -14.000 | 86.336 | -1.205 | 1.121 | 0.039 |
| -14.000 | 86.336 | -1.205 | 1.121 | 0.039 |
| -15.000 | 94.663 | -1.347 | 1.009 | 0.036 |
| -16.000 | 103.203 | -1.508 | 0.904 | 0.032 |
| -16.000 | 103.203 | -1.508 | 0.904 | 0.032 |
| -16.650 | 107.162 | -1.522 | 0.839 | 0.026 |
| -17.300 | 111.142 | -1.538 | 0.777 | 0.020 |
| -17.300 | 111.142 | -1.538 | 0.777 | 0.020 |
| -17.750 | 115.208 | -1.632 | 0.735 | 0.018 |
| -18.200 | 119.327 | -1.731 | 0.695 | 0.015 |
| -18.200 | 119.327 | -1.731 | 0.695 | 0.015 |
| -18.850 | 123.352 | -1.750 | 0.639 | 0.008 |
| -19.500 | 127.397 | -1.770 | 0.586 | 0.000 |

### 3.2 Results for Vertical 17 (X = -3.66 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.411 | 17.222 | -0.411 | 7.988 | 0.236 |
| -0.511 | 18.799 | -0.488 | 7.954 | 0.230 |
| -0.611 | 20.136 | -0.563 | 7.928 | 0.224 |
| -0.711 | 21.457 | -0.637 | 7.897 | 0.220 |
| -0.811 | 22.758 | -0.710 | 7.863 | 0.215 |
| -0.911 | 24.042 | -0.782 | 7.827 | 0.212 |
| -1.011 | 25.158 | -0.852 | 7.639 | 0.208 |
| -1.111 | 25.429 | -0.922 | 6.617 | 0.206 |
| -1.169 | 25.582 | -0.962 | 6.026 | 0.204 |
| -1.211 | 25.693 | -0.949 | 6.008 | 0.203 |
| -1.306 | 25.939 | -0.920 | 5.969 | 0.201 |
| -1.311 | 25.953 | -0.918 | 5.966 | 0.201 |
| -1.411 | 26.210 | -0.888 | 5.924 | 0.199 |
| -2.200 | 28.131 | -0.652 | 5.579 | 0.190 |
| -2.200 | 28.131 | -0.652 | 5.579 | 0.190 |
| -2.850 | 28.990 | -0.570 | 5.283 | 0.174 |
| -3.550 | 29.900 | -0.496 | 4.946 | 0.160 |
| -4.200 | 30.824 | -0.440 | 4.617 | 0.148 |
| -4.900 | 31.976 | -0.393 | 4.258 | 0.138 |
| -4.900 | 31.976 | -0.393 | 4.258 | 0.138 |
| -5.350 | 31.579 | -0.383 | 4.030 | 0.127 |
| -5.800 | 31.286 | -0.379 | 3.807 | 0.116 |
| -5.800 | 31.286 | -0.379 | 3.807 | 0.116 |
| -6.450 | 34.021 | -0.386 | 3.499 | 0.110 |
| -7.150 | 37.182 | -0.407 | 3.188 | 0.103 |
| -7.800 | 40.335 | -0.441 | 2.921 | 0.096 |
| -8.500 | 43.982 | -0.497 | 2.656 | 0.088 |
| -8.500 | 43.982 | -0.497 | 2.656 | 0.088 |
| -8.750 | 44.106 | -0.513 | 2.567 | 0.080 |
| -9.000 | 44.267 | -0.532 | 2.481 | 0.072 |
| -9.000 | 44.267 | -0.532 | 2.481 | 0.072 |
| -9.900 | 49.162 | -0.537 | 2.192 | 0.069 |
| -10.800 | 54.148 | -0.543 | 1.935 | 0.065 |
| -10.800 | 54.148 | -0.543 | 1.935 | 0.065 |
| -11.350 | 57.525 | -0.577 | 1.792 | 0.059 |
| -11.900 | 60.977 | -0.617 | 1.659 | 0.051 |
| -11.900 | 60.977 | -0.617 | 1.659 | 0.051 |
| -12.450 | 64.123 | -0.623 | 1.535 | 0.048 |
| -12.950 | 67.004 | -0.629 | 1.429 | 0.046 |
| -13.500 | 70.196 | -0.636 | 1.319 | 0.043 |
| -14.000 | 73.117 | -0.643 | 1.225 | 0.040 |
| -14.000 | 73.117 | -0.643 | 1.225 | 0.040 |
| -15.000 | 81.229 | -0.774 | 1.053 | 0.037 |
| -16.000 | 89.571 | -0.923 | 0.899 | 0.033 |
| -16.000 | 89.571 | -0.923 | 0.899 | 0.033 |
| -16.650 | 93.475 | -0.937 | 0.808 | 0.026 |
| -17.300 | 97.403 | -0.952 | 0.722 | 0.020 |
| -17.300 | 97.403 | -0.952 | 0.722 | 0.020 |
| -17.750 | 101.384 | -1.039 | 0.666 | 0.018 |
| -18.200 | 105.420 | -1.132 | 0.612 | 0.015 |
| -18.200 | 105.420 | -1.132 | 0.612 | 0.015 |
| -18.850 | 109.404 | -1.150 | 0.538 | 0.008 |
| -19.500 | 113.410 | -1.169 | 0.469 | 0.000 |

### 3.3 Results for Vertical 23 (X = -0.92 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.546 | 20.114 | -0.546 | 8.814 | 0.242 |
| -0.616 | 20.411 | -0.597 | 8.157 | 0.238 |
| -0.646 | 20.520 | -0.589 | 8.154 | 0.236 |
| -0.746 | 20.829 | -0.560 | 8.083 | 0.231 |
| -0.846 | 21.065 | -0.532 | 7.948 | 0.226 |
| -0.946 | 21.259 | -0.504 | 7.782 | 0.221 |
| -1.046 | 21.436 | -0.476 | 7.605 | 0.217 |
| -1.146 | 21.610 | -0.448 | 7.429 | 0.213 |
| -1.246 | 21.790 | -0.421 | 7.259 | 0.210 |
| -1.346 | 21.976 | -0.393 | 7.096 | 0.206 |
| -1.373 | 22.027 | -0.386 | 7.053 | 0.206 |
| -1.446 | 22.169 | -0.366 | 6.940 | 0.204 |
| -1.546 | 22.370 | -0.338 | 6.790 | 0.201 |
| -2.200 | 23.823 | -0.162 | 5.937 | 0.190 |
| -2.200 | 23.823 | -0.162 | 5.937 | 0.190 |
| -2.850 | 24.760 | -0.089 | 5.246 | 0.171 |
| -3.550 | 25.976 | -0.020 | 4.630 | 0.156 |
| -4.200 | 27.275 | 0.033 | 4.150 | 0.145 |
| -4.900 | 28.837 | 0.078 | 3.704 | 0.135 |
| -4.900 | 28.837 | 0.078 | 3.704 | 0.135 |
| -5.350 | 28.686 | 0.090 | 3.450 | 0.124 |
| -5.800 | 28.616 | 0.094 | 3.216 | 0.113 |
| -5.800 | 28.616 | 0.094 | 3.216 | 0.113 |
| -6.450 | 31.611 | 0.092 | 2.908 | 0.107 |
| -7.150 | 34.992 | 0.078 | 2.611 | 0.101 |
| -7.800 | 38.294 | 0.051 | 2.362 | 0.094 |
| -8.500 | 42.049 | 0.004 | 2.119 | 0.086 |
| -8.500 | 42.049 | 0.004 | 2.119 | 0.086 |
| -8.750 | 42.214 | -0.010 | 2.038 | 0.078 |
| -9.000 | 42.410 | -0.026 | 1.959 | 0.071 |
| -9.000 | 42.410 | -0.026 | 1.959 | 0.071 |
| -9.900 | 47.479 | -0.031 | 1.697 | 0.067 |
| -10.800 | 52.600 | -0.036 | 1.465 | 0.064 |
| -10.800 | 52.600 | -0.036 | 1.465 | 0.064 |
| -11.350 | 56.016 | -0.067 | 1.335 | 0.057 |
| -11.900 | 59.495 | -0.103 | 1.213 | 0.050 |
| -11.900 | 59.495 | -0.103 | 1.213 | 0.050 |
| -12.450 | 62.690 | -0.108 | 1.099 | 0.047 |
| -12.950 | 65.609 | -0.114 | 1.002 | 0.045 |
| -13.500 | 68.837 | -0.121 | 0.901 | 0.042 |
| -14.000 | 71.786 | -0.127 | 0.815 | 0.039 |
| -14.000 | 71.786 | -0.127 | 0.815 | 0.039 |
| -15.000 | 79.860 | -0.248 | 0.655 | 0.036 |
| -16.000 | 88.142 | -0.387 | 0.511 | 0.032 |
| -16.000 | 88.142 | -0.387 | 0.511 | 0.032 |
| -16.650 | 92.061 | -0.400 | 0.426 | 0.026 |
| -17.300 | 96.001 | -0.413 | 0.345 | 0.020 |
| -17.300 | 96.001 | -0.413 | 0.345 | 0.020 |
| -17.750 | 99.939 | -0.495 | 0.292 | 0.017 |
| -18.200 | 103.927 | -0.582 | 0.241 | 0.015 |
| -18.200 | 103.927 | -0.582 | 0.241 | 0.015 |
| -18.850 | 107.915 | -0.599 | 0.172 | 0.008 |
| -19.500 | 111.924 | -0.616 | 0.106 | 0.000 |

### 3.4 Results for Vertical 25 (X = 0.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.134 | 7.692 | -0.134 | 7.691 | 0.295 |
| -0.234 | 8.981 | -0.223 | 7.493 | 0.272 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.334 | 9.470 | -0.310 | 6.512 | 0.258 |
| -0.430 | 9.879 | -0.392 | 5.519 | 0.249 |
| -0.434 | 9.895 | -0.391 | 5.515 | 0.249 |
| -0.534 | 10.271 | -0.377 | 5.415 | 0.241 |
| -0.634 | 10.653 | -0.362 | 5.321 | 0.234 |
| -0.734 | 11.075 | -0.347 | 5.264 | 0.228 |
| -0.834 | 11.537 | -0.331 | 5.234 | 0.223 |
| -0.934 | 12.024 | -0.315 | 5.214 | 0.218 |
| -1.034 | 12.524 | -0.298 | 5.186 | 0.214 |
| -1.134 | 13.028 | -0.281 | 5.144 | 0.210 |
| -1.167 | 13.194 | -0.275 | 5.126 | 0.208 |
| -1.700 | 15.821 | -0.176 | 4.686 | 0.194 |
| -2.200 | 18.130 | -0.074 | 4.230 | 0.188 |
| -2.200 | 18.130 | -0.074 | 4.230 | 0.188 |
| -2.850 | 20.076 | -0.013 | 3.742 | 0.171 |
| -3.550 | 22.087 | 0.048 | 3.334 | 0.157 |
| -4.200 | 23.929 | 0.099 | 3.026 | 0.146 |
| -4.900 | 25.925 | 0.145 | 2.740 | 0.136 |
| -4.900 | 25.925 | 0.145 | 2.740 | 0.136 |
| -5.350 | 25.997 | 0.158 | 2.573 | 0.125 |
| -5.800 | 26.111 | 0.165 | 2.418 | 0.114 |
| -5.800 | 26.111 | 0.165 | 2.418 | 0.114 |
| -6.450 | 29.286 | 0.171 | 2.208 | 0.109 |
| -7.150 | 32.792 | 0.167 | 1.999 | 0.102 |
| -7.800 | 36.156 | 0.151 | 1.818 | 0.095 |
| -8.500 | 39.925 | 0.119 | 1.637 | 0.086 |
| -8.500 | 39.925 | 0.119 | 1.637 | 0.086 |
| -8.750 | 40.107 | 0.109 | 1.575 | 0.079 |
| -9.000 | 40.315 | 0.096 | 1.515 | 0.071 |
| -9.000 | 40.315 | 0.096 | 1.515 | 0.071 |
| -9.900 | 45.518 | 0.093 | 1.310 | 0.068 |
| -10.800 | 50.743 | 0.088 | 1.122 | 0.065 |
| -10.800 | 50.743 | 0.088 | 1.122 | 0.065 |
| -11.350 | 54.171 | 0.062 | 1.015 | 0.058 |
| -11.900 | 57.650 | 0.031 | 0.914 | 0.051 |
| -11.900 | 57.650 | 0.031 | 0.914 | 0.051 |
| -12.450 | 60.882 | 0.026 | 0.818 | 0.048 |
| -12.950 | 63.830 | 0.021 | 0.735 | 0.045 |
| -13.500 | 67.084 | 0.015 | 0.648 | 0.042 |
| -14.000 | 70.054 | 0.009 | 0.573 | 0.039 |
| -14.000 | 70.054 | 0.009 | 0.573 | 0.039 |
| -15.000 | 78.045 | -0.098 | 0.433 | 0.036 |
| -16.000 | 86.222 | -0.222 | 0.305 | 0.032 |
| -16.000 | 86.222 | -0.222 | 0.305 | 0.032 |
| -16.650 | 90.149 | -0.234 | 0.228 | 0.026 |
| -17.300 | 94.095 | -0.246 | 0.155 | 0.019 |
| -17.300 | 94.095 | -0.246 | 0.155 | 0.019 |
| -17.750 | 97.968 | -0.320 | 0.107 | 0.017 |
| -18.200 | 101.887 | -0.399 | 0.060 | 0.015 |
| -18.200 | 101.887 | -0.399 | 0.060 | 0.015 |
| -18.850 | 105.874 | -0.414 | -0.004 | 0.007 |
| -19.500 | 109.880 | -0.430 | -0.065 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -22.00 | 0.00 | -1.13 | 0.160 |
| 2 | -14.61 | 0.00 | -1.55 | 0.170 |
| 3 | -14.27 | 0.00 | -2.20 | 0.171 |
| 4 | -13.66 | 0.00 | -3.39 | 0.239 |
| 5 | -12.69 | 0.00 | -2.20 | 0.177 |
| 6 | -12.43 | 0.00 | -1.89 | 0.179 |
| 7 | -11.00 | 0.00 | -1.26 | 0.178 |
| 8 | -8.69 | 0.00 | -0.24 | 0.174 |
| 9 | -7.83 | 0.00 | 0.13 | 0.178 |
| 10 | -7.53 | 0.00 | 0.12 | 0.199 |
| 11 | -6.81 | 0.00 | 0.10 | 0.241 |
| 12 | -6.64 | 0.00 | -0.32 | 0.199 |
| 13 | -6.29 | 0.00 | -0.33 | 0.207 |
| 14 | -5.61 | 0.00 | -0.35 | 0.215 |
| 15 | -5.16 | 0.00 | -0.36 | 0.220 |
| 16 | -4.36 | 0.00 | -0.39 | 0.229 |
| 17 | -3.66 | 0.00 | -0.41 | 0.236 |
| 18 | -2.63 | 0.00 | -0.46 | 0.241 |
| 19 | -2.16 | 0.00 | -0.49 | 0.244 |
| 20 | -1.88 | 0.00 | -0.50 | 0.245 |
| 21 | -1.43 | 0.00 | -0.52 | 0.249 |
| 22 | -1.25 | 0.00 | -0.53 | 0.257 |
| 23 | -0.92 | 0.00 | -0.55 | 0.242 |
| 24 | -0.51 | 0.00 | -0.14 | 0.309 |
| 25 | 0.00 | 0.00 | -0.13 | 0.295 |
| 26 | 0.57 | 0.00 | -0.13 | 0.269 |
| 27 | 0.59 | 0.00 | -0.14 | 0.267 |
| 28 | 0.63 | 0.00 | -0.15 | 0.262 |
| 29 | 0.73 | 0.00 | -0.18 | 0.245 |
| 30 | 1.01 | 0.00 | -1.94 | 0.415 |
| 31 | 1.04 | 0.00 | -2.20 | 0.453 |
| 32 | 1.09 | 0.00 | -2.55 | 0.443 |
| 33 | 2.07 | 0.00 | -3.61 | 0.403 |
| 34 | 5.00 | 0.00 | -3.56 | 0.290 |

## 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 100 | -0.005 | -3.052 | 0.165 |
| | 4500 | 0.086 | 53.540 | 0.075 |
| 2 | 100 | -0.004 | -2.337 | 0.174 |
| | 4500 | 0.096 | 56.220 | 0.075 |
| 3 | 100 | -0.002 | -1.048 | 0.173 |
| | 4500 | 0.106 | 61.796 | 0.065 |
| 4 | 100 | 0.003 | 1.357 | 0.235 |
| | 4500 | 0.148 | 62.065 | 0.091 |
| 5 | 100 | -0.001 | -0.726 | 0.179 |
| | 4500 | 0.110 | 62.168 | 0.067 |
| 6 | 100 | -0.003 | -1.565 | 0.182 |
| | 4500 | 0.106 | 59.176 | 0.073 |
| 7 | 100 | -0.004 | -2.213 | 0.182 |
| | 4500 | 0.098 | 55.283 | 0.080 |
| 8 | 100 | -0.004 | -2.504 | 0.178 |
| | 4500 | 0.091 | 52.426 | 0.083 |
| 9 | 100 | -0.004 | -2.228 | 0.182 |
| | 4500 | 0.093 | 52.194 | 0.085 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 10 | 100 | 0.005 | 2.710 | 0.193 |
| | 4500 | 0.111 | 56.120 | 0.087 |
| 11 | 100 | 0.026 | 10.958 | 0.214 |
| | 4500 | 0.151 | 62.602 | 0.090 |
| 12 | 100 | 0.001 | 0.557 | 0.198 |
| | 4500 | 0.110 | 55.484 | 0.089 |
| 13 | 100 | 0.001 | 0.643 | 0.206 |
| | 4500 | 0.117 | 56.183 | 0.091 |
| 14 | 100 | 0.003 | 1.305 | 0.212 |
| | 4500 | 0.122 | 56.773 | 0.093 |
| 15 | 100 | 0.004 | 1.703 | 0.217 |
| | 4500 | 0.126 | 57.223 | 0.094 |
| 16 | 100 | 0.005 | 2.222 | 0.224 |
| | 4500 | 0.133 | 57.886 | 0.097 |
| 17 | 100 | 0.006 | 2.591 | 0.230 |
| | 4500 | 0.138 | 58.368 | 0.098 |
| 18 | 100 | 0.006 | 2.662 | 0.235 |
| | 4500 | 0.142 | 58.770 | 0.100 |
| 19 | 100 | 0.007 | 2.749 | 0.237 |
| | 4500 | 0.144 | 58.997 | 0.100 |
| 20 | 100 | 0.007 | 2.718 | 0.238 |
| | 4500 | 0.145 | 59.152 | 0.100 |
| 21 | 100 | 0.007 | 2.683 | 0.243 |
| | 4500 | 0.149 | 59.639 | 0.101 |
| 22 | 100 | 0.007 | 2.714 | 0.250 |
| | 4500 | 0.152 | 59.148 | 0.105 |
| 23 | 100 | 0.008 | 3.349 | 0.234 |
| | 4500 | 0.145 | 60.012 | 0.097 |
| 24 | 100 | 0.043 | 14.055 | 0.265 |
| | 4500 | 0.210 | 67.920 | 0.099 |
| 25 | 100 | 0.038 | 12.767 | 0.257 |
| | 4500 | 0.198 | 67.193 | 0.097 |
| 26 | 100 | 0.032 | 11.966 | 0.237 |
| | 4500 | 0.176 | 65.441 | 0.093 |
| 27 | 100 | 0.031 | 11.753 | 0.236 |
| | 4500 | 0.174 | 65.298 | 0.093 |
| 28 | 100 | 0.029 | 10.981 | 0.233 |
| | 4500 | 0.170 | 64.801 | 0.092 |
| 29 | 100 | 0.018 | 7.387 | 0.227 |
| | 4500 | 0.154 | 62.841 | 0.091 |
| 30 | 100 | 0.035 | 8.362 | 0.380 |
| | 4500 | 0.280 | 67.629 | 0.134 |
| 31 | 100 | 0.059 | 13.011 | 0.394 |
| | 4500 | 0.320 | 70.595 | 0.133 |
| 32 | 100 | 0.054 | 12.144 | 0.389 |
| | 4500 | 0.312 | 70.395 | 0.131 |
| 33 | 100 | 0.041 | 10.274 | 0.362 |
| | 4500 | 0.285 | 70.854 | 0.117 |
| 34 | 100 | 0.016 | 5.492 | 0.275 |
| | 4500 | 0.192 | 66.028 | 0.099 |

## 5 Warnings and errors

List of non-fatal warnings and errors generated during calculation.

1 Non-uniform load [1]: Co-ordinate (1) lies below surface

2 Non-uniform load [1]: Co-ordinate (3) lies below surface

3 Non-uniform load [2]: Co-ordinate (1) lies below surface

4 Non-uniform load [3]: Co-ordinate (4) lies below surface

5 Non-uniform load [3]: Co-ordinate (8) lies below surface

6 Non-uniform load [4]: Co-ordinate (1) lies below surface

## End of Report

# Report for D-Settlement 21.2

Settlement Calculations
Developed by Deltares




| | |
|---|---|
| Company: | Waalpartners bv |
| Date of report: | 11/25/2022 |
| Time of report: | 10:47:32 AM |
| Report with version: | 21.2.1.34213 |
| Date of calculation: | 11/25/2022 |
| Time of calculation: | 10:46:41 AM |
| Calculated with version: | 21.2.1.34213 |
| File name: | 14.54 bkl |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 10 - X - | -22.000 | -13.784 | -13.693 | -13.610 | -13.063 |
| 10 - Y - | -1.178 | -1.284 | -2.200 | -3.044 | -3.036 |
| 10 - X - | -11.461 | -11.372 | -11.348 | -7.390 | -6.969 |
| 10 - Y - | -3.232 | -2.200 | -1.922 | -0.263 | -0.126 |
| 10 - X - | -6.338 | -6.338 | -3.610 | -0.898 | -0.898 |
| 10 - Y - | -0.123 | -0.633 | -0.457 | -0.538 | -0.028 |
| 10 - X - | -0.244 | 0.357 | 0.587 | 0.965 | 1.598 |
| 10 - Y - | -0.151 | -0.581 | -1.801 | -2.016 | -2.200 |
| 10 - X - | 5.000 | | | | |
| 10 - Y - | -3.189 | | | | |
| 9 - X - | -22.000 | -13.693 | -13.610 | -13.063 | -11.461 |
| 9 - Y - | -2.200 | -2.200 | -3.044 | -3.036 | -3.232 |
| 9 - X - | -11.372 | -11.348 | -7.390 | -6.969 | -6.338 |
| 9 - Y - | -2.200 | -1.922 | -0.263 | -0.126 | -0.123 |
| 9 - X - | -6.338 | -3.610 | -0.898 | -0.898 | -0.244 |
| 9 - Y - | -0.633 | -0.457 | -0.538 | -0.028 | -0.151 |
| 9 - X - | 0.357 | 0.587 | 0.965 | 1.598 | 5.000 |
| 9 - Y - | -0.581 | -1.801 | -2.016 | -2.200 | -3.189 |
| 8 - X - | -22.000 | -13.693 | -13.610 | -13.063 | -11.461 |
| 8 - Y - | -2.200 | -2.200 | -3.044 | -3.036 | -3.232 |
| 8 - X - | -11.372 | 1.598 | 5.000 | | |
| 8 - Y - | -2.200 | -2.200 | -3.189 | | |
| 7 - X - | -22.000 | 5.000 | | | |
| 7 - Y - | -5.000 | -5.000 | | | |
| 6 - X - | -22.000 | 5.000 | | | |
| 6 - Y - | -6.400 | -6.400 | | | |
| 5 - X - | -22.000 | 5.000 | | | |
| 5 - Y - | -6.900 | -6.900 | | | |
| 4 - X - | -22.000 | 5.000 | | | |
| 4 - Y - | -10.600 | -10.600 | | | |
| 3 - X - | -22.000 | 5.000 | | | |
| 3 - Y - | -11.400 | -11.400 | | | |
| 2 - X - | -22.000 | 5.000 | | | |
| 2 - Y - | -15.700 | -15.700 | | | |
| 1 - X - | -22.000 | 5.000 | | | |
| 1 - Y - | -18.000 | -18.000 | | | |
| 0 - X - | -22.000 | 5.000 | | | |
| 0 - Y - | -19.500 | -19.500 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -22.000 | -11.000 | 0.000 | 5.000 | |
| 1 - Y - | -2.650 | -2.650 | -0.430 | -0.430 | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | [redacted] |
| - Loads: | None |
| End of consolidation: | 10000.00 [days] |
| No maintain profile | |
| Pc (initial): | Variable parallel to the initial effective stress |
| Pc (per step): | Automatic increased to the final effective stresses |

Creep rate reference time: 1.000 [days]
No imaginary surface
With submerging
(only for non uniform loads)
- Iteration stop criterium : 0.10 [m]
Load column width
- Non-Uniform Loads : 1.00 [m]
- Trapeziform Loads : 1.00 [m]

## 2.4 Soil Profiles

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 10 | Dijksmateriaal | 1 | 1 |
| 9 | Dijksmateriaal | 1 | 1 |
| 8 | Klei Hum DK | 1 | 1 |
| 7 | Hollandveen | 1 | 1 |
| 6 | klei DK | 1 | 1 |
| 5 | Klei CA | 1 | 1 |
| 4 | Klei hum CA | 1 | 1 |
| 3 | Klei CA | 1 | 1 |
| 2 | Klei zand CA | 1 | 1 |
| 1 | Klei CA | 1 | 1 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 10 | No | 16.00 | 16.00 |
| 9 | No | 16.00 | 16.00 |
| 8 | No | 13.50 | 13.50 |
| 7 | No | 10.50 | 10.50 |
| 6 | No | 15.10 | 15.10 |
| 5 | No | 15.90 | 15.90 |
| 4 | No | 15.90 | 15.90 |
| 3 | No | 15.90 | 15.90 |
| 2 | No | 17.00 | 17.00 |
| 1 | No | 15.90 | 15.90 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|---|---|
| 10 | Vert. cons. | 1.00E-08 | - | - | - |
| 9 | Vert. cons. | 1.00E-08 | - | - | - |
| 8 | Vert. cons. | 2.07E-08 | - | - | - |
| 7 | Vert. cons. | 2.37E-08 | - | - | - |
| 6 | Vert. cons. | 2.54E-08 | - | - | - |
| 5 | Vert. cons. | 6.02E-07 | - | - | - |
| 4 | Vert. cons. | 9.27E-08 | - | - | - |
| 3 | Vert. cons. | 6.02E-07 | - | - | - |
| 2 | Vert. cons. | 1.00E-07 | - | - | - |
| 1 | Vert. cons. | 6.02E-07 | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 10 | - | 1.50 | - |
| 9 | - | 1.50 | - |
| 8 | - | 1.50 | - |
| 7 | - | 1.80 | - |
| 6 | - | 1.50 | - |
| 5 | - | 1.50 | - |
| 4 | - | 1.50 | - |
| 3 | - | 1.50 | - |
| 2 | - | 1.39 | - |
| 1 | - | 1.50 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 10 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 9 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 8 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 7 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 6 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 5 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 4 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 3 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 2 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 1 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time [days] | Unit weight Unsaturated [kN/m³] | Unit weight Saturated [kN/m³] |
|---|---|---|---|
| 1 | -1 | 19.00 | 19.00 |
| 2 | -1 | 24.00 | 24.00 |
| 3 | 2 | 16.00 | 16.00 |
| 4 | 3 | 18.00 | 20.00 |
| 5 | 4 | 19.00 | 19.00 |
| 6 | 5 | 25.00 | 25.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -6.34 | -0.90 | | | | |
| 1 - Y - | -0.55 | -0.46 | | | | |
| 2 - X - | -6.34 | -3.61 | -0.90 | | | |
| 2 - Y - | -0.13 | 0.05 | -0.03 | | | |
| 3 - X - | -11.35 | -7.25 | -6.34 | -6.34 | -5.99 | -3.61 |
| 3 - Y - | -1.92 | 0.37 | 0.38 | -0.63 | -0.62 | -0.46 |
| 3 - X - | -1.18 | -0.90 | -0.90 | -0.61 | 0.18 | 0.36 |
| 3 - Y - | -0.53 | -0.54 | 0.38 | 0.37 | 0.34 | -0.58 |
| 4 - X - | -6.34 | -0.90 | | | | |
| 4 - Y - | -0.07 | -0.07 | | | | |
| 5 - X - | -6.34 | -0.90 | | | | |
| 5 - Y - | 0.18 | 0.18 | | | | |
| 6 - X - | -6.34 | -4.96 | -3.61 | -2.26 | -0.90 | |
| 6 - Y - | 0.38 | 0.41 | 0.45 | 0.41 | 0.38 | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -22.000 | -13.784 | -13.693 | -13.610 | -13.063 |
| 6 - 10 | -11.461 | -11.372 | -11.348 | -11.000 | -7.390 |
| 11 - 15 | -7.249 | -6.990 | -6.969 | -6.849 | -6.610 |
| 16 - 20 | -6.338 | -5.991 | -4.961 | -3.610 | -2.259 |
| 21 - 25 | -1.176 | -0.898 | -0.610 | -0.244 | 0.000 |
| 26 - 30 | 0.182 | 0.357 | 0.587 | 0.965 | 1.598 |
| 31 | 5.000 | | | | |

# 3 Results per Vertical

## 3.1 Results for Vertical 16 (X = -6.34 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.633 | 24.938 | -0.633 | 10.858 | 0.235 |
| -0.733 | 25.944 | -0.704 | 10.532 | 0.229 |
| -0.833 | 26.931 | -0.774 | 10.184 | 0.224 |
| -0.933 | 27.934 | -0.843 | 9.866 | 0.219 |
| -1.033 | 28.958 | -0.912 | 9.585 | 0.215 |
| -1.133 | 30.008 | -0.980 | 9.341 | 0.212 |
| -1.233 | 31.086 | -1.047 | 9.132 | 0.209 |
| -1.333 | 32.186 | -1.114 | 8.951 | 0.206 |
| -1.417 | 33.119 | -1.170 | 8.818 | 0.204 |
| -1.433 | 33.304 | -1.181 | 8.794 | 0.203 |
| -1.533 | 34.435 | -1.246 | 8.654 | 0.201 |
| -1.633 | 34.681 | -1.312 | 7.631 | 0.199 |
| -1.709 | 34.810 | -1.362 | 6.795 | 0.198 |
| -2.200 | 35.780 | -1.197 | 6.313 | 0.192 |
| -2.200 | 35.780 | -1.197 | 6.313 | 0.192 |
| -2.900 | 36.897 | -1.101 | 5.771 | 0.173 |
| -3.600 | 38.230 | -1.024 | 5.318 | 0.158 |
| -4.300 | 39.754 | -0.967 | 4.924 | 0.144 |
| -5.000 | 41.472 | -0.931 | 4.571 | 0.132 |
| -5.000 | 41.472 | -0.931 | 4.571 | 0.132 |
| -5.700 | 41.413 | -0.928 | 4.249 | 0.111 |
| -6.400 | 41.596 | -0.949 | 3.952 | 0.090 |
| -6.400 | 41.596 | -0.949 | 3.952 | 0.090 |
| -6.650 | 42.950 | -0.971 | 3.852 | 0.086 |
| -6.900 | 44.335 | -0.995 | 3.753 | 0.083 |
| -6.900 | 44.335 | -0.995 | 3.753 | 0.083 |
| -7.850 | 49.509 | -1.000 | 3.402 | 0.079 |
| -8.750 | 54.460 | -1.005 | 3.099 | 0.075 |
| -9.700 | 59.742 | -1.012 | 2.808 | 0.071 |
| -10.600 | 64.804 | -1.020 | 2.556 | 0.067 |
| -10.600 | 64.804 | -1.020 | 2.556 | 0.067 |
| -11.000 | 67.333 | -1.051 | 2.452 | 0.062 |
| -11.400 | 69.901 | -1.085 | 2.351 | 0.056 |
| -11.400 | 69.901 | -1.085 | 2.351 | 0.056 |
| -12.150 | 74.208 | -1.095 | 2.173 | 0.052 |
| -13.150 | 80.008 | -1.110 | 1.955 | 0.045 |
| -13.550 | 82.347 | -1.117 | 1.874 | 0.043 |
| -14.300 | 86.760 | -1.130 | 1.730 | 0.038 |
| -15.300 | 92.698 | -1.151 | 1.553 | 0.031 |
| -15.700 | 95.091 | -1.160 | 1.487 | 0.028 |
| -15.700 | 95.091 | -1.160 | 1.487 | 0.028 |
| -16.250 | 99.920 | -1.267 | 1.399 | 0.027 |
| -16.850 | 105.282 | -1.393 | 1.309 | 0.024 |
| -17.400 | 110.286 | -1.516 | 1.231 | 0.021 |
| -18.000 | 115.844 | -1.659 | 1.149 | 0.018 |
| -18.000 | 115.844 | -1.659 | 1.149 | 0.018 |
| -18.750 | 120.456 | -1.683 | 1.053 | 0.009 |
| -19.500 | 125.098 | -1.709 | 0.963 | 0.000 |

## 3.2 Results for Vertical 19 (X = -3.61 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.457 | 18.072 | -0.457 | 18.071 | 0.218 |
| -0.557 | 19.893 | -0.537 | 5.206 | 0.209 |
| -0.657 | 21.255 | -0.615 | 5.182 | 0.206 |
| -0.757 | 22.598 | -0.692 | 5.152 | 0.203 |
| -0.857 | 23.923 | -0.768 | 5.117 | 0.200 |
| -0.957 | 25.233 | -0.843 | 5.083 | 0.198 |
| -1.057 | 25.909 | -0.917 | 4.430 | 0.196 |
| -1.157 | 26.219 | -0.991 | 3.425 | 0.195 |
| -1.159 | 26.223 | -0.992 | 3.409 | 0.195 |
| -1.257 | 26.527 | -0.966 | 3.394 | 0.193 |
| -1.329 | 26.747 | -0.947 | 3.388 | 0.192 |
| -1.357 | 26.835 | -0.939 | 3.386 | 0.192 |
| -1.457 | 27.144 | -0.913 | 3.387 | 0.191 |
| -2.200 | 29.368 | -0.715 | 3.537 | 0.186 |
| -2.200 | 29.368 | -0.715 | 3.537 | 0.186 |
| -2.900 | 30.547 | -0.638 | 3.714 | 0.171 |
| -3.600 | 31.663 | -0.574 | 3.819 | 0.158 |
| -4.300 | 32.838 | -0.526 | 3.838 | 0.146 |
| -5.000 | 34.164 | -0.493 | 3.783 | 0.134 |
| -5.000 | 34.164 | -0.493 | 3.783 | 0.134 |
| -5.700 | 33.706 | -0.489 | 3.675 | 0.113 |
| -6.400 | 33.499 | -0.504 | 3.531 | 0.092 |
| -6.400 | 33.499 | -0.504 | 3.531 | 0.092 |
| -6.650 | 34.695 | -0.520 | 3.474 | 0.089 |
| -6.900 | 35.923 | -0.538 | 3.414 | 0.086 |
| -6.900 | 35.923 | -0.538 | 3.414 | 0.086 |
| -7.850 | 40.780 | -0.541 | 3.177 | 0.082 |
| -8.750 | 45.498 | -0.545 | 2.946 | 0.078 |
| -9.700 | 50.590 | -0.551 | 2.706 | 0.073 |
| -10.600 | 55.509 | -0.558 | 2.488 | 0.069 |
| -10.600 | 55.509 | -0.558 | 2.488 | 0.069 |
| -11.000 | 57.937 | -0.583 | 2.395 | 0.063 |
| -11.400 | 60.405 | -0.611 | 2.304 | 0.058 |
| -11.400 | 60.405 | -0.611 | 2.304 | 0.058 |
| -12.150 | 64.627 | -0.619 | 2.142 | 0.053 |
| -13.150 | 70.332 | -0.632 | 1.939 | 0.047 |
| -13.550 | 72.637 | -0.638 | 1.862 | 0.044 |
| -14.300 | 76.990 | -0.650 | 1.725 | 0.039 |
| -15.300 | 82.858 | -0.667 | 1.556 | 0.032 |
| -15.700 | 85.224 | -0.675 | 1.492 | 0.029 |
| -15.700 | 85.224 | -0.675 | 1.492 | 0.029 |
| -16.250 | 89.902 | -0.769 | 1.407 | 0.027 |
| -16.850 | 95.096 | -0.879 | 1.320 | 0.024 |
| -17.400 | 99.942 | -0.987 | 1.243 | 0.022 |
| -18.000 | 105.323 | -1.114 | 1.163 | 0.018 |
| -18.000 | 105.323 | -1.114 | 1.163 | 0.018 |
| -18.750 | 109.893 | -1.135 | 1.069 | 0.009 |
| -19.500 | 114.495 | -1.159 | 0.981 | 0.000 |

### 3.3 Results for Vertical 22 (X = -0.90 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.538 | 21.865 | -0.538 | 7.772 | 0.217 |
| -0.611 | 22.020 | -0.593 | 6.943 | 0.213 |
| -0.638 | 22.062 | -0.586 | 6.888 | 0.212 |
| -0.738 | 22.200 | -0.562 | 6.658 | 0.208 |
| -0.838 | 22.341 | -0.537 | 6.419 | 0.204 |
| -0.938 | 22.503 | -0.513 | 6.194 | 0.201 |
| -1.038 | 22.691 | -0.488 | 5.994 | 0.197 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.138 | 22.905 | -0.464 | 5.819 | 0.195 |
| -1.238 | 23.139 | -0.440 | 5.664 | 0.192 |
| -1.338 | 23.388 | -0.416 | 5.524 | 0.190 |
| -1.369 | 23.467 | -0.408 | 5.483 | 0.189 |
| -1.438 | 23.647 | -0.392 | 5.394 | 0.188 |
| -1.538 | 23.913 | -0.368 | 5.270 | 0.186 |
| -2.200 | 25.766 | -0.210 | 4.527 | 0.178 |
| -2.200 | 25.766 | -0.210 | 4.527 | 0.178 |
| -2.900 | 27.027 | -0.141 | 3.869 | 0.160 |
| -3.600 | 28.506 | -0.083 | 3.369 | 0.147 |
| -4.300 | 30.178 | -0.038 | 3.001 | 0.135 |
| -5.000 | 32.026 | -0.005 | 2.726 | 0.124 |
| -5.000 | 32.026 | -0.005 | 2.726 | 0.124 |
| -5.700 | 32.055 | 0.001 | 2.514 | 0.105 |
| -6.400 | 32.273 | -0.011 | 2.342 | 0.087 |
| -6.400 | 32.273 | -0.011 | 2.342 | 0.087 |
| -6.650 | 33.594 | -0.024 | 2.287 | 0.084 |
| -6.900 | 34.938 | -0.039 | 2.235 | 0.081 |
| -6.900 | 34.938 | -0.039 | 2.235 | 0.081 |
| -7.850 | 40.276 | -0.042 | 2.057 | 0.078 |
| -8.750 | 45.365 | -0.046 | 1.906 | 0.075 |
| -9.700 | 50.774 | -0.051 | 1.758 | 0.071 |
| -10.600 | 55.934 | -0.057 | 1.625 | 0.067 |
| -10.600 | 55.934 | -0.057 | 1.625 | 0.067 |
| -11.000 | 58.431 | -0.079 | 1.568 | 0.062 |
| -11.400 | 60.959 | -0.105 | 1.512 | 0.056 |
| -11.400 | 60.959 | -0.105 | 1.512 | 0.056 |
| -12.150 | 65.319 | -0.112 | 1.410 | 0.052 |
| -13.150 | 71.173 | -0.124 | 1.279 | 0.046 |
| -13.550 | 73.528 | -0.129 | 1.228 | 0.043 |
| -14.300 | 77.965 | -0.140 | 1.136 | 0.038 |
| -15.300 | 83.922 | -0.156 | 1.019 | 0.031 |
| -15.700 | 86.318 | -0.164 | 0.974 | 0.028 |
| -15.700 | 86.318 | -0.164 | 0.974 | 0.028 |
| -16.250 | 90.974 | -0.250 | 0.913 | 0.026 |
| -16.850 | 96.132 | -0.352 | 0.849 | 0.024 |
| -17.400 | 100.936 | -0.452 | 0.793 | 0.021 |
| -18.000 | 106.262 | -0.570 | 0.733 | 0.018 |
| -18.000 | 106.262 | -0.570 | 0.733 | 0.018 |
| -18.750 | 110.856 | -0.590 | 0.661 | 0.009 |
| -19.500 | 115.477 | -0.611 | 0.592 | 0.000 |

### 3.4 Results for Vertical 26 (X = 0.18 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.456 | 8.197 | -0.430 | 8.196 | 0.371 |
| -0.556 | 9.432 | -0.413 | 8.976 | 0.338 |
| -0.656 | 9.539 | -0.396 | 8.634 | 0.316 |
| -0.756 | 9.316 | -0.379 | 7.952 | 0.298 |
| -0.856 | 9.171 | -0.362 | 7.330 | 0.283 |
| -0.956 | 9.193 | -0.346 | 6.854 | 0.272 |
| -1.056 | 9.356 | -0.330 | 6.497 | 0.262 |
| -1.156 | 9.624 | -0.314 | 6.225 | 0.254 |
| -1.256 | 9.967 | -0.298 | 6.009 | 0.247 |
| -1.328 | 10.248 | -0.286 | 5.877 | 0.243 |
| -1.356 | 10.362 | -0.281 | 5.831 | 0.241 |
| -1.456 | 10.794 | -0.264 | 5.679 | 0.236 |
| -2.200 | 14.374 | -0.123 | 4.921 | 0.214 |
| -2.200 | 14.374 | -0.123 | 4.921 | 0.214 |
| -2.900 | 16.737 | -0.059 | 4.468 | 0.191 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.600 | 19.010 | 0.001 | 4.148 | 0.173 |
| -4.300 | 21.231 | 0.055 | 3.915 | 0.158 |
| -5.000 | 23.447 | 0.100 | 3.740 | 0.146 |
| -5.000 | 23.447 | 0.100 | 3.740 | 0.146 |
| -5.700 | 23.776 | 0.116 | 3.607 | 0.124 |
| -6.400 | 24.203 | 0.117 | 3.499 | 0.103 |
| -6.400 | 24.203 | 0.117 | 3.499 | 0.103 |
| -6.650 | 25.547 | 0.112 | 3.466 | 0.099 |
| -6.900 | 26.905 | 0.105 | 3.434 | 0.096 |
| -6.900 | 26.905 | 0.105 | 3.434 | 0.096 |
| -7.850 | 32.549 | 0.104 | 3.325 | 0.092 |
| -8.750 | 37.868 | 0.102 | 3.232 | 0.088 |
| -9.700 | 43.470 | 0.098 | 3.140 | 0.082 |
| -10.600 | 48.777 | 0.093 | 3.054 | 0.077 |
| -10.600 | 48.777 | 0.093 | 3.054 | 0.077 |
| -11.000 | 51.295 | 0.075 | 3.016 | 0.071 |
| -11.400 | 53.838 | 0.054 | 2.979 | 0.065 |
| -11.400 | 53.838 | 0.054 | 2.979 | 0.065 |
| -12.150 | 58.281 | 0.047 | 2.908 | 0.060 |
| -13.150 | 64.226 | 0.037 | 2.815 | 0.052 |
| -13.550 | 66.612 | 0.033 | 2.779 | 0.049 |
| -14.300 | 71.100 | 0.023 | 2.710 | 0.043 |
| -15.300 | 77.115 | 0.007 | 2.621 | 0.035 |
| -15.700 | 79.531 | 0.000 | 2.586 | 0.031 |
| -15.700 | 79.531 | 0.000 | 2.586 | 0.031 |
| -16.250 | 84.173 | -0.082 | 2.538 | 0.029 |
| -16.850 | 89.316 | -0.179 | 2.487 | 0.026 |
| -17.400 | 94.108 | -0.276 | 2.442 | 0.023 |
| -18.000 | 99.422 | -0.389 | 2.393 | 0.019 |
| -18.000 | 99.422 | -0.389 | 2.393 | 0.019 |
| -18.750 | 104.039 | -0.409 | 2.333 | 0.010 |
| -19.500 | 108.680 | -0.430 | 2.276 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -22.00 | 0.00 | -1.18 | 0.153 |
| 2 | -13.78 | 0.00 | -1.28 | 0.169 |
| 3 | -13.69 | 0.00 | -2.20 | 0.180 |
| 4 | -13.61 | 0.00 | -3.04 | 0.280 |
| 5 | -13.06 | 0.00 | -3.04 | 0.301 |
| 6 | -11.46 | 0.00 | -3.23 | 0.410 |
| 7 | -11.37 | 0.00 | -2.20 | 0.241 |
| 8 | -11.35 | 0.00 | -1.92 | 0.226 |
| 9 | -11.00 | 0.00 | -1.78 | 0.240 |
| 10 | -7.39 | 0.00 | -0.26 | 0.304 |
| 11 | -7.25 | 0.00 | -0.22 | 0.302 |
| 12 | -6.99 | 0.00 | -0.13 | 0.301 |
| 13 | -6.97 | 0.00 | -0.13 | 0.300 |
| 14 | -6.85 | 0.00 | -0.13 | 0.300 |
| 15 | -6.61 | 0.00 | -0.12 | 0.310 |
| 16 | -6.34 | 0.00 | -0.63 | 0.235 |
| 17 | -5.99 | 0.00 | -0.61 | 0.239 |
| 18 | -4.96 | 0.00 | -0.54 | 0.226 |
| 19 | -3.61 | 0.00 | -0.46 | 0.218 |
| 20 | -2.26 | 0.00 | -0.50 | 0.216 |
| 21 | -1.18 | 0.00 | -0.53 | 0.228 |
| 22 | -0.90 | 0.00 | -0.54 | 0.217 |
| 23 | -0.61 | 0.00 | -0.08 | 0.289 |
| 24 | -0.24 | 0.00 | -0.15 | 0.286 |
| 25 | 0.00 | 0.00 | -0.33 | 0.318 |
| 26 | 0.18 | 0.00 | -0.46 | 0.371 |
| 27 | 0.36 | 0.00 | -0.58 | 0.352 |
| 28 | 0.59 | 0.00 | -1.80 | 0.370 |
| 29 | 0.96 | 0.00 | -2.02 | 0.378 |
| 30 | 1.60 | 0.00 | -2.20 | 0.376 |
| 31 | 5.00 | 0.00 | -3.19 | 0.264 |

## 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 100 | -0.004 | -2.617 | 0.157 |
| | 4500 | 0.083 | 54.034 | 0.070 |
| 2 | 100 | -0.003 | -1.890 | 0.173 |
| | 4500 | 0.094 | 55.453 | 0.075 |
| 3 | 100 | 0.000 | 0.004 | 0.180 |
| | 4500 | 0.113 | 62.980 | 0.067 |
| 4 | 100 | 0.011 | 4.032 | 0.268 |
| | 4500 | 0.179 | 63.967 | 0.101 |
| 5 | 100 | 0.017 | 5.588 | 0.284 |
| | 4500 | 0.196 | 65.204 | 0.105 |
| 6 | 100 | 0.053 | 12.802 | 0.358 |
| | 4500 | 0.290 | 70.747 | 0.120 |
| 7 | 100 | 0.016 | 6.535 | 0.225 |
| | 4500 | 0.164 | 68.106 | 0.077 |
| 8 | 100 | 0.005 | 2.331 | 0.221 |
| | 4500 | 0.144 | 63.877 | 0.082 |
| 9 | 100 | 0.011 | 4.647 | 0.229 |
| | 4500 | 0.154 | 64.282 | 0.086 |
| 10 | 100 | 0.041 | 13.567 | 0.263 |
| | 4500 | 0.202 | 66.284 | 0.103 |
| 11 | 100 | 0.040 | 13.133 | 0.263 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 4500 | 0.200 | 66.062 | 0.103 |
| 12 | 100 | 0.040 | 13.131 | 0.262 |
| | 4500 | 0.199 | 65.971 | 0.103 |
| 13 | 100 | 0.039 | 12.963 | 0.261 |
| | 4500 | 0.198 | 65.866 | 0.102 |
| 14 | 100 | 0.039 | 12.829 | 0.262 |
| | 4500 | 0.198 | 65.911 | 0.102 |
| 15 | 100 | 0.045 | 14.683 | 0.264 |
| | 4500 | 0.208 | 67.051 | 0.102 |
| 16 | 100 | 0.006 | 2.599 | 0.228 |
| | 4500 | 0.137 | 58.291 | 0.098 |
| 17 | 100 | 0.004 | 1.597 | 0.235 |
| | 4500 | 0.139 | 58.181 | 0.100 |
| 18 | 100 | 0.003 | 1.392 | 0.223 |
| | 4500 | 0.130 | 57.304 | 0.097 |
| 19 | 100 | 0.007 | 3.152 | 0.212 |
| | 4500 | 0.125 | 57.316 | 0.093 |
| 20 | 100 | 0.003 | 1.336 | 0.213 |
| | 4500 | 0.124 | 57.252 | 0.092 |
| 21 | 100 | 0.003 | 1.511 | 0.224 |
| | 4500 | 0.132 | 57.755 | 0.096 |
| 22 | 100 | 0.005 | 2.293 | 0.212 |
| | 4500 | 0.127 | 58.612 | 0.090 |
| 23 | 100 | 0.043 | 14.928 | 0.246 |
| | 4500 | 0.196 | 67.977 | 0.093 |
| 24 | 100 | 0.040 | 13.901 | 0.246 |
| | 4500 | 0.195 | 68.175 | 0.091 |
| 25 | 100 | 0.046 | 14.419 | 0.272 |
| | 4500 | 0.213 | 66.790 | 0.106 |
| 26 | 100 | 0.059 | 15.785 | 0.313 |
| | 4500 | 0.253 | 68.225 | 0.118 |
| 27 | 100 | 0.050 | 14.238 | 0.302 |
| | 4500 | 0.235 | 66.706 | 0.117 |
| 28 | 100 | 0.030 | 8.229 | 0.340 |
| | 4500 | 0.246 | 66.534 | 0.124 |
| 29 | 100 | 0.031 | 8.119 | 0.347 |
| | 4500 | 0.256 | 67.746 | 0.122 |
| 30 | 100 | 0.041 | 10.938 | 0.335 |
| | 4500 | 0.259 | 68.796 | 0.117 |
| 31 | 100 | 0.010 | 3.865 | 0.254 |
| | 4500 | 0.169 | 64.040 | 0.095 |

## 5 Warnings and errors

List of non-fatal warnings and errors generated during calculation.

1 Non-uniform load [1]: Co-ordinate (1) lies below surface

2 Non-uniform load [1]: Co-ordinate (2) lies below surface

3 Non-uniform load [2]: Co-ordinate (1) lies below surface

4 Non-uniform load [3]: Co-ordinate (4) lies below surface

5 Non-uniform load [3]: Co-ordinate (5) lies below surface

6 Non-uniform load [3]: Co-ordinate (8) lies below surface

7 Non-uniform load [4]: Co-ordinate (2) lies below surface

## End of Report

# Report for D-Settlement 21.2

Settlement Calculations
Developed by Deltares




| | |
|---|---|
| Company: | Waalpartners bv |
| Date of report: | 11/25/2022 |
| Time of report: | 11:10:04 AM |
| Report with version: | 21.2.1.34213 |
| Date of calculation: | 11/25/2022 |
| Time of calculation: | 11:09:05 AM |
| Calculated with version: | 21.2.1.34213 |
| File name: | 14.63 BKL |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 11 - X - | -22.000 | -13.562 | -13.071 | -12.920 | -12.697 |
| 11 - Y - | -1.998 | -2.357 | -2.500 | -2.544 | -2.868 |
| 11 - X - | -12.174 | -10.396 | -10.346 | -10.292 | -9.342 |
| 11 - Y - | -3.142 | -3.072 | -2.500 | -1.878 | -1.298 |
| 11 - X - | -7.743 | -6.951 | -6.268 | -6.268 | -3.562 |
| 11 - Y - | -0.193 | -0.148 | -0.199 | -0.749 | -0.618 |
| 11 - X - | -0.702 | -0.702 | 0.045 | 0.395 | 0.500 |
| 11 - Y - | -0.536 | 0.094 | -0.014 | -0.028 | -0.090 |
| 11 - X - | 0.924 | 1.147 | 5.000 | | |
| 11 - Y - | -0.593 | -2.164 | -2.211 | | |
| 10 - X - | -22.000 | -13.071 | -12.920 | -12.697 | -12.174 |
| 10 - Y - | -2.500 | -2.500 | -2.544 | -2.868 | -3.142 |
| 10 - X - | -10.396 | -10.346 | -10.292 | -9.342 | -7.743 |
| 10 - Y - | -3.072 | -2.500 | -1.878 | -1.298 | -0.193 |
| 10 - X - | -6.951 | -6.268 | -6.268 | -3.562 | -0.702 |
| 10 - Y - | -0.148 | -0.199 | -0.749 | -0.618 | -0.536 |
| 10 - X - | -0.702 | 0.045 | 0.395 | 0.500 | 0.924 |
| 10 - Y - | 0.094 | -0.014 | -0.028 | -0.090 | -0.593 |
| 10 - X - | 1.147 | 5.000 | | | |
| 10 - Y - | -2.164 | -2.211 | | | |
| 9 - X - | -22.000 | -13.071 | -12.920 | -12.697 | -12.174 |
| 9 - Y - | -2.500 | -2.500 | -2.544 | -2.868 | -3.142 |
| 9 - X - | -10.396 | -10.346 | 5.000 | | |
| 9 - Y - | -3.072 | -2.500 | -2.500 | | |
| 8 - X - | -22.000 | 5.000 | | | |
| 8 - Y - | -5.000 | -5.000 | | | |
| 7 - X - | -22.000 | 5.000 | | | |
| 7 - Y - | -6.000 | -6.000 | | | |
| 6 - X - | -22.000 | 5.000 | | | |
| 6 - Y - | -8.700 | -8.700 | | | |
| 5 - X - | -22.000 | 5.000 | | | |
| 5 - Y - | -12.300 | -12.300 | | | |
| 4 - X - | -22.000 | 5.000 | | | |
| 4 - Y - | -13.000 | -13.000 | | | |
| 3 - X - | -22.000 | 5.000 | | | |
| 3 - Y - | -16.200 | -16.200 | | | |
| 2 - X - | -22.000 | 5.000 | | | |
| 2 - Y - | -17.200 | -17.200 | | | |
| 1 - X - | -22.000 | 5.000 | | | |
| 1 - Y - | -19.400 | -19.400 | | | |
| 0 - X - | -22.000 | 5.000 | | | |
| 0 - Y - | -20.000 | -20.000 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -22.000 | -11.000 | 0.000 | 5.000 | |
| 1 - Y - | -2.650 | -2.650 | -0.430 | -0.430 | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: |  |
| - Loads: | None |

End of consolidation: 10000.00 [days]
No maintain profile
Pc (initial): Variable parallel to the initial effective stress
Pc (per step): Automatic increased to the final effective stresses
Creep rate reference time: 1.000 [days]
No imaginary surface
With submerging
(only for non uniform loads)
- Iteration stop criterium : 0.10 [m]
Load column width
- Non-Uniform Loads : 1.00 [m]
- Trapeziform Loads : 1.00 [m]

## 2.4 Soil Profiles

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 11 | Dijksmateriaal | 1 | 1 |
| 10 | Dijksmateriaal | 1 | 1 |
| 9 | Klei Hum DK | 1 | 1 |
| 8 | Hollandveen | 1 | 1 |
| 7 | klei DK | 1 | 1 |
| 6 | Klei CA | 1 | 1 |
| 5 | Klei hum CA | 1 | 1 |
| 4 | Klei CA | 1 | 1 |
| 3 | Klei zand CA | 1 | 1 |
| 2 | Klei CA | 1 | 1 |
| 1 | Klei hum CA | 1 | 1 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 11 | No | 16.00 | 16.00 |
| 10 | No | 16.00 | 16.00 |
| 9 | No | 13.50 | 13.50 |
| 8 | No | 10.50 | 10.50 |
| 7 | No | 15.10 | 15.10 |
| 6 | No | 15.90 | 15.90 |
| 5 | No | 15.90 | 15.90 |
| 4 | No | 15.90 | 15.90 |
| 3 | No | 17.00 | 17.00 |
| 2 | No | 15.90 | 15.90 |
| 1 | No | 15.90 | 15.90 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|---|---|
| 11 | Vert. cons. | 1.00E-08 | - | - | - |
| 10 | Vert. cons. | 1.00E-08 | - | - | - |
| 9 | Vert. cons. | 2.07E-08 | - | - | - |
| 8 | Vert. cons. | 2.37E-08 | - | - | - |
| 7 | Vert. cons. | 2.54E-08 | - | - | - |
| 6 | Vert. cons. | 6.02E-07 | - | - | - |
| 5 | Vert. cons. | 9.27E-08 | - | - | - |
| 4 | Vert. cons. | 6.02E-07 | - | - | - |
| 3 | Vert. cons. | 1.00E-07 | - | - | - |
| 2 | Vert. cons. | 6.02E-07 | - | - | - |
| 1 | Vert. cons. | 9.27E-08 | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 11 | - | 1.50 | - |
| 10 | - | 1.50 | - |
| 9 | - | 1.50 | - |
| 8 | - | 1.80 | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 7 | - | 1.50 | - |
| 6 | - | 1.50 | - |
| 5 | - | 1.50 | - |
| 4 | - | 1.50 | - |
| 3 | - | 1.39 | - |
| 2 | - | 1.50 | - |
| 1 | - | 1.50 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 11 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 10 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 9 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 8 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 7 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 6 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 5 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 4 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 3 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 2 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 1 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time [days] | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 1 | -1 | 19.00 | 19.00 |
| 2 | -1 | 24.00 | 24.00 |
| 3 | 2 | 16.00 | 16.00 |
| 4 | 3 | 18.00 | 20.00 |
| 5 | 4 | 19.00 | 19.00 |
| 6 | 5 | 25.00 | 25.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -6.27 | -0.70 | | | | |
| 1 - Y - | -0.67 | -0.46 | | | | |
| 2 - X - | -6.27 | -3.56 | -0.85 | -0.70 | | |
| 2 - Y - | -0.20 | 0.01 | 0.11 | 0.09 | | |
| 3 - X - | -10.29 | -7.20 | -7.16 | -6.56 | -6.27 | -6.27 |
| 3 - Y - | -1.88 | 0.32 | 0.32 | 0.32 | 0.33 | -0.75 |
| 3 - X - | -5.60 | -3.56 | -0.96 | -0.70 | -0.70 | -0.56 |
| 3 - Y - | -0.71 | -0.62 | -0.54 | -0.54 | 0.33 | 0.32 |
| 3 - X - | 0.54 | 0.75 | 0.92 | | | |
| 3 - Y - | 0.27 | 0.20 | -0.59 | | | |
| 4 - X - | -6.27 | -0.70 | | | | |
| 4 - Y - | -0.07 | -0.07 | | | | |
| 5 - X - | -6.27 | -0.70 | | | | |
| 5 - Y - | 0.14 | 0.14 | | | | |
| 6 - X - | -6.27 | -4.91 | -3.56 | -2.21 | -0.96 | -0.70 |
| 6 - Y - | 0.33 | 0.37 | 0.40 | 0.37 | 0.33 | 0.33 |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -22.000 | -13.562 | -13.071 | -12.920 | -12.697 |
| 6 - 10 | -12.174 | -11.000 | -10.396 | -10.346 | -10.292 |
| 11 - 15 | -9.342 | -7.743 | -7.201 | -7.155 | -7.051 |
| 16 - 20 | -6.951 | -6.937 | -6.814 | -6.676 | -6.562 |
| 21 - 25 | -6.270 | -6.268 | -5.601 | -4.913 | -3.562 |
| 26 - 30 | -2.211 | -0.962 | -0.961 | -0.853 | -0.702 |
| 31 - 35 | -0.562 | 0.000 | 0.045 | 0.395 | 0.500 |
| 36 - 40 | 0.538 | 0.749 | 0.924 | 1.147 | 5.000 |

# 3 Results per Vertical

## 3.1 Results for Vertical 21 (X = -6.27 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.199 | 12.734 | -0.199 | 12.733 | 0.282 |
| -0.299 | 10.149 | -0.286 | 8.676 | 0.256 |
| -0.399 | 11.614 | -0.374 | 8.660 | 0.241 |
| -0.499 | 13.173 | -0.460 | 8.655 | 0.230 |
| -0.599 | 14.523 | -0.545 | 8.629 | 0.221 |
| -0.699 | 15.912 | -0.629 | 3.191 | 0.216 |
| -0.799 | 23.096 | -0.709 | 7.893 | 0.213 |
| -0.899 | 24.492 | -0.784 | 7.916 | 0.209 |
| -0.999 | 25.814 | -0.858 | 7.855 | 0.206 |
| -1.099 | 27.113 | -0.932 | 7.779 | 0.203 |
| -1.199 | 28.392 | -1.004 | 7.693 | 0.200 |
| -1.349 | 30.285 | -1.112 | 7.550 | 0.196 |
| -1.695 | 32.953 | -1.356 | 5.609 | 0.190 |
| -2.500 | 34.895 | -1.117 | 4.804 | 0.184 |
| -2.500 | 34.895 | -1.117 | 4.804 | 0.184 |
| -3.150 | 36.009 | -1.038 | 4.263 | 0.171 |
| -3.750 | 37.182 | -0.978 | 3.842 | 0.161 |
| -4.400 | 38.599 | -0.927 | 3.452 | 0.151 |
| -5.000 | 40.043 | -0.894 | 3.141 | 0.143 |
| -5.000 | 40.043 | -0.894 | 3.141 | 0.143 |
| -5.500 | 39.948 | -0.886 | 2.910 | 0.131 |
| -6.000 | 39.966 | -0.889 | 2.701 | 0.120 |
| -6.000 | 39.966 | -0.889 | 2.701 | 0.120 |
| -6.650 | 43.208 | -0.915 | 2.457 | 0.113 |
| -7.350 | 46.901 | -0.962 | 2.222 | 0.106 |
| -8.000 | 50.545 | -1.026 | 2.027 | 0.098 |
| -8.700 | 54.728 | -1.119 | 1.837 | 0.089 |
| -8.700 | 54.728 | -1.119 | 1.837 | 0.089 |
| -9.600 | 59.750 | -1.124 | 1.618 | 0.084 |
| -10.500 | 64.826 | -1.132 | 1.424 | 0.080 |
| -11.400 | 69.956 | -1.140 | 1.250 | 0.075 |
| -12.300 | 75.138 | -1.151 | 1.094 | 0.070 |
| -12.300 | 75.138 | -1.151 | 1.094 | 0.070 |
| -12.650 | 77.448 | -1.184 | 1.037 | 0.065 |
| -13.000 | 79.788 | -1.219 | 0.983 | 0.060 |
| -13.000 | 79.788 | -1.219 | 0.983 | 0.060 |
| -13.800 | 84.476 | -1.232 | 0.866 | 0.055 |
| -14.600 | 89.203 | -1.246 | 0.758 | 0.049 |
| -15.400 | 93.967 | -1.261 | 0.659 | 0.043 |
| -16.200 | 98.769 | -1.279 | 0.568 | 0.037 |
| -16.200 | 98.769 | -1.279 | 0.568 | 0.037 |
| -16.700 | 103.157 | -1.374 | 0.514 | 0.036 |
| -17.200 | 107.611 | -1.476 | 0.462 | 0.033 |
| -17.200 | 107.611 | -1.476 | 0.462 | 0.033 |
| -17.800 | 111.268 | -1.492 | 0.404 | 0.028 |
| -18.300 | 114.331 | -1.506 | 0.357 | 0.023 |
| -18.800 | 117.407 | -1.522 | 0.313 | 0.018 |
| -19.400 | 121.117 | -1.541 | 0.262 | 0.012 |
| -19.400 | 121.117 | -1.541 | 0.262 | 0.012 |
| -19.700 | 123.619 | -1.617 | 0.237 | 0.006 |
| -20.000 | 126.156 | -1.695 | 0.213 | 0.000 |

## 3.2 Results for Vertical 25 (X = -3.56 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.618 | 19.931 | -0.618 | 5.443 | 0.212 |
| -0.718 | 21.520 | -0.697 | 5.409 | 0.209 |
| -0.818 | 22.878 | -0.775 | 5.384 | 0.206 |
| -0.918 | 24.220 | -0.851 | 5.354 | 0.203 |
| -1.018 | 25.180 | -0.927 | 4.953 | 0.200 |
| -1.118 | 25.514 | -1.002 | 3.938 | 0.198 |
| -1.149 | 25.615 | -1.025 | 3.625 | 0.198 |
| -1.218 | 25.840 | -1.008 | 3.601 | 0.197 |
| -1.318 | 26.160 | -0.982 | 3.567 | 0.195 |
| -1.418 | 26.476 | -0.957 | 3.534 | 0.194 |
| -1.518 | 26.786 | -0.932 | 3.503 | 0.193 |
| -1.559 | 26.912 | -0.921 | 3.491 | 0.192 |
| -1.618 | 27.091 | -0.906 | 3.475 | 0.191 |
| -2.500 | 29.521 | -0.683 | 3.287 | 0.186 |
| -2.500 | 29.521 | -0.683 | 3.287 | 0.186 |
| -3.150 | 30.333 | -0.615 | 3.177 | 0.173 |
| -3.750 | 31.052 | -0.562 | 3.064 | 0.163 |
| -4.400 | 31.904 | -0.516 | 2.924 | 0.154 |
| -5.000 | 32.825 | -0.485 | 2.779 | 0.145 |
| -5.000 | 32.825 | -0.485 | 2.779 | 0.145 |
| -5.500 | 32.309 | -0.477 | 2.651 | 0.133 |
| -6.000 | 31.929 | -0.478 | 2.518 | 0.121 |
| -6.000 | 31.929 | -0.478 | 2.518 | 0.121 |
| -6.650 | 34.662 | -0.496 | 2.343 | 0.115 |
| -7.350 | 37.846 | -0.530 | 2.158 | 0.107 |
| -8.000 | 41.041 | -0.578 | 1.991 | 0.099 |
| -8.700 | 44.754 | -0.650 | 1.819 | 0.089 |
| -8.700 | 44.754 | -0.650 | 1.819 | 0.089 |
| -9.600 | 49.497 | -0.654 | 1.612 | 0.085 |
| -10.500 | 54.350 | -0.660 | 1.421 | 0.081 |
| -11.400 | 59.301 | -0.667 | 1.246 | 0.076 |
| -12.300 | 64.337 | -0.675 | 1.087 | 0.071 |
| -12.300 | 64.337 | -0.675 | 1.087 | 0.071 |
| -12.650 | 66.550 | -0.703 | 1.028 | 0.066 |
| -13.000 | 68.794 | -0.733 | 0.972 | 0.061 |
| -13.000 | 68.794 | -0.733 | 0.972 | 0.061 |
| -13.800 | 73.385 | -0.743 | 0.851 | 0.055 |
| -14.600 | 78.027 | -0.755 | 0.739 | 0.049 |
| -15.400 | 82.715 | -0.769 | 0.636 | 0.044 |
| -16.200 | 87.448 | -0.784 | 0.540 | 0.038 |
| -16.200 | 87.448 | -0.784 | 0.540 | 0.038 |
| -16.700 | 91.688 | -0.866 | 0.484 | 0.036 |
| -17.200 | 95.991 | -0.955 | 0.430 | 0.034 |
| -17.200 | 95.991 | -0.955 | 0.430 | 0.034 |
| -17.800 | 99.605 | -0.969 | 0.369 | 0.028 |
| -18.300 | 102.633 | -0.982 | 0.321 | 0.023 |
| -18.800 | 105.675 | -0.995 | 0.274 | 0.018 |
| -19.400 | 109.344 | -1.012 | 0.221 | 0.012 |
| -19.400 | 109.344 | -1.012 | 0.221 | 0.012 |
| -19.700 | 111.754 | -1.079 | 0.196 | 0.006 |
| -20.000 | 114.196 | -1.149 | 0.171 | 0.000 |

### 3.3 Results for Vertical 30 (X = -0.70 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.536 | 20.985 | -0.536 | 3.480 | 0.194 |
| -0.572 | 20.976 | -0.564 | 2.979 | 0.193 |
| -0.636 | 20.985 | -0.551 | 2.755 | 0.192 |
| -0.736 | 21.125 | -0.531 | 2.497 | 0.190 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.836 | 21.383 | -0.510 | 2.339 | 0.188 |
| -0.936 | 21.703 | -0.489 | 2.240 | 0.186 |
| -1.036 | 22.060 | -0.468 | 2.175 | 0.185 |
| -1.136 | 22.438 | -0.448 | 2.132 | 0.184 |
| -1.236 | 22.828 | -0.426 | 2.103 | 0.182 |
| -1.336 | 23.223 | -0.405 | 2.082 | 0.181 |
| -1.436 | 23.620 | -0.384 | 2.066 | 0.181 |
| -1.518 | 23.946 | -0.366 | 2.055 | 0.180 |
| -1.536 | 24.017 | -0.362 | 2.053 | 0.180 |
| -2.500 | 27.683 | -0.144 | 1.929 | 0.176 |
| -2.500 | 27.683 | -0.144 | 1.929 | 0.176 |
| -3.150 | 29.275 | -0.080 | 1.827 | 0.166 |
| -3.750 | 30.783 | -0.028 | 1.737 | 0.157 |
| -4.400 | 32.475 | 0.020 | 1.650 | 0.149 |
| -5.000 | 34.102 | 0.054 | 1.576 | 0.142 |
| -5.000 | 34.102 | 0.054 | 1.576 | 0.142 |
| -5.500 | 34.123 | 0.065 | 1.518 | 0.130 |
| -6.000 | 34.221 | 0.066 | 1.461 | 0.119 |
| -6.000 | 34.221 | 0.066 | 1.461 | 0.119 |
| -6.650 | 37.466 | 0.054 | 1.387 | 0.113 |
| -7.350 | 41.101 | 0.026 | 1.307 | 0.106 |
| -8.000 | 44.634 | -0.016 | 1.232 | 0.098 |
| -8.700 | 48.641 | -0.081 | 1.150 | 0.089 |
| -8.700 | 48.641 | -0.081 | 1.150 | 0.089 |
| -9.600 | 53.744 | -0.086 | 1.045 | 0.085 |
| -10.500 | 58.881 | -0.091 | 0.941 | 0.081 |
| -11.400 | 64.054 | -0.098 | 0.839 | 0.076 |
| -12.300 | 69.266 | -0.106 | 0.741 | 0.071 |
| -12.300 | 69.266 | -0.106 | 0.741 | 0.071 |
| -12.650 | 71.530 | -0.133 | 0.704 | 0.066 |
| -13.000 | 73.821 | -0.162 | 0.668 | 0.061 |
| -13.000 | 73.821 | -0.162 | 0.668 | 0.061 |
| -13.800 | 78.518 | -0.172 | 0.587 | 0.055 |
| -14.600 | 83.248 | -0.184 | 0.510 | 0.049 |
| -15.400 | 88.011 | -0.197 | 0.436 | 0.044 |
| -16.200 | 92.805 | -0.212 | 0.366 | 0.037 |
| -16.200 | 92.805 | -0.212 | 0.366 | 0.037 |
| -16.700 | 97.067 | -0.293 | 0.324 | 0.036 |
| -17.200 | 101.388 | -0.380 | 0.284 | 0.033 |
| -17.200 | 101.388 | -0.380 | 0.284 | 0.033 |
| -17.800 | 105.033 | -0.394 | 0.236 | 0.028 |
| -18.300 | 108.084 | -0.406 | 0.199 | 0.023 |
| -18.800 | 111.147 | -0.420 | 0.162 | 0.018 |
| -19.400 | 114.839 | -0.437 | 0.120 | 0.012 |
| -19.400 | 114.839 | -0.437 | 0.120 | 0.012 |
| -19.700 | 117.252 | -0.503 | 0.099 | 0.006 |
| -20.000 | 119.696 | -0.572 | 0.079 | 0.000 |

### 3.4 Results for Vertical 32 (X = 0.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.008 | 4.603 | -0.008 | 4.602 | 0.251 |
| -0.107 | 6.065 | -0.102 | 4.519 | 0.232 |
| -0.207 | 7.663 | -0.195 | 4.587 | 0.221 |
| -0.307 | 8.600 | -0.286 | 4.007 | 0.214 |
| -0.407 | 9.090 | -0.377 | 2.991 | 0.209 |
| -0.430 | 9.202 | -0.397 | 2.765 | 0.208 |
| -0.507 | 9.607 | -0.389 | 2.767 | 0.205 |
| -0.607 | 10.176 | -0.379 | 2.818 | 0.201 |
| -0.707 | 10.792 | -0.367 | 2.898 | 0.198 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.807 | 11.441 | -0.356 | 2.970 | 0.195 |
| -0.907 | 12.113 | -0.344 | 3.010 | 0.192 |
| -1.007 | 12.801 | -0.331 | 3.012 | 0.189 |
| -1.254 | 14.508 | -0.297 | 2.886 | 0.184 |
| -1.900 | 18.605 | -0.194 | 2.278 | 0.177 |
| -2.500 | 21.833 | -0.082 | 1.828 | 0.175 |
| -2.500 | 21.833 | -0.082 | 1.827 | 0.175 |
| -3.150 | 24.078 | -0.027 | 1.514 | 0.164 |
| -3.750 | 26.040 | 0.020 | 1.331 | 0.156 |
| -4.400 | 28.112 | 0.066 | 1.199 | 0.148 |
| -5.000 | 30.013 | 0.100 | 1.113 | 0.141 |
| -5.000 | 30.013 | 0.100 | 1.113 | 0.141 |
| -5.500 | 30.223 | 0.112 | 1.057 | 0.129 |
| -6.000 | 30.473 | 0.116 | 1.008 | 0.119 |
| -6.000 | 30.473 | 0.116 | 1.008 | 0.119 |
| -6.650 | 33.845 | 0.111 | 0.950 | 0.113 |
| -7.350 | 37.563 | 0.094 | 0.891 | 0.105 |
| -8.000 | 41.129 | 0.063 | 0.837 | 0.098 |
| -8.700 | 45.126 | 0.012 | 0.777 | 0.089 |
| -8.700 | 45.126 | 0.012 | 0.777 | 0.089 |
| -9.600 | 50.363 | 0.008 | 0.700 | 0.085 |
| -10.500 | 55.604 | 0.004 | 0.621 | 0.080 |
| -11.400 | 60.859 | -0.002 | 0.542 | 0.076 |
| -12.300 | 66.135 | -0.009 | 0.464 | 0.071 |
| -12.300 | 66.135 | -0.009 | 0.464 | 0.071 |
| -12.650 | 68.390 | -0.032 | 0.434 | 0.066 |
| -13.000 | 70.669 | -0.058 | 0.404 | 0.060 |
| -13.000 | 70.669 | -0.058 | 0.404 | 0.060 |
| -13.800 | 75.402 | -0.066 | 0.337 | 0.055 |
| -14.600 | 80.159 | -0.077 | 0.271 | 0.049 |
| -15.400 | 84.942 | -0.089 | 0.208 | 0.043 |
| -16.200 | 89.750 | -0.102 | 0.148 | 0.037 |
| -16.200 | 89.750 | -0.102 | 0.148 | 0.037 |
| -16.700 | 93.952 | -0.176 | 0.111 | 0.035 |
| -17.200 | 98.206 | -0.254 | 0.075 | 0.033 |
| -17.200 | 98.207 | -0.254 | 0.075 | 0.033 |
| -17.800 | 101.855 | -0.267 | 0.033 | 0.027 |
| -18.300 | 104.907 | -0.278 | -0.001 | 0.023 |
| -18.800 | 107.969 | -0.290 | -0.034 | 0.018 |
| -19.400 | 111.659 | -0.306 | -0.072 | 0.012 |
| -19.400 | 111.659 | -0.306 | -0.072 | 0.012 |
| -19.700 | 114.024 | -0.367 | -0.090 | 0.006 |
| -20.000 | 116.418 | -0.430 | -0.109 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -22.00 | 0.00 | -2.00 | 0.165 |
| 2 | -13.56 | 0.00 | -2.36 | 0.174 |
| 3 | -13.07 | 0.00 | -2.50 | 0.171 |
| 4 | -12.92 | 0.00 | -2.54 | 0.182 |
| 5 | -12.70 | 0.00 | -2.87 | 0.273 |
| 6 | -12.17 | 0.00 | -3.14 | 0.292 |
| 7 | -11.00 | 0.00 | -3.10 | 0.337 |
| 8 | -10.40 | 0.00 | -3.07 | 0.365 |
| 9 | -10.35 | 0.00 | -2.50 | 0.341 |
| 10 | -10.29 | 0.00 | -1.88 | 0.216 |
| 11 | -9.34 | 0.00 | -1.30 | 0.226 |
| 12 | -7.74 | 0.00 | -0.19 | 0.248 |
| 13 | -7.20 | 0.00 | -0.16 | 0.278 |
| 14 | -7.16 | 0.00 | -0.16 | 0.281 |
| 15 | -7.05 | 0.00 | -0.15 | 0.284 |
| 16 | -6.95 | 0.00 | -0.15 | 0.287 |
| 17 | -6.94 | 0.00 | -0.15 | 0.287 |
| 18 | -6.81 | 0.00 | -0.16 | 0.290 |
| 19 | -6.68 | 0.00 | -0.17 | 0.292 |
| 20 | -6.56 | 0.00 | -0.18 | 0.294 |
| 21 | -6.27 | 0.00 | -0.20 | 0.282 |
| 22 | -6.27 | 0.00 | -0.75 | 0.222 |
| 23 | -5.60 | 0.00 | -0.72 | 0.227 |
| 24 | -4.91 | 0.00 | -0.68 | 0.223 |
| 25 | -3.56 | 0.00 | -0.62 | 0.212 |
| 26 | -2.21 | 0.00 | -0.58 | 0.200 |
| 27 | -0.96 | 0.00 | -0.54 | 0.204 |
| 28 | -0.96 | 0.00 | -0.54 | 0.205 |
| 29 | -0.85 | 0.00 | -0.54 | 0.213 |
| 30 | -0.70 | 0.00 | -0.54 | 0.194 |
| 31 | -0.56 | 0.00 | 0.07 | 0.256 |
| 32 | 0.00 | 0.00 | -0.01 | 0.251 |
| 33 | 0.04 | 0.00 | -0.01 | 0.252 |
| 34 | 0.40 | 0.00 | -0.03 | 0.250 |
| 35 | 0.50 | 0.00 | -0.09 | 0.252 |
| 36 | 0.54 | 0.00 | -0.14 | 0.259 |
| 37 | 0.75 | 0.00 | -0.39 | 0.307 |
| 38 | 0.92 | 0.00 | -0.59 | 0.320 |
| 39 | 1.15 | 0.00 | -2.16 | 0.340 |
| 40 | 5.00 | 0.00 | -2.21 | 0.244 |

## 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 100 | -0.003 | -1.984 | 0.168 |
| | 4500 | 0.097 | 58.953 | 0.068 |
| 2 | 100 | -0.001 | -0.696 | 0.175 |
| | 4500 | 0.110 | 63.335 | 0.064 |
| 3 | 100 | 0.000 | 0.260 | 0.170 |
| | 4500 | 0.112 | 65.546 | 0.059 |
| 4 | 100 | 0.001 | 0.509 | 0.181 |
| | 4500 | 0.110 | 60.566 | 0.072 |
| 5 | 100 | 0.008 | 2.815 | 0.265 |
| | 4500 | 0.172 | 63.077 | 0.101 |
| 6 | 100 | 0.014 | 4.830 | 0.277 |
| | 4500 | 0.190 | 65.009 | 0.102 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 7 | 100 | 0.029 | 8.485 | 0.308 |
| | 4500 | 0.228 | 67.628 | 0.109 |
| 8 | 100 | 0.037 | 10.261 | 0.327 |
| | 4500 | 0.252 | 69.013 | 0.113 |
| 9 | 100 | 0.028 | 8.174 | 0.313 |
| | 4500 | 0.228 | 66.790 | 0.113 |
| 10 | 100 | 0.004 | 1.814 | 0.212 |
| | 4500 | 0.134 | 62.220 | 0.081 |
| 11 | 100 | 0.008 | 3.482 | 0.218 |
| | 4500 | 0.137 | 60.698 | 0.089 |
| 12 | 100 | 0.020 | 7.979 | 0.228 |
| | 4500 | 0.154 | 61.932 | 0.094 |
| 13 | 100 | 0.034 | 12.059 | 0.244 |
| | 4500 | 0.181 | 65.137 | 0.097 |
| 14 | 100 | 0.035 | 12.435 | 0.246 |
| | 4500 | 0.184 | 65.440 | 0.097 |
| 15 | 100 | 0.036 | 12.720 | 0.248 |
| | 4500 | 0.187 | 65.765 | 0.097 |
| 16 | 100 | 0.037 | 12.834 | 0.250 |
| | 4500 | 0.189 | 65.961 | 0.098 |
| 17 | 100 | 0.037 | 12.855 | 0.250 |
| | 4500 | 0.189 | 65.990 | 0.098 |
| 18 | 100 | 0.038 | 13.068 | 0.252 |
| | 4500 | 0.192 | 66.235 | 0.098 |
| 19 | 100 | 0.039 | 13.358 | 0.253 |
| | 4500 | 0.194 | 66.476 | 0.098 |
| 20 | 100 | 0.040 | 13.742 | 0.254 |
| | 4500 | 0.196 | 66.664 | 0.098 |
| 21 | 100 | 0.039 | 13.863 | 0.243 |
| | 4500 | 0.185 | 65.635 | 0.097 |
| 22 | 100 | 0.002 | 0.968 | 0.220 |
| | 4500 | 0.128 | 57.569 | 0.094 |
| 23 | 100 | 0.003 | 1.370 | 0.224 |
| | 4500 | 0.132 | 58.061 | 0.095 |
| 24 | 100 | 0.002 | 1.104 | 0.220 |
| | 4500 | 0.129 | 57.660 | 0.094 |
| 25 | 100 | 0.001 | 0.274 | 0.211 |
| | 4500 | 0.120 | 56.804 | 0.092 |
| 26 | 100 | -0.001 | -0.520 | 0.201 |
| | 4500 | 0.112 | 56.000 | 0.088 |
| 27 | 100 | -0.002 | -0.953 | 0.206 |
| | 4500 | 0.110 | 53.751 | 0.095 |
| 28 | 100 | -0.002 | -0.885 | 0.207 |
| | 4500 | 0.110 | 53.799 | 0.095 |
| 29 | 100 | -0.001 | -0.548 | 0.214 |
| | 4500 | 0.115 | 54.113 | 0.098 |
| 30 | 100 | -0.001 | -0.336 | 0.195 |
| | 4500 | 0.109 | 56.205 | 0.085 |
| 31 | 100 | 0.033 | 12.848 | 0.224 |
| | 4500 | 0.169 | 65.734 | 0.088 |
| 32 | 100 | 0.027 | 10.837 | 0.224 |
| | 4500 | 0.163 | 65.137 | 0.087 |
| 33 | 100 | 0.028 | 11.214 | 0.224 |
| | 4500 | 0.165 | 65.350 | 0.087 |
| 34 | 100 | 0.028 | 11.109 | 0.223 |
| | 4500 | 0.164 | 65.458 | 0.086 |
| 35 | 100 | 0.029 | 11.477 | 0.223 |
| | 4500 | 0.166 | 65.994 | 0.086 |
| 36 | 100 | 0.034 | 13.134 | 0.225 |
| | 4500 | 0.174 | 66.990 | 0.086 |
| 37 | 100 | 0.040 | 13.168 | 0.267 |
| | 4500 | 0.200 | 65.241 | 0.107 |
| 38 | 100 | 0.042 | 13.108 | 0.278 |
| | 4500 | 0.208 | 65.011 | 0.112 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 39 | 100 | 0.020 | 5.984 | 0.319 |
| | 4500 | 0.221 | 65.131 | 0.118 |
| 40 | 100 | 0.000 | -0.201 | 0.245 |
| | 4500 | 0.144 | 58.883 | 0.100 |

## 5 Warnings and errors

List of non-fatal warnings and errors generated during calculation.

1 Non-uniform load [1]: Co-ordinate (1) lies below surface

2 Non-uniform load [1]: Co-ordinate (2) lies below surface

3 Non-uniform load [2]: Co-ordinate (1) lies below surface

4 Non-uniform load [3]: Co-ordinate (6) lies below surface

5 Non-uniform load [3]: Co-ordinate (9) lies below surface

6 Non-uniform load [3]: Co-ordinate (10) lies below surface

7 Non-uniform load [4]: Co-ordinate (2) lies below surface

## End of Report

# Report for D-Settlement 21.2

Settlement Calculations
Developed by Deltares




| | |
|---|---|
| Company: | Waalpartners bv |
| Date of report: | 11/25/2022 |
| Time of report: | 11:15:37 AM |
| Report with version: | 21.2.1.34213 |
| Date of calculation: | 11/25/2022 |
| Time of calculation: | 11:14:15 AM |
| Calculated with version: | 21.2.1.34213 |
| File name: | 14.72bkl |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 12 - X - | -22.000 | -13.016 | -12.034 | -11.861 | -10.854 |
| 12 - Y - | -1.881 | -2.478 | -3.073 | -3.100 | -3.257 |
| 12 - X - | -10.051 | -10.048 | -9.939 | -7.184 | -6.710 |
| 12 - Y - | -3.131 | -3.100 | -1.948 | -0.475 | -0.210 |
| 12 - X - | -5.952 | -5.952 | -3.016 | -0.186 | -0.186 |
| 12 - Y - | -0.175 | -0.795 | -0.753 | -0.743 | -0.123 |
| 12 - X - | 0.076 | 1.068 | 2.418 | 2.867 | 5.000 |
| 12 - Y - | -0.129 | -0.188 | -0.341 | -0.379 | -0.070 |
| 11 - X - | -22.000 | -11.861 | -10.854 | -10.051 | -10.048 |
| 11 - Y - | -3.100 | -3.100 | -3.257 | -3.131 | -3.100 |
| 11 - X - | -9.939 | -7.184 | -6.710 | -5.952 | -5.952 |
| 11 - Y - | -1.948 | -0.475 | -0.210 | -0.175 | -0.795 |
| 11 - X - | -3.016 | -0.186 | -0.186 | 0.076 | 1.068 |
| 11 - Y - | -0.753 | -0.743 | -0.123 | -0.129 | -0.188 |
| 11 - X - | 2.418 | 2.867 | 5.000 | | |
| 11 - Y - | -0.341 | -0.379 | -0.070 | | |
| 10 - X - | -22.000 | -11.861 | -10.854 | -10.051 | -10.048 |
| 10 - Y - | -3.100 | -3.100 | -3.257 | -3.131 | -3.100 |
| 10 - X - | 5.000 | | | | |
| 10 - Y - | -3.100 | | | | |
| 9 - X - | -22.000 | 5.000 | | | |
| 9 - Y - | -6.100 | -6.100 | | | |
| 8 - X - | -22.000 | 5.000 | | | |
| 8 - Y - | -7.300 | -7.300 | | | |
| 7 - X - | -22.000 | 5.000 | | | |
| 7 - Y - | -8.600 | -8.600 | | | |
| 6 - X - | -22.000 | 5.000 | | | |
| 6 - Y - | -9.200 | -9.200 | | | |
| 5 - X - | -22.000 | 5.000 | | | |
| 5 - Y - | -12.700 | -12.700 | | | |
| 4 - X - | -22.000 | 5.000 | | | |
| 4 - Y - | -13.700 | -13.700 | | | |
| 3 - X - | -22.000 | 5.000 | | | |
| 3 - Y - | -16.100 | -16.100 | | | |
| 2 - X - | -22.000 | 5.000 | | | |
| 2 - Y - | -17.200 | -17.200 | | | |
| 1 - X - | -22.000 | 5.000 | | | |
| 1 - Y - | -18.700 | -18.700 | | | |
| 0 - X - | -22.000 | 5.000 | | | |
| 0 - Y - | -19.500 | -19.500 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -22.000 | -11.000 | 0.000 | 5.000 | |
| 1 - Y - | -2.650 | -2.650 | -0.430 | -0.430 | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | |
| - Loads: | None |
| End of consolidation: | 10000.00 [days] |
| No maintain profile | |

| | |
|---|---|
| Pc (initial): | Variable parallel to the initial effective stress |
| Pc (per step): | Automatic increased to the final effective stresses |
| Creep rate reference time: | 1.000 [days] |
| No imaginary surface | |
| With submerging | |
| (only for non uniform loads) | |
| - Iteration stop criterium : | 0.10 [m] |
| Load column width | |
| - Non-Uniform Loads : | 1.00 [m] |
| - Trapeziform Loads : | 1.00 [m] |

## 2.4 Soil Profiles

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 12 | Dijksmateriaal | 1 | 1 |
| 11 | Dijksmateriaal | 1 | 1 |
| 10 | Klei Hum DK | 1 | 1 |
| 9 | Hollandveen | 1 | 1 |
| 8 | klei DK | 1 | 1 |
| 7 | Hollandveen | 1 | 1 |
| 6 | Klei CA | 1 | 1 |
| 5 | Klei hum CA | 1 | 1 |
| 4 | Klei CA | 1 | 1 |
| 3 | Klei zand CA | 1 | 1 |
| 2 | Klei CA | 1 | 1 |
| 1 | Klei hum CA | 1 | 1 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 12 | No | 16.00 | 16.00 |
| 11 | No | 16.00 | 16.00 |
| 10 | No | 13.50 | 13.50 |
| 9 | No | 10.50 | 10.50 |
| 8 | No | 15.10 | 15.10 |
| 7 | No | 10.50 | 10.50 |
| 6 | No | 15.90 | 15.90 |
| 5 | No | 15.90 | 15.90 |
| 4 | No | 15.90 | 15.90 |
| 3 | No | 17.00 | 17.00 |
| 2 | No | 15.90 | 15.90 |
| 1 | No | 15.90 | 15.90 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|---|---|
| 12 | Vert. cons. | 1.00E-08 | - | - | - |
| 11 | Vert. cons. | 1.00E-08 | - | - | - |
| 10 | Vert. cons. | 2.07E-08 | - | - | - |
| 9 | Vert. cons. | 2.37E-08 | - | - | - |
| 8 | Vert. cons. | 2.54E-08 | - | - | - |
| 7 | Vert. cons. | 2.37E-08 | - | - | - |
| 6 | Vert. cons. | 6.02E-07 | - | - | - |
| 5 | Vert. cons. | 9.27E-08 | - | - | - |
| 4 | Vert. cons. | 6.02E-07 | - | - | - |
| 3 | Vert. cons. | 1.00E-07 | - | - | - |
| 2 | Vert. cons. | 6.02E-07 | - | - | - |
| 1 | Vert. cons. | 9.27E-08 | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 12 | - | 1.50 | - |
| 11 | - | 1.50 | - |
| 10 | - | 1.50 | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 9 | - | 1.80 | - |
| 8 | - | 1.50 | - |
| 7 | - | 1.80 | - |
| 6 | - | 1.50 | - |
| 5 | - | 1.50 | - |
| 4 | - | 1.50 | - |
| 3 | - | 1.39 | - |
| 2 | - | 1.50 | - |
| 1 | - | 1.50 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 12 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 11 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 10 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 9 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 8 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 7 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 6 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 5 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 4 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 3 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 2 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 1 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time [days] | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 1 | -1 | 19.00 | 19.00 |
| 2 | -1 | 24.00 | 24.00 |
| 3 | 2 | 16.00 | 16.00 |
| 4 | 3 | 18.00 | 20.00 |
| 5 | 4 | 19.00 | 19.00 |
| 6 | 5 | 25.00 | 25.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -5.95 | -0.19 | | | | |
| 1 - Y - | -0.49 | -0.44 | | | | |
| 2 - X - | -5.95 | -5.79 | -5.09 | -4.91 | -4.51 | -3.02 |
| 2 - Y - | -0.17 | -0.15 | -0.15 | -0.14 | -0.14 | -0.13 |
| 2 - X - | -1.83 | -1.27 | -0.57 | -0.30 | -0.19 | |
| 2 - Y - | -0.12 | -0.12 | -0.11 | -0.11 | -0.12 | |
| 3 - X - | -9.94 | -6.80 | -6.17 | -5.95 | -5.95 | -4.24 |
| 3 - Y - | -1.95 | 0.32 | 0.32 | 0.33 | -0.80 | -0.77 |
| 3 - X - | -3.02 | -0.54 | -0.19 | -0.19 | -0.19 | 0.13 |
| 3 - Y - | -0.75 | -0.74 | -0.74 | -0.74 | 0.33 | 0.32 |
| 3 - X - | 0.27 | 0.38 | 0.52 | 0.67 | 0.77 | 1.07 |
| 3 - Y - | 0.31 | 0.30 | 0.30 | 0.29 | 0.29 | -0.19 |
| 4 - X - | -5.95 | -0.19 | | | | |
| 4 - Y - | -0.07 | -0.07 | | | | |
| 5 - X - | -5.95 | -0.19 | | | | |
| 5 - Y - | 0.13 | 0.13 | | | | |
| 6 - X - | -5.95 | -4.52 | -3.02 | -1.51 | -0.19 | |
| 6 - Y - | 0.33 | 0.36 | 0.40 | 0.36 | 0.33 | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -22.000 | -13.016 | -12.777 | -12.531 | -12.240 |
| 6 - 10 | -12.034 | -11.861 | -11.000 | -10.854 | -10.051 |
| 11 - 15 | -10.048 | -9.939 | -8.334 | -7.184 | -7.071 |
| 16 - 20 | -6.805 | -6.734 | -6.710 | -6.627 | -6.591 |

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 21 - 25 | -6.526 | -6.336 | -6.166 | -5.952 | -5.785 |
| 26 - 30 | -5.087 | -4.913 | -4.517 | -4.515 | -4.237 |
| 31 - 35 | -3.016 | -1.826 | -1.515 | -1.267 | -0.571 |
| 36 - 40 | -0.535 | -0.304 | -0.192 | -0.186 | 0.000 |
| 41 - 45 | 0.076 | 0.134 | 0.274 | 0.375 | 0.516 |
| 46 - 50 | 0.674 | 0.773 | 1.068 | 2.204 | 2.418 |
| 51 - 53 | 2.867 | 4.526 | 5.000 | | |

# 3 Results per Vertical

## 3.1 Results for Vertical 24 (X = -5.95 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.795 | 27.935 | -0.795 | 11.147 | 0.239 |
| -0.895 | 28.715 | -0.865 | 10.596 | 0.234 |
| -0.995 | 29.578 | -0.934 | 10.142 | 0.230 |
| -1.095 | 30.500 | -1.003 | 9.770 | 0.226 |
| -1.195 | 31.491 | -1.071 | 9.473 | 0.222 |
| -1.295 | 32.538 | -1.139 | 9.237 | 0.219 |
| -1.395 | 33.625 | -1.206 | 9.045 | 0.216 |
| -1.495 | 34.331 | -1.273 | 8.477 | 0.213 |
| -1.595 | 34.487 | -1.339 | 7.363 | 0.211 |
| -1.631 | 34.548 | -1.363 | 6.964 | 0.210 |
| -1.695 | 34.663 | -1.342 | 6.894 | 0.209 |
| -1.795 | 34.855 | -1.308 | 6.795 | 0.207 |
| -1.948 | 35.175 | -1.258 | 6.667 | 0.205 |
| -2.500 | 36.484 | -1.080 | 6.325 | 0.199 |
| -3.100 | 38.014 | -0.894 | 6.026 | 0.196 |
| -3.100 | 38.014 | -0.894 | 6.026 | 0.196 |
| -3.900 | 39.489 | -0.796 | 5.637 | 0.180 |
| -4.600 | 40.926 | -0.731 | 5.290 | 0.169 |
| -5.300 | 42.523 | -0.685 | 4.946 | 0.158 |
| -6.100 | 44.577 | -0.658 | 4.565 | 0.147 |
| -6.100 | 44.577 | -0.658 | 4.565 | 0.147 |
| -6.700 | 44.549 | -0.661 | 4.292 | 0.132 |
| -7.300 | 44.707 | -0.682 | 4.032 | 0.117 |
| -7.300 | 44.707 | -0.682 | 4.032 | 0.117 |
| -7.950 | 48.301 | -0.748 | 3.765 | 0.110 |
| -8.600 | 52.132 | -0.836 | 3.515 | 0.102 |
| -8.600 | 52.132 | -0.836 | 3.515 | 0.102 |
| -8.900 | 52.423 | -0.866 | 3.405 | 0.093 |
| -9.200 | 52.771 | -0.901 | 3.298 | 0.083 |
| -9.200 | 52.771 | -0.901 | 3.298 | 0.083 |
| -10.050 | 57.471 | -0.909 | 3.013 | 0.079 |
| -10.950 | 62.506 | -0.918 | 2.738 | 0.075 |
| -11.800 | 67.318 | -0.929 | 2.501 | 0.071 |
| -12.700 | 72.470 | -0.942 | 2.272 | 0.067 |
| -12.700 | 72.470 | -0.942 | 2.272 | 0.067 |
| -13.200 | 75.861 | -1.001 | 2.154 | 0.060 |
| -13.700 | 79.325 | -1.067 | 2.041 | 0.052 |
| -13.700 | 79.325 | -1.067 | 2.041 | 0.052 |
| -14.300 | 82.838 | -1.079 | 1.914 | 0.048 |
| -14.900 | 86.376 | -1.091 | 1.793 | 0.044 |
| -15.500 | 89.937 | -1.105 | 1.680 | 0.040 |
| -16.100 | 93.522 | -1.120 | 1.573 | 0.036 |
| -16.100 | 93.522 | -1.120 | 1.573 | 0.036 |
| -16.650 | 98.450 | -1.238 | 1.480 | 0.034 |
| -17.200 | 103.467 | -1.365 | 1.392 | 0.031 |
| -17.200 | 103.467 | -1.365 | 1.392 | 0.031 |
| -17.950 | 108.033 | -1.388 | 1.279 | 0.024 |
| -18.700 | 112.633 | -1.413 | 1.172 | 0.016 |
| -18.700 | 112.633 | -1.413 | 1.172 | 0.016 |
| -19.100 | 116.000 | -1.519 | 1.119 | 0.008 |
| -19.500 | 119.430 | -1.631 | 1.067 | 0.000 |

## 3.2 Results for Vertical 31 (X = -3.02 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.753 | 22.312 | -0.753 | 8.757 | 0.250 |
| -0.853 | 23.457 | -0.828 | 8.537 | 0.244 |
| -0.953 | 23.750 | -0.902 | 7.494 | 0.240 |
| -1.039 | 24.028 | -0.965 | 6.622 | 0.237 |
| -1.053 | 24.077 | -0.961 | 6.618 | 0.236 |
| -1.153 | 24.418 | -0.935 | 6.593 | 0.233 |
| -1.253 | 24.752 | -0.908 | 6.566 | 0.230 |
| -1.353 | 25.075 | -0.882 | 6.533 | 0.227 |
| -1.453 | 25.385 | -0.855 | 6.495 | 0.224 |
| -1.553 | 25.684 | -0.829 | 6.453 | 0.222 |
| -1.653 | 25.973 | -0.802 | 6.408 | 0.219 |
| -1.753 | 26.253 | -0.775 | 6.361 | 0.217 |
| -1.927 | 26.721 | -0.729 | 6.277 | 0.214 |
| -2.500 | 28.140 | -0.580 | 6.007 | 0.206 |
| -3.100 | 29.478 | -0.429 | 5.746 | 0.201 |
| -3.100 | 29.478 | -0.429 | 5.746 | 0.201 |
| -3.900 | 30.281 | -0.349 | 5.403 | 0.184 |
| -4.600 | 31.106 | -0.296 | 5.093 | 0.171 |
| -5.300 | 32.131 | -0.259 | 4.776 | 0.160 |
| -6.100 | 33.599 | -0.237 | 4.414 | 0.148 |
| -6.100 | 33.599 | -0.237 | 4.414 | 0.148 |
| -6.700 | 33.167 | -0.239 | 4.148 | 0.133 |
| -7.300 | 32.939 | -0.254 | 3.891 | 0.117 |
| -7.300 | 32.939 | -0.254 | 3.891 | 0.117 |
| -7.950 | 36.072 | -0.303 | 3.625 | 0.110 |
| -8.600 | 39.449 | -0.370 | 3.372 | 0.102 |
| -8.600 | 39.449 | -0.370 | 3.372 | 0.102 |
| -8.900 | 39.572 | -0.392 | 3.260 | 0.093 |
| -9.200 | 39.748 | -0.419 | 3.151 | 0.083 |
| -9.200 | 39.748 | -0.419 | 3.151 | 0.083 |
| -10.050 | 44.214 | -0.425 | 2.858 | 0.079 |
| -10.950 | 49.050 | -0.432 | 2.575 | 0.075 |
| -11.800 | 53.708 | -0.441 | 2.330 | 0.071 |
| -12.700 | 58.724 | -0.451 | 2.093 | 0.067 |
| -12.700 | 58.724 | -0.451 | 2.093 | 0.067 |
| -13.200 | 61.956 | -0.500 | 1.970 | 0.060 |
| -13.700 | 65.260 | -0.554 | 1.854 | 0.053 |
| -13.700 | 65.260 | -0.554 | 1.854 | 0.053 |
| -14.300 | 68.705 | -0.564 | 1.722 | 0.049 |
| -14.900 | 72.179 | -0.574 | 1.597 | 0.044 |
| -15.500 | 75.683 | -0.586 | 1.480 | 0.040 |
| -16.100 | 79.213 | -0.599 | 1.370 | 0.036 |
| -16.100 | 79.213 | -0.599 | 1.370 | 0.036 |
| -16.650 | 83.940 | -0.699 | 1.274 | 0.034 |
| -17.200 | 88.756 | -0.807 | 1.183 | 0.031 |
| -17.200 | 88.756 | -0.807 | 1.183 | 0.031 |
| -17.950 | 93.262 | -0.827 | 1.066 | 0.024 |
| -18.700 | 97.805 | -0.849 | 0.956 | 0.016 |
| -18.700 | 97.805 | -0.849 | 0.956 | 0.016 |
| -19.100 | 101.023 | -0.941 | 0.901 | 0.008 |
| -19.500 | 104.300 | -1.039 | 0.847 | 0.000 |

### 3.3 Results for Vertical 38 (X = -0.19 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.743 | 18.503 | -0.469 | 11.398 | 0.299 |
| -0.843 | 14.735 | -0.443 | 8.631 | 0.290 |
| -0.943 | 14.616 | -0.422 | 8.139 | 0.281 |
| -1.043 | 14.697 | -0.400 | 7.790 | 0.274 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.143 | 14.865 | -0.379 | 7.512 | 0.267 |
| -1.243 | 15.083 | -0.357 | 7.280 | 0.261 |
| -1.343 | 15.332 | -0.336 | 7.080 | 0.256 |
| -1.443 | 15.602 | -0.314 | 6.904 | 0.251 |
| -1.543 | 15.887 | -0.293 | 6.747 | 0.247 |
| -1.643 | 16.184 | -0.271 | 6.604 | 0.243 |
| -1.743 | 16.491 | -0.249 | 6.474 | 0.240 |
| -1.922 | 17.057 | -0.209 | 6.270 | 0.234 |
| -2.500 | 19.002 | -0.080 | 5.778 | 0.222 |
| -3.100 | 21.103 | 0.058 | 5.444 | 0.217 |
| -3.100 | 21.103 | 0.058 | 5.444 | 0.217 |
| -3.900 | 22.990 | 0.136 | 5.145 | 0.198 |
| -4.600 | 24.743 | 0.194 | 4.953 | 0.185 |
| -5.300 | 26.585 | 0.241 | 4.793 | 0.174 |
| -6.100 | 28.817 | 0.278 | 4.630 | 0.162 |
| -6.100 | 28.817 | 0.278 | 4.630 | 0.162 |
| -6.700 | 28.893 | 0.284 | 4.516 | 0.146 |
| -7.300 | 29.089 | 0.278 | 4.404 | 0.130 |
| -7.300 | 29.089 | 0.278 | 4.404 | 0.130 |
| -7.950 | 32.528 | 0.246 | 4.286 | 0.122 |
| -8.600 | 36.133 | 0.197 | 4.169 | 0.114 |
| -8.600 | 36.133 | 0.197 | 4.169 | 0.114 |
| -8.900 | 36.373 | 0.179 | 4.116 | 0.104 |
| -9.200 | 36.654 | 0.157 | 4.064 | 0.093 |
| -9.200 | 36.654 | 0.157 | 4.064 | 0.093 |
| -10.050 | 41.486 | 0.152 | 3.916 | 0.089 |
| -10.950 | 46.634 | 0.145 | 3.765 | 0.084 |
| -11.800 | 51.529 | 0.137 | 3.626 | 0.079 |
| -12.700 | 56.749 | 0.127 | 3.485 | 0.074 |
| -12.700 | 56.749 | 0.127 | 3.485 | 0.074 |
| -13.200 | 60.065 | 0.080 | 3.409 | 0.066 |
| -13.700 | 63.444 | 0.028 | 3.336 | 0.059 |
| -13.700 | 63.444 | 0.028 | 3.336 | 0.059 |
| -14.300 | 66.982 | 0.018 | 3.250 | 0.054 |
| -14.900 | 70.539 | 0.008 | 3.166 | 0.049 |
| -15.500 | 74.115 | -0.004 | 3.086 | 0.044 |
| -16.100 | 77.711 | -0.017 | 3.009 | 0.039 |
| -16.100 | 77.711 | -0.017 | 3.009 | 0.039 |
| -16.650 | 82.506 | -0.119 | 2.940 | 0.036 |
| -17.200 | 87.388 | -0.229 | 2.874 | 0.034 |
| -17.200 | 87.388 | -0.229 | 2.874 | 0.034 |
| -17.950 | 91.957 | -0.250 | 2.787 | 0.025 |
| -18.700 | 96.556 | -0.272 | 2.704 | 0.017 |
| -18.700 | 96.556 | -0.272 | 2.704 | 0.017 |
| -19.100 | 99.831 | -0.367 | 2.662 | 0.009 |
| -19.500 | 103.168 | -0.469 | 2.621 | 0.000 |

### 3.4 Results for Vertical 40 (X = 0.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.127 | 7.204 | -0.127 | 7.203 | 0.298 |
| -0.227 | 10.156 | -0.218 | 8.644 | 0.275 |
| -0.327 | 11.942 | -0.307 | 8.945 | 0.260 |
| -0.427 | 13.636 | -0.393 | 9.174 | 0.248 |
| -0.430 | 13.681 | -0.395 | 9.179 | 0.247 |
| -0.527 | 14.422 | -0.381 | 9.417 | 0.237 |
| -0.627 | 14.510 | -0.365 | 8.640 | 0.228 |
| -0.727 | 14.308 | -0.350 | 7.390 | 0.221 |
| -0.827 | 14.233 | -0.336 | 6.321 | 0.215 |
| -0.927 | 14.660 | -0.321 | 5.723 | 0.210 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.027 | 15.358 | -0.306 | 5.411 | 0.206 |
| -1.127 | 16.045 | -0.290 | 5.181 | 0.203 |
| -1.614 | 18.647 | -0.208 | 4.317 | 0.191 |
| -2.400 | 22.080 | -0.063 | 3.475 | 0.182 |
| -3.100 | 24.973 | 0.077 | 3.068 | 0.180 |
| -3.100 | 24.973 | 0.077 | 3.068 | 0.180 |
| -3.900 | 27.148 | 0.146 | 2.786 | 0.167 |
| -4.600 | 29.099 | 0.196 | 2.614 | 0.158 |
| -5.300 | 31.108 | 0.236 | 2.475 | 0.149 |
| -6.100 | 33.501 | 0.267 | 2.335 | 0.140 |
| -6.100 | 33.501 | 0.267 | 2.335 | 0.140 |
| -6.700 | 33.661 | 0.270 | 2.235 | 0.126 |
| -7.300 | 33.930 | 0.261 | 2.138 | 0.113 |
| -7.300 | 33.930 | 0.261 | 2.138 | 0.113 |
| -7.950 | 37.451 | 0.225 | 2.033 | 0.107 |
| -8.600 | 41.120 | 0.174 | 1.929 | 0.099 |
| -8.600 | 41.120 | 0.174 | 1.929 | 0.099 |
| -8.900 | 41.381 | 0.155 | 1.881 | 0.090 |
| -9.200 | 41.681 | 0.133 | 1.834 | 0.081 |
| -9.200 | 41.681 | 0.133 | 1.834 | 0.081 |
| -10.050 | 46.551 | 0.128 | 1.699 | 0.078 |
| -10.950 | 51.728 | 0.121 | 1.560 | 0.074 |
| -11.800 | 56.644 | 0.114 | 1.431 | 0.071 |
| -12.700 | 61.879 | 0.105 | 1.298 | 0.066 |
| -12.700 | 61.879 | 0.105 | 1.298 | 0.066 |
| -13.200 | 65.170 | 0.062 | 1.226 | 0.059 |
| -13.700 | 68.516 | 0.013 | 1.156 | 0.052 |
| -13.700 | 68.516 | 0.013 | 1.156 | 0.052 |
| -14.300 | 72.056 | 0.004 | 1.075 | 0.048 |
| -14.900 | 75.612 | -0.005 | 0.995 | 0.044 |
| -15.500 | 79.186 | -0.016 | 0.918 | 0.039 |
| -16.100 | 82.776 | -0.027 | 0.844 | 0.035 |
| -16.100 | 82.776 | -0.027 | 0.844 | 0.035 |
| -16.650 | 87.476 | -0.119 | 0.778 | 0.033 |
| -17.200 | 92.249 | -0.218 | 0.714 | 0.031 |
| -17.200 | 92.249 | -0.218 | 0.714 | 0.031 |
| -17.950 | 96.802 | -0.236 | 0.630 | 0.023 |
| -18.700 | 101.381 | -0.256 | 0.550 | 0.016 |
| -18.700 | 101.381 | -0.256 | 0.550 | 0.016 |
| -19.100 | 104.552 | -0.340 | 0.509 | 0.008 |
| -19.500 | 107.776 | -0.430 | 0.469 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -22.00 | 0.00 | -1.88 | 0.156 |
| 2 | -13.02 | 0.00 | -2.48 | 0.178 |
| 3 | -12.78 | 0.00 | -2.62 | 0.233 |
| 4 | -12.53 | 0.00 | -2.77 | 0.271 |
| 5 | -12.24 | 0.00 | -2.95 | 0.294 |
| 6 | -12.03 | 0.00 | -3.07 | 0.316 |
| 7 | -11.86 | 0.00 | -3.10 | 0.328 |
| 8 | -11.00 | 0.00 | -3.23 | 0.378 |
| 9 | -10.85 | 0.00 | -3.26 | 0.388 |
| 10 | -10.05 | 0.00 | -3.13 | 0.439 |
| 11 | -10.05 | 0.00 | -3.10 | 0.439 |
| 12 | -9.94 | 0.00 | -1.95 | 0.235 |
| 13 | -8.33 | 0.00 | -1.09 | 0.284 |
| 14 | -7.18 | 0.00 | -0.48 | 0.307 |
| 15 | -7.07 | 0.00 | -0.41 | 0.308 |
| 16 | -6.80 | 0.00 | -0.26 | 0.310 |
| 17 | -6.73 | 0.00 | -0.22 | 0.307 |
| 18 | -6.71 | 0.00 | -0.21 | 0.307 |
| 19 | -6.63 | 0.00 | -0.21 | 0.307 |
| 20 | -6.59 | 0.00 | -0.20 | 0.307 |
| 21 | -6.53 | 0.00 | -0.20 | 0.308 |
| 22 | -6.34 | 0.00 | -0.19 | 0.308 |
| 23 | -6.17 | 0.00 | -0.18 | 0.316 |
| 24 | -5.95 | 0.00 | -0.80 | 0.239 |
| 25 | -5.79 | 0.00 | -0.79 | 0.258 |
| 26 | -5.09 | 0.00 | -0.78 | 0.246 |
| 27 | -4.91 | 0.00 | -0.78 | 0.247 |
| 28 | -4.52 | 0.00 | -0.77 | 0.247 |
| 29 | -4.51 | 0.00 | -0.77 | 0.247 |
| 30 | -4.24 | 0.00 | -0.77 | 0.249 |
| 31 | -3.02 | 0.00 | -0.75 | 0.250 |
| 32 | -1.83 | 0.00 | -0.75 | 0.263 |
| 33 | -1.51 | 0.00 | -0.75 | 0.272 |
| 34 | -1.27 | 0.00 | -0.75 | 0.271 |
| 35 | -0.57 | 0.00 | -0.74 | 0.275 |
| 36 | -0.54 | 0.00 | -0.74 | 0.277 |
| 37 | -0.30 | 0.00 | -0.74 | 0.288 |
| 38 | -0.19 | 0.00 | -0.74 | 0.299 |
| 39 | -0.19 | 0.00 | -0.74 | 0.259 |
| 40 | 0.00 | 0.00 | -0.13 | 0.298 |
| 41 | 0.08 | 0.00 | -0.13 | 0.289 |
| 42 | 0.13 | 0.00 | -0.13 | 0.289 |
| 43 | 0.27 | 0.00 | -0.14 | 0.288 |
| 44 | 0.38 | 0.00 | -0.15 | 0.286 |
| 45 | 0.52 | 0.00 | -0.16 | 0.283 |
| 46 | 0.67 | 0.00 | -0.16 | 0.276 |
| 47 | 0.77 | 0.00 | -0.17 | 0.268 |
| 48 | 1.07 | 0.00 | -0.19 | 0.234 |
| 49 | 2.20 | 0.00 | -0.32 | 0.185 |
| 50 | 2.42 | 0.00 | -0.34 | 0.186 |
| 51 | 2.87 | 0.00 | -0.38 | 0.188 |
| 52 | 4.53 | 0.00 | -0.14 | 0.158 |
| 53 | 5.00 | 0.00 | -0.07 | 0.156 |

## 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 100 | -0.005 | -3.122 | 0.161 |
| | 4500 | 0.084 | 54.024 | 0.072 |
| 2 | 100 | -0.003 | -1.567 | 0.180 |
| | 4500 | 0.107 | 60.198 | 0.071 |
| 3 | 100 | -0.001 | -0.552 | 0.234 |
| | 4500 | 0.130 | 55.843 | 0.103 |
| 4 | 100 | 0.001 | 0.267 | 0.270 |
| | 4500 | 0.159 | 58.668 | 0.112 |
| 5 | 100 | 0.005 | 1.673 | 0.289 |
| | 4500 | 0.179 | 60.938 | 0.115 |
| 6 | 100 | 0.013 | 4.097 | 0.303 |
| | 4500 | 0.200 | 63.109 | 0.117 |
| 7 | 100 | 0.018 | 5.374 | 0.310 |
| | 4500 | 0.210 | 64.022 | 0.118 |
| 8 | 100 | 0.034 | 8.972 | 0.344 |
| | 4500 | 0.253 | 66.982 | 0.125 |
| 9 | 100 | 0.037 | 9.521 | 0.351 |
| | 4500 | 0.262 | 67.469 | 0.126 |
| 10 | 100 | 0.053 | 12.143 | 0.386 |
| | 4500 | 0.305 | 69.442 | 0.134 |
| 11 | 100 | 0.053 | 12.168 | 0.386 |
| | 4500 | 0.305 | 69.436 | 0.134 |
| 12 | 100 | 0.008 | 3.321 | 0.227 |
| | 4500 | 0.144 | 61.077 | 0.092 |
| 13 | 100 | 0.030 | 10.550 | 0.254 |
| | 4500 | 0.182 | 64.061 | 0.102 |
| 14 | 100 | 0.039 | 12.765 | 0.268 |
| | 4500 | 0.202 | 65.706 | 0.105 |
| 15 | 100 | 0.039 | 12.808 | 0.268 |
| | 4500 | 0.202 | 65.688 | 0.106 |
| 16 | 100 | 0.040 | 12.990 | 0.269 |
| | 4500 | 0.204 | 65.792 | 0.106 |
| 17 | 100 | 0.038 | 12.487 | 0.269 |
| | 4500 | 0.201 | 65.551 | 0.106 |
| 18 | 100 | 0.038 | 12.424 | 0.269 |
| | 4500 | 0.201 | 65.493 | 0.106 |
| 19 | 100 | 0.038 | 12.483 | 0.269 |
| | 4500 | 0.201 | 65.520 | 0.106 |
| 20 | 100 | 0.039 | 12.526 | 0.269 |
| | 4500 | 0.202 | 65.544 | 0.106 |
| 21 | 100 | 0.039 | 12.566 | 0.269 |
| | 4500 | 0.202 | 65.575 | 0.106 |
| 22 | 100 | 0.039 | 12.497 | 0.270 |
| | 4500 | 0.202 | 65.647 | 0.106 |
| 23 | 100 | 0.046 | 14.406 | 0.271 |
| | 4500 | 0.210 | 66.557 | 0.106 |
| 24 | 100 | 0.004 | 1.680 | 0.235 |
| | 4500 | 0.137 | 57.434 | 0.102 |
| 25 | 100 | 0.007 | 2.695 | 0.251 |
| | 4500 | 0.153 | 59.100 | 0.106 |
| 26 | 100 | 0.002 | 0.775 | 0.244 |
| | 4500 | 0.141 | 57.377 | 0.105 |
| 27 | 100 | 0.003 | 1.121 | 0.245 |
| | 4500 | 0.143 | 57.635 | 0.105 |
| 28 | 100 | 0.002 | 0.894 | 0.244 |
| | 4500 | 0.142 | 57.532 | 0.105 |
| 29 | 100 | 0.002 | 0.909 | 0.245 |
| | 4500 | 0.142 | 57.551 | 0.105 |
| 30 | 100 | 0.003 | 1.322 | 0.245 |
| | 4500 | 0.144 | 57.900 | 0.105 |
| 31 | 100 | 0.005 | 1.890 | 0.245 |
| | 4500 | 0.146 | 58.602 | 0.103 |
| 32 | 100 | 0.005 | 1.738 | 0.258 |
| | 4500 | 0.149 | 56.541 | 0.114 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 33 | 100 | 0.005 | 1.736 | 0.267 |
| | 4500 | 0.154 | 56.754 | 0.117 |
| 34 | 100 | 0.005 | 1.829 | 0.266 |
| | 4500 | 0.154 | 56.873 | 0.117 |
| 35 | 100 | 0.006 | 2.198 | 0.269 |
| | 4500 | 0.159 | 57.671 | 0.117 |
| 36 | 100 | 0.007 | 2.356 | 0.270 |
| | 4500 | 0.160 | 57.829 | 0.117 |
| 37 | 100 | 0.011 | 3.791 | 0.277 |
| | 4500 | 0.171 | 59.184 | 0.118 |
| 38 | 100 | 0.015 | 5.136 | 0.284 |
| | 4500 | 0.180 | 60.341 | 0.119 |
| 39 | 100 | 0.006 | 2.374 | 0.252 |
| | 4500 | 0.148 | 57.121 | 0.111 |
| 40 | 100 | 0.044 | 14.577 | 0.255 |
| | 4500 | 0.204 | 68.191 | 0.095 |
| 41 | 100 | 0.036 | 12.417 | 0.253 |
| | 4500 | 0.195 | 67.317 | 0.095 |
| 42 | 100 | 0.036 | 12.513 | 0.253 |
| | 4500 | 0.195 | 67.338 | 0.095 |
| 43 | 100 | 0.036 | 12.657 | 0.252 |
| | 4500 | 0.194 | 67.295 | 0.094 |
| 44 | 100 | 0.036 | 12.707 | 0.250 |
| | 4500 | 0.192 | 67.223 | 0.094 |
| 45 | 100 | 0.036 | 12.711 | 0.247 |
| | 4500 | 0.190 | 67.031 | 0.093 |
| 46 | 100 | 0.034 | 12.400 | 0.242 |
| | 4500 | 0.184 | 66.551 | 0.092 |
| 47 | 100 | 0.031 | 11.516 | 0.237 |
| | 4500 | 0.176 | 65.766 | 0.092 |
| 48 | 100 | 0.014 | 6.112 | 0.220 |
| | 4500 | 0.145 | 61.778 | 0.089 |
| 49 | 100 | -0.004 | -1.907 | 0.188 |
| | 4500 | 0.098 | 52.924 | 0.087 |
| 50 | 100 | -0.004 | -1.965 | 0.189 |
| | 4500 | 0.095 | 51.425 | 0.090 |
| 51 | 100 | -0.004 | -2.044 | 0.192 |
| | 4500 | 0.095 | 50.626 | 0.093 |
| 52 | 100 | -0.005 | -2.860 | 0.163 |
| | 4500 | 0.083 | 52.548 | 0.075 |
| 53 | 100 | -0.005 | -2.967 | 0.161 |
| | 4500 | 0.081 | 52.197 | 0.075 |

## 5 Warnings and errors

List of non-fatal warnings and errors generated during calculation.

1 Non-uniform load [1]: Co-ordinate (1) lies below surface

2 Non-uniform load [1]: Co-ordinate (2) lies below surface

3 Non-uniform load [3]: Co-ordinate (5) lies below surface

4 Non-uniform load [3]: Co-ordinate (6) lies below surface

5 Non-uniform load [3]: Co-ordinate (10) lies below surface

## End of Report

# Report for D-Settlement 21.2

Settlement Calculations
Developed by Deltares




| | |
|---|---|
| Company: | Waalpartners bv |
| Date of report: | 11/25/2022 |
| Time of report: | 11:21:23 AM |
| Report with version: | 21.2.1.34213 |
| Date of calculation: | 11/25/2022 |
| Time of calculation: | 11:20:34 AM |
| Calculated with version: | 21.2.1.34213 |
| File name: | 14.91 bkl |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 12 - X - | -22.000 | -13.730 | -13.628 | -13.337 | -11.554 |
| 12 - Y - | -1.222 | -1.387 | -1.800 | -2.984 | -2.837 |
| 12 - X - | -11.276 | -9.917 | -6.836 | -6.157 | -6.157 |
| 12 - Y - | -2.545 | -1.800 | -0.183 | -0.162 | -0.582 |
| 12 - X - | -3.337 | -0.433 | -0.433 | -0.183 | 0.145 |
| 12 - Y - | -0.410 | -0.338 | 0.082 | 0.063 | -0.058 |
| 12 - X - | 0.885 | 1.077 | 1.344 | 5.000 | |
| 12 - Y - | -0.390 | -1.080 | -1.178 | -1.346 | |
| 11 - X - | -22.000 | -13.628 | -13.337 | -11.554 | -11.276 |
| 11 - Y - | -1.800 | -1.800 | -2.984 | -2.837 | -2.545 |
| 11 - X - | -9.917 | -6.836 | -6.157 | -6.157 | -3.337 |
| 11 - Y - | -1.800 | -0.183 | -0.162 | -0.582 | -0.410 |
| 11 - X - | -0.433 | -0.433 | -0.183 | 0.145 | 0.885 |
| 11 - Y - | -0.338 | 0.082 | 0.063 | -0.058 | -0.390 |
| 11 - X - | 1.077 | 1.344 | 5.000 | | |
| 11 - Y - | -1.080 | -1.178 | -1.346 | | |
| 10 - X - | -22.000 | -13.628 | -13.337 | -11.554 | -11.276 |
| 10 - Y - | -1.800 | -1.800 | -2.984 | -2.837 | -2.545 |
| 10 - X - | -9.917 | 5.000 | | | |
| 10 - Y - | -1.800 | -1.800 | | | |
| 9 - X - | -22.000 | 5.000 | | | |
| 9 - Y - | -5.300 | -5.300 | | | |
| 8 - X - | -22.000 | 5.000 | | | |
| 8 - Y - | -6.500 | -6.500 | | | |
| 7 - X - | -22.000 | 5.000 | | | |
| 7 - Y - | -7.000 | -7.000 | | | |
| 6 - X - | -22.000 | 5.000 | | | |
| 6 - Y - | -7.700 | -7.700 | | | |
| 5 - X - | -22.000 | 5.000 | | | |
| 5 - Y - | -11.200 | -11.200 | | | |
| 4 - X - | -22.000 | 5.000 | | | |
| 4 - Y - | -12.200 | -12.200 | | | |
| 3 - X - | -22.000 | 5.000 | | | |
| 3 - Y - | -17.400 | -17.400 | | | |
| 2 - X - | -22.000 | 5.000 | | | |
| 2 - Y - | -17.700 | -17.700 | | | |
| 1 - X - | -22.000 | 5.000 | | | |
| 1 - Y - | -18.800 | -18.800 | | | |
| 0 - X - | -22.000 | 5.000 | | | |
| 0 - Y - | -19.900 | -19.900 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -22.000 | -11.000 | 0.000 | 5.000 | |
| 1 - Y - | -2.650 | -2.650 | -0.430 | -0.430 | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | |
| - Loads: | None |
| End of consolidation: | 10000.00 [days] |
| No maintain profile | |

| | |
|---|---|
| Pc (initial): | Variable parallel to the initial effective stress |
| Pc (per step): | Automatic increased to the final effective stresses |
| Creep rate reference time: | 1.000 [days] |
| No imaginary surface | |
| With submerging | |
| (only for non uniform loads) | |
| - Iteration stop criterium : | 0.10 [m] |
| Load column width | |
| - Non-Uniform Loads : | 1.00 [m] |
| - Trapeziform Loads : | 1.00 [m] |

## 2.4 Soil Profiles

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 12 | Dijksmateriaal | 1 | 1 |
| 11 | Dijksmateriaal | 1 | 1 |
| 10 | Klei Hum DK | 1 | 1 |
| 9 | Hollandveen | 1 | 1 |
| 8 | klei DK | 1 | 1 |
| 7 | Hollandveen | 1 | 1 |
| 6 | Klei CA | 1 | 1 |
| 5 | Klei hum CA | 1 | 1 |
| 4 | Klei CA | 1 | 1 |
| 3 | Klei zand CA | 1 | 1 |
| 2 | Klei CA | 1 | 1 |
| 1 | Klei hum CA | 1 | 1 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 12 | No | 16.00 | 16.00 |
| 11 | No | 16.00 | 16.00 |
| 10 | No | 13.50 | 13.50 |
| 9 | No | 10.50 | 10.50 |
| 8 | No | 15.10 | 15.10 |
| 7 | No | 10.50 | 10.50 |
| 6 | No | 15.90 | 15.90 |
| 5 | No | 15.90 | 15.90 |
| 4 | No | 15.90 | 15.90 |
| 3 | No | 17.00 | 17.00 |
| 2 | No | 15.90 | 15.90 |
| 1 | No | 15.90 | 15.90 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|---|---|
| 12 | Vert. cons. | 1.00E-08 | - | - | - |
| 11 | Vert. cons. | 1.00E-08 | - | - | - |
| 10 | Vert. cons. | 2.07E-08 | - | - | - |
| 9 | Vert. cons. | 2.37E-08 | - | - | - |
| 8 | Vert. cons. | 2.54E-08 | - | - | - |
| 7 | Vert. cons. | 2.37E-08 | - | - | - |
| 6 | Vert. cons. | 6.02E-07 | - | - | - |
| 5 | Vert. cons. | 9.27E-08 | - | - | - |
| 4 | Vert. cons. | 6.02E-07 | - | - | - |
| 3 | Vert. cons. | 1.00E-07 | - | - | - |
| 2 | Vert. cons. | 6.02E-07 | - | - | - |
| 1 | Vert. cons. | 9.27E-08 | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 12 | - | 1.50 | - |
| 11 | - | 1.50 | - |
| 10 | - | 1.50 | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 9 | - | 1.80 | - |
| 8 | - | 1.50 | - |
| 7 | - | 1.80 | - |
| 6 | - | 1.50 | - |
| 5 | - | 1.50 | - |
| 4 | - | 1.50 | - |
| 3 | - | 1.39 | - |
| 2 | - | 1.50 | - |
| 1 | - | 1.50 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 12 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 11 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 10 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 9 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 8 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 7 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 6 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 5 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 4 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 3 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 2 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 1 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time [days] | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 1 | -1 | 19.00 | 19.00 |
| 2 | -1 | 24.00 | 24.00 |
| 3 | 2 | 16.00 | 16.00 |
| 4 | 3 | 18.00 | 20.00 |
| 5 | 4 | 19.00 | 19.00 |
| 6 | 5 | 25.00 | 25.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -6.16 | -0.43 | | | | |
| 1 - Y - | -0.50 | -0.26 | | | | |
| 2 - X - | -6.16 | -3.56 | -0.75 | -0.43 | | |
| 2 - Y - | -0.16 | 0.00 | 0.10 | 0.08 | | |
| 3 - X - | -9.92 | -7.08 | -6.16 | -6.16 | -6.10 | -5.83 |
| 3 - Y - | -1.80 | 0.32 | 0.33 | -0.58 | -0.59 | -0.57 |
| 3 - X - | -4.23 | -3.34 | -2.65 | -0.64 | -0.51 | -0.43 |
| 3 - Y - | -0.47 | -0.41 | -0.39 | -0.34 | -0.34 | -0.34 |
| 3 - X - | -0.43 | -0.24 | 0.47 | 0.89 | | |
| 3 - Y - | 0.33 | 0.32 | 0.32 | -0.39 | | |
| 4 - X - | -6.16 | -0.43 | | | | |
| 4 - Y - | -0.07 | -0.07 | | | | |
| 5 - X - | -6.16 | -0.43 | | | | |
| 5 - Y - | 0.13 | 0.13 | | | | |
| 6 - X - | -6.16 | -4.79 | -3.34 | -1.89 | -0.43 | |
| 6 - Y - | 0.33 | 0.36 | 0.40 | 0.36 | 0.33 | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -22.000 | -13.730 | -13.628 | -13.337 | -11.554 |
| 6 - 10 | -11.276 | -11.000 | -9.917 | -7.076 | -6.906 |
| 11 - 15 | -6.836 | -6.437 | -6.157 | -6.099 | -5.829 |
| 16 - 20 | -4.788 | -4.231 | -3.560 | -3.337 | -2.654 |
| 21 - 25 | -1.886 | -0.753 | -0.643 | -0.507 | -0.433 |
| 26 - 30 | -0.237 | -0.183 | 0.000 | 0.145 | 0.471 |

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 31 - 34 | 0.885 | 1.077 | 1.344 | 5.000 | |

# 3 Results per Vertical

## 3.1 Results for Vertical 14 (X = -6.10 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.578 | 8.974 | -0.578 | 0.129 | 0.297 |
| -0.678 | 19.230 | -0.659 | 10.498 | 0.292 |
| -0.778 | 19.327 | -0.733 | 10.020 | 0.284 |
| -0.878 | 19.977 | -0.807 | 9.726 | 0.278 |
| -0.978 | 20.808 | -0.880 | 9.468 | 0.272 |
| -1.078 | 21.739 | -0.952 | 9.237 | 0.267 |
| -1.178 | 22.745 | -1.024 | 9.039 | 0.262 |
| -1.189 | 22.857 | -1.032 | 9.019 | 0.262 |
| -1.278 | 23.806 | -1.095 | 8.872 | 0.258 |
| -1.378 | 24.907 | -1.165 | 8.731 | 0.255 |
| -1.478 | 25.748 | -1.234 | 8.323 | 0.251 |
| -1.578 | 25.916 | -1.303 | 7.237 | 0.249 |
| -1.661 | 26.070 | -1.360 | 6.351 | 0.247 |
| -1.800 | 26.353 | -1.317 | 6.233 | 0.245 |
| -1.800 | 26.353 | -1.317 | 6.233 | 0.245 |
| -2.650 | 27.667 | -1.207 | 5.638 | 0.216 |
| -3.550 | 29.347 | -1.111 | 5.065 | 0.193 |
| -4.400 | 31.149 | -1.044 | 4.547 | 0.175 |
| -5.300 | 33.316 | -0.998 | 4.036 | 0.159 |
| -5.300 | 33.316 | -0.998 | 4.036 | 0.159 |
| -5.900 | 33.222 | -0.993 | 3.720 | 0.141 |
| -6.500 | 33.286 | -1.003 | 3.427 | 0.124 |
| -6.500 | 33.286 | -1.003 | 3.427 | 0.124 |
| -6.750 | 34.557 | -1.016 | 3.311 | 0.121 |
| -7.000 | 35.855 | -1.032 | 3.199 | 0.117 |
| -7.000 | 35.855 | -1.032 | 3.199 | 0.117 |
| -7.350 | 36.016 | -1.048 | 3.048 | 0.107 |
| -7.700 | 36.235 | -1.070 | 2.903 | 0.096 |
| -7.700 | 36.235 | -1.070 | 2.903 | 0.096 |
| -8.550 | 40.915 | -1.074 | 2.579 | 0.093 |
| -9.450 | 45.929 | -1.080 | 2.271 | 0.089 |
| -10.300 | 50.718 | -1.086 | 2.012 | 0.085 |
| -11.200 | 55.845 | -1.095 | 1.765 | 0.081 |
| -11.200 | 55.845 | -1.095 | 1.765 | 0.081 |
| -11.700 | 59.053 | -1.134 | 1.638 | 0.075 |
| -12.200 | 62.321 | -1.179 | 1.519 | 0.068 |
| -12.200 | 62.321 | -1.179 | 1.519 | 0.068 |
| -13.000 | 66.982 | -1.190 | 1.343 | 0.063 |
| -14.000 | 72.864 | -1.206 | 1.143 | 0.056 |
| -14.800 | 77.614 | -1.220 | 0.997 | 0.051 |
| -15.600 | 82.401 | -1.237 | 0.864 | 0.045 |
| -16.600 | 88.436 | -1.260 | 0.711 | 0.038 |
| -17.400 | 93.305 | -1.281 | 0.599 | 0.032 |
| -17.400 | 93.305 | -1.281 | 0.599 | 0.032 |
| -17.550 | 94.670 | -1.314 | 0.579 | 0.031 |
| -17.700 | 96.041 | -1.347 | 0.559 | 0.031 |
| -17.700 | 96.041 | -1.347 | 0.559 | 0.031 |
| -18.250 | 99.418 | -1.363 | 0.489 | 0.026 |
| -18.800 | 102.811 | -1.380 | 0.422 | 0.021 |
| -18.800 | 102.811 | -1.380 | 0.422 | 0.021 |
| -19.350 | 107.365 | -1.515 | 0.359 | 0.011 |
| -19.900 | 112.034 | -1.661 | 0.298 | 0.000 |

### 3.2 Results for Vertical 19 (X = -3.34 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.410 | 16.337 | -0.410 | 6.433 | 0.261 |
| -0.510 | 17.758 | -0.489 | 6.437 | 0.256 |
| -0.610 | 19.053 | -0.567 | 6.408 | 0.252 |
| -0.710 | 20.401 | -0.644 | 6.382 | 0.248 |
| -0.810 | 21.770 | -0.719 | 6.365 | 0.244 |
| -0.910 | 23.040 | -0.793 | 6.263 | 0.241 |
| -1.010 | 23.392 | -0.867 | 5.261 | 0.239 |
| -1.103 | 23.705 | -0.935 | 4.322 | 0.237 |
| -1.105 | 23.711 | -0.934 | 4.321 | 0.237 |
| -1.110 | 23.727 | -0.933 | 4.320 | 0.237 |
| -1.210 | 24.052 | -0.906 | 4.295 | 0.235 |
| -1.310 | 24.369 | -0.878 | 4.269 | 0.233 |
| -1.410 | 24.681 | -0.851 | 4.244 | 0.232 |
| -1.800 | 25.857 | -0.744 | 4.154 | 0.228 |
| -1.800 | 25.857 | -0.744 | 4.154 | 0.228 |
| -2.650 | 27.386 | -0.646 | 3.997 | 0.206 |
| -3.550 | 28.919 | -0.561 | 3.836 | 0.187 |
| -4.400 | 30.466 | -0.501 | 3.654 | 0.172 |
| -5.300 | 32.353 | -0.462 | 3.422 | 0.158 |
| -5.300 | 32.353 | -0.462 | 3.422 | 0.158 |
| -5.900 | 32.073 | -0.458 | 3.253 | 0.141 |
| -6.500 | 31.966 | -0.468 | 3.077 | 0.124 |
| -6.500 | 31.966 | -0.468 | 3.077 | 0.124 |
| -6.750 | 33.168 | -0.481 | 3.002 | 0.121 |
| -7.000 | 34.400 | -0.496 | 2.927 | 0.118 |
| -7.000 | 34.400 | -0.496 | 2.927 | 0.118 |
| -7.350 | 34.476 | -0.512 | 2.823 | 0.108 |
| -7.700 | 34.612 | -0.532 | 2.719 | 0.097 |
| -7.700 | 34.612 | -0.532 | 2.719 | 0.097 |
| -8.550 | 39.139 | -0.536 | 2.472 | 0.094 |
| -9.450 | 44.023 | -0.542 | 2.223 | 0.090 |
| -10.300 | 48.714 | -0.548 | 2.002 | 0.086 |
| -11.200 | 53.756 | -0.556 | 1.784 | 0.082 |
| -11.200 | 53.757 | -0.556 | 1.784 | 0.082 |
| -11.700 | 56.909 | -0.594 | 1.670 | 0.076 |
| -12.200 | 60.124 | -0.636 | 1.561 | 0.069 |
| -12.200 | 60.124 | -0.636 | 1.561 | 0.069 |
| -13.000 | 64.734 | -0.647 | 1.397 | 0.064 |
| -14.000 | 70.564 | -0.662 | 1.209 | 0.057 |
| -14.800 | 75.277 | -0.676 | 1.070 | 0.051 |
| -15.600 | 80.032 | -0.692 | 0.942 | 0.046 |
| -16.600 | 86.033 | -0.714 | 0.794 | 0.038 |
| -17.400 | 90.877 | -0.734 | 0.685 | 0.032 |
| -17.400 | 90.877 | -0.734 | 0.685 | 0.032 |
| -17.550 | 92.228 | -0.766 | 0.665 | 0.031 |
| -17.700 | 93.586 | -0.799 | 0.646 | 0.031 |
| -17.700 | 93.586 | -0.799 | 0.646 | 0.031 |
| -18.250 | 96.948 | -0.814 | 0.577 | 0.026 |
| -18.800 | 100.327 | -0.831 | 0.511 | 0.021 |
| -18.800 | 100.327 | -0.831 | 0.511 | 0.021 |
| -19.350 | 104.833 | -0.962 | 0.449 | 0.011 |
| -19.900 | 109.454 | -1.103 | 0.389 | 0.000 |

### 3.3 Results for Vertical 23 (X = -0.64 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.343 | 12.967 | -0.343 | 2.881 | 0.237 |
| -0.443 | 13.595 | -0.427 | 2.496 | 0.235 |
| -0.543 | 13.800 | -0.510 | 1.938 | 0.232 |
| -0.560 | 13.819 | -0.524 | 1.830 | 0.232 |
| -0.643 | 13.901 | -0.509 | 2.047 | 0.230 |
| -0.743 | 14.025 | -0.492 | 2.214 | 0.228 |
| -0.843 | 14.198 | -0.475 | 2.321 | 0.226 |
| -0.943 | 14.418 | -0.457 | 2.394 | 0.224 |
| -1.043 | 14.675 | -0.440 | 2.444 | 0.222 |
| -1.072 | 14.753 | -0.435 | 2.455 | 0.222 |
| -1.143 | 14.959 | -0.423 | 2.479 | 0.221 |
| -1.243 | 15.264 | -0.405 | 2.502 | 0.219 |
| -1.343 | 15.583 | -0.387 | 2.515 | 0.218 |
| -1.800 | 17.141 | -0.303 | 2.498 | 0.214 |
| -1.800 | 17.141 | -0.303 | 2.498 | 0.214 |
| -2.650 | 19.002 | -0.233 | 2.321 | 0.195 |
| -3.550 | 21.204 | -0.166 | 2.129 | 0.178 |
| -4.400 | 23.446 | -0.113 | 1.985 | 0.165 |
| -5.300 | 25.975 | -0.070 | 1.863 | 0.153 |
| -5.300 | 25.975 | -0.070 | 1.863 | 0.153 |
| -5.900 | 26.060 | -0.062 | 1.789 | 0.137 |
| -6.500 | 26.246 | -0.063 | 1.718 | 0.122 |
| -6.500 | 26.246 | -0.063 | 1.718 | 0.122 |
| -6.750 | 27.520 | -0.069 | 1.689 | 0.120 |
| -7.000 | 28.811 | -0.076 | 1.660 | 0.117 |
| -7.000 | 28.811 | -0.076 | 1.660 | 0.117 |
| -7.350 | 28.994 | -0.084 | 1.619 | 0.107 |
| -7.700 | 29.216 | -0.096 | 1.577 | 0.098 |
| -7.700 | 29.216 | -0.096 | 1.577 | 0.098 |
| -8.550 | 34.086 | -0.099 | 1.475 | 0.095 |
| -9.450 | 39.262 | -0.102 | 1.364 | 0.092 |
| -10.300 | 44.173 | -0.107 | 1.259 | 0.088 |
| -11.200 | 49.400 | -0.112 | 1.147 | 0.084 |
| -11.200 | 49.400 | -0.112 | 1.147 | 0.084 |
| -11.700 | 52.554 | -0.140 | 1.085 | 0.077 |
| -12.200 | 55.752 | -0.172 | 1.024 | 0.070 |
| -12.200 | 55.752 | -0.172 | 1.024 | 0.070 |
| -13.000 | 60.460 | -0.180 | 0.928 | 0.065 |
| -14.000 | 66.382 | -0.192 | 0.812 | 0.058 |
| -14.800 | 71.150 | -0.203 | 0.723 | 0.052 |
| -15.600 | 75.945 | -0.216 | 0.637 | 0.046 |
| -16.600 | 81.978 | -0.234 | 0.534 | 0.039 |
| -17.400 | 86.837 | -0.250 | 0.456 | 0.032 |
| -17.400 | 86.837 | -0.250 | 0.456 | 0.032 |
| -17.550 | 88.143 | -0.277 | 0.441 | 0.032 |
| -17.700 | 89.454 | -0.304 | 0.427 | 0.031 |
| -17.700 | 89.454 | -0.304 | 0.427 | 0.031 |
| -18.250 | 92.818 | -0.317 | 0.376 | 0.026 |
| -18.800 | 96.196 | -0.330 | 0.327 | 0.021 |
| -18.800 | 96.196 | -0.330 | 0.327 | 0.021 |
| -19.350 | 100.519 | -0.440 | 0.279 | 0.011 |
| -19.900 | 104.942 | -0.560 | 0.233 | 0.000 |

### 3.4 Results for Vertical 28 (X = 0.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.005 | 4.937 | -0.005 | 4.936 | 0.280 |
| -0.105 | 6.652 | -0.098 | 5.119 | 0.260 |
| -0.205 | 7.681 | -0.189 | 4.630 | 0.249 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.305 | 8.483 | -0.280 | 3.925 | 0.242 |
| -0.405 | 9.467 | -0.369 | 3.403 | 0.236 |
| -0.430 | 9.714 | -0.391 | 3.260 | 0.235 |
| -0.505 | 10.392 | -0.382 | 3.496 | 0.232 |
| -0.605 | 11.212 | -0.369 | 3.642 | 0.228 |
| -0.705 | 11.971 | -0.355 | 3.652 | 0.224 |
| -0.805 | 12.689 | -0.340 | 3.588 | 0.221 |
| -0.902 | 13.352 | -0.325 | 3.489 | 0.218 |
| -0.905 | 13.367 | -0.325 | 3.487 | 0.218 |
| -1.005 | 14.005 | -0.309 | 3.367 | 0.215 |
| -1.800 | 18.134 | -0.169 | 2.448 | 0.205 |
| -1.800 | 18.134 | -0.169 | 2.448 | 0.205 |
| -2.650 | 20.663 | -0.097 | 1.899 | 0.187 |
| -3.550 | 23.310 | -0.027 | 1.614 | 0.172 |
| -4.400 | 25.856 | 0.029 | 1.471 | 0.160 |
| -5.300 | 28.636 | 0.074 | 1.378 | 0.149 |
| -5.300 | 28.636 | 0.074 | 1.378 | 0.149 |
| -5.900 | 28.868 | 0.084 | 1.330 | 0.134 |
| -6.500 | 29.187 | 0.082 | 1.286 | 0.120 |
| -6.500 | 29.187 | 0.082 | 1.286 | 0.120 |
| -6.750 | 30.516 | 0.076 | 1.269 | 0.118 |
| -7.000 | 31.860 | 0.068 | 1.251 | 0.115 |
| -7.000 | 31.860 | 0.068 | 1.251 | 0.115 |
| -7.350 | 32.112 | 0.059 | 1.226 | 0.106 |
| -7.700 | 32.401 | 0.046 | 1.200 | 0.096 |
| -7.700 | 32.401 | 0.046 | 1.200 | 0.096 |
| -8.550 | 37.393 | 0.043 | 1.134 | 0.094 |
| -9.450 | 42.678 | 0.039 | 1.059 | 0.091 |
| -10.300 | 47.674 | 0.035 | 0.984 | 0.087 |
| -11.200 | 52.977 | 0.029 | 0.900 | 0.083 |
| -11.200 | 52.977 | 0.029 | 0.900 | 0.083 |
| -11.700 | 56.177 | 0.000 | 0.853 | 0.076 |
| -12.200 | 59.419 | -0.033 | 0.806 | 0.069 |
| -12.200 | 59.419 | -0.033 | 0.806 | 0.069 |
| -13.000 | 64.174 | -0.042 | 0.729 | 0.064 |
| -14.000 | 70.146 | -0.054 | 0.634 | 0.058 |
| -14.800 | 74.948 | -0.065 | 0.560 | 0.052 |
| -15.600 | 79.773 | -0.078 | 0.486 | 0.046 |
| -16.600 | 85.840 | -0.097 | 0.398 | 0.038 |
| -17.400 | 90.721 | -0.114 | 0.329 | 0.032 |
| -17.400 | 90.721 | -0.114 | 0.329 | 0.032 |
| -17.550 | 92.036 | -0.141 | 0.317 | 0.031 |
| -17.700 | 93.357 | -0.169 | 0.304 | 0.031 |
| -17.700 | 93.357 | -0.169 | 0.304 | 0.031 |
| -18.250 | 96.735 | -0.182 | 0.259 | 0.026 |
| -18.800 | 100.126 | -0.196 | 0.215 | 0.021 |
| -18.800 | 100.126 | -0.196 | 0.215 | 0.021 |
| -19.350 | 104.482 | -0.308 | 0.172 | 0.011 |
| -19.900 | 108.938 | -0.430 | 0.130 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -22.00 | 0.00 | -1.22 | 0.187 |
| 2 | -13.73 | 0.00 | -1.39 | 0.202 |
| 3 | -13.63 | 0.00 | -1.80 | 0.205 |
| 4 | -13.34 | 0.00 | -2.98 | 0.287 |
| 5 | -11.55 | 0.00 | -2.84 | 0.351 |
| 6 | -11.28 | 0.00 | -2.54 | 0.251 |
| 7 | -11.00 | 0.00 | -2.39 | 0.233 |
| 8 | -9.92 | 0.00 | -1.80 | 0.290 |
| 9 | -7.08 | 0.00 | -0.31 | 0.343 |
| 10 | -6.91 | 0.00 | -0.22 | 0.339 |
| 11 | -6.84 | 0.00 | -0.18 | 0.336 |
| 12 | -6.44 | 0.00 | -0.17 | 0.344 |
| 13 | -6.16 | 0.00 | -0.58 | 0.278 |
| 14 | -6.10 | 0.00 | -0.58 | 0.297 |
| 15 | -5.83 | 0.00 | -0.56 | 0.284 |
| 16 | -4.79 | 0.00 | -0.50 | 0.273 |
| 17 | -4.23 | 0.00 | -0.46 | 0.269 |
| 18 | -3.56 | 0.00 | -0.42 | 0.263 |
| 19 | -3.34 | 0.00 | -0.41 | 0.261 |
| 20 | -2.65 | 0.00 | -0.39 | 0.253 |
| 21 | -1.89 | 0.00 | -0.37 | 0.244 |
| 22 | -0.75 | 0.00 | -0.35 | 0.236 |
| 23 | -0.64 | 0.00 | -0.34 | 0.237 |
| 24 | -0.51 | 0.00 | -0.34 | 0.244 |
| 25 | -0.43 | 0.00 | -0.34 | 0.232 |
| 26 | -0.24 | 0.00 | 0.07 | 0.281 |
| 27 | -0.18 | 0.00 | 0.06 | 0.275 |
| 28 | 0.00 | 0.00 | 0.00 | 0.280 |
| 29 | 0.14 | 0.00 | -0.06 | 0.285 |
| 30 | 0.47 | 0.00 | -0.20 | 0.281 |
| 31 | 0.89 | 0.00 | -0.39 | 0.314 |
| 32 | 1.08 | 0.00 | -1.08 | 0.356 |
| 33 | 1.34 | 0.00 | -1.18 | 0.345 |
| 34 | 5.00 | 0.00 | -1.35 | 0.241 |

## 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 100 | -0.004 | -2.373 | 0.191 |
| | 4500 | 0.105 | 56.251 | 0.082 |
| 2 | 100 | -0.003 | -1.706 | 0.206 |
| | 4500 | 0.117 | 57.772 | 0.085 |
| 3 | 100 | -0.002 | -0.860 | 0.207 |
| | 4500 | 0.124 | 60.587 | 0.081 |
| 4 | 100 | 0.006 | 2.133 | 0.281 |
| | 4500 | 0.176 | 61.375 | 0.111 |
| 5 | 100 | 0.021 | 6.083 | 0.330 |
| | 4500 | 0.227 | 64.635 | 0.124 |
| 6 | 100 | 0.008 | 3.158 | 0.243 |
| | 4500 | 0.153 | 60.745 | 0.099 |
| 7 | 100 | 0.007 | 3.081 | 0.226 |
| | 4500 | 0.156 | 66.878 | 0.077 |
| 8 | 100 | 0.022 | 7.628 | 0.268 |
| | 4500 | 0.196 | 67.638 | 0.094 |
| 9 | 100 | 0.040 | 11.749 | 0.303 |
| | 4500 | 0.226 | 65.746 | 0.118 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 10 | 100 | 0.038 | 11.317 | 0.300 |
| | 4500 | 0.221 | 65.285 | 0.118 |
| 11 | 100 | 0.037 | 11.054 | 0.299 |
| | 4500 | 0.218 | 65.047 | 0.117 |
| 12 | 100 | 0.044 | 12.664 | 0.301 |
| | 4500 | 0.227 | 65.912 | 0.117 |
| 13 | 100 | 0.007 | 2.392 | 0.271 |
| | 4500 | 0.164 | 59.047 | 0.114 |
| 14 | 100 | 0.009 | 3.186 | 0.287 |
| | 4500 | 0.180 | 60.644 | 0.117 |
| 15 | 100 | 0.005 | 1.717 | 0.279 |
| | 4500 | 0.168 | 59.211 | 0.116 |
| 16 | 100 | 0.004 | 1.343 | 0.269 |
| | 4500 | 0.160 | 58.472 | 0.113 |
| 17 | 100 | 0.004 | 1.420 | 0.265 |
| | 4500 | 0.157 | 58.331 | 0.112 |
| 18 | 100 | 0.003 | 1.222 | 0.259 |
| | 4500 | 0.152 | 58.038 | 0.110 |
| 19 | 100 | 0.004 | 1.369 | 0.257 |
| | 4500 | 0.151 | 58.032 | 0.110 |
| 20 | 100 | 0.003 | 1.031 | 0.251 |
| | 4500 | 0.146 | 57.714 | 0.107 |
| 21 | 100 | 0.001 | 0.487 | 0.243 |
| | 4500 | 0.140 | 57.221 | 0.104 |
| 22 | 100 | 0.000 | -0.105 | 0.236 |
| | 4500 | 0.135 | 57.198 | 0.101 |
| 23 | 100 | 0.000 | 0.038 | 0.237 |
| | 4500 | 0.137 | 57.603 | 0.101 |
| 24 | 100 | 0.003 | 1.051 | 0.242 |
| | 4500 | 0.143 | 58.577 | 0.101 |
| 25 | 100 | 0.001 | 0.541 | 0.230 |
| | 4500 | 0.132 | 57.185 | 0.099 |
| 26 | 100 | 0.030 | 10.824 | 0.251 |
| | 4500 | 0.180 | 64.101 | 0.101 |
| 27 | 100 | 0.025 | 9.042 | 0.250 |
| | 4500 | 0.174 | 63.383 | 0.101 |
| 28 | 100 | 0.028 | 10.015 | 0.252 |
| | 4500 | 0.180 | 64.320 | 0.100 |
| 29 | 100 | 0.033 | 11.413 | 0.253 |
| | 4500 | 0.186 | 65.285 | 0.099 |
| 30 | 100 | 0.031 | 11.200 | 0.250 |
| | 4500 | 0.185 | 65.863 | 0.096 |
| 31 | 100 | 0.025 | 8.038 | 0.289 |
| | 4500 | 0.191 | 60.772 | 0.123 |
| 32 | 100 | 0.027 | 7.581 | 0.329 |
| | 4500 | 0.224 | 62.891 | 0.132 |
| 33 | 100 | 0.020 | 5.811 | 0.325 |
| | 4500 | 0.214 | 62.139 | 0.131 |
| 34 | 100 | -0.003 | -1.346 | 0.244 |
| | 4500 | 0.133 | 55.092 | 0.108 |

## 5 Warnings and errors

List of non-fatal warnings and errors generated during calculation.

1 Non-uniform load [1]: Co-ordinate (1) lies below surface

2 Non-uniform load [1]: Co-ordinate (2) lies below surface

3 Non-uniform load [3]: Co-ordinate (4) lies below surface

4 Non-uniform load [3]: Co-ordinate (5) lies below surface

5 Non-uniform load [3]: Co-ordinate (6) lies below surface

6 Non-uniform load [3]: Co-ordinate (7) lies below surface

7 Non-uniform load [3]: Co-ordinate (11) lies below surface

8 Non-uniform load [3]: Co-ordinate (12) lies below surface

9 Non-uniform load [4]: Co-ordinate (2) lies below surface

## End of Report

# Report for D-Settlement 21.2

Settlement Calculations
Developed by Deltares




| | |
|---|---|
| Company: | Waalpartners bv |
| Date of report: | 11/22/2022 |
| Time of report: | 3:58:58 PM |
| Report with version: | 21.2.1.34213 |
| Date of calculation: | 11/8/2022 |
| Time of calculation: | 10:27:39 AM |
| Calculated with version: | 21.2.1.34213 |
| File name: | 15.10 buitendijks |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 12 - X - | -12.000 | -10.000 | -8.103 | -7.974 | -6.523 |
| 12 - Y - | -0.018 | 0.024 | -0.091 | -0.088 | -0.065 |
| 12 - X - | -3.291 | -2.925 | -2.925 | -1.321 | 0.000 |
| 12 - Y - | -0.030 | -0.009 | -0.313 | -0.281 | -0.260 |
| 12 - X - | 2.920 | 2.920 | 3.252 | 3.433 | 4.153 |
| 12 - Y - | -0.352 | -0.002 | 0.030 | 0.025 | -0.144 |
| 12 - X - | 4.357 | 4.526 | 5.326 | 7.874 | 9.121 |
| 12 - Y - | -0.148 | -1.750 | -1.908 | -2.000 | -2.045 |
| 12 - X - | 12.000 | | | | |
| 12 - Y - | -2.527 | | | | |
| 11 - X - | -12.000 | 7.874 | 9.121 | 12.000 | |
| 11 - Y - | -2.000 | -2.000 | -2.045 | -2.527 | |
| 10 - X - | -12.000 | 12.000 | | | |
| 10 - Y - | -3.000 | -3.000 | | | |
| 9 - X - | -12.000 | 12.000 | | | |
| 9 - Y - | -5.000 | -5.000 | | | |
| 8 - X - | -12.000 | 12.000 | | | |
| 8 - Y - | -8.000 | -8.000 | | | |
| 7 - X - | -12.000 | 12.000 | | | |
| 7 - Y - | -8.700 | -8.700 | | | |
| 6 - X - | -12.000 | 12.000 | | | |
| 6 - Y - | -9.100 | -9.100 | | | |
| 5 - X - | -12.000 | 12.000 | | | |
| 5 - Y - | -11.600 | -11.600 | | | |
| 4 - X - | -12.000 | 12.000 | | | |
| 4 - Y - | -12.580 | -12.580 | | | |
| 3 - X - | -12.000 | 12.000 | | | |
| 3 - Y - | -17.500 | -17.500 | | | |
| 2 - X - | -12.000 | 12.000 | | | |
| 2 - Y - | -18.100 | -18.100 | | | |
| 1 - X - | -12.000 | 12.000 | | | |
| 1 - Y - | -19.000 | -19.000 | | | |
| 0 - X - | -12.000 | 12.000 | | | |
| 0 - Y - | -19.500 | -19.500 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -12.000 | 0.000 | 12.000 | | |
| 1 - Y - | -0.430 | -0.430 | -0.430 | | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | |
| - Loads: | None |
| End of consolidation: | 10000.00 [days] |
| No maintain profile | |
| Pc (initial): | Variable parallel to the initial effective stress |
| Pc (per step): | Automatic increased to the final effective stresses |

Creep rate reference time: 1.000 [days]
No imaginary surface
With submerging
(only for non uniform loads)
- Iteration stop criterium : 0.10 [m]
Load column width
- Non-Uniform Loads : 1.00 [m]
- Trapeziform Loads : 1.00 [m]

## 2.4 Soil Profiles

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 12 | Dijksmateriaal | 1 | 1 |
| 11 | Klei zand DK | 1 | 1 |
| 10 | Klei Hum DK | 1 | 1 |
| 9 | Hollandveen | 1 | 1 |
| 8 | klei DK | 1 | 1 |
| 7 | Hollandveen | 1 | 1 |
| 6 | Klei CA | 1 | 1 |
| 5 | Klei hum CA | 1 | 1 |
| 4 | Klei CA | 1 | 1 |
| 3 | Klei zand CA | 1 | 1 |
| 2 | Klei CA | 1 | 1 |
| 1 | Klei hum CA | 1 | 1 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 12 | No | 16.00 | 16.00 |
| 11 | No | 17.00 | 17.00 |
| 10 | No | 13.50 | 13.50 |
| 9 | No | 10.50 | 10.50 |
| 8 | No | 15.10 | 15.10 |
| 7 | No | 10.50 | 10.50 |
| 6 | No | 15.90 | 15.90 |
| 5 | No | 15.90 | 15.90 |
| 4 | No | 15.90 | 15.90 |
| 3 | No | 17.00 | 17.00 |
| 2 | No | 15.90 | 15.90 |
| 1 | No | 15.90 | 15.90 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|---|---|
| 12 | Vert. cons. | 1.00E-08 | - | - | - |
| 11 | Vert. cons. | 1.00E-07 | - | - | - |
| 10 | Vert. cons. | 2.07E-08 | - | - | - |
| 9 | Vert. cons. | 2.37E-08 | - | - | - |
| 8 | Vert. cons. | 2.54E-08 | - | - | - |
| 7 | Vert. cons. | 2.37E-08 | - | - | - |
| 6 | Vert. cons. | 6.02E-07 | - | - | - |
| 5 | Vert. cons. | 9.27E-08 | - | - | - |
| 4 | Vert. cons. | 6.02E-07 | - | - | - |
| 3 | Vert. cons. | 1.00E-07 | - | - | - |
| 2 | Vert. cons. | 6.02E-07 | - | - | - |
| 1 | Vert. cons. | 9.27E-08 | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 12 | - | 1.50 | - |
| 11 | - | 1.39 | - |
| 10 | - | 1.50 | - |
| 9 | - | 1.80 | - |
| 8 | - | 1.50 | - |
| 7 | - | 1.80 | - |
| 6 | - | 1.50 | - |
| 5 | - | 1.50 | - |
| 4 | - | 1.50 | - |
| 3 | - | 1.39 | - |
| 2 | - | 1.50 | - |
| 1 | - | 1.50 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 12 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 11 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 10 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 9 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 8 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 7 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 6 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 5 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 4 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 3 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 2 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 1 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time [days] | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 1 | -1 | 19.00 | 19.00 |
| 2 | -1 | 24.00 | 24.00 |
| 3 | 2 | 16.00 | 16.00 |
| 4 | 3 | 18.00 | 20.00 |
| 5 | 4 | 19.00 | 19.00 |
| 6 | 5 | 25.00 | 25.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -2.92 | -2.91 | -1.32 | -0.13 | 0.00 | 0.36 |
| 1 - Y - | -0.28 | -0.28 | -0.23 | -0.20 | -0.20 | -0.21 |
| 1 - X - | 0.56 | 0.78 | 2.92 | | | |
| 1 - Y - | -0.21 | -0.21 | -0.27 | | | |
| 2 - X - | -2.92 | -2.63 | -1.91 | -1.46 | -1.12 | -0.13 |
| 2 - Y - | -0.01 | 0.00 | 0.02 | 0.05 | 0.06 | 0.07 |
| 2 - X - | 0.00 | 0.44 | 0.62 | 0.96 | 1.66 | 1.86 |
| 2 - Y - | 0.07 | 0.07 | 0.07 | 0.06 | 0.04 | 0.03 |
| 2 - X - | 2.92 | | | | | |
| 2 - Y - | 0.00 | | | | | |
| 3 - X - | -6.52 | -3.79 | -3.71 | -3.58 | -3.40 | -3.15 |
| 3 - Y - | -0.07 | 0.46 | 0.45 | 0.44 | 0.43 | 0.42 |
| 3 - X - | -2.92 | -2.92 | -2.91 | -1.32 | -0.13 | 0.00 |
| 3 - Y - | 0.42 | -0.36 | -0.31 | -0.28 | -0.25 | -0.26 |
| 3 - X - | 0.36 | 0.56 | 0.78 | 2.92 | 2.92 | 3.15 |
| 3 - Y - | -0.29 | -0.29 | -0.29 | -0.35 | 0.42 | 0.42 |
| 3 - X - | 4.09 | 4.36 | | | | |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 3 - Y - | 0.37 | -0.15 | | | | |
| 4 - X - | -2.92 | 2.92 | | | | |
| 4 - Y - | -0.07 | -0.07 | | | | |
| 5 - X - | -2.92 | 2.92 | | | | |
| 5 - Y - | 0.23 | 0.23 | | | | |
| 6 - X - | -2.92 | -2.75 | -1.50 | 0.00 | 1.50 | 2.75 |
| 6 - Y - | 0.42 | 0.43 | 0.46 | 0.50 | 0.46 | 0.43 |
| 6 - X - | 2.92 | | | | | |
| 6 - Y - | 0.42 | | | | | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -12.000 | -10.000 | -8.103 | -7.974 | -6.523 |
| 6 - 10 | -3.789 | -3.709 | -3.579 | -3.402 | -3.291 |
| 11 - 15 | -3.150 | -2.925 | -2.906 | -2.750 | -2.625 |
| 16 - 20 | -1.914 | -1.501 | -1.457 | -1.321 | -1.118 |
| 21 - 25 | -0.129 | 0.000 | 0.362 | 0.443 | 0.562 |
| 26 - 30 | 0.617 | 0.776 | 0.961 | 1.501 | 1.655 |
| 31 - 35 | 1.856 | 2.750 | 2.920 | 3.150 | 3.252 |
| 36 - 40 | 3.433 | 4.091 | 4.153 | 4.357 | 4.526 |
| 41 - 44 | 5.326 | 7.874 | 9.121 | 12.000 | |

# 3 Results per Vertical

## 3.1 Results for Vertical 13 (X = -2.91 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.313 | 11.723 | -0.313 | 5.660 | 0.325 |
| -0.413 | 13.061 | -0.392 | 7.293 | 0.317 |
| -0.430 | 13.017 | -0.405 | 7.091 | 0.316 |
| -0.513 | 13.033 | -0.387 | 6.988 | 0.309 |
| -0.613 | 13.188 | -0.366 | 6.855 | 0.302 |
| -0.713 | 13.400 | -0.345 | 6.724 | 0.296 |
| -0.813 | 13.652 | -0.323 | 6.609 | 0.290 |
| -0.913 | 13.932 | -0.301 | 6.509 | 0.285 |
| -1.013 | 14.233 | -0.280 | 6.422 | 0.280 |
| -1.113 | 14.546 | -0.258 | 6.343 | 0.275 |
| -1.156 | 14.686 | -0.248 | 6.311 | 0.274 |
| -1.213 | 14.869 | -0.235 | 6.271 | 0.271 |
| -1.313 | 15.197 | -0.213 | 6.204 | 0.268 |
| -2.000 | 17.498 | -0.056 | 5.799 | 0.251 |
| -2.000 | 17.498 | -0.056 | 5.799 | 0.251 |
| -2.500 | 20.649 | -0.039 | 5.531 | 0.246 |
| -3.000 | 23.785 | -0.019 | 5.276 | 0.242 |
| -3.000 | 23.785 | -0.019 | 5.276 | 0.242 |
| -4.000 | 25.736 | 0.102 | 4.803 | 0.216 |
| -5.000 | 27.919 | 0.201 | 4.378 | 0.196 |
| -5.000 | 27.919 | 0.201 | 4.378 | 0.196 |
| -5.800 | 27.759 | 0.230 | 4.071 | 0.172 |
| -6.500 | 27.809 | 0.237 | 3.822 | 0.153 |
| -7.200 | 28.037 | 0.226 | 3.590 | 0.134 |
| -8.000 | 28.520 | 0.194 | 3.343 | 0.113 |
| -8.000 | 28.520 | 0.194 | 3.343 | 0.113 |
| -8.350 | 30.554 | 0.158 | 3.241 | 0.108 |
| -8.700 | 32.649 | 0.117 | 3.142 | 0.104 |
| -8.700 | 32.649 | 0.117 | 3.142 | 0.104 |
| -8.900 | 32.853 | 0.101 | 3.087 | 0.097 |
| -9.100 | 33.074 | 0.084 | 3.034 | 0.090 |
| -9.100 | 33.074 | 0.084 | 3.034 | 0.090 |
| -9.750 | 36.796 | 0.080 | 2.866 | 0.087 |
| -10.350 | 40.251 | 0.075 | 2.719 | 0.084 |
| -11.000 | 44.016 | 0.069 | 2.570 | 0.081 |
| -11.600 | 47.511 | 0.063 | 2.440 | 0.077 |
| -11.600 | 47.511 | 0.063 | 2.440 | 0.077 |
| -12.090 | 50.728 | 0.022 | 2.340 | 0.070 |
| -12.580 | 54.003 | -0.024 | 2.244 | 0.063 |
| -12.580 | 54.003 | -0.024 | 2.244 | 0.063 |
| -13.440 | 59.095 | -0.037 | 2.085 | 0.056 |
| -14.440 | 65.067 | -0.054 | 1.916 | 0.049 |
| -15.040 | 68.675 | -0.066 | 1.822 | 0.044 |
| -15.900 | 73.881 | -0.084 | 1.695 | 0.037 |
| -16.900 | 79.983 | -0.109 | 1.560 | 0.028 |
| -17.500 | 83.669 | -0.126 | 1.484 | 0.023 |
| -17.500 | 83.669 | -0.126 | 1.484 | 0.023 |
| -17.800 | 86.452 | -0.196 | 1.447 | 0.021 |
| -18.100 | 89.266 | -0.269 | 1.411 | 0.020 |
| -18.100 | 89.266 | -0.269 | 1.411 | 0.020 |
| -18.550 | 92.059 | -0.283 | 1.359 | 0.015 |
| -19.000 | 94.862 | -0.298 | 1.309 | 0.010 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -19.000 | 94.862 | -0.298 | 1.309 | 0.010 |
| -19.250 | 96.973 | -0.363 | 1.282 | 0.005 |
| -19.500 | 99.108 | -0.430 | 1.256 | 0.000 |

### 3.2 Results for Vertical 22 (X = 0.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.260 | 15.060 | -0.260 | 7.451 | 0.295 |
| -0.360 | 15.565 | -0.338 | 6.569 | 0.288 |
| -0.430 | 15.830 | -0.393 | 5.853 | 0.284 |
| -0.460 | 15.945 | -0.386 | 5.839 | 0.283 |
| -0.560 | 16.329 | -0.364 | 5.795 | 0.278 |
| -0.660 | 16.705 | -0.341 | 5.756 | 0.274 |
| -0.760 | 17.076 | -0.318 | 5.721 | 0.270 |
| -0.860 | 17.441 | -0.294 | 5.688 | 0.266 |
| -0.960 | 17.799 | -0.271 | 5.656 | 0.263 |
| -1.060 | 18.152 | -0.247 | 5.624 | 0.260 |
| -1.130 | 18.396 | -0.230 | 5.601 | 0.258 |
| -1.160 | 18.499 | -0.223 | 5.592 | 0.257 |
| -1.260 | 18.842 | -0.199 | 5.559 | 0.255 |
| -2.000 | 21.238 | -0.018 | 5.324 | 0.242 |
| -2.000 | 21.238 | -0.018 | 5.324 | 0.242 |
| -2.500 | 24.268 | 0.000 | 5.172 | 0.239 |
| -3.000 | 27.210 | 0.019 | 5.020 | 0.235 |
| -3.000 | 27.210 | 0.019 | 5.020 | 0.235 |
| -4.000 | 28.672 | 0.140 | 4.693 | 0.211 |
| -5.000 | 30.368 | 0.233 | 4.327 | 0.192 |
| -5.000 | 30.368 | 0.233 | 4.327 | 0.192 |
| -5.800 | 29.854 | 0.259 | 4.019 | 0.168 |
| -6.500 | 29.643 | 0.262 | 3.750 | 0.149 |
| -7.200 | 29.657 | 0.247 | 3.487 | 0.131 |
| -8.000 | 29.945 | 0.209 | 3.200 | 0.109 |
| -8.000 | 29.945 | 0.209 | 3.200 | 0.109 |
| -8.350 | 31.924 | 0.170 | 3.080 | 0.105 |
| -8.700 | 33.974 | 0.125 | 2.963 | 0.101 |
| -8.700 | 33.974 | 0.125 | 2.963 | 0.101 |
| -8.900 | 34.145 | 0.107 | 2.898 | 0.094 |
| -9.100 | 34.336 | 0.088 | 2.835 | 0.087 |
| -9.100 | 34.336 | 0.088 | 2.835 | 0.087 |
| -9.750 | 37.934 | 0.084 | 2.636 | 0.084 |
| -10.350 | 41.290 | 0.079 | 2.463 | 0.082 |
| -11.000 | 44.964 | 0.073 | 2.288 | 0.078 |
| -11.600 | 48.387 | 0.067 | 2.136 | 0.075 |
| -11.600 | 48.387 | 0.067 | 2.136 | 0.075 |
| -12.090 | 51.564 | 0.024 | 2.020 | 0.068 |
| -12.580 | 54.804 | -0.023 | 1.909 | 0.061 |
| -12.580 | 54.804 | -0.023 | 1.909 | 0.061 |
| -13.440 | 59.828 | -0.036 | 1.727 | 0.055 |
| -14.440 | 65.736 | -0.053 | 1.535 | 0.047 |
| -15.040 | 69.312 | -0.065 | 1.429 | 0.043 |
| -15.900 | 74.477 | -0.084 | 1.288 | 0.036 |
| -16.900 | 80.541 | -0.109 | 1.137 | 0.027 |
| -17.500 | 84.208 | -0.126 | 1.054 | 0.022 |
| -17.500 | 84.208 | -0.126 | 1.054 | 0.022 |
| -17.800 | 86.983 | -0.196 | 1.014 | 0.021 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -18.100 | 89.788 | -0.269 | 0.975 | 0.020 |
| -18.100 | 89.788 | -0.269 | 0.975 | 0.020 |
| -18.550 | 92.569 | -0.283 | 0.918 | 0.015 |
| -19.000 | 95.361 | -0.299 | 0.864 | 0.010 |
| -19.000 | 95.361 | -0.299 | 0.864 | 0.010 |
| -19.250 | 97.465 | -0.363 | 0.834 | 0.005 |
| -19.500 | 99.593 | -0.430 | 0.806 | 0.000 |

### 3.3 Results for Vertical 33 (X = 2.92 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.352 | 16.681 | -0.352 | 7.043 | 0.265 |
| -0.430 | 16.844 | -0.414 | 6.066 | 0.260 |
| -0.452 | 16.877 | -0.409 | 6.000 | 0.259 |
| -0.552 | 16.999 | -0.388 | 5.705 | 0.254 |
| -0.652 | 17.137 | -0.367 | 5.446 | 0.250 |
| -0.752 | 17.328 | -0.346 | 5.236 | 0.246 |
| -0.852 | 17.564 | -0.325 | 5.067 | 0.242 |
| -0.952 | 17.831 | -0.304 | 4.926 | 0.239 |
| -1.052 | 18.117 | -0.283 | 4.803 | 0.236 |
| -1.152 | 18.415 | -0.262 | 4.692 | 0.234 |
| -1.176 | 18.488 | -0.256 | 4.667 | 0.233 |
| -1.252 | 18.720 | -0.240 | 4.589 | 0.231 |
| -1.352 | 19.029 | -0.219 | 4.492 | 0.229 |
| -2.000 | 21.082 | -0.077 | 3.942 | 0.221 |
| -2.000 | 21.082 | -0.077 | 3.942 | 0.221 |
| -2.500 | 24.139 | -0.061 | 3.593 | 0.218 |
| -3.000 | 27.224 | -0.043 | 3.301 | 0.216 |
| -3.000 | 27.224 | -0.043 | 3.301 | 0.216 |
| -4.000 | 29.235 | 0.070 | 2.846 | 0.195 |
| -5.000 | 31.529 | 0.161 | 2.502 | 0.179 |
| -5.000 | 31.529 | 0.161 | 2.502 | 0.179 |
| -5.800 | 31.446 | 0.187 | 2.273 | 0.158 |
| -6.500 | 31.563 | 0.193 | 2.094 | 0.142 |
| -7.200 | 31.855 | 0.182 | 1.929 | 0.125 |
| -8.000 | 32.404 | 0.148 | 1.754 | 0.105 |
| -8.000 | 32.405 | 0.148 | 1.754 | 0.105 |
| -8.350 | 34.465 | 0.112 | 1.681 | 0.102 |
| -8.700 | 36.583 | 0.071 | 1.610 | 0.097 |
| -8.700 | 36.583 | 0.071 | 1.610 | 0.097 |
| -8.900 | 36.798 | 0.056 | 1.570 | 0.091 |
| -9.100 | 37.030 | 0.038 | 1.531 | 0.085 |
| -9.100 | 37.030 | 0.038 | 1.531 | 0.085 |
| -9.750 | 40.789 | 0.034 | 1.407 | 0.082 |
| -10.350 | 44.274 | 0.030 | 1.297 | 0.080 |
| -11.000 | 48.068 | 0.024 | 1.184 | 0.077 |
| -11.600 | 51.585 | 0.019 | 1.083 | 0.074 |
| -11.600 | 51.585 | 0.019 | 1.083 | 0.074 |
| -12.090 | 54.796 | -0.020 | 1.004 | 0.067 |
| -12.580 | 58.058 | -0.063 | 0.928 | 0.060 |
| -12.580 | 58.058 | -0.063 | 0.928 | 0.060 |
| -13.440 | 63.169 | -0.075 | 0.801 | 0.054 |
| -14.440 | 69.154 | -0.090 | 0.662 | 0.046 |
| -15.040 | 72.768 | -0.101 | 0.583 | 0.042 |
| -15.900 | 77.975 | -0.118 | 0.476 | 0.035 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -16.900 | 84.073 | -0.141 | 0.360 | 0.027 |
| -17.500 | 87.753 | -0.156 | 0.294 | 0.022 |
| -17.500 | 87.753 | -0.156 | 0.294 | 0.022 |
| -17.800 | 90.475 | -0.219 | 0.262 | 0.021 |
| -18.100 | 93.223 | -0.285 | 0.231 | 0.019 |
| -18.100 | 93.223 | -0.285 | 0.231 | 0.019 |
| -18.550 | 96.008 | -0.298 | 0.186 | 0.015 |
| -19.000 | 98.802 | -0.312 | 0.142 | 0.010 |
| -19.000 | 98.802 | -0.312 | 0.142 | 0.010 |
| -19.250 | 100.851 | -0.370 | 0.118 | 0.005 |
| -19.500 | 102.923 | -0.430 | 0.094 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -12.00 | 0.00 | -0.02 | 0.170 |
| 2 | -10.00 | 0.00 | 0.02 | 0.178 |
| 3 | -8.10 | 0.00 | -0.09 | 0.191 |
| 4 | -7.97 | 0.00 | -0.09 | 0.192 |
| 5 | -6.52 | 0.00 | -0.07 | 0.222 |
| 6 | -3.79 | 0.00 | -0.04 | 0.325 |
| 7 | -3.71 | 0.00 | -0.03 | 0.327 |
| 8 | -3.58 | 0.00 | -0.03 | 0.329 |
| 9 | -3.40 | 0.00 | -0.03 | 0.330 |
| 10 | -3.29 | 0.00 | -0.03 | 0.330 |
| 11 | -3.15 | 0.00 | -0.02 | 0.334 |
| 12 | -2.92 | 0.00 | -0.31 | 0.279 |
| 13 | -2.91 | 0.00 | -0.31 | 0.325 |
| 14 | -2.75 | 0.00 | -0.31 | 0.310 |
| 15 | -2.63 | 0.00 | -0.31 | 0.306 |
| 16 | -1.91 | 0.00 | -0.29 | 0.299 |
| 17 | -1.50 | 0.00 | -0.28 | 0.298 |
| 18 | -1.46 | 0.00 | -0.28 | 0.297 |
| 19 | -1.32 | 0.00 | -0.28 | 0.297 |
| 20 | -1.12 | 0.00 | -0.28 | 0.297 |
| 21 | -0.13 | 0.00 | -0.26 | 0.295 |
| 22 | 0.00 | 0.00 | -0.26 | 0.295 |
| 23 | 0.36 | 0.00 | -0.27 | 0.295 |
| 24 | 0.44 | 0.00 | -0.27 | 0.295 |
| 25 | 0.56 | 0.00 | -0.28 | 0.295 |
| 26 | 0.62 | 0.00 | -0.28 | 0.295 |
| 27 | 0.78 | 0.00 | -0.28 | 0.295 |
| 28 | 0.96 | 0.00 | -0.29 | 0.295 |
| 29 | 1.50 | 0.00 | -0.31 | 0.295 |
| 30 | 1.66 | 0.00 | -0.31 | 0.295 |
| 31 | 1.86 | 0.00 | -0.32 | 0.294 |
| 32 | 2.75 | 0.00 | -0.35 | 0.304 |
| 33 | 2.92 | 0.00 | -0.35 | 0.265 |
| 34 | 3.15 | 0.00 | 0.02 | 0.318 |
| 35 | 3.25 | 0.00 | 0.03 | 0.310 |
| 36 | 3.43 | 0.00 | 0.03 | 0.310 |
| 37 | 4.09 | 0.00 | -0.13 | 0.295 |
| 38 | 4.15 | 0.00 | -0.14 | 0.291 |
| 39 | 4.36 | 0.00 | -0.15 | 0.263 |
| 40 | 4.53 | 0.00 | -1.75 | 0.392 |
| 41 | 5.33 | 0.00 | -1.91 | 0.361 |
| 42 | 7.87 | 0.00 | -2.00 | 0.276 |
| 43 | 9.12 | 0.00 | -2.04 | 0.257 |
| 44 | 12.00 | 0.00 | -2.53 | 0.241 |

## 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 100 | -0.007 | -3.838 | 0.177 |
| | 4500 | 0.088 | 51.476 | 0.083 |
| 2 | 100 | -0.006 | -3.550 | 0.184 |
| | 4500 | 0.092 | 51.883 | 0.086 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 3 | 100 | -0.006 | -3.101 | 0.197 |
| | 4500 | 0.102 | 53.176 | 0.089 |
| 4 | 100 | -0.006 | -3.066 | 0.198 |
| | 4500 | 0.102 | 53.247 | 0.090 |
| 5 | 100 | 0.001 | 0.510 | 0.221 |
| | 4500 | 0.125 | 56.526 | 0.096 |
| 6 | 100 | 0.035 | 10.838 | 0.290 |
| | 4500 | 0.213 | 65.517 | 0.112 |
| 7 | 100 | 0.036 | 10.960 | 0.291 |
| | 4500 | 0.215 | 65.627 | 0.112 |
| 8 | 100 | 0.036 | 10.985 | 0.293 |
| | 4500 | 0.216 | 65.703 | 0.113 |
| 9 | 100 | 0.036 | 10.922 | 0.294 |
| | 4500 | 0.217 | 65.751 | 0.113 |
| 10 | 100 | 0.036 | 10.828 | 0.294 |
| | 4500 | 0.217 | 65.742 | 0.113 |
| 11 | 100 | 0.040 | 11.897 | 0.294 |
| | 4500 | 0.221 | 66.080 | 0.113 |
| 12 | 100 | 0.008 | 2.718 | 0.272 |
| | 4500 | 0.168 | 60.220 | 0.111 |
| 13 | 100 | 0.014 | 4.365 | 0.311 |
| | 4500 | 0.194 | 59.700 | 0.131 |
| 14 | 100 | 0.008 | 2.555 | 0.302 |
| | 4500 | 0.181 | 58.434 | 0.129 |
| 15 | 100 | 0.007 | 2.406 | 0.299 |
| | 4500 | 0.178 | 58.175 | 0.128 |
| 16 | 100 | 0.008 | 2.538 | 0.292 |
| | 4500 | 0.174 | 58.245 | 0.125 |
| 17 | 100 | 0.007 | 2.416 | 0.290 |
| | 4500 | 0.174 | 58.327 | 0.124 |
| 18 | 100 | 0.007 | 2.418 | 0.290 |
| | 4500 | 0.174 | 58.343 | 0.124 |
| 19 | 100 | 0.007 | 2.355 | 0.290 |
| | 4500 | 0.173 | 58.361 | 0.124 |
| 20 | 100 | 0.007 | 2.384 | 0.290 |
| | 4500 | 0.173 | 58.454 | 0.123 |
| 21 | 100 | 0.008 | 2.564 | 0.287 |
| | 4500 | 0.174 | 59.106 | 0.121 |
| 22 | 100 | 0.008 | 2.654 | 0.287 |
| | 4500 | 0.175 | 59.244 | 0.120 |
| 23 | 100 | 0.007 | 2.400 | 0.288 |
| | 4500 | 0.174 | 58.863 | 0.121 |
| 24 | 100 | 0.007 | 2.376 | 0.288 |
| | 4500 | 0.173 | 58.783 | 0.122 |
| 25 | 100 | 0.007 | 2.321 | 0.288 |
| | 4500 | 0.173 | 58.653 | 0.122 |
| 26 | 100 | 0.007 | 2.290 | 0.288 |
| | 4500 | 0.173 | 58.587 | 0.122 |
| 27 | 100 | 0.007 | 2.246 | 0.289 |
| | 4500 | 0.173 | 58.454 | 0.123 |
| 28 | 100 | 0.006 | 2.196 | 0.289 |
| | 4500 | 0.172 | 58.290 | 0.123 |
| 29 | 100 | 0.007 | 2.260 | 0.289 |
| | 4500 | 0.171 | 57.932 | 0.124 |
| 30 | 100 | 0.006 | 2.043 | 0.289 |
| | 4500 | 0.170 | 57.733 | 0.125 |
| 31 | 100 | 0.006 | 1.999 | 0.288 |
| | 4500 | 0.169 | 57.582 | 0.125 |
| 32 | 100 | 0.007 | 2.204 | 0.298 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 4500 | 0.176 | 57.818 | 0.128 |
| 33 | 100 | 0.006 | 2.290 | 0.259 |
| | 4500 | 0.158 | 59.702 | 0.107 |
| 34 | 100 | 0.038 | 11.782 | 0.281 |
| | 4500 | 0.210 | 65.882 | 0.109 |
| 35 | 100 | 0.031 | 10.106 | 0.279 |
| | 4500 | 0.202 | 65.090 | 0.108 |
| 36 | 100 | 0.033 | 10.614 | 0.277 |
| | 4500 | 0.202 | 65.212 | 0.108 |
| 37 | 100 | 0.031 | 10.356 | 0.264 |
| | 4500 | 0.191 | 64.745 | 0.104 |
| 38 | 100 | 0.029 | 9.876 | 0.262 |
| | 4500 | 0.187 | 64.401 | 0.103 |
| 39 | 100 | 0.013 | 4.872 | 0.250 |
| | 4500 | 0.161 | 61.297 | 0.102 |
| 40 | 100 | 0.028 | 7.109 | 0.364 |
| | 4500 | 0.250 | 63.800 | 0.142 |
| 41 | 100 | 0.021 | 5.784 | 0.340 |
| | 4500 | 0.224 | 62.090 | 0.137 |
| 42 | 100 | -0.002 | -0.586 | 0.277 |
| | 4500 | 0.155 | 56.326 | 0.120 |
| 43 | 100 | -0.003 | -1.272 | 0.260 |
| | 4500 | 0.142 | 55.296 | 0.115 |
| 44 | 100 | -0.004 | -1.613 | 0.245 |
| | 4500 | 0.132 | 54.907 | 0.109 |

## 5 Warnings and errors

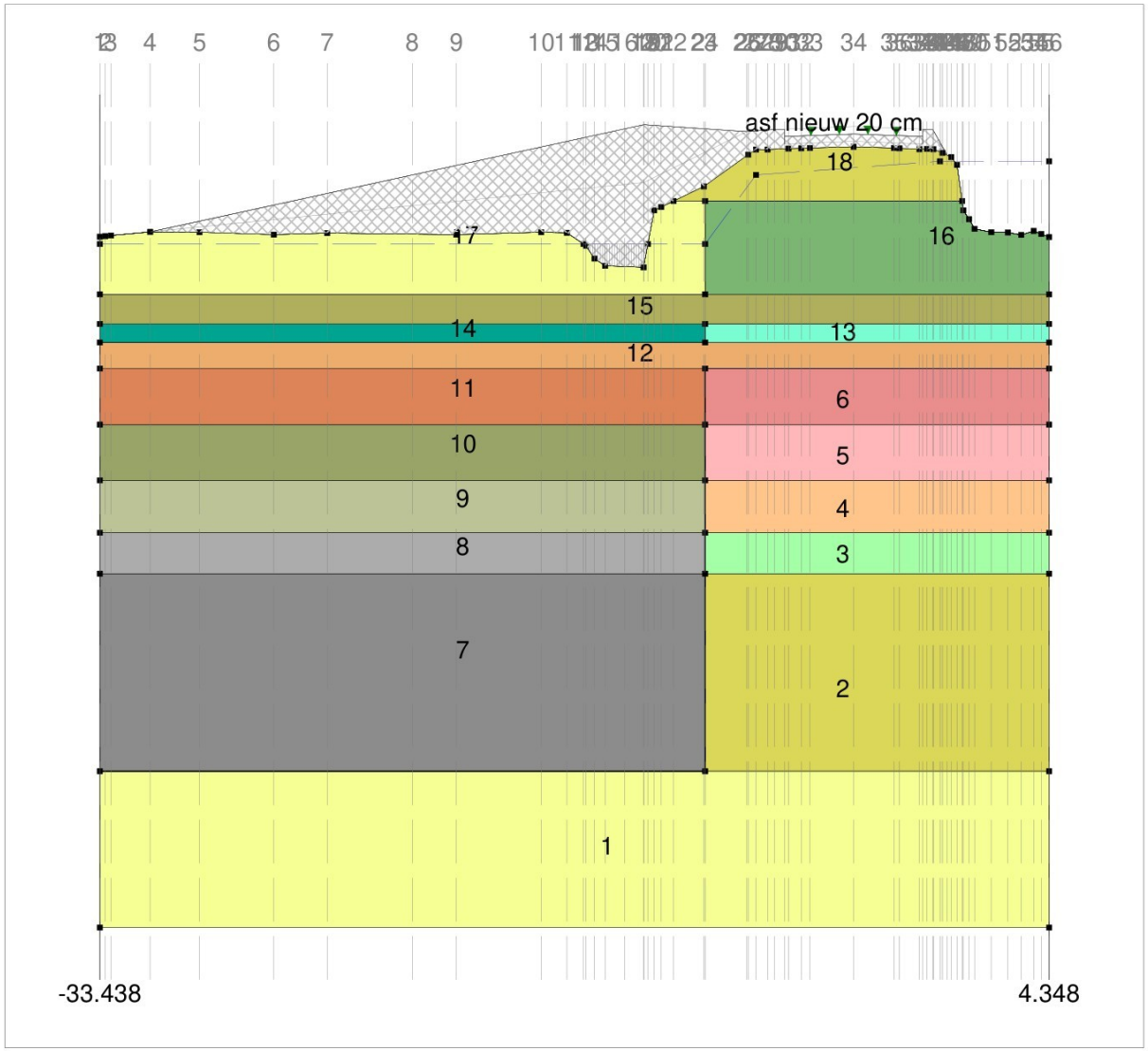
List of non-fatal warnings and errors generated during calculation.

| | |
|---|---|
| 1 | Non-uniform load [1]: Co-ordinate (1) lies below surface |
| 2 | Non-uniform load [1]: Co-ordinate (9) lies below surface |
| 3 | Non-uniform load [2]: Co-ordinate (1) lies below surface |
| 4 | Non-uniform load [3]: Co-ordinate (8) lies below surface |
| 5 | Non-uniform load [3]: Co-ordinate (9) lies below surface |
| 6 | Non-uniform load [3]: Co-ordinate (13) lies below surface |
| 7 | Non-uniform load [3]: Co-ordinate (14) lies below surface |
| 8 | Non-uniform load [3]: Co-ordinate (15) lies below surface |
| 9 | Non-uniform load [3]: Co-ordinate (16) lies below surface |
| 10 | Non-uniform load [4]: Co-ordinate (1) lies below surface |
| 11 | Non-uniform load [4]: Co-ordinate (2) lies below surface |

## End of Report

Bijlage 5.2 SB06

# Input View





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N468 Steunberm
SB6 Profiel 13.030

Zetting

| | | | |
|---|---|---|---|
| Annex - | - | 2/13/2025 | - |
| form. | ctr. | date | drw. |

A3

D-Settlement 23.2 : 13.030 SB6 eind steunberm koe.sli

# Report for D-Settlement 23.2

Settlement Calculations
Developed by Deltares

| | |
|---|---|
| Company: | Waalpartners civil engineering |
| Date of report: | 2/13/2025 |
| Time of report: | 6:01:46 PM |
| Report with version: | 23.2.1.41771 |
| Date of calculation: | 1/13/2025 |
| Time of calculation: | 2:46:10 PM |
| Calculated with version: | 23.2.1.41771 |
| File name: | 13.030 SB6 eind steunberm koe |
| Project identification: | N468 Steunberm<br>SB6 Profiel 13.030<br>Zetting |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 18 - X - | -33.438 | -33.212 | -32.983 | -31.428 | -29.463 |
| 18 - Y - | -2.460 | -2.445 | -2.430 | -2.330 | -2.333 |
| 18 - X - | -26.517 | -24.389 | -19.251 | -15.866 | -14.845 |
| 18 - Y - | -2.400 | -2.358 | -2.398 | -2.336 | -2.352 |
| 18 - X - | -14.185 | -14.089 | -13.752 | -13.326 | -11.797 |
| 18 - Y - | -2.650 | -2.702 | -3.043 | -3.240 | -3.277 |
| 18 - X - | -11.624 | -11.371 | -11.093 | -10.599 | -9.390 |
| 18 - Y - | -2.650 | -1.751 | -1.660 | -1.500 | -1.108 |
| 18 - X - | -7.628 | -7.320 | -6.861 | -6.025 | -5.524 |
| 18 - Y - | -0.254 | -0.117 | -0.115 | -0.093 | -0.084 |
| 18 - X - | -5.178 | -3.438 | -1.833 | -1.611 | -0.820 |
| 18 - Y - | -0.078 | -0.042 | -0.080 | -0.085 | -0.107 |
| 18 - X - | -0.515 | -0.265 | 0.098 | 0.445 | 0.677 |
| 18 - Y - | -0.103 | -0.107 | -0.205 | -0.319 | -0.534 |
| 18 - X - | 0.881 | 0.934 | 1.161 | 1.378 | 2.045 |
| 18 - Y - | -1.500 | -1.751 | -1.987 | -2.245 | -2.336 |
| 18 - X - | 2.703 | 3.238 | 3.724 | 4.036 | 4.348 |
| 18 - Y - | -2.348 | -2.413 | -2.307 | -2.386 | -2.465 |
| 17 - X - | -33.438 | -33.212 | -32.983 | -31.428 | -29.463 |
| 17 - Y - | -2.460 | -2.445 | -2.430 | -2.330 | -2.333 |
| 17 - X - | -26.517 | -24.389 | -19.251 | -15.866 | -14.845 |
| 17 - Y - | -2.400 | -2.358 | -2.398 | -2.336 | -2.352 |
| 17 - X - | -14.185 | -14.089 | -13.752 | -13.326 | -11.797 |
| 17 - Y - | -2.650 | -2.702 | -3.043 | -3.240 | -3.277 |
| 17 - X - | -11.624 | -11.371 | -11.093 | -10.599 | -9.350 |
| 17 - Y - | -2.650 | -1.751 | -1.660 | -1.500 | -1.500 |
| 17 - X - | 0.881 | 0.934 | 1.161 | 1.378 | 2.045 |
| 17 - Y - | -1.500 | -1.751 | -1.987 | -2.245 | -2.336 |
| 17 - X - | 2.703 | 3.238 | 3.724 | 4.036 | 4.348 |
| 17 - Y - | -2.348 | -2.413 | -2.307 | -2.386 | -2.465 |
| 16 - X - | -33.438 | -9.350 | -9.350 | 0.881 | 0.934 |
| 16 - Y - | -4.000 | -4.000 | -1.500 | -1.500 | -1.751 |
| 16 - X - | 1.161 | 1.378 | 2.045 | 2.703 | 3.238 |
| 16 - Y - | -1.987 | -2.245 | -2.336 | -2.348 | -2.413 |
| 16 - X - | 3.724 | 4.036 | 4.348 | | |
| 16 - Y - | -2.307 | -2.386 | -2.465 | | |
| 15 - X - | -33.438 | -9.350 | 4.348 | | |
| 15 - Y - | -4.000 | -4.000 | -4.000 | | |
| 14 - X - | -33.438 | -9.350 | 4.348 | | |
| 14 - Y - | -4.800 | -4.800 | -4.800 | | |
| 13 - X - | -33.438 | -9.350 | -9.350 | 4.348 | |
| 13 - Y - | -5.300 | -5.300 | -4.800 | -4.800 | |
| 12 - X - | -33.438 | -9.350 | 4.348 | | |
| 12 - Y - | -5.300 | -5.300 | -5.300 | | |
| 11 - X - | -33.438 | -9.350 | 4.348 | | |
| 11 - Y - | -6.000 | -6.000 | -6.000 | | |
| 10 - X - | -33.438 | -9.350 | -9.350 | 4.348 | |
| 10 - Y - | -7.500 | -7.500 | -6.000 | -6.000 | |
| 9 - X - | -33.438 | -9.350 | -9.350 | -9.350 | 4.348 |
| 9 - Y - | -9.000 | -9.000 | -7.500 | -6.000 | -6.000 |
| 8 - X - | -33.438 | -9.350 | -9.350 | -9.350 | -9.350 |
| 8 - Y - | -10.400 | -10.400 | -9.000 | -7.500 | -6.000 |
| 8 - X - | 4.348 | | | | |
| 8 - Y - | -6.000 | | | | |

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 7 - X - | -33.438 | -9.350 | -9.350 | -9.350 | -9.350 |
| 7 - Y - | -11.500 | -11.500 | -10.400 | -9.000 | -7.500 |
| 7 - X - | -9.350 | 4.348 | | | |
| 7 - Y - | -6.000 | -6.000 | | | |
| 6 - X - | -33.438 | -9.350 | -9.350 | -9.350 | -9.350 |
| 6 - Y - | -16.800 | -16.800 | -11.500 | -10.400 | -9.000 |
| 6 - X - | -9.350 | -9.350 | 4.348 | | |
| 6 - Y - | -7.500 | -6.000 | -6.000 | | |
| 5 - X - | -33.438 | -9.350 | -9.350 | -9.350 | -9.350 |
| 5 - Y - | -16.800 | -16.800 | -11.500 | -10.400 | -9.000 |
| 5 - X - | -9.350 | 4.348 | | | |
| 5 - Y - | -7.500 | -7.500 | | | |
| 4 - X - | -33.438 | -9.350 | -9.350 | -9.350 | -9.350 |
| 4 - Y - | -16.800 | -16.800 | -11.500 | -10.400 | -9.000 |
| 4 - X - | 4.348 | | | | |
| 4 - Y - | -9.000 | | | | |
| 3 - X - | -33.438 | -9.350 | -9.350 | -9.350 | 4.348 |
| 3 - Y - | -16.800 | -16.800 | -11.500 | -10.400 | -10.400 |
| 2 - X - | -33.438 | -9.350 | -9.350 | 4.348 | |
| 2 - Y - | -16.800 | -16.800 | -11.500 | -11.500 | |
| 1 - X - | -33.438 | -9.350 | 4.348 | | |
| 1 - Y - | -16.800 | -16.800 | -16.800 | | |
| 0 - X - | -33.438 | 4.348 | | | |
| 0 - Y - | -21.000 | -21.000 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -33.438 | -9.350 | -7.320 | 0.000 | 4.348 |
| 1 - Y - | -2.650 | -2.650 | -0.800 | -0.430 | -0.430 |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | |
| - Loads: | None |
| End of consolidation: | 10000.00 [days] |
| No maintain profile | |
| Pc (initial): | Variable parallel to the initial effective stress |
| Pc (per step): | Automatic increased to the final effective stresses |
| Creep rate reference time: | 1.000 [days] |
| No imaginary surface | |
| With submerging | |
| (only for non uniform loads) | |
| - Iteration stop criterium : | 0.10 [m] |
| Load column width | |
| - Non-Uniform Loads : | 1.00 [m] |
| - Trapeziform Loads : | 1.00 [m] |

## 2.4 Soil Profiles

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 18 | Dijksmateriaal | 1 | 1 |
| 17 | Klei Hum DK naast | 1 | 1 |

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 16 | Klei Hum DK | 1 | 1 |
| 15 | Hollandveen | 1 | 1 |
| 14 | klei Silt DKnaast | 1 | 1 |
| 13 | klei Silt DK | 1 | 1 |
| 12 | Hollandveen | 1 | 1 |
| 11 | klei Silt DKnaast | 1 | 1 |
| 10 | Klei zand CA naast | 1 | 1 |
| 9 | Klei CA naast | 1 | 1 |
| 8 | Klei Hum CA naast | 1 | 1 |
| 7 | Klei CA naast | 1 | 1 |
| 6 | klei Silt DK | 1 | 1 |
| 5 | Klei zand CA | 1 | 1 |
| 4 | Klei CA | 1 | 1 |
| 3 | Klei Hum CA | 1 | 1 |
| 2 | Klei CA | 1 | 1 |
| 1 | Zand CA | 1 | 1 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 18 | No | 16.00 | 16.00 |
| 17 | No | 13.50 | 13.50 |
| 16 | No | 13.50 | 13.50 |
| 15 | No | 10.50 | 10.50 |
| 14 | No | 15.10 | 15.10 |
| 13 | No | 15.10 | 15.10 |
| 12 | No | 10.50 | 10.50 |
| 11 | No | 15.10 | 15.10 |
| 10 | No | 17.00 | 17.00 |
| 9 | No | 15.90 | 15.90 |
| 8 | No | 15.10 | 15.10 |
| 7 | No | 15.90 | 15.90 |
| 6 | No | 15.10 | 15.10 |
| 5 | No | 17.00 | 17.00 |
| 4 | No | 15.90 | 15.90 |
| 3 | No | 15.10 | 15.10 |
| 2 | No | 15.90 | 15.90 |
| 1 | Yes | 18.00 | 20.00 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] |
|---|---|---|
| 18 | Vert. cons. | 1.00E-08 |
| 17 | Vert. cons. | 2.07E-08 |
| 16 | Vert. cons. | 2.07E-08 |
| 15 | Vert. cons. | 2.37E-08 |
| 14 | Vert. cons. | 2.54E-08 |
| 13 | Vert. cons. | 2.54E-08 |
| 12 | Vert. cons. | 2.37E-08 |
| 11 | Vert. cons. | 2.54E-08 |
| 10 | Vert. cons. | 1.00E-07 |
| 9 | Vert. cons. | 6.02E-07 |
| 8 | Vert. cons. | 9.27E-08 |
| 7 | Vert. cons. | 6.02E-07 |
| 6 | Vert. cons. | 2.54E-08 |
| 5 | Vert. cons. | 1.00E-07 |
| 4 | Vert. cons. | 6.02E-07 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] |
|---|---|---|
| 3 | Vert. cons. | 9.27E-08 |
| 2 | Vert. cons. | 6.02E-07 |
| 1 | Vert. cons. | - |

| Layer number | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|
| 18 | - | - | - |
| 17 | - | - | - |
| 16 | - | - | - |
| 15 | - | - | - |
| 14 | - | - | - |
| 13 | - | - | - |
| 12 | - | - | - |
| 11 | - | - | - |
| 10 | - | - | - |
| 9 | - | - | - |
| 8 | - | - | - |
| 7 | - | - | - |
| 6 | - | - | - |
| 5 | - | - | - |
| 4 | - | - | - |
| 3 | - | - | - |
| 2 | - | - | - |
| 1 | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 18 | - | 1.50 | - |
| 17 | - | 1.50 | - |
| 16 | - | 1.50 | - |
| 15 | - | 1.80 | - |
| 14 | - | 1.50 | - |
| 13 | - | 1.50 | - |
| 12 | - | 1.80 | - |
| 11 | - | 1.50 | - |
| 10 | - | 1.39 | - |
| 9 | - | 1.50 | - |
| 8 | - | 1.50 | - |
| 7 | - | 1.50 | - |
| 6 | - | 1.50 | - |
| 5 | - | 1.39 | - |
| 4 | - | 1.50 | - |
| 3 | - | 1.50 | - |
| 2 | - | 1.50 | - |
| 1 | - | 1.39 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 18 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 17 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 16 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 15 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 14 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 13 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 12 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 11 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 10 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 9 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 8 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 7 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 6 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 5 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 4 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 3 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 2 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 1 | 0.0100000 | 0.1062000 | 0.0033000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time | Unit weight | |
|---|---|---|---|
| | [days] | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 1 | -1 | 10.50 | 10.50 |
| 2 | -1 | 14.00 | 14.00 |
| 3 | 1 | 16.00 | 16.00 |
| 4 | 1 | 16.00 | 16.00 |
| 5 | 300 | 19.00 | 19.00 |
| 6 | 300 | 25.00 | 25.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -29.46 | -26.52 | | | | |
| 1 - Y - | -2.33 | -2.40 | | | | |
| 2 - X - | -14.19 | -11.62 | | | | |
| 2 - Y - | -2.65 | -2.65 | | | | |
| 3 - X - | -31.43 | -11.79 | -7.69 | -6.59 | -6.19 | -6.19 |
| 3 - Y - | -2.33 | -1.00 | 0.37 | 0.42 | 0.43 | 0.03 |
| 3 - X - | -3.44 | -0.69 | -0.69 | -0.29 | 0.29 | |
| 3 - Y - | 0.10 | 0.03 | 0.43 | 0.42 | -0.27 | |
| 4 - X - | -31.43 | -11.79 | -7.69 | | | |
| 4 - Y - | -2.33 | 0.55 | 0.37 | | | |
| 5 - X - | -6.19 | -6.19 | -3.44 | -0.69 | -0.69 | |
| 5 - Y - | 0.03 | 0.23 | 0.30 | 0.23 | 0.03 | |
| 6 - X - | -6.19 | -6.19 | -3.44 | -0.69 | -0.69 | |
| 6 - Y - | 0.23 | 0.43 | 0.50 | 0.43 | 0.23 | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -33.438 | -33.212 | -32.983 | -31.428 | -29.463 |
| 6 - 10 | -26.517 | -24.389 | -21.000 | -19.251 | -15.866 |
| 11 - 15 | -14.845 | -14.185 | -14.089 | -13.752 | -13.326 |
| 16 - 20 | -12.560 | -11.797 | -11.787 | -11.624 | -11.371 |
| 21 - 25 | -11.093 | -10.599 | -9.390 | -9.350 | -7.688 |
| 26 - 30 | -7.628 | -7.320 | -6.861 | -6.588 | -6.188 |
| 31 - 35 | -6.025 | -5.524 | -5.178 | -3.438 | -1.833 |
| 36 - 40 | -1.611 | -0.820 | -0.688 | -0.515 | -0.288 |
| 41 - 45 | -0.265 | 0.000 | 0.098 | 0.289 | 0.445 |
| 46 - 50 | 0.677 | 0.881 | 0.934 | 1.161 | 1.378 |
| 51 - 55 | 2.045 | 2.703 | 3.238 | 3.724 | 4.036 |
| 56 | 4.348 | | | | |

# 3 Results per Vertical

## 3.1 Results for Vertical 1 (X = -33.44 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.460 | 0.002 | -2.460 | 0.001 | 0.182 |
| -2.560 | 0.568 | -2.560 | -0.781 | 0.181 |
| -2.650 | 0.897 | -2.650 | -1.663 | 0.182 |
| -2.660 | 0.934 | -2.650 | -1.663 | 0.182 |
| -2.760 | 1.299 | -2.649 | -1.662 | 0.183 |
| -2.860 | 1.664 | -2.648 | -1.661 | 0.184 |
| -2.960 | 2.029 | -2.648 | -1.659 | 0.184 |
| -3.060 | 2.394 | -2.647 | -1.655 | 0.184 |
| -3.160 | 2.759 | -2.646 | -1.651 | 0.184 |
| -3.230 | 3.015 | -2.646 | -1.648 | 0.184 |
| -3.260 | 3.125 | -2.645 | -1.646 | 0.184 |
| -3.360 | 3.491 | -2.644 | -1.639 | 0.184 |
| -3.460 | 3.858 | -2.643 | -1.631 | 0.184 |
| -4.000 | 5.852 | -2.637 | -1.562 | 0.182 |
| -4.000 | 5.852 | -2.637 | -1.562 | 0.182 |
| -4.400 | 6.173 | -2.633 | -1.484 | 0.177 |
| -4.800 | 6.516 | -2.630 | -1.386 | 0.171 |
| -4.800 | 6.516 | -2.630 | -1.386 | 0.171 |
| -5.050 | 7.874 | -2.627 | -1.317 | 0.170 |
| -5.300 | 9.234 | -2.623 | -1.243 | 0.167 |
| -5.300 | 9.234 | -2.623 | -1.243 | 0.167 |
| -5.650 | 9.557 | -2.620 | -1.132 | 0.159 |
| -6.000 | 9.893 | -2.617 | -1.014 | 0.150 |
| -6.000 | 9.894 | -2.617 | -1.014 | 0.150 |
| -6.750 | 14.064 | -2.611 | -0.747 | 0.139 |
| -7.500 | 18.273 | -2.607 | -0.466 | 0.127 |
| -7.500 | 18.273 | -2.607 | -0.466 | 0.127 |
| -8.250 | 23.950 | -2.607 | -0.179 | 0.124 |
| -9.000 | 29.637 | -2.607 | 0.109 | 0.121 |
| -9.000 | 29.637 | -2.607 | 0.109 | 0.121 |
| -9.700 | 34.170 | -2.608 | 0.376 | 0.114 |
| -10.400 | 38.704 | -2.608 | 0.640 | 0.106 |
| -10.400 | 38.704 | -2.608 | 0.640 | 0.106 |
| -10.950 | 41.870 | -2.613 | 0.844 | 0.094 |
| -11.500 | 45.055 | -2.621 | 1.044 | 0.083 |
| -11.500 | 45.055 | -2.621 | 1.044 | 0.083 |
| -12.350 | 50.555 | -2.623 | 1.345 | 0.071 |
| -13.350 | 57.021 | -2.627 | 1.684 | 0.058 |
| -14.150 | 62.189 | -2.631 | 1.942 | 0.047 |
| -15.000 | 67.677 | -2.636 | 2.202 | 0.034 |
| -16.000 | 74.129 | -2.643 | 2.490 | 0.020 |
| -16.800 | 79.288 | -2.650 | 2.704 | 0.008 |
| -16.800 | 79.288 | -2.650 | 2.704 | 0.008 |
| -17.500 | 86.600 | -2.650 | 2.881 | 0.006 |
| -18.500 | 97.027 | -2.650 | 3.116 | 0.005 |
| -18.900 | 101.192 | -2.650 | 3.204 | 0.004 |
| -19.600 | 108.473 | -2.650 | 3.350 | 0.002 |
| -20.600 | 118.857 | -2.650 | 3.541 | 0.001 |
| -21.000 | 123.005 | -2.650 | 3.612 | 0.000 |

### 3.2 Results for Vertical 2 (X = -33.21 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.445 | 0.002 | -2.445 | 0.001 | 0.187 |
| -2.545 | 0.676 | -2.545 | -0.673 | 0.186 |
| -2.645 | 1.042 | -2.644 | -1.653 | 0.186 |
| -2.650 | 1.060 | -2.649 | -1.702 | 0.186 |
| -2.745 | 1.407 | -2.649 | -1.701 | 0.187 |
| -2.845 | 1.772 | -2.648 | -1.699 | 0.187 |
| -2.945 | 2.137 | -2.648 | -1.696 | 0.188 |
| -3.045 | 2.503 | -2.647 | -1.692 | 0.188 |
| -3.145 | 2.869 | -2.646 | -1.687 | 0.188 |
| -3.223 | 3.153 | -2.645 | -1.682 | 0.188 |
| -3.245 | 3.236 | -2.645 | -1.680 | 0.188 |
| -3.345 | 3.603 | -2.644 | -1.671 | 0.188 |
| -3.445 | 3.972 | -2.643 | -1.661 | 0.188 |
| -4.000 | 6.035 | -2.636 | -1.573 | 0.186 |
| -4.000 | 6.035 | -2.636 | -1.573 | 0.186 |
| -4.400 | 6.369 | -2.632 | -1.481 | 0.180 |
| -4.800 | 6.725 | -2.629 | -1.369 | 0.174 |
| -4.800 | 6.725 | -2.629 | -1.369 | 0.174 |
| -5.050 | 8.090 | -2.625 | -1.292 | 0.173 |
| -5.300 | 9.456 | -2.621 | -1.210 | 0.170 |
| -5.300 | 9.456 | -2.621 | -1.210 | 0.170 |
| -5.650 | 9.788 | -2.618 | -1.090 | 0.161 |
| -6.000 | 10.133 | -2.616 | -0.964 | 0.152 |
| -6.000 | 10.133 | -2.616 | -0.964 | 0.152 |
| -6.750 | 14.319 | -2.610 | -0.681 | 0.142 |
| -7.500 | 18.541 | -2.606 | -0.389 | 0.129 |
| -7.500 | 18.541 | -2.606 | -0.389 | 0.129 |
| -8.250 | 24.227 | -2.606 | -0.093 | 0.126 |
| -9.000 | 29.923 | -2.606 | 0.202 | 0.122 |
| -9.000 | 29.923 | -2.606 | 0.202 | 0.122 |
| -9.700 | 34.461 | -2.607 | 0.474 | 0.115 |
| -10.400 | 38.999 | -2.607 | 0.742 | 0.107 |
| -10.400 | 38.999 | -2.607 | 0.742 | 0.107 |
| -10.950 | 42.170 | -2.613 | 0.948 | 0.095 |
| -11.500 | 45.359 | -2.621 | 1.150 | 0.084 |
| -11.500 | 45.359 | -2.621 | 1.150 | 0.084 |
| -12.350 | 50.861 | -2.623 | 1.453 | 0.072 |
| -13.350 | 57.329 | -2.626 | 1.793 | 0.058 |
| -14.150 | 62.499 | -2.630 | 2.051 | 0.047 |
| -15.000 | 67.988 | -2.635 | 2.311 | 0.035 |
| -16.000 | 74.439 | -2.643 | 2.597 | 0.020 |
| -16.800 | 79.597 | -2.650 | 2.811 | 0.008 |
| -16.800 | 79.597 | -2.650 | 2.811 | 0.008 |
| -17.500 | 86.908 | -2.650 | 2.986 | 0.007 |
| -18.500 | 97.333 | -2.650 | 3.218 | 0.005 |
| -18.900 | 101.497 | -2.650 | 3.305 | 0.004 |
| -19.600 | 108.775 | -2.650 | 3.449 | 0.003 |
| -20.600 | 119.156 | -2.650 | 3.637 | 0.001 |
| -21.000 | 123.302 | -2.650 | 3.706 | 0.000 |

### 3.3 Results for Vertical 3 (X = -32.98 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.430 | 0.002 | -2.430 | 0.001 | 0.192 |
| -2.530 | 0.781 | -2.530 | -0.568 | 0.191 |
| -2.630 | 1.147 | -2.629 | -1.548 | 0.191 |
| -2.650 | 1.220 | -2.649 | -1.744 | 0.191 |
| -2.730 | 1.512 | -2.649 | -1.743 | 0.191 |
| -2.830 | 1.877 | -2.648 | -1.740 | 0.192 |
| -2.930 | 2.243 | -2.648 | -1.736 | 0.192 |
| -3.030 | 2.609 | -2.647 | -1.731 | 0.192 |
| -3.130 | 2.977 | -2.646 | -1.724 | 0.192 |
| -3.215 | 3.290 | -2.645 | -1.716 | 0.192 |
| -3.230 | 3.345 | -2.645 | -1.715 | 0.192 |
| -3.330 | 3.715 | -2.644 | -1.704 | 0.192 |
| -3.430 | 4.086 | -2.643 | -1.690 | 0.192 |
| -4.000 | 6.224 | -2.635 | -1.578 | 0.190 |
| -4.000 | 6.224 | -2.635 | -1.578 | 0.190 |
| -4.400 | 6.573 | -2.631 | -1.469 | 0.184 |
| -4.800 | 6.943 | -2.628 | -1.342 | 0.178 |
| -4.800 | 6.943 | -2.628 | -1.342 | 0.178 |
| -5.050 | 8.315 | -2.624 | -1.257 | 0.176 |
| -5.300 | 9.688 | -2.620 | -1.167 | 0.174 |
| -5.300 | 9.688 | -2.620 | -1.167 | 0.174 |
| -5.650 | 10.029 | -2.617 | -1.037 | 0.164 |
| -6.000 | 10.381 | -2.615 | -0.903 | 0.155 |
| -6.000 | 10.381 | -2.615 | -0.903 | 0.155 |
| -6.750 | 14.582 | -2.608 | -0.606 | 0.144 |
| -7.500 | 18.816 | -2.604 | -0.303 | 0.131 |
| -7.500 | 18.816 | -2.604 | -0.303 | 0.131 |
| -8.250 | 24.512 | -2.604 | 0.000 | 0.128 |
| -9.000 | 30.215 | -2.605 | 0.302 | 0.124 |
| -9.000 | 30.215 | -2.605 | 0.302 | 0.124 |
| -9.700 | 34.759 | -2.606 | 0.578 | 0.116 |
| -10.400 | 39.299 | -2.606 | 0.849 | 0.108 |
| -10.400 | 39.300 | -2.606 | 0.849 | 0.108 |
| -10.950 | 42.475 | -2.612 | 1.057 | 0.097 |
| -11.500 | 45.668 | -2.620 | 1.261 | 0.085 |
| -11.500 | 45.668 | -2.620 | 1.261 | 0.085 |
| -12.350 | 51.172 | -2.622 | 1.565 | 0.073 |
| -13.350 | 57.642 | -2.626 | 1.906 | 0.059 |
| -14.150 | 62.812 | -2.630 | 2.164 | 0.048 |
| -15.000 | 68.301 | -2.635 | 2.423 | 0.035 |
| -16.000 | 74.752 | -2.643 | 2.708 | 0.020 |
| -16.800 | 79.909 | -2.650 | 2.920 | 0.008 |
| -16.800 | 79.909 | -2.650 | 2.920 | 0.008 |
| -17.500 | 87.218 | -2.650 | 3.093 | 0.007 |
| -18.500 | 97.640 | -2.650 | 3.322 | 0.005 |
| -18.900 | 101.802 | -2.650 | 3.408 | 0.004 |
| -19.600 | 109.079 | -2.650 | 3.549 | 0.003 |
| -20.600 | 119.456 | -2.650 | 3.733 | 0.001 |
| -21.000 | 123.601 | -2.650 | 3.801 | 0.000 |

### 3.4 Results for Vertical 4 (X = -31.43 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.330 | 0.588 | -2.330 | 0.587 | 0.256 |
| -2.430 | 1.893 | -2.430 | 0.546 | 0.246 |
| -2.530 | 2.258 | -2.529 | -0.432 | 0.242 |
| -2.630 | 2.624 | -2.628 | -1.407 | 0.239 |
| -2.650 | 2.697 | -2.648 | -1.602 | 0.239 |
| -2.730 | 2.992 | -2.647 | -1.593 | 0.239 |
| -2.830 | 3.365 | -2.646 | -1.578 | 0.238 |
| -2.930 | 3.742 | -2.645 | -1.558 | 0.237 |
| -3.030 | 4.123 | -2.643 | -1.532 | 0.237 |
| -3.130 | 4.508 | -2.642 | -1.503 | 0.236 |
| -3.165 | 4.643 | -2.641 | -1.491 | 0.236 |
| -3.230 | 4.896 | -2.640 | -1.469 | 0.235 |
| -3.330 | 5.285 | -2.639 | -1.433 | 0.234 |
| -4.000 | 7.916 | -2.626 | -1.146 | 0.227 |
| -4.000 | 7.916 | -2.626 | -1.146 | 0.227 |
| -4.400 | 8.326 | -2.621 | -0.963 | 0.217 |
| -4.800 | 8.742 | -2.616 | -0.779 | 0.206 |
| -4.800 | 8.742 | -2.616 | -0.779 | 0.206 |
| -5.050 | 10.135 | -2.612 | -0.664 | 0.202 |
| -5.300 | 11.525 | -2.607 | -0.550 | 0.199 |
| -5.300 | 11.525 | -2.607 | -0.550 | 0.199 |
| -5.650 | 11.890 | -2.603 | -0.391 | 0.186 |
| -6.000 | 12.265 | -2.601 | -0.233 | 0.173 |
| -6.000 | 12.265 | -2.601 | -0.233 | 0.173 |
| -6.750 | 16.509 | -2.595 | 0.101 | 0.159 |
| -7.500 | 20.791 | -2.593 | 0.429 | 0.144 |
| -7.500 | 20.791 | -2.593 | 0.429 | 0.144 |
| -8.250 | 26.514 | -2.594 | 0.749 | 0.140 |
| -9.000 | 32.243 | -2.597 | 1.060 | 0.135 |
| -9.000 | 32.243 | -2.597 | 1.060 | 0.135 |
| -9.700 | 36.794 | -2.598 | 1.342 | 0.126 |
| -10.400 | 41.339 | -2.598 | 1.614 | 0.117 |
| -10.400 | 41.339 | -2.598 | 1.614 | 0.117 |
| -10.950 | 44.532 | -2.606 | 1.821 | 0.105 |
| -11.500 | 47.744 | -2.616 | 2.022 | 0.092 |
| -11.500 | 47.744 | -2.616 | 2.022 | 0.092 |
| -12.350 | 53.246 | -2.619 | 2.319 | 0.079 |
| -13.350 | 59.709 | -2.623 | 2.647 | 0.064 |
| -14.150 | 64.872 | -2.628 | 2.891 | 0.051 |
| -15.000 | 70.350 | -2.634 | 3.133 | 0.038 |
| -16.000 | 76.786 | -2.642 | 3.394 | 0.022 |
| -16.800 | 81.929 | -2.650 | 3.585 | 0.009 |
| -16.800 | 81.929 | -2.650 | 3.585 | 0.009 |
| -17.500 | 89.218 | -2.650 | 3.738 | 0.008 |
| -18.500 | 99.611 | -2.650 | 3.937 | 0.005 |
| -18.900 | 103.761 | -2.650 | 4.010 | 0.004 |
| -19.600 | 111.015 | -2.650 | 4.129 | 0.003 |
| -20.600 | 121.358 | -2.650 | 4.279 | 0.001 |
| -21.000 | 125.490 | -2.650 | 4.333 | 0.000 |

### 3.5 Results for Vertical 5 (X = -29.46 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.333 | 3.916 | -2.333 | 3.915 | 0.412 |
| -2.433 | 4.292 | -2.431 | 2.960 | 0.386 |
| -2.533 | 4.647 | -2.529 | 1.986 | 0.371 |
| -2.633 | 5.002 | -2.627 | 1.014 | 0.362 |
| -2.650 | 5.062 | -2.643 | 0.848 | 0.360 |
| -2.733 | 5.355 | -2.641 | 0.856 | 0.355 |
| -2.833 | 5.708 | -2.639 | 0.864 | 0.348 |
| -2.933 | 6.058 | -2.636 | 0.871 | 0.342 |
| -3.033 | 6.407 | -2.633 | 0.877 | 0.337 |
| -3.133 | 6.753 | -2.631 | 0.882 | 0.332 |
| -3.167 | 6.869 | -2.630 | 0.884 | 0.330 |
| -3.233 | 7.099 | -2.628 | 0.887 | 0.327 |
| -3.333 | 7.444 | -2.625 | 0.892 | 0.322 |
| -4.000 | 9.745 | -2.603 | 0.944 | 0.296 |
| -4.000 | 9.745 | -2.603 | 0.944 | 0.296 |
| -4.400 | 10.000 | -2.596 | 0.998 | 0.273 |
| -4.800 | 10.286 | -2.589 | 1.069 | 0.249 |
| -4.800 | 10.286 | -2.589 | 1.069 | 0.249 |
| -5.050 | 11.602 | -2.583 | 1.121 | 0.243 |
| -5.300 | 12.922 | -2.577 | 1.179 | 0.237 |
| -5.300 | 12.922 | -2.577 | 1.179 | 0.237 |
| -5.650 | 13.209 | -2.573 | 1.266 | 0.218 |
| -6.000 | 13.520 | -2.570 | 1.362 | 0.199 |
| -6.000 | 13.520 | -2.570 | 1.362 | 0.199 |
| -6.750 | 17.673 | -2.566 | 1.583 | 0.180 |
| -7.500 | 21.913 | -2.570 | 1.821 | 0.161 |
| -7.500 | 21.913 | -2.570 | 1.821 | 0.161 |
| -8.250 | 27.586 | -2.573 | 2.067 | 0.155 |
| -9.000 | 33.283 | -2.579 | 2.315 | 0.149 |
| -9.000 | 33.283 | -2.579 | 2.315 | 0.149 |
| -9.700 | 37.787 | -2.580 | 2.544 | 0.138 |
| -10.400 | 42.290 | -2.582 | 2.768 | 0.128 |
| -10.400 | 42.290 | -2.582 | 2.768 | 0.128 |
| -10.950 | 45.486 | -2.593 | 2.939 | 0.114 |
| -11.500 | 48.706 | -2.608 | 3.105 | 0.100 |
| -11.500 | 48.707 | -2.608 | 3.105 | 0.100 |
| -12.350 | 54.167 | -2.612 | 3.349 | 0.086 |
| -13.350 | 60.584 | -2.618 | 3.615 | 0.069 |
| -14.150 | 65.710 | -2.623 | 3.810 | 0.056 |
| -15.000 | 71.150 | -2.630 | 3.999 | 0.042 |
| -16.000 | 77.543 | -2.641 | 4.198 | 0.024 |
| -16.800 | 82.651 | -2.650 | 4.338 | 0.011 |
| -16.800 | 82.651 | -2.650 | 4.338 | 0.011 |
| -17.500 | 89.896 | -2.650 | 4.447 | 0.009 |
| -18.500 | 100.225 | -2.650 | 4.582 | 0.006 |
| -18.900 | 104.350 | -2.650 | 4.630 | 0.005 |
| -19.600 | 111.560 | -2.650 | 4.704 | 0.003 |
| -20.600 | 121.841 | -2.650 | 4.791 | 0.001 |
| -21.000 | 125.947 | -2.650 | 4.820 | 0.000 |

### 3.6 Results for Vertical 6 (X = -26.52 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.400 | 8.808 | -2.400 | 8.807 | 0.708 |
| -2.500 | 9.105 | -2.492 | 7.837 | 0.672 |
| -2.600 | 9.404 | -2.583 | 6.868 | 0.650 |
| -2.650 | 9.554 | -2.629 | 6.384 | 0.641 |
| -2.700 | 9.704 | -2.625 | 6.390 | 0.634 |
| -2.800 | 10.004 | -2.617 | 6.402 | 0.619 |
| -2.900 | 10.303 | -2.608 | 6.413 | 0.605 |
| -3.000 | 10.601 | -2.600 | 6.424 | 0.592 |
| -3.100 | 10.898 | -2.592 | 6.434 | 0.580 |
| -3.200 | 11.194 | -2.583 | 6.444 | 0.568 |
| -3.300 | 11.489 | -2.575 | 6.453 | 0.557 |
| -3.400 | 11.783 | -2.566 | 6.461 | 0.547 |
| -4.000 | 13.545 | -2.516 | 6.504 | 0.493 |
| -4.000 | 13.545 | -2.516 | 6.504 | 0.493 |
| -4.400 | 13.676 | -2.498 | 6.533 | 0.440 |
| -4.800 | 13.850 | -2.485 | 6.564 | 0.388 |
| -4.800 | 13.850 | -2.485 | 6.564 | 0.388 |
| -5.050 | 15.076 | -2.473 | 6.585 | 0.374 |
| -5.300 | 16.308 | -2.461 | 6.608 | 0.361 |
| -5.300 | 16.308 | -2.461 | 6.608 | 0.361 |
| -5.650 | 16.513 | -2.454 | 6.642 | 0.324 |
| -6.000 | 16.761 | -2.451 | 6.680 | 0.287 |
| -6.000 | 16.761 | -2.451 | 6.680 | 0.287 |
| -6.750 | 20.852 | -2.454 | 6.769 | 0.254 |
| -7.500 | 25.136 | -2.476 | 6.870 | 0.222 |
| -7.500 | 25.136 | -2.476 | 6.870 | 0.222 |
| -8.250 | 30.762 | -2.488 | 6.979 | 0.210 |
| -9.000 | 36.449 | -2.507 | 7.093 | 0.198 |
| -9.000 | 36.449 | -2.507 | 7.093 | 0.198 |
| -9.700 | 40.850 | -2.509 | 7.200 | 0.181 |
| -10.400 | 45.258 | -2.513 | 7.305 | 0.165 |
| -10.400 | 45.258 | -2.513 | 7.305 | 0.165 |
| -10.950 | 48.515 | -2.540 | 7.384 | 0.148 |
| -11.500 | 51.817 | -2.572 | 7.459 | 0.131 |
| -11.500 | 51.817 | -2.572 | 7.459 | 0.131 |
| -12.350 | 57.183 | -2.580 | 7.564 | 0.111 |
| -13.350 | 63.497 | -2.592 | 7.670 | 0.089 |
| -14.150 | 68.548 | -2.603 | 7.739 | 0.072 |
| -15.000 | 73.917 | -2.616 | 7.796 | 0.053 |
| -16.000 | 80.234 | -2.634 | 7.841 | 0.032 |
| -16.800 | 85.290 | -2.650 | 7.860 | 0.015 |
| -16.800 | 85.290 | -2.650 | 7.860 | 0.015 |
| -17.500 | 92.432 | -2.650 | 7.866 | 0.012 |
| -18.500 | 102.618 | -2.650 | 7.856 | 0.008 |
| -18.900 | 106.686 | -2.650 | 7.847 | 0.007 |
| -19.600 | 113.799 | -2.650 | 7.824 | 0.004 |
| -20.600 | 123.946 | -2.650 | 7.777 | 0.001 |
| -21.000 | 128.000 | -2.650 | 7.754 | 0.000 |

### 3.7 Results for Vertical 7 (X = -24.39 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.358 | 12.234 | -2.358 | 12.233 | 0.832 |
| -2.458 | 12.475 | -2.445 | 11.253 | 0.794 |
| -2.558 | 12.729 | -2.532 | 10.282 | 0.768 |
| -2.650 | 12.979 | -2.613 | 9.404 | 0.750 |
| -2.658 | 13.001 | -2.612 | 9.406 | 0.749 |
| -2.758 | 13.269 | -2.599 | 9.427 | 0.732 |
| -2.858 | 13.533 | -2.587 | 9.444 | 0.716 |
| -2.958 | 13.794 | -2.574 | 9.457 | 0.701 |
| -3.058 | 14.055 | -2.562 | 9.469 | 0.687 |
| -3.158 | 14.315 | -2.550 | 9.480 | 0.673 |
| -3.179 | 14.370 | -2.547 | 9.482 | 0.671 |
| -3.258 | 14.576 | -2.538 | 9.491 | 0.661 |
| -3.358 | 14.837 | -2.526 | 9.502 | 0.648 |
| -4.000 | 16.540 | -2.451 | 9.572 | 0.580 |
| -4.000 | 16.540 | -2.451 | 9.572 | 0.580 |
| -4.400 | 16.627 | -2.427 | 9.615 | 0.517 |
| -4.800 | 16.771 | -2.409 | 9.655 | 0.456 |
| -4.800 | 16.771 | -2.409 | 9.655 | 0.456 |
| -5.050 | 17.971 | -2.394 | 9.679 | 0.439 |
| -5.300 | 19.180 | -2.381 | 9.702 | 0.424 |
| -5.300 | 19.180 | -2.381 | 9.702 | 0.424 |
| -5.650 | 19.374 | -2.372 | 9.734 | 0.379 |
| -6.000 | 19.621 | -2.370 | 9.764 | 0.336 |
| -6.000 | 19.621 | -2.370 | 9.764 | 0.336 |
| -6.750 | 23.768 | -2.382 | 9.824 | 0.295 |
| -7.500 | 28.160 | -2.420 | 9.877 | 0.258 |
| -7.500 | 28.160 | -2.420 | 9.877 | 0.258 |
| -8.250 | 33.792 | -2.439 | 9.924 | 0.241 |
| -9.000 | 39.491 | -2.466 | 9.963 | 0.226 |
| -9.000 | 39.491 | -2.466 | 9.963 | 0.226 |
| -9.700 | 43.827 | -2.470 | 9.991 | 0.206 |
| -10.400 | 48.165 | -2.475 | 10.009 | 0.187 |
| -10.400 | 48.165 | -2.475 | 10.009 | 0.187 |
| -10.950 | 51.443 | -2.511 | 10.016 | 0.168 |
| -11.500 | 54.774 | -2.554 | 10.016 | 0.148 |
| -11.500 | 54.774 | -2.554 | 10.016 | 0.148 |
| -12.350 | 60.046 | -2.564 | 10.002 | 0.126 |
| -13.350 | 66.248 | -2.579 | 9.963 | 0.100 |
| -14.150 | 71.211 | -2.592 | 9.915 | 0.081 |
| -15.000 | 76.487 | -2.609 | 9.848 | 0.060 |
| -16.000 | 82.700 | -2.630 | 9.749 | 0.037 |
| -16.800 | 87.677 | -2.650 | 9.656 | 0.018 |
| -16.800 | 87.677 | -2.650 | 9.656 | 0.018 |
| -17.500 | 94.723 | -2.650 | 9.566 | 0.015 |
| -18.500 | 104.776 | -2.650 | 9.424 | 0.010 |
| -18.900 | 108.793 | -2.650 | 9.363 | 0.008 |
| -19.600 | 115.818 | -2.650 | 9.253 | 0.005 |
| -20.600 | 125.845 | -2.650 | 9.086 | 0.001 |
| -21.000 | 129.853 | -2.650 | 9.017 | 0.000 |

### 3.8 Results for Vertical 8 (X = -21.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.384 | 18.157 | -2.384 | 18.156 | 1.066 |
| -2.484 | 18.307 | -2.461 | 17.191 | 1.023 |
| -2.584 | 18.472 | -2.538 | 16.231 | 0.994 |
| -2.650 | 18.581 | -2.588 | 15.598 | 0.978 |
| -2.684 | 18.638 | -2.581 | 15.604 | 0.970 |
| -2.784 | 18.803 | -2.559 | 15.615 | 0.949 |
| -2.884 | 18.968 | -2.537 | 15.623 | 0.928 |
| -2.984 | 19.136 | -2.516 | 15.629 | 0.909 |
| -3.084 | 19.306 | -2.495 | 15.635 | 0.891 |
| -3.184 | 19.479 | -2.475 | 15.642 | 0.873 |
| -3.192 | 19.493 | -2.473 | 15.643 | 0.872 |
| -3.284 | 19.656 | -2.454 | 15.649 | 0.857 |
| -3.384 | 19.837 | -2.434 | 15.657 | 0.841 |
| -4.000 | 21.035 | -2.320 | 15.710 | 0.754 |
| -4.000 | 21.035 | -2.320 | 15.710 | 0.754 |
| -4.400 | 20.990 | -2.283 | 15.742 | 0.670 |
| -4.800 | 21.039 | -2.258 | 15.769 | 0.589 |
| -4.800 | 21.039 | -2.258 | 15.769 | 0.589 |
| -5.050 | 22.169 | -2.236 | 15.783 | 0.566 |
| -5.300 | 23.318 | -2.218 | 15.794 | 0.545 |
| -5.300 | 23.318 | -2.218 | 15.794 | 0.545 |
| -5.650 | 23.474 | -2.208 | 15.804 | 0.486 |
| -6.000 | 23.711 | -2.206 | 15.809 | 0.428 |
| -6.000 | 23.711 | -2.206 | 15.809 | 0.428 |
| -6.750 | 27.963 | -2.236 | 15.800 | 0.374 |
| -7.500 | 32.584 | -2.305 | 15.762 | 0.325 |
| -7.500 | 32.584 | -2.305 | 15.762 | 0.325 |
| -8.250 | 38.247 | -2.339 | 15.694 | 0.302 |
| -9.000 | 43.990 | -2.383 | 15.597 | 0.281 |
| -9.000 | 43.990 | -2.383 | 15.597 | 0.281 |
| -9.700 | 48.212 | -2.390 | 15.479 | 0.254 |
| -10.400 | 52.423 | -2.398 | 15.336 | 0.229 |
| -10.400 | 52.423 | -2.398 | 15.336 | 0.229 |
| -10.950 | 55.755 | -2.453 | 15.207 | 0.206 |
| -11.500 | 59.153 | -2.516 | 15.065 | 0.182 |
| -11.500 | 59.153 | -2.516 | 15.065 | 0.182 |
| -12.350 | 64.248 | -2.531 | 14.823 | 0.154 |
| -13.350 | 70.237 | -2.552 | 14.506 | 0.122 |
| -14.150 | 75.032 | -2.571 | 14.235 | 0.098 |
| -15.000 | 80.134 | -2.594 | 13.933 | 0.074 |
| -16.000 | 86.155 | -2.624 | 13.566 | 0.046 |
| -16.800 | 90.990 | -2.650 | 13.266 | 0.024 |
| -16.800 | 90.990 | -2.650 | 13.266 | 0.024 |
| -17.500 | 97.861 | -2.650 | 13.002 | 0.019 |
| -18.500 | 107.675 | -2.650 | 12.624 | 0.013 |
| -18.900 | 111.601 | -2.650 | 12.474 | 0.010 |
| -19.600 | 118.472 | -2.650 | 12.212 | 0.007 |
| -20.600 | 128.293 | -2.650 | 11.843 | 0.002 |
| -21.000 | 132.223 | -2.650 | 11.697 | 0.000 |

### 3.9 Results for Vertical 9 (X = -19.25 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.398 | 21.347 | -2.398 | 21.346 | 1.172 |
| -2.498 | 21.428 | -2.468 | 20.374 | 1.127 |
| -2.598 | 21.523 | -2.539 | 19.404 | 1.096 |
| -2.650 | 21.576 | -2.576 | 18.900 | 1.082 |
| -2.698 | 21.627 | -2.563 | 18.906 | 1.070 |
| -2.798 | 21.739 | -2.535 | 18.919 | 1.047 |
| -2.898 | 21.856 | -2.508 | 18.932 | 1.025 |
| -2.998 | 21.977 | -2.481 | 18.945 | 1.003 |
| -3.098 | 22.102 | -2.455 | 18.957 | 0.983 |
| -3.198 | 22.231 | -2.430 | 18.968 | 0.964 |
| -3.199 | 22.233 | -2.429 | 18.968 | 0.964 |
| -3.298 | 22.365 | -2.405 | 18.978 | 0.945 |
| -3.398 | 22.502 | -2.380 | 18.988 | 0.928 |
| -4.000 | 23.429 | -2.243 | 19.035 | 0.834 |
| -4.000 | 23.429 | -2.243 | 19.035 | 0.834 |
| -4.400 | 23.298 | -2.200 | 19.052 | 0.740 |
| -4.800 | 23.281 | -2.170 | 19.057 | 0.649 |
| -4.800 | 23.281 | -2.170 | 19.057 | 0.649 |
| -5.050 | 24.363 | -2.145 | 19.054 | 0.624 |
| -5.300 | 25.470 | -2.124 | 19.047 | 0.601 |
| -5.300 | 25.470 | -2.124 | 19.047 | 0.601 |
| -5.650 | 25.593 | -2.113 | 19.030 | 0.535 |
| -6.000 | 25.813 | -2.113 | 19.005 | 0.470 |
| -6.000 | 25.813 | -2.113 | 19.005 | 0.470 |
| -6.750 | 30.112 | -2.153 | 18.926 | 0.410 |
| -7.500 | 34.851 | -2.242 | 18.807 | 0.356 |
| -7.500 | 34.851 | -2.242 | 18.807 | 0.356 |
| -8.250 | 40.511 | -2.283 | 18.647 | 0.329 |
| -9.000 | 46.258 | -2.338 | 18.445 | 0.306 |
| -9.000 | 46.258 | -2.338 | 18.445 | 0.306 |
| -9.700 | 50.391 | -2.346 | 18.219 | 0.275 |
| -10.400 | 54.505 | -2.355 | 17.960 | 0.247 |
| -10.400 | 54.505 | -2.355 | 17.960 | 0.247 |
| -10.950 | 57.846 | -2.421 | 17.737 | 0.222 |
| -11.500 | 61.261 | -2.496 | 17.498 | 0.197 |
| -11.500 | 61.261 | -2.496 | 17.498 | 0.197 |
| -12.350 | 66.231 | -2.514 | 17.104 | 0.166 |
| -13.350 | 72.077 | -2.538 | 16.614 | 0.131 |
| -14.150 | 76.764 | -2.560 | 16.209 | 0.106 |
| -15.000 | 81.761 | -2.586 | 15.772 | 0.079 |
| -16.000 | 87.671 | -2.620 | 15.256 | 0.050 |
| -16.800 | 92.428 | -2.650 | 14.847 | 0.026 |
| -16.800 | 92.429 | -2.650 | 14.847 | 0.026 |
| -17.500 | 99.206 | -2.650 | 14.493 | 0.021 |
| -18.500 | 108.898 | -2.650 | 13.997 | 0.014 |
| -18.900 | 112.778 | -2.650 | 13.802 | 0.011 |
| -19.600 | 119.574 | -2.650 | 13.467 | 0.007 |
| -20.600 | 129.295 | -2.650 | 13.002 | 0.002 |
| -21.000 | 133.188 | -2.650 | 12.820 | 0.000 |

### 3.10 Results for Vertical 10 (X = -15.87 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.336 | 28.080 | -2.336 | 28.079 | 1.266 |
| -2.436 | 28.034 | -2.393 | 27.106 | 1.219 |
| -2.536 | 27.999 | -2.452 | 26.126 | 1.184 |
| -2.636 | 27.959 | -2.512 | 25.129 | 1.157 |
| -2.650 | 27.953 | -2.520 | 24.989 | 1.153 |
| -2.736 | 27.920 | -2.487 | 24.966 | 1.132 |
| -2.836 | 27.885 | -2.449 | 24.934 | 1.109 |
| -2.936 | 27.856 | -2.412 | 24.898 | 1.086 |
| -3.036 | 27.835 | -2.376 | 24.860 | 1.065 |
| -3.136 | 27.823 | -2.341 | 24.823 | 1.044 |
| -3.168 | 27.821 | -2.330 | 24.811 | 1.038 |
| -3.236 | 27.821 | -2.307 | 24.787 | 1.024 |
| -3.336 | 27.830 | -2.273 | 24.753 | 1.005 |
| -4.000 | 28.167 | -2.076 | 24.560 | 0.894 |
| -4.000 | 28.167 | -2.076 | 24.560 | 0.894 |
| -4.400 | 27.855 | -2.022 | 24.475 | 0.794 |
| -4.800 | 27.754 | -1.986 | 24.414 | 0.698 |
| -4.800 | 27.754 | -1.986 | 24.414 | 0.698 |
| -5.050 | 28.804 | -1.958 | 24.383 | 0.670 |
| -5.300 | 29.899 | -1.935 | 24.351 | 0.645 |
| -5.300 | 29.899 | -1.935 | 24.351 | 0.645 |
| -5.650 | 30.029 | -1.925 | 24.294 | 0.574 |
| -6.000 | 30.271 | -1.929 | 24.215 | 0.505 |
| -6.000 | 30.271 | -1.929 | 24.215 | 0.505 |
| -6.750 | 34.709 | -1.998 | 23.946 | 0.439 |
| -7.500 | 39.602 | -2.129 | 23.538 | 0.380 |
| -7.500 | 39.602 | -2.129 | 23.538 | 0.380 |
| -8.250 | 45.070 | -2.187 | 23.020 | 0.350 |
| -9.000 | 50.606 | -2.262 | 22.426 | 0.324 |
| -9.000 | 50.606 | -2.262 | 22.426 | 0.324 |
| -9.700 | 54.375 | -2.272 | 21.830 | 0.290 |
| -10.400 | 58.138 | -2.285 | 21.215 | 0.260 |
| -10.400 | 58.138 | -2.285 | 21.215 | 0.260 |
| -10.950 | 61.372 | -2.368 | 20.725 | 0.233 |
| -11.500 | 64.712 | -2.463 | 20.237 | 0.206 |
| -11.500 | 64.712 | -2.463 | 20.237 | 0.206 |
| -12.350 | 69.347 | -2.485 | 19.491 | 0.173 |
| -13.350 | 74.858 | -2.515 | 18.637 | 0.137 |
| -14.150 | 79.320 | -2.542 | 17.978 | 0.110 |
| -15.000 | 84.116 | -2.573 | 17.304 | 0.082 |
| -16.000 | 89.834 | -2.614 | 16.547 | 0.051 |
| -16.800 | 94.469 | -2.650 | 15.969 | 0.027 |
| -16.800 | 94.469 | -2.650 | 15.969 | 0.027 |
| -17.500 | 101.107 | -2.650 | 15.483 | 0.022 |
| -18.500 | 110.622 | -2.650 | 14.821 | 0.014 |
| -18.900 | 114.438 | -2.650 | 14.566 | 0.012 |
| -19.600 | 121.131 | -2.650 | 14.134 | 0.007 |
| -20.600 | 130.721 | -2.650 | 13.545 | 0.002 |
| -21.000 | 134.566 | -2.650 | 13.318 | 0.000 |

### 3.11 Results for Vertical 11 (X = -14.85 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.352 | 30.202 | -2.352 | 30.201 | 1.309 |
| -2.452 | 30.350 | -2.404 | 29.468 | 1.260 |
| -2.552 | 30.362 | -2.458 | 28.583 | 1.225 |
| -2.650 | 30.269 | -2.512 | 27.596 | 1.197 |
| -2.652 | 30.267 | -2.511 | 27.596 | 1.197 |
| -2.752 | 30.176 | -2.468 | 27.560 | 1.171 |
| -2.852 | 30.061 | -2.426 | 27.489 | 1.146 |
| -2.952 | 29.919 | -2.385 | 27.379 | 1.122 |
| -3.052 | 29.762 | -2.346 | 27.241 | 1.100 |
| -3.152 | 29.610 | -2.307 | 27.094 | 1.078 |
| -3.176 | 29.576 | -2.298 | 27.060 | 1.073 |
| -3.252 | 29.479 | -2.270 | 26.955 | 1.057 |
| -3.352 | 29.378 | -2.234 | 26.831 | 1.037 |
| -4.000 | 29.495 | -2.027 | 26.477 | 0.924 |
| -4.000 | 29.495 | -2.027 | 26.477 | 0.924 |
| -4.400 | 29.345 | -1.970 | 26.507 | 0.820 |
| -4.800 | 29.404 | -1.931 | 26.566 | 0.719 |
| -4.800 | 29.404 | -1.931 | 26.566 | 0.719 |
| -5.050 | 30.510 | -1.903 | 26.578 | 0.691 |
| -5.300 | 31.625 | -1.879 | 26.558 | 0.664 |
| -5.300 | 31.625 | -1.879 | 26.558 | 0.664 |
| -5.650 | 31.732 | -1.869 | 26.471 | 0.590 |
| -6.000 | 31.905 | -1.874 | 26.316 | 0.517 |
| -6.000 | 31.905 | -1.874 | 26.316 | 0.517 |
| -6.750 | 36.146 | -1.951 | 25.798 | 0.448 |
| -7.500 | 40.841 | -2.095 | 25.110 | 0.387 |
| -7.500 | 40.841 | -2.095 | 25.110 | 0.387 |
| -8.250 | 46.056 | -2.159 | 24.333 | 0.356 |
| -9.000 | 51.393 | -2.239 | 23.520 | 0.329 |
| -9.000 | 51.393 | -2.239 | 23.520 | 0.329 |
| -9.700 | 54.976 | -2.250 | 22.757 | 0.294 |
| -10.400 | 58.591 | -2.263 | 22.006 | 0.263 |
| -10.400 | 58.591 | -2.263 | 22.006 | 0.263 |
| -10.950 | 61.775 | -2.352 | 21.430 | 0.236 |
| -11.500 | 65.088 | -2.452 | 20.868 | 0.209 |
| -11.500 | 65.088 | -2.452 | 20.868 | 0.209 |
| -12.350 | 69.631 | -2.476 | 20.031 | 0.175 |
| -13.350 | 75.067 | -2.508 | 19.097 | 0.138 |
| -14.150 | 79.488 | -2.536 | 18.389 | 0.111 |
| -15.000 | 84.255 | -2.569 | 17.673 | 0.083 |
| -16.000 | 89.952 | -2.612 | 16.879 | 0.052 |
| -16.800 | 94.580 | -2.650 | 16.277 | 0.028 |
| -16.800 | 94.580 | -2.650 | 16.277 | 0.028 |
| -17.500 | 101.198 | -2.650 | 15.774 | 0.022 |
| -18.500 | 110.691 | -2.650 | 15.092 | 0.014 |
| -18.900 | 114.499 | -2.650 | 14.831 | 0.012 |
| -19.600 | 121.180 | -2.650 | 14.388 | 0.007 |
| -20.600 | 130.757 | -2.650 | 13.787 | 0.002 |
| -21.000 | 134.597 | -2.650 | 13.556 | 0.000 |

### 3.12 Results for Vertical 12 (X = -14.19 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.650 | 31.691 | -2.650 | 31.690 | 1.622 |
| -2.750 | 31.343 | -2.591 | 31.503 | 1.560 |
| -2.850 | 29.956 | -2.536 | 30.302 | 1.510 |
| -2.950 | 29.335 | -2.485 | 29.792 | 1.467 |
| -3.050 | 30.118 | -2.435 | 30.578 | 1.429 |
| -3.150 | 30.513 | -2.385 | 31.020 | 1.394 |
| -3.250 | 30.498 | -2.337 | 31.083 | 1.361 |
| -3.325 | 30.377 | -2.302 | 31.021 | 1.338 |
| -3.350 | 30.335 | -2.290 | 30.997 | 1.330 |
| -3.450 | 30.210 | -2.245 | 30.923 | 1.301 |
| -3.550 | 30.173 | -2.201 | 30.910 | 1.274 |
| -3.650 | 30.206 | -2.159 | 30.944 | 1.248 |
| -4.000 | 30.532 | -2.021 | 31.172 | 1.165 |
| -4.000 | 30.532 | -2.021 | 31.172 | 1.165 |
| -4.400 | 30.399 | -1.945 | 31.364 | 1.020 |
| -4.800 | 30.277 | -1.893 | 31.391 | 0.880 |
| -4.800 | 30.277 | -1.893 | 31.391 | 0.880 |
| -5.050 | 31.165 | -1.853 | 31.322 | 0.841 |
| -5.300 | 32.041 | -1.819 | 31.193 | 0.806 |
| -5.300 | 32.041 | -1.819 | 31.193 | 0.806 |
| -5.650 | 31.867 | -1.803 | 30.930 | 0.708 |
| -6.000 | 31.783 | -1.806 | 30.594 | 0.612 |
| -6.000 | 31.783 | -1.806 | 30.594 | 0.612 |
| -6.750 | 35.571 | -1.881 | 29.719 | 0.525 |
| -7.500 | 39.997 | -2.033 | 28.750 | 0.449 |
| -7.500 | 39.997 | -2.033 | 28.750 | 0.449 |
| -8.250 | 45.013 | -2.101 | 27.766 | 0.410 |
| -9.000 | 50.244 | -2.189 | 26.804 | 0.378 |
| -9.000 | 50.244 | -2.189 | 26.804 | 0.378 |
| -9.700 | 53.718 | -2.201 | 25.941 | 0.337 |
| -10.400 | 57.260 | -2.216 | 25.116 | 0.301 |
| -10.400 | 57.260 | -2.216 | 25.116 | 0.301 |
| -10.950 | 60.490 | -2.315 | 24.495 | 0.270 |
| -11.500 | 63.879 | -2.427 | 23.899 | 0.239 |
| -11.500 | 63.879 | -2.427 | 23.899 | 0.239 |
| -12.350 | 68.404 | -2.453 | 23.022 | 0.200 |
| -13.350 | 73.841 | -2.489 | 22.057 | 0.158 |
| -14.150 | 78.277 | -2.521 | 21.332 | 0.127 |
| -15.000 | 83.071 | -2.558 | 20.604 | 0.096 |
| -16.000 | 88.812 | -2.607 | 19.800 | 0.061 |
| -16.800 | 93.481 | -2.650 | 19.193 | 0.034 |
| -16.800 | 93.481 | -2.650 | 19.193 | 0.034 |
| -17.500 | 100.095 | -2.650 | 18.688 | 0.027 |
| -18.500 | 109.584 | -2.650 | 18.003 | 0.018 |
| -18.900 | 113.392 | -2.650 | 17.741 | 0.014 |
| -19.600 | 120.071 | -2.650 | 17.297 | 0.009 |
| -20.600 | 129.646 | -2.650 | 16.696 | 0.002 |
| -21.000 | 133.487 | -2.650 | 16.465 | 0.000 |

### 3.13 Results for Vertical 13 (X = -14.09 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.702 | 33.585 | -2.650 | 33.424 | 1.596 |
| -2.802 | 33.643 | -2.585 | 33.553 | 1.541 |
| -2.902 | 33.040 | -2.523 | 33.048 | 1.496 |
| -3.002 | 32.485 | -2.465 | 32.703 | 1.457 |
| -3.102 | 31.946 | -2.410 | 32.357 | 1.420 |
| -3.202 | 31.330 | -2.358 | 31.920 | 1.386 |
| -3.302 | 30.774 | -2.308 | 31.510 | 1.354 |
| -3.351 | 30.588 | -2.285 | 31.375 | 1.339 |
| -3.402 | 30.463 | -2.261 | 31.290 | 1.323 |
| -3.502 | 30.377 | -2.215 | 31.247 | 1.295 |
| -3.602 | 30.406 | -2.171 | 31.292 | 1.268 |
| -3.702 | 30.478 | -2.128 | 31.366 | 1.242 |
| -4.000 | 30.750 | -2.008 | 31.581 | 1.172 |
| -4.000 | 30.750 | -2.008 | 31.581 | 1.172 |
| -4.400 | 30.551 | -1.931 | 31.745 | 1.025 |
| -4.800 | 30.351 | -1.878 | 31.725 | 0.884 |
| -4.800 | 30.352 | -1.878 | 31.725 | 0.884 |
| -5.050 | 31.189 | -1.837 | 31.624 | 0.844 |
| -5.300 | 32.017 | -1.802 | 31.463 | 0.809 |
| -5.300 | 32.017 | -1.802 | 31.463 | 0.809 |
| -5.650 | 31.786 | -1.786 | 31.158 | 0.710 |
| -6.000 | 31.655 | -1.788 | 30.784 | 0.614 |
| -6.000 | 31.655 | -1.788 | 30.784 | 0.614 |
| -6.750 | 35.380 | -1.865 | 29.845 | 0.525 |
| -7.500 | 39.781 | -2.020 | 28.832 | 0.449 |
| -7.500 | 39.781 | -2.020 | 28.832 | 0.449 |
| -8.250 | 44.775 | -2.090 | 27.818 | 0.411 |
| -9.000 | 50.000 | -2.179 | 26.836 | 0.378 |
| -9.000 | 50.000 | -2.179 | 26.836 | 0.378 |
| -9.700 | 53.462 | -2.192 | 25.960 | 0.337 |
| -10.400 | 56.996 | -2.207 | 25.126 | 0.301 |
| -10.400 | 56.996 | -2.207 | 25.126 | 0.301 |
| -10.950 | 60.240 | -2.308 | 24.500 | 0.270 |
| -11.500 | 63.647 | -2.422 | 23.900 | 0.239 |
| -11.500 | 63.647 | -2.422 | 23.900 | 0.239 |
| -12.350 | 68.172 | -2.449 | 23.019 | 0.200 |
| -13.350 | 73.614 | -2.486 | 22.051 | 0.159 |
| -14.150 | 78.054 | -2.518 | 21.325 | 0.127 |
| -15.000 | 82.854 | -2.556 | 20.596 | 0.096 |
| -16.000 | 88.604 | -2.606 | 19.792 | 0.061 |
| -16.800 | 93.282 | -2.650 | 19.185 | 0.034 |
| -16.800 | 93.282 | -2.650 | 19.185 | 0.034 |
| -17.500 | 99.897 | -2.650 | 18.680 | 0.027 |
| -18.500 | 109.385 | -2.650 | 17.995 | 0.018 |
| -18.900 | 113.193 | -2.650 | 17.733 | 0.014 |
| -19.600 | 119.873 | -2.650 | 17.290 | 0.009 |
| -20.600 | 129.448 | -2.650 | 16.689 | 0.002 |
| -21.000 | 133.289 | -2.650 | 16.458 | 0.000 |

### 3.14 Results for Vertical 14 (X = -13.75 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.043 | 35.303 | -2.650 | 34.019 | 1.561 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.143 | 35.552 | -2.587 | 34.332 | 1.521 |
| -3.243 | 35.307 | -2.528 | 34.337 | 1.484 |
| -3.343 | 34.920 | -2.471 | 34.185 | 1.449 |
| -3.443 | 34.456 | -2.417 | 33.941 | 1.416 |
| -3.522 | 34.124 | -2.376 | 33.758 | 1.392 |
| -3.543 | 34.044 | -2.365 | 33.715 | 1.385 |
| -3.643 | 33.745 | -2.315 | 33.562 | 1.356 |
| -3.743 | 33.545 | -2.267 | 33.475 | 1.327 |
| -3.843 | 33.410 | -2.221 | 33.428 | 1.300 |
| -3.943 | 33.314 | -2.177 | 33.399 | 1.274 |
| -4.000 | 33.269 | -2.152 | 33.385 | 1.260 |
| -4.000 | 33.269 | -2.152 | 33.385 | 1.260 |
| -4.043 | 33.185 | -2.142 | 33.375 | 1.242 |
| -4.400 | 32.543 | -2.065 | 33.247 | 1.095 |
| -4.800 | 31.891 | -2.002 | 32.961 | 0.937 |
| -4.800 | 31.891 | -2.002 | 32.961 | 0.937 |
| -5.050 | 32.440 | -1.953 | 32.705 | 0.893 |
| -5.300 | 33.003 | -1.910 | 32.403 | 0.854 |
| -5.300 | 33.003 | -1.910 | 32.403 | 0.854 |
| -5.650 | 32.487 | -1.887 | 31.923 | 0.744 |
| -6.000 | 32.114 | -1.884 | 31.400 | 0.638 |
| -6.000 | 32.115 | -1.884 | 31.400 | 0.638 |
| -6.750 | 35.340 | -1.941 | 30.224 | 0.541 |
| -7.500 | 39.314 | -2.071 | 29.057 | 0.460 |
| -7.500 | 39.314 | -2.071 | 29.057 | 0.460 |
| -8.250 | 44.102 | -2.132 | 27.945 | 0.419 |
| -9.000 | 49.153 | -2.211 | 26.899 | 0.385 |
| -9.000 | 49.153 | -2.211 | 26.899 | 0.385 |
| -9.700 | 52.555 | -2.223 | 25.984 | 0.343 |
| -10.400 | 56.044 | -2.236 | 25.124 | 0.305 |
| -10.400 | 56.044 | -2.236 | 25.124 | 0.305 |
| -10.950 | 59.192 | -2.329 | 24.484 | 0.273 |
| -11.500 | 62.503 | -2.435 | 23.874 | 0.242 |
| -11.500 | 62.503 | -2.435 | 23.874 | 0.242 |
| -12.350 | 66.997 | -2.461 | 22.983 | 0.203 |
| -13.350 | 72.407 | -2.495 | 22.009 | 0.160 |
| -14.150 | 76.826 | -2.525 | 21.280 | 0.129 |
| -15.000 | 81.603 | -2.561 | 20.552 | 0.097 |
| -16.000 | 87.327 | -2.608 | 19.748 | 0.062 |
| -16.800 | 91.984 | -2.650 | 19.143 | 0.034 |
| -16.800 | 91.985 | -2.650 | 19.143 | 0.034 |
| -17.500 | 98.600 | -2.650 | 18.639 | 0.027 |
| -18.500 | 108.091 | -2.650 | 17.957 | 0.018 |
| -18.900 | 111.899 | -2.650 | 17.696 | 0.015 |
| -19.600 | 118.581 | -2.650 | 17.255 | 0.009 |
| -20.600 | 128.159 | -2.650 | 16.656 | 0.002 |
| -21.000 | 132.000 | -2.650 | 16.427 | 0.000 |

### 3.15 Results for Vertical 15 (X = -13.33 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.240 | 37.763 | -2.650 | 35.466 | 1.539 |
| -3.340 | 37.926 | -2.588 | 35.840 | 1.504 |
| -3.440 | 37.942 | -2.529 | 36.077 | 1.470 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.540 | 37.807 | -2.473 | 36.166 | 1.439 |
| -3.620 | 37.622 | -2.429 | 36.158 | 1.414 |
| -3.640 | 37.569 | -2.418 | 36.148 | 1.408 |
| -3.740 | 37.281 | -2.366 | 36.068 | 1.379 |
| -3.840 | 36.980 | -2.315 | 35.956 | 1.351 |
| -3.940 | 36.684 | -2.267 | 35.829 | 1.324 |
| -4.000 | 36.512 | -2.238 | 35.748 | 1.308 |
| -4.000 | 36.512 | -2.238 | 35.748 | 1.308 |
| -4.040 | 36.356 | -2.227 | 35.692 | 1.291 |
| -4.140 | 35.973 | -2.202 | 35.549 | 1.247 |
| -4.240 | 35.602 | -2.177 | 35.399 | 1.204 |
| -4.400 | 35.032 | -2.142 | 35.144 | 1.135 |
| -4.800 | 33.731 | -2.073 | 34.425 | 0.968 |
| -4.800 | 33.731 | -2.073 | 34.425 | 0.968 |
| -5.050 | 33.906 | -2.017 | 33.931 | 0.921 |
| -5.300 | 34.143 | -1.968 | 33.419 | 0.879 |
| -5.300 | 34.143 | -1.968 | 33.419 | 0.879 |
| -5.650 | 33.277 | -1.942 | 32.692 | 0.764 |
| -6.000 | 32.627 | -1.935 | 31.974 | 0.651 |
| -6.000 | 32.627 | -1.935 | 31.974 | 0.651 |
| -6.750 | 35.384 | -1.980 | 30.512 | 0.550 |
| -7.500 | 39.022 | -2.097 | 29.179 | 0.465 |
| -7.500 | 39.022 | -2.097 | 29.179 | 0.465 |
| -8.250 | 43.644 | -2.153 | 27.967 | 0.423 |
| -9.000 | 48.571 | -2.227 | 26.863 | 0.388 |
| -9.000 | 48.571 | -2.227 | 26.863 | 0.388 |
| -9.700 | 51.926 | -2.237 | 25.915 | 0.345 |
| -10.400 | 55.384 | -2.250 | 25.036 | 0.306 |
| -10.400 | 55.384 | -2.250 | 25.036 | 0.306 |
| -10.950 | 58.480 | -2.339 | 24.387 | 0.274 |
| -11.500 | 61.742 | -2.441 | 23.771 | 0.243 |
| -11.500 | 61.742 | -2.441 | 23.771 | 0.243 |
| -12.350 | 66.221 | -2.466 | 22.877 | 0.203 |
| -13.350 | 71.620 | -2.498 | 21.904 | 0.161 |
| -14.150 | 76.032 | -2.528 | 21.179 | 0.129 |
| -15.000 | 80.804 | -2.563 | 20.455 | 0.097 |
| -16.000 | 86.522 | -2.609 | 19.657 | 0.062 |
| -16.800 | 91.175 | -2.650 | 19.057 | 0.034 |
| -16.800 | 91.175 | -2.650 | 19.057 | 0.034 |
| -17.500 | 97.794 | -2.650 | 18.558 | 0.027 |
| -18.500 | 107.291 | -2.650 | 17.883 | 0.018 |
| -18.900 | 111.102 | -2.650 | 17.624 | 0.015 |
| -19.600 | 117.788 | -2.650 | 17.187 | 0.009 |
| -20.600 | 127.371 | -2.650 | 16.594 | 0.002 |
| -21.000 | 131.214 | -2.650 | 16.367 | 0.000 |

### 3.16 Results for Vertical 16 (X = -12.56 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.259 | 39.850 | -2.650 | 37.316 | 1.520 |
| -3.359 | 39.798 | -2.586 | 37.501 | 1.485 |
| -3.459 | 39.769 | -2.525 | 37.692 | 1.452 |
| -3.559 | 39.745 | -2.466 | 37.870 | 1.421 |
| -3.629 | 39.705 | -2.425 | 37.968 | 1.399 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.659 | 39.678 | -2.409 | 37.999 | 1.391 |
| -3.759 | 39.538 | -2.354 | 38.051 | 1.362 |
| -3.859 | 39.315 | -2.300 | 38.018 | 1.334 |
| -3.959 | 39.015 | -2.248 | 37.903 | 1.308 |
| -4.000 | 38.872 | -2.228 | 37.835 | 1.297 |
| -4.000 | 38.872 | -2.228 | 37.835 | 1.297 |
| -4.059 | 38.597 | -2.211 | 37.721 | 1.271 |
| -4.159 | 38.096 | -2.183 | 37.486 | 1.228 |
| -4.259 | 37.569 | -2.158 | 37.212 | 1.185 |
| -4.400 | 36.809 | -2.125 | 36.781 | 1.125 |
| -4.800 | 34.771 | -2.052 | 35.469 | 0.958 |
| -4.800 | 34.771 | -2.052 | 35.469 | 0.958 |
| -5.050 | 34.556 | -1.994 | 34.662 | 0.911 |
| -5.300 | 34.480 | -1.944 | 33.895 | 0.870 |
| -5.300 | 34.480 | -1.944 | 33.895 | 0.870 |
| -5.650 | 33.293 | -1.917 | 32.898 | 0.754 |
| -6.000 | 32.421 | -1.910 | 31.987 | 0.642 |
| -6.000 | 32.421 | -1.910 | 31.987 | 0.642 |
| -6.750 | 34.913 | -1.958 | 30.278 | 0.542 |
| -7.500 | 38.450 | -2.078 | 28.826 | 0.459 |
| -7.500 | 38.450 | -2.078 | 28.826 | 0.459 |
| -8.250 | 43.025 | -2.136 | 27.562 | 0.417 |
| -9.000 | 47.951 | -2.212 | 26.440 | 0.382 |
| -9.000 | 47.951 | -2.212 | 26.440 | 0.382 |
| -9.700 | 51.307 | -2.223 | 25.493 | 0.340 |
| -10.400 | 54.777 | -2.237 | 24.624 | 0.302 |
| -10.400 | 54.777 | -2.237 | 24.624 | 0.302 |
| -10.950 | 57.913 | -2.329 | 23.988 | 0.271 |
| -11.500 | 61.221 | -2.434 | 23.386 | 0.240 |
| -11.500 | 61.221 | -2.434 | 23.386 | 0.240 |
| -12.350 | 65.732 | -2.459 | 22.517 | 0.201 |
| -13.350 | 71.170 | -2.493 | 21.573 | 0.159 |
| -14.150 | 75.615 | -2.524 | 20.871 | 0.128 |
| -15.000 | 80.422 | -2.560 | 20.170 | 0.096 |
| -16.000 | 86.181 | -2.608 | 19.398 | 0.061 |
| -16.800 | 90.867 | -2.650 | 18.817 | 0.034 |
| -16.800 | 90.867 | -2.650 | 18.817 | 0.034 |
| -17.500 | 97.502 | -2.650 | 18.333 | 0.027 |
| -18.500 | 107.019 | -2.650 | 17.678 | 0.018 |
| -18.900 | 110.837 | -2.650 | 17.427 | 0.014 |
| -19.600 | 117.535 | -2.650 | 17.002 | 0.009 |
| -20.600 | 127.135 | -2.650 | 16.426 | 0.002 |
| -21.000 | 130.984 | -2.650 | 16.204 | 0.000 |

### 3.17 Results for Vertical 17 (X = -11.80 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.277 | 45.760 | -2.650 | 43.243 | 1.529 |
| -3.377 | 40.178 | -2.572 | 38.806 | 1.492 |
| -3.477 | 38.705 | -2.506 | 37.738 | 1.455 |
| -3.577 | 37.700 | -2.444 | 37.035 | 1.421 |
| -3.639 | 37.194 | -2.407 | 36.686 | 1.401 |
| -3.677 | 36.907 | -2.385 | 36.490 | 1.388 |
| -3.777 | 36.246 | -2.329 | 36.037 | 1.357 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.877 | 35.676 | -2.276 | 35.644 | 1.328 |
| -3.977 | 35.175 | -2.225 | 35.291 | 1.300 |
| -4.000 | 35.067 | -2.214 | 35.215 | 1.293 |
| -4.000 | 35.067 | -2.214 | 35.215 | 1.293 |
| -4.077 | 34.648 | -2.192 | 34.968 | 1.258 |
| -4.177 | 34.138 | -2.166 | 34.666 | 1.213 |
| -4.277 | 33.665 | -2.142 | 34.379 | 1.168 |
| -4.400 | 33.124 | -2.115 | 34.043 | 1.114 |
| -4.800 | 31.630 | -2.045 | 33.031 | 0.943 |
| -4.800 | 31.630 | -2.045 | 33.031 | 0.943 |
| -5.050 | 31.767 | -1.991 | 32.437 | 0.897 |
| -5.300 | 32.001 | -1.943 | 31.866 | 0.855 |
| -5.300 | 32.001 | -1.943 | 31.866 | 0.855 |
| -5.650 | 31.153 | -1.918 | 31.100 | 0.741 |
| -6.000 | 30.541 | -1.913 | 30.375 | 0.631 |
| -6.000 | 30.541 | -1.913 | 30.375 | 0.631 |
| -6.750 | 33.414 | -1.960 | 28.951 | 0.532 |
| -7.500 | 37.184 | -2.080 | 27.690 | 0.450 |
| -7.500 | 37.185 | -2.080 | 27.690 | 0.450 |
| -8.250 | 41.925 | -2.138 | 26.566 | 0.410 |
| -9.000 | 46.975 | -2.214 | 25.553 | 0.376 |
| -9.000 | 46.975 | -2.214 | 25.553 | 0.376 |
| -9.700 | 50.426 | -2.225 | 24.691 | 0.335 |
| -10.400 | 53.976 | -2.238 | 23.895 | 0.298 |
| -10.400 | 53.976 | -2.238 | 23.895 | 0.298 |
| -10.950 | 57.162 | -2.330 | 23.309 | 0.267 |
| -11.500 | 60.515 | -2.435 | 22.754 | 0.237 |
| -11.500 | 60.515 | -2.435 | 22.754 | 0.237 |
| -12.350 | 65.090 | -2.460 | 21.946 | 0.198 |
| -13.350 | 70.594 | -2.494 | 21.066 | 0.157 |
| -14.150 | 75.083 | -2.524 | 20.408 | 0.126 |
| -15.000 | 79.931 | -2.561 | 19.749 | 0.095 |
| -16.000 | 85.733 | -2.608 | 19.020 | 0.060 |
| -16.800 | 90.448 | -2.650 | 18.469 | 0.033 |
| -16.800 | 90.448 | -2.650 | 18.469 | 0.033 |
| -17.500 | 97.108 | -2.650 | 18.010 | 0.026 |
| -18.500 | 106.656 | -2.650 | 17.386 | 0.017 |
| -18.900 | 110.486 | -2.650 | 17.146 | 0.014 |
| -19.600 | 117.203 | -2.650 | 16.740 | 0.009 |
| -20.600 | 126.827 | -2.650 | 16.188 | 0.002 |
| -21.000 | 130.686 | -2.650 | 15.975 | 0.000 |

### 3.18 Results for Vertical 18 (X = -11.79 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.241 | 33.374 | -2.650 | 32.960 | 1.538 |
| -3.341 | 39.634 | -2.587 | 38.286 | 1.494 |
| -3.441 | 38.631 | -2.521 | 37.593 | 1.457 |
| -3.541 | 37.741 | -2.459 | 36.977 | 1.422 |
| -3.620 | 37.136 | -2.412 | 36.563 | 1.396 |
| -3.641 | 36.994 | -2.400 | 36.465 | 1.390 |
| -3.741 | 36.356 | -2.344 | 36.029 | 1.358 |
| -3.841 | 35.800 | -2.291 | 35.645 | 1.329 |
| -3.941 | 35.308 | -2.240 | 35.299 | 1.301 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -4.000 | 35.041 | -2.211 | 35.107 | 1.284 |
| -4.000 | 35.041 | -2.211 | 35.107 | 1.284 |
| -4.041 | 34.824 | -2.200 | 34.980 | 1.266 |
| -4.141 | 34.319 | -2.173 | 34.682 | 1.221 |
| -4.241 | 33.847 | -2.149 | 34.399 | 1.177 |
| -4.400 | 33.157 | -2.113 | 33.972 | 1.107 |
| -4.800 | 31.694 | -2.045 | 32.977 | 0.939 |
| -4.800 | 31.694 | -2.045 | 32.977 | 0.939 |
| -5.050 | 31.848 | -1.991 | 32.391 | 0.892 |
| -5.300 | 32.094 | -1.944 | 31.825 | 0.851 |
| -5.300 | 32.094 | -1.944 | 31.825 | 0.851 |
| -5.650 | 31.258 | -1.919 | 31.065 | 0.738 |
| -6.000 | 30.653 | -1.914 | 30.344 | 0.628 |
| -6.000 | 30.654 | -1.914 | 30.344 | 0.628 |
| -6.750 | 33.539 | -1.962 | 28.927 | 0.530 |
| -7.500 | 37.315 | -2.082 | 27.670 | 0.449 |
| -7.500 | 37.316 | -2.082 | 27.670 | 0.449 |
| -8.250 | 42.058 | -2.140 | 26.549 | 0.409 |
| -9.000 | 47.110 | -2.216 | 25.539 | 0.375 |
| -9.000 | 47.110 | -2.216 | 25.539 | 0.375 |
| -9.700 | 50.562 | -2.227 | 24.679 | 0.334 |
| -10.400 | 54.113 | -2.240 | 23.884 | 0.297 |
| -10.400 | 54.113 | -2.240 | 23.884 | 0.297 |
| -10.950 | 57.298 | -2.331 | 23.299 | 0.267 |
| -11.500 | 60.647 | -2.436 | 22.744 | 0.236 |
| -11.500 | 60.647 | -2.436 | 22.744 | 0.236 |
| -12.350 | 65.223 | -2.461 | 21.938 | 0.198 |
| -13.350 | 70.726 | -2.494 | 21.058 | 0.156 |
| -14.150 | 75.214 | -2.525 | 20.401 | 0.126 |
| -15.000 | 80.062 | -2.561 | 19.742 | 0.095 |
| -16.000 | 85.862 | -2.608 | 19.014 | 0.060 |
| -16.800 | 90.576 | -2.650 | 18.464 | 0.033 |
| -16.800 | 90.577 | -2.650 | 18.464 | 0.033 |
| -17.500 | 97.236 | -2.650 | 18.005 | 0.026 |
| -18.500 | 106.786 | -2.650 | 17.381 | 0.017 |
| -18.900 | 110.616 | -2.650 | 17.142 | 0.014 |
| -19.600 | 117.333 | -2.650 | 16.737 | 0.009 |
| -20.600 | 126.957 | -2.650 | 16.184 | 0.002 |
| -21.000 | 130.816 | -2.650 | 15.972 | 0.000 |

### 3.19 Results for Vertical 19 (X = -11.62 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.650 | 32.649 | -2.650 | 32.648 | 1.559 |
| -2.750 | 38.021 | -2.583 | 38.104 | 1.500 |
| -2.850 | 37.424 | -2.511 | 37.630 | 1.453 |
| -2.950 | 36.925 | -2.443 | 37.231 | 1.412 |
| -3.050 | 35.930 | -2.378 | 36.526 | 1.375 |
| -3.150 | 34.216 | -2.318 | 35.130 | 1.340 |
| -3.250 | 32.539 | -2.262 | 33.725 | 1.307 |
| -3.325 | 31.550 | -2.223 | 32.889 | 1.284 |
| -3.350 | 31.345 | -2.211 | 32.714 | 1.277 |
| -3.450 | 31.324 | -2.163 | 32.682 | 1.248 |
| -3.550 | 31.749 | -2.116 | 33.029 | 1.220 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.650 | 32.050 | -2.069 | 33.276 | 1.195 |
| -4.000 | 32.136 | -1.919 | 33.301 | 1.113 |
| -4.000 | 32.136 | -1.919 | 33.301 | 1.113 |
| -4.400 | 31.164 | -1.839 | 32.756 | 0.971 |
| -4.800 | 30.228 | -1.786 | 32.056 | 0.836 |
| -4.800 | 30.228 | -1.786 | 32.056 | 0.836 |
| -5.050 | 30.687 | -1.747 | 31.592 | 0.798 |
| -5.300 | 31.201 | -1.716 | 31.120 | 0.764 |
| -5.300 | 31.201 | -1.716 | 31.120 | 0.764 |
| -5.650 | 30.608 | -1.702 | 30.463 | 0.671 |
| -6.000 | 30.208 | -1.708 | 29.819 | 0.580 |
| -6.000 | 30.208 | -1.708 | 29.819 | 0.580 |
| -6.750 | 33.646 | -1.797 | 28.516 | 0.497 |
| -7.500 | 38.002 | -1.968 | 27.333 | 0.425 |
| -7.500 | 38.002 | -1.968 | 27.333 | 0.425 |
| -8.250 | 42.985 | -2.043 | 26.264 | 0.389 |
| -9.000 | 48.288 | -2.140 | 25.292 | 0.359 |
| -9.000 | 48.288 | -2.140 | 25.292 | 0.359 |
| -9.700 | 51.799 | -2.154 | 24.460 | 0.321 |
| -10.400 | 55.403 | -2.170 | 23.689 | 0.287 |
| -10.400 | 55.403 | -2.170 | 23.689 | 0.287 |
| -10.950 | 58.782 | -2.279 | 23.119 | 0.258 |
| -11.500 | 62.338 | -2.403 | 22.578 | 0.229 |
| -11.500 | 62.338 | -2.403 | 22.577 | 0.229 |
| -12.350 | 66.976 | -2.433 | 21.789 | 0.192 |
| -13.350 | 72.552 | -2.472 | 20.928 | 0.152 |
| -14.150 | 77.099 | -2.507 | 20.283 | 0.122 |
| -15.000 | 82.011 | -2.549 | 19.635 | 0.092 |
| -16.000 | 87.889 | -2.603 | 18.918 | 0.058 |
| -16.800 | 92.667 | -2.650 | 18.376 | 0.032 |
| -16.800 | 92.667 | -2.650 | 18.376 | 0.032 |
| -17.500 | 99.334 | -2.650 | 17.923 | 0.025 |
| -18.500 | 108.891 | -2.650 | 17.308 | 0.017 |
| -18.900 | 112.724 | -2.650 | 17.072 | 0.014 |
| -19.600 | 119.446 | -2.650 | 16.671 | 0.009 |
| -20.600 | 129.077 | -2.650 | 16.125 | 0.002 |
| -21.000 | 132.938 | -2.650 | 15.915 | 0.000 |

### 3.20 Results for Vertical 20 (X = -11.37 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.751 | 29.086 | -1.751 | 29.085 | 1.045 |
| -1.851 | 36.751 | -1.816 | 35.746 | 0.997 |
| -1.951 | 38.072 | -1.876 | 36.108 | 0.960 |
| -2.051 | 38.673 | -1.935 | 35.763 | 0.928 |
| -2.151 | 39.145 | -1.993 | 35.291 | 0.901 |
| -2.251 | 39.233 | -2.052 | 34.435 | 0.876 |
| -2.351 | 38.755 | -2.112 | 33.004 | 0.854 |
| -2.451 | 37.796 | -2.173 | 31.076 | 0.834 |
| -2.551 | 36.653 | -2.236 | 28.945 | 0.816 |
| -2.650 | 35.599 | -2.300 | 26.893 | 0.800 |
| -2.651 | 35.589 | -2.300 | 26.883 | 0.800 |
| -2.751 | 34.683 | -2.267 | 25.931 | 0.786 |
| -2.876 | 33.765 | -2.228 | 24.934 | 0.768 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.400 | 32.863 | -2.085 | 23.384 | 0.704 |
| -4.000 | 34.287 | -1.951 | 23.502 | 0.641 |
| -4.000 | 34.287 | -1.951 | 23.502 | 0.641 |
| -4.400 | 34.381 | -1.912 | 23.495 | 0.575 |
| -4.800 | 34.218 | -1.890 | 23.175 | 0.512 |
| -4.800 | 34.218 | -1.890 | 23.175 | 0.512 |
| -5.050 | 35.156 | -1.877 | 22.887 | 0.494 |
| -5.300 | 36.084 | -1.869 | 22.558 | 0.477 |
| -5.300 | 36.084 | -1.869 | 22.558 | 0.477 |
| -5.650 | 35.843 | -1.871 | 22.060 | 0.429 |
| -6.000 | 35.692 | -1.886 | 21.541 | 0.381 |
| -6.000 | 35.692 | -1.886 | 21.541 | 0.381 |
| -6.750 | 39.501 | -1.989 | 20.431 | 0.336 |
| -7.500 | 43.919 | -2.150 | 19.376 | 0.294 |
| -7.500 | 43.919 | -2.150 | 19.376 | 0.294 |
| -8.250 | 48.899 | -2.214 | 18.397 | 0.273 |
| -9.000 | 54.093 | -2.292 | 17.493 | 0.255 |
| -9.000 | 54.093 | -2.292 | 17.493 | 0.255 |
| -9.700 | 57.629 | -2.303 | 16.710 | 0.231 |
| -10.400 | 61.238 | -2.315 | 15.979 | 0.208 |
| -10.400 | 61.238 | -2.315 | 15.979 | 0.208 |
| -10.950 | 64.358 | -2.395 | 15.436 | 0.187 |
| -11.500 | 67.594 | -2.484 | 14.918 | 0.165 |
| -11.500 | 67.594 | -2.484 | 14.917 | 0.165 |
| -12.350 | 72.180 | -2.504 | 14.160 | 0.139 |
| -13.350 | 77.668 | -2.531 | 13.329 | 0.110 |
| -14.150 | 82.125 | -2.555 | 12.704 | 0.089 |
| -15.000 | 86.922 | -2.583 | 12.075 | 0.067 |
| -16.000 | 92.642 | -2.619 | 11.377 | 0.041 |
| -16.800 | 97.274 | -2.650 | 10.849 | 0.021 |
| -16.800 | 97.274 | -2.650 | 10.849 | 0.021 |
| -17.500 | 103.951 | -2.650 | 10.406 | 0.017 |
| -18.500 | 113.522 | -2.650 | 9.804 | 0.011 |
| -18.900 | 117.360 | -2.650 | 9.573 | 0.009 |
| -19.600 | 124.090 | -2.650 | 9.180 | 0.006 |
| -20.600 | 133.731 | -2.650 | 8.644 | 0.002 |
| -21.000 | 137.596 | -2.650 | 8.437 | 0.000 |

### 3.21 Results for Vertical 21 (X = -11.09 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.660 | 33.804 | -1.660 | 33.803 | 1.013 |
| -1.760 | 35.266 | -1.722 | 34.290 | 0.964 |
| -1.860 | 36.294 | -1.783 | 34.345 | 0.928 |
| -1.960 | 36.621 | -1.845 | 33.699 | 0.897 |
| -2.060 | 35.953 | -1.907 | 32.053 | 0.871 |
| -2.160 | 35.228 | -1.970 | 30.339 | 0.848 |
| -2.260 | 34.557 | -2.035 | 28.667 | 0.827 |
| -2.360 | 34.147 | -2.100 | 27.244 | 0.808 |
| -2.460 | 34.150 | -2.167 | 26.225 | 0.792 |
| -2.560 | 34.305 | -2.234 | 25.352 | 0.777 |
| -2.650 | 34.384 | -2.295 | 24.499 | 0.764 |
| -2.660 | 34.386 | -2.292 | 24.495 | 0.763 |
| -2.830 | 34.240 | -2.239 | 24.239 | 0.741 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.400 | 33.197 | -2.084 | 22.591 | 0.675 |
| -4.000 | 33.806 | -1.953 | 22.054 | 0.616 |
| -4.000 | 33.806 | -1.953 | 22.054 | 0.616 |
| -4.400 | 33.922 | -1.916 | 22.062 | 0.556 |
| -4.800 | 34.004 | -1.895 | 21.936 | 0.497 |
| -4.800 | 34.004 | -1.895 | 21.936 | 0.497 |
| -5.050 | 35.109 | -1.883 | 21.776 | 0.480 |
| -5.300 | 36.195 | -1.876 | 21.569 | 0.464 |
| -5.300 | 36.195 | -1.876 | 21.569 | 0.464 |
| -5.650 | 36.143 | -1.879 | 21.222 | 0.419 |
| -6.000 | 36.151 | -1.894 | 20.832 | 0.374 |
| -6.000 | 36.151 | -1.894 | 20.832 | 0.374 |
| -6.750 | 40.212 | -1.997 | 19.934 | 0.331 |
| -7.500 | 44.797 | -2.156 | 19.029 | 0.290 |
| -7.500 | 44.797 | -2.156 | 19.029 | 0.290 |
| -8.250 | 49.898 | -2.220 | 18.160 | 0.270 |
| -9.000 | 55.179 | -2.297 | 17.339 | 0.253 |
| -9.000 | 55.179 | -2.297 | 17.339 | 0.253 |
| -9.700 | 58.782 | -2.307 | 16.617 | 0.229 |
| -10.400 | 62.444 | -2.319 | 15.935 | 0.206 |
| -10.400 | 62.444 | -2.319 | 15.935 | 0.206 |
| -10.950 | 65.591 | -2.398 | 15.425 | 0.185 |
| -11.500 | 68.847 | -2.486 | 14.935 | 0.164 |
| -11.500 | 68.847 | -2.486 | 14.935 | 0.164 |
| -12.350 | 73.470 | -2.506 | 14.216 | 0.138 |
| -13.350 | 78.994 | -2.533 | 13.420 | 0.110 |
| -14.150 | 83.474 | -2.556 | 12.820 | 0.088 |
| -15.000 | 88.292 | -2.584 | 12.214 | 0.066 |
| -16.000 | 94.031 | -2.619 | 11.539 | 0.041 |
| -16.800 | 98.676 | -2.650 | 11.026 | 0.021 |
| -16.800 | 98.676 | -2.650 | 11.026 | 0.021 |
| -17.500 | 105.366 | -2.650 | 10.596 | 0.016 |
| -18.500 | 114.954 | -2.650 | 10.009 | 0.011 |
| -18.900 | 118.798 | -2.650 | 9.784 | 0.009 |
| -19.600 | 125.537 | -2.650 | 9.400 | 0.006 |
| -20.600 | 135.190 | -2.650 | 8.876 | 0.001 |
| -21.000 | 139.059 | -2.650 | 8.674 | 0.000 |

### 3.22 Results for Vertical 22 (X = -10.60 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.500 | 29.927 | -1.500 | 29.926 | 0.966 |
| -1.600 | 31.630 | -1.566 | 30.617 | 0.919 |
| -1.700 | 32.707 | -1.631 | 30.686 | 0.884 |
| -1.800 | 33.734 | -1.696 | 30.708 | 0.854 |
| -1.900 | 34.674 | -1.760 | 30.645 | 0.829 |
| -2.000 | 35.524 | -1.825 | 30.493 | 0.806 |
| -2.100 | 35.411 | -1.889 | 29.378 | 0.785 |
| -2.200 | 35.283 | -1.954 | 28.244 | 0.766 |
| -2.300 | 35.132 | -2.020 | 27.080 | 0.749 |
| -2.400 | 34.963 | -2.086 | 25.890 | 0.733 |
| -2.500 | 34.791 | -2.154 | 24.688 | 0.719 |
| -2.650 | 34.561 | -2.257 | 22.896 | 0.700 |
| -2.750 | 34.435 | -2.226 | 22.699 | 0.689 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.400 | 33.867 | -2.052 | 21.439 | 0.622 |
| -4.000 | 33.966 | -1.925 | 20.504 | 0.571 |
| -4.000 | 33.966 | -1.925 | 20.504 | 0.571 |
| -4.400 | 33.726 | -1.890 | 20.230 | 0.518 |
| -4.800 | 33.779 | -1.871 | 20.084 | 0.467 |
| -4.800 | 33.779 | -1.871 | 20.084 | 0.467 |
| -5.050 | 34.981 | -1.861 | 19.996 | 0.453 |
| -5.300 | 36.203 | -1.856 | 19.894 | 0.439 |
| -5.300 | 36.203 | -1.856 | 19.894 | 0.439 |
| -5.650 | 36.362 | -1.860 | 19.716 | 0.399 |
| -6.000 | 36.583 | -1.876 | 19.498 | 0.359 |
| -6.000 | 36.583 | -1.876 | 19.498 | 0.359 |
| -6.750 | 41.072 | -1.982 | 18.933 | 0.320 |
| -7.500 | 46.010 | -2.146 | 18.294 | 0.282 |
| -7.500 | 46.010 | -2.146 | 18.294 | 0.282 |
| -8.250 | 51.364 | -2.211 | 17.631 | 0.264 |
| -9.000 | 56.844 | -2.290 | 16.971 | 0.247 |
| -9.000 | 56.844 | -2.290 | 16.971 | 0.247 |
| -9.700 | 60.584 | -2.301 | 16.369 | 0.224 |
| -10.400 | 64.356 | -2.313 | 15.784 | 0.203 |
| -10.400 | 64.357 | -2.313 | 15.784 | 0.203 |
| -10.950 | 67.589 | -2.394 | 15.339 | 0.182 |
| -11.500 | 70.923 | -2.483 | 14.906 | 0.161 |
| -11.500 | 70.923 | -2.483 | 14.906 | 0.161 |
| -12.350 | 75.630 | -2.503 | 14.261 | 0.136 |
| -13.350 | 81.235 | -2.531 | 13.537 | 0.108 |
| -14.150 | 85.770 | -2.555 | 12.985 | 0.087 |
| -15.000 | 90.639 | -2.583 | 12.423 | 0.065 |
| -16.000 | 96.431 | -2.619 | 11.792 | 0.040 |
| -16.800 | 101.114 | -2.650 | 11.311 | 0.020 |
| -16.800 | 101.114 | -2.650 | 11.311 | 0.020 |
| -17.500 | 107.829 | -2.650 | 10.905 | 0.016 |
| -18.500 | 117.448 | -2.650 | 10.349 | 0.011 |
| -18.900 | 121.304 | -2.650 | 10.134 | 0.009 |
| -19.600 | 128.062 | -2.650 | 9.769 | 0.006 |
| -20.600 | 137.739 | -2.650 | 9.268 | 0.001 |
| -21.000 | 141.617 | -2.650 | 9.074 | 0.000 |

### 3.23 Results for Vertical 23 (X = -9.39 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.108 | 28.806 | -1.108 | 28.805 | 0.784 |
| -1.208 | 26.896 | -1.143 | 25.937 | 0.749 |
| -1.304 | 26.229 | -1.181 | 24.303 | 0.727 |
| -1.308 | 26.213 | -1.182 | 24.246 | 0.726 |
| -1.408 | 25.944 | -1.225 | 22.944 | 0.708 |
| -1.500 | 26.288 | -1.265 | 22.326 | 0.694 |
| -1.500 | 26.288 | -1.265 | 22.326 | 0.694 |
| -1.508 | 26.357 | -1.271 | 22.307 | 0.693 |
| -1.608 | 27.490 | -1.345 | 22.344 | 0.675 |
| -1.708 | 28.790 | -1.418 | 22.554 | 0.658 |
| -1.808 | 30.048 | -1.491 | 22.726 | 0.643 |
| -1.908 | 31.229 | -1.564 | 22.826 | 0.629 |
| -2.008 | 32.344 | -1.636 | 22.863 | 0.616 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.108 | 33.413 | -1.708 | 22.855 | 0.603 |
| -2.650 | 33.995 | -2.107 | 17.525 | 0.552 |
| -2.750 | 34.049 | -2.082 | 17.452 | 0.545 |
| -3.400 | 34.617 | -1.940 | 17.012 | 0.502 |
| -4.000 | 35.486 | -1.838 | 16.669 | 0.467 |
| -4.000 | 35.486 | -1.838 | 16.669 | 0.467 |
| -4.400 | 35.342 | -1.810 | 16.502 | 0.431 |
| -4.800 | 35.419 | -1.798 | 16.402 | 0.396 |
| -4.800 | 35.419 | -1.798 | 16.402 | 0.396 |
| -5.050 | 36.693 | -1.794 | 16.369 | 0.386 |
| -5.300 | 38.030 | -1.794 | 16.351 | 0.377 |
| -5.300 | 38.030 | -1.794 | 16.351 | 0.377 |
| -5.650 | 38.380 | -1.802 | 16.341 | 0.348 |
| -6.000 | 38.845 | -1.822 | 16.334 | 0.318 |
| -6.000 | 38.845 | -1.822 | 16.334 | 0.318 |
| -6.750 | 43.998 | -1.941 | 16.286 | 0.289 |
| -7.500 | 49.619 | -2.117 | 16.159 | 0.258 |
| -7.500 | 49.619 | -2.117 | 16.159 | 0.258 |
| -8.250 | 55.514 | -2.187 | 15.949 | 0.244 |
| -9.000 | 61.467 | -2.270 | 15.675 | 0.230 |
| -9.000 | 61.467 | -2.270 | 15.675 | 0.230 |
| -9.700 | 65.545 | -2.282 | 15.375 | 0.210 |
| -10.400 | 69.605 | -2.295 | 15.047 | 0.191 |
| -10.400 | 69.605 | -2.295 | 15.047 | 0.191 |
| -10.950 | 73.071 | -2.380 | 14.776 | 0.172 |
| -11.500 | 76.618 | -2.474 | 14.496 | 0.152 |
| -11.500 | 76.618 | -2.474 | 14.496 | 0.152 |
| -12.350 | 81.556 | -2.495 | 14.055 | 0.129 |
| -13.350 | 87.388 | -2.524 | 13.531 | 0.103 |
| -14.150 | 92.080 | -2.549 | 13.114 | 0.083 |
| -15.000 | 97.094 | -2.579 | 12.676 | 0.062 |
| -16.000 | 103.038 | -2.617 | 12.170 | 0.038 |
| -16.800 | 107.829 | -2.650 | 11.776 | 0.019 |
| -16.800 | 107.829 | -2.650 | 11.776 | 0.019 |
| -17.500 | 114.615 | -2.650 | 11.438 | 0.015 |
| -18.500 | 124.324 | -2.650 | 10.969 | 0.010 |
| -18.900 | 128.212 | -2.650 | 10.786 | 0.008 |
| -19.600 | 135.024 | -2.650 | 10.472 | 0.005 |
| -20.600 | 144.769 | -2.650 | 10.037 | 0.001 |
| -21.000 | 148.672 | -2.650 | 9.868 | 0.000 |

### 3.24 Results for Vertical 24 (X = -9.35 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.089 | 22.852 | -1.089 | 22.851 | 0.777 |
| -1.189 | 22.302 | -1.136 | 21.214 | 0.745 |
| -1.289 | 24.650 | -1.184 | 22.479 | 0.723 |
| -1.294 | 24.725 | -1.186 | 22.494 | 0.721 |
| -1.389 | 25.519 | -1.229 | 22.289 | 0.705 |
| -1.489 | 26.153 | -1.273 | 21.865 | 0.690 |
| -1.500 | 26.248 | -1.278 | 21.840 | 0.688 |
| -1.500 | 26.248 | -1.278 | 21.840 | 0.688 |
| -1.589 | 27.204 | -1.344 | 21.822 | 0.673 |
| -1.689 | 28.482 | -1.418 | 22.005 | 0.656 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.789 | 29.773 | -1.492 | 22.206 | 0.641 |
| -1.889 | 31.004 | -1.565 | 22.353 | 0.627 |
| -1.989 | 32.169 | -1.637 | 22.436 | 0.614 |
| -2.089 | 33.280 | -1.710 | 22.469 | 0.602 |
| -2.650 | 34.207 | -2.123 | 17.267 | 0.550 |
| -2.750 | 34.272 | -2.099 | 17.204 | 0.542 |
| -3.400 | 34.885 | -1.956 | 16.815 | 0.500 |
| -4.000 | 35.777 | -1.853 | 16.503 | 0.465 |
| -4.000 | 35.777 | -1.853 | 16.503 | 0.465 |
| -4.400 | 35.643 | -1.825 | 16.351 | 0.430 |
| -4.800 | 35.724 | -1.812 | 16.261 | 0.395 |
| -4.800 | 35.724 | -1.812 | 16.261 | 0.395 |
| -5.050 | 36.997 | -1.807 | 16.232 | 0.385 |
| -5.300 | 38.331 | -1.807 | 16.218 | 0.375 |
| -5.300 | 38.331 | -1.807 | 16.218 | 0.375 |
| -5.650 | 38.680 | -1.815 | 16.213 | 0.346 |
| -6.000 | 39.144 | -1.834 | 16.212 | 0.317 |
| -6.000 | 39.144 | -1.834 | 16.212 | 0.317 |
| -6.750 | 44.286 | -1.950 | 16.177 | 0.288 |
| -7.500 | 49.892 | -2.124 | 16.063 | 0.257 |
| -7.500 | 49.892 | -2.124 | 16.063 | 0.257 |
| -8.250 | 55.790 | -2.192 | 15.866 | 0.243 |
| -9.000 | 61.743 | -2.275 | 15.603 | 0.229 |
| -9.000 | 61.743 | -2.275 | 15.603 | 0.229 |
| -9.700 | 65.830 | -2.286 | 15.313 | 0.209 |
| -10.400 | 69.897 | -2.299 | 14.993 | 0.191 |
| -10.400 | 69.897 | -2.299 | 14.993 | 0.191 |
| -10.950 | 73.359 | -2.382 | 14.727 | 0.171 |
| -11.500 | 76.900 | -2.475 | 14.453 | 0.152 |
| -11.500 | 76.900 | -2.475 | 14.453 | 0.152 |
| -12.350 | 81.842 | -2.497 | 14.018 | 0.129 |
| -13.350 | 87.679 | -2.525 | 13.501 | 0.103 |
| -14.150 | 92.373 | -2.550 | 13.089 | 0.083 |
| -15.000 | 97.389 | -2.580 | 12.655 | 0.062 |
| -16.000 | 103.333 | -2.617 | 12.154 | 0.038 |
| -16.800 | 108.125 | -2.650 | 11.762 | 0.019 |
| -16.800 | 108.125 | -2.650 | 11.762 | 0.019 |
| -17.500 | 114.914 | -2.650 | 11.427 | 0.015 |
| -18.500 | 124.626 | -2.650 | 10.961 | 0.010 |
| -18.900 | 128.515 | -2.650 | 10.779 | 0.008 |
| -19.600 | 135.329 | -2.650 | 10.467 | 0.005 |
| -20.600 | 145.076 | -2.650 | 10.035 | 0.001 |
| -21.000 | 148.980 | -2.650 | 9.867 | 0.000 |

### 3.25 Results for Vertical 25 (X = -7.69 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.283 | 11.686 | -0.283 | 11.685 | 0.602 |
| -0.383 | 13.460 | -0.358 | 12.102 | 0.575 |
| -0.483 | 14.692 | -0.431 | 11.999 | 0.558 |
| -0.583 | 15.816 | -0.503 | 11.805 | 0.545 |
| -0.683 | 16.928 | -0.572 | 11.615 | 0.534 |
| -0.783 | 17.171 | -0.640 | 10.571 | 0.525 |
| -0.883 | 17.387 | -0.708 | 9.506 | 0.518 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.892 | 17.404 | -0.713 | 9.415 | 0.518 |
| -0.983 | 17.576 | -0.775 | 8.418 | 0.513 |
| -1.083 | 17.768 | -0.842 | 7.330 | 0.508 |
| -1.135 | 17.881 | -0.878 | 6.774 | 0.507 |
| -1.183 | 17.997 | -0.862 | 6.747 | 0.505 |
| -1.283 | 18.284 | -0.830 | 6.733 | 0.503 |
| -1.500 | 19.091 | -0.759 | 6.888 | 0.498 |
| -1.500 | 19.092 | -0.759 | 6.888 | 0.498 |
| -2.150 | 21.482 | -0.664 | 7.814 | 0.470 |
| -2.750 | 23.671 | -0.582 | 8.598 | 0.446 |
| -3.400 | 26.059 | -0.503 | 9.360 | 0.421 |
| -4.000 | 28.299 | -0.444 | 9.967 | 0.400 |
| -4.000 | 28.299 | -0.444 | 9.967 | 0.400 |
| -4.400 | 28.771 | -0.428 | 10.315 | 0.375 |
| -4.800 | 29.299 | -0.421 | 10.624 | 0.349 |
| -4.800 | 29.299 | -0.421 | 10.624 | 0.349 |
| -5.050 | 30.802 | -0.421 | 10.800 | 0.342 |
| -5.300 | 32.325 | -0.425 | 10.965 | 0.335 |
| -5.300 | 32.325 | -0.425 | 10.965 | 0.335 |
| -5.650 | 32.869 | -0.433 | 11.178 | 0.312 |
| -6.000 | 33.476 | -0.449 | 11.371 | 0.288 |
| -6.000 | 33.476 | -0.449 | 11.371 | 0.288 |
| -6.750 | 38.758 | -0.543 | 11.723 | 0.263 |
| -7.500 | 44.410 | -0.685 | 11.987 | 0.237 |
| -7.500 | 44.410 | -0.685 | 11.987 | 0.237 |
| -8.250 | 50.562 | -0.741 | 12.163 | 0.225 |
| -9.000 | 56.744 | -0.809 | 12.255 | 0.214 |
| -9.000 | 56.744 | -0.809 | 12.255 | 0.214 |
| -9.700 | 61.138 | -0.818 | 12.274 | 0.196 |
| -10.400 | 65.486 | -0.829 | 12.237 | 0.179 |
| -10.400 | 65.486 | -0.829 | 12.237 | 0.179 |
| -10.950 | 69.045 | -0.901 | 12.176 | 0.161 |
| -11.500 | 72.658 | -0.981 | 12.090 | 0.143 |
| -11.500 | 72.658 | -0.981 | 12.090 | 0.143 |
| -12.350 | 77.851 | -1.000 | 11.919 | 0.122 |
| -13.350 | 83.939 | -1.024 | 11.672 | 0.097 |
| -14.150 | 88.803 | -1.046 | 11.448 | 0.078 |
| -15.000 | 93.976 | -1.072 | 11.194 | 0.059 |
| -16.000 | 100.075 | -1.106 | 10.878 | 0.036 |
| -16.800 | 104.971 | -1.135 | 10.618 | 0.018 |
| -16.800 | 104.971 | -1.135 | 10.618 | 0.018 |
| -17.500 | 111.869 | -1.135 | 10.388 | 0.014 |
| -18.500 | 121.721 | -1.135 | 10.056 | 0.010 |
| -18.900 | 125.662 | -1.135 | 9.924 | 0.008 |
| -19.900 | 135.515 | -1.135 | 9.594 | 0.004 |
| -21.000 | 146.359 | -1.135 | 9.235 | 0.000 |

### 3.26 Results for Vertical 26 (X = -7.63 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.254 | 10.310 | -0.254 | 10.309 | 0.592 |
| -0.354 | 10.797 | -0.334 | 9.397 | 0.567 |
| -0.454 | 10.689 | -0.413 | 7.889 | 0.552 |
| -0.554 | 13.299 | -0.491 | 9.118 | 0.541 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.654 | 15.383 | -0.564 | 9.864 | 0.532 |
| -0.754 | 16.165 | -0.634 | 9.338 | 0.524 |
| -0.854 | 16.679 | -0.703 | 8.558 | 0.517 |
| -0.877 | 16.776 | -0.719 | 8.359 | 0.516 |
| -0.954 | 17.062 | -0.771 | 7.654 | 0.512 |
| -1.054 | 17.379 | -0.839 | 6.686 | 0.508 |
| -1.081 | 17.459 | -0.857 | 6.423 | 0.507 |
| -1.154 | 17.681 | -0.834 | 6.421 | 0.505 |
| -1.254 | 18.002 | -0.802 | 6.438 | 0.502 |
| -1.500 | 18.940 | -0.723 | 6.628 | 0.496 |
| -1.500 | 18.940 | -0.723 | 6.628 | 0.496 |
| -2.150 | 21.346 | -0.628 | 7.565 | 0.469 |
| -2.750 | 23.559 | -0.546 | 8.372 | 0.445 |
| -3.400 | 25.959 | -0.467 | 9.150 | 0.420 |
| -4.000 | 28.205 | -0.407 | 9.769 | 0.399 |
| -4.000 | 28.205 | -0.407 | 9.769 | 0.399 |
| -4.400 | 28.681 | -0.391 | 10.125 | 0.374 |
| -4.800 | 29.211 | -0.384 | 10.442 | 0.348 |
| -4.800 | 29.211 | -0.384 | 10.442 | 0.348 |
| -5.050 | 30.711 | -0.383 | 10.622 | 0.341 |
| -5.300 | 32.232 | -0.386 | 10.790 | 0.334 |
| -5.300 | 32.232 | -0.386 | 10.790 | 0.334 |
| -5.650 | 32.773 | -0.393 | 11.007 | 0.311 |
| -6.000 | 33.378 | -0.408 | 11.205 | 0.287 |
| -6.000 | 33.378 | -0.408 | 11.205 | 0.287 |
| -6.750 | 38.639 | -0.500 | 11.564 | 0.263 |
| -7.500 | 44.263 | -0.638 | 11.836 | 0.236 |
| -7.500 | 44.263 | -0.638 | 11.836 | 0.236 |
| -8.250 | 50.409 | -0.693 | 12.020 | 0.224 |
| -9.000 | 56.586 | -0.760 | 12.121 | 0.213 |
| -9.000 | 56.586 | -0.760 | 12.121 | 0.213 |
| -9.700 | 60.985 | -0.769 | 12.147 | 0.195 |
| -10.400 | 65.339 | -0.779 | 12.118 | 0.179 |
| -10.400 | 65.339 | -0.779 | 12.118 | 0.179 |
| -10.950 | 68.892 | -0.850 | 12.063 | 0.161 |
| -11.500 | 72.498 | -0.928 | 11.983 | 0.142 |
| -11.500 | 72.498 | -0.928 | 11.983 | 0.142 |
| -12.350 | 77.696 | -0.947 | 11.820 | 0.121 |
| -13.350 | 83.789 | -0.971 | 11.581 | 0.097 |
| -14.150 | 88.658 | -0.993 | 11.364 | 0.078 |
| -15.000 | 93.833 | -1.019 | 11.116 | 0.058 |
| -16.000 | 99.934 | -1.052 | 10.807 | 0.036 |
| -16.800 | 104.831 | -1.081 | 10.551 | 0.018 |
| -16.800 | 104.832 | -1.081 | 10.551 | 0.018 |
| -17.500 | 111.733 | -1.081 | 10.325 | 0.014 |
| -18.500 | 121.591 | -1.081 | 9.998 | 0.009 |
| -18.900 | 125.533 | -1.081 | 9.867 | 0.008 |
| -19.900 | 135.391 | -1.081 | 9.542 | 0.004 |
| -21.000 | 146.239 | -1.081 | 9.188 | 0.000 |

### 3.27 Results for Vertical 27 (X = -7.32 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.117 | 8.165 | -0.117 | 8.164 | 0.569 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.217 | 10.230 | -0.200 | 8.799 | 0.545 |
| -0.317 | 11.687 | -0.280 | 8.854 | 0.531 |
| -0.417 | 12.294 | -0.357 | 8.078 | 0.519 |
| -0.517 | 12.542 | -0.434 | 6.959 | 0.511 |
| -0.617 | 12.826 | -0.509 | 5.883 | 0.505 |
| -0.717 | 13.253 | -0.584 | 4.955 | 0.500 |
| -0.800 | 13.708 | -0.646 | 4.290 | 0.497 |
| -0.808 | 13.758 | -0.644 | 4.309 | 0.497 |
| -0.817 | 13.809 | -0.642 | 4.328 | 0.497 |
| -0.917 | 14.415 | -0.616 | 4.573 | 0.494 |
| -1.017 | 15.015 | -0.589 | 4.817 | 0.491 |
| -1.117 | 15.582 | -0.561 | 5.034 | 0.489 |
| -1.500 | 17.521 | -0.452 | 5.670 | 0.482 |
| -1.500 | 17.521 | -0.452 | 5.670 | 0.482 |
| -2.150 | 20.047 | -0.366 | 6.644 | 0.457 |
| -2.750 | 22.364 | -0.290 | 7.492 | 0.435 |
| -3.400 | 24.855 | -0.216 | 8.310 | 0.412 |
| -4.000 | 27.168 | -0.160 | 8.965 | 0.391 |
| -4.000 | 27.168 | -0.160 | 8.965 | 0.391 |
| -4.400 | 27.676 | -0.144 | 9.346 | 0.367 |
| -4.800 | 28.231 | -0.137 | 9.687 | 0.342 |
| -4.800 | 28.231 | -0.137 | 9.687 | 0.342 |
| -5.050 | 29.742 | -0.137 | 9.881 | 0.335 |
| -5.300 | 31.270 | -0.139 | 10.063 | 0.328 |
| -5.300 | 31.270 | -0.139 | 10.063 | 0.328 |
| -5.650 | 31.821 | -0.145 | 10.299 | 0.306 |
| -6.000 | 32.428 | -0.160 | 10.513 | 0.283 |
| -6.000 | 32.428 | -0.160 | 10.513 | 0.283 |
| -6.750 | 37.660 | -0.246 | 10.905 | 0.259 |
| -7.500 | 43.234 | -0.375 | 11.210 | 0.233 |
| -7.500 | 43.234 | -0.375 | 11.210 | 0.233 |
| -8.250 | 49.385 | -0.427 | 11.429 | 0.222 |
| -9.000 | 55.565 | -0.491 | 11.568 | 0.210 |
| -9.000 | 55.565 | -0.491 | 11.568 | 0.210 |
| -9.700 | 59.998 | -0.499 | 11.631 | 0.193 |
| -10.400 | 64.384 | -0.510 | 11.638 | 0.177 |
| -10.400 | 64.384 | -0.510 | 11.638 | 0.177 |
| -10.950 | 67.938 | -0.577 | 11.610 | 0.159 |
| -11.500 | 71.541 | -0.653 | 11.558 | 0.141 |
| -11.500 | 71.541 | -0.653 | 11.558 | 0.141 |
| -12.350 | 76.775 | -0.670 | 11.435 | 0.120 |
| -13.350 | 82.905 | -0.694 | 11.240 | 0.096 |
| -14.150 | 87.800 | -0.715 | 11.055 | 0.077 |
| -15.000 | 93.000 | -0.740 | 10.837 | 0.058 |
| -16.000 | 99.127 | -0.772 | 10.561 | 0.035 |
| -16.800 | 104.041 | -0.800 | 10.330 | 0.017 |
| -16.800 | 104.041 | -0.800 | 10.330 | 0.017 |
| -17.500 | 110.963 | -0.800 | 10.123 | 0.014 |
| -18.500 | 120.846 | -0.800 | 9.822 | 0.009 |
| -18.900 | 124.799 | -0.800 | 9.700 | 0.008 |
| -19.900 | 134.679 | -0.800 | 9.396 | 0.004 |
| -21.000 | 145.549 | -0.800 | 9.064 | 0.000 |

### 3.28 Results for Vertical 28 (X = -6.86 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.115 | 8.352 | -0.115 | 8.351 | 0.550 |
| -0.215 | 9.881 | -0.199 | 8.442 | 0.526 |
| -0.315 | 11.400 | -0.280 | 8.546 | 0.511 |
| -0.415 | 12.135 | -0.359 | 7.888 | 0.500 |
| -0.515 | 12.600 | -0.436 | 6.976 | 0.492 |
| -0.615 | 13.049 | -0.512 | 6.059 | 0.486 |
| -0.715 | 13.488 | -0.588 | 5.139 | 0.481 |
| -0.777 | 13.758 | -0.634 | 4.570 | 0.479 |
| -0.807 | 13.892 | -0.626 | 4.589 | 0.478 |
| -0.815 | 13.924 | -0.624 | 4.594 | 0.477 |
| -0.915 | 14.363 | -0.599 | 4.662 | 0.474 |
| -1.015 | 14.808 | -0.574 | 4.739 | 0.472 |
| -1.115 | 15.258 | -0.548 | 4.825 | 0.469 |
| -1.500 | 17.020 | -0.445 | 5.214 | 0.462 |
| -1.500 | 17.020 | -0.445 | 5.214 | 0.462 |
| -2.150 | 19.373 | -0.364 | 5.960 | 0.439 |
| -2.750 | 21.614 | -0.293 | 6.684 | 0.418 |
| -3.400 | 24.085 | -0.224 | 7.436 | 0.397 |
| -4.000 | 26.405 | -0.170 | 8.065 | 0.378 |
| -4.000 | 26.405 | -0.170 | 8.065 | 0.378 |
| -4.400 | 26.916 | -0.156 | 8.442 | 0.355 |
| -4.800 | 27.475 | -0.149 | 8.786 | 0.332 |
| -4.800 | 27.475 | -0.149 | 8.786 | 0.332 |
| -5.050 | 28.987 | -0.148 | 8.985 | 0.325 |
| -5.300 | 30.515 | -0.150 | 9.172 | 0.318 |
| -5.300 | 30.515 | -0.150 | 9.172 | 0.318 |
| -5.650 | 31.066 | -0.156 | 9.416 | 0.297 |
| -6.000 | 31.669 | -0.169 | 9.639 | 0.275 |
| -6.000 | 31.669 | -0.169 | 9.639 | 0.275 |
| -6.750 | 36.860 | -0.249 | 10.054 | 0.252 |
| -7.500 | 42.378 | -0.371 | 10.387 | 0.227 |
| -7.500 | 42.378 | -0.371 | 10.387 | 0.227 |
| -8.250 | 48.531 | -0.420 | 10.642 | 0.216 |
| -9.000 | 54.717 | -0.480 | 10.822 | 0.205 |
| -9.000 | 54.717 | -0.480 | 10.822 | 0.205 |
| -9.700 | 59.188 | -0.488 | 10.928 | 0.189 |
| -10.400 | 63.615 | -0.498 | 10.980 | 0.173 |
| -10.400 | 63.615 | -0.498 | 10.980 | 0.173 |
| -10.950 | 67.176 | -0.562 | 10.988 | 0.156 |
| -11.500 | 70.784 | -0.634 | 10.971 | 0.138 |
| -11.500 | 70.784 | -0.634 | 10.971 | 0.138 |
| -12.350 | 76.067 | -0.651 | 10.902 | 0.117 |
| -13.350 | 82.251 | -0.674 | 10.767 | 0.094 |
| -14.150 | 87.185 | -0.694 | 10.627 | 0.076 |
| -15.000 | 92.424 | -0.718 | 10.454 | 0.057 |
| -16.000 | 98.590 | -0.749 | 10.226 | 0.035 |
| -16.800 | 103.533 | -0.777 | 10.029 | 0.017 |
| -16.800 | 103.533 | -0.777 | 10.029 | 0.017 |
| -17.500 | 110.485 | -0.777 | 9.851 | 0.014 |
| -18.500 | 120.407 | -0.777 | 9.587 | 0.009 |
| -18.900 | 124.373 | -0.777 | 9.479 | 0.008 |
| -19.900 | 134.287 | -0.777 | 9.208 | 0.004 |
| -21.000 | 145.190 | -0.777 | 8.907 | 0.000 |

### 3.29 Results for Vertical 29 (X = -6.59 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.108 | 8.623 | -0.108 | 8.622 | 0.542 |
| -0.208 | 10.297 | -0.191 | 8.862 | 0.518 |
| -0.308 | 11.920 | -0.272 | 9.074 | 0.503 |
| -0.408 | 12.742 | -0.350 | 8.508 | 0.492 |
| -0.508 | 13.207 | -0.427 | 7.601 | 0.483 |
| -0.608 | 13.610 | -0.503 | 6.643 | 0.476 |
| -0.708 | 13.985 | -0.578 | 5.661 | 0.471 |
| -0.763 | 14.186 | -0.619 | 5.116 | 0.469 |
| -0.804 | 14.336 | -0.609 | 5.113 | 0.467 |
| -0.808 | 14.350 | -0.608 | 5.113 | 0.467 |
| -0.908 | 14.717 | -0.582 | 5.109 | 0.464 |
| -1.008 | 15.091 | -0.557 | 5.116 | 0.461 |
| -1.108 | 15.475 | -0.531 | 5.133 | 0.458 |
| -1.500 | 17.064 | -0.428 | 5.307 | 0.451 |
| -1.500 | 17.064 | -0.428 | 5.307 | 0.451 |
| -2.150 | 19.213 | -0.349 | 5.827 | 0.427 |
| -2.750 | 21.349 | -0.281 | 6.419 | 0.407 |
| -3.400 | 23.760 | -0.215 | 7.081 | 0.387 |
| -4.000 | 26.054 | -0.164 | 7.660 | 0.369 |
| -4.000 | 26.054 | -0.164 | 7.660 | 0.369 |
| -4.400 | 26.551 | -0.150 | 8.015 | 0.347 |
| -4.800 | 27.099 | -0.144 | 8.345 | 0.324 |
| -4.800 | 27.099 | -0.144 | 8.345 | 0.324 |
| -5.050 | 28.608 | -0.143 | 8.537 | 0.318 |
| -5.300 | 30.133 | -0.145 | 8.719 | 0.311 |
| -5.300 | 30.133 | -0.145 | 8.719 | 0.311 |
| -5.650 | 30.679 | -0.151 | 8.957 | 0.291 |
| -6.000 | 31.276 | -0.165 | 9.178 | 0.269 |
| -6.000 | 31.276 | -0.165 | 9.178 | 0.269 |
| -6.750 | 36.450 | -0.243 | 9.592 | 0.247 |
| -7.500 | 41.949 | -0.363 | 9.930 | 0.223 |
| -7.500 | 41.949 | -0.363 | 9.930 | 0.223 |
| -8.250 | 48.102 | -0.411 | 10.197 | 0.213 |
| -9.000 | 54.293 | -0.470 | 10.393 | 0.202 |
| -9.000 | 54.293 | -0.470 | 10.393 | 0.202 |
| -9.700 | 58.781 | -0.478 | 10.519 | 0.186 |
| -10.400 | 63.229 | -0.487 | 10.593 | 0.171 |
| -10.400 | 63.229 | -0.487 | 10.593 | 0.171 |
| -10.950 | 66.798 | -0.551 | 10.619 | 0.153 |
| -11.500 | 70.415 | -0.622 | 10.620 | 0.136 |
| -11.500 | 70.415 | -0.622 | 10.620 | 0.136 |
| -12.350 | 75.725 | -0.639 | 10.580 | 0.116 |
| -13.350 | 81.941 | -0.661 | 10.478 | 0.093 |
| -14.150 | 86.898 | -0.681 | 10.362 | 0.075 |
| -15.000 | 92.160 | -0.705 | 10.214 | 0.056 |
| -16.000 | 98.353 | -0.736 | 10.014 | 0.034 |
| -16.800 | 103.314 | -0.763 | 9.838 | 0.017 |
| -16.800 | 103.314 | -0.763 | 9.838 | 0.017 |
| -17.500 | 110.283 | -0.763 | 9.675 | 0.013 |
| -18.500 | 120.227 | -0.763 | 9.433 | 0.009 |
| -18.900 | 124.203 | -0.763 | 9.334 | 0.007 |
| -19.900 | 134.136 | -0.763 | 9.082 | 0.004 |
| -21.000 | 145.059 | -0.763 | 8.800 | 0.000 |

### 3.30 Results for Vertical 30 (X = -6.19 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.097 | 9.670 | -0.097 | 9.669 | 0.533 |
| -0.197 | 11.145 | -0.179 | 9.721 | 0.508 |
| -0.297 | 12.544 | -0.259 | 9.717 | 0.492 |
| -0.397 | 13.216 | -0.337 | 9.005 | 0.480 |
| -0.497 | 13.593 | -0.414 | 8.012 | 0.471 |
| -0.597 | 13.964 | -0.490 | 7.021 | 0.464 |
| -0.697 | 14.330 | -0.565 | 6.030 | 0.459 |
| -0.743 | 14.496 | -0.599 | 5.579 | 0.457 |
| -0.797 | 14.695 | -0.585 | 5.574 | 0.455 |
| -0.799 | 14.700 | -0.585 | 5.574 | 0.455 |
| -0.897 | 15.058 | -0.560 | 5.565 | 0.451 |
| -0.997 | 15.421 | -0.535 | 5.558 | 0.448 |
| -1.097 | 15.785 | -0.509 | 5.554 | 0.445 |
| -1.500 | 17.289 | -0.405 | 5.591 | 0.437 |
| -1.500 | 17.289 | -0.405 | 5.591 | 0.437 |
| -2.150 | 19.192 | -0.328 | 5.844 | 0.413 |
| -2.750 | 21.152 | -0.263 | 6.232 | 0.393 |
| -3.400 | 23.433 | -0.200 | 6.730 | 0.373 |
| -4.000 | 25.653 | -0.153 | 7.203 | 0.356 |
| -4.000 | 25.653 | -0.153 | 7.203 | 0.356 |
| -4.400 | 26.108 | -0.140 | 7.508 | 0.335 |
| -4.800 | 26.624 | -0.134 | 7.797 | 0.314 |
| -4.800 | 26.624 | -0.134 | 7.797 | 0.314 |
| -5.050 | 28.118 | -0.134 | 7.970 | 0.308 |
| -5.300 | 29.630 | -0.136 | 8.135 | 0.302 |
| -5.300 | 29.630 | -0.136 | 8.135 | 0.302 |
| -5.650 | 30.157 | -0.143 | 8.355 | 0.282 |
| -6.000 | 30.738 | -0.156 | 8.561 | 0.261 |
| -6.000 | 30.738 | -0.156 | 8.561 | 0.261 |
| -6.750 | 35.874 | -0.233 | 8.956 | 0.240 |
| -7.500 | 41.338 | -0.350 | 9.290 | 0.217 |
| -7.500 | 41.338 | -0.350 | 9.290 | 0.217 |
| -8.250 | 47.483 | -0.397 | 9.562 | 0.207 |
| -9.000 | 53.675 | -0.454 | 9.774 | 0.197 |
| -9.000 | 53.675 | -0.454 | 9.774 | 0.197 |
| -9.700 | 58.181 | -0.462 | 9.920 | 0.182 |
| -10.400 | 62.651 | -0.472 | 10.020 | 0.167 |
| -10.400 | 62.652 | -0.472 | 10.020 | 0.167 |
| -10.950 | 66.231 | -0.534 | 10.068 | 0.150 |
| -11.500 | 69.859 | -0.604 | 10.093 | 0.133 |
| -11.500 | 69.859 | -0.604 | 10.093 | 0.133 |
| -12.350 | 75.205 | -0.620 | 10.090 | 0.113 |
| -13.350 | 81.462 | -0.642 | 10.032 | 0.091 |
| -14.150 | 86.452 | -0.662 | 9.950 | 0.073 |
| -15.000 | 91.747 | -0.685 | 9.837 | 0.055 |
| -16.000 | 97.976 | -0.716 | 9.675 | 0.033 |
| -16.800 | 102.964 | -0.743 | 9.528 | 0.016 |
| -16.800 | 102.964 | -0.743 | 9.528 | 0.016 |
| -17.500 | 109.957 | -0.743 | 9.389 | 0.013 |
| -18.500 | 119.934 | -0.743 | 9.178 | 0.009 |
| -18.900 | 123.922 | -0.743 | 9.091 | 0.007 |
| -19.900 | 133.884 | -0.743 | 8.866 | 0.004 |
| -21.000 | 144.835 | -0.743 | 8.612 | 0.000 |

### 3.31 Results for Vertical 31 (X = -6.03 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.093 | 9.813 | -0.093 | 9.812 | 0.528 |
| -0.193 | 10.744 | -0.175 | 9.316 | 0.503 |
| -0.293 | 12.112 | -0.256 | 9.273 | 0.488 |
| -0.393 | 12.957 | -0.335 | 8.727 | 0.477 |
| -0.493 | 13.486 | -0.412 | 7.880 | 0.468 |
| -0.593 | 13.956 | -0.488 | 6.985 | 0.461 |
| -0.693 | 14.384 | -0.564 | 6.054 | 0.455 |
| -0.735 | 14.554 | -0.595 | 5.660 | 0.453 |
| -0.793 | 14.787 | -0.580 | 5.674 | 0.451 |
| -0.796 | 14.800 | -0.579 | 5.675 | 0.451 |
| -0.893 | 15.173 | -0.555 | 5.688 | 0.447 |
| -0.993 | 15.549 | -0.530 | 5.694 | 0.444 |
| -1.093 | 15.920 | -0.504 | 5.696 | 0.441 |
| -1.500 | 17.424 | -0.399 | 5.717 | 0.432 |
| -1.500 | 17.424 | -0.399 | 5.717 | 0.432 |
| -2.150 | 19.251 | -0.323 | 5.890 | 0.408 |
| -2.750 | 21.140 | -0.258 | 6.200 | 0.388 |
| -3.400 | 23.360 | -0.196 | 6.629 | 0.368 |
| -4.000 | 25.538 | -0.149 | 7.053 | 0.351 |
| -4.000 | 25.538 | -0.149 | 7.053 | 0.351 |
| -4.400 | 25.971 | -0.137 | 7.332 | 0.331 |
| -4.800 | 26.468 | -0.132 | 7.601 | 0.310 |
| -4.800 | 26.468 | -0.132 | 7.601 | 0.310 |
| -5.050 | 27.952 | -0.131 | 7.763 | 0.304 |
| -5.300 | 29.455 | -0.134 | 7.919 | 0.298 |
| -5.300 | 29.455 | -0.134 | 7.919 | 0.298 |
| -5.650 | 29.971 | -0.140 | 8.128 | 0.278 |
| -6.000 | 30.542 | -0.153 | 8.325 | 0.258 |
| -6.000 | 30.542 | -0.153 | 8.325 | 0.258 |
| -6.750 | 35.657 | -0.230 | 8.707 | 0.237 |
| -7.500 | 41.100 | -0.345 | 9.034 | 0.214 |
| -7.500 | 41.100 | -0.345 | 9.034 | 0.214 |
| -8.250 | 47.238 | -0.391 | 9.305 | 0.205 |
| -9.000 | 53.426 | -0.448 | 9.520 | 0.195 |
| -9.000 | 53.426 | -0.448 | 9.520 | 0.195 |
| -9.700 | 57.937 | -0.456 | 9.673 | 0.180 |
| -10.400 | 62.415 | -0.466 | 9.781 | 0.165 |
| -10.400 | 62.415 | -0.466 | 9.781 | 0.165 |
| -10.950 | 65.997 | -0.527 | 9.837 | 0.149 |
| -11.500 | 69.627 | -0.597 | 9.870 | 0.132 |
| -11.500 | 69.627 | -0.597 | 9.870 | 0.132 |
| -12.350 | 74.985 | -0.613 | 9.881 | 0.112 |
| -13.350 | 81.258 | -0.635 | 9.839 | 0.090 |
| -14.150 | 86.260 | -0.654 | 9.771 | 0.073 |
| -15.000 | 91.567 | -0.678 | 9.671 | 0.054 |
| -16.000 | 97.810 | -0.708 | 9.524 | 0.033 |
| -16.800 | 102.808 | -0.735 | 9.388 | 0.016 |
| -16.800 | 102.808 | -0.735 | 9.388 | 0.016 |
| -17.500 | 109.811 | -0.735 | 9.259 | 0.013 |
| -18.500 | 119.802 | -0.735 | 9.061 | 0.009 |
| -18.900 | 123.794 | -0.735 | 8.978 | 0.007 |
| -19.900 | 133.768 | -0.735 | 8.765 | 0.004 |
| -21.000 | 144.731 | -0.735 | 8.522 | 0.000 |

### 3.32 Results for Vertical 32 (X = -5.52 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.084 | 10.866 | -0.084 | 10.865 | 0.521 |
| -0.184 | 12.265 | -0.165 | 10.856 | 0.495 |
| -0.284 | 13.577 | -0.243 | 10.777 | 0.479 |
| -0.384 | 14.088 | -0.320 | 9.913 | 0.466 |
| -0.484 | 14.363 | -0.396 | 8.825 | 0.457 |
| -0.584 | 14.643 | -0.471 | 7.748 | 0.449 |
| -0.684 | 14.938 | -0.546 | 6.687 | 0.443 |
| -0.709 | 15.015 | -0.565 | 6.422 | 0.442 |
| -0.784 | 15.247 | -0.547 | 6.376 | 0.439 |
| -0.792 | 15.273 | -0.545 | 6.371 | 0.439 |
| -0.884 | 15.569 | -0.521 | 6.325 | 0.435 |
| -0.984 | 15.899 | -0.496 | 6.284 | 0.431 |
| -1.084 | 16.235 | -0.471 | 6.251 | 0.428 |
| -1.500 | 17.671 | -0.364 | 6.159 | 0.418 |
| -1.500 | 17.671 | -0.364 | 6.159 | 0.418 |
| -2.150 | 19.318 | -0.290 | 6.134 | 0.392 |
| -2.750 | 21.029 | -0.228 | 6.239 | 0.372 |
| -3.400 | 23.080 | -0.170 | 6.463 | 0.353 |
| -4.000 | 25.136 | -0.126 | 6.730 | 0.336 |
| -4.000 | 25.136 | -0.126 | 6.730 | 0.336 |
| -4.400 | 25.494 | -0.115 | 6.922 | 0.317 |
| -4.800 | 25.927 | -0.111 | 7.119 | 0.297 |
| -4.800 | 25.927 | -0.111 | 7.119 | 0.297 |
| -5.050 | 27.380 | -0.112 | 7.241 | 0.291 |
| -5.300 | 28.857 | -0.115 | 7.363 | 0.286 |
| -5.300 | 28.857 | -0.115 | 7.363 | 0.286 |
| -5.650 | 29.335 | -0.122 | 7.530 | 0.267 |
| -6.000 | 29.872 | -0.135 | 7.692 | 0.248 |
| -6.000 | 29.872 | -0.135 | 7.692 | 0.248 |
| -6.750 | 34.924 | -0.211 | 8.020 | 0.229 |
| -7.500 | 40.318 | -0.325 | 8.315 | 0.207 |
| -7.500 | 40.318 | -0.325 | 8.315 | 0.207 |
| -8.250 | 46.432 | -0.371 | 8.572 | 0.198 |
| -9.000 | 52.609 | -0.427 | 8.788 | 0.189 |
| -9.000 | 52.609 | -0.427 | 8.788 | 0.189 |
| -9.700 | 57.129 | -0.435 | 8.952 | 0.175 |
| -10.400 | 61.623 | -0.444 | 9.079 | 0.161 |
| -10.400 | 61.624 | -0.444 | 9.079 | 0.161 |
| -10.950 | 65.215 | -0.505 | 9.154 | 0.145 |
| -11.500 | 68.857 | -0.573 | 9.209 | 0.128 |
| -11.500 | 68.857 | -0.573 | 9.209 | 0.128 |
| -12.350 | 74.251 | -0.589 | 9.257 | 0.109 |
| -13.350 | 80.568 | -0.610 | 9.261 | 0.088 |
| -14.150 | 85.606 | -0.630 | 9.230 | 0.071 |
| -15.000 | 90.952 | -0.653 | 9.169 | 0.053 |
| -16.000 | 97.237 | -0.683 | 9.067 | 0.032 |
| -16.800 | 102.268 | -0.709 | 8.965 | 0.015 |
| -16.800 | 102.268 | -0.709 | 8.965 | 0.015 |
| -17.500 | 109.300 | -0.709 | 8.863 | 0.012 |
| -18.500 | 119.329 | -0.709 | 8.703 | 0.008 |
| -18.900 | 123.336 | -0.709 | 8.635 | 0.007 |
| -19.900 | 133.345 | -0.709 | 8.455 | 0.003 |
| -21.000 | 144.343 | -0.709 | 8.246 | 0.000 |

### 3.33 Results for Vertical 33 (X = -5.18 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.078 | 10.905 | -0.078 | 10.904 | 0.515 |
| -0.178 | 12.316 | -0.159 | 10.906 | 0.489 |
| -0.278 | 13.677 | -0.237 | 10.875 | 0.473 |
| -0.378 | 14.193 | -0.314 | 10.017 | 0.460 |
| -0.478 | 14.530 | -0.390 | 8.990 | 0.451 |
| -0.578 | 14.856 | -0.466 | 7.959 | 0.443 |
| -0.678 | 15.177 | -0.541 | 6.925 | 0.437 |
| -0.692 | 15.221 | -0.551 | 6.783 | 0.437 |
| -0.778 | 15.496 | -0.529 | 6.737 | 0.433 |
| -0.789 | 15.531 | -0.526 | 6.731 | 0.432 |
| -0.878 | 15.816 | -0.504 | 6.686 | 0.428 |
| -0.978 | 16.138 | -0.479 | 6.637 | 0.424 |
| -1.078 | 16.462 | -0.453 | 6.593 | 0.421 |
| -1.500 | 17.862 | -0.345 | 6.441 | 0.410 |
| -1.500 | 17.862 | -0.345 | 6.441 | 0.410 |
| -2.150 | 19.415 | -0.272 | 6.316 | 0.383 |
| -2.750 | 21.028 | -0.211 | 6.312 | 0.363 |
| -3.400 | 22.971 | -0.154 | 6.413 | 0.343 |
| -4.000 | 24.940 | -0.112 | 6.574 | 0.327 |
| -4.000 | 24.940 | -0.112 | 6.574 | 0.327 |
| -4.400 | 25.243 | -0.102 | 6.705 | 0.308 |
| -4.800 | 25.627 | -0.098 | 6.848 | 0.289 |
| -4.800 | 25.627 | -0.098 | 6.848 | 0.289 |
| -5.050 | 27.054 | -0.099 | 6.940 | 0.283 |
| -5.300 | 28.507 | -0.103 | 7.035 | 0.278 |
| -5.300 | 28.507 | -0.103 | 7.035 | 0.278 |
| -5.650 | 28.953 | -0.110 | 7.168 | 0.260 |
| -6.000 | 29.461 | -0.123 | 7.302 | 0.242 |
| -6.000 | 29.461 | -0.123 | 7.302 | 0.242 |
| -6.750 | 34.460 | -0.199 | 7.582 | 0.223 |
| -7.500 | 39.809 | -0.312 | 7.846 | 0.202 |
| -7.500 | 39.809 | -0.312 | 7.846 | 0.202 |
| -8.250 | 45.898 | -0.357 | 8.086 | 0.193 |
| -9.000 | 52.062 | -0.412 | 8.296 | 0.185 |
| -9.000 | 52.062 | -0.412 | 8.296 | 0.185 |
| -9.700 | 56.581 | -0.420 | 8.462 | 0.171 |
| -10.400 | 61.082 | -0.429 | 8.598 | 0.157 |
| -10.400 | 61.083 | -0.429 | 8.598 | 0.157 |
| -10.950 | 64.677 | -0.489 | 8.683 | 0.141 |
| -11.500 | 68.322 | -0.556 | 8.750 | 0.125 |
| -11.500 | 68.322 | -0.556 | 8.750 | 0.125 |
| -12.350 | 73.736 | -0.572 | 8.819 | 0.107 |
| -13.350 | 80.079 | -0.594 | 8.851 | 0.086 |
| -14.150 | 85.140 | -0.613 | 8.843 | 0.069 |
| -15.000 | 90.509 | -0.636 | 8.807 | 0.052 |
| -16.000 | 96.821 | -0.665 | 8.733 | 0.031 |
| -16.800 | 101.873 | -0.692 | 8.653 | 0.015 |
| -16.800 | 101.873 | -0.692 | 8.653 | 0.015 |
| -17.500 | 108.924 | -0.692 | 8.570 | 0.012 |
| -18.500 | 118.979 | -0.692 | 8.435 | 0.008 |
| -18.900 | 122.996 | -0.692 | 8.376 | 0.007 |
| -19.900 | 133.028 | -0.692 | 8.219 | 0.003 |
| -21.000 | 144.050 | -0.692 | 8.034 | 0.000 |

### 3.34 Results for Vertical 34 (X = -3.44 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.042 | 10.890 | -0.042 | 10.889 | 0.487 |
| -0.142 | 12.453 | -0.123 | 11.035 | 0.461 |
| -0.242 | 13.737 | -0.203 | 10.920 | 0.444 |
| -0.342 | 14.124 | -0.281 | 9.924 | 0.431 |
| -0.442 | 14.500 | -0.358 | 8.926 | 0.422 |
| -0.542 | 14.869 | -0.434 | 7.927 | 0.414 |
| -0.604 | 15.096 | -0.481 | 7.310 | 0.410 |
| -0.642 | 15.236 | -0.472 | 7.303 | 0.408 |
| -0.742 | 15.601 | -0.448 | 7.284 | 0.403 |
| -0.771 | 15.706 | -0.441 | 7.279 | 0.402 |
| -0.842 | 15.963 | -0.424 | 7.265 | 0.398 |
| -0.942 | 16.322 | -0.399 | 7.244 | 0.394 |
| -1.042 | 16.678 | -0.375 | 7.222 | 0.390 |
| -1.500 | 18.274 | -0.262 | 7.092 | 0.376 |
| -1.500 | 18.274 | -0.262 | 7.092 | 0.376 |
| -2.150 | 19.728 | -0.192 | 6.835 | 0.346 |
| -2.750 | 21.109 | -0.135 | 6.557 | 0.324 |
| -3.400 | 22.719 | -0.084 | 6.268 | 0.304 |
| -4.000 | 24.361 | -0.049 | 6.046 | 0.288 |
| -4.000 | 24.361 | -0.049 | 6.046 | 0.288 |
| -4.400 | 24.438 | -0.040 | 5.930 | 0.270 |
| -4.800 | 24.608 | -0.038 | 5.841 | 0.252 |
| -4.800 | 24.608 | -0.038 | 5.841 | 0.252 |
| -5.050 | 25.915 | -0.041 | 5.800 | 0.247 |
| -5.300 | 27.255 | -0.046 | 5.770 | 0.243 |
| -5.300 | 27.255 | -0.046 | 5.770 | 0.243 |
| -5.650 | 27.547 | -0.054 | 5.743 | 0.227 |
| -6.000 | 27.911 | -0.067 | 5.735 | 0.211 |
| -6.000 | 27.911 | -0.067 | 5.735 | 0.211 |
| -6.750 | 32.629 | -0.140 | 5.768 | 0.195 |
| -7.500 | 37.734 | -0.246 | 5.856 | 0.177 |
| -7.500 | 37.734 | -0.246 | 5.856 | 0.177 |
| -8.250 | 43.673 | -0.288 | 5.980 | 0.171 |
| -9.000 | 49.730 | -0.340 | 6.125 | 0.164 |
| -9.000 | 49.730 | -0.340 | 6.125 | 0.164 |
| -9.700 | 54.216 | -0.348 | 6.267 | 0.152 |
| -10.400 | 58.713 | -0.356 | 6.408 | 0.141 |
| -10.400 | 58.713 | -0.356 | 6.408 | 0.141 |
| -10.950 | 62.288 | -0.412 | 6.515 | 0.127 |
| -11.500 | 65.924 | -0.475 | 6.615 | 0.112 |
| -11.500 | 65.924 | -0.475 | 6.615 | 0.112 |
| -12.350 | 71.395 | -0.490 | 6.752 | 0.096 |
| -13.350 | 77.827 | -0.510 | 6.885 | 0.078 |
| -14.150 | 82.969 | -0.529 | 6.967 | 0.063 |
| -15.000 | 88.428 | -0.550 | 7.031 | 0.047 |
| -16.000 | 94.849 | -0.579 | 7.076 | 0.028 |
| -16.800 | 99.987 | -0.604 | 7.091 | 0.013 |
| -16.800 | 99.987 | -0.604 | 7.091 | 0.013 |
| -17.500 | 107.122 | -0.604 | 7.090 | 0.010 |
| -18.500 | 117.292 | -0.604 | 7.067 | 0.007 |
| -18.900 | 121.354 | -0.604 | 7.052 | 0.006 |
| -19.900 | 131.494 | -0.604 | 7.000 | 0.003 |
| -21.000 | 142.626 | -0.604 | 6.923 | 0.000 |

### 3.35 Results for Vertical 35 (X = -1.83 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.080 | 10.972 | -0.080 | 10.971 | 0.457 |
| -0.180 | 12.296 | -0.163 | 10.865 | 0.431 |
| -0.280 | 12.714 | -0.244 | 9.868 | 0.414 |
| -0.380 | 13.120 | -0.324 | 8.870 | 0.402 |
| -0.480 | 13.513 | -0.403 | 7.864 | 0.393 |
| -0.523 | 13.675 | -0.437 | 7.430 | 0.390 |
| -0.580 | 13.889 | -0.425 | 7.407 | 0.386 |
| -0.680 | 14.252 | -0.404 | 7.357 | 0.380 |
| -0.780 | 14.604 | -0.383 | 7.298 | 0.374 |
| -0.790 | 14.639 | -0.381 | 7.291 | 0.373 |
| -0.880 | 14.948 | -0.362 | 7.232 | 0.369 |
| -0.980 | 15.285 | -0.340 | 7.161 | 0.364 |
| -1.080 | 15.617 | -0.319 | 7.086 | 0.359 |
| -1.500 | 16.977 | -0.227 | 6.744 | 0.345 |
| -1.500 | 16.977 | -0.227 | 6.744 | 0.345 |
| -2.150 | 18.199 | -0.166 | 6.170 | 0.314 |
| -2.750 | 19.417 | -0.116 | 5.659 | 0.292 |
| -3.400 | 20.901 | -0.072 | 5.179 | 0.272 |
| -4.000 | 22.452 | -0.041 | 4.822 | 0.257 |
| -4.000 | 22.452 | -0.041 | 4.822 | 0.257 |
| -4.400 | 22.464 | -0.033 | 4.631 | 0.241 |
| -4.800 | 22.568 | -0.032 | 4.475 | 0.225 |
| -4.800 | 22.568 | -0.032 | 4.475 | 0.225 |
| -5.050 | 23.832 | -0.034 | 4.396 | 0.221 |
| -5.300 | 25.126 | -0.038 | 4.328 | 0.216 |
| -5.300 | 25.126 | -0.038 | 4.328 | 0.216 |
| -5.650 | 25.358 | -0.044 | 4.254 | 0.203 |
| -6.000 | 25.656 | -0.055 | 4.202 | 0.189 |
| -6.000 | 25.657 | -0.055 | 4.202 | 0.189 |
| -6.750 | 30.181 | -0.117 | 4.152 | 0.175 |
| -7.500 | 35.064 | -0.208 | 4.173 | 0.158 |
| -7.500 | 35.064 | -0.208 | 4.173 | 0.158 |
| -8.250 | 40.893 | -0.244 | 4.248 | 0.153 |
| -9.000 | 46.843 | -0.289 | 4.361 | 0.148 |
| -9.000 | 46.843 | -0.289 | 4.361 | 0.148 |
| -9.700 | 51.301 | -0.295 | 4.489 | 0.138 |
| -10.400 | 55.784 | -0.303 | 4.629 | 0.128 |
| -10.400 | 55.784 | -0.303 | 4.629 | 0.128 |
| -10.950 | 59.295 | -0.352 | 4.744 | 0.115 |
| -11.500 | 62.868 | -0.407 | 4.858 | 0.101 |
| -11.500 | 62.868 | -0.407 | 4.858 | 0.101 |
| -12.350 | 68.355 | -0.420 | 5.031 | 0.087 |
| -13.350 | 74.820 | -0.438 | 5.220 | 0.070 |
| -14.150 | 79.995 | -0.455 | 5.356 | 0.057 |
| -15.000 | 85.497 | -0.474 | 5.483 | 0.042 |
| -16.000 | 91.971 | -0.500 | 5.608 | 0.025 |
| -16.800 | 97.152 | -0.523 | 5.688 | 0.011 |
| -16.800 | 97.152 | -0.523 | 5.688 | 0.011 |
| -17.500 | 104.346 | -0.523 | 5.745 | 0.009 |
| -18.500 | 114.601 | -0.523 | 5.805 | 0.006 |
| -18.900 | 118.696 | -0.523 | 5.822 | 0.005 |
| -19.900 | 128.917 | -0.523 | 5.850 | 0.003 |
| -21.000 | 140.136 | -0.523 | 5.858 | 0.000 |

### 3.36 Results for Vertical 36 (X = -1.61 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.085 | 10.988 | -0.085 | 10.987 | 0.451 |
| -0.185 | 12.236 | -0.168 | 10.802 | 0.425 |
| -0.285 | 12.641 | -0.249 | 9.790 | 0.409 |
| -0.385 | 13.012 | -0.330 | 8.753 | 0.397 |
| -0.485 | 13.364 | -0.410 | 7.701 | 0.388 |
| -0.511 | 13.455 | -0.431 | 7.422 | 0.386 |
| -0.585 | 13.706 | -0.416 | 7.363 | 0.380 |
| -0.685 | 14.041 | -0.396 | 7.279 | 0.374 |
| -0.785 | 14.372 | -0.375 | 7.193 | 0.368 |
| -0.792 | 14.397 | -0.374 | 7.187 | 0.368 |
| -0.885 | 14.701 | -0.354 | 7.106 | 0.363 |
| -0.985 | 15.027 | -0.333 | 7.018 | 0.358 |
| -1.085 | 15.350 | -0.313 | 6.928 | 0.353 |
| -1.500 | 16.673 | -0.225 | 6.542 | 0.339 |
| -1.500 | 16.673 | -0.225 | 6.542 | 0.339 |
| -2.150 | 17.862 | -0.165 | 5.918 | 0.309 |
| -2.750 | 19.075 | -0.117 | 5.388 | 0.287 |
| -3.400 | 20.572 | -0.074 | 4.910 | 0.268 |
| -4.000 | 22.139 | -0.043 | 4.562 | 0.253 |
| -4.000 | 22.139 | -0.043 | 4.562 | 0.253 |
| -4.400 | 22.159 | -0.036 | 4.379 | 0.237 |
| -4.800 | 22.269 | -0.034 | 4.231 | 0.221 |
| -4.800 | 22.269 | -0.034 | 4.231 | 0.221 |
| -5.050 | 23.535 | -0.036 | 4.155 | 0.217 |
| -5.300 | 24.831 | -0.040 | 4.092 | 0.213 |
| -5.300 | 24.831 | -0.040 | 4.092 | 0.213 |
| -5.650 | 25.063 | -0.046 | 4.022 | 0.200 |
| -6.000 | 25.361 | -0.057 | 3.973 | 0.186 |
| -6.000 | 25.361 | -0.057 | 3.973 | 0.186 |
| -6.750 | 29.871 | -0.116 | 3.929 | 0.172 |
| -7.500 | 34.728 | -0.204 | 3.953 | 0.156 |
| -7.500 | 34.728 | -0.204 | 3.953 | 0.156 |
| -8.250 | 40.547 | -0.240 | 4.029 | 0.151 |
| -9.000 | 46.486 | -0.283 | 4.143 | 0.146 |
| -9.000 | 46.486 | -0.283 | 4.143 | 0.146 |
| -9.700 | 50.943 | -0.289 | 4.272 | 0.136 |
| -10.400 | 55.424 | -0.296 | 4.414 | 0.126 |
| -10.400 | 55.425 | -0.296 | 4.414 | 0.126 |
| -10.950 | 58.925 | -0.344 | 4.530 | 0.114 |
| -11.500 | 62.487 | -0.398 | 4.647 | 0.100 |
| -11.500 | 62.487 | -0.398 | 4.647 | 0.100 |
| -12.350 | 67.975 | -0.411 | 4.824 | 0.086 |
| -13.350 | 74.442 | -0.429 | 5.020 | 0.070 |
| -14.150 | 79.620 | -0.445 | 5.162 | 0.056 |
| -15.000 | 85.124 | -0.464 | 5.295 | 0.042 |
| -16.000 | 91.603 | -0.489 | 5.429 | 0.025 |
| -16.800 | 96.788 | -0.511 | 5.517 | 0.011 |
| -16.800 | 96.788 | -0.511 | 5.517 | 0.011 |
| -17.500 | 103.989 | -0.511 | 5.581 | 0.009 |
| -18.500 | 114.253 | -0.511 | 5.651 | 0.006 |
| -18.900 | 118.352 | -0.511 | 5.672 | 0.005 |
| -19.900 | 128.583 | -0.511 | 5.710 | 0.003 |
| -21.000 | 139.813 | -0.511 | 5.728 | 0.000 |

### 3.37 Results for Vertical 37 (X = -0.82 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.107 | 9.442 | -0.107 | 9.441 | 0.421 |
| -0.207 | 9.816 | -0.194 | 8.346 | 0.396 |
| -0.307 | 10.461 | -0.279 | 7.533 | 0.381 |
| -0.407 | 11.107 | -0.364 | 6.732 | 0.371 |
| -0.471 | 11.460 | -0.418 | 6.156 | 0.365 |
| -0.507 | 11.636 | -0.412 | 6.169 | 0.363 |
| -0.607 | 12.079 | -0.395 | 6.157 | 0.356 |
| -0.707 | 12.468 | -0.378 | 6.094 | 0.350 |
| -0.803 | 12.811 | -0.361 | 6.003 | 0.344 |
| -0.807 | 12.822 | -0.361 | 5.999 | 0.344 |
| -0.907 | 13.155 | -0.343 | 5.885 | 0.339 |
| -1.007 | 13.475 | -0.326 | 5.760 | 0.334 |
| -1.107 | 13.788 | -0.308 | 5.629 | 0.330 |
| -1.500 | 15.020 | -0.237 | 5.127 | 0.318 |
| -1.500 | 15.020 | -0.237 | 5.127 | 0.318 |
| -2.150 | 16.240 | -0.184 | 4.459 | 0.291 |
| -2.750 | 17.593 | -0.141 | 4.020 | 0.272 |
| -3.400 | 19.258 | -0.101 | 3.681 | 0.255 |
| -4.000 | 20.956 | -0.071 | 3.457 | 0.241 |
| -4.000 | 20.956 | -0.071 | 3.457 | 0.241 |
| -4.400 | 21.045 | -0.064 | 3.346 | 0.226 |
| -4.800 | 21.207 | -0.061 | 3.260 | 0.212 |
| -4.800 | 21.207 | -0.061 | 3.260 | 0.212 |
| -5.050 | 22.491 | -0.061 | 3.218 | 0.208 |
| -5.300 | 23.799 | -0.063 | 3.185 | 0.204 |
| -5.300 | 23.799 | -0.063 | 3.185 | 0.204 |
| -5.650 | 24.050 | -0.067 | 3.152 | 0.191 |
| -6.000 | 24.356 | -0.076 | 3.134 | 0.178 |
| -6.000 | 24.356 | -0.076 | 3.134 | 0.178 |
| -6.750 | 28.812 | -0.125 | 3.139 | 0.165 |
| -7.500 | 33.567 | -0.199 | 3.196 | 0.149 |
| -7.500 | 33.567 | -0.199 | 3.196 | 0.149 |
| -8.250 | 39.356 | -0.229 | 3.293 | 0.145 |
| -9.000 | 45.250 | -0.267 | 3.421 | 0.140 |
| -9.000 | 45.250 | -0.267 | 3.421 | 0.140 |
| -9.700 | 49.709 | -0.272 | 3.561 | 0.131 |
| -10.400 | 54.190 | -0.279 | 3.713 | 0.121 |
| -10.400 | 54.190 | -0.279 | 3.713 | 0.121 |
| -10.950 | 57.643 | -0.321 | 3.837 | 0.109 |
| -11.500 | 61.153 | -0.369 | 3.962 | 0.096 |
| -11.500 | 61.153 | -0.369 | 3.962 | 0.096 |
| -12.350 | 66.641 | -0.380 | 4.155 | 0.083 |
| -13.350 | 73.111 | -0.396 | 4.371 | 0.067 |
| -14.150 | 78.293 | -0.411 | 4.533 | 0.054 |
| -15.000 | 83.803 | -0.428 | 4.689 | 0.040 |
| -16.000 | 90.289 | -0.451 | 4.852 | 0.024 |
| -16.800 | 95.480 | -0.471 | 4.965 | 0.010 |
| -16.800 | 95.481 | -0.471 | 4.965 | 0.010 |
| -17.500 | 102.703 | -0.471 | 5.051 | 0.008 |
| -18.500 | 113.000 | -0.471 | 5.153 | 0.006 |
| -18.900 | 117.112 | -0.471 | 5.187 | 0.005 |
| -19.900 | 127.376 | -0.471 | 5.257 | 0.002 |
| -21.000 | 138.642 | -0.471 | 5.310 | 0.000 |

### 3.38 Results for Vertical 38 (X = -0.69 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.105 | 9.630 | -0.105 | 9.629 | 0.415 |
| -0.205 | 10.441 | -0.192 | 8.973 | 0.390 |
| -0.305 | 10.878 | -0.277 | 7.958 | 0.375 |
| -0.405 | 11.259 | -0.361 | 6.893 | 0.364 |
| -0.465 | 11.467 | -0.411 | 6.243 | 0.359 |
| -0.505 | 11.603 | -0.404 | 6.192 | 0.356 |
| -0.605 | 11.924 | -0.388 | 6.055 | 0.349 |
| -0.705 | 12.232 | -0.372 | 5.906 | 0.343 |
| -0.803 | 12.524 | -0.355 | 5.755 | 0.338 |
| -0.805 | 12.532 | -0.355 | 5.751 | 0.338 |
| -0.905 | 12.828 | -0.338 | 5.594 | 0.333 |
| -1.005 | 13.126 | -0.321 | 5.439 | 0.328 |
| -1.105 | 13.426 | -0.304 | 5.289 | 0.325 |
| -1.500 | 14.669 | -0.235 | 4.764 | 0.313 |
| -1.500 | 14.669 | -0.235 | 4.764 | 0.313 |
| -2.150 | 15.948 | -0.184 | 4.139 | 0.287 |
| -2.750 | 17.363 | -0.142 | 3.752 | 0.269 |
| -3.400 | 19.082 | -0.103 | 3.460 | 0.252 |
| -4.000 | 20.818 | -0.074 | 3.271 | 0.239 |
| -4.000 | 20.818 | -0.074 | 3.271 | 0.239 |
| -4.400 | 20.924 | -0.066 | 3.177 | 0.225 |
| -4.800 | 21.101 | -0.063 | 3.107 | 0.210 |
| -4.800 | 21.101 | -0.063 | 3.107 | 0.210 |
| -5.050 | 22.391 | -0.063 | 3.073 | 0.206 |
| -5.300 | 23.704 | -0.065 | 3.047 | 0.202 |
| -5.300 | 23.704 | -0.065 | 3.047 | 0.202 |
| -5.650 | 23.962 | -0.069 | 3.023 | 0.190 |
| -6.000 | 24.273 | -0.077 | 3.013 | 0.177 |
| -6.000 | 24.273 | -0.077 | 3.013 | 0.177 |
| -6.750 | 28.727 | -0.125 | 3.030 | 0.163 |
| -7.500 | 33.473 | -0.197 | 3.095 | 0.148 |
| -7.500 | 33.473 | -0.197 | 3.095 | 0.148 |
| -8.250 | 39.261 | -0.227 | 3.198 | 0.144 |
| -9.000 | 45.151 | -0.263 | 3.330 | 0.139 |
| -9.000 | 45.151 | -0.263 | 3.330 | 0.139 |
| -9.700 | 49.611 | -0.269 | 3.472 | 0.130 |
| -10.400 | 54.093 | -0.275 | 3.626 | 0.121 |
| -10.400 | 54.094 | -0.275 | 3.626 | 0.121 |
| -10.950 | 57.540 | -0.316 | 3.752 | 0.108 |
| -11.500 | 61.044 | -0.363 | 3.879 | 0.095 |
| -11.500 | 61.044 | -0.363 | 3.879 | 0.095 |
| -12.350 | 66.533 | -0.375 | 4.074 | 0.082 |
| -13.350 | 73.003 | -0.390 | 4.294 | 0.066 |
| -14.150 | 78.186 | -0.405 | 4.458 | 0.054 |
| -15.000 | 83.697 | -0.422 | 4.618 | 0.040 |
| -16.000 | 90.185 | -0.444 | 4.785 | 0.023 |
| -16.800 | 95.378 | -0.465 | 4.902 | 0.010 |
| -16.800 | 95.378 | -0.465 | 4.902 | 0.010 |
| -17.500 | 102.604 | -0.465 | 4.991 | 0.008 |
| -18.500 | 112.906 | -0.465 | 5.098 | 0.006 |
| -18.900 | 117.020 | -0.465 | 5.134 | 0.005 |
| -19.900 | 127.289 | -0.465 | 5.209 | 0.002 |
| -21.000 | 138.560 | -0.465 | 5.267 | 0.000 |

### 3.39 Results for Vertical 39 (X = -0.52 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.103 | 9.326 | -0.103 | 9.325 | 0.407 |
| -0.203 | 10.629 | -0.190 | 9.157 | 0.382 |
| -0.303 | 11.025 | -0.275 | 8.099 | 0.366 |
| -0.403 | 11.179 | -0.360 | 6.804 | 0.355 |
| -0.456 | 11.259 | -0.404 | 6.117 | 0.351 |
| -0.503 | 11.338 | -0.397 | 5.977 | 0.347 |
| -0.603 | 11.533 | -0.381 | 5.706 | 0.341 |
| -0.703 | 11.756 | -0.366 | 5.464 | 0.335 |
| -0.801 | 11.999 | -0.350 | 5.250 | 0.330 |
| -0.803 | 12.003 | -0.350 | 5.247 | 0.330 |
| -0.903 | 12.269 | -0.334 | 5.050 | 0.325 |
| -1.003 | 12.553 | -0.318 | 4.871 | 0.321 |
| -1.103 | 12.852 | -0.302 | 4.710 | 0.318 |
| -1.500 | 14.160 | -0.236 | 4.204 | 0.307 |
| -1.500 | 14.160 | -0.236 | 4.204 | 0.307 |
| -2.150 | 15.562 | -0.188 | 3.681 | 0.283 |
| -2.750 | 17.075 | -0.147 | 3.381 | 0.266 |
| -3.400 | 18.873 | -0.108 | 3.160 | 0.250 |
| -4.000 | 20.658 | -0.079 | 3.020 | 0.237 |
| -4.000 | 20.658 | -0.079 | 3.020 | 0.237 |
| -4.400 | 20.790 | -0.071 | 2.953 | 0.223 |
| -4.800 | 20.985 | -0.068 | 2.904 | 0.209 |
| -4.800 | 20.985 | -0.068 | 2.904 | 0.209 |
| -5.050 | 22.283 | -0.068 | 2.882 | 0.205 |
| -5.300 | 23.602 | -0.069 | 2.867 | 0.201 |
| -5.300 | 23.602 | -0.069 | 2.867 | 0.201 |
| -5.650 | 23.868 | -0.073 | 2.855 | 0.188 |
| -6.000 | 24.185 | -0.080 | 2.855 | 0.175 |
| -6.000 | 24.185 | -0.080 | 2.855 | 0.175 |
| -6.750 | 28.635 | -0.126 | 2.889 | 0.162 |
| -7.500 | 33.364 | -0.196 | 2.965 | 0.147 |
| -7.500 | 33.364 | -0.196 | 2.965 | 0.147 |
| -8.250 | 39.150 | -0.224 | 3.076 | 0.143 |
| -9.000 | 45.032 | -0.260 | 3.214 | 0.138 |
| -9.000 | 45.032 | -0.260 | 3.214 | 0.138 |
| -9.700 | 49.495 | -0.265 | 3.360 | 0.129 |
| -10.400 | 53.978 | -0.271 | 3.517 | 0.120 |
| -10.400 | 53.978 | -0.271 | 3.517 | 0.120 |
| -10.950 | 57.416 | -0.311 | 3.645 | 0.107 |
| -11.500 | 60.909 | -0.357 | 3.774 | 0.095 |
| -11.500 | 60.909 | -0.357 | 3.774 | 0.095 |
| -12.350 | 66.399 | -0.368 | 3.972 | 0.081 |
| -13.350 | 72.870 | -0.383 | 4.197 | 0.066 |
| -14.150 | 78.053 | -0.397 | 4.365 | 0.053 |
| -15.000 | 83.565 | -0.414 | 4.529 | 0.039 |
| -16.000 | 90.054 | -0.436 | 4.702 | 0.023 |
| -16.800 | 95.248 | -0.456 | 4.823 | 0.010 |
| -16.800 | 95.248 | -0.456 | 4.823 | 0.010 |
| -17.500 | 102.478 | -0.456 | 4.917 | 0.008 |
| -18.500 | 112.786 | -0.456 | 5.030 | 0.006 |
| -18.900 | 116.903 | -0.456 | 5.069 | 0.005 |
| -19.900 | 127.178 | -0.456 | 5.150 | 0.002 |
| -21.000 | 138.456 | -0.456 | 5.215 | 0.000 |

### 3.40 Results for Vertical 40 (X = -0.29 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.107 | 8.352 | -0.107 | 8.351 | 0.389 |
| -0.207 | 8.137 | -0.196 | 6.641 | 0.366 |
| -0.307 | 8.977 | -0.284 | 5.994 | 0.353 |
| -0.407 | 9.480 | -0.372 | 5.022 | 0.343 |
| -0.445 | 9.632 | -0.405 | 4.616 | 0.341 |
| -0.507 | 9.855 | -0.396 | 4.536 | 0.336 |
| -0.607 | 10.180 | -0.383 | 4.374 | 0.331 |
| -0.707 | 10.492 | -0.369 | 4.202 | 0.325 |
| -0.803 | 10.800 | -0.356 | 4.044 | 0.321 |
| -0.807 | 10.811 | -0.355 | 4.038 | 0.321 |
| -0.907 | 11.142 | -0.341 | 3.890 | 0.317 |
| -1.007 | 11.488 | -0.327 | 3.758 | 0.314 |
| -1.107 | 11.848 | -0.312 | 3.642 | 0.311 |
| -1.500 | 13.366 | -0.252 | 3.312 | 0.302 |
| -1.500 | 13.366 | -0.252 | 3.312 | 0.302 |
| -2.150 | 15.015 | -0.206 | 3.013 | 0.280 |
| -2.750 | 16.680 | -0.166 | 2.855 | 0.264 |
| -3.400 | 18.584 | -0.127 | 2.743 | 0.249 |
| -4.000 | 20.432 | -0.097 | 2.675 | 0.236 |
| -4.000 | 20.432 | -0.097 | 2.675 | 0.236 |
| -4.400 | 20.594 | -0.089 | 2.645 | 0.222 |
| -4.800 | 20.812 | -0.085 | 2.626 | 0.208 |
| -4.800 | 20.812 | -0.085 | 2.626 | 0.208 |
| -5.050 | 22.117 | -0.083 | 2.621 | 0.204 |
| -5.300 | 23.440 | -0.084 | 2.619 | 0.200 |
| -5.300 | 23.440 | -0.084 | 2.619 | 0.200 |
| -5.650 | 23.714 | -0.086 | 2.625 | 0.187 |
| -6.000 | 24.035 | -0.093 | 2.640 | 0.174 |
| -6.000 | 24.035 | -0.093 | 2.640 | 0.174 |
| -6.750 | 28.464 | -0.134 | 2.698 | 0.161 |
| -7.500 | 33.155 | -0.198 | 2.791 | 0.146 |
| -7.500 | 33.155 | -0.198 | 2.791 | 0.146 |
| -8.250 | 38.931 | -0.224 | 2.913 | 0.142 |
| -9.000 | 44.797 | -0.257 | 3.059 | 0.137 |
| -9.000 | 44.797 | -0.257 | 3.059 | 0.137 |
| -9.700 | 49.262 | -0.262 | 3.210 | 0.128 |
| -10.400 | 53.746 | -0.268 | 3.372 | 0.119 |
| -10.400 | 53.746 | -0.268 | 3.372 | 0.119 |
| -10.950 | 57.165 | -0.306 | 3.503 | 0.106 |
| -11.500 | 60.637 | -0.349 | 3.635 | 0.094 |
| -11.500 | 60.637 | -0.349 | 3.635 | 0.094 |
| -12.350 | 66.125 | -0.360 | 3.837 | 0.081 |
| -13.350 | 72.595 | -0.374 | 4.067 | 0.065 |
| -14.150 | 77.777 | -0.388 | 4.240 | 0.053 |
| -15.000 | 83.288 | -0.404 | 4.410 | 0.039 |
| -16.000 | 89.775 | -0.425 | 4.590 | 0.023 |
| -16.800 | 94.968 | -0.445 | 4.717 | 0.010 |
| -16.800 | 94.968 | -0.445 | 4.717 | 0.010 |
| -17.500 | 102.204 | -0.445 | 4.816 | 0.008 |
| -18.500 | 112.520 | -0.445 | 4.937 | 0.005 |
| -18.900 | 116.640 | -0.445 | 4.979 | 0.005 |
| -19.900 | 126.923 | -0.445 | 5.068 | 0.002 |
| -21.000 | 138.210 | -0.445 | 5.143 | 0.000 |

### 3.41 Results for Vertical 41 (X = -0.27 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.107 | 6.863 | -0.107 | 6.862 | 0.387 |
| -0.207 | 8.153 | -0.197 | 6.647 | 0.365 |
| -0.307 | 8.796 | -0.286 | 5.803 | 0.351 |
| -0.407 | 9.280 | -0.373 | 4.809 | 0.342 |
| -0.443 | 9.427 | -0.405 | 4.420 | 0.339 |
| -0.507 | 9.662 | -0.397 | 4.342 | 0.335 |
| -0.607 | 10.001 | -0.384 | 4.192 | 0.330 |
| -0.707 | 10.329 | -0.370 | 4.034 | 0.325 |
| -0.803 | 10.651 | -0.357 | 3.888 | 0.320 |
| -0.807 | 10.662 | -0.356 | 3.883 | 0.320 |
| -0.907 | 11.007 | -0.342 | 3.745 | 0.316 |
| -1.007 | 11.365 | -0.328 | 3.623 | 0.313 |
| -1.107 | 11.735 | -0.314 | 3.517 | 0.310 |
| -1.500 | 13.284 | -0.255 | 3.214 | 0.302 |
| -1.500 | 13.284 | -0.255 | 3.214 | 0.302 |
| -2.150 | 14.963 | -0.209 | 2.943 | 0.280 |
| -2.750 | 16.644 | -0.169 | 2.801 | 0.264 |
| -3.400 | 18.559 | -0.130 | 2.701 | 0.249 |
| -4.000 | 20.413 | -0.099 | 2.640 | 0.236 |
| -4.000 | 20.413 | -0.099 | 2.640 | 0.236 |
| -4.400 | 20.579 | -0.091 | 2.613 | 0.222 |
| -4.800 | 20.799 | -0.087 | 2.598 | 0.208 |
| -4.800 | 20.799 | -0.087 | 2.598 | 0.208 |
| -5.050 | 22.104 | -0.085 | 2.594 | 0.204 |
| -5.300 | 23.428 | -0.085 | 2.595 | 0.200 |
| -5.300 | 23.428 | -0.085 | 2.595 | 0.200 |
| -5.650 | 23.702 | -0.088 | 2.602 | 0.187 |
| -6.000 | 24.023 | -0.094 | 2.618 | 0.174 |
| -6.000 | 24.023 | -0.094 | 2.618 | 0.174 |
| -6.750 | 28.450 | -0.135 | 2.679 | 0.161 |
| -7.500 | 33.136 | -0.198 | 2.774 | 0.146 |
| -7.500 | 33.136 | -0.198 | 2.774 | 0.146 |
| -8.250 | 38.911 | -0.225 | 2.897 | 0.141 |
| -9.000 | 44.775 | -0.257 | 3.044 | 0.137 |
| -9.000 | 44.775 | -0.257 | 3.044 | 0.137 |
| -9.700 | 49.240 | -0.262 | 3.196 | 0.128 |
| -10.400 | 53.724 | -0.268 | 3.358 | 0.119 |
| -10.400 | 53.724 | -0.268 | 3.358 | 0.119 |
| -10.950 | 57.141 | -0.306 | 3.489 | 0.106 |
| -11.500 | 60.611 | -0.349 | 3.621 | 0.094 |
| -11.500 | 60.611 | -0.349 | 3.621 | 0.094 |
| -12.350 | 66.099 | -0.359 | 3.824 | 0.081 |
| -13.350 | 72.568 | -0.374 | 4.055 | 0.065 |
| -14.150 | 77.750 | -0.387 | 4.228 | 0.053 |
| -15.000 | 83.260 | -0.403 | 4.398 | 0.039 |
| -16.000 | 89.747 | -0.424 | 4.579 | 0.023 |
| -16.800 | 94.940 | -0.443 | 4.706 | 0.010 |
| -16.800 | 94.940 | -0.443 | 4.706 | 0.010 |
| -17.500 | 102.176 | -0.443 | 4.806 | 0.008 |
| -18.500 | 112.493 | -0.443 | 4.928 | 0.005 |
| -18.900 | 116.614 | -0.443 | 4.970 | 0.005 |
| -19.900 | 126.898 | -0.443 | 5.060 | 0.002 |
| -21.000 | 138.186 | -0.443 | 5.136 | 0.000 |

### 3.42 Results for Vertical 42 (X = 0.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.179 | 4.172 | -0.179 | 4.171 | 0.370 |
| -0.279 | 4.827 | -0.271 | 3.298 | 0.351 |
| -0.379 | 5.429 | -0.363 | 2.386 | 0.342 |
| -0.430 | 5.769 | -0.409 | 1.950 | 0.339 |
| -0.479 | 6.084 | -0.405 | 2.010 | 0.336 |
| -0.579 | 6.705 | -0.394 | 2.112 | 0.332 |
| -0.679 | 7.296 | -0.384 | 2.188 | 0.328 |
| -0.779 | 7.863 | -0.372 | 2.248 | 0.324 |
| -0.839 | 8.199 | -0.365 | 2.278 | 0.322 |
| -0.879 | 8.413 | -0.360 | 2.296 | 0.321 |
| -0.979 | 8.949 | -0.348 | 2.335 | 0.318 |
| -1.079 | 9.474 | -0.335 | 2.368 | 0.316 |
| -1.179 | 9.989 | -0.322 | 2.397 | 0.314 |
| -1.500 | 11.594 | -0.275 | 2.468 | 0.309 |
| -1.500 | 11.595 | -0.275 | 2.468 | 0.309 |
| -2.150 | 13.638 | -0.229 | 2.563 | 0.288 |
| -2.750 | 15.497 | -0.187 | 2.617 | 0.271 |
| -3.400 | 17.519 | -0.145 | 2.655 | 0.256 |
| -4.000 | 19.425 | -0.111 | 2.683 | 0.242 |
| -4.000 | 19.425 | -0.111 | 2.683 | 0.242 |
| -4.400 | 19.620 | -0.101 | 2.702 | 0.227 |
| -4.800 | 19.861 | -0.095 | 2.724 | 0.212 |
| -4.800 | 19.861 | -0.095 | 2.724 | 0.212 |
| -5.050 | 21.168 | -0.092 | 2.740 | 0.208 |
| -5.300 | 22.490 | -0.090 | 2.758 | 0.204 |
| -5.300 | 22.490 | -0.090 | 2.758 | 0.204 |
| -5.650 | 22.770 | -0.091 | 2.787 | 0.190 |
| -6.000 | 23.094 | -0.096 | 2.821 | 0.176 |
| -6.000 | 23.094 | -0.096 | 2.821 | 0.176 |
| -6.750 | 27.492 | -0.130 | 2.912 | 0.163 |
| -7.500 | 32.139 | -0.188 | 3.027 | 0.147 |
| -7.500 | 32.139 | -0.188 | 3.027 | 0.147 |
| -8.250 | 37.911 | -0.212 | 3.165 | 0.143 |
| -9.000 | 43.768 | -0.243 | 3.322 | 0.138 |
| -9.000 | 43.768 | -0.243 | 3.322 | 0.138 |
| -9.700 | 48.238 | -0.248 | 3.481 | 0.129 |
| -10.400 | 52.726 | -0.253 | 3.649 | 0.119 |
| -10.400 | 52.726 | -0.253 | 3.649 | 0.119 |
| -10.950 | 56.141 | -0.290 | 3.783 | 0.107 |
| -11.500 | 59.611 | -0.333 | 3.919 | 0.094 |
| -11.500 | 59.611 | -0.333 | 3.919 | 0.094 |
| -12.350 | 65.104 | -0.344 | 4.127 | 0.081 |
| -13.350 | 71.581 | -0.358 | 4.364 | 0.065 |
| -14.150 | 76.770 | -0.372 | 4.542 | 0.053 |
| -15.000 | 82.290 | -0.388 | 4.719 | 0.039 |
| -16.000 | 88.790 | -0.410 | 4.907 | 0.023 |
| -16.800 | 93.996 | -0.430 | 5.041 | 0.010 |
| -16.800 | 93.996 | -0.430 | 5.041 | 0.010 |
| -17.500 | 101.238 | -0.430 | 5.147 | 0.008 |
| -18.500 | 111.564 | -0.430 | 5.277 | 0.005 |
| -18.900 | 115.688 | -0.430 | 5.323 | 0.005 |
| -19.900 | 125.981 | -0.430 | 5.422 | 0.002 |
| -21.000 | 137.279 | -0.430 | 5.508 | 0.000 |

### 3.43 Results for Vertical 43 (X = 0.10 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.205 | 1.824 | -0.205 | 1.823 | 0.361 |
| -0.305 | 3.307 | -0.300 | 1.753 | 0.348 |
| -0.405 | 4.249 | -0.393 | 1.163 | 0.341 |
| -0.430 | 4.455 | -0.416 | 0.989 | 0.340 |
| -0.505 | 5.039 | -0.410 | 1.170 | 0.337 |
| -0.605 | 5.767 | -0.401 | 1.367 | 0.333 |
| -0.705 | 6.455 | -0.391 | 1.532 | 0.330 |
| -0.805 | 7.111 | -0.381 | 1.673 | 0.327 |
| -0.853 | 7.413 | -0.375 | 1.732 | 0.326 |
| -0.905 | 7.739 | -0.369 | 1.793 | 0.324 |
| -1.005 | 8.343 | -0.357 | 1.896 | 0.322 |
| -1.105 | 8.926 | -0.345 | 1.984 | 0.320 |
| -1.205 | 9.491 | -0.331 | 2.061 | 0.318 |
| -1.500 | 11.076 | -0.289 | 2.236 | 0.314 |
| -1.500 | 11.076 | -0.289 | 2.236 | 0.314 |
| -2.150 | 13.257 | -0.243 | 2.473 | 0.293 |
| -2.750 | 15.178 | -0.200 | 2.600 | 0.276 |
| -3.400 | 17.235 | -0.156 | 2.690 | 0.260 |
| -4.000 | 19.156 | -0.120 | 2.751 | 0.246 |
| -4.000 | 19.156 | -0.120 | 2.751 | 0.246 |
| -4.400 | 19.360 | -0.109 | 2.787 | 0.231 |
| -4.800 | 19.609 | -0.102 | 2.823 | 0.215 |
| -4.800 | 19.609 | -0.102 | 2.823 | 0.215 |
| -5.050 | 20.916 | -0.098 | 2.846 | 0.211 |
| -5.300 | 22.237 | -0.096 | 2.871 | 0.206 |
| -5.300 | 22.237 | -0.096 | 2.871 | 0.206 |
| -5.650 | 22.519 | -0.096 | 2.908 | 0.193 |
| -6.000 | 22.844 | -0.100 | 2.948 | 0.178 |
| -6.000 | 22.844 | -0.100 | 2.948 | 0.178 |
| -6.750 | 27.234 | -0.133 | 3.050 | 0.164 |
| -7.500 | 31.869 | -0.188 | 3.174 | 0.148 |
| -7.500 | 31.869 | -0.188 | 3.174 | 0.148 |
| -8.250 | 37.641 | -0.212 | 3.317 | 0.144 |
| -9.000 | 43.497 | -0.243 | 3.478 | 0.139 |
| -9.000 | 43.497 | -0.243 | 3.478 | 0.139 |
| -9.700 | 47.969 | -0.247 | 3.640 | 0.129 |
| -10.400 | 52.459 | -0.253 | 3.809 | 0.120 |
| -10.400 | 52.459 | -0.253 | 3.809 | 0.120 |
| -10.950 | 55.874 | -0.290 | 3.945 | 0.108 |
| -11.500 | 59.344 | -0.333 | 4.082 | 0.095 |
| -11.500 | 59.344 | -0.333 | 4.082 | 0.095 |
| -12.350 | 64.839 | -0.343 | 4.292 | 0.081 |
| -13.350 | 71.318 | -0.358 | 4.531 | 0.066 |
| -14.150 | 76.510 | -0.371 | 4.711 | 0.053 |
| -15.000 | 82.033 | -0.388 | 4.890 | 0.039 |
| -16.000 | 88.538 | -0.410 | 5.081 | 0.023 |
| -16.800 | 93.748 | -0.430 | 5.218 | 0.010 |
| -16.800 | 93.748 | -0.430 | 5.218 | 0.010 |
| -17.500 | 100.992 | -0.430 | 5.325 | 0.008 |
| -18.500 | 111.321 | -0.430 | 5.459 | 0.006 |
| -18.900 | 115.446 | -0.430 | 5.506 | 0.005 |
| -19.900 | 125.743 | -0.430 | 5.609 | 0.002 |
| -21.000 | 137.044 | -0.430 | 5.697 | 0.000 |

### 3.44 Results for Vertical 44 (X = 0.29 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.268 | 0.757 | -0.268 | 0.756 | 0.355 |
| -0.368 | 1.615 | -0.365 | 0.038 | 0.348 |
| -0.430 | 2.191 | -0.425 | -0.356 | 0.347 |
| -0.468 | 2.540 | -0.423 | -0.222 | 0.346 |
| -0.568 | 3.445 | -0.417 | 0.121 | 0.345 |
| -0.668 | 4.307 | -0.410 | 0.433 | 0.343 |
| -0.768 | 5.123 | -0.402 | 0.711 | 0.341 |
| -0.868 | 5.895 | -0.393 | 0.954 | 0.339 |
| -0.884 | 6.015 | -0.391 | 0.991 | 0.339 |
| -0.968 | 6.625 | -0.382 | 1.167 | 0.338 |
| -1.068 | 7.319 | -0.371 | 1.353 | 0.336 |
| -1.168 | 7.981 | -0.359 | 1.516 | 0.334 |
| -1.268 | 8.615 | -0.346 | 1.660 | 0.333 |
| -1.500 | 10.000 | -0.313 | 1.933 | 0.330 |
| -1.500 | 10.000 | -0.313 | 1.933 | 0.330 |
| -2.150 | 12.426 | -0.265 | 2.423 | 0.309 |
| -2.750 | 14.461 | -0.220 | 2.686 | 0.291 |
| -3.400 | 16.582 | -0.173 | 2.872 | 0.273 |
| -4.000 | 18.531 | -0.133 | 2.996 | 0.258 |
| -4.000 | 18.531 | -0.133 | 2.996 | 0.258 |
| -4.400 | 18.754 | -0.121 | 3.064 | 0.241 |
| -4.800 | 19.016 | -0.113 | 3.126 | 0.224 |
| -4.800 | 19.016 | -0.113 | 3.126 | 0.224 |
| -5.050 | 20.324 | -0.108 | 3.164 | 0.219 |
| -5.300 | 21.644 | -0.104 | 3.201 | 0.215 |
| -5.300 | 21.644 | -0.104 | 3.201 | 0.215 |
| -5.650 | 21.931 | -0.103 | 3.253 | 0.200 |
| -6.000 | 22.259 | -0.107 | 3.307 | 0.185 |
| -6.000 | 22.259 | -0.107 | 3.307 | 0.185 |
| -6.750 | 26.638 | -0.136 | 3.431 | 0.170 |
| -7.500 | 31.257 | -0.188 | 3.570 | 0.153 |
| -7.500 | 31.257 | -0.188 | 3.570 | 0.153 |
| -8.250 | 37.031 | -0.211 | 3.724 | 0.148 |
| -9.000 | 42.889 | -0.241 | 3.893 | 0.143 |
| -9.000 | 42.889 | -0.241 | 3.893 | 0.143 |
| -9.700 | 47.365 | -0.245 | 4.060 | 0.133 |
| -10.400 | 51.859 | -0.251 | 4.234 | 0.123 |
| -10.400 | 51.859 | -0.251 | 4.234 | 0.123 |
| -10.950 | 55.277 | -0.288 | 4.373 | 0.110 |
| -11.500 | 58.752 | -0.331 | 4.513 | 0.097 |
| -11.500 | 58.752 | -0.331 | 4.513 | 0.097 |
| -12.350 | 64.251 | -0.341 | 4.726 | 0.083 |
| -13.350 | 70.736 | -0.356 | 4.969 | 0.067 |
| -14.150 | 75.934 | -0.370 | 5.153 | 0.054 |
| -15.000 | 81.464 | -0.387 | 5.336 | 0.040 |
| -16.000 | 87.978 | -0.410 | 5.532 | 0.024 |
| -16.800 | 93.197 | -0.430 | 5.673 | 0.010 |
| -16.800 | 93.197 | -0.430 | 5.673 | 0.010 |
| -17.500 | 100.445 | -0.430 | 5.784 | 0.008 |
| -18.500 | 110.780 | -0.430 | 5.924 | 0.006 |
| -18.900 | 114.907 | -0.430 | 5.973 | 0.005 |
| -19.900 | 125.210 | -0.430 | 6.082 | 0.002 |
| -21.000 | 136.518 | -0.430 | 6.177 | 0.000 |

### 3.45 Results for Vertical 45 (X = 0.45 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.319 | 0.090 | -0.319 | 0.089 | 0.357 |
| -0.419 | 0.920 | -0.418 | -0.667 | 0.357 |
| -0.430 | 1.017 | -0.428 | -0.743 | 0.357 |
| -0.519 | 1.817 | -0.425 | -0.464 | 0.357 |
| -0.619 | 2.710 | -0.421 | -0.144 | 0.357 |
| -0.719 | 3.576 | -0.415 | 0.160 | 0.356 |
| -0.819 | 4.405 | -0.408 | 0.442 | 0.355 |
| -0.909 | 5.124 | -0.400 | 0.675 | 0.354 |
| -0.919 | 5.197 | -0.399 | 0.698 | 0.353 |
| -1.019 | 5.953 | -0.389 | 0.930 | 0.352 |
| -1.119 | 6.674 | -0.378 | 1.139 | 0.351 |
| -1.219 | 7.364 | -0.367 | 1.327 | 0.349 |
| -1.319 | 8.026 | -0.354 | 1.496 | 0.348 |
| -1.500 | 9.161 | -0.328 | 1.760 | 0.345 |
| -1.500 | 9.161 | -0.328 | 1.761 | 0.345 |
| -2.150 | 11.748 | -0.281 | 2.411 | 0.323 |
| -2.750 | 13.869 | -0.235 | 2.771 | 0.304 |
| -3.400 | 16.043 | -0.186 | 3.029 | 0.285 |
| -4.000 | 18.016 | -0.144 | 3.201 | 0.269 |
| -4.000 | 18.016 | -0.144 | 3.201 | 0.269 |
| -4.400 | 18.255 | -0.130 | 3.294 | 0.251 |
| -4.800 | 18.528 | -0.122 | 3.377 | 0.233 |
| -4.800 | 18.528 | -0.122 | 3.377 | 0.233 |
| -5.050 | 19.839 | -0.115 | 3.426 | 0.228 |
| -5.300 | 21.160 | -0.110 | 3.473 | 0.223 |
| -5.300 | 21.160 | -0.110 | 3.473 | 0.223 |
| -5.650 | 21.451 | -0.109 | 3.538 | 0.207 |
| -6.000 | 21.782 | -0.111 | 3.602 | 0.191 |
| -6.000 | 21.782 | -0.111 | 3.602 | 0.191 |
| -6.750 | 26.156 | -0.138 | 3.744 | 0.175 |
| -7.500 | 30.766 | -0.188 | 3.896 | 0.158 |
| -7.500 | 30.766 | -0.188 | 3.896 | 0.158 |
| -8.250 | 36.543 | -0.211 | 4.059 | 0.152 |
| -9.000 | 42.401 | -0.240 | 4.234 | 0.146 |
| -9.000 | 42.402 | -0.240 | 4.234 | 0.146 |
| -9.700 | 46.882 | -0.244 | 4.406 | 0.136 |
| -10.400 | 51.379 | -0.250 | 4.583 | 0.126 |
| -10.400 | 51.379 | -0.250 | 4.583 | 0.126 |
| -10.950 | 54.798 | -0.287 | 4.724 | 0.113 |
| -11.500 | 58.276 | -0.330 | 4.866 | 0.100 |
| -11.500 | 58.276 | -0.330 | 4.866 | 0.100 |
| -12.350 | 63.778 | -0.341 | 5.083 | 0.086 |
| -13.350 | 70.267 | -0.355 | 5.329 | 0.069 |
| -14.150 | 75.468 | -0.369 | 5.516 | 0.056 |
| -15.000 | 81.003 | -0.386 | 5.702 | 0.041 |
| -16.000 | 87.524 | -0.409 | 5.902 | 0.024 |
| -16.800 | 92.748 | -0.430 | 6.046 | 0.011 |
| -16.800 | 92.749 | -0.430 | 6.046 | 0.011 |
| -17.500 | 100.000 | -0.430 | 6.160 | 0.009 |
| -18.500 | 110.339 | -0.430 | 6.305 | 0.006 |
| -18.900 | 114.469 | -0.430 | 6.356 | 0.005 |
| -19.900 | 124.776 | -0.430 | 6.470 | 0.003 |
| -21.000 | 136.090 | -0.430 | 6.570 | 0.000 |

### 3.46 Results for Vertical 46 (X = 0.68 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.534 | 0.211 | -0.430 | 0.210 | 0.436 |
| -0.634 | 0.977 | -0.429 | 0.370 | 0.429 |
| -0.734 | 1.758 | -0.426 | 0.561 | 0.425 |
| -0.834 | 2.540 | -0.421 | 0.767 | 0.421 |
| -0.934 | 3.310 | -0.415 | 0.977 | 0.418 |
| -1.017 | 3.936 | -0.409 | 1.149 | 0.415 |
| -1.034 | 4.062 | -0.408 | 1.183 | 0.415 |
| -1.134 | 4.793 | -0.399 | 1.382 | 0.412 |
| -1.234 | 5.501 | -0.389 | 1.570 | 0.409 |
| -1.334 | 6.186 | -0.378 | 1.748 | 0.406 |
| -1.434 | 6.848 | -0.365 | 1.913 | 0.404 |
| -1.500 | 7.273 | -0.356 | 2.016 | 0.403 |
| -1.500 | 7.273 | -0.356 | 2.016 | 0.403 |
| -1.534 | 7.429 | -0.354 | 2.067 | 0.401 |
| -2.150 | 10.013 | -0.311 | 2.805 | 0.373 |
| -2.750 | 12.231 | -0.263 | 3.276 | 0.348 |
| -3.400 | 14.464 | -0.211 | 3.626 | 0.324 |
| -4.000 | 16.459 | -0.164 | 3.861 | 0.304 |
| -4.000 | 16.459 | -0.164 | 3.861 | 0.304 |
| -4.400 | 16.715 | -0.149 | 3.988 | 0.282 |
| -4.800 | 17.001 | -0.139 | 4.100 | 0.260 |
| -4.800 | 17.001 | -0.139 | 4.100 | 0.260 |
| -5.050 | 18.310 | -0.131 | 4.165 | 0.254 |
| -5.300 | 19.626 | -0.124 | 4.226 | 0.248 |
| -5.300 | 19.626 | -0.124 | 4.226 | 0.248 |
| -5.650 | 19.920 | -0.121 | 4.308 | 0.229 |
| -6.000 | 20.253 | -0.122 | 4.388 | 0.210 |
| -6.000 | 20.253 | -0.122 | 4.388 | 0.210 |
| -6.750 | 24.605 | -0.144 | 4.555 | 0.192 |
| -7.500 | 29.187 | -0.189 | 4.725 | 0.172 |
| -7.500 | 29.187 | -0.189 | 4.725 | 0.172 |
| -8.250 | 34.965 | -0.211 | 4.902 | 0.165 |
| -9.000 | 40.823 | -0.239 | 5.087 | 0.159 |
| -9.000 | 40.824 | -0.239 | 5.087 | 0.159 |
| -9.700 | 45.310 | -0.243 | 5.265 | 0.147 |
| -10.400 | 49.811 | -0.248 | 5.448 | 0.136 |
| -10.400 | 49.811 | -0.248 | 5.448 | 0.136 |
| -10.950 | 53.233 | -0.286 | 5.592 | 0.122 |
| -11.500 | 56.713 | -0.329 | 5.737 | 0.107 |
| -11.500 | 56.713 | -0.329 | 5.737 | 0.107 |
| -12.350 | 62.220 | -0.339 | 5.958 | 0.092 |
| -13.350 | 68.715 | -0.354 | 6.209 | 0.074 |
| -14.150 | 73.922 | -0.369 | 6.399 | 0.060 |
| -15.000 | 79.463 | -0.386 | 6.590 | 0.045 |
| -16.000 | 85.993 | -0.409 | 6.796 | 0.027 |
| -16.800 | 91.225 | -0.430 | 6.945 | 0.012 |
| -16.800 | 91.225 | -0.430 | 6.945 | 0.012 |
| -17.500 | 98.481 | -0.430 | 7.064 | 0.010 |
| -18.500 | 108.827 | -0.430 | 7.215 | 0.007 |
| -18.900 | 112.959 | -0.430 | 7.269 | 0.006 |
| -19.900 | 123.274 | -0.430 | 7.389 | 0.003 |
| -21.000 | 134.595 | -0.430 | 7.498 | 0.000 |

### 3.47 Results for Vertical 47 (X = 0.88 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.500 | 1.463 | -0.430 | 1.462 | 0.584 |
| -1.600 | 1.958 | -0.428 | 1.606 | 0.555 |
| -1.700 | 2.442 | -0.426 | 1.744 | 0.536 |
| -1.800 | 2.916 | -0.423 | 1.874 | 0.521 |
| -1.900 | 3.378 | -0.420 | 1.998 | 0.508 |
| -2.000 | 3.829 | -0.417 | 2.115 | 0.496 |
| -2.100 | 4.271 | -0.413 | 2.226 | 0.485 |
| -2.200 | 4.702 | -0.409 | 2.330 | 0.475 |
| -2.300 | 5.125 | -0.404 | 2.428 | 0.466 |
| -2.400 | 5.539 | -0.399 | 2.521 | 0.457 |
| -2.500 | 5.946 | -0.394 | 2.609 | 0.449 |
| -2.750 | 6.930 | -0.380 | 2.809 | 0.430 |
| -3.400 | 9.329 | -0.338 | 3.219 | 0.390 |
| -4.000 | 11.410 | -0.296 | 3.501 | 0.359 |
| -4.000 | 11.410 | -0.296 | 3.501 | 0.359 |
| -4.400 | 11.691 | -0.281 | 3.654 | 0.327 |
| -4.800 | 11.987 | -0.269 | 3.789 | 0.295 |
| -4.800 | 11.987 | -0.269 | 3.789 | 0.295 |
| -5.050 | 13.284 | -0.259 | 3.866 | 0.287 |
| -5.300 | 14.579 | -0.248 | 3.939 | 0.278 |
| -5.300 | 14.579 | -0.248 | 3.939 | 0.278 |
| -5.650 | 14.853 | -0.242 | 4.035 | 0.253 |
| -6.000 | 15.157 | -0.239 | 4.127 | 0.229 |
| -6.000 | 15.157 | -0.239 | 4.127 | 0.229 |
| -6.750 | 19.330 | -0.240 | 4.316 | 0.205 |
| -7.500 | 23.663 | -0.259 | 4.501 | 0.182 |
| -7.500 | 23.663 | -0.259 | 4.501 | 0.182 |
| -8.250 | 29.354 | -0.270 | 4.690 | 0.174 |
| -9.000 | 35.105 | -0.286 | 4.883 | 0.166 |
| -9.000 | 35.105 | -0.286 | 4.883 | 0.166 |
| -9.700 | 39.581 | -0.289 | 5.067 | 0.153 |
| -10.400 | 44.070 | -0.293 | 5.254 | 0.141 |
| -10.400 | 44.070 | -0.293 | 5.254 | 0.141 |
| -10.950 | 47.386 | -0.319 | 5.402 | 0.126 |
| -11.500 | 50.752 | -0.350 | 5.549 | 0.111 |
| -11.500 | 50.752 | -0.350 | 5.549 | 0.111 |
| -12.350 | 56.235 | -0.358 | 5.773 | 0.095 |
| -13.350 | 62.699 | -0.369 | 6.028 | 0.077 |
| -14.150 | 67.879 | -0.380 | 6.223 | 0.062 |
| -15.000 | 73.389 | -0.394 | 6.417 | 0.046 |
| -16.000 | 79.880 | -0.413 | 6.627 | 0.027 |
| -16.800 | 85.079 | -0.430 | 6.780 | 0.013 |
| -16.800 | 85.079 | -0.430 | 6.780 | 0.013 |
| -17.500 | 92.339 | -0.430 | 6.903 | 0.010 |
| -18.500 | 102.690 | -0.430 | 7.060 | 0.007 |
| -18.900 | 106.825 | -0.430 | 7.116 | 0.006 |
| -19.600 | 114.051 | -0.430 | 7.207 | 0.004 |
| -20.600 | 124.357 | -0.430 | 7.318 | 0.001 |
| -21.000 | 128.473 | -0.430 | 7.357 | 0.000 |

### 3.48 Results for Vertical 48 (X = 0.93 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.751 | 1.688 | -0.430 | 1.687 | 0.590 |
| -1.851 | 2.163 | -0.428 | 1.814 | 0.559 |
| -1.951 | 2.629 | -0.426 | 1.934 | 0.539 |
| -2.051 | 3.084 | -0.423 | 2.048 | 0.523 |
| -2.151 | 3.530 | -0.420 | 2.156 | 0.510 |
| -2.251 | 3.966 | -0.416 | 2.259 | 0.497 |
| -2.351 | 4.393 | -0.412 | 2.356 | 0.486 |
| -2.451 | 4.812 | -0.408 | 2.448 | 0.476 |
| -2.551 | 5.224 | -0.403 | 2.535 | 0.467 |
| -2.651 | 5.627 | -0.398 | 2.618 | 0.458 |
| -2.751 | 6.024 | -0.393 | 2.696 | 0.450 |
| -2.876 | 6.510 | -0.386 | 2.788 | 0.440 |
| -3.400 | 8.464 | -0.355 | 3.118 | 0.404 |
| -4.000 | 10.576 | -0.314 | 3.410 | 0.371 |
| -4.000 | 10.576 | -0.314 | 3.410 | 0.371 |
| -4.400 | 10.867 | -0.300 | 3.570 | 0.336 |
| -4.800 | 11.170 | -0.288 | 3.710 | 0.302 |
| -4.800 | 11.170 | -0.288 | 3.710 | 0.302 |
| -5.050 | 12.469 | -0.278 | 3.790 | 0.293 |
| -5.300 | 13.766 | -0.267 | 3.865 | 0.284 |
| -5.300 | 13.766 | -0.267 | 3.865 | 0.284 |
| -5.650 | 14.040 | -0.260 | 3.965 | 0.258 |
| -6.000 | 14.342 | -0.257 | 4.060 | 0.232 |
| -6.000 | 14.342 | -0.257 | 4.060 | 0.232 |
| -6.750 | 18.494 | -0.256 | 4.254 | 0.207 |
| -7.500 | 22.793 | -0.270 | 4.444 | 0.184 |
| -7.500 | 22.793 | -0.270 | 4.444 | 0.184 |
| -8.250 | 28.472 | -0.280 | 4.635 | 0.175 |
| -9.000 | 34.206 | -0.294 | 4.831 | 0.167 |
| -9.000 | 34.206 | -0.294 | 4.831 | 0.167 |
| -9.700 | 38.681 | -0.297 | 5.016 | 0.154 |
| -10.400 | 43.168 | -0.300 | 5.205 | 0.141 |
| -10.400 | 43.168 | -0.300 | 5.205 | 0.141 |
| -10.950 | 46.467 | -0.324 | 5.353 | 0.127 |
| -11.500 | 49.814 | -0.354 | 5.501 | 0.112 |
| -11.500 | 49.814 | -0.354 | 5.501 | 0.112 |
| -12.350 | 55.293 | -0.361 | 5.726 | 0.096 |
| -13.350 | 61.752 | -0.372 | 5.982 | 0.077 |
| -14.150 | 66.927 | -0.382 | 6.177 | 0.062 |
| -15.000 | 72.433 | -0.395 | 6.372 | 0.046 |
| -16.000 | 78.917 | -0.413 | 6.584 | 0.027 |
| -16.800 | 84.110 | -0.430 | 6.738 | 0.013 |
| -16.800 | 84.110 | -0.430 | 6.738 | 0.013 |
| -17.500 | 91.371 | -0.430 | 6.862 | 0.010 |
| -18.500 | 101.724 | -0.430 | 7.020 | 0.007 |
| -18.900 | 105.859 | -0.430 | 7.077 | 0.006 |
| -19.600 | 113.086 | -0.430 | 7.168 | 0.004 |
| -20.600 | 123.393 | -0.430 | 7.281 | 0.001 |
| -21.000 | 127.510 | -0.430 | 7.321 | 0.000 |

### 3.49 Results for Vertical 49 (X = 1.16 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.987 | 1.514 | -0.430 | 1.513 | 0.572 |
| -2.087 | 1.975 | -0.428 | 1.623 | 0.542 |
| -2.187 | 2.428 | -0.426 | 1.728 | 0.523 |
| -2.287 | 2.874 | -0.424 | 1.830 | 0.508 |
| -2.387 | 3.312 | -0.421 | 1.927 | 0.495 |
| -2.487 | 3.742 | -0.417 | 2.020 | 0.484 |
| -2.587 | 4.166 | -0.414 | 2.110 | 0.473 |
| -2.687 | 4.582 | -0.410 | 2.196 | 0.464 |
| -2.787 | 4.992 | -0.406 | 2.278 | 0.455 |
| -2.887 | 5.396 | -0.401 | 2.356 | 0.447 |
| -2.987 | 5.793 | -0.397 | 2.431 | 0.439 |
| -2.994 | 5.819 | -0.396 | 2.436 | 0.438 |
| -3.500 | 7.755 | -0.369 | 2.770 | 0.404 |
| -4.000 | 9.569 | -0.338 | 3.039 | 0.376 |
| -4.000 | 9.569 | -0.338 | 3.039 | 0.376 |
| -4.400 | 9.893 | -0.325 | 3.221 | 0.340 |
| -4.800 | 10.223 | -0.314 | 3.382 | 0.305 |
| -4.800 | 10.223 | -0.314 | 3.382 | 0.305 |
| -5.050 | 11.537 | -0.304 | 3.473 | 0.295 |
| -5.300 | 12.845 | -0.293 | 3.560 | 0.286 |
| -5.300 | 12.845 | -0.293 | 3.560 | 0.286 |
| -5.650 | 13.132 | -0.286 | 3.673 | 0.259 |
| -6.000 | 13.441 | -0.282 | 3.781 | 0.232 |
| -6.000 | 13.441 | -0.282 | 3.781 | 0.232 |
| -6.750 | 17.584 | -0.278 | 3.996 | 0.207 |
| -7.500 | 21.850 | -0.288 | 4.202 | 0.183 |
| -7.500 | 21.850 | -0.288 | 4.202 | 0.183 |
| -8.250 | 27.520 | -0.295 | 4.406 | 0.174 |
| -9.000 | 33.237 | -0.307 | 4.610 | 0.166 |
| -9.000 | 33.237 | -0.307 | 4.610 | 0.166 |
| -9.700 | 37.715 | -0.309 | 4.802 | 0.153 |
| -10.400 | 42.202 | -0.312 | 4.995 | 0.141 |
| -10.400 | 42.202 | -0.312 | 4.995 | 0.141 |
| -10.950 | 45.476 | -0.333 | 5.147 | 0.126 |
| -11.500 | 48.795 | -0.359 | 5.297 | 0.111 |
| -11.500 | 48.795 | -0.359 | 5.297 | 0.111 |
| -12.350 | 54.271 | -0.366 | 5.526 | 0.095 |
| -13.350 | 60.725 | -0.376 | 5.787 | 0.076 |
| -14.150 | 65.895 | -0.386 | 5.985 | 0.061 |
| -15.000 | 71.394 | -0.398 | 6.184 | 0.046 |
| -16.000 | 77.871 | -0.415 | 6.401 | 0.027 |
| -16.800 | 83.058 | -0.430 | 6.559 | 0.012 |
| -16.800 | 83.058 | -0.430 | 6.559 | 0.012 |
| -17.500 | 90.322 | -0.430 | 6.686 | 0.010 |
| -18.500 | 100.681 | -0.430 | 6.850 | 0.007 |
| -18.900 | 104.818 | -0.430 | 6.909 | 0.006 |
| -19.600 | 112.050 | -0.430 | 7.005 | 0.004 |
| -20.600 | 122.363 | -0.430 | 7.125 | 0.001 |
| -21.000 | 126.483 | -0.430 | 7.167 | 0.000 |

### 3.50 Results for Vertical 50 (X = 1.38 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.245 | 1.427 | -0.430 | 1.426 | 0.558 |
| -2.345 | 1.875 | -0.428 | 1.521 | 0.529 |
| -2.445 | 2.317 | -0.426 | 1.614 | 0.511 |
| -2.545 | 2.753 | -0.424 | 1.703 | 0.496 |
| -2.645 | 3.183 | -0.421 | 1.790 | 0.484 |
| -2.745 | 3.606 | -0.418 | 1.874 | 0.473 |
| -2.845 | 4.024 | -0.415 | 1.956 | 0.463 |
| -2.945 | 4.436 | -0.412 | 2.034 | 0.454 |
| -3.045 | 4.842 | -0.408 | 2.110 | 0.445 |
| -3.123 | 5.153 | -0.404 | 2.166 | 0.439 |
| -3.145 | 5.243 | -0.403 | 2.183 | 0.437 |
| -3.245 | 5.639 | -0.399 | 2.253 | 0.430 |
| -4.000 | 8.497 | -0.360 | 2.710 | 0.383 |
| -4.000 | 8.497 | -0.360 | 2.710 | 0.383 |
| -4.400 | 8.850 | -0.347 | 2.908 | 0.346 |
| -4.800 | 9.202 | -0.337 | 3.085 | 0.309 |
| -4.800 | 9.202 | -0.337 | 3.085 | 0.309 |
| -5.050 | 10.530 | -0.327 | 3.186 | 0.299 |
| -5.300 | 11.850 | -0.317 | 3.281 | 0.289 |
| -5.300 | 11.850 | -0.317 | 3.281 | 0.289 |
| -5.650 | 12.147 | -0.310 | 3.406 | 0.261 |
| -6.000 | 12.464 | -0.306 | 3.523 | 0.233 |
| -6.000 | 12.464 | -0.306 | 3.523 | 0.233 |
| -6.750 | 16.599 | -0.299 | 3.757 | 0.207 |
| -7.500 | 20.834 | -0.304 | 3.977 | 0.183 |
| -7.500 | 20.834 | -0.304 | 3.977 | 0.183 |
| -8.250 | 26.496 | -0.309 | 4.192 | 0.174 |
| -9.000 | 32.196 | -0.319 | 4.404 | 0.166 |
| -9.000 | 32.196 | -0.319 | 4.404 | 0.166 |
| -9.700 | 36.676 | -0.321 | 4.602 | 0.153 |
| -10.400 | 41.164 | -0.323 | 4.799 | 0.140 |
| -10.400 | 41.164 | -0.323 | 4.799 | 0.140 |
| -10.950 | 44.415 | -0.342 | 4.954 | 0.125 |
| -11.500 | 47.707 | -0.365 | 5.107 | 0.110 |
| -11.500 | 47.707 | -0.365 | 5.107 | 0.110 |
| -12.350 | 53.179 | -0.371 | 5.339 | 0.094 |
| -13.350 | 59.628 | -0.380 | 5.604 | 0.076 |
| -14.150 | 64.793 | -0.389 | 5.805 | 0.061 |
| -15.000 | 70.286 | -0.400 | 6.007 | 0.045 |
| -16.000 | 76.756 | -0.416 | 6.228 | 0.027 |
| -16.800 | 81.936 | -0.430 | 6.391 | 0.012 |
| -16.800 | 81.936 | -0.430 | 6.391 | 0.012 |
| -17.500 | 89.203 | -0.430 | 6.521 | 0.010 |
| -18.500 | 99.567 | -0.430 | 6.690 | 0.007 |
| -18.900 | 103.707 | -0.430 | 6.752 | 0.006 |
| -19.600 | 110.942 | -0.430 | 6.852 | 0.004 |
| -20.600 | 121.261 | -0.430 | 6.976 | 0.001 |
| -21.000 | 125.383 | -0.430 | 7.021 | 0.000 |

### 3.51 Results for Vertical 51 (X = 2.04 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.336 | 0.775 | -0.430 | 0.774 | 0.489 |
| -2.436 | 1.205 | -0.429 | 0.844 | 0.466 |
| -2.536 | 1.632 | -0.428 | 0.914 | 0.453 |
| -2.636 | 2.056 | -0.426 | 0.985 | 0.442 |
| -2.736 | 2.477 | -0.424 | 1.055 | 0.433 |
| -2.836 | 2.894 | -0.422 | 1.125 | 0.424 |
| -2.936 | 3.308 | -0.420 | 1.194 | 0.417 |
| -3.036 | 3.718 | -0.417 | 1.263 | 0.410 |
| -3.136 | 4.125 | -0.414 | 1.330 | 0.403 |
| -3.168 | 4.254 | -0.413 | 1.352 | 0.401 |
| -3.236 | 4.528 | -0.411 | 1.397 | 0.397 |
| -3.336 | 4.928 | -0.407 | 1.462 | 0.391 |
| -4.000 | 7.504 | -0.379 | 1.868 | 0.357 |
| -4.000 | 7.504 | -0.379 | 1.868 | 0.357 |
| -4.400 | 7.895 | -0.368 | 2.086 | 0.324 |
| -4.800 | 8.284 | -0.359 | 2.286 | 0.292 |
| -4.800 | 8.284 | -0.359 | 2.286 | 0.292 |
| -5.050 | 9.639 | -0.351 | 2.403 | 0.282 |
| -5.300 | 10.983 | -0.341 | 2.514 | 0.274 |
| -5.300 | 10.983 | -0.341 | 2.514 | 0.274 |
| -5.650 | 11.307 | -0.335 | 2.661 | 0.248 |
| -6.000 | 11.645 | -0.331 | 2.800 | 0.223 |
| -6.000 | 11.645 | -0.331 | 2.800 | 0.223 |
| -6.750 | 15.804 | -0.322 | 3.076 | 0.198 |
| -7.500 | 20.035 | -0.323 | 3.330 | 0.175 |
| -7.500 | 20.035 | -0.323 | 3.330 | 0.175 |
| -8.250 | 25.705 | -0.326 | 3.571 | 0.167 |
| -9.000 | 31.400 | -0.333 | 3.805 | 0.159 |
| -9.000 | 31.400 | -0.333 | 3.805 | 0.159 |
| -9.700 | 35.891 | -0.335 | 4.018 | 0.147 |
| -10.400 | 40.386 | -0.337 | 4.227 | 0.135 |
| -10.400 | 40.386 | -0.337 | 4.227 | 0.135 |
| -10.950 | 43.614 | -0.352 | 4.389 | 0.121 |
| -11.500 | 46.878 | -0.372 | 4.549 | 0.106 |
| -11.500 | 46.878 | -0.372 | 4.549 | 0.106 |
| -12.350 | 52.352 | -0.377 | 4.791 | 0.091 |
| -13.350 | 58.799 | -0.385 | 5.065 | 0.073 |
| -14.150 | 63.962 | -0.393 | 5.275 | 0.059 |
| -15.000 | 69.452 | -0.403 | 5.486 | 0.044 |
| -16.000 | 75.918 | -0.417 | 5.719 | 0.026 |
| -16.800 | 81.095 | -0.430 | 5.891 | 0.011 |
| -16.800 | 81.095 | -0.430 | 5.891 | 0.011 |
| -17.500 | 88.372 | -0.430 | 6.031 | 0.009 |
| -18.500 | 98.750 | -0.430 | 6.214 | 0.006 |
| -18.900 | 102.895 | -0.430 | 6.282 | 0.005 |
| -19.600 | 110.142 | -0.430 | 6.392 | 0.003 |
| -20.600 | 120.476 | -0.430 | 6.533 | 0.001 |
| -21.000 | 124.605 | -0.430 | 6.584 | 0.000 |

### 3.52 Results for Vertical 52 (X = 2.70 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.348 | 0.419 | -0.430 | 0.418 | 0.430 |
| -2.448 | 0.828 | -0.429 | 0.464 | 0.412 |
| -2.548 | 1.237 | -0.429 | 0.512 | 0.402 |
| -2.648 | 1.644 | -0.428 | 0.561 | 0.394 |
| -2.748 | 2.049 | -0.426 | 0.612 | 0.388 |
| -2.848 | 2.452 | -0.424 | 0.663 | 0.381 |
| -2.948 | 2.854 | -0.422 | 0.715 | 0.376 |
| -3.048 | 3.253 | -0.420 | 0.767 | 0.370 |
| -3.148 | 3.651 | -0.418 | 0.820 | 0.365 |
| -3.174 | 3.753 | -0.417 | 0.834 | 0.364 |
| -3.248 | 4.046 | -0.415 | 0.874 | 0.360 |
| -3.348 | 4.439 | -0.412 | 0.927 | 0.356 |
| -4.000 | 6.954 | -0.388 | 1.273 | 0.328 |
| -4.000 | 6.954 | -0.388 | 1.273 | 0.328 |
| -4.400 | 7.343 | -0.378 | 1.477 | 0.301 |
| -4.800 | 7.737 | -0.371 | 1.672 | 0.272 |
| -4.800 | 7.737 | -0.371 | 1.672 | 0.272 |
| -5.050 | 9.099 | -0.363 | 1.789 | 0.264 |
| -5.300 | 10.453 | -0.354 | 1.902 | 0.257 |
| -5.300 | 10.453 | -0.354 | 1.902 | 0.257 |
| -5.650 | 10.787 | -0.348 | 2.054 | 0.234 |
| -6.000 | 11.133 | -0.344 | 2.200 | 0.211 |
| -6.000 | 11.133 | -0.344 | 2.200 | 0.211 |
| -6.750 | 15.305 | -0.335 | 2.492 | 0.189 |
| -7.500 | 19.535 | -0.334 | 2.764 | 0.167 |
| -7.500 | 19.535 | -0.334 | 2.764 | 0.167 |
| -8.250 | 25.210 | -0.337 | 3.021 | 0.160 |
| -9.000 | 30.905 | -0.342 | 3.268 | 0.153 |
| -9.000 | 30.905 | -0.342 | 3.268 | 0.153 |
| -9.700 | 35.404 | -0.343 | 3.491 | 0.141 |
| -10.400 | 39.903 | -0.345 | 3.708 | 0.130 |
| -10.400 | 39.903 | -0.345 | 3.708 | 0.130 |
| -10.950 | 43.118 | -0.359 | 3.876 | 0.116 |
| -11.500 | 46.366 | -0.376 | 4.040 | 0.102 |
| -11.500 | 46.366 | -0.376 | 4.040 | 0.102 |
| -12.350 | 51.840 | -0.381 | 4.289 | 0.087 |
| -13.350 | 58.287 | -0.388 | 4.570 | 0.070 |
| -14.150 | 63.450 | -0.395 | 4.786 | 0.056 |
| -15.000 | 68.939 | -0.405 | 5.004 | 0.042 |
| -16.000 | 75.404 | -0.418 | 5.245 | 0.025 |
| -16.800 | 80.580 | -0.430 | 5.425 | 0.011 |
| -16.800 | 80.580 | -0.430 | 5.425 | 0.011 |
| -17.500 | 87.865 | -0.430 | 5.573 | 0.009 |
| -18.500 | 98.254 | -0.430 | 5.768 | 0.006 |
| -18.900 | 102.404 | -0.430 | 5.840 | 0.005 |
| -19.600 | 109.659 | -0.430 | 5.960 | 0.003 |
| -20.600 | 120.007 | -0.430 | 6.114 | 0.001 |
| -21.000 | 124.141 | -0.430 | 6.170 | 0.000 |

### 3.53 Results for Vertical 53 (X = 3.24 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.413 | 0.282 | -0.430 | 0.281 | 0.394 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.513 | 0.679 | -0.430 | 0.314 | 0.380 |
| -2.613 | 1.077 | -0.429 | 0.349 | 0.372 |
| -2.713 | 1.473 | -0.428 | 0.385 | 0.365 |
| -2.813 | 1.867 | -0.427 | 0.423 | 0.360 |
| -2.913 | 2.260 | -0.425 | 0.462 | 0.354 |
| -3.013 | 2.652 | -0.423 | 0.501 | 0.350 |
| -3.113 | 3.042 | -0.421 | 0.542 | 0.345 |
| -3.207 | 3.405 | -0.419 | 0.581 | 0.341 |
| -3.213 | 3.431 | -0.419 | 0.584 | 0.341 |
| -3.313 | 3.818 | -0.417 | 0.626 | 0.336 |
| -3.413 | 4.204 | -0.414 | 0.670 | 0.332 |
| -4.000 | 6.440 | -0.395 | 0.930 | 0.311 |
| -4.000 | 6.440 | -0.395 | 0.930 | 0.311 |
| -4.400 | 6.814 | -0.386 | 1.110 | 0.285 |
| -4.800 | 7.198 | -0.379 | 1.288 | 0.260 |
| -4.800 | 7.198 | -0.379 | 1.288 | 0.260 |
| -5.050 | 8.559 | -0.372 | 1.397 | 0.253 |
| -5.300 | 9.913 | -0.364 | 1.505 | 0.246 |
| -5.300 | 9.913 | -0.364 | 1.505 | 0.246 |
| -5.650 | 10.244 | -0.358 | 1.652 | 0.224 |
| -6.000 | 10.589 | -0.354 | 1.794 | 0.203 |
| -6.000 | 10.589 | -0.354 | 1.794 | 0.203 |
| -6.750 | 14.757 | -0.345 | 2.086 | 0.182 |
| -7.500 | 18.976 | -0.343 | 2.361 | 0.161 |
| -7.500 | 18.976 | -0.343 | 2.361 | 0.161 |
| -8.250 | 24.649 | -0.344 | 2.622 | 0.155 |
| -9.000 | 30.337 | -0.349 | 2.873 | 0.148 |
| -9.000 | 30.337 | -0.349 | 2.873 | 0.148 |
| -9.700 | 34.838 | -0.350 | 3.100 | 0.137 |
| -10.400 | 39.339 | -0.351 | 3.321 | 0.126 |
| -10.400 | 39.339 | -0.351 | 3.321 | 0.126 |
| -10.950 | 42.541 | -0.364 | 3.491 | 0.113 |
| -11.500 | 45.775 | -0.380 | 3.658 | 0.099 |
| -11.500 | 45.775 | -0.380 | 3.658 | 0.099 |
| -12.350 | 51.249 | -0.384 | 3.909 | 0.085 |
| -13.350 | 57.693 | -0.391 | 4.194 | 0.068 |
| -14.150 | 62.854 | -0.397 | 4.413 | 0.055 |
| -15.000 | 68.341 | -0.406 | 4.635 | 0.041 |
| -16.000 | 74.804 | -0.418 | 4.882 | 0.024 |
| -16.800 | 79.979 | -0.430 | 5.067 | 0.010 |
| -16.800 | 79.979 | -0.430 | 5.067 | 0.010 |
| -17.500 | 87.267 | -0.430 | 5.219 | 0.008 |
| -18.500 | 97.664 | -0.430 | 5.422 | 0.006 |
| -18.900 | 101.818 | -0.430 | 5.498 | 0.005 |
| -19.600 | 109.079 | -0.430 | 5.623 | 0.003 |
| -20.600 | 119.436 | -0.430 | 5.786 | 0.001 |
| -21.000 | 123.574 | -0.430 | 5.846 | 0.000 |

### 3.54 Results for Vertical 54 (X = 3.72 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.307 | 0.166 | -0.430 | 0.165 | 0.361 |
| -2.407 | 0.554 | -0.430 | 0.188 | 0.351 |
| -2.507 | 0.942 | -0.429 | 0.212 | 0.344 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.607 | 1.328 | -0.428 | 0.237 | 0.339 |
| -2.707 | 1.713 | -0.427 | 0.264 | 0.335 |
| -2.807 | 2.097 | -0.426 | 0.292 | 0.330 |
| -2.907 | 2.480 | -0.424 | 0.321 | 0.326 |
| -3.007 | 2.861 | -0.422 | 0.352 | 0.322 |
| -3.107 | 3.242 | -0.420 | 0.384 | 0.319 |
| -3.154 | 3.418 | -0.419 | 0.399 | 0.317 |
| -3.207 | 3.621 | -0.418 | 0.416 | 0.315 |
| -3.307 | 3.999 | -0.416 | 0.450 | 0.312 |
| -4.000 | 6.593 | -0.394 | 0.702 | 0.289 |
| -4.000 | 6.594 | -0.394 | 0.702 | 0.289 |
| -4.400 | 6.945 | -0.386 | 0.858 | 0.267 |
| -4.800 | 7.311 | -0.379 | 1.016 | 0.245 |
| -4.800 | 7.311 | -0.379 | 1.016 | 0.245 |
| -5.050 | 8.665 | -0.372 | 1.115 | 0.239 |
| -5.300 | 10.013 | -0.364 | 1.214 | 0.232 |
| -5.300 | 10.013 | -0.364 | 1.214 | 0.232 |
| -5.650 | 10.337 | -0.359 | 1.351 | 0.213 |
| -6.000 | 10.676 | -0.355 | 1.486 | 0.193 |
| -6.000 | 10.676 | -0.355 | 1.486 | 0.193 |
| -6.750 | 14.839 | -0.346 | 1.768 | 0.174 |
| -7.500 | 19.057 | -0.344 | 2.038 | 0.155 |
| -7.500 | 19.057 | -0.344 | 2.038 | 0.155 |
| -8.250 | 24.728 | -0.346 | 2.298 | 0.149 |
| -9.000 | 30.416 | -0.350 | 2.548 | 0.143 |
| -9.000 | 30.416 | -0.350 | 2.548 | 0.143 |
| -9.700 | 34.917 | -0.351 | 2.776 | 0.133 |
| -10.400 | 39.418 | -0.353 | 2.997 | 0.122 |
| -10.400 | 39.418 | -0.353 | 2.997 | 0.122 |
| -10.950 | 42.618 | -0.365 | 3.168 | 0.109 |
| -11.500 | 45.850 | -0.380 | 3.335 | 0.096 |
| -11.500 | 45.850 | -0.380 | 3.335 | 0.096 |
| -12.350 | 51.323 | -0.385 | 3.587 | 0.082 |
| -13.350 | 57.768 | -0.391 | 3.874 | 0.066 |
| -14.150 | 62.928 | -0.398 | 4.094 | 0.053 |
| -15.000 | 68.417 | -0.406 | 4.318 | 0.039 |
| -16.000 | 74.880 | -0.419 | 4.568 | 0.023 |
| -16.800 | 80.057 | -0.430 | 4.757 | 0.010 |
| -16.800 | 80.057 | -0.430 | 4.757 | 0.010 |
| -17.500 | 87.349 | -0.430 | 4.913 | 0.008 |
| -18.500 | 97.751 | -0.430 | 5.121 | 0.006 |
| -18.900 | 101.907 | -0.430 | 5.199 | 0.005 |
| -19.600 | 109.173 | -0.430 | 5.329 | 0.003 |
| -20.600 | 119.537 | -0.430 | 5.500 | 0.001 |
| -21.000 | 123.678 | -0.430 | 5.563 | 0.000 |

### 3.55 Results for Vertical 55 (X = 4.04 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.386 | 0.145 | -0.430 | 0.144 | 0.349 |
| -2.486 | 0.530 | -0.430 | 0.163 | 0.339 |
| -2.586 | 0.914 | -0.429 | 0.184 | 0.333 |
| -2.686 | 1.297 | -0.428 | 0.205 | 0.328 |
| -2.786 | 1.679 | -0.427 | 0.229 | 0.324 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.886 | 2.060 | -0.426 | 0.253 | 0.320 |
| -2.986 | 2.439 | -0.425 | 0.278 | 0.316 |
| -3.086 | 2.818 | -0.423 | 0.305 | 0.313 |
| -3.186 | 3.195 | -0.421 | 0.332 | 0.309 |
| -3.193 | 3.221 | -0.421 | 0.334 | 0.309 |
| -3.286 | 3.571 | -0.419 | 0.361 | 0.306 |
| -3.386 | 3.946 | -0.416 | 0.390 | 0.302 |
| -4.000 | 6.229 | -0.398 | 0.588 | 0.283 |
| -4.000 | 6.229 | -0.398 | 0.588 | 0.283 |
| -4.400 | 6.570 | -0.390 | 0.728 | 0.262 |
| -4.800 | 6.927 | -0.384 | 0.873 | 0.240 |
| -4.800 | 6.927 | -0.384 | 0.873 | 0.240 |
| -5.050 | 8.277 | -0.377 | 0.965 | 0.234 |
| -5.300 | 9.621 | -0.370 | 1.057 | 0.228 |
| -5.300 | 9.621 | -0.370 | 1.057 | 0.228 |
| -5.650 | 9.940 | -0.365 | 1.187 | 0.209 |
| -6.000 | 10.273 | -0.361 | 1.316 | 0.190 |
| -6.000 | 10.273 | -0.361 | 1.316 | 0.190 |
| -6.750 | 14.424 | -0.352 | 1.587 | 0.171 |
| -7.500 | 18.627 | -0.349 | 1.852 | 0.152 |
| -7.500 | 18.627 | -0.349 | 1.852 | 0.152 |
| -8.250 | 24.291 | -0.350 | 2.108 | 0.147 |
| -9.000 | 29.970 | -0.354 | 2.356 | 0.141 |
| -9.000 | 29.970 | -0.354 | 2.356 | 0.141 |
| -9.700 | 34.469 | -0.355 | 2.582 | 0.131 |
| -10.400 | 38.967 | -0.356 | 2.803 | 0.120 |
| -10.400 | 38.967 | -0.356 | 2.803 | 0.120 |
| -10.950 | 42.159 | -0.368 | 2.973 | 0.107 |
| -11.500 | 45.381 | -0.382 | 3.140 | 0.094 |
| -11.500 | 45.381 | -0.382 | 3.140 | 0.094 |
| -12.350 | 50.852 | -0.386 | 3.392 | 0.081 |
| -13.350 | 57.293 | -0.393 | 3.678 | 0.065 |
| -14.150 | 62.452 | -0.399 | 3.899 | 0.052 |
| -15.000 | 67.937 | -0.407 | 4.124 | 0.039 |
| -16.000 | 74.398 | -0.419 | 4.375 | 0.023 |
| -16.800 | 79.572 | -0.430 | 4.566 | 0.009 |
| -16.800 | 79.572 | -0.430 | 4.566 | 0.009 |
| -17.500 | 86.866 | -0.430 | 4.723 | 0.008 |
| -18.500 | 97.271 | -0.430 | 4.934 | 0.005 |
| -18.900 | 101.428 | -0.430 | 5.014 | 0.004 |
| -19.600 | 108.697 | -0.430 | 5.146 | 0.003 |
| -20.600 | 119.065 | -0.430 | 5.321 | 0.001 |
| -21.000 | 123.207 | -0.430 | 5.386 | 0.000 |

### 3.56 Results for Vertical 56 (X = 4.35 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.465 | 0.128 | -0.430 | 0.127 | 0.338 |
| -2.565 | 0.510 | -0.430 | 0.143 | 0.329 |
| -2.665 | 0.892 | -0.429 | 0.161 | 0.323 |
| -2.765 | 1.273 | -0.429 | 0.180 | 0.319 |
| -2.865 | 1.652 | -0.428 | 0.200 | 0.315 |
| -2.965 | 2.030 | -0.426 | 0.221 | 0.311 |
| -3.065 | 2.407 | -0.425 | 0.243 | 0.307 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.165 | 2.782 | -0.423 | 0.267 | 0.304 |
| -3.232 | 3.035 | -0.422 | 0.283 | 0.301 |
| -3.265 | 3.157 | -0.421 | 0.291 | 0.300 |
| -3.365 | 3.530 | -0.419 | 0.316 | 0.297 |
| -3.465 | 3.903 | -0.417 | 0.342 | 0.294 |
| -4.000 | 5.881 | -0.402 | 0.494 | 0.277 |
| -4.000 | 5.881 | -0.402 | 0.494 | 0.277 |
| -4.400 | 6.212 | -0.395 | 0.619 | 0.257 |
| -4.800 | 6.559 | -0.388 | 0.751 | 0.235 |
| -4.800 | 6.559 | -0.388 | 0.751 | 0.235 |
| -5.050 | 7.905 | -0.382 | 0.835 | 0.229 |
| -5.300 | 9.245 | -0.375 | 0.921 | 0.223 |
| -5.300 | 9.245 | -0.375 | 0.921 | 0.223 |
| -5.650 | 9.557 | -0.370 | 1.042 | 0.205 |
| -6.000 | 9.884 | -0.366 | 1.164 | 0.186 |
| -6.000 | 9.884 | -0.366 | 1.164 | 0.186 |
| -6.750 | 14.021 | -0.357 | 1.425 | 0.168 |
| -7.500 | 18.210 | -0.353 | 1.681 | 0.150 |
| -7.500 | 18.210 | -0.353 | 1.681 | 0.150 |
| -8.250 | 23.864 | -0.355 | 1.932 | 0.144 |
| -9.000 | 29.534 | -0.358 | 2.177 | 0.138 |
| -9.000 | 29.534 | -0.358 | 2.177 | 0.138 |
| -9.700 | 34.029 | -0.358 | 2.400 | 0.129 |
| -10.400 | 38.525 | -0.360 | 2.619 | 0.119 |
| -10.400 | 38.525 | -0.360 | 2.619 | 0.119 |
| -10.950 | 41.708 | -0.370 | 2.788 | 0.106 |
| -11.500 | 44.921 | -0.384 | 2.954 | 0.093 |
| -11.500 | 44.921 | -0.384 | 2.954 | 0.093 |
| -12.350 | 50.388 | -0.388 | 3.205 | 0.080 |
| -13.350 | 56.826 | -0.394 | 3.491 | 0.064 |
| -14.150 | 61.981 | -0.400 | 3.711 | 0.051 |
| -15.000 | 67.464 | -0.408 | 3.937 | 0.038 |
| -16.000 | 73.922 | -0.419 | 4.189 | 0.022 |
| -16.800 | 79.094 | -0.430 | 4.380 | 0.009 |
| -16.800 | 79.094 | -0.430 | 4.380 | 0.009 |
| -17.500 | 86.389 | -0.430 | 4.539 | 0.008 |
| -18.500 | 96.796 | -0.430 | 4.753 | 0.005 |
| -18.900 | 100.955 | -0.430 | 4.834 | 0.004 |
| -19.600 | 108.225 | -0.430 | 4.968 | 0.003 |
| -20.600 | 118.597 | -0.430 | 5.146 | 0.001 |
| -21.000 | 122.741 | -0.430 | 5.213 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -33.44 | 0.00 | -2.46 | 0.182 |
| 2 | -33.21 | 0.00 | -2.44 | 0.187 |
| 3 | -32.98 | 0.00 | -2.43 | 0.192 |
| 4 | -31.43 | 0.00 | -2.33 | 0.256 |
| 5 | -29.46 | 0.00 | -2.33 | 0.412 |
| 6 | -26.52 | 0.00 | -2.40 | 0.708 |
| 7 | -24.39 | 0.00 | -2.36 | 0.832 |
| 8 | -21.00 | 0.00 | -2.38 | 1.066 |
| 9 | -19.25 | 0.00 | -2.40 | 1.172 |
| 10 | -15.87 | 0.00 | -2.34 | 1.266 |
| 11 | -14.85 | 0.00 | -2.35 | 1.309 |
| 12 | -14.19 | 0.00 | -2.65 | 1.622 |
| 13 | -14.09 | 0.00 | -2.70 | 1.596 |
| 14 | -13.75 | 0.00 | -3.04 | 1.561 |
| 15 | -13.33 | 0.00 | -3.24 | 1.539 |
| 16 | -12.56 | 0.00 | -3.26 | 1.520 |
| 17 | -11.80 | 0.00 | -3.28 | 1.529 |
| 18 | -11.79 | 0.00 | -3.24 | 1.538 |
| 19 | -11.62 | 0.00 | -2.65 | 1.559 |
| 20 | -11.37 | 0.00 | -1.75 | 1.045 |
| 21 | -11.09 | 0.00 | -1.66 | 1.013 |
| 22 | -10.60 | 0.00 | -1.50 | 0.966 |
| 23 | -9.39 | 0.00 | -1.11 | 0.784 |
| 24 | -9.35 | 0.00 | -1.09 | 0.777 |
| 25 | -7.69 | 0.00 | -0.28 | 0.602 |
| 26 | -7.63 | 0.00 | -0.25 | 0.592 |
| 27 | -7.32 | 0.00 | -0.12 | 0.569 |
| 28 | -6.86 | 0.00 | -0.12 | 0.550 |
| 29 | -6.59 | 0.00 | -0.11 | 0.542 |
| 30 | -6.19 | 0.00 | -0.10 | 0.533 |
| 31 | -6.03 | 0.00 | -0.09 | 0.528 |
| 32 | -5.52 | 0.00 | -0.08 | 0.521 |
| 33 | -5.18 | 0.00 | -0.08 | 0.515 |
| 34 | -3.44 | 0.00 | -0.04 | 0.487 |
| 35 | -1.83 | 0.00 | -0.08 | 0.457 |
| 36 | -1.61 | 0.00 | -0.09 | 0.451 |
| 37 | -0.82 | 0.00 | -0.11 | 0.421 |
| 38 | -0.69 | 0.00 | -0.11 | 0.415 |
| 39 | -0.52 | 0.00 | -0.10 | 0.407 |
| 40 | -0.29 | 0.00 | -0.11 | 0.389 |
| 41 | -0.27 | 0.00 | -0.11 | 0.387 |
| 42 | 0.00 | 0.00 | -0.18 | 0.370 |
| 43 | 0.10 | 0.00 | -0.21 | 0.361 |
| 44 | 0.29 | 0.00 | -0.27 | 0.355 |
| 45 | 0.45 | 0.00 | -0.32 | 0.357 |
| 46 | 0.68 | 0.00 | -0.53 | 0.436 |
| 47 | 0.88 | 0.00 | -1.50 | 0.584 |
| 48 | 0.93 | 0.00 | -1.75 | 0.590 |
| 49 | 1.16 | 0.00 | -1.99 | 0.572 |
| 50 | 1.38 | 0.00 | -2.25 | 0.558 |
| 51 | 2.04 | 0.00 | -2.34 | 0.489 |
| 52 | 2.70 | 0.00 | -2.35 | 0.430 |
| 53 | 3.24 | 0.00 | -2.41 | 0.394 |

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 54 | 3.72 | 0.00 | -2.31 | 0.361 |
| 55 | 4.04 | 0.00 | -2.39 | 0.349 |
| 56 | 4.35 | 0.00 | -2.46 | 0.338 |

### 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 540 | 0.035 | 19.221 | 0.147 |
| | 5050 | 0.144 | 79.250 | 0.038 |
| 2 | 540 | 0.036 | 19.389 | 0.151 |
| | 5050 | 0.148 | 79.375 | 0.039 |
| 3 | 540 | 0.038 | 19.619 | 0.154 |
| | 5050 | 0.153 | 79.540 | 0.039 |
| 4 | 540 | 0.065 | 25.315 | 0.191 |
| | 5050 | 0.210 | 81.785 | 0.047 |
| 5 | 540 | 0.149 | 36.086 | 0.263 |
| | 5050 | 0.355 | 86.251 | 0.057 |
| 6 | 540 | 0.248 | 35.057 | 0.460 |
| | 5050 | 0.595 | 84.133 | 0.112 |
| 7 | 540 | 0.292 | 35.063 | 0.541 |
| | 5050 | 0.702 | 84.299 | 0.131 |
| 8 | 540 | 0.361 | 33.855 | 0.705 |
| | 5050 | 0.898 | 84.251 | 0.168 |
| 9 | 540 | 0.391 | 33.401 | 0.780 |
| | 5050 | 0.987 | 84.196 | 0.185 |
| 10 | 540 | 0.417 | 32.969 | 0.849 |
| | 5050 | 1.060 | 83.682 | 0.207 |
| 11 | 540 | 0.426 | 32.511 | 0.883 |
| | 5050 | 1.095 | 83.637 | 0.214 |
| 12 | 540 | 0.548 | 33.806 | 1.074 |
| | 5050 | 1.381 | 85.126 | 0.241 |
| 13 | 540 | 0.513 | 32.174 | 1.082 |
| | 5050 | 1.351 | 84.667 | 0.245 |
| 14 | 540 | 0.491 | 31.462 | 1.070 |
| | 5050 | 1.329 | 85.140 | 0.232 |
| 15 | 540 | 0.479 | 31.137 | 1.060 |
| | 5050 | 1.315 | 85.422 | 0.224 |
| 16 | 540 | 0.468 | 30.778 | 1.052 |
| | 5050 | 1.292 | 84.990 | 0.228 |
| 17 | 540 | 0.458 | 29.920 | 1.072 |
| | 5050 | 1.294 | 84.597 | 0.236 |
| 18 | 540 | 0.473 | 30.736 | 1.065 |
| | 5050 | 1.303 | 84.753 | 0.234 |
| 19 | 540 | 0.490 | 31.419 | 1.069 |
| | 5050 | 1.301 | 83.429 | 0.258 |
| 20 | 540 | 0.366 | 35.012 | 0.679 |
| | 5050 | 0.879 | 84.074 | 0.166 |
| 21 | 540 | 0.351 | 34.612 | 0.663 |
| | 5050 | 0.848 | 83.683 | 0.165 |
| 22 | 540 | 0.336 | 34.720 | 0.631 |
| | 5050 | 0.803 | 83.088 | 0.163 |
| 23 | 540 | 0.224 | 28.587 | 0.560 |
| | 5050 | 0.627 | 79.962 | 0.157 |
| 24 | 540 | 0.224 | 28.812 | 0.553 |
| | 5050 | 0.622 | 80.035 | 0.155 |
| 25 | 540 | 0.162 | 26.977 | 0.439 |
| | 5050 | 0.466 | 77.515 | 0.135 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 26 | 540 | 0.156 | 26.326 | 0.436 |
| | 5050 | 0.458 | 77.359 | 0.134 |
| 27 | 540 | 0.147 | 25.904 | 0.422 |
| | 5050 | 0.439 | 77.078 | 0.130 |
| 28 | 540 | 0.141 | 25.700 | 0.408 |
| | 5050 | 0.423 | 76.973 | 0.127 |
| 29 | 540 | 0.139 | 25.659 | 0.403 |
| | 5050 | 0.417 | 76.963 | 0.125 |
| 30 | 540 | 0.134 | 25.241 | 0.398 |
| | 5050 | 0.410 | 76.955 | 0.123 |
| 31 | 540 | 0.131 | 24.798 | 0.397 |
| | 5050 | 0.406 | 76.899 | 0.122 |
| 32 | 540 | 0.128 | 24.474 | 0.394 |
| | 5050 | 0.400 | 76.843 | 0.121 |
| 33 | 540 | 0.125 | 24.237 | 0.391 |
| | 5050 | 0.396 | 76.744 | 0.120 |
| 34 | 540 | 0.113 | 23.268 | 0.373 |
| | 5050 | 0.371 | 76.213 | 0.116 |
| 35 | 540 | 0.105 | 23.021 | 0.352 |
| | 5050 | 0.348 | 76.201 | 0.109 |
| 36 | 540 | 0.104 | 23.103 | 0.347 |
| | 5050 | 0.344 | 76.239 | 0.107 |
| 37 | 540 | 0.099 | 23.576 | 0.321 |
| | 5050 | 0.321 | 76.325 | 0.100 |
| 38 | 540 | 0.100 | 23.987 | 0.316 |
| | 5050 | 0.317 | 76.334 | 0.098 |
| 39 | 540 | 0.099 | 24.283 | 0.308 |
| | 5050 | 0.310 | 76.282 | 0.096 |
| 40 | 540 | 0.093 | 23.878 | 0.296 |
| | 5050 | 0.296 | 76.034 | 0.093 |
| 41 | 540 | 0.092 | 23.765 | 0.295 |
| | 5050 | 0.294 | 75.990 | 0.093 |
| 42 | 540 | 0.080 | 21.626 | 0.290 |
| | 5050 | 0.275 | 74.264 | 0.095 |
| 43 | 540 | 0.071 | 19.707 | 0.290 |
| | 5050 | 0.263 | 72.679 | 0.099 |
| 44 | 540 | 0.055 | 15.515 | 0.300 |
| | 5050 | 0.247 | 69.650 | 0.108 |
| 45 | 540 | 0.044 | 12.401 | 0.313 |
| | 5050 | 0.243 | 68.141 | 0.114 |
| 46 | 540 | 0.058 | 13.362 | 0.378 |
| | 5050 | 0.307 | 70.401 | 0.129 |
| 47 | 540 | 0.146 | 25.009 | 0.438 |
| | 5050 | 0.453 | 77.615 | 0.131 |
| 48 | 540 | 0.150 | 25.506 | 0.439 |
| | 5050 | 0.460 | 78.081 | 0.129 |
| 49 | 540 | 0.143 | 25.069 | 0.428 |
| | 5050 | 0.447 | 78.174 | 0.125 |
| 50 | 540 | 0.138 | 24.811 | 0.420 |
| | 5050 | 0.438 | 78.410 | 0.120 |
| 51 | 540 | 0.109 | 22.259 | 0.380 |
| | 5050 | 0.379 | 77.410 | 0.110 |
| 52 | 540 | 0.084 | 19.580 | 0.345 |
| | 5050 | 0.327 | 76.077 | 0.103 |
| 53 | 540 | 0.071 | 17.994 | 0.323 |
| | 5050 | 0.297 | 75.286 | 0.097 |
| 54 | 540 | 0.058 | 15.981 | 0.304 |
| | 5050 | 0.267 | 73.939 | 0.094 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 55 | 540 | 0.054 | 15.588 | 0.295 |
| | 5050 | 0.257 | 73.751 | 0.092 |
| 56 | 540 | 0.052 | 15.255 | 0.286 |
| | 5050 | 0.249 | 73.608 | 0.089 |

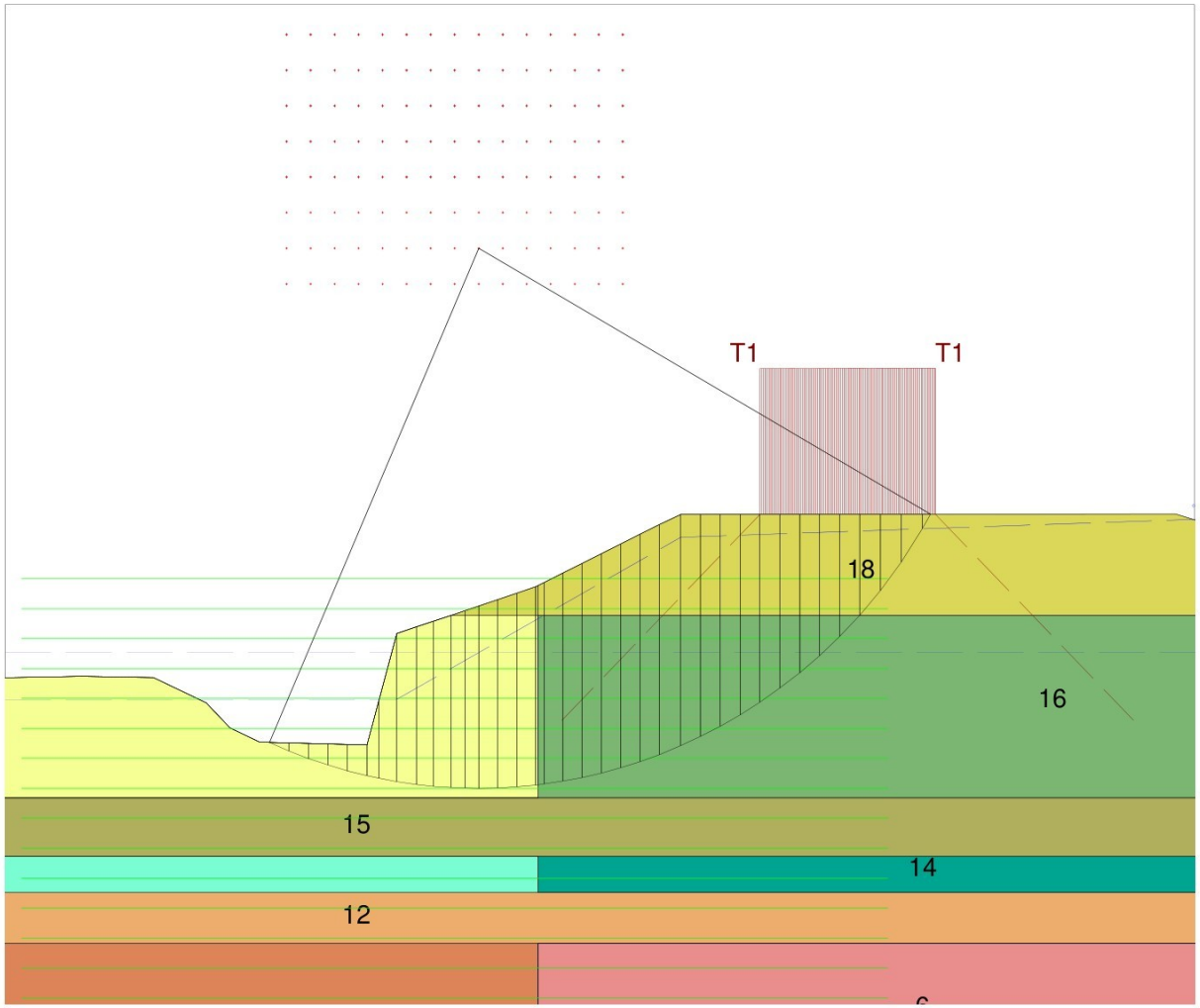
## 5 Warnings and errors

List of non-fatal warnings and errors generated during calculation.

1 Non-uniform load [3]: Co-ordinate (11) lies below surface

## End of Report

# Critical Circle Bishop




Layers

- 18. Dijksmateriaal
- 17. Klei Hum Dk naast
- 16. Klei Hum DK
- 15. Hollandveen
- 14. Klei silt DK
- 13. Klei silt DKnaast
- 12. Hollandveen
- 11. Klei silt DKnaast
- 10. Klei zand CA naast
- 9. Klei CA naast
- 8. Klei hum CA naast
- 7. Klei CA naast
- 6. Klei silt DK
- 5. Klei zand CA
- 4. Klei CA
- 3. Klei hum CA
- 2. Klei CA
- 1. Zand CA

Xm : -10.20 [m]
Ym : 3.53 [m]

Radius : 7.41 [m]
Safety : 0.69

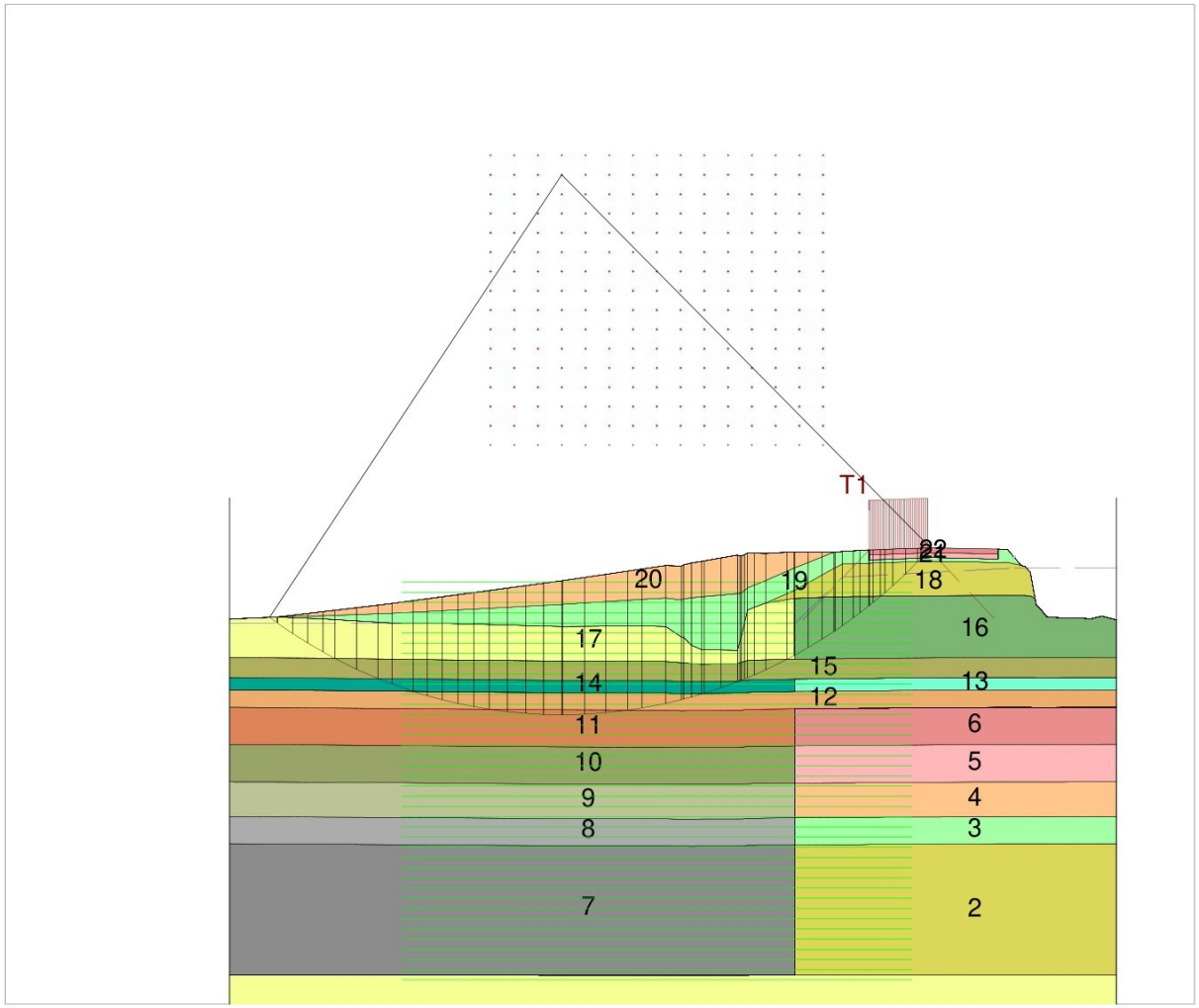
N468 steunberm
profiel 13.030
huidige STBI

waalpartners civil engineering
Zuidweg 75
2671MP Naaldwijk
Phone
Fax 0174 627791

date 2/13/2025
drw. -
ctr. -
form. A3
Annex -

D-Geo Stability 18.2 : 13.030_stab_huidig.sti

# Critical Circle Bishop




Layers

- 22. Asfalt
- 21. menggranulaat
- 20. nieuw profiel
- 19. nieuw profiel
- 18. Dijksmateriaal
- 17. Klei Hum Dk naast
- 16. Klei Hum DK
- 15. Hollandveen
- 14. Klei silt DKnaast
- 13. Klei silt DK
- 12. Hollandveen
- 11. Klei silt DKnaast
- 10. Klei zand CA naast
- 9. Klei CA naast
- 8. Klei hum CA naast
- 7. Klei CA naast
- 6. Klei silt DK
- 5. Klei zand CA
- 4. Klei CA
- 3. Klei hum CA
- 2. Klei CA
- 1. Zand CA

Xm : -19.28 [m]
Ym : 15.40 [m]

Radius : 21.73 [m]
Safety : 1.00


waalpartners civil engineering

Zuidweg 75
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Phone
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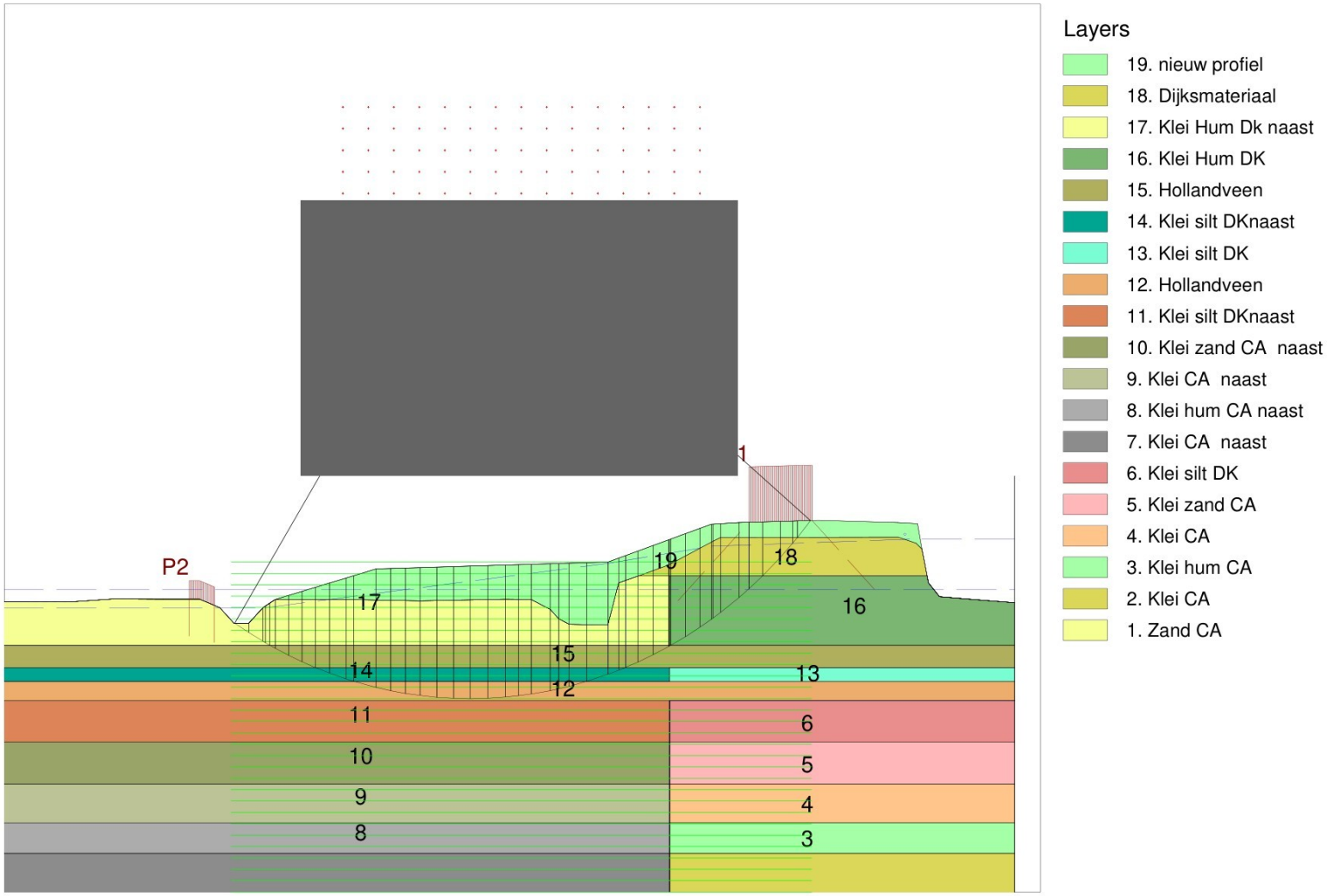
N468 steunberm
SB6 profiel 13.030

STBI eind

| | | | |
|---|---|---|---|
| Annex - | - | 2/13/2025 | - |
| form. | ctr. | date | drw. |

D-Geo Stability 18.2 : 13.030_stab_eind_koe540.sti

# Critical Circle Bishop




Xm : -17.26 [m]
Ym : 11.51 [m]

Radius : 17.43 [m]
Safety : 1.31

D-Geo Stability 18.2 : 12.98_stab_eind_wgkoe.sti

waalpartners civil engineering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Fax


N468 steunberm
SB6 profiel 12.98

STBI eind koevriendlijk watergang

| | |
|---|---|
| date | 11/14/2025 |
| drw. | - |
| ctr. | - |
| form. | A3 |
| Annex | - |

Bijlage 5.2 SB07

# Input View




N468
profiel 13.295
Ontwerp STBI


waalpartners civil engineering
Zuidweg 75
2671MP Naaldwijk
Phone 0174 627791
Email -


| | | | |
|---|---|---|---|
| date | 2/13/2025 | drw. | - |
| | - | ctr. | |
| Annex | - | form. | A3 |

D-Settlement 23.2 : 13.295_eind_stbi_koe.sli

# Report for D-Settlement 23.2

Settlement Calculations
Developed by Deltares




| | |
|---|---|
| Company: | Waalpartners civil engineering |
| Date of report: | 2/13/2025 |
| Time of report: | 6:16:22 PM |
| Report with version: | 23.2.1.41771 |
| Date of calculation: | 1/13/2025 |
| Time of calculation: | 3:02:26 PM |
| Calculated with version: | 23.2.1.41771 |
| File name: | 13.295_eind_stbi_koe |
| Project identification: | N468<br>profiel 13.295<br>Ontwerp STBI |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 17 - X - | -40.000 | -33.996 | -32.858 | -32.182 | -28.930 |
| 17 - Y - | -2.183 | -2.183 | -2.163 | -2.160 | -2.113 |
| 17 - X - | -22.576 | -22.012 | -20.137 | -19.531 | -19.414 |
| 17 - Y - | -2.063 | -2.060 | -2.066 | -2.080 | -2.084 |
| 17 - X - | -16.100 | -14.706 | -14.575 | -14.229 | -14.000 |
| 17 - Y - | -2.232 | -2.292 | -2.301 | -2.365 | -2.650 |
| 17 - X - | -13.774 | -13.716 | -13.422 | -11.985 | -11.774 |
| 17 - Y - | -2.947 | -3.000 | -3.267 | -3.160 | -3.143 |
| 17 - X - | -11.760 | -11.730 | -11.641 | -11.600 | -11.291 |
| 17 - Y - | -3.000 | -2.650 | -1.821 | -1.800 | -1.641 |
| 17 - X - | -11.176 | -11.049 | -10.834 | -10.467 | -9.901 |
| 17 - Y - | -1.589 | -1.525 | -1.416 | -1.243 | -0.977 |
| 17 - X - | -9.747 | -9.500 | -7.510 | -7.392 | -7.129 |
| 17 - Y - | -0.900 | -0.776 | 0.222 | 0.281 | 0.319 |
| 17 - X - | -6.830 | -6.689 | -5.901 | -5.792 | -3.996 |
| 17 - Y - | 0.336 | 0.347 | 0.365 | 0.367 | 0.401 |
| 17 - X - | -3.781 | -3.533 | -2.225 | -2.079 | -1.309 |
| 17 - Y - | 0.396 | 0.392 | 0.369 | 0.368 | 0.365 |
| 17 - X - | -0.853 | -0.668 | -0.317 | -0.041 | 0.453 |
| 17 - Y - | 0.455 | 0.349 | 0.254 | 0.045 | -0.298 |
| 17 - X - | 0.592 | 0.604 | 0.716 | 0.903 | 1.545 |
| 17 - Y - | -0.900 | -0.951 | -1.424 | -1.636 | -1.710 |
| 17 - X - | 2.400 | 2.413 | 3.071 | 3.769 | 3.953 |
| 17 - Y - | -1.799 | -1.800 | -1.850 | -1.977 | -1.978 |
| 17 - X - | 10.000 | | | | |
| 17 - Y - | -1.978 | | | | |
| 16 - X - | -40.000 | -13.716 | -13.422 | -11.985 | -11.774 |
| 16 - Y - | -3.000 | -3.000 | -3.267 | -3.160 | -3.143 |
| 16 - X - | -11.760 | -11.730 | -11.641 | -11.600 | -11.291 |
| 16 - Y - | -3.000 | -2.650 | -1.821 | -1.800 | -1.641 |
| 16 - X - | -11.176 | -11.049 | -10.834 | -10.467 | -9.901 |
| 16 - Y - | -1.589 | -1.525 | -1.416 | -1.243 | -0.977 |
| 16 - X - | -9.747 | -9.500 | -7.510 | -7.392 | -7.129 |
| 16 - Y - | -0.900 | -0.776 | 0.222 | 0.281 | 0.319 |
| 16 - X - | -6.830 | -6.689 | -5.901 | -5.792 | -3.996 |
| 16 - Y - | 0.336 | 0.347 | 0.365 | 0.367 | 0.401 |
| 16 - X - | -3.781 | -3.533 | -2.225 | -2.079 | -1.309 |
| 16 - Y - | 0.396 | 0.392 | 0.369 | 0.368 | 0.365 |
| 16 - X - | -0.853 | -0.668 | -0.317 | -0.041 | 0.453 |
| 16 - Y - | 0.455 | 0.349 | 0.254 | 0.045 | -0.298 |
| 16 - X - | 0.592 | 0.604 | 0.716 | 0.903 | 1.545 |
| 16 - Y - | -0.900 | -0.951 | -1.424 | -1.636 | -1.710 |
| 16 - X - | 2.400 | 2.413 | 3.071 | 3.769 | 3.953 |
| 16 - Y - | -1.799 | -1.800 | -1.850 | -1.977 | -1.978 |
| 16 - X - | 10.000 | | | | |
| 16 - Y - | -1.978 | | | | |
| 15 - X - | -40.000 | -13.716 | -13.422 | -11.985 | -11.774 |
| 15 - Y - | -3.000 | -3.000 | -3.267 | -3.160 | -3.143 |
| 15 - X - | -11.760 | -11.730 | -11.641 | -11.600 | -11.291 |
| 15 - Y - | -3.000 | -2.650 | -1.821 | -1.800 | -1.641 |
| 15 - X - | -11.176 | -11.049 | -10.834 | -10.467 | -9.901 |
| 15 - Y - | -1.589 | -1.525 | -1.416 | -1.243 | -0.977 |
| 15 - X - | -9.747 | -9.500 | 0.592 | 0.604 | 0.716 |
| 15 - Y - | -0.900 | -0.900 | -0.900 | -0.951 | -1.424 |

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 15 - X - | 0.903 | 1.545 | 2.400 | 2.413 | 3.071 |
| 15 - Y - | -1.636 | -1.710 | -1.799 | -1.800 | -1.850 |
| 15 - X - | 3.769 | 3.953 | 10.000 | | |
| 15 - Y - | -1.977 | -1.978 | -1.978 | | |
| 14 - X - | -40.000 | -13.716 | -13.422 | -11.985 | -11.774 |
| 14 - Y - | -3.000 | -3.000 | -3.267 | -3.160 | -3.143 |
| 14 - X - | -11.760 | -11.730 | -11.641 | -11.600 | -9.500 |
| 14 - Y - | -3.000 | -2.650 | -1.821 | -1.800 | -1.800 |
| 14 - X - | -9.500 | 0.592 | 0.604 | 0.716 | 0.903 |
| 14 - Y - | -0.900 | -0.900 | -0.951 | -1.424 | -1.636 |
| 14 - X - | 1.545 | 2.400 | 2.413 | 3.071 | 3.769 |
| 14 - Y - | -1.710 | -1.799 | -1.800 | -1.850 | -1.977 |
| 14 - X - | 3.953 | 10.000 | | | |
| 14 - Y - | -1.978 | -1.978 | | | |
| 13 - X - | -40.000 | -13.716 | -13.422 | -11.985 | -11.774 |
| 13 - Y - | -3.000 | -3.000 | -3.267 | -3.160 | -3.143 |
| 13 - X - | -11.760 | -11.730 | -11.641 | -11.600 | -9.500 |
| 13 - Y - | -3.000 | -2.650 | -1.821 | -1.800 | -1.800 |
| 13 - X - | 2.413 | 3.071 | 3.769 | 3.953 | 10.000 |
| 13 - Y - | -1.800 | -1.850 | -1.977 | -1.978 | -1.978 |
| 12 - X - | -40.000 | -13.716 | -13.422 | -11.985 | -11.774 |
| 12 - Y - | -3.000 | -3.000 | -3.267 | -3.160 | -3.143 |
| 12 - X - | -11.760 | -9.500 | 10.000 | | |
| 12 - Y - | -3.000 | -3.000 | -3.000 | | |
| 11 - X - | -40.000 | -9.500 | -9.500 | 10.000 | |
| 11 - Y - | -5.200 | -5.200 | -3.000 | -3.000 | |
| 10 - X - | -40.000 | -9.500 | 10.000 | | |
| 10 - Y - | -5.200 | -5.200 | -5.200 | | |
| 9 - X - | -40.000 | -9.500 | 10.000 | | |
| 9 - Y - | -6.700 | -6.700 | -6.700 | | |
| 8 - X - | -40.000 | -9.500 | -9.500 | 10.000 | |
| 8 - Y - | -11.300 | -11.300 | -6.700 | -6.700 | |
| 7 - X - | -40.000 | -9.500 | -9.500 | -9.500 | 10.000 |
| 7 - Y - | -12.000 | -12.000 | -11.300 | -6.700 | -6.700 |
| 6 - X - | -40.000 | -9.500 | -9.500 | -9.500 | -9.500 |
| 6 - Y - | -16.200 | -16.200 | -12.000 | -11.300 | -6.700 |
| 6 - X - | 10.000 | | | | |
| 6 - Y - | -6.700 | | | | |
| 5 - X - | -40.000 | -9.500 | -9.500 | -9.500 | -9.500 |
| 5 - Y - | -17.900 | -17.900 | -16.200 | -12.000 | -11.300 |
| 5 - X - | -9.500 | 10.000 | | | |
| 5 - Y - | -6.700 | -6.700 | | | |
| 4 - X - | -40.000 | -9.500 | -9.500 | -9.500 | -9.500 |
| 4 - Y - | -17.900 | -17.900 | -16.200 | -12.000 | -11.300 |
| 4 - X - | 10.000 | | | | |
| 4 - Y - | -11.300 | | | | |
| 3 - X - | -40.000 | -9.500 | -9.500 | -9.500 | 10.000 |
| 3 - Y - | -17.900 | -17.900 | -16.200 | -12.000 | -12.000 |
| 2 - X - | -40.000 | -9.500 | -9.500 | 10.000 | |
| 2 - Y - | -17.900 | -17.900 | -16.200 | -16.200 | |
| 1 - X - | -40.000 | -9.500 | 10.000 | | |
| 1 - Y - | -17.900 | -17.900 | -17.900 | | |
| 0 - X - | -40.000 | 10.000 | | | |
| 0 - Y - | -25.502 | -25.502 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -40.000 | -9.510 | -7.380 | 0.000 | 10.000 |
| 1 - Y - | -2.650 | -2.650 | -0.800 | -0.430 | -0.430 |

| PI-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 2 - X - | -40.000 | 10.000 | | | |
| 2 - Y - | -2.000 | -2.000 | | | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by PI-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | |
| - Loads: | Simulate |
| End of consolidation: | 10000.00 [days] |
| No maintain profile | |
| Pc (initial): | Variable parallel to the initial effective stress |
| Pc (per step): | Automatic increased to the final effective stresses |
| Creep rate reference time: | 1.000 [days] |
| No imaginary surface | |
| With submerging | |
| (only for non uniform loads) | |
| - Iteration stop criterium : | 0.10 [m] |
| Load column width | |
| - Non-Uniform Loads : | 1.00 [m] |
| - Trapeziform Loads : | 1.00 [m] |

## 2.4 Soil Profiles

| Layer number | Material name | PI-line top | PI-line bottom |
|---|---|---|---|
| 17 | Hollandveen | 1 | 1 |
| 16 | Dijksmateriaal | 1 | 1 |
| 15 | Klei Hum Dk naast | 1 | 1 |
| 14 | Klei Hum DK | 1 | 1 |
| 13 | Hollandveen | 1 | 1 |
| 12 | Klei zandig DK naast | 1 | 1 |
| 11 | Klei zandig DK | 1 | 1 |
| 10 | Hollandveen | 1 | 1 |
| 9 | Klei CA naast | 1 | 1 |
| 8 | Klei hum CA naast | 1 | 1 |
| 7 | Klei CA naast | 1 | 1 |
| 6 | Klei hum CA naast | 1 | 2 |
| 5 | Klei CA | 1 | 1 |
| 4 | Klei hum CA | 1 | 1 |
| 3 | Klei CA | 1 | 1 |
| 2 | Klei hum CA | 1 | 2 |
| 1 | Zand CA | 2 | 2 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 17 | No | 10.50 | 10.50 |
| 16 | No | 16.00 | 16.00 |
| 15 | No | 13.50 | 13.50 |
| 14 | No | 13.50 | 13.50 |
| 13 | No | 10.50 | 10.50 |
| 12 | No | 17.00 | 17.00 |
| 11 | No | 17.00 | 17.00 |

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 10 | No | 10.50 | 10.50 |
| 9 | No | 15.90 | 15.90 |
| 8 | No | 15.10 | 15.10 |
| 7 | No | 15.90 | 15.90 |
| 6 | No | 15.10 | 15.10 |
| 5 | No | 15.90 | 15.90 |
| 4 | No | 15.10 | 15.10 |
| 3 | No | 15.90 | 15.90 |
| 2 | No | 15.10 | 15.10 |
| 1 | Yes | 18.00 | 20.00 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] |
|---|---|---|
| 17 | Vert. cons. | 2.37E-08 |
| 16 | Vert. cons. | 1.00E-08 |
| 15 | Vert. cons. | 2.07E-08 |
| 14 | Vert. cons. | 2.07E-08 |
| 13 | Vert. cons. | 2.37E-08 |
| 12 | Vert. cons. | 1.00E-07 |
| 11 | Vert. cons. | 1.00E-07 |
| 10 | Vert. cons. | 2.37E-08 |
| 9 | Vert. cons. | 6.02E-07 |
| 8 | Vert. cons. | 9.27E-08 |
| 7 | Vert. cons. | 6.02E-07 |
| 6 | Vert. cons. | 9.27E-08 |
| 5 | Vert. cons. | 6.02E-07 |
| 4 | Vert. cons. | 9.27E-08 |
| 3 | Vert. cons. | 6.02E-07 |
| 2 | Vert. cons. | 9.27E-08 |
| 1 | Vert. cons. | - |

| Layer number | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|
| 17 | - | - | - |
| 16 | - | - | - |
| 15 | - | - | - |
| 14 | - | - | - |
| 13 | - | - | - |
| 12 | - | - | - |
| 11 | - | - | - |
| 10 | - | - | - |
| 9 | - | - | - |
| 8 | - | - | - |
| 7 | - | - | - |
| 6 | - | - | - |
| 5 | - | - | - |
| 4 | - | - | - |
| 3 | - | - | - |
| 2 | - | - | - |
| 1 | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 17 | - | 1.80 | - |
| 16 | - | 1.50 | - |
| 15 | - | 1.50 | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 14 | - | 1.50 | - |
| 13 | - | 1.80 | - |
| 12 | - | 1.39 | - |
| 11 | - | 1.39 | - |
| 10 | - | 1.80 | - |
| 9 | - | 1.50 | - |
| 8 | - | 1.50 | - |
| 7 | - | 1.50 | - |
| 6 | - | 1.50 | - |
| 5 | - | 1.50 | - |
| 4 | - | 1.50 | - |
| 3 | - | 1.50 | - |
| 2 | - | 1.50 | - |
| 1 | - | 1.39 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 17 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 16 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 15 | 0.0338000 | 0.2190000 | 0.0174000 | - | - | - |
| 14 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 13 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 12 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 11 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 10 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 9 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 8 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 7 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 6 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 5 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 4 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 3 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 2 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 1 | 0.0100000 | 0.1062000 | 0.0033000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time [days] | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 1 | -1 | 10.50 | -10.50 |
| 2 | -1 | 17.00 | 17.00 |
| 3 | 2 | 16.00 | 16.00 |
| 4 | 2 | 16.00 | 16.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -14.00 | -13.77 | -13.72 | -11.76 | -11.73 | |
| 1 - Y - | -2.65 | -2.95 | -3.00 | -3.00 | -2.65 | |
| 2 - X - | -13.72 | -13.42 | -11.77 | -11.76 | | |
| 2 - Y - | -3.00 | -3.27 | -3.14 | -3.00 | | |
| 3 - X - | -28.93 | -12.15 | -8.25 | -7.14 | | |
| 3 - Y - | -2.11 | -1.00 | 0.30 | 0.32 | | |
| 4 - X - | -28.93 | -12.15 | -8.25 | -7.14 | | |
| 4 - Y - | -2.11 | -0.35 | 0.30 | 0.32 | | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -40.000 | -33.996 | -32.858 | -32.182 | -28.930 |
| 6 - 10 | -22.576 | -22.012 | -20.538 | -20.137 | -19.531 |
| 11 - 15 | -19.414 | -16.100 | -14.706 | -14.575 | -14.229 |
| 16 - 20 | -14.000 | -13.774 | -13.716 | -13.422 | -12.865 |
| 21 - 25 | -12.146 | -11.985 | -11.774 | -11.760 | -11.730 |
| 26 - 30 | -11.641 | -11.600 | -11.291 | -11.176 | -11.049 |
| 31 - 35 | -10.834 | -10.467 | -9.901 | -9.747 | -9.510 |
| 36 - 40 | -9.500 | -8.246 | -7.510 | -7.392 | -7.380 |
| 41 - 45 | -7.143 | -7.129 | -6.830 | -6.689 | -5.901 |
| 46 - 50 | -5.792 | -3.996 | -3.781 | -3.533 | -2.225 |
| 51 - 55 | -2.079 | -1.309 | -0.853 | -0.668 | -0.317 |
| 56 - 60 | -0.041 | 0.000 | 0.453 | 0.592 | 0.604 |
| 61 - 65 | 0.716 | 0.903 | 1.545 | 2.400 | 2.413 |
| 66 - 69 | 3.071 | 3.769 | 3.953 | 10.000 | |

# 3 Results per Vertical

## 3.1 Results for Vertical 1 (X = -40.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.183 | 0.001 | -2.183 | 0.000 | 0.179 |
| -2.283 | 1.049 | -2.283 | 0.000 | 0.175 |
| -2.383 | 2.095 | -2.382 | 0.000 | 0.170 |
| -2.483 | 3.139 | -2.482 | 0.000 | 0.165 |
| -2.583 | 3.433 | -2.581 | -0.747 | 0.161 |
| -2.591 | 3.438 | -2.589 | -0.830 | 0.161 |
| -2.650 | 3.473 | -2.647 | -1.404 | 0.160 |
| -2.683 | 3.493 | -2.647 | -1.404 | 0.159 |
| -2.783 | 3.552 | -2.646 | -1.404 | 0.158 |
| -2.883 | 3.611 | -2.645 | -1.404 | 0.157 |
| -2.983 | 3.670 | -2.644 | -1.404 | 0.156 |
| -3.000 | 3.680 | -2.644 | -1.404 | 0.156 |
| -3.000 | 3.681 | -2.644 | -1.404 | 0.156 |
| -3.083 | 4.272 | -2.643 | -1.404 | 0.156 |
| -3.183 | 4.985 | -2.643 | -1.404 | 0.156 |
| -4.100 | 11.481 | -2.633 | -1.403 | 0.156 |
| -4.600 | 14.995 | -2.624 | -1.401 | 0.156 |
| -5.200 | 19.188 | -2.611 | -1.397 | 0.155 |
| -5.200 | 19.188 | -2.611 | -1.397 | 0.155 |
| -5.950 | 19.419 | -2.582 | -1.390 | 0.130 |
| -6.700 | 19.740 | -2.560 | -1.377 | 0.108 |
| -6.700 | 19.740 | -2.560 | -1.377 | 0.108 |
| -7.400 | 24.009 | -2.559 | -1.360 | 0.106 |
| -8.400 | 30.118 | -2.558 | -1.326 | 0.102 |
| -9.000 | 33.789 | -2.557 | -1.300 | 0.099 |
| -9.700 | 38.080 | -2.556 | -1.263 | 0.095 |
| -10.700 | 44.223 | -2.555 | -1.199 | 0.088 |
| -11.300 | 47.918 | -2.554 | -1.155 | 0.084 |
| -11.300 | 47.918 | -2.554 | -1.155 | 0.084 |
| -11.650 | 49.789 | -2.553 | -1.127 | 0.078 |
| -12.000 | 51.671 | -2.553 | -1.098 | 0.073 |
| -12.000 | 51.671 | -2.553 | -1.098 | 0.073 |
| -12.700 | 56.000 | -2.554 | -1.035 | 0.068 |
| -13.700 | 62.200 | -2.555 | -0.939 | 0.060 |
| -14.100 | 64.686 | -2.556 | -0.898 | 0.056 |
| -14.800 | 69.043 | -2.558 | -0.824 | 0.050 |
| -15.800 | 75.283 | -2.562 | -0.713 | 0.041 |
| -16.200 | 77.784 | -2.564 | -0.668 | 0.038 |
| -16.200 | 77.784 | -2.564 | -0.668 | 0.038 |
| -17.050 | 79.567 | -2.277 | -0.570 | 0.022 |
| -17.900 | 81.441 | -2.000 | -0.471 | 0.006 |
| -17.900 | 81.441 | -2.000 | -0.471 | 0.006 |
| -18.701 | 89.697 | -2.000 | -0.378 | 0.006 |
| -19.701 | 100.004 | -2.000 | -0.262 | 0.005 |
| -20.701 | 110.309 | -2.000 | -0.148 | 0.004 |
| -21.701 | 120.610 | -2.000 | -0.037 | 0.003 |
| -23.602 | 140.183 | -2.000 | 0.163 | 0.002 |
| -25.502 | 159.727 | -2.000 | 0.345 | 0.000 |

### 3.2 Results for Vertical 2 (X = -34.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.183 | 0.001 | -2.183 | 0.000 | 0.190 |
| -2.283 | 1.049 | -2.283 | 0.000 | 0.185 |
| -2.383 | 2.095 | -2.382 | 0.000 | 0.180 |
| -2.483 | 3.138 | -2.482 | 0.000 | 0.175 |
| -2.583 | 3.333 | -2.581 | -0.847 | 0.171 |
| -2.591 | 3.338 | -2.589 | -0.930 | 0.171 |
| -2.650 | 3.373 | -2.647 | -1.504 | 0.170 |
| -2.683 | 3.393 | -2.647 | -1.504 | 0.170 |
| -2.783 | 3.452 | -2.646 | -1.504 | 0.169 |
| -2.883 | 3.511 | -2.645 | -1.504 | 0.168 |
| -2.983 | 3.570 | -2.644 | -1.503 | 0.167 |
| -3.000 | 3.580 | -2.644 | -1.503 | 0.167 |
| -3.000 | 3.580 | -2.644 | -1.503 | 0.167 |
| -3.083 | 4.172 | -2.643 | -1.503 | 0.168 |
| -3.183 | 4.885 | -2.643 | -1.503 | 0.168 |
| -4.100 | 11.389 | -2.632 | -1.491 | 0.168 |
| -4.600 | 14.914 | -2.624 | -1.476 | 0.168 |
| -5.200 | 19.128 | -2.610 | -1.447 | 0.167 |
| -5.200 | 19.128 | -2.610 | -1.447 | 0.167 |
| -5.950 | 19.396 | -2.579 | -1.391 | 0.143 |
| -6.700 | 19.770 | -2.557 | -1.314 | 0.121 |
| -6.700 | 19.770 | -2.557 | -1.314 | 0.121 |
| -7.400 | 24.113 | -2.556 | -1.223 | 0.119 |
| -8.400 | 30.342 | -2.554 | -1.067 | 0.114 |
| -9.000 | 34.092 | -2.553 | -0.962 | 0.110 |
| -9.700 | 38.476 | -2.552 | -0.831 | 0.106 |
| -10.700 | 44.754 | -2.551 | -0.632 | 0.099 |
| -11.300 | 48.528 | -2.550 | -0.508 | 0.094 |
| -11.300 | 48.528 | -2.550 | -0.508 | 0.094 |
| -11.650 | 50.443 | -2.549 | -0.435 | 0.088 |
| -12.000 | 52.368 | -2.549 | -0.362 | 0.082 |
| -12.000 | 52.368 | -2.549 | -0.362 | 0.082 |
| -12.700 | 56.781 | -2.550 | -0.216 | 0.076 |
| -13.700 | 63.091 | -2.551 | -0.010 | 0.067 |
| -14.100 | 65.618 | -2.552 | 0.071 | 0.063 |
| -14.800 | 70.041 | -2.554 | 0.210 | 0.056 |
| -15.800 | 76.364 | -2.558 | 0.402 | 0.046 |
| -16.200 | 78.896 | -2.560 | 0.476 | 0.042 |
| -16.200 | 78.896 | -2.560 | 0.476 | 0.042 |
| -17.050 | 80.749 | -2.275 | 0.628 | 0.026 |
| -17.900 | 82.688 | -2.000 | 0.771 | 0.008 |
| -17.900 | 82.688 | -2.000 | 0.771 | 0.008 |
| -18.701 | 90.977 | -2.000 | 0.897 | 0.007 |
| -19.701 | 101.315 | -2.000 | 1.044 | 0.006 |
| -20.701 | 111.640 | -2.000 | 1.178 | 0.005 |
| -21.701 | 121.953 | -2.000 | 1.299 | 0.004 |
| -23.602 | 141.523 | -2.000 | 1.496 | 0.002 |
| -25.502 | 161.042 | -2.000 | 1.651 | 0.000 |

### 3.3 Results for Vertical 3 (X = -32.86 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.163 | 0.001 | -2.163 | 0.000 | 0.196 |
| -2.263 | 1.049 | -2.263 | 0.000 | 0.191 |
| -2.363 | 2.095 | -2.362 | 0.000 | 0.186 |
| -2.463 | 3.138 | -2.462 | 0.000 | 0.181 |
| -2.563 | 3.484 | -2.561 | -0.696 | 0.177 |
| -2.582 | 3.495 | -2.579 | -0.877 | 0.176 |
| -2.650 | 3.535 | -2.647 | -1.549 | 0.175 |
| -2.663 | 3.543 | -2.647 | -1.549 | 0.175 |
| -2.763 | 3.602 | -2.646 | -1.549 | 0.174 |
| -2.863 | 3.661 | -2.645 | -1.548 | 0.173 |
| -2.963 | 3.720 | -2.644 | -1.548 | 0.172 |
| -3.000 | 3.741 | -2.643 | -1.548 | 0.172 |
| -3.000 | 3.741 | -2.643 | -1.548 | 0.172 |
| -3.063 | 4.191 | -2.643 | -1.547 | 0.172 |
| -3.163 | 4.904 | -2.642 | -1.546 | 0.173 |
| -4.100 | 11.557 | -2.631 | -1.523 | 0.173 |
| -4.600 | 15.092 | -2.622 | -1.496 | 0.173 |
| -5.200 | 19.323 | -2.609 | -1.446 | 0.172 |
| -5.200 | 19.323 | -2.609 | -1.446 | 0.172 |
| -5.950 | 19.617 | -2.577 | -1.357 | 0.148 |
| -6.700 | 20.024 | -2.554 | -1.241 | 0.125 |
| -6.700 | 20.024 | -2.554 | -1.241 | 0.125 |
| -7.400 | 24.403 | -2.553 | -1.114 | 0.123 |
| -8.400 | 30.683 | -2.551 | -0.907 | 0.118 |
| -9.000 | 34.461 | -2.550 | -0.773 | 0.115 |
| -9.700 | 38.876 | -2.549 | -0.611 | 0.110 |
| -10.700 | 45.191 | -2.548 | -0.375 | 0.102 |
| -11.300 | 48.984 | -2.547 | -0.232 | 0.097 |
| -11.300 | 48.984 | -2.547 | -0.232 | 0.097 |
| -11.650 | 50.910 | -2.546 | -0.149 | 0.091 |
| -12.000 | 52.846 | -2.547 | -0.067 | 0.085 |
| -12.000 | 52.846 | -2.547 | -0.067 | 0.085 |
| -12.700 | 57.276 | -2.547 | 0.096 | 0.079 |
| -13.700 | 63.606 | -2.548 | 0.321 | 0.069 |
| -14.100 | 66.139 | -2.549 | 0.408 | 0.065 |
| -14.800 | 70.571 | -2.551 | 0.556 | 0.058 |
| -15.800 | 76.905 | -2.556 | 0.756 | 0.048 |
| -16.200 | 79.439 | -2.558 | 0.833 | 0.044 |
| -16.200 | 79.439 | -2.558 | 0.833 | 0.044 |
| -17.050 | 81.307 | -2.274 | 0.987 | 0.027 |
| -17.900 | 83.259 | -2.000 | 1.130 | 0.009 |
| -17.900 | 83.259 | -2.000 | 1.130 | 0.009 |
| -18.701 | 91.547 | -2.000 | 1.255 | 0.008 |
| -19.701 | 101.881 | -2.000 | 1.398 | 0.007 |
| -20.701 | 112.200 | -2.000 | 1.526 | 0.006 |
| -21.701 | 122.505 | -2.000 | 1.639 | 0.004 |
| -23.602 | 142.057 | -2.000 | 1.817 | 0.002 |
| -25.502 | 161.554 | -2.000 | 1.951 | 0.000 |

### 3.4 Results for Vertical 4 (X = -32.18 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.160 | 0.001 | -2.160 | 0.000 | 0.199 |
| -2.260 | 1.049 | -2.260 | 0.000 | 0.194 |
| -2.360 | 2.095 | -2.359 | 0.000 | 0.189 |
| -2.460 | 3.138 | -2.459 | 0.000 | 0.184 |
| -2.560 | 3.480 | -2.558 | -0.699 | 0.181 |
| -2.580 | 3.492 | -2.578 | -0.895 | 0.180 |
| -2.650 | 3.533 | -2.647 | -1.582 | 0.179 |
| -2.660 | 3.539 | -2.647 | -1.582 | 0.179 |
| -2.760 | 3.598 | -2.646 | -1.581 | 0.178 |
| -2.860 | 3.657 | -2.645 | -1.581 | 0.177 |
| -2.960 | 3.716 | -2.644 | -1.580 | 0.176 |
| -3.000 | 3.740 | -2.643 | -1.579 | 0.176 |
| -3.000 | 3.740 | -2.643 | -1.579 | 0.176 |
| -3.060 | 4.168 | -2.643 | -1.579 | 0.176 |
| -3.160 | 4.881 | -2.642 | -1.577 | 0.176 |
| -4.100 | 11.568 | -2.631 | -1.541 | 0.177 |
| -4.600 | 15.115 | -2.622 | -1.501 | 0.176 |
| -5.200 | 19.365 | -2.608 | -1.430 | 0.176 |
| -5.200 | 19.365 | -2.608 | -1.430 | 0.176 |
| -5.950 | 19.683 | -2.576 | -1.312 | 0.151 |
| -6.700 | 20.115 | -2.552 | -1.166 | 0.129 |
| -6.700 | 20.115 | -2.552 | -1.166 | 0.129 |
| -7.400 | 24.521 | -2.551 | -1.011 | 0.126 |
| -8.400 | 30.835 | -2.549 | -0.770 | 0.121 |
| -9.000 | 34.631 | -2.548 | -0.618 | 0.117 |
| -9.700 | 39.064 | -2.547 | -0.438 | 0.112 |
| -10.700 | 45.401 | -2.546 | -0.181 | 0.104 |
| -11.300 | 49.204 | -2.546 | -0.028 | 0.099 |
| -11.300 | 49.204 | -2.546 | -0.028 | 0.099 |
| -11.650 | 51.136 | -2.545 | 0.061 | 0.093 |
| -12.000 | 53.076 | -2.545 | 0.148 | 0.087 |
| -12.000 | 53.076 | -2.545 | 0.148 | 0.087 |
| -12.700 | 57.514 | -2.545 | 0.318 | 0.081 |
| -13.700 | 63.853 | -2.547 | 0.551 | 0.071 |
| -14.100 | 66.388 | -2.548 | 0.641 | 0.067 |
| -14.800 | 70.825 | -2.550 | 0.792 | 0.059 |
| -15.800 | 77.161 | -2.554 | 0.994 | 0.049 |
| -16.200 | 79.696 | -2.557 | 1.070 | 0.044 |
| -16.200 | 79.696 | -2.557 | 1.070 | 0.044 |
| -17.050 | 81.570 | -2.273 | 1.224 | 0.027 |
| -17.900 | 83.526 | -2.000 | 1.365 | 0.009 |
| -17.900 | 83.526 | -2.000 | 1.365 | 0.009 |
| -18.701 | 91.811 | -2.000 | 1.487 | 0.008 |
| -19.701 | 102.141 | -2.000 | 1.625 | 0.007 |
| -20.701 | 112.454 | -2.000 | 1.746 | 0.006 |
| -21.701 | 122.752 | -2.000 | 1.853 | 0.005 |
| -23.602 | 142.289 | -2.000 | 2.016 | 0.002 |
| -25.502 | 161.770 | -2.000 | 2.134 | 0.000 |

### 3.5 Results for Vertical 5 (X = -28.93 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.113 | 0.390 | -2.113 | 0.389 | 0.261 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.213 | 1.437 | -2.213 | 0.389 | 0.245 |
| -2.313 | 2.483 | -2.312 | 0.391 | 0.236 |
| -2.413 | 3.528 | -2.411 | 0.395 | 0.229 |
| -2.513 | 3.973 | -2.510 | -0.200 | 0.223 |
| -2.557 | 4.001 | -2.553 | -0.622 | 0.220 |
| -2.613 | 4.040 | -2.609 | -1.170 | 0.219 |
| -2.650 | 4.065 | -2.645 | -1.528 | 0.218 |
| -2.713 | 4.110 | -2.645 | -1.518 | 0.217 |
| -2.813 | 4.185 | -2.643 | -1.499 | 0.215 |
| -2.913 | 4.263 | -2.642 | -1.476 | 0.214 |
| -3.000 | 4.333 | -2.641 | -1.454 | 0.212 |
| -3.000 | 4.333 | -2.641 | -1.454 | 0.212 |
| -3.013 | 4.429 | -2.640 | -1.450 | 0.212 |
| -3.113 | 5.169 | -2.640 | -1.422 | 0.212 |
| -4.100 | 12.482 | -2.626 | -1.073 | 0.212 |
| -4.600 | 16.165 | -2.615 | -0.881 | 0.211 |
| -5.200 | 20.554 | -2.600 | -0.651 | 0.209 |
| -5.200 | 20.554 | -2.600 | -0.651 | 0.209 |
| -5.950 | 20.985 | -2.562 | -0.367 | 0.180 |
| -6.700 | 21.510 | -2.535 | -0.090 | 0.152 |
| -6.700 | 21.510 | -2.535 | -0.090 | 0.152 |
| -7.400 | 26.010 | -2.533 | 0.159 | 0.147 |
| -8.400 | 32.422 | -2.531 | 0.500 | 0.140 |
| -9.000 | 36.261 | -2.530 | 0.695 | 0.134 |
| -9.700 | 40.732 | -2.529 | 0.912 | 0.128 |
| -10.700 | 47.105 | -2.528 | 1.204 | 0.118 |
| -11.300 | 50.921 | -2.528 | 1.368 | 0.111 |
| -11.300 | 50.921 | -2.528 | 1.368 | 0.111 |
| -11.650 | 52.864 | -2.528 | 1.459 | 0.105 |
| -12.000 | 54.815 | -2.529 | 1.548 | 0.098 |
| -12.000 | 54.815 | -2.529 | 1.548 | 0.098 |
| -12.700 | 59.254 | -2.530 | 1.716 | 0.090 |
| -13.700 | 65.584 | -2.532 | 1.934 | 0.079 |
| -14.100 | 68.113 | -2.533 | 2.015 | 0.074 |
| -14.800 | 72.535 | -2.535 | 2.146 | 0.066 |
| -15.800 | 78.845 | -2.541 | 2.312 | 0.054 |
| -16.200 | 81.367 | -2.543 | 2.372 | 0.049 |
| -16.200 | 81.367 | -2.543 | 2.372 | 0.049 |
| -17.050 | 83.266 | -2.267 | 2.486 | 0.031 |
| -17.900 | 85.247 | -2.000 | 2.585 | 0.012 |
| -17.900 | 85.247 | -2.000 | 2.585 | 0.012 |
| -18.701 | 93.490 | -2.000 | 2.664 | 0.010 |
| -19.701 | 103.762 | -2.000 | 2.745 | 0.008 |
| -20.701 | 114.017 | -2.000 | 2.808 | 0.007 |
| -21.701 | 124.255 | -2.000 | 2.854 | 0.005 |
| -23.602 | 143.678 | -2.000 | 2.903 | 0.003 |
| -25.502 | 163.047 | -2.000 | 2.909 | 0.000 |

### 3.6 Results for Vertical 6 (X = -22.58 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.063 | 9.531 | -2.063 | 9.530 | 0.655 |
| -2.163 | 10.549 | -2.159 | 9.534 | 0.591 |
| -2.263 | 11.268 | -2.255 | 9.242 | 0.548 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.363 | 11.292 | -2.351 | 8.258 | 0.513 |
| -2.463 | 11.316 | -2.447 | 7.276 | 0.484 |
| -2.531 | 11.334 | -2.512 | 6.605 | 0.468 |
| -2.563 | 11.342 | -2.542 | 6.296 | 0.461 |
| -2.650 | 11.367 | -2.625 | 5.445 | 0.444 |
| -2.663 | 11.370 | -2.625 | 5.446 | 0.441 |
| -2.763 | 11.400 | -2.620 | 5.450 | 0.423 |
| -2.863 | 11.429 | -2.616 | 5.454 | 0.406 |
| -2.963 | 11.459 | -2.611 | 5.458 | 0.388 |
| -3.000 | 11.470 | -2.610 | 5.459 | 0.382 |
| -3.000 | 11.470 | -2.610 | 5.459 | 0.382 |
| -3.063 | 11.911 | -2.608 | 5.461 | 0.379 |
| -3.600 | 15.640 | -2.594 | 5.467 | 0.360 |
| -4.100 | 19.074 | -2.578 | 5.463 | 0.346 |
| -4.600 | 22.481 | -2.560 | 5.456 | 0.335 |
| -5.200 | 26.539 | -2.534 | 5.451 | 0.325 |
| -5.200 | 26.539 | -2.534 | 5.451 | 0.325 |
| -5.950 | 26.495 | -2.477 | 5.449 | 0.266 |
| -6.700 | 26.642 | -2.439 | 5.450 | 0.212 |
| -6.700 | 26.642 | -2.439 | 5.450 | 0.212 |
| -7.400 | 30.894 | -2.438 | 5.453 | 0.198 |
| -8.400 | 36.970 | -2.436 | 5.454 | 0.179 |
| -9.000 | 40.615 | -2.435 | 5.448 | 0.169 |
| -9.700 | 44.864 | -2.435 | 5.434 | 0.158 |
| -10.700 | 50.925 | -2.435 | 5.396 | 0.142 |
| -11.300 | 54.557 | -2.436 | 5.361 | 0.133 |
| -11.300 | 54.557 | -2.436 | 5.361 | 0.133 |
| -11.650 | 56.442 | -2.442 | 5.337 | 0.124 |
| -12.000 | 58.339 | -2.449 | 5.310 | 0.116 |
| -12.000 | 58.340 | -2.449 | 5.310 | 0.116 |
| -12.700 | 62.568 | -2.451 | 5.246 | 0.106 |
| -13.700 | 68.603 | -2.457 | 5.134 | 0.091 |
| -14.100 | 71.016 | -2.459 | 5.084 | 0.085 |
| -14.800 | 75.239 | -2.465 | 4.988 | 0.075 |
| -15.800 | 81.275 | -2.474 | 4.836 | 0.061 |
| -16.200 | 83.692 | -2.479 | 4.772 | 0.056 |
| -16.200 | 83.692 | -2.479 | 4.772 | 0.056 |
| -17.050 | 85.641 | -2.234 | 4.628 | 0.036 |
| -17.900 | 87.698 | -2.000 | 4.478 | 0.015 |
| -17.900 | 87.698 | -2.000 | 4.478 | 0.015 |
| -18.701 | 95.716 | -2.000 | 4.333 | 0.013 |
| -19.701 | 105.721 | -2.000 | 4.147 | 0.010 |
| -20.701 | 115.723 | -2.000 | 3.959 | 0.008 |
| -21.701 | 125.725 | -2.000 | 3.770 | 0.006 |
| -23.602 | 144.743 | -2.000 | 3.416 | 0.003 |
| -25.502 | 163.761 | -2.000 | 3.074 | 0.000 |

### 3.7 Results for Vertical 7 (X = -22.01 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.060 | 10.288 | -2.060 | 10.287 | 0.682 |
| -2.160 | 11.302 | -2.156 | 10.289 | 0.617 |
| -2.260 | 11.863 | -2.252 | 9.842 | 0.571 |
| -2.360 | 11.882 | -2.347 | 8.856 | 0.535 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.460 | 11.900 | -2.443 | 7.870 | 0.506 |
| -2.530 | 11.912 | -2.509 | 7.179 | 0.488 |
| -2.560 | 11.917 | -2.538 | 6.883 | 0.481 |
| -2.650 | 11.933 | -2.624 | 5.996 | 0.462 |
| -2.660 | 11.934 | -2.623 | 5.996 | 0.461 |
| -2.760 | 11.953 | -2.618 | 5.992 | 0.442 |
| -2.860 | 11.973 | -2.614 | 5.988 | 0.423 |
| -2.960 | 11.994 | -2.609 | 5.986 | 0.405 |
| -3.000 | 12.003 | -2.607 | 5.985 | 0.397 |
| -3.000 | 12.003 | -2.607 | 5.985 | 0.397 |
| -3.060 | 12.420 | -2.606 | 5.985 | 0.395 |
| -3.600 | 16.158 | -2.591 | 5.986 | 0.374 |
| -4.100 | 19.594 | -2.574 | 5.991 | 0.359 |
| -4.600 | 23.005 | -2.555 | 5.997 | 0.347 |
| -5.200 | 27.066 | -2.529 | 6.003 | 0.336 |
| -5.200 | 27.066 | -2.529 | 6.003 | 0.336 |
| -5.950 | 27.011 | -2.470 | 6.008 | 0.275 |
| -6.700 | 27.147 | -2.430 | 6.011 | 0.218 |
| -6.700 | 27.147 | -2.430 | 6.011 | 0.218 |
| -7.400 | 31.394 | -2.429 | 6.008 | 0.203 |
| -8.400 | 37.453 | -2.427 | 5.990 | 0.184 |
| -9.000 | 41.083 | -2.426 | 5.970 | 0.173 |
| -9.700 | 45.311 | -2.426 | 5.934 | 0.161 |
| -10.700 | 51.338 | -2.426 | 5.860 | 0.144 |
| -11.300 | 54.948 | -2.427 | 5.802 | 0.135 |
| -11.300 | 54.948 | -2.427 | 5.802 | 0.135 |
| -11.650 | 56.823 | -2.433 | 5.763 | 0.126 |
| -12.000 | 58.711 | -2.441 | 5.721 | 0.118 |
| -12.000 | 58.712 | -2.441 | 5.721 | 0.118 |
| -12.700 | 62.912 | -2.444 | 5.627 | 0.107 |
| -13.700 | 68.907 | -2.449 | 5.473 | 0.092 |
| -14.100 | 71.304 | -2.452 | 5.405 | 0.086 |
| -14.800 | 75.500 | -2.458 | 5.280 | 0.076 |
| -15.800 | 81.500 | -2.468 | 5.088 | 0.062 |
| -16.200 | 83.903 | -2.473 | 5.008 | 0.057 |
| -16.200 | 83.903 | -2.473 | 5.008 | 0.057 |
| -17.050 | 85.850 | -2.230 | 4.834 | 0.037 |
| -17.900 | 87.910 | -2.000 | 4.654 | 0.015 |
| -17.900 | 87.910 | -2.000 | 4.654 | 0.015 |
| -18.701 | 95.902 | -2.000 | 4.483 | 0.013 |
| -19.701 | 105.877 | -2.000 | 4.267 | 0.011 |
| -20.701 | 115.852 | -2.000 | 4.052 | 0.008 |
| -21.701 | 125.829 | -2.000 | 3.839 | 0.006 |
| -23.602 | 144.806 | -2.000 | 3.445 | 0.003 |
| -25.502 | 163.791 | -2.000 | 3.070 | 0.000 |

### 3.8 Results for Vertical 8 (X = -20.54 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.065 | 12.062 | -2.065 | 12.061 | 0.745 |
| -2.165 | 13.068 | -2.160 | 12.061 | 0.676 |
| -2.265 | 13.114 | -2.255 | 11.106 | 0.628 |
| -2.365 | 13.131 | -2.350 | 10.124 | 0.589 |
| -2.465 | 13.148 | -2.445 | 9.144 | 0.558 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.532 | 13.160 | -2.509 | 8.482 | 0.539 |
| -2.565 | 13.166 | -2.539 | 8.166 | 0.531 |
| -2.650 | 13.182 | -2.620 | 7.331 | 0.511 |
| -2.665 | 13.185 | -2.619 | 7.332 | 0.508 |
| -2.765 | 13.205 | -2.614 | 7.335 | 0.487 |
| -2.865 | 13.225 | -2.609 | 7.338 | 0.466 |
| -2.965 | 13.247 | -2.603 | 7.342 | 0.445 |
| -3.000 | 13.255 | -2.601 | 7.344 | 0.438 |
| -3.000 | 13.255 | -2.601 | 7.344 | 0.438 |
| -3.065 | 13.706 | -2.600 | 7.347 | 0.435 |
| -3.600 | 17.427 | -2.583 | 7.382 | 0.410 |
| -4.100 | 20.876 | -2.565 | 7.417 | 0.393 |
| -4.600 | 24.295 | -2.544 | 7.448 | 0.380 |
| -5.200 | 28.358 | -2.515 | 7.478 | 0.366 |
| -5.200 | 28.358 | -2.515 | 7.478 | 0.366 |
| -5.950 | 28.274 | -2.451 | 7.498 | 0.298 |
| -6.700 | 28.379 | -2.409 | 7.499 | 0.234 |
| -6.700 | 28.379 | -2.409 | 7.499 | 0.234 |
| -7.400 | 32.609 | -2.407 | 7.478 | 0.217 |
| -8.400 | 38.620 | -2.405 | 7.409 | 0.194 |
| -9.000 | 42.208 | -2.405 | 7.344 | 0.182 |
| -9.700 | 46.376 | -2.404 | 7.246 | 0.168 |
| -10.700 | 52.303 | -2.405 | 7.067 | 0.150 |
| -11.300 | 55.846 | -2.406 | 6.939 | 0.140 |
| -11.300 | 55.846 | -2.406 | 6.939 | 0.140 |
| -11.650 | 57.691 | -2.413 | 6.859 | 0.131 |
| -12.000 | 59.549 | -2.422 | 6.774 | 0.122 |
| -12.000 | 59.549 | -2.422 | 6.774 | 0.122 |
| -12.700 | 63.668 | -2.426 | 6.594 | 0.110 |
| -13.700 | 69.547 | -2.432 | 6.318 | 0.095 |
| -14.100 | 71.900 | -2.435 | 6.203 | 0.089 |
| -14.800 | 76.020 | -2.441 | 5.996 | 0.078 |
| -15.800 | 81.918 | -2.452 | 5.694 | 0.064 |
| -16.200 | 84.283 | -2.457 | 5.572 | 0.058 |
| -16.200 | 84.283 | -2.457 | 5.572 | 0.058 |
| -17.050 | 86.217 | -2.222 | 5.313 | 0.038 |
| -17.900 | 88.275 | -2.000 | 5.056 | 0.016 |
| -17.900 | 88.275 | -2.000 | 5.056 | 0.016 |
| -18.701 | 96.198 | -2.000 | 4.817 | 0.014 |
| -19.701 | 106.095 | -2.000 | 4.524 | 0.011 |
| -20.701 | 116.000 | -2.000 | 4.240 | 0.009 |
| -21.701 | 125.915 | -2.000 | 3.965 | 0.006 |
| -23.602 | 144.790 | -2.000 | 3.471 | 0.003 |
| -25.502 | 163.693 | -2.000 | 3.015 | 0.000 |

### 3.9 Results for Vertical 9 (X = -20.14 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.066 | 12.647 | -2.066 | 12.646 | 0.762 |
| -2.166 | 13.558 | -2.161 | 12.554 | 0.692 |
| -2.266 | 13.577 | -2.256 | 11.574 | 0.643 |
| -2.366 | 13.586 | -2.351 | 10.586 | 0.604 |
| -2.466 | 13.588 | -2.445 | 9.594 | 0.572 |
| -2.533 | 13.590 | -2.508 | 8.929 | 0.553 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.566 | 13.591 | -2.539 | 8.602 | 0.544 |
| -2.650 | 13.597 | -2.619 | 7.771 | 0.524 |
| -2.666 | 13.598 | -2.618 | 7.770 | 0.521 |
| -2.766 | 13.609 | -2.612 | 7.767 | 0.499 |
| -2.866 | 13.624 | -2.607 | 7.768 | 0.477 |
| -2.966 | 13.643 | -2.601 | 7.771 | 0.456 |
| -3.000 | 13.649 | -2.599 | 7.772 | 0.449 |
| -3.000 | 13.650 | -2.599 | 7.772 | 0.449 |
| -3.066 | 14.109 | -2.598 | 7.776 | 0.445 |
| -3.600 | 17.817 | -2.581 | 7.811 | 0.420 |
| -4.100 | 21.260 | -2.561 | 7.846 | 0.402 |
| -4.600 | 24.672 | -2.540 | 7.876 | 0.388 |
| -5.200 | 28.728 | -2.510 | 7.904 | 0.374 |
| -5.200 | 28.728 | -2.510 | 7.904 | 0.374 |
| -5.950 | 28.628 | -2.445 | 7.922 | 0.304 |
| -6.700 | 28.722 | -2.402 | 7.917 | 0.239 |
| -6.700 | 28.722 | -2.402 | 7.917 | 0.239 |
| -7.400 | 32.944 | -2.401 | 7.888 | 0.220 |
| -8.400 | 38.937 | -2.399 | 7.800 | 0.197 |
| -9.000 | 42.511 | -2.398 | 7.721 | 0.184 |
| -9.700 | 46.660 | -2.398 | 7.602 | 0.170 |
| -10.700 | 52.554 | -2.398 | 7.390 | 0.151 |
| -11.300 | 56.076 | -2.400 | 7.241 | 0.141 |
| -11.300 | 56.077 | -2.400 | 7.241 | 0.141 |
| -11.650 | 57.912 | -2.407 | 7.147 | 0.132 |
| -12.000 | 59.762 | -2.417 | 7.050 | 0.123 |
| -12.000 | 59.762 | -2.417 | 7.050 | 0.123 |
| -12.700 | 63.856 | -2.420 | 6.845 | 0.111 |
| -13.700 | 69.701 | -2.426 | 6.533 | 0.095 |
| -14.100 | 72.041 | -2.430 | 6.403 | 0.089 |
| -14.800 | 76.139 | -2.436 | 6.174 | 0.079 |
| -15.800 | 82.009 | -2.447 | 5.841 | 0.064 |
| -16.200 | 84.364 | -2.453 | 5.707 | 0.058 |
| -16.200 | 84.364 | -2.453 | 5.707 | 0.058 |
| -17.050 | 86.296 | -2.220 | 5.425 | 0.038 |
| -17.900 | 88.356 | -2.000 | 5.147 | 0.016 |
| -17.900 | 88.357 | -2.000 | 5.147 | 0.016 |
| -18.701 | 96.261 | -2.000 | 4.890 | 0.014 |
| -19.701 | 106.138 | -2.000 | 4.577 | 0.011 |
| -20.701 | 116.025 | -2.000 | 4.274 | 0.009 |
| -21.701 | 125.923 | -2.000 | 3.984 | 0.006 |
| -23.602 | 144.772 | -2.000 | 3.464 | 0.003 |
| -25.502 | 163.654 | -2.000 | 2.988 | 0.000 |

### 3.10 Results for Vertical 10 (X = -19.53 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.080 | 13.414 | -2.080 | 13.413 | 0.785 |
| -2.180 | 13.802 | -2.175 | 12.799 | 0.715 |
| -2.280 | 13.830 | -2.270 | 11.830 | 0.665 |
| -2.380 | 13.965 | -2.364 | 10.970 | 0.625 |
| -2.480 | 14.054 | -2.458 | 10.067 | 0.592 |
| -2.540 | 14.090 | -2.515 | 9.508 | 0.574 |
| -2.580 | 14.108 | -2.552 | 9.129 | 0.564 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.650 | 14.134 | -2.618 | 8.460 | 0.546 |
| -2.680 | 14.142 | -2.616 | 8.465 | 0.539 |
| -2.780 | 14.165 | -2.611 | 8.476 | 0.516 |
| -2.880 | 14.181 | -2.605 | 8.481 | 0.493 |
| -2.980 | 14.195 | -2.599 | 8.482 | 0.471 |
| -3.000 | 14.197 | -2.598 | 8.482 | 0.466 |
| -3.000 | 14.198 | -2.598 | 8.482 | 0.466 |
| -3.080 | 14.749 | -2.596 | 8.482 | 0.462 |
| -3.600 | 18.324 | -2.578 | 8.489 | 0.436 |
| -4.100 | 21.743 | -2.558 | 8.507 | 0.417 |
| -4.600 | 25.139 | -2.536 | 8.528 | 0.401 |
| -5.200 | 29.178 | -2.506 | 8.547 | 0.386 |
| -5.200 | 29.178 | -2.506 | 8.547 | 0.386 |
| -5.950 | 29.051 | -2.439 | 8.555 | 0.313 |
| -6.700 | 29.121 | -2.394 | 8.537 | 0.245 |
| -6.700 | 29.122 | -2.394 | 8.537 | 0.245 |
| -7.400 | 33.328 | -2.393 | 8.491 | 0.225 |
| -8.400 | 39.289 | -2.391 | 8.369 | 0.201 |
| -9.000 | 42.837 | -2.390 | 8.263 | 0.187 |
| -9.700 | 46.953 | -2.390 | 8.110 | 0.172 |
| -10.700 | 52.793 | -2.391 | 7.841 | 0.153 |
| -11.300 | 56.281 | -2.392 | 7.657 | 0.142 |
| -11.300 | 56.281 | -2.392 | 7.657 | 0.142 |
| -11.650 | 58.100 | -2.400 | 7.543 | 0.133 |
| -12.000 | 59.933 | -2.410 | 7.424 | 0.124 |
| -12.000 | 59.933 | -2.410 | 7.424 | 0.124 |
| -12.700 | 63.987 | -2.413 | 7.178 | 0.112 |
| -13.700 | 69.778 | -2.420 | 6.810 | 0.096 |
| -14.100 | 72.097 | -2.423 | 6.659 | 0.090 |
| -14.800 | 76.161 | -2.430 | 6.394 | 0.079 |
| -15.800 | 81.987 | -2.442 | 6.014 | 0.064 |
| -16.200 | 84.326 | -2.447 | 5.864 | 0.059 |
| -16.200 | 84.326 | -2.447 | 5.864 | 0.059 |
| -17.050 | 86.249 | -2.217 | 5.547 | 0.038 |
| -17.900 | 88.306 | -2.000 | 5.238 | 0.017 |
| -17.900 | 88.306 | -2.000 | 5.238 | 0.017 |
| -18.701 | 96.184 | -2.000 | 4.954 | 0.014 |
| -19.701 | 106.031 | -2.000 | 4.612 | 0.011 |
| -20.701 | 115.891 | -2.000 | 4.283 | 0.009 |
| -21.701 | 125.766 | -2.000 | 3.970 | 0.006 |
| -23.602 | 144.578 | -2.000 | 3.414 | 0.003 |
| -25.502 | 163.432 | -2.000 | 2.910 | 0.000 |

### 3.11 Results for Vertical 11 (X = -19.41 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.084 | 13.821 | -2.084 | 13.820 | 0.792 |
| -2.184 | 14.409 | -2.179 | 13.407 | 0.721 |
| -2.284 | 14.391 | -2.273 | 12.395 | 0.670 |
| -2.384 | 14.355 | -2.367 | 11.367 | 0.630 |
| -2.484 | 14.332 | -2.461 | 10.354 | 0.596 |
| -2.542 | 14.323 | -2.516 | 9.770 | 0.579 |
| -2.584 | 14.318 | -2.555 | 9.348 | 0.567 |
| -2.650 | 14.311 | -2.617 | 8.688 | 0.551 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.684 | 14.308 | -2.615 | 8.681 | 0.542 |
| -2.784 | 14.303 | -2.609 | 8.665 | 0.519 |
| -2.884 | 14.301 | -2.604 | 8.652 | 0.496 |
| -2.984 | 14.302 | -2.598 | 8.641 | 0.473 |
| -3.000 | 14.303 | -2.597 | 8.640 | 0.470 |
| -3.000 | 14.303 | -2.597 | 8.640 | 0.470 |
| -3.084 | 14.875 | -2.594 | 8.634 | 0.464 |
| -3.600 | 18.406 | -2.577 | 8.626 | 0.438 |
| -4.100 | 21.820 | -2.557 | 8.640 | 0.419 |
| -4.600 | 25.212 | -2.534 | 8.659 | 0.404 |
| -5.200 | 29.247 | -2.504 | 8.676 | 0.388 |
| -5.200 | 29.247 | -2.504 | 8.676 | 0.388 |
| -5.950 | 29.114 | -2.437 | 8.681 | 0.315 |
| -6.700 | 29.180 | -2.392 | 8.660 | 0.246 |
| -6.700 | 29.180 | -2.392 | 8.660 | 0.246 |
| -7.400 | 33.383 | -2.390 | 8.610 | 0.226 |
| -8.400 | 39.337 | -2.388 | 8.480 | 0.201 |
| -9.000 | 42.880 | -2.388 | 8.369 | 0.188 |
| -9.700 | 46.988 | -2.387 | 8.208 | 0.173 |
| -10.700 | 52.817 | -2.388 | 7.927 | 0.153 |
| -11.300 | 56.297 | -2.390 | 7.736 | 0.143 |
| -11.300 | 56.298 | -2.390 | 7.736 | 0.143 |
| -11.650 | 58.114 | -2.398 | 7.617 | 0.133 |
| -12.000 | 59.944 | -2.408 | 7.495 | 0.124 |
| -12.000 | 59.944 | -2.408 | 7.495 | 0.124 |
| -12.700 | 63.990 | -2.411 | 7.241 | 0.112 |
| -13.700 | 69.771 | -2.418 | 6.861 | 0.096 |
| -14.100 | 72.086 | -2.422 | 6.707 | 0.090 |
| -14.800 | 76.144 | -2.428 | 6.434 | 0.079 |
| -15.800 | 81.962 | -2.440 | 6.046 | 0.064 |
| -16.200 | 84.297 | -2.445 | 5.892 | 0.059 |
| -16.200 | 84.297 | -2.445 | 5.892 | 0.059 |
| -17.050 | 86.222 | -2.216 | 5.569 | 0.038 |
| -17.900 | 88.281 | -2.000 | 5.253 | 0.017 |
| -17.900 | 88.281 | -2.000 | 5.253 | 0.017 |
| -18.701 | 96.154 | -2.000 | 4.965 | 0.014 |
| -19.701 | 105.995 | -2.000 | 4.617 | 0.011 |
| -20.701 | 115.850 | -2.000 | 4.284 | 0.009 |
| -21.701 | 125.721 | -2.000 | 3.966 | 0.006 |
| -23.602 | 144.526 | -2.000 | 3.404 | 0.003 |
| -25.502 | 163.374 | -2.000 | 2.894 | 0.000 |

### 3.12 Results for Vertical 12 (X = -16.10 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.232 | 18.899 | -2.232 | 18.898 | 0.945 |
| -2.332 | 18.944 | -2.321 | 18.000 | 0.867 |
| -2.432 | 18.966 | -2.410 | 17.083 | 0.812 |
| -2.532 | 18.952 | -2.499 | 16.129 | 0.766 |
| -2.616 | 18.911 | -2.573 | 15.297 | 0.734 |
| -2.632 | 18.901 | -2.588 | 15.136 | 0.728 |
| -2.650 | 18.888 | -2.604 | 14.953 | 0.722 |
| -2.732 | 18.835 | -2.595 | 14.930 | 0.694 |
| -2.832 | 18.771 | -2.584 | 14.901 | 0.660 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.932 | 18.710 | -2.574 | 14.873 | 0.627 |
| -3.000 | 18.669 | -2.567 | 14.853 | 0.604 |
| -3.000 | 18.669 | -2.567 | 14.853 | 0.604 |
| -3.032 | 18.876 | -2.565 | 14.847 | 0.601 |
| -3.132 | 19.528 | -2.560 | 14.831 | 0.592 |
| -3.232 | 20.178 | -2.555 | 14.816 | 0.584 |
| -4.100 | 25.850 | -2.502 | 14.762 | 0.529 |
| -4.600 | 29.116 | -2.467 | 14.763 | 0.506 |
| -5.200 | 33.014 | -2.422 | 14.767 | 0.483 |
| -5.200 | 33.014 | -2.422 | 14.767 | 0.483 |
| -5.950 | 32.551 | -2.324 | 14.701 | 0.384 |
| -6.700 | 32.294 | -2.262 | 14.502 | 0.293 |
| -6.700 | 32.294 | -2.262 | 14.502 | 0.293 |
| -7.400 | 36.248 | -2.260 | 14.194 | 0.264 |
| -8.400 | 41.738 | -2.258 | 13.598 | 0.229 |
| -9.000 | 44.976 | -2.257 | 13.182 | 0.210 |
| -9.700 | 48.729 | -2.257 | 12.668 | 0.191 |
| -10.700 | 54.082 | -2.260 | 11.910 | 0.167 |
| -11.300 | 57.305 | -2.262 | 11.456 | 0.154 |
| -11.300 | 57.305 | -2.262 | 11.456 | 0.154 |
| -11.650 | 59.035 | -2.277 | 11.194 | 0.144 |
| -12.000 | 60.793 | -2.294 | 10.935 | 0.134 |
| -12.000 | 60.793 | -2.294 | 10.935 | 0.134 |
| -12.700 | 64.601 | -2.300 | 10.429 | 0.120 |
| -13.700 | 70.095 | -2.310 | 9.736 | 0.102 |
| -14.100 | 72.313 | -2.316 | 9.470 | 0.095 |
| -14.800 | 76.222 | -2.326 | 9.020 | 0.084 |
| -15.800 | 81.871 | -2.343 | 8.413 | 0.068 |
| -16.200 | 84.153 | -2.351 | 8.182 | 0.062 |
| -16.200 | 84.153 | -2.351 | 8.182 | 0.062 |
| -17.050 | 86.362 | -2.167 | 7.712 | 0.041 |
| -17.900 | 88.775 | -2.000 | 7.269 | 0.019 |
| -17.900 | 88.775 | -2.000 | 7.269 | 0.019 |
| -18.701 | 96.540 | -2.000 | 6.877 | 0.016 |
| -19.701 | 106.265 | -2.000 | 6.417 | 0.012 |
| -20.701 | 116.022 | -2.000 | 5.989 | 0.009 |
| -21.701 | 125.809 | -2.000 | 5.590 | 0.007 |
| -23.602 | 144.488 | -2.000 | 4.905 | 0.003 |
| -25.502 | 163.239 | -2.000 | 4.302 | 0.000 |

### 3.13 Results for Vertical 13 (X = -14.71 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.292 | 20.943 | -2.292 | 20.942 | 1.007 |
| -2.392 | 20.727 | -2.379 | 19.801 | 0.928 |
| -2.492 | 20.591 | -2.466 | 18.741 | 0.871 |
| -2.592 | 20.728 | -2.554 | 17.953 | 0.824 |
| -2.646 | 20.753 | -2.601 | 17.478 | 0.802 |
| -2.650 | 20.668 | -2.604 | 17.357 | 0.800 |
| -2.692 | 20.694 | -2.599 | 17.405 | 0.784 |
| -2.792 | 20.721 | -2.587 | 17.485 | 0.745 |
| -2.892 | 20.691 | -2.574 | 17.506 | 0.707 |
| -2.992 | 20.670 | -2.562 | 17.533 | 0.669 |
| -3.000 | 20.601 | -2.562 | 17.469 | 0.666 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.000 | 20.602 | -2.562 | 17.469 | 0.666 |
| -3.092 | 21.282 | -2.556 | 17.543 | 0.656 |
| -3.192 | 21.987 | -2.550 | 17.591 | 0.646 |
| -3.292 | 22.672 | -2.543 | 17.620 | 0.637 |
| -4.100 | 28.275 | -2.485 | 17.928 | 0.578 |
| -4.600 | 31.776 | -2.445 | 18.152 | 0.551 |
| -5.200 | 35.692 | -2.393 | 18.187 | 0.524 |
| -5.200 | 35.692 | -2.393 | 18.187 | 0.524 |
| -5.950 | 34.833 | -2.282 | 17.845 | 0.412 |
| -6.700 | 34.057 | -2.213 | 17.218 | 0.308 |
| -6.700 | 34.057 | -2.213 | 17.218 | 0.308 |
| -7.400 | 37.578 | -2.210 | 16.505 | 0.275 |
| -8.400 | 42.540 | -2.208 | 15.417 | 0.236 |
| -9.000 | 45.527 | -2.207 | 14.766 | 0.216 |
| -9.700 | 49.044 | -2.208 | 14.029 | 0.196 |
| -10.700 | 54.147 | -2.211 | 13.034 | 0.170 |
| -11.300 | 57.260 | -2.214 | 12.473 | 0.157 |
| -11.300 | 57.260 | -2.214 | 12.473 | 0.157 |
| -11.650 | 58.958 | -2.231 | 12.158 | 0.146 |
| -12.000 | 60.694 | -2.251 | 11.853 | 0.136 |
| -12.000 | 60.694 | -2.251 | 11.853 | 0.136 |
| -12.700 | 64.427 | -2.258 | 11.269 | 0.122 |
| -13.700 | 69.849 | -2.270 | 10.495 | 0.104 |
| -14.100 | 72.046 | -2.276 | 10.204 | 0.097 |
| -14.800 | 75.929 | -2.287 | 9.718 | 0.085 |
| -15.800 | 81.558 | -2.307 | 9.073 | 0.070 |
| -16.200 | 83.836 | -2.316 | 8.829 | 0.064 |
| -16.200 | 83.836 | -2.316 | 8.829 | 0.064 |
| -17.050 | 86.187 | -2.148 | 8.339 | 0.043 |
| -17.900 | 88.766 | -2.000 | 7.881 | 0.019 |
| -17.900 | 88.766 | -2.000 | 7.881 | 0.019 |
| -18.701 | 96.519 | -2.000 | 7.478 | 0.016 |
| -19.701 | 106.234 | -2.000 | 7.009 | 0.013 |
| -20.701 | 115.983 | -2.000 | 6.574 | 0.010 |
| -21.701 | 125.765 | -2.000 | 6.171 | 0.007 |
| -23.602 | 144.437 | -2.000 | 5.481 | 0.003 |
| -25.502 | 163.187 | -2.000 | 4.876 | 0.000 |

### 3.14 Results for Vertical 14 (X = -14.57 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.301 | 21.314 | -2.301 | 21.313 | 1.016 |
| -2.401 | 21.603 | -2.388 | 20.682 | 0.936 |
| -2.501 | 21.596 | -2.474 | 19.758 | 0.878 |
| -2.601 | 21.358 | -2.561 | 18.600 | 0.830 |
| -2.650 | 21.102 | -2.604 | 17.893 | 0.810 |
| -2.651 | 21.101 | -2.604 | 17.892 | 0.809 |
| -2.701 | 21.039 | -2.597 | 17.858 | 0.789 |
| -2.801 | 20.996 | -2.584 | 17.872 | 0.750 |
| -2.901 | 20.976 | -2.572 | 17.904 | 0.711 |
| -3.000 | 20.886 | -2.560 | 17.865 | 0.673 |
| -3.000 | 20.886 | -2.560 | 17.865 | 0.673 |
| -3.001 | 20.894 | -2.560 | 17.866 | 0.672 |
| -3.101 | 21.654 | -2.553 | 17.969 | 0.661 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.201 | 22.357 | -2.547 | 18.016 | 0.651 |
| -3.301 | 23.035 | -2.540 | 18.040 | 0.642 |
| -4.100 | 28.626 | -2.482 | 18.386 | 0.583 |
| -4.600 | 32.145 | -2.441 | 18.623 | 0.555 |
| -5.200 | 36.011 | -2.388 | 18.615 | 0.528 |
| -5.200 | 36.011 | -2.388 | 18.615 | 0.528 |
| -5.950 | 35.047 | -2.275 | 18.190 | 0.414 |
| -6.700 | 34.181 | -2.205 | 17.489 | 0.309 |
| -6.700 | 34.181 | -2.205 | 17.489 | 0.309 |
| -7.400 | 37.642 | -2.203 | 16.721 | 0.276 |
| -8.400 | 42.545 | -2.200 | 15.579 | 0.237 |
| -9.000 | 45.508 | -2.200 | 14.906 | 0.217 |
| -9.700 | 49.004 | -2.201 | 14.150 | 0.196 |
| -10.700 | 54.089 | -2.204 | 13.136 | 0.171 |
| -11.300 | 57.194 | -2.207 | 12.568 | 0.157 |
| -11.300 | 57.194 | -2.207 | 12.568 | 0.157 |
| -11.650 | 58.892 | -2.224 | 12.250 | 0.147 |
| -12.000 | 60.630 | -2.245 | 11.942 | 0.137 |
| -12.000 | 60.630 | -2.245 | 11.942 | 0.137 |
| -12.700 | 64.359 | -2.251 | 11.354 | 0.123 |
| -13.700 | 69.778 | -2.264 | 10.575 | 0.104 |
| -14.100 | 71.975 | -2.270 | 10.283 | 0.097 |
| -14.800 | 75.859 | -2.282 | 9.796 | 0.086 |
| -15.800 | 81.490 | -2.302 | 9.149 | 0.070 |
| -16.200 | 83.769 | -2.311 | 8.906 | 0.064 |
| -16.200 | 83.769 | -2.311 | 8.906 | 0.064 |
| -17.050 | 86.143 | -2.145 | 8.415 | 0.043 |
| -17.900 | 88.749 | -2.000 | 7.958 | 0.020 |
| -17.900 | 88.749 | -2.000 | 7.958 | 0.020 |
| -18.701 | 96.502 | -2.000 | 7.555 | 0.016 |
| -19.701 | 106.217 | -2.000 | 7.086 | 0.013 |
| -20.701 | 115.968 | -2.000 | 6.653 | 0.010 |
| -21.701 | 125.750 | -2.000 | 6.250 | 0.007 |
| -23.602 | 144.423 | -2.000 | 5.561 | 0.003 |
| -25.502 | 163.174 | -2.000 | 4.957 | 0.000 |

### 3.15 Results for Vertical 15 (X = -14.23 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.365 | 22.717 | -2.365 | 22.716 | 1.051 |
| -2.465 | 23.646 | -2.450 | 22.738 | 0.970 |
| -2.565 | 24.086 | -2.535 | 22.280 | 0.910 |
| -2.650 | 23.977 | -2.607 | 21.406 | 0.867 |
| -2.665 | 23.948 | -2.605 | 21.390 | 0.860 |
| -2.683 | 23.893 | -2.602 | 21.350 | 0.852 |
| -2.765 | 23.428 | -2.590 | 20.949 | 0.814 |
| -2.865 | 22.750 | -2.575 | 20.344 | 0.769 |
| -2.965 | 22.313 | -2.561 | 19.974 | 0.725 |
| -3.000 | 22.129 | -2.557 | 19.812 | 0.710 |
| -3.000 | 22.129 | -2.557 | 19.812 | 0.710 |
| -3.065 | 22.582 | -2.552 | 19.842 | 0.701 |
| -3.165 | 23.251 | -2.545 | 19.860 | 0.690 |
| -3.265 | 23.867 | -2.538 | 19.828 | 0.679 |
| -3.365 | 24.489 | -2.530 | 19.800 | 0.669 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -4.100 | 29.841 | -2.471 | 20.273 | 0.610 |
| -4.600 | 33.276 | -2.427 | 20.437 | 0.580 |
| -5.200 | 36.857 | -2.370 | 20.199 | 0.550 |
| -5.200 | 36.857 | -2.370 | 20.199 | 0.550 |
| -5.950 | 35.498 | -2.250 | 19.480 | 0.430 |
| -6.700 | 34.347 | -2.177 | 18.551 | 0.320 |
| -6.700 | 34.347 | -2.177 | 18.551 | 0.320 |
| -7.400 | 37.640 | -2.174 | 17.633 | 0.284 |
| -8.400 | 42.388 | -2.172 | 16.350 | 0.243 |
| -9.000 | 45.290 | -2.171 | 15.622 | 0.223 |
| -9.700 | 48.738 | -2.172 | 14.820 | 0.201 |
| -10.700 | 53.780 | -2.176 | 13.765 | 0.175 |
| -11.300 | 56.869 | -2.179 | 13.181 | 0.161 |
| -11.300 | 56.869 | -2.179 | 13.181 | 0.161 |
| -11.650 | 58.574 | -2.198 | 12.856 | 0.151 |
| -12.000 | 60.320 | -2.220 | 12.542 | 0.140 |
| -12.000 | 60.320 | -2.220 | 12.542 | 0.140 |
| -12.700 | 64.045 | -2.227 | 11.945 | 0.126 |
| -13.700 | 69.465 | -2.240 | 11.160 | 0.107 |
| -14.100 | 71.664 | -2.247 | 10.866 | 0.100 |
| -14.800 | 75.553 | -2.259 | 10.378 | 0.088 |
| -15.800 | 81.195 | -2.281 | 9.731 | 0.072 |
| -16.200 | 83.480 | -2.290 | 9.489 | 0.066 |
| -16.200 | 83.480 | -2.290 | 9.489 | 0.066 |
| -17.050 | 85.951 | -2.135 | 8.999 | 0.045 |
| -17.900 | 88.664 | -2.000 | 8.544 | 0.021 |
| -17.900 | 88.664 | -2.000 | 8.544 | 0.021 |
| -18.701 | 96.419 | -2.000 | 8.143 | 0.017 |
| -19.701 | 106.137 | -2.000 | 7.677 | 0.014 |
| -20.701 | 115.890 | -2.000 | 7.246 | 0.011 |
| -21.701 | 125.675 | -2.000 | 6.846 | 0.008 |
| -23.602 | 144.352 | -2.000 | 6.161 | 0.004 |
| -25.502 | 163.106 | -2.000 | 5.562 | 0.000 |

### 3.16 Results for Vertical 16 (X = -14.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.650 | 24.560 | -2.650 | 24.559 | 1.289 |
| -2.750 | 25.150 | -2.652 | 25.059 | 1.153 |
| -2.825 | 25.201 | -2.644 | 25.141 | 1.066 |
| -2.850 | 25.149 | -2.640 | 25.107 | 1.038 |
| -2.950 | 24.778 | -2.624 | 24.828 | 0.935 |
| -3.000 | 24.472 | -2.615 | 24.575 | 0.885 |
| -3.000 | 24.472 | -2.615 | 24.575 | 0.885 |
| -3.050 | 24.542 | -2.610 | 24.332 | 0.872 |
| -3.150 | 24.736 | -2.601 | 23.899 | 0.850 |
| -3.250 | 25.103 | -2.591 | 23.637 | 0.832 |
| -3.350 | 25.672 | -2.582 | 23.561 | 0.816 |
| -3.450 | 26.402 | -2.572 | 23.634 | 0.802 |
| -3.550 | 27.183 | -2.562 | 23.753 | 0.789 |
| -3.650 | 27.963 | -2.551 | 23.871 | 0.777 |
| -4.100 | 31.223 | -2.503 | 24.203 | 0.732 |
| -4.600 | 34.292 | -2.444 | 24.148 | 0.693 |
| -5.200 | 37.417 | -2.371 | 23.647 | 0.655 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -5.200 | 37.417 | -2.371 | 23.647 | 0.655 |
| -5.950 | 35.463 | -2.220 | 22.679 | 0.511 |
| -6.700 | 33.920 | -2.125 | 21.584 | 0.380 |
| -6.700 | 33.920 | -2.125 | 21.584 | 0.380 |
| -7.400 | 37.092 | -2.122 | 20.565 | 0.336 |
| -8.400 | 41.733 | -2.118 | 19.196 | 0.287 |
| -9.000 | 44.595 | -2.118 | 18.436 | 0.262 |
| -9.700 | 48.011 | -2.118 | 17.609 | 0.236 |
| -10.700 | 53.026 | -2.121 | 16.532 | 0.205 |
| -11.300 | 56.109 | -2.125 | 15.941 | 0.188 |
| -11.300 | 56.109 | -2.125 | 15.941 | 0.188 |
| -11.650 | 57.819 | -2.145 | 15.612 | 0.176 |
| -12.000 | 59.576 | -2.168 | 15.296 | 0.165 |
| -12.000 | 59.576 | -2.168 | 15.296 | 0.165 |
| -12.700 | 63.302 | -2.176 | 14.697 | 0.148 |
| -13.700 | 68.732 | -2.190 | 13.911 | 0.126 |
| -14.100 | 70.937 | -2.197 | 13.617 | 0.118 |
| -14.800 | 74.840 | -2.211 | 13.129 | 0.104 |
| -15.800 | 80.508 | -2.235 | 12.485 | 0.085 |
| -16.200 | 82.805 | -2.246 | 12.243 | 0.078 |
| -16.200 | 82.805 | -2.246 | 12.243 | 0.078 |
| -17.050 | 85.480 | -2.111 | 11.756 | 0.054 |
| -17.900 | 88.432 | -2.000 | 11.303 | 0.028 |
| -17.900 | 88.432 | -2.000 | 11.303 | 0.028 |
| -18.701 | 96.189 | -2.000 | 10.904 | 0.024 |
| -19.701 | 105.909 | -2.000 | 10.441 | 0.019 |
| -20.701 | 115.664 | -2.000 | 10.012 | 0.014 |
| -21.701 | 125.451 | -2.000 | 9.615 | 0.011 |
| -23.602 | 144.133 | -2.000 | 8.935 | 0.005 |
| -25.502 | 162.891 | -2.000 | 8.339 | 0.000 |

### 3.17 Results for Vertical 17 (X = -13.77 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.947 | 26.686 | -2.650 | 26.685 | 1.005 |
| -2.974 | 26.948 | -2.651 | 26.924 | 0.961 |
| -3.000 | 27.170 | -2.647 | 27.164 | 0.923 |
| -3.000 | 27.170 | -2.647 | 27.164 | 0.923 |
| -3.047 | 26.597 | -2.642 | 26.297 | 0.908 |
| -3.147 | 25.443 | -2.633 | 24.514 | 0.884 |
| -3.247 | 26.994 | -2.624 | 25.280 | 0.864 |
| -3.347 | 28.227 | -2.614 | 25.790 | 0.847 |
| -3.447 | 28.903 | -2.604 | 25.802 | 0.832 |
| -3.547 | 29.494 | -2.594 | 25.734 | 0.819 |
| -3.647 | 30.111 | -2.584 | 25.689 | 0.806 |
| -3.747 | 30.746 | -2.574 | 25.665 | 0.794 |
| -3.847 | 31.378 | -2.563 | 25.644 | 0.783 |
| -3.947 | 31.994 | -2.553 | 25.614 | 0.773 |
| -4.100 | 32.897 | -2.536 | 25.544 | 0.758 |
| -4.600 | 35.543 | -2.481 | 25.100 | 0.716 |
| -5.200 | 38.320 | -2.412 | 24.264 | 0.677 |
| -5.200 | 38.320 | -2.412 | 24.264 | 0.677 |
| -5.950 | 36.130 | -2.268 | 23.023 | 0.527 |
| -6.700 | 34.434 | -2.177 | 21.764 | 0.391 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -6.700 | 34.434 | -2.177 | 21.764 | 0.391 |
| -7.400 | 37.501 | -2.173 | 20.651 | 0.346 |
| -8.400 | 42.056 | -2.170 | 19.205 | 0.295 |
| -9.000 | 44.887 | -2.169 | 18.419 | 0.269 |
| -9.700 | 48.277 | -2.169 | 17.572 | 0.242 |
| -10.700 | 53.268 | -2.171 | 16.481 | 0.210 |
| -11.300 | 56.339 | -2.174 | 15.884 | 0.192 |
| -11.300 | 56.339 | -2.174 | 15.884 | 0.192 |
| -11.650 | 58.019 | -2.191 | 15.554 | 0.180 |
| -12.000 | 59.744 | -2.212 | 15.237 | 0.168 |
| -12.000 | 59.744 | -2.212 | 15.237 | 0.168 |
| -12.700 | 63.460 | -2.218 | 14.637 | 0.150 |
| -13.700 | 68.874 | -2.231 | 13.852 | 0.128 |
| -14.100 | 71.073 | -2.238 | 13.560 | 0.119 |
| -14.800 | 74.964 | -2.250 | 13.074 | 0.105 |
| -15.800 | 80.614 | -2.272 | 12.433 | 0.086 |
| -16.200 | 82.902 | -2.282 | 12.193 | 0.078 |
| -16.200 | 82.902 | -2.282 | 12.193 | 0.078 |
| -17.050 | 85.414 | -2.129 | 11.709 | 0.054 |
| -17.900 | 88.184 | -2.000 | 11.259 | 0.028 |
| -17.900 | 88.184 | -2.000 | 11.259 | 0.028 |
| -18.701 | 95.944 | -2.000 | 10.863 | 0.024 |
| -19.701 | 105.667 | -2.000 | 10.404 | 0.019 |
| -20.701 | 115.426 | -2.000 | 9.978 | 0.014 |
| -21.701 | 125.216 | -2.000 | 9.584 | 0.011 |
| -23.602 | 143.903 | -2.000 | 8.909 | 0.005 |
| -25.502 | 162.664 | -2.000 | 8.317 | 0.000 |

### 3.18 Results for Vertical 18 (X = -13.72 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.000 | 29.812 | -2.650 | 29.811 | 0.923 |
| -3.100 | 29.513 | -2.639 | 28.574 | 0.895 |
| -3.200 | 29.442 | -2.629 | 27.779 | 0.875 |
| -3.300 | 29.542 | -2.618 | 27.271 | 0.857 |
| -3.400 | 29.658 | -2.608 | 26.784 | 0.841 |
| -3.500 | 29.954 | -2.598 | 26.451 | 0.827 |
| -3.600 | 30.432 | -2.587 | 26.279 | 0.813 |
| -3.700 | 30.994 | -2.577 | 26.186 | 0.801 |
| -3.800 | 31.579 | -2.566 | 26.120 | 0.790 |
| -3.900 | 32.158 | -2.556 | 26.057 | 0.779 |
| -4.000 | 32.721 | -2.545 | 25.987 | 0.769 |
| -4.100 | 33.268 | -2.534 | 25.906 | 0.759 |
| -4.600 | 35.767 | -2.478 | 25.341 | 0.717 |
| -5.200 | 38.434 | -2.409 | 24.412 | 0.678 |
| -5.200 | 38.434 | -2.409 | 24.412 | 0.678 |
| -5.950 | 36.167 | -2.266 | 23.100 | 0.527 |
| -6.700 | 34.430 | -2.176 | 21.800 | 0.391 |
| -6.700 | 34.430 | -2.176 | 21.800 | 0.391 |
| -7.400 | 37.473 | -2.172 | 20.665 | 0.346 |
| -8.400 | 42.008 | -2.169 | 19.201 | 0.294 |
| -9.000 | 44.833 | -2.168 | 18.409 | 0.268 |
| -9.700 | 48.218 | -2.168 | 17.558 | 0.242 |
| -10.700 | 53.206 | -2.170 | 16.463 | 0.209 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -11.300 | 56.276 | -2.173 | 15.866 | 0.192 |
| -11.300 | 56.276 | -2.173 | 15.866 | 0.192 |
| -11.650 | 57.957 | -2.191 | 15.536 | 0.180 |
| -12.000 | 59.684 | -2.211 | 15.219 | 0.168 |
| -12.000 | 59.684 | -2.211 | 15.219 | 0.168 |
| -12.700 | 63.400 | -2.218 | 14.619 | 0.150 |
| -13.700 | 68.815 | -2.231 | 13.835 | 0.128 |
| -14.100 | 71.015 | -2.237 | 13.543 | 0.119 |
| -14.800 | 74.907 | -2.250 | 13.058 | 0.105 |
| -15.800 | 80.558 | -2.271 | 12.418 | 0.086 |
| -16.200 | 82.847 | -2.281 | 12.178 | 0.078 |
| -16.200 | 82.847 | -2.281 | 12.178 | 0.078 |
| -17.050 | 85.362 | -2.129 | 11.696 | 0.054 |
| -17.900 | 88.135 | -2.000 | 11.247 | 0.028 |
| -17.900 | 88.135 | -2.000 | 11.247 | 0.028 |
| -18.701 | 95.896 | -2.000 | 10.852 | 0.024 |
| -19.701 | 105.620 | -2.000 | 10.393 | 0.019 |
| -20.701 | 115.380 | -2.000 | 9.969 | 0.014 |
| -21.701 | 125.171 | -2.000 | 9.575 | 0.011 |
| -23.602 | 143.859 | -2.000 | 8.901 | 0.005 |
| -25.502 | 162.622 | -2.000 | 8.311 | 0.000 |

### 3.19 Results for Vertical 19 (X = -13.42 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.267 | 30.338 | -2.650 | 29.110 | 0.928 |
| -3.367 | 31.055 | -2.639 | 29.242 | 0.908 |
| -3.467 | 31.523 | -2.627 | 29.140 | 0.890 |
| -3.567 | 31.878 | -2.615 | 28.928 | 0.873 |
| -3.667 | 32.198 | -2.604 | 28.682 | 0.858 |
| -3.767 | 32.514 | -2.592 | 28.430 | 0.845 |
| -3.867 | 32.835 | -2.581 | 28.181 | 0.832 |
| -3.967 | 33.163 | -2.569 | 27.937 | 0.820 |
| -4.067 | 33.497 | -2.558 | 27.698 | 0.808 |
| -4.167 | 33.837 | -2.546 | 27.463 | 0.798 |
| -4.234 | 34.064 | -2.538 | 27.307 | 0.791 |
| -4.267 | 34.179 | -2.535 | 27.229 | 0.787 |
| -5.200 | 37.425 | -2.425 | 25.057 | 0.714 |
| -5.200 | 37.425 | -2.425 | 25.057 | 0.714 |
| -5.950 | 34.735 | -2.279 | 23.399 | 0.551 |
| -6.700 | 32.769 | -2.187 | 21.908 | 0.404 |
| -6.700 | 32.769 | -2.187 | 21.908 | 0.404 |
| -7.400 | 35.698 | -2.184 | 20.673 | 0.356 |
| -8.400 | 40.148 | -2.180 | 19.135 | 0.301 |
| -9.000 | 42.945 | -2.179 | 18.320 | 0.274 |
| -9.700 | 46.311 | -2.179 | 17.454 | 0.246 |
| -10.700 | 51.285 | -2.181 | 16.351 | 0.212 |
| -11.300 | 54.352 | -2.184 | 15.753 | 0.195 |
| -11.300 | 54.352 | -2.184 | 15.753 | 0.195 |
| -11.650 | 56.024 | -2.200 | 15.424 | 0.182 |
| -12.000 | 57.741 | -2.220 | 15.108 | 0.170 |
| -12.000 | 57.741 | -2.220 | 15.108 | 0.170 |
| -12.700 | 61.457 | -2.226 | 14.512 | 0.152 |
| -13.700 | 66.874 | -2.239 | 13.734 | 0.129 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -14.100 | 69.075 | -2.245 | 13.445 | 0.120 |
| -14.800 | 72.969 | -2.257 | 12.966 | 0.106 |
| -15.800 | 78.622 | -2.278 | 12.334 | 0.086 |
| -16.200 | 80.912 | -2.288 | 12.097 | 0.079 |
| -16.200 | 80.912 | -2.288 | 12.097 | 0.079 |
| -17.050 | 83.402 | -2.133 | 11.620 | 0.055 |
| -17.900 | 86.146 | -2.000 | 11.177 | 0.029 |
| -17.900 | 86.147 | -2.000 | 11.177 | 0.029 |
| -18.701 | 93.913 | -2.000 | 10.788 | 0.024 |
| -19.701 | 103.643 | -2.000 | 10.335 | 0.019 |
| -20.701 | 113.408 | -2.000 | 9.916 | 0.015 |
| -21.701 | 123.203 | -2.000 | 9.527 | 0.011 |
| -23.602 | 141.899 | -2.000 | 8.861 | 0.005 |
| -25.502 | 160.668 | -2.000 | 8.277 | 0.000 |

### 3.20 Results for Vertical 20 (X = -12.87 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.226 | 31.149 | -2.650 | 29.773 | 0.914 |
| -3.326 | 31.814 | -2.638 | 29.765 | 0.895 |
| -3.426 | 32.462 | -2.627 | 29.807 | 0.877 |
| -3.526 | 33.109 | -2.615 | 29.854 | 0.861 |
| -3.626 | 33.707 | -2.603 | 29.864 | 0.847 |
| -3.726 | 34.230 | -2.591 | 29.810 | 0.833 |
| -3.826 | 34.671 | -2.579 | 29.687 | 0.820 |
| -3.926 | 35.043 | -2.566 | 29.501 | 0.808 |
| -4.026 | 35.358 | -2.554 | 29.265 | 0.797 |
| -4.126 | 35.633 | -2.542 | 28.989 | 0.786 |
| -4.213 | 35.849 | -2.531 | 28.726 | 0.777 |
| -4.226 | 35.880 | -2.530 | 28.686 | 0.776 |
| -5.200 | 38.133 | -2.412 | 25.481 | 0.699 |
| -5.200 | 38.133 | -2.412 | 25.481 | 0.699 |
| -5.950 | 34.962 | -2.265 | 23.405 | 0.538 |
| -6.700 | 32.777 | -2.175 | 21.709 | 0.394 |
| -6.700 | 32.778 | -2.175 | 21.709 | 0.394 |
| -7.400 | 35.602 | -2.171 | 20.381 | 0.347 |
| -8.400 | 39.994 | -2.168 | 18.792 | 0.294 |
| -9.000 | 42.783 | -2.167 | 17.970 | 0.268 |
| -9.700 | 46.152 | -2.167 | 17.108 | 0.241 |
| -10.700 | 51.145 | -2.170 | 16.023 | 0.208 |
| -11.300 | 54.227 | -2.173 | 15.439 | 0.191 |
| -11.300 | 54.227 | -2.173 | 15.439 | 0.191 |
| -11.650 | 55.917 | -2.190 | 15.119 | 0.179 |
| -12.000 | 57.653 | -2.210 | 14.811 | 0.167 |
| -12.000 | 57.653 | -2.210 | 14.811 | 0.167 |
| -12.700 | 61.390 | -2.217 | 14.233 | 0.150 |
| -13.700 | 66.837 | -2.230 | 13.482 | 0.127 |
| -14.100 | 69.049 | -2.236 | 13.202 | 0.119 |
| -14.800 | 72.962 | -2.249 | 12.740 | 0.104 |
| -15.800 | 78.643 | -2.270 | 12.130 | 0.085 |
| -16.200 | 80.943 | -2.280 | 11.901 | 0.078 |
| -16.200 | 80.943 | -2.280 | 11.901 | 0.078 |
| -17.050 | 83.485 | -2.129 | 11.442 | 0.054 |
| -17.900 | 86.282 | -2.000 | 11.014 | 0.028 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -17.900 | 86.282 | -2.000 | 11.014 | 0.028 |
| -18.701 | 94.061 | -2.000 | 10.637 | 0.024 |
| -19.701 | 103.806 | -2.000 | 10.199 | 0.019 |
| -20.701 | 113.584 | -2.000 | 9.793 | 0.014 |
| -21.701 | 123.391 | -2.000 | 9.416 | 0.011 |
| -23.602 | 142.106 | -2.000 | 8.769 | 0.005 |
| -25.502 | 160.890 | -2.000 | 8.200 | 0.000 |

### 3.21 Results for Vertical 21 (X = -12.15 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.172 | 32.617 | -2.650 | 31.522 | 0.894 |
| -3.272 | 33.246 | -2.638 | 31.462 | 0.872 |
| -3.372 | 33.645 | -2.626 | 31.276 | 0.854 |
| -3.472 | 33.790 | -2.614 | 30.857 | 0.838 |
| -3.572 | 33.806 | -2.602 | 30.315 | 0.822 |
| -3.672 | 33.787 | -2.590 | 29.737 | 0.808 |
| -3.772 | 33.788 | -2.578 | 29.175 | 0.795 |
| -3.872 | 33.830 | -2.566 | 28.647 | 0.783 |
| -3.972 | 33.916 | -2.554 | 28.159 | 0.772 |
| -4.072 | 34.042 | -2.543 | 27.707 | 0.761 |
| -4.172 | 34.203 | -2.531 | 27.287 | 0.751 |
| -4.186 | 34.227 | -2.529 | 27.231 | 0.749 |
| -4.700 | 35.410 | -2.470 | 25.413 | 0.705 |
| -5.200 | 36.876 | -2.412 | 23.946 | 0.672 |
| -5.200 | 36.876 | -2.412 | 23.946 | 0.672 |
| -5.950 | 34.054 | -2.273 | 22.098 | 0.518 |
| -6.700 | 32.105 | -2.186 | 20.572 | 0.381 |
| -6.700 | 32.105 | -2.186 | 20.572 | 0.381 |
| -7.400 | 35.065 | -2.183 | 19.366 | 0.337 |
| -8.400 | 39.606 | -2.180 | 17.916 | 0.286 |
| -9.000 | 42.469 | -2.179 | 17.164 | 0.261 |
| -9.700 | 45.913 | -2.179 | 16.375 | 0.236 |
| -10.700 | 50.998 | -2.181 | 15.379 | 0.204 |
| -11.300 | 54.129 | -2.184 | 14.843 | 0.188 |
| -11.300 | 54.129 | -2.184 | 14.843 | 0.188 |
| -11.650 | 55.842 | -2.201 | 14.549 | 0.176 |
| -12.000 | 57.599 | -2.221 | 14.266 | 0.164 |
| -12.000 | 57.599 | -2.221 | 14.266 | 0.164 |
| -12.700 | 61.381 | -2.228 | 13.734 | 0.147 |
| -13.700 | 66.883 | -2.241 | 13.040 | 0.125 |
| -14.100 | 69.115 | -2.247 | 12.782 | 0.117 |
| -14.800 | 73.059 | -2.259 | 12.353 | 0.103 |
| -15.800 | 78.778 | -2.280 | 11.786 | 0.084 |
| -16.200 | 81.092 | -2.290 | 11.573 | 0.077 |
| -16.200 | 81.092 | -2.290 | 11.573 | 0.077 |
| -17.050 | 83.621 | -2.134 | 11.144 | 0.053 |
| -17.900 | 86.396 | -2.000 | 10.743 | 0.027 |
| -17.900 | 86.396 | -2.000 | 10.743 | 0.027 |
| -18.701 | 94.198 | -2.000 | 10.390 | 0.023 |
| -19.701 | 103.968 | -2.000 | 9.977 | 0.018 |
| -20.701 | 113.769 | -2.000 | 9.594 | 0.014 |
| -21.701 | 123.596 | -2.000 | 9.237 | 0.011 |
| -23.602 | 142.342 | -2.000 | 8.621 | 0.005 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -25.502 | 161.151 | -2.000 | 8.076 | 0.000 |

### 3.22 Results for Vertical 22 (X = -11.98 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.160 | 33.378 | -2.650 | 32.367 | 0.888 |
| -3.260 | 33.640 | -2.638 | 32.032 | 0.866 |
| -3.360 | 33.306 | -2.626 | 31.150 | 0.847 |
| -3.460 | 32.947 | -2.614 | 30.229 | 0.830 |
| -3.560 | 32.688 | -2.602 | 29.402 | 0.815 |
| -3.660 | 32.550 | -2.591 | 28.688 | 0.801 |
| -3.760 | 32.520 | -2.579 | 28.076 | 0.788 |
| -3.860 | 32.578 | -2.568 | 27.546 | 0.776 |
| -3.960 | 32.703 | -2.557 | 27.080 | 0.764 |
| -4.060 | 32.879 | -2.546 | 26.663 | 0.754 |
| -4.160 | 33.095 | -2.534 | 26.282 | 0.744 |
| -4.180 | 33.142 | -2.532 | 26.210 | 0.742 |
| -4.700 | 34.627 | -2.474 | 24.593 | 0.698 |
| -5.200 | 36.306 | -2.418 | 23.295 | 0.665 |
| -5.200 | 36.306 | -2.418 | 23.295 | 0.665 |
| -5.950 | 33.701 | -2.280 | 21.614 | 0.514 |
| -6.700 | 31.876 | -2.195 | 20.188 | 0.379 |
| -6.700 | 31.876 | -2.195 | 20.188 | 0.379 |
| -7.400 | 34.905 | -2.192 | 19.045 | 0.335 |
| -8.400 | 39.512 | -2.188 | 17.656 | 0.285 |
| -9.000 | 42.403 | -2.188 | 16.931 | 0.260 |
| -9.700 | 45.875 | -2.188 | 16.168 | 0.235 |
| -10.700 | 50.991 | -2.190 | 15.203 | 0.204 |
| -11.300 | 54.135 | -2.193 | 14.682 | 0.187 |
| -11.300 | 54.136 | -2.193 | 14.682 | 0.187 |
| -11.650 | 55.853 | -2.209 | 14.396 | 0.175 |
| -12.000 | 57.612 | -2.229 | 14.121 | 0.164 |
| -12.000 | 57.612 | -2.229 | 14.120 | 0.164 |
| -12.700 | 61.406 | -2.235 | 13.602 | 0.147 |
| -13.700 | 66.923 | -2.248 | 12.924 | 0.125 |
| -14.100 | 69.159 | -2.254 | 12.672 | 0.117 |
| -14.800 | 73.111 | -2.266 | 12.252 | 0.103 |
| -15.800 | 78.838 | -2.287 | 11.697 | 0.084 |
| -16.200 | 81.154 | -2.296 | 11.488 | 0.077 |
| -16.200 | 81.154 | -2.296 | 11.488 | 0.077 |
| -17.050 | 83.663 | -2.137 | 11.067 | 0.053 |
| -17.900 | 86.412 | -2.000 | 10.674 | 0.027 |
| -17.900 | 86.412 | -2.000 | 10.674 | 0.027 |
| -18.701 | 94.220 | -2.000 | 10.326 | 0.023 |
| -19.701 | 103.998 | -2.000 | 9.921 | 0.018 |
| -20.701 | 113.804 | -2.000 | 9.543 | 0.014 |
| -21.701 | 123.636 | -2.000 | 9.191 | 0.010 |
| -23.602 | 142.390 | -2.000 | 8.583 | 0.005 |
| -25.502 | 161.206 | -2.000 | 8.045 | 0.000 |

### 3.23 Results for Vertical 23 (X = -11.77 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.143 | 29.903 | -2.650 | 29.372 | 0.882 |
| -3.243 | 29.125 | -2.639 | 27.993 | 0.858 |
| -3.343 | 28.988 | -2.629 | 27.255 | 0.838 |
| -3.443 | 29.054 | -2.619 | 26.704 | 0.821 |
| -3.543 | 29.247 | -2.609 | 26.271 | 0.806 |
| -3.643 | 29.517 | -2.598 | 25.912 | 0.792 |
| -3.743 | 29.833 | -2.588 | 25.598 | 0.779 |
| -3.843 | 30.178 | -2.578 | 25.314 | 0.767 |
| -3.943 | 30.541 | -2.568 | 25.050 | 0.756 |
| -4.043 | 30.916 | -2.557 | 24.800 | 0.746 |
| -4.143 | 31.300 | -2.547 | 24.561 | 0.736 |
| -4.171 | 31.411 | -2.544 | 24.495 | 0.733 |
| -4.700 | 33.509 | -2.488 | 23.340 | 0.690 |
| -5.200 | 35.526 | -2.434 | 22.319 | 0.658 |
| -5.200 | 35.526 | -2.434 | 22.319 | 0.658 |
| -5.950 | 33.249 | -2.300 | 20.896 | 0.510 |
| -6.700 | 31.611 | -2.216 | 19.626 | 0.377 |
| -6.700 | 31.611 | -2.216 | 19.626 | 0.377 |
| -7.400 | 34.747 | -2.212 | 18.579 | 0.334 |
| -8.400 | 39.453 | -2.209 | 17.283 | 0.285 |
| -9.000 | 42.388 | -2.208 | 16.600 | 0.260 |
| -9.700 | 45.899 | -2.208 | 15.876 | 0.235 |
| -10.700 | 51.058 | -2.210 | 14.956 | 0.204 |
| -11.300 | 54.223 | -2.213 | 14.457 | 0.187 |
| -11.300 | 54.223 | -2.213 | 14.457 | 0.187 |
| -11.650 | 55.941 | -2.228 | 14.182 | 0.175 |
| -12.000 | 57.699 | -2.246 | 13.917 | 0.164 |
| -12.000 | 57.699 | -2.246 | 13.917 | 0.164 |
| -12.700 | 61.509 | -2.252 | 13.418 | 0.147 |
| -13.700 | 67.043 | -2.264 | 12.764 | 0.125 |
| -14.100 | 69.285 | -2.270 | 12.519 | 0.117 |
| -14.800 | 73.245 | -2.281 | 12.113 | 0.103 |
| -15.800 | 78.979 | -2.301 | 11.575 | 0.084 |
| -16.200 | 81.298 | -2.310 | 11.372 | 0.076 |
| -16.200 | 81.298 | -2.310 | 11.372 | 0.076 |
| -17.050 | 83.752 | -2.145 | 10.962 | 0.053 |
| -17.900 | 86.438 | -2.000 | 10.579 | 0.027 |
| -17.900 | 86.439 | -2.000 | 10.579 | 0.027 |
| -18.701 | 94.255 | -2.000 | 10.239 | 0.023 |
| -19.701 | 104.042 | -2.000 | 9.843 | 0.018 |
| -20.701 | 113.856 | -2.000 | 9.473 | 0.014 |
| -21.701 | 123.695 | -2.000 | 9.128 | 0.010 |
| -23.602 | 142.461 | -2.000 | 8.531 | 0.005 |
| -25.502 | 161.285 | -2.000 | 8.002 | 0.000 |

### 3.24 Results for Vertical 24 (X = -11.76 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.000 | 23.624 | -2.650 | 23.623 | 0.876 |
| -3.100 | 27.017 | -2.641 | 26.240 | 0.849 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.200 | 27.887 | -2.632 | 26.298 | 0.829 |
| -3.300 | 29.122 | -2.622 | 26.805 | 0.811 |
| -3.400 | 29.437 | -2.612 | 26.480 | 0.796 |
| -3.500 | 29.717 | -2.601 | 26.127 | 0.782 |
| -3.600 | 30.031 | -2.591 | 25.806 | 0.769 |
| -3.700 | 30.376 | -2.581 | 25.517 | 0.757 |
| -3.800 | 30.741 | -2.571 | 25.250 | 0.746 |
| -3.900 | 31.120 | -2.561 | 24.999 | 0.735 |
| -4.000 | 31.509 | -2.550 | 24.760 | 0.725 |
| -4.100 | 31.904 | -2.540 | 24.530 | 0.716 |
| -4.600 | 33.921 | -2.487 | 23.457 | 0.676 |
| -5.200 | 36.367 | -2.422 | 22.250 | 0.638 |
| -5.200 | 36.367 | -2.422 | 22.250 | 0.638 |
| -5.950 | 34.115 | -2.289 | 20.845 | 0.496 |
| -6.700 | 32.496 | -2.205 | 19.586 | 0.369 |
| -6.700 | 32.496 | -2.205 | 19.586 | 0.369 |
| -7.400 | 35.639 | -2.202 | 18.546 | 0.327 |
| -8.400 | 40.354 | -2.199 | 17.257 | 0.280 |
| -9.000 | 43.293 | -2.198 | 16.577 | 0.256 |
| -9.700 | 46.809 | -2.198 | 15.856 | 0.232 |
| -10.700 | 51.973 | -2.200 | 14.939 | 0.201 |
| -11.300 | 55.142 | -2.203 | 14.441 | 0.185 |
| -11.300 | 55.142 | -2.203 | 14.441 | 0.185 |
| -11.650 | 56.868 | -2.219 | 14.167 | 0.173 |
| -12.000 | 58.635 | -2.238 | 13.903 | 0.162 |
| -12.000 | 58.635 | -2.238 | 13.903 | 0.162 |
| -12.700 | 62.449 | -2.245 | 13.405 | 0.145 |
| -13.700 | 67.988 | -2.257 | 12.753 | 0.124 |
| -14.100 | 70.232 | -2.263 | 12.509 | 0.116 |
| -14.800 | 74.196 | -2.274 | 12.104 | 0.102 |
| -15.800 | 79.936 | -2.295 | 11.566 | 0.083 |
| -16.200 | 82.257 | -2.304 | 11.364 | 0.076 |
| -16.200 | 82.257 | -2.304 | 11.364 | 0.076 |
| -17.050 | 84.741 | -2.141 | 10.955 | 0.053 |
| -17.900 | 87.460 | -2.000 | 10.572 | 0.027 |
| -17.900 | 87.460 | -2.000 | 10.572 | 0.027 |
| -18.701 | 95.277 | -2.000 | 10.233 | 0.023 |
| -19.701 | 105.064 | -2.000 | 9.837 | 0.018 |
| -20.701 | 114.879 | -2.000 | 9.468 | 0.014 |
| -21.701 | 124.719 | -2.000 | 9.124 | 0.010 |
| -23.602 | 143.485 | -2.000 | 8.528 | 0.005 |
| -25.502 | 162.310 | -2.000 | 7.999 | 0.000 |

### 3.25 Results for Vertical 25 (X = -11.73 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.650 | 24.189 | -2.650 | 24.188 | 1.237 |
| -2.750 | 27.992 | -2.637 | 28.050 | 1.101 |
| -2.825 | 27.865 | -2.622 | 28.017 | 1.013 |
| -2.850 | 27.346 | -2.617 | 27.532 | 0.985 |
| -2.950 | 23.919 | -2.597 | 24.228 | 0.881 |
| -3.000 | 23.212 | -2.589 | 23.573 | 0.833 |
| -3.000 | 23.212 | -2.589 | 23.573 | 0.833 |
| -3.050 | 23.080 | -2.584 | 23.125 | 0.820 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.150 | 24.026 | -2.575 | 23.402 | 0.799 |
| -3.250 | 26.247 | -2.566 | 24.803 | 0.781 |
| -3.350 | 27.674 | -2.556 | 25.498 | 0.766 |
| -3.450 | 28.346 | -2.545 | 25.506 | 0.752 |
| -3.550 | 28.838 | -2.534 | 25.354 | 0.739 |
| -3.650 | 29.283 | -2.524 | 25.161 | 0.727 |
| -4.100 | 31.186 | -2.474 | 24.242 | 0.683 |
| -4.600 | 33.265 | -2.418 | 23.254 | 0.644 |
| -5.200 | 35.733 | -2.349 | 22.101 | 0.609 |
| -5.200 | 35.732 | -2.349 | 22.101 | 0.609 |
| -5.950 | 33.473 | -2.211 | 20.736 | 0.473 |
| -6.700 | 31.883 | -2.127 | 19.501 | 0.352 |
| -6.700 | 31.883 | -2.127 | 19.501 | 0.352 |
| -7.400 | 35.045 | -2.124 | 18.476 | 0.312 |
| -8.400 | 39.782 | -2.122 | 17.201 | 0.268 |
| -9.000 | 42.732 | -2.121 | 16.527 | 0.245 |
| -9.700 | 46.261 | -2.122 | 15.812 | 0.222 |
| -10.700 | 51.446 | -2.126 | 14.902 | 0.194 |
| -11.300 | 54.627 | -2.130 | 14.408 | 0.179 |
| -11.300 | 54.627 | -2.130 | 14.408 | 0.179 |
| -11.650 | 56.402 | -2.150 | 14.135 | 0.168 |
| -12.000 | 58.222 | -2.175 | 13.873 | 0.157 |
| -12.000 | 58.222 | -2.175 | 13.873 | 0.157 |
| -12.700 | 62.054 | -2.183 | 13.378 | 0.141 |
| -13.700 | 67.621 | -2.197 | 12.729 | 0.121 |
| -14.100 | 69.878 | -2.204 | 12.486 | 0.113 |
| -14.800 | 73.864 | -2.218 | 12.083 | 0.100 |
| -15.800 | 79.640 | -2.242 | 11.548 | 0.082 |
| -16.200 | 81.976 | -2.252 | 11.347 | 0.075 |
| -16.200 | 81.976 | -2.252 | 11.347 | 0.075 |
| -17.050 | 84.702 | -2.114 | 10.939 | 0.052 |
| -17.900 | 87.687 | -2.000 | 10.558 | 0.027 |
| -17.900 | 87.688 | -2.000 | 10.558 | 0.027 |
| -18.701 | 95.506 | -2.000 | 10.221 | 0.022 |
| -19.701 | 105.294 | -2.000 | 9.826 | 0.018 |
| -20.701 | 115.110 | -2.000 | 9.458 | 0.014 |
| -21.701 | 124.951 | -2.000 | 9.115 | 0.010 |
| -23.602 | 143.719 | -2.000 | 8.520 | 0.005 |
| -25.502 | 162.545 | -2.000 | 7.993 | 0.000 |

### 3.26 Results for Vertical 26 (X = -11.64 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.821 | 20.364 | -1.821 | 20.363 | 0.995 |
| -1.921 | 27.799 | -1.909 | 26.869 | 0.914 |
| -2.000 | 28.986 | -1.976 | 27.338 | 0.864 |
| -2.021 | 29.305 | -1.994 | 27.468 | 0.851 |
| -2.121 | 30.843 | -2.079 | 28.105 | 0.798 |
| -2.221 | 32.379 | -2.163 | 28.748 | 0.750 |
| -2.321 | 31.933 | -2.247 | 27.412 | 0.707 |
| -2.410 | 29.473 | -2.322 | 24.149 | 0.673 |
| -2.421 | 29.226 | -2.331 | 23.806 | 0.669 |
| -2.521 | 27.395 | -2.417 | 21.062 | 0.636 |
| -2.621 | 26.172 | -2.504 | 18.916 | 0.607 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.650 | 25.945 | -2.530 | 18.419 | 0.599 |
| -2.721 | 25.402 | -2.521 | 17.910 | 0.580 |
| -2.821 | 24.800 | -2.510 | 17.352 | 0.555 |
| -3.000 | 24.591 | -2.491 | 17.209 | 0.511 |
| -3.000 | 24.591 | -2.491 | 17.209 | 0.511 |
| -3.600 | 29.862 | -2.456 | 18.213 | 0.474 |
| -4.100 | 32.956 | -2.423 | 17.892 | 0.448 |
| -4.600 | 35.530 | -2.389 | 17.155 | 0.427 |
| -5.200 | 38.443 | -2.347 | 16.161 | 0.407 |
| -5.200 | 38.443 | -2.347 | 16.161 | 0.407 |
| -5.950 | 36.864 | -2.264 | 14.914 | 0.318 |
| -6.700 | 35.737 | -2.220 | 13.752 | 0.238 |
| -6.700 | 35.737 | -2.220 | 13.752 | 0.238 |
| -7.400 | 38.967 | -2.219 | 12.772 | 0.215 |
| -8.400 | 43.773 | -2.219 | 11.542 | 0.188 |
| -9.000 | 46.754 | -2.219 | 10.888 | 0.174 |
| -9.700 | 50.312 | -2.221 | 10.192 | 0.159 |
| -10.700 | 55.526 | -2.225 | 9.302 | 0.141 |
| -11.300 | 58.719 | -2.229 | 8.818 | 0.131 |
| -11.300 | 58.719 | -2.229 | 8.818 | 0.131 |
| -11.650 | 60.491 | -2.249 | 8.550 | 0.123 |
| -12.000 | 62.300 | -2.272 | 8.293 | 0.114 |
| -12.000 | 62.300 | -2.272 | 8.293 | 0.114 |
| -12.700 | 66.133 | -2.279 | 7.807 | 0.104 |
| -13.700 | 71.692 | -2.292 | 7.169 | 0.089 |
| -14.100 | 73.941 | -2.298 | 6.930 | 0.084 |
| -14.800 | 77.910 | -2.309 | 6.532 | 0.075 |
| -15.800 | 83.648 | -2.328 | 6.005 | 0.062 |
| -16.200 | 85.966 | -2.337 | 5.806 | 0.057 |
| -16.200 | 85.966 | -2.337 | 5.806 | 0.057 |
| -17.050 | 88.316 | -2.160 | 5.404 | 0.038 |
| -17.900 | 90.861 | -2.000 | 5.027 | 0.016 |
| -17.900 | 90.861 | -2.000 | 5.027 | 0.016 |
| -18.701 | 98.683 | -2.000 | 4.693 | 0.014 |
| -19.701 | 108.476 | -2.000 | 4.303 | 0.011 |
| -20.701 | 118.295 | -2.000 | 3.938 | 0.008 |
| -21.701 | 128.139 | -2.000 | 3.598 | 0.006 |
| -23.602 | 146.912 | -2.000 | 3.009 | 0.003 |
| -25.502 | 165.742 | -2.000 | 2.485 | 0.000 |

### 3.27 Results for Vertical 27 (X = -11.60 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.800 | 24.387 | -1.800 | 24.386 | 0.973 |
| -1.900 | 22.887 | -1.888 | 21.957 | 0.893 |
| -2.000 | 22.443 | -1.976 | 20.576 | 0.835 |
| -2.100 | 22.841 | -2.065 | 20.034 | 0.788 |
| -2.200 | 22.999 | -2.154 | 19.251 | 0.747 |
| -2.300 | 25.878 | -2.242 | 21.198 | 0.709 |
| -2.400 | 27.962 | -2.329 | 22.360 | 0.673 |
| -2.500 | 27.264 | -2.416 | 20.743 | 0.641 |
| -2.600 | 26.361 | -2.503 | 18.914 | 0.611 |
| -2.650 | 25.998 | -2.547 | 18.085 | 0.598 |
| -2.700 | 25.665 | -2.541 | 17.776 | 0.585 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.800 | 25.101 | -2.529 | 17.254 | 0.560 |
| -3.000 | 24.580 | -2.508 | 16.806 | 0.511 |
| -3.000 | 24.580 | -2.508 | 16.806 | 0.511 |
| -3.600 | 29.559 | -2.474 | 17.564 | 0.474 |
| -4.100 | 32.929 | -2.442 | 17.494 | 0.450 |
| -4.600 | 35.627 | -2.408 | 16.866 | 0.429 |
| -5.200 | 38.624 | -2.367 | 15.946 | 0.408 |
| -5.200 | 38.624 | -2.367 | 15.946 | 0.408 |
| -5.950 | 37.103 | -2.284 | 14.753 | 0.319 |
| -6.700 | 36.001 | -2.238 | 13.626 | 0.239 |
| -6.700 | 36.001 | -2.238 | 13.626 | 0.239 |
| -7.400 | 39.253 | -2.237 | 12.668 | 0.216 |
| -8.400 | 44.080 | -2.236 | 11.459 | 0.189 |
| -9.000 | 47.070 | -2.237 | 10.814 | 0.175 |
| -9.700 | 50.635 | -2.238 | 10.126 | 0.160 |
| -10.700 | 55.855 | -2.242 | 9.246 | 0.142 |
| -11.300 | 59.050 | -2.246 | 8.767 | 0.132 |
| -11.300 | 59.050 | -2.246 | 8.767 | 0.132 |
| -11.650 | 60.813 | -2.265 | 8.502 | 0.123 |
| -12.000 | 62.611 | -2.286 | 8.247 | 0.115 |
| -12.000 | 62.611 | -2.286 | 8.247 | 0.115 |
| -12.700 | 66.445 | -2.293 | 7.765 | 0.104 |
| -13.700 | 72.003 | -2.305 | 7.132 | 0.090 |
| -14.100 | 74.251 | -2.310 | 6.895 | 0.084 |
| -14.800 | 78.218 | -2.321 | 6.500 | 0.075 |
| -15.800 | 83.953 | -2.340 | 5.976 | 0.062 |
| -16.200 | 86.268 | -2.348 | 5.779 | 0.056 |
| -16.200 | 86.268 | -2.348 | 5.779 | 0.056 |
| -17.050 | 88.568 | -2.166 | 5.379 | 0.037 |
| -17.900 | 91.058 | -2.000 | 5.004 | 0.016 |
| -17.900 | 91.058 | -2.000 | 5.004 | 0.016 |
| -18.701 | 98.882 | -2.000 | 4.672 | 0.013 |
| -19.701 | 108.677 | -2.000 | 4.283 | 0.011 |
| -20.701 | 118.498 | -2.000 | 3.921 | 0.008 |
| -21.701 | 128.343 | -2.000 | 3.582 | 0.006 |
| -23.602 | 147.119 | -2.000 | 2.995 | 0.003 |
| -25.502 | 165.950 | -2.000 | 2.473 | 0.000 |

### 3.28 Results for Vertical 28 (X = -11.29 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.641 | 23.279 | -1.641 | 23.278 | 0.877 |
| -1.720 | 25.788 | -1.692 | 24.999 | 0.846 |
| -1.741 | 26.065 | -1.704 | 25.076 | 0.839 |
| -1.800 | 26.603 | -1.741 | 25.036 | 0.822 |
| -1.800 | 26.603 | -1.741 | 25.036 | 0.822 |
| -1.841 | 26.815 | -1.775 | 24.881 | 0.800 |
| -1.941 | 27.083 | -1.860 | 24.251 | 0.753 |
| -2.000 | 27.149 | -1.910 | 23.785 | 0.728 |
| -2.041 | 27.182 | -1.945 | 23.447 | 0.712 |
| -2.141 | 27.271 | -2.030 | 22.629 | 0.675 |
| -2.241 | 26.584 | -2.116 | 21.030 | 0.641 |
| -2.341 | 25.939 | -2.203 | 19.466 | 0.612 |
| -2.400 | 25.673 | -2.254 | 18.657 | 0.595 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.441 | 25.545 | -2.290 | 18.149 | 0.585 |
| -2.541 | 25.365 | -2.378 | 17.040 | 0.561 |
| -2.641 | 25.245 | -2.466 | 15.987 | 0.539 |
| -2.650 | 25.217 | -2.474 | 15.875 | 0.537 |
| -3.000 | 24.721 | -2.436 | 15.510 | 0.466 |
| -3.000 | 24.721 | -2.436 | 15.510 | 0.466 |
| -3.600 | 28.283 | -2.403 | 15.027 | 0.438 |
| -4.100 | 32.111 | -2.374 | 15.403 | 0.418 |
| -4.600 | 35.455 | -2.343 | 15.357 | 0.402 |
| -5.200 | 39.006 | -2.304 | 14.920 | 0.384 |
| -5.200 | 39.006 | -2.304 | 14.920 | 0.384 |
| -5.950 | 37.992 | -2.227 | 14.127 | 0.305 |
| -6.700 | 37.253 | -2.189 | 13.263 | 0.232 |
| -6.700 | 37.253 | -2.189 | 13.263 | 0.232 |
| -7.400 | 40.697 | -2.188 | 12.477 | 0.211 |
| -8.400 | 45.715 | -2.188 | 11.438 | 0.186 |
| -9.000 | 48.791 | -2.189 | 10.868 | 0.173 |
| -9.700 | 52.438 | -2.192 | 10.251 | 0.160 |
| -10.700 | 57.754 | -2.197 | 9.450 | 0.142 |
| -11.300 | 60.997 | -2.201 | 9.010 | 0.133 |
| -11.300 | 60.997 | -2.201 | 9.010 | 0.133 |
| -11.650 | 62.817 | -2.224 | 8.765 | 0.124 |
| -12.000 | 64.673 | -2.249 | 8.529 | 0.116 |
| -12.000 | 64.673 | -2.249 | 8.529 | 0.116 |
| -12.700 | 68.551 | -2.257 | 8.080 | 0.105 |
| -13.700 | 74.167 | -2.271 | 7.487 | 0.091 |
| -14.100 | 76.437 | -2.277 | 7.264 | 0.085 |
| -14.800 | 80.440 | -2.289 | 6.892 | 0.076 |
| -15.800 | 86.222 | -2.310 | 6.395 | 0.063 |
| -16.200 | 88.556 | -2.319 | 6.207 | 0.057 |
| -16.200 | 88.556 | -2.319 | 6.207 | 0.057 |
| -17.050 | 91.013 | -2.151 | 5.826 | 0.038 |
| -17.900 | 93.667 | -2.000 | 5.468 | 0.017 |
| -17.900 | 93.667 | -2.000 | 5.468 | 0.017 |
| -19.801 | 112.297 | -2.000 | 4.740 | 0.011 |
| -21.701 | 131.006 | -2.000 | 4.099 | 0.007 |
| -23.602 | 149.800 | -2.000 | 3.530 | 0.003 |
| -25.502 | 168.646 | -2.000 | 3.022 | 0.000 |

### 3.29 Results for Vertical 29 (X = -11.18 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.589 | 23.149 | -1.589 | 23.148 | 0.849 |
| -1.689 | 25.019 | -1.653 | 24.026 | 0.812 |
| -1.694 | 25.014 | -1.656 | 23.966 | 0.810 |
| -1.789 | 24.393 | -1.717 | 22.403 | 0.785 |
| -1.800 | 24.404 | -1.724 | 22.303 | 0.782 |
| -1.800 | 24.404 | -1.724 | 22.303 | 0.782 |
| -1.889 | 25.148 | -1.800 | 22.239 | 0.743 |
| -1.989 | 26.142 | -1.885 | 22.326 | 0.703 |
| -2.000 | 26.231 | -1.895 | 22.315 | 0.699 |
| -2.089 | 26.826 | -1.971 | 22.102 | 0.667 |
| -2.189 | 27.140 | -2.057 | 21.506 | 0.635 |
| -2.289 | 26.604 | -2.143 | 20.056 | 0.605 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.389 | 26.114 | -2.229 | 18.646 | 0.578 |
| -2.400 | 26.066 | -2.239 | 18.497 | 0.575 |
| -2.489 | 25.739 | -2.317 | 17.346 | 0.554 |
| -2.589 | 25.477 | -2.404 | 16.154 | 0.532 |
| -2.650 | 25.327 | -2.458 | 15.434 | 0.520 |
| -3.000 | 24.812 | -2.420 | 15.049 | 0.453 |
| -3.000 | 24.812 | -2.420 | 15.049 | 0.453 |
| -3.600 | 28.268 | -2.388 | 14.477 | 0.427 |
| -4.100 | 31.947 | -2.360 | 14.725 | 0.409 |
| -4.600 | 35.391 | -2.329 | 14.772 | 0.393 |
| -5.200 | 39.097 | -2.291 | 14.471 | 0.377 |
| -5.200 | 39.097 | -2.291 | 14.471 | 0.377 |
| -5.950 | 38.250 | -2.217 | 13.813 | 0.300 |
| -6.700 | 37.635 | -2.180 | 13.046 | 0.230 |
| -6.700 | 37.636 | -2.180 | 13.046 | 0.230 |
| -7.400 | 41.152 | -2.179 | 12.325 | 0.210 |
| -8.400 | 46.244 | -2.180 | 11.353 | 0.186 |
| -9.000 | 49.352 | -2.181 | 10.813 | 0.173 |
| -9.700 | 53.031 | -2.184 | 10.224 | 0.159 |
| -10.700 | 58.382 | -2.189 | 9.455 | 0.142 |
| -11.300 | 61.643 | -2.194 | 9.030 | 0.133 |
| -11.300 | 61.643 | -2.194 | 9.030 | 0.133 |
| -11.650 | 63.478 | -2.217 | 8.793 | 0.124 |
| -12.000 | 65.348 | -2.243 | 8.565 | 0.116 |
| -12.000 | 65.348 | -2.243 | 8.565 | 0.116 |
| -12.700 | 69.242 | -2.251 | 8.129 | 0.105 |
| -13.700 | 74.878 | -2.265 | 7.552 | 0.091 |
| -14.100 | 77.154 | -2.271 | 7.334 | 0.085 |
| -14.800 | 81.168 | -2.284 | 6.971 | 0.076 |
| -15.800 | 86.965 | -2.305 | 6.485 | 0.063 |
| -16.200 | 89.304 | -2.314 | 6.300 | 0.058 |
| -16.200 | 89.304 | -2.314 | 6.300 | 0.058 |
| -17.050 | 91.791 | -2.148 | 5.927 | 0.038 |
| -17.900 | 94.476 | -2.000 | 5.575 | 0.017 |
| -17.900 | 94.476 | -2.000 | 5.575 | 0.017 |
| -19.801 | 113.118 | -2.000 | 4.859 | 0.011 |
| -21.701 | 131.836 | -2.000 | 4.227 | 0.007 |
| -23.602 | 150.636 | -2.000 | 3.664 | 0.003 |
| -25.502 | 169.488 | -2.000 | 3.162 | 0.000 |

### 3.30 Results for Vertical 30 (X = -11.05 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.525 | 22.012 | -1.525 | 22.011 | 0.822 |
| -1.625 | 23.790 | -1.590 | 22.786 | 0.784 |
| -1.663 | 23.905 | -1.614 | 22.526 | 0.774 |
| -1.725 | 24.060 | -1.654 | 22.055 | 0.757 |
| -1.800 | 24.457 | -1.703 | 21.698 | 0.740 |
| -1.800 | 24.457 | -1.703 | 21.698 | 0.740 |
| -1.825 | 24.573 | -1.724 | 21.588 | 0.730 |
| -1.925 | 25.168 | -1.810 | 21.274 | 0.692 |
| -2.000 | 25.735 | -1.874 | 21.160 | 0.666 |
| -2.025 | 25.931 | -1.895 | 21.127 | 0.658 |
| -2.125 | 26.680 | -1.981 | 20.966 | 0.626 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.225 | 27.004 | -2.067 | 20.377 | 0.597 |
| -2.325 | 26.638 | -2.153 | 19.095 | 0.571 |
| -2.400 | 26.359 | -2.219 | 18.126 | 0.553 |
| -2.425 | 26.269 | -2.240 | 17.806 | 0.547 |
| -2.525 | 25.943 | -2.328 | 16.554 | 0.525 |
| -2.650 | 25.588 | -2.438 | 15.034 | 0.501 |
| -3.000 | 25.006 | -2.400 | 14.579 | 0.439 |
| -3.000 | 25.006 | -2.400 | 14.579 | 0.439 |
| -3.600 | 28.421 | -2.368 | 13.975 | 0.414 |
| -4.100 | 31.933 | -2.340 | 14.078 | 0.398 |
| -4.600 | 35.424 | -2.311 | 14.169 | 0.383 |
| -5.200 | 39.265 | -2.274 | 13.987 | 0.368 |
| -5.200 | 39.265 | -2.274 | 13.987 | 0.368 |
| -5.950 | 38.590 | -2.201 | 13.466 | 0.295 |
| -6.700 | 38.113 | -2.168 | 12.803 | 0.227 |
| -6.700 | 38.114 | -2.168 | 12.802 | 0.227 |
| -7.400 | 41.710 | -2.167 | 12.154 | 0.208 |
| -8.400 | 46.885 | -2.168 | 11.257 | 0.184 |
| -9.000 | 50.031 | -2.169 | 10.751 | 0.172 |
| -9.700 | 53.746 | -2.172 | 10.194 | 0.159 |
| -10.700 | 59.138 | -2.178 | 9.461 | 0.142 |
| -11.300 | 62.419 | -2.183 | 9.054 | 0.133 |
| -11.300 | 62.419 | -2.183 | 9.054 | 0.133 |
| -11.650 | 64.273 | -2.207 | 8.826 | 0.124 |
| -12.000 | 66.162 | -2.234 | 8.606 | 0.116 |
| -12.000 | 66.162 | -2.234 | 8.606 | 0.116 |
| -12.700 | 70.075 | -2.242 | 8.185 | 0.105 |
| -13.700 | 75.733 | -2.257 | 7.626 | 0.091 |
| -14.100 | 78.017 | -2.263 | 7.415 | 0.086 |
| -14.800 | 82.045 | -2.276 | 7.061 | 0.076 |
| -15.800 | 87.859 | -2.297 | 6.587 | 0.063 |
| -16.200 | 90.204 | -2.307 | 6.407 | 0.058 |
| -16.200 | 90.204 | -2.307 | 6.407 | 0.058 |
| -17.050 | 92.734 | -2.144 | 6.042 | 0.038 |
| -17.900 | 95.462 | -2.000 | 5.697 | 0.017 |
| -17.900 | 95.462 | -2.000 | 5.697 | 0.017 |
| -19.801 | 114.117 | -2.000 | 4.995 | 0.011 |
| -21.701 | 132.846 | -2.000 | 4.373 | 0.007 |
| -23.602 | 151.654 | -2.000 | 3.818 | 0.003 |
| -25.502 | 170.512 | -2.000 | 3.322 | 0.000 |

### 3.31 Results for Vertical 31 (X = -10.83 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.416 | 20.254 | -1.416 | 20.253 | 0.779 |
| -1.516 | 22.083 | -1.483 | 21.060 | 0.743 |
| -1.608 | 22.970 | -1.543 | 21.016 | 0.718 |
| -1.616 | 23.019 | -1.548 | 20.984 | 0.717 |
| -1.716 | 23.554 | -1.614 | 20.507 | 0.695 |
| -1.800 | 24.112 | -1.669 | 20.215 | 0.679 |
| -1.800 | 24.112 | -1.669 | 20.215 | 0.679 |
| -1.816 | 24.212 | -1.682 | 20.170 | 0.673 |
| -1.916 | 24.877 | -1.768 | 19.925 | 0.641 |
| -2.000 | 25.472 | -1.840 | 19.755 | 0.616 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.016 | 25.589 | -1.854 | 19.725 | 0.611 |
| -2.116 | 26.330 | -1.940 | 19.554 | 0.584 |
| -2.216 | 27.076 | -2.026 | 19.385 | 0.559 |
| -2.316 | 26.866 | -2.113 | 18.258 | 0.535 |
| -2.400 | 26.649 | -2.186 | 17.268 | 0.517 |
| -2.416 | 26.608 | -2.200 | 17.078 | 0.513 |
| -2.650 | 26.011 | -2.405 | 14.305 | 0.471 |
| -3.000 | 25.391 | -2.368 | 13.808 | 0.415 |
| -3.000 | 25.392 | -2.368 | 13.808 | 0.415 |
| -3.600 | 28.804 | -2.337 | 13.203 | 0.394 |
| -4.100 | 32.113 | -2.310 | 13.128 | 0.380 |
| -4.600 | 35.598 | -2.282 | 13.218 | 0.367 |
| -5.200 | 39.594 | -2.246 | 13.171 | 0.354 |
| -5.200 | 39.594 | -2.246 | 13.171 | 0.354 |
| -5.950 | 39.170 | -2.178 | 12.846 | 0.286 |
| -6.700 | 38.913 | -2.149 | 12.348 | 0.222 |
| -6.700 | 38.913 | -2.149 | 12.348 | 0.222 |
| -7.400 | 42.642 | -2.149 | 11.821 | 0.204 |
| -8.400 | 47.957 | -2.150 | 11.052 | 0.182 |
| -9.000 | 51.168 | -2.152 | 10.604 | 0.171 |
| -9.700 | 54.946 | -2.155 | 10.104 | 0.158 |
| -10.700 | 60.409 | -2.161 | 9.434 | 0.141 |
| -11.300 | 63.726 | -2.166 | 9.057 | 0.132 |
| -11.300 | 63.726 | -2.166 | 9.057 | 0.132 |
| -11.650 | 65.612 | -2.192 | 8.846 | 0.124 |
| -12.000 | 67.531 | -2.220 | 8.640 | 0.116 |
| -12.000 | 67.531 | -2.220 | 8.640 | 0.116 |
| -12.700 | 71.475 | -2.229 | 8.246 | 0.105 |
| -13.700 | 77.172 | -2.244 | 7.718 | 0.091 |
| -14.100 | 79.471 | -2.251 | 7.518 | 0.086 |
| -14.800 | 83.521 | -2.265 | 7.182 | 0.076 |
| -15.800 | 89.364 | -2.287 | 6.729 | 0.063 |
| -16.200 | 91.721 | -2.296 | 6.557 | 0.058 |
| -16.200 | 91.721 | -2.296 | 6.557 | 0.058 |
| -17.050 | 94.315 | -2.139 | 6.206 | 0.039 |
| -17.900 | 97.109 | -2.000 | 5.874 | 0.017 |
| -17.900 | 97.109 | -2.000 | 5.874 | 0.017 |
| -19.801 | 115.788 | -2.000 | 5.195 | 0.011 |
| -21.701 | 134.534 | -2.000 | 4.590 | 0.007 |
| -23.602 | 153.357 | -2.000 | 4.050 | 0.003 |
| -25.502 | 172.225 | -2.000 | 3.565 | 0.000 |

### 3.32 Results for Vertical 32 (X = -10.47 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.243 | 17.867 | -1.243 | 17.866 | 0.720 |
| -1.343 | 19.785 | -1.313 | 18.728 | 0.685 |
| -1.443 | 20.944 | -1.382 | 18.845 | 0.659 |
| -1.522 | 21.715 | -1.435 | 18.804 | 0.642 |
| -1.543 | 21.897 | -1.449 | 18.765 | 0.638 |
| -1.643 | 22.648 | -1.517 | 18.486 | 0.620 |
| -1.743 | 23.374 | -1.584 | 18.184 | 0.604 |
| -1.800 | 23.811 | -1.622 | 18.036 | 0.596 |
| -1.800 | 23.811 | -1.622 | 18.036 | 0.596 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.843 | 24.105 | -1.659 | 17.937 | 0.585 |
| -1.943 | 24.819 | -1.746 | 17.735 | 0.560 |
| -2.000 | 25.239 | -1.795 | 17.633 | 0.546 |
| -2.043 | 25.561 | -1.832 | 17.560 | 0.536 |
| -2.143 | 26.319 | -1.919 | 17.399 | 0.515 |
| -2.243 | 27.088 | -2.005 | 17.248 | 0.495 |
| -2.400 | 26.964 | -2.142 | 15.673 | 0.465 |
| -2.650 | 26.485 | -2.363 | 12.860 | 0.427 |
| -3.000 | 25.951 | -2.327 | 12.435 | 0.381 |
| -3.000 | 25.951 | -2.327 | 12.435 | 0.381 |
| -3.600 | 29.447 | -2.297 | 11.904 | 0.364 |
| -4.100 | 32.629 | -2.272 | 11.719 | 0.353 |
| -4.600 | 36.043 | -2.245 | 11.748 | 0.342 |
| -5.200 | 40.160 | -2.213 | 11.808 | 0.332 |
| -5.200 | 40.160 | -2.213 | 11.808 | 0.332 |
| -5.950 | 40.049 | -2.151 | 11.725 | 0.272 |
| -6.700 | 40.107 | -2.128 | 11.470 | 0.214 |
| -6.700 | 40.107 | -2.128 | 11.470 | 0.214 |
| -7.400 | 44.045 | -2.128 | 11.135 | 0.199 |
| -8.400 | 49.595 | -2.129 | 10.582 | 0.179 |
| -9.000 | 52.917 | -2.132 | 10.237 | 0.168 |
| -9.700 | 56.803 | -2.135 | 9.835 | 0.156 |
| -10.700 | 62.390 | -2.142 | 9.277 | 0.140 |
| -11.300 | 65.768 | -2.148 | 8.956 | 0.132 |
| -11.300 | 65.768 | -2.148 | 8.956 | 0.132 |
| -11.650 | 67.701 | -2.175 | 8.773 | 0.124 |
| -12.000 | 69.666 | -2.205 | 8.594 | 0.115 |
| -12.000 | 69.666 | -2.205 | 8.594 | 0.115 |
| -12.700 | 73.664 | -2.215 | 8.246 | 0.105 |
| -13.700 | 79.426 | -2.231 | 7.775 | 0.091 |
| -14.100 | 81.748 | -2.238 | 7.595 | 0.086 |
| -14.800 | 85.836 | -2.252 | 7.290 | 0.076 |
| -15.800 | 91.727 | -2.275 | 6.876 | 0.063 |
| -16.200 | 94.100 | -2.285 | 6.717 | 0.058 |
| -16.200 | 94.100 | -2.285 | 6.717 | 0.058 |
| -17.050 | 96.776 | -2.133 | 6.392 | 0.039 |
| -17.900 | 99.652 | -2.000 | 6.083 | 0.017 |
| -17.900 | 99.652 | -2.000 | 6.083 | 0.017 |
| -19.801 | 118.373 | -2.000 | 5.445 | 0.011 |
| -21.701 | 137.151 | -2.000 | 4.873 | 0.007 |
| -23.602 | 155.998 | -2.000 | 4.357 | 0.003 |
| -25.502 | 174.886 | -2.000 | 3.891 | 0.000 |

### 3.33 Results for Vertical 33 (X = -9.90 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.977 | 16.051 | -0.977 | 16.050 | 0.644 |
| -1.077 | 18.509 | -1.050 | 17.421 | 0.610 |
| -1.177 | 19.629 | -1.121 | 17.473 | 0.585 |
| -1.277 | 20.289 | -1.192 | 17.072 | 0.564 |
| -1.377 | 20.914 | -1.263 | 16.637 | 0.547 |
| -1.389 | 20.984 | -1.271 | 16.586 | 0.545 |
| -1.477 | 21.514 | -1.333 | 16.180 | 0.532 |
| -1.577 | 22.122 | -1.403 | 15.731 | 0.518 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.677 | 22.780 | -1.473 | 15.334 | 0.506 |
| -1.777 | 23.506 | -1.542 | 15.006 | 0.495 |
| -1.800 | 23.682 | -1.558 | 14.941 | 0.493 |
| -1.800 | 23.682 | -1.558 | 14.941 | 0.493 |
| -1.877 | 24.199 | -1.626 | 14.744 | 0.479 |
| -1.977 | 24.915 | -1.713 | 14.533 | 0.461 |
| -2.000 | 25.085 | -1.733 | 14.490 | 0.457 |
| -2.400 | 27.464 | -2.085 | 13.141 | 0.399 |
| -2.650 | 27.126 | -2.308 | 10.448 | 0.370 |
| -3.000 | 26.779 | -2.275 | 10.184 | 0.336 |
| -3.000 | 26.779 | -2.275 | 10.184 | 0.336 |
| -3.600 | 30.514 | -2.248 | 9.869 | 0.324 |
| -4.100 | 33.762 | -2.224 | 9.742 | 0.316 |
| -4.600 | 37.162 | -2.201 | 9.759 | 0.309 |
| -5.200 | 41.353 | -2.172 | 9.880 | 0.302 |
| -5.200 | 41.353 | -2.172 | 9.880 | 0.302 |
| -5.950 | 41.539 | -2.119 | 10.014 | 0.251 |
| -6.700 | 41.960 | -2.104 | 10.035 | 0.202 |
| -6.700 | 41.960 | -2.104 | 10.035 | 0.202 |
| -7.400 | 46.163 | -2.104 | 9.949 | 0.190 |
| -8.400 | 52.041 | -2.107 | 9.702 | 0.173 |
| -9.000 | 55.527 | -2.109 | 9.509 | 0.163 |
| -9.700 | 59.577 | -2.113 | 9.259 | 0.153 |
| -10.700 | 65.356 | -2.121 | 8.878 | 0.138 |
| -11.300 | 68.829 | -2.127 | 8.644 | 0.130 |
| -11.300 | 68.829 | -2.127 | 8.644 | 0.130 |
| -11.650 | 70.830 | -2.157 | 8.507 | 0.122 |
| -12.000 | 72.860 | -2.189 | 8.371 | 0.114 |
| -12.000 | 72.860 | -2.189 | 8.371 | 0.114 |
| -12.700 | 76.942 | -2.199 | 8.100 | 0.104 |
| -13.700 | 82.808 | -2.216 | 7.721 | 0.090 |
| -14.100 | 85.167 | -2.223 | 7.573 | 0.085 |
| -14.800 | 89.312 | -2.238 | 7.319 | 0.076 |
| -15.800 | 95.276 | -2.262 | 6.967 | 0.063 |
| -16.200 | 97.676 | -2.272 | 6.831 | 0.058 |
| -16.200 | 97.676 | -2.272 | 6.831 | 0.058 |
| -17.050 | 100.456 | -2.127 | 6.548 | 0.038 |
| -17.900 | 103.432 | -2.000 | 6.277 | 0.017 |
| -17.900 | 103.432 | -2.000 | 6.277 | 0.017 |
| -19.801 | 122.222 | -2.000 | 5.707 | 0.011 |
| -21.701 | 141.053 | -2.000 | 5.186 | 0.007 |
| -23.602 | 159.941 | -2.000 | 4.710 | 0.003 |
| -25.502 | 178.862 | -2.000 | 4.277 | 0.000 |

### 3.34 Results for Vertical 34 (X = -9.75 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.900 | 15.682 | -0.900 | 15.681 | 0.624 |
| -1.000 | 17.314 | -0.975 | 16.210 | 0.590 |
| -1.100 | 17.549 | -1.049 | 15.349 | 0.566 |
| -1.200 | 17.473 | -1.124 | 14.171 | 0.547 |
| -1.300 | 18.374 | -1.198 | 13.970 | 0.531 |
| -1.350 | 18.988 | -1.235 | 14.036 | 0.523 |
| -1.400 | 19.595 | -1.272 | 14.099 | 0.516 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.500 | 20.715 | -1.345 | 14.136 | 0.504 |
| -1.600 | 21.719 | -1.417 | 14.066 | 0.492 |
| -1.700 | 22.659 | -1.488 | 13.937 | 0.481 |
| -1.800 | 23.574 | -1.559 | 13.789 | 0.471 |
| -1.800 | 23.574 | -1.559 | 13.789 | 0.471 |
| -1.900 | 24.357 | -1.647 | 13.642 | 0.455 |
| -2.000 | 25.153 | -1.735 | 13.507 | 0.439 |
| -2.400 | 27.774 | -2.087 | 12.391 | 0.385 |
| -2.650 | 27.487 | -2.310 | 9.745 | 0.358 |
| -3.000 | 27.196 | -2.278 | 9.533 | 0.326 |
| -3.000 | 27.196 | -2.278 | 9.533 | 0.326 |
| -3.600 | 31.001 | -2.251 | 9.286 | 0.316 |
| -4.100 | 34.285 | -2.228 | 9.195 | 0.309 |
| -4.600 | 37.698 | -2.204 | 9.226 | 0.303 |
| -5.200 | 41.903 | -2.176 | 9.364 | 0.296 |
| -5.200 | 41.903 | -2.176 | 9.364 | 0.296 |
| -5.950 | 42.130 | -2.123 | 9.539 | 0.247 |
| -6.700 | 42.610 | -2.108 | 9.617 | 0.200 |
| -6.700 | 42.610 | -2.108 | 9.617 | 0.200 |
| -7.400 | 46.871 | -2.109 | 9.588 | 0.188 |
| -8.400 | 52.826 | -2.111 | 9.416 | 0.171 |
| -9.000 | 56.353 | -2.114 | 9.262 | 0.162 |
| -9.700 | 60.444 | -2.118 | 9.052 | 0.152 |
| -10.700 | 66.271 | -2.125 | 8.719 | 0.138 |
| -11.300 | 69.769 | -2.131 | 8.509 | 0.129 |
| -11.300 | 69.769 | -2.131 | 8.509 | 0.129 |
| -11.650 | 71.780 | -2.161 | 8.384 | 0.121 |
| -12.000 | 73.819 | -2.193 | 8.260 | 0.114 |
| -12.000 | 73.819 | -2.193 | 8.260 | 0.114 |
| -12.700 | 77.922 | -2.203 | 8.010 | 0.104 |
| -13.700 | 83.813 | -2.219 | 7.657 | 0.090 |
| -14.100 | 86.180 | -2.227 | 7.517 | 0.085 |
| -14.800 | 90.339 | -2.241 | 7.277 | 0.076 |
| -15.800 | 96.319 | -2.265 | 6.943 | 0.063 |
| -16.200 | 98.724 | -2.275 | 6.813 | 0.057 |
| -16.200 | 98.724 | -2.275 | 6.813 | 0.057 |
| -17.050 | 101.503 | -2.128 | 6.543 | 0.038 |
| -17.900 | 104.476 | -2.000 | 6.282 | 0.017 |
| -17.900 | 104.476 | -2.000 | 6.282 | 0.017 |
| -19.801 | 123.285 | -2.000 | 5.731 | 0.011 |
| -21.701 | 142.131 | -2.000 | 5.225 | 0.007 |
| -23.602 | 161.031 | -2.000 | 4.761 | 0.003 |
| -25.502 | 179.960 | -2.000 | 4.336 | 0.000 |

### 3.35 Results for Vertical 35 (X = -9.51 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.781 | 17.348 | -0.781 | 17.347 | 0.581 |
| -0.841 | 14.645 | -0.819 | 13.907 | 0.561 |
| -0.881 | 14.729 | -0.846 | 13.474 | 0.551 |
| -0.900 | 14.870 | -0.859 | 13.372 | 0.547 |
| -0.900 | 14.870 | -0.859 | 13.372 | 0.547 |
| -0.981 | 15.466 | -0.922 | 13.049 | 0.530 |
| -1.081 | 16.164 | -1.000 | 12.616 | 0.513 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.181 | 17.003 | -1.077 | 12.329 | 0.498 |
| -1.281 | 17.930 | -1.153 | 12.138 | 0.485 |
| -1.350 | 18.615 | -1.205 | 12.056 | 0.477 |
| -1.381 | 18.937 | -1.229 | 12.034 | 0.474 |
| -1.481 | 20.018 | -1.303 | 12.013 | 0.463 |
| -1.581 | 21.129 | -1.377 | 12.030 | 0.454 |
| -1.681 | 22.232 | -1.450 | 12.047 | 0.445 |
| -1.781 | 23.309 | -1.523 | 12.046 | 0.436 |
| -1.800 | 23.511 | -1.536 | 12.043 | 0.435 |
| -1.800 | 23.511 | -1.536 | 12.043 | 0.435 |
| -2.000 | 25.321 | -1.713 | 11.983 | 0.408 |
| -2.400 | 28.373 | -2.067 | 11.281 | 0.361 |
| -2.650 | 28.172 | -2.291 | 8.712 | 0.338 |
| -3.000 | 27.971 | -2.260 | 8.579 | 0.310 |
| -3.000 | 27.971 | -2.260 | 8.579 | 0.310 |
| -3.600 | 31.890 | -2.234 | 8.437 | 0.302 |
| -4.100 | 35.241 | -2.212 | 8.406 | 0.296 |
| -4.600 | 38.691 | -2.189 | 8.470 | 0.290 |
| -5.200 | 42.930 | -2.162 | 8.637 | 0.284 |
| -5.200 | 42.930 | -2.162 | 8.637 | 0.284 |
| -5.950 | 43.237 | -2.113 | 8.867 | 0.239 |
| -6.700 | 43.821 | -2.100 | 9.022 | 0.194 |
| -6.700 | 43.821 | -2.100 | 9.022 | 0.194 |
| -7.400 | 48.164 | -2.101 | 9.073 | 0.184 |
| -8.400 | 54.233 | -2.104 | 9.008 | 0.168 |
| -9.000 | 57.821 | -2.106 | 8.912 | 0.160 |
| -9.700 | 61.975 | -2.111 | 8.761 | 0.150 |
| -10.700 | 67.879 | -2.119 | 8.500 | 0.136 |
| -11.300 | 71.416 | -2.125 | 8.326 | 0.128 |
| -11.300 | 71.416 | -2.125 | 8.326 | 0.128 |
| -11.650 | 73.454 | -2.155 | 8.221 | 0.120 |
| -12.000 | 75.518 | -2.187 | 8.114 | 0.113 |
| -12.000 | 75.518 | -2.187 | 8.114 | 0.113 |
| -12.700 | 79.657 | -2.197 | 7.897 | 0.103 |
| -13.700 | 85.591 | -2.214 | 7.584 | 0.090 |
| -14.100 | 87.974 | -2.222 | 7.458 | 0.084 |
| -14.800 | 92.157 | -2.237 | 7.240 | 0.075 |
| -15.800 | 98.168 | -2.260 | 6.934 | 0.062 |
| -16.200 | 100.585 | -2.271 | 6.813 | 0.057 |
| -16.200 | 100.585 | -2.271 | 6.813 | 0.057 |
| -17.050 | 103.402 | -2.126 | 6.562 | 0.038 |
| -17.900 | 106.412 | -2.000 | 6.317 | 0.016 |
| -17.900 | 106.413 | -2.000 | 6.317 | 0.016 |
| -19.801 | 125.253 | -2.000 | 5.796 | 0.011 |
| -21.701 | 144.122 | -2.000 | 5.313 | 0.007 |
| -23.602 | 163.039 | -2.000 | 4.867 | 0.003 |
| -25.502 | 181.983 | -2.000 | 4.456 | 0.000 |

### 3.36 Results for Vertical 36 (X = -9.50 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.776 | 12.610 | -0.776 | 12.609 | 0.578 |
| -0.838 | 9.548 | -0.822 | 8.709 | 0.560 |
| -0.876 | 12.874 | -0.851 | 11.519 | 0.552 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.900 | 13.859 | -0.868 | 12.191 | 0.547 |
| -0.900 | 13.860 | -0.868 | 12.191 | 0.547 |
| -0.976 | 15.155 | -0.928 | 12.615 | 0.531 |
| -1.076 | 16.105 | -1.006 | 12.431 | 0.514 |
| -1.176 | 17.018 | -1.083 | 12.217 | 0.500 |
| -1.276 | 17.975 | -1.160 | 12.056 | 0.487 |
| -1.350 | 18.720 | -1.216 | 11.978 | 0.478 |
| -1.376 | 18.991 | -1.235 | 11.962 | 0.475 |
| -1.476 | 20.073 | -1.310 | 11.942 | 0.465 |
| -1.576 | 21.184 | -1.384 | 11.959 | 0.455 |
| -1.676 | 22.289 | -1.457 | 11.977 | 0.446 |
| -1.776 | 23.369 | -1.529 | 11.980 | 0.437 |
| -1.800 | 23.625 | -1.547 | 11.977 | 0.435 |
| -1.800 | 23.625 | -1.547 | 11.977 | 0.435 |
| -2.000 | 25.440 | -1.723 | 11.922 | 0.409 |
| -2.400 | 28.397 | -2.077 | 11.127 | 0.362 |
| -2.641 | 28.205 | -2.293 | 8.650 | 0.339 |
| -3.000 | 27.998 | -2.261 | 8.516 | 0.311 |
| -3.000 | 27.998 | -2.261 | 8.516 | 0.311 |
| -3.600 | 31.919 | -2.235 | 8.379 | 0.302 |
| -4.100 | 35.270 | -2.212 | 8.351 | 0.296 |
| -4.600 | 38.719 | -2.189 | 8.416 | 0.291 |
| -5.200 | 42.955 | -2.161 | 8.585 | 0.285 |
| -5.200 | 42.955 | -2.161 | 8.585 | 0.285 |
| -5.950 | 43.253 | -2.111 | 8.817 | 0.239 |
| -6.700 | 43.828 | -2.098 | 8.975 | 0.195 |
| -6.700 | 43.828 | -2.098 | 8.975 | 0.195 |
| -7.400 | 48.174 | -2.098 | 9.029 | 0.184 |
| -8.400 | 54.246 | -2.101 | 8.968 | 0.169 |
| -9.000 | 57.836 | -2.104 | 8.874 | 0.160 |
| -9.700 | 61.991 | -2.108 | 8.726 | 0.150 |
| -10.700 | 67.897 | -2.116 | 8.467 | 0.136 |
| -11.300 | 71.435 | -2.122 | 8.295 | 0.128 |
| -11.300 | 71.435 | -2.122 | 8.295 | 0.128 |
| -11.650 | 73.468 | -2.151 | 8.191 | 0.120 |
| -12.000 | 75.528 | -2.183 | 8.085 | 0.113 |
| -12.000 | 75.528 | -2.183 | 8.085 | 0.113 |
| -12.700 | 79.667 | -2.193 | 7.869 | 0.103 |
| -13.700 | 85.601 | -2.210 | 7.557 | 0.090 |
| -14.100 | 87.983 | -2.217 | 7.433 | 0.084 |
| -14.800 | 92.166 | -2.232 | 7.215 | 0.075 |
| -15.800 | 98.175 | -2.255 | 6.910 | 0.062 |
| -16.200 | 100.591 | -2.266 | 6.790 | 0.057 |
| -16.200 | 100.591 | -2.266 | 6.790 | 0.057 |
| -17.050 | 103.435 | -2.123 | 6.539 | 0.038 |
| -17.900 | 106.471 | -2.000 | 6.295 | 0.016 |
| -17.900 | 106.471 | -2.000 | 6.295 | 0.016 |
| -19.801 | 125.312 | -2.000 | 5.775 | 0.011 |
| -21.701 | 144.183 | -2.000 | 5.293 | 0.007 |
| -23.602 | 163.101 | -2.000 | 4.848 | 0.003 |
| -25.502 | 182.046 | -2.000 | 4.438 | 0.000 |

### 3.37 Results for Vertical 37 (X = -8.25 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.147 | 5.566 | -0.147 | 5.565 | 0.410 |
| -0.247 | 7.635 | -0.235 | 6.156 | 0.389 |
| -0.347 | 9.082 | -0.319 | 6.153 | 0.377 |
| -0.447 | 10.265 | -0.402 | 5.907 | 0.368 |
| -0.524 | 11.053 | -0.464 | 5.614 | 0.363 |
| -0.547 | 11.288 | -0.483 | 5.518 | 0.361 |
| -0.647 | 12.350 | -0.562 | 5.182 | 0.356 |
| -0.747 | 13.690 | -0.640 | 5.140 | 0.352 |
| -0.847 | 15.219 | -0.716 | 5.308 | 0.349 |
| -0.900 | 16.040 | -0.755 | 5.419 | 0.347 |
| -0.900 | 16.041 | -0.755 | 5.419 | 0.347 |
| -0.947 | 16.713 | -0.796 | 5.513 | 0.344 |
| -1.047 | 18.102 | -0.883 | 5.679 | 0.339 |
| -1.147 | 19.434 | -0.969 | 5.795 | 0.334 |
| -1.350 | 21.223 | -1.143 | 5.137 | 0.324 |
| -1.552 | 21.687 | -1.314 | 3.173 | 0.317 |
| -1.800 | 22.224 | -1.277 | 3.162 | 0.310 |
| -1.800 | 22.224 | -1.277 | 3.162 | 0.310 |
| -2.000 | 22.193 | -1.259 | 3.162 | 0.300 |
| -2.400 | 22.227 | -1.229 | 3.222 | 0.281 |
| -3.000 | 22.486 | -1.191 | 3.436 | 0.255 |
| -3.000 | 22.486 | -1.191 | 3.436 | 0.255 |
| -3.600 | 26.915 | -1.173 | 3.726 | 0.253 |
| -4.100 | 30.619 | -1.157 | 3.992 | 0.251 |
| -4.600 | 34.331 | -1.140 | 4.275 | 0.248 |
| -5.200 | 38.797 | -1.118 | 4.631 | 0.246 |
| -5.200 | 38.797 | -1.118 | 4.631 | 0.246 |
| -5.950 | 39.392 | -1.079 | 5.082 | 0.211 |
| -6.700 | 40.240 | -1.068 | 5.500 | 0.175 |
| -6.700 | 40.241 | -1.068 | 5.500 | 0.175 |
| -7.400 | 44.859 | -1.068 | 5.832 | 0.168 |
| -8.400 | 51.344 | -1.070 | 6.184 | 0.157 |
| -9.000 | 55.172 | -1.072 | 6.328 | 0.150 |
| -9.700 | 59.587 | -1.075 | 6.440 | 0.141 |
| -10.700 | 65.818 | -1.082 | 6.512 | 0.129 |
| -11.300 | 69.525 | -1.087 | 6.515 | 0.122 |
| -11.300 | 69.525 | -1.087 | 6.515 | 0.122 |
| -11.650 | 71.606 | -1.111 | 6.505 | 0.115 |
| -12.000 | 73.704 | -1.138 | 6.488 | 0.107 |
| -12.000 | 73.704 | -1.138 | 6.488 | 0.107 |
| -12.700 | 77.995 | -1.146 | 6.436 | 0.098 |
| -13.700 | 84.112 | -1.160 | 6.327 | 0.086 |
| -14.100 | 86.557 | -1.167 | 6.274 | 0.081 |
| -14.800 | 90.838 | -1.179 | 6.173 | 0.072 |
| -15.800 | 96.963 | -1.199 | 6.012 | 0.059 |
| -16.200 | 99.418 | -1.208 | 5.944 | 0.054 |
| -16.200 | 99.418 | -1.208 | 5.944 | 0.054 |
| -17.050 | 107.515 | -1.591 | 5.793 | 0.035 |
| -17.900 | 115.865 | -2.000 | 5.638 | 0.015 |
| -17.900 | 115.865 | -2.000 | 5.638 | 0.015 |
| -19.801 | 134.873 | -2.000 | 5.282 | 0.010 |
| -21.701 | 153.872 | -2.000 | 4.927 | 0.006 |
| -23.602 | 172.892 | -2.000 | 4.581 | 0.003 |
| -25.502 | 191.916 | -2.000 | 4.250 | 0.000 |

### 3.38 Results for Vertical 38 (X = -7.51 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.222 | 1.160 | 0.222 | 1.159 | 0.317 |
| 0.122 | 3.484 | 0.126 | 1.920 | 0.306 |
| 0.022 | 5.604 | 0.033 | 2.509 | 0.299 |
| -0.078 | 7.043 | -0.058 | 2.442 | 0.294 |
| -0.178 | 8.478 | -0.146 | 2.392 | 0.291 |
| -0.278 | 9.898 | -0.232 | 2.347 | 0.288 |
| -0.339 | 10.754 | -0.284 | 2.318 | 0.287 |
| -0.378 | 11.298 | -0.317 | 2.299 | 0.286 |
| -0.478 | 12.681 | -0.399 | 2.254 | 0.284 |
| -0.578 | 14.055 | -0.480 | 2.216 | 0.283 |
| -0.678 | 15.315 | -0.559 | 2.080 | 0.281 |
| -0.778 | 15.704 | -0.637 | 1.089 | 0.281 |
| -0.900 | 16.187 | -0.730 | -0.097 | 0.280 |
| -0.900 | 16.187 | -0.730 | -0.097 | 0.280 |
| -0.913 | 16.223 | -0.741 | -0.221 | 0.280 |
| -1.350 | 17.608 | -0.693 | 0.022 | 0.273 |
| -1.800 | 19.174 | -0.643 | 0.422 | 0.267 |
| -1.800 | 19.174 | -0.643 | 0.422 | 0.267 |
| -2.000 | 19.362 | -0.630 | 0.601 | 0.262 |
| -2.400 | 19.740 | -0.606 | 0.939 | 0.251 |
| -3.000 | 20.332 | -0.576 | 1.413 | 0.234 |
| -3.000 | 20.332 | -0.576 | 1.413 | 0.234 |
| -3.600 | 24.953 | -0.560 | 1.869 | 0.234 |
| -4.100 | 28.779 | -0.546 | 2.240 | 0.233 |
| -4.600 | 32.589 | -0.530 | 2.607 | 0.231 |
| -5.200 | 37.143 | -0.510 | 3.041 | 0.230 |
| -5.200 | 37.143 | -0.510 | 3.041 | 0.230 |
| -5.950 | 37.827 | -0.472 | 3.569 | 0.199 |
| -6.700 | 38.735 | -0.460 | 4.064 | 0.167 |
| -6.700 | 38.735 | -0.460 | 4.064 | 0.167 |
| -7.400 | 43.430 | -0.461 | 4.479 | 0.161 |
| -8.400 | 50.045 | -0.462 | 4.969 | 0.152 |
| -9.000 | 53.958 | -0.464 | 5.202 | 0.145 |
| -9.700 | 58.473 | -0.467 | 5.418 | 0.138 |
| -10.700 | 64.842 | -0.472 | 5.634 | 0.126 |
| -11.300 | 68.626 | -0.476 | 5.718 | 0.119 |
| -11.300 | 68.626 | -0.476 | 5.718 | 0.119 |
| -11.650 | 70.724 | -0.498 | 5.754 | 0.112 |
| -12.000 | 72.836 | -0.521 | 5.781 | 0.105 |
| -12.000 | 72.836 | -0.521 | 5.781 | 0.105 |
| -12.700 | 77.203 | -0.529 | 5.810 | 0.096 |
| -13.700 | 83.414 | -0.541 | 5.807 | 0.084 |
| -14.100 | 85.892 | -0.547 | 5.793 | 0.079 |
| -14.800 | 90.226 | -0.558 | 5.754 | 0.070 |
| -15.800 | 96.417 | -0.577 | 5.673 | 0.058 |
| -16.200 | 98.894 | -0.585 | 5.634 | 0.053 |
| -16.200 | 98.894 | -0.585 | 5.634 | 0.053 |
| -17.050 | 110.087 | -1.278 | 5.541 | 0.034 |
| -17.900 | 121.562 | -2.000 | 5.437 | 0.014 |
| -17.900 | 121.562 | -2.000 | 5.437 | 0.014 |
| -19.801 | 140.668 | -2.000 | 5.176 | 0.010 |
| -21.701 | 159.744 | -2.000 | 4.897 | 0.006 |
| -23.602 | 178.824 | -2.000 | 4.611 | 0.003 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -25.502 | 197.898 | -2.000 | 4.329 | 0.000 |

### 3.39 Results for Vertical 39 (X = -7.39 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.281 | 0.535 | 0.281 | 0.534 | 0.292 |
| 0.181 | 2.198 | 0.183 | 0.619 | 0.286 |
| 0.081 | 3.631 | 0.087 | 0.495 | 0.284 |
| -0.019 | 5.086 | -0.006 | 0.413 | 0.283 |
| -0.119 | 6.934 | -0.097 | 0.748 | 0.281 |
| -0.219 | 8.802 | -0.186 | 1.130 | 0.280 |
| -0.309 | 10.351 | -0.264 | 1.354 | 0.279 |
| -0.319 | 10.507 | -0.272 | 1.372 | 0.279 |
| -0.419 | 12.095 | -0.356 | 1.517 | 0.277 |
| -0.519 | 13.607 | -0.437 | 1.608 | 0.276 |
| -0.619 | 14.584 | -0.517 | 1.181 | 0.275 |
| -0.719 | 15.038 | -0.596 | 0.246 | 0.275 |
| -0.810 | 15.439 | -0.666 | -0.612 | 0.274 |
| -0.900 | 15.825 | -0.645 | -0.572 | 0.274 |
| -0.900 | 15.825 | -0.645 | -0.572 | 0.274 |
| -1.350 | 17.304 | -0.597 | -0.283 | 0.268 |
| -1.800 | 18.885 | -0.548 | 0.119 | 0.263 |
| -1.800 | 18.885 | -0.548 | 0.119 | 0.263 |
| -2.000 | 19.081 | -0.535 | 0.302 | 0.258 |
| -2.400 | 19.478 | -0.512 | 0.654 | 0.248 |
| -3.000 | 20.094 | -0.482 | 1.149 | 0.232 |
| -3.000 | 20.094 | -0.482 | 1.149 | 0.232 |
| -3.600 | 24.731 | -0.467 | 1.620 | 0.231 |
| -4.100 | 28.567 | -0.453 | 2.002 | 0.230 |
| -4.600 | 32.384 | -0.437 | 2.376 | 0.229 |
| -5.200 | 36.945 | -0.417 | 2.818 | 0.228 |
| -5.200 | 36.945 | -0.417 | 2.818 | 0.228 |
| -5.950 | 37.631 | -0.378 | 3.354 | 0.197 |
| -6.700 | 38.537 | -0.365 | 3.857 | 0.166 |
| -6.700 | 38.537 | -0.365 | 3.857 | 0.166 |
| -7.400 | 43.240 | -0.366 | 4.281 | 0.160 |
| -8.400 | 49.869 | -0.367 | 4.787 | 0.151 |
| -9.000 | 53.792 | -0.369 | 5.031 | 0.145 |
| -9.700 | 58.319 | -0.371 | 5.261 | 0.137 |
| -10.700 | 64.706 | -0.376 | 5.496 | 0.126 |
| -11.300 | 68.500 | -0.381 | 5.592 | 0.119 |
| -11.300 | 68.500 | -0.381 | 5.592 | 0.119 |
| -11.650 | 70.599 | -0.401 | 5.634 | 0.112 |
| -12.000 | 72.710 | -0.424 | 5.667 | 0.105 |
| -12.000 | 72.710 | -0.424 | 5.667 | 0.105 |
| -12.700 | 77.087 | -0.431 | 5.708 | 0.096 |
| -13.700 | 83.311 | -0.444 | 5.720 | 0.084 |
| -14.100 | 85.794 | -0.449 | 5.712 | 0.079 |
| -14.800 | 90.136 | -0.460 | 5.683 | 0.070 |
| -15.800 | 96.335 | -0.479 | 5.614 | 0.058 |
| -16.200 | 98.815 | -0.487 | 5.580 | 0.053 |
| -16.200 | 98.816 | -0.487 | 5.580 | 0.053 |
| -17.050 | 110.498 | -1.228 | 5.495 | 0.034 |
| -17.900 | 122.467 | -2.000 | 5.399 | 0.014 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -17.900 | 122.467 | -2.000 | 5.399 | 0.014 |
| -19.801 | 141.588 | -2.000 | 5.154 | 0.010 |
| -21.701 | 160.677 | -2.000 | 4.886 | 0.006 |
| -23.602 | 179.767 | -2.000 | 4.610 | 0.003 |
| -25.502 | 198.849 | -2.000 | 4.335 | 0.000 |

### 3.40 Results for Vertical 40 (X = -7.38 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.283 | 0.368 | 0.283 | 0.367 | 0.290 |
| 0.183 | 2.100 | 0.185 | 0.518 | 0.285 |
| 0.083 | 3.611 | 0.089 | 0.472 | 0.283 |
| -0.017 | 5.072 | -0.005 | 0.396 | 0.282 |
| -0.117 | 6.855 | -0.096 | 0.666 | 0.280 |
| -0.217 | 8.712 | -0.184 | 1.034 | 0.279 |
| -0.309 | 10.286 | -0.263 | 1.269 | 0.278 |
| -0.317 | 10.429 | -0.271 | 1.287 | 0.278 |
| -0.417 | 12.031 | -0.355 | 1.445 | 0.277 |
| -0.517 | 13.555 | -0.437 | 1.547 | 0.276 |
| -0.617 | 14.460 | -0.517 | 1.047 | 0.275 |
| -0.717 | 14.921 | -0.595 | 0.118 | 0.274 |
| -0.800 | 15.289 | -0.659 | -0.655 | 0.274 |
| -0.900 | 15.724 | -0.636 | -0.607 | 0.274 |
| -0.900 | 15.724 | -0.636 | -0.607 | 0.274 |
| -1.350 | 17.212 | -0.588 | -0.313 | 0.268 |
| -1.800 | 18.795 | -0.539 | 0.089 | 0.262 |
| -1.800 | 18.795 | -0.539 | 0.089 | 0.262 |
| -2.000 | 18.992 | -0.526 | 0.273 | 0.257 |
| -2.400 | 19.390 | -0.503 | 0.626 | 0.247 |
| -3.000 | 20.009 | -0.473 | 1.122 | 0.232 |
| -3.000 | 20.009 | -0.473 | 1.122 | 0.232 |
| -3.600 | 24.648 | -0.458 | 1.595 | 0.231 |
| -4.100 | 28.485 | -0.444 | 1.977 | 0.230 |
| -4.600 | 32.303 | -0.428 | 2.352 | 0.229 |
| -5.200 | 36.864 | -0.408 | 2.795 | 0.228 |
| -5.200 | 36.864 | -0.408 | 2.795 | 0.228 |
| -5.950 | 37.550 | -0.370 | 3.331 | 0.197 |
| -6.700 | 38.455 | -0.356 | 3.836 | 0.166 |
| -6.700 | 38.455 | -0.356 | 3.836 | 0.166 |
| -7.400 | 43.158 | -0.357 | 4.260 | 0.160 |
| -8.400 | 49.789 | -0.358 | 4.768 | 0.151 |
| -9.000 | 53.712 | -0.360 | 5.013 | 0.145 |
| -9.700 | 58.241 | -0.362 | 5.244 | 0.137 |
| -10.700 | 64.629 | -0.367 | 5.481 | 0.126 |
| -11.300 | 68.424 | -0.371 | 5.578 | 0.119 |
| -11.300 | 68.425 | -0.371 | 5.578 | 0.119 |
| -11.650 | 70.522 | -0.392 | 5.621 | 0.112 |
| -12.000 | 72.633 | -0.415 | 5.654 | 0.105 |
| -12.000 | 72.633 | -0.415 | 5.654 | 0.105 |
| -12.700 | 77.011 | -0.422 | 5.697 | 0.096 |
| -13.700 | 83.236 | -0.434 | 5.710 | 0.084 |
| -14.100 | 85.720 | -0.440 | 5.703 | 0.079 |
| -14.800 | 90.062 | -0.451 | 5.674 | 0.070 |
| -15.800 | 96.261 | -0.469 | 5.607 | 0.058 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -16.200 | 98.742 | -0.477 | 5.573 | 0.053 |
| -16.200 | 98.742 | -0.477 | 5.573 | 0.053 |
| -17.050 | 110.473 | -1.223 | 5.490 | 0.034 |
| -17.900 | 122.490 | -2.000 | 5.394 | 0.014 |
| -17.900 | 122.490 | -2.000 | 5.394 | 0.014 |
| -19.801 | 141.613 | -2.000 | 5.150 | 0.010 |
| -21.701 | 160.702 | -2.000 | 4.884 | 0.006 |
| -23.602 | 179.793 | -2.000 | 4.609 | 0.003 |
| -25.502 | 198.876 | -2.000 | 4.335 | 0.000 |

### 3.41 Results for Vertical 41 (X = -7.14 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.317 | 0.001 | 0.317 | 0.000 | 0.270 |
| 0.217 | 1.710 | 0.218 | 0.122 | 0.269 |
| 0.117 | 3.277 | 0.122 | 0.124 | 0.268 |
| 0.017 | 4.833 | 0.028 | 0.138 | 0.267 |
| -0.083 | 6.376 | -0.064 | 0.158 | 0.266 |
| -0.183 | 7.934 | -0.154 | 0.216 | 0.266 |
| -0.283 | 9.526 | -0.242 | 0.327 | 0.265 |
| -0.292 | 9.662 | -0.249 | 0.339 | 0.265 |
| -0.383 | 11.128 | -0.328 | 0.469 | 0.265 |
| -0.483 | 12.712 | -0.411 | 0.614 | 0.264 |
| -0.583 | 14.011 | -0.493 | 0.494 | 0.264 |
| -0.683 | 14.550 | -0.573 | -0.370 | 0.263 |
| -0.788 | 15.085 | -0.655 | -1.293 | 0.263 |
| -0.900 | 15.629 | -0.630 | -1.190 | 0.263 |
| -0.900 | 15.629 | -0.630 | -1.190 | 0.263 |
| -1.350 | 17.214 | -0.584 | -0.815 | 0.259 |
| -1.800 | 18.811 | -0.536 | -0.413 | 0.254 |
| -1.800 | 18.811 | -0.536 | -0.413 | 0.254 |
| -2.000 | 19.012 | -0.524 | -0.229 | 0.249 |
| -2.400 | 19.425 | -0.501 | 0.133 | 0.240 |
| -3.000 | 20.070 | -0.472 | 0.649 | 0.226 |
| -3.000 | 20.070 | -0.472 | 0.649 | 0.226 |
| -3.600 | 24.728 | -0.457 | 1.141 | 0.226 |
| -4.100 | 28.579 | -0.443 | 1.536 | 0.225 |
| -4.600 | 32.408 | -0.427 | 1.922 | 0.225 |
| -5.200 | 36.979 | -0.407 | 2.376 | 0.223 |
| -5.200 | 36.979 | -0.407 | 2.376 | 0.223 |
| -5.950 | 37.672 | -0.368 | 2.924 | 0.194 |
| -6.700 | 38.581 | -0.354 | 3.441 | 0.164 |
| -6.700 | 38.581 | -0.354 | 3.441 | 0.164 |
| -7.400 | 43.298 | -0.354 | 3.880 | 0.158 |
| -8.400 | 49.953 | -0.356 | 4.415 | 0.149 |
| -9.000 | 53.895 | -0.357 | 4.679 | 0.143 |
| -9.700 | 58.446 | -0.359 | 4.934 | 0.136 |
| -10.700 | 64.869 | -0.364 | 5.207 | 0.125 |
| -11.300 | 68.684 | -0.368 | 5.325 | 0.118 |
| -11.300 | 68.684 | -0.368 | 5.325 | 0.118 |
| -11.650 | 70.787 | -0.388 | 5.380 | 0.111 |
| -12.000 | 72.903 | -0.410 | 5.426 | 0.104 |
| -12.000 | 72.903 | -0.410 | 5.426 | 0.104 |
| -12.700 | 77.301 | -0.417 | 5.491 | 0.096 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -13.700 | 83.554 | -0.429 | 5.535 | 0.083 |
| -14.100 | 86.048 | -0.435 | 5.538 | 0.078 |
| -14.800 | 90.406 | -0.445 | 5.528 | 0.070 |
| -15.800 | 96.626 | -0.463 | 5.485 | 0.057 |
| -16.200 | 99.115 | -0.471 | 5.460 | 0.052 |
| -16.200 | 99.115 | -0.471 | 5.460 | 0.052 |
| -17.050 | 110.894 | -1.221 | 5.394 | 0.034 |
| -17.900 | 122.955 | -2.000 | 5.314 | 0.014 |
| -17.900 | 122.956 | -2.000 | 5.314 | 0.014 |
| -19.801 | 142.109 | -2.000 | 5.100 | 0.010 |
| -21.701 | 161.222 | -2.000 | 4.858 | 0.006 |
| -23.602 | 180.333 | -2.000 | 4.602 | 0.003 |
| -25.502 | 199.432 | -2.000 | 4.344 | 0.000 |

### 3.42 Results for Vertical 42 (X = -7.13 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.319 | 0.001 | 0.319 | 0.000 | 0.269 |
| 0.219 | 1.679 | 0.220 | 0.091 | 0.268 |
| 0.119 | 3.263 | 0.124 | 0.109 | 0.267 |
| 0.019 | 4.822 | 0.030 | 0.126 | 0.266 |
| -0.081 | 6.365 | -0.063 | 0.146 | 0.266 |
| -0.181 | 7.920 | -0.152 | 0.199 | 0.265 |
| -0.281 | 9.503 | -0.240 | 0.303 | 0.265 |
| -0.290 | 9.655 | -0.249 | 0.315 | 0.264 |
| -0.381 | 11.098 | -0.326 | 0.437 | 0.264 |
| -0.481 | 12.679 | -0.410 | 0.578 | 0.263 |
| -0.581 | 13.996 | -0.491 | 0.475 | 0.263 |
| -0.681 | 14.536 | -0.571 | -0.389 | 0.263 |
| -0.787 | 15.079 | -0.655 | -1.323 | 0.263 |
| -0.900 | 15.628 | -0.629 | -1.218 | 0.263 |
| -0.900 | 15.628 | -0.629 | -1.218 | 0.263 |
| -1.350 | 17.217 | -0.583 | -0.840 | 0.258 |
| -1.800 | 18.814 | -0.536 | -0.439 | 0.253 |
| -1.800 | 18.814 | -0.536 | -0.439 | 0.253 |
| -2.000 | 19.014 | -0.523 | -0.255 | 0.249 |
| -2.400 | 19.428 | -0.501 | 0.106 | 0.240 |
| -3.000 | 20.074 | -0.472 | 0.624 | 0.226 |
| -3.000 | 20.074 | -0.472 | 0.624 | 0.226 |
| -3.600 | 24.733 | -0.457 | 1.116 | 0.226 |
| -4.100 | 28.584 | -0.442 | 1.512 | 0.225 |
| -4.600 | 32.413 | -0.427 | 1.898 | 0.224 |
| -5.200 | 36.985 | -0.406 | 2.352 | 0.223 |
| -5.200 | 36.985 | -0.406 | 2.352 | 0.223 |
| -5.950 | 37.679 | -0.368 | 2.901 | 0.194 |
| -6.700 | 38.589 | -0.354 | 3.418 | 0.164 |
| -6.700 | 38.589 | -0.354 | 3.418 | 0.164 |
| -7.400 | 43.305 | -0.354 | 3.858 | 0.158 |
| -8.400 | 49.962 | -0.355 | 4.394 | 0.149 |
| -9.000 | 53.905 | -0.357 | 4.660 | 0.143 |
| -9.700 | 58.458 | -0.359 | 4.916 | 0.136 |
| -10.700 | 64.882 | -0.364 | 5.191 | 0.125 |
| -11.300 | 68.698 | -0.368 | 5.311 | 0.118 |
| -11.300 | 68.698 | -0.368 | 5.311 | 0.118 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -11.650 | 70.802 | -0.388 | 5.366 | 0.111 |
| -12.000 | 72.918 | -0.410 | 5.412 | 0.104 |
| -12.000 | 72.918 | -0.410 | 5.412 | 0.104 |
| -12.700 | 77.318 | -0.417 | 5.479 | 0.096 |
| -13.700 | 83.572 | -0.429 | 5.524 | 0.083 |
| -14.100 | 86.066 | -0.434 | 5.528 | 0.078 |
| -14.800 | 90.426 | -0.445 | 5.520 | 0.070 |
| -15.800 | 96.647 | -0.463 | 5.478 | 0.057 |
| -16.200 | 99.136 | -0.471 | 5.453 | 0.052 |
| -16.200 | 99.136 | -0.471 | 5.453 | 0.052 |
| -17.050 | 110.919 | -1.220 | 5.388 | 0.034 |
| -17.900 | 122.983 | -2.000 | 5.309 | 0.014 |
| -17.900 | 122.983 | -2.000 | 5.309 | 0.014 |
| -19.801 | 142.138 | -2.000 | 5.097 | 0.010 |
| -21.701 | 161.253 | -2.000 | 4.856 | 0.006 |
| -23.602 | 180.365 | -2.000 | 4.602 | 0.003 |
| -25.502 | 199.464 | -2.000 | 4.344 | 0.000 |

### 3.43 Results for Vertical 43 (X = -6.83 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.336 | 0.001 | 0.336 | 0.000 | 0.256 |
| 0.236 | 1.589 | 0.237 | 0.000 | 0.255 |
| 0.136 | 3.159 | 0.140 | 0.002 | 0.254 |
| 0.036 | 4.714 | 0.046 | 0.009 | 0.254 |
| -0.064 | 6.252 | -0.047 | 0.021 | 0.253 |
| -0.164 | 7.777 | -0.137 | 0.039 | 0.253 |
| -0.264 | 9.293 | -0.226 | 0.067 | 0.253 |
| -0.282 | 9.565 | -0.242 | 0.074 | 0.252 |
| -0.364 | 10.805 | -0.312 | 0.110 | 0.252 |
| -0.464 | 12.314 | -0.397 | 0.169 | 0.252 |
| -0.564 | 13.701 | -0.480 | 0.125 | 0.251 |
| -0.664 | 14.212 | -0.561 | -0.778 | 0.251 |
| -0.772 | 14.753 | -0.647 | -1.754 | 0.251 |
| -0.900 | 15.374 | -0.619 | -1.649 | 0.252 |
| -0.900 | 15.374 | -0.619 | -1.649 | 0.252 |
| -1.350 | 16.973 | -0.576 | -1.284 | 0.248 |
| -1.800 | 18.566 | -0.531 | -0.908 | 0.244 |
| -1.800 | 18.566 | -0.531 | -0.908 | 0.244 |
| -2.000 | 18.760 | -0.519 | -0.737 | 0.240 |
| -2.400 | 19.167 | -0.497 | -0.390 | 0.232 |
| -3.000 | 19.817 | -0.469 | 0.120 | 0.220 |
| -3.000 | 19.817 | -0.469 | 0.120 | 0.220 |
| -3.600 | 24.481 | -0.454 | 0.614 | 0.220 |
| -4.100 | 28.339 | -0.440 | 1.014 | 0.219 |
| -4.600 | 32.174 | -0.425 | 1.405 | 0.219 |
| -5.200 | 36.753 | -0.405 | 1.864 | 0.218 |
| -5.200 | 36.753 | -0.405 | 1.864 | 0.218 |
| -5.950 | 37.452 | -0.366 | 2.419 | 0.189 |
| -6.700 | 38.364 | -0.352 | 2.945 | 0.161 |
| -6.700 | 38.364 | -0.352 | 2.945 | 0.161 |
| -7.400 | 43.091 | -0.352 | 3.397 | 0.156 |
| -8.400 | 49.771 | -0.353 | 3.960 | 0.147 |
| -9.000 | 53.732 | -0.354 | 4.245 | 0.141 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -9.700 | 58.308 | -0.357 | 4.528 | 0.134 |
| -10.700 | 64.769 | -0.361 | 4.842 | 0.124 |
| -11.300 | 68.608 | -0.365 | 4.985 | 0.117 |
| -11.300 | 68.608 | -0.365 | 4.985 | 0.117 |
| -11.650 | 70.716 | -0.384 | 5.054 | 0.110 |
| -12.000 | 72.837 | -0.405 | 5.114 | 0.103 |
| -12.000 | 72.837 | -0.405 | 5.114 | 0.103 |
| -12.700 | 77.260 | -0.412 | 5.207 | 0.095 |
| -13.700 | 83.546 | -0.423 | 5.287 | 0.083 |
| -14.100 | 86.052 | -0.429 | 5.305 | 0.078 |
| -14.800 | 90.431 | -0.439 | 5.318 | 0.069 |
| -15.800 | 96.677 | -0.456 | 5.305 | 0.057 |
| -16.200 | 99.174 | -0.464 | 5.291 | 0.052 |
| -16.200 | 99.174 | -0.464 | 5.291 | 0.052 |
| -17.050 | 111.015 | -1.217 | 5.247 | 0.033 |
| -17.900 | 123.131 | -2.000 | 5.188 | 0.013 |
| -17.900 | 123.131 | -2.000 | 5.188 | 0.013 |
| -19.801 | 142.323 | -2.000 | 5.013 | 0.009 |
| -21.701 | 161.469 | -2.000 | 4.802 | 0.006 |
| -23.602 | 180.606 | -2.000 | 4.572 | 0.003 |
| -25.502 | 199.725 | -2.000 | 4.334 | 0.000 |

### 3.44 Results for Vertical 44 (X = -6.69 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.347 | 0.001 | 0.347 | 0.000 | 0.251 |
| 0.247 | 1.589 | 0.248 | 0.000 | 0.250 |
| 0.147 | 3.158 | 0.151 | 0.000 | 0.249 |
| 0.047 | 4.709 | 0.057 | 0.003 | 0.249 |
| -0.053 | 6.243 | -0.036 | 0.008 | 0.248 |
| -0.153 | 7.761 | -0.127 | 0.017 | 0.248 |
| -0.253 | 9.267 | -0.216 | 0.033 | 0.248 |
| -0.277 | 9.619 | -0.236 | 0.038 | 0.247 |
| -0.353 | 10.764 | -0.303 | 0.058 | 0.247 |
| -0.453 | 12.254 | -0.388 | 0.095 | 0.247 |
| -0.553 | 13.703 | -0.471 | 0.110 | 0.247 |
| -0.653 | 14.197 | -0.552 | -0.815 | 0.246 |
| -0.765 | 14.741 | -0.642 | -1.846 | 0.247 |
| -0.900 | 15.383 | -0.613 | -1.755 | 0.247 |
| -0.900 | 15.383 | -0.613 | -1.755 | 0.247 |
| -1.350 | 16.952 | -0.570 | -1.427 | 0.243 |
| -1.800 | 18.529 | -0.526 | -1.075 | 0.239 |
| -1.800 | 18.529 | -0.526 | -1.075 | 0.239 |
| -2.000 | 18.717 | -0.515 | -0.912 | 0.236 |
| -2.400 | 19.114 | -0.493 | -0.581 | 0.228 |
| -3.000 | 19.756 | -0.466 | -0.082 | 0.217 |
| -3.000 | 19.756 | -0.466 | -0.082 | 0.217 |
| -3.600 | 24.416 | -0.451 | 0.406 | 0.217 |
| -4.100 | 28.273 | -0.437 | 0.803 | 0.217 |
| -4.600 | 32.109 | -0.422 | 1.193 | 0.216 |
| -5.200 | 36.688 | -0.402 | 1.651 | 0.215 |
| -5.200 | 36.688 | -0.402 | 1.651 | 0.215 |
| -5.950 | 37.390 | -0.364 | 2.206 | 0.187 |
| -6.700 | 38.302 | -0.349 | 2.734 | 0.159 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -6.700 | 38.302 | -0.349 | 2.734 | 0.159 |
| -7.400 | 43.033 | -0.349 | 3.190 | 0.154 |
| -8.400 | 49.721 | -0.350 | 3.763 | 0.146 |
| -9.000 | 53.689 | -0.352 | 4.056 | 0.140 |
| -9.700 | 58.275 | -0.354 | 4.348 | 0.134 |
| -10.700 | 64.751 | -0.359 | 4.679 | 0.123 |
| -11.300 | 68.600 | -0.362 | 4.832 | 0.117 |
| -11.300 | 68.600 | -0.362 | 4.832 | 0.117 |
| -11.650 | 70.711 | -0.381 | 4.907 | 0.110 |
| -12.000 | 72.834 | -0.402 | 4.973 | 0.103 |
| -12.000 | 72.834 | -0.402 | 4.973 | 0.103 |
| -12.700 | 77.269 | -0.408 | 5.077 | 0.094 |
| -13.700 | 83.569 | -0.419 | 5.174 | 0.082 |
| -14.100 | 86.081 | -0.425 | 5.197 | 0.078 |
| -14.800 | 90.468 | -0.435 | 5.220 | 0.069 |
| -15.800 | 96.726 | -0.452 | 5.220 | 0.057 |
| -16.200 | 99.227 | -0.460 | 5.211 | 0.052 |
| -16.200 | 99.227 | -0.460 | 5.211 | 0.052 |
| -17.050 | 111.099 | -1.215 | 5.177 | 0.033 |
| -17.900 | 123.244 | -2.000 | 5.126 | 0.013 |
| -17.900 | 123.244 | -2.000 | 5.126 | 0.013 |
| -19.801 | 142.454 | -2.000 | 4.969 | 0.009 |
| -21.701 | 161.614 | -2.000 | 4.772 | 0.006 |
| -23.602 | 180.762 | -2.000 | 4.553 | 0.003 |
| -25.502 | 199.891 | -2.000 | 4.325 | 0.000 |

### 3.45 Results for Vertical 45 (X = -5.90 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.365 | 0.001 | 0.365 | 0.000 | 0.231 |
| 0.265 | 1.590 | 0.266 | 0.000 | 0.230 |
| 0.165 | 3.161 | 0.169 | 0.000 | 0.229 |
| 0.065 | 4.713 | 0.074 | 0.000 | 0.229 |
| -0.035 | 6.248 | -0.019 | 0.000 | 0.228 |
| -0.135 | 7.764 | -0.111 | 0.001 | 0.228 |
| -0.235 | 9.264 | -0.201 | 0.002 | 0.228 |
| -0.268 | 9.747 | -0.229 | 0.002 | 0.227 |
| -0.335 | 10.747 | -0.288 | 0.004 | 0.227 |
| -0.435 | 12.216 | -0.375 | 0.007 | 0.227 |
| -0.535 | 13.604 | -0.459 | -0.053 | 0.227 |
| -0.635 | 14.065 | -0.542 | -1.025 | 0.226 |
| -0.726 | 14.474 | -0.616 | -1.906 | 0.227 |
| -0.900 | 15.246 | -0.582 | -1.878 | 0.227 |
| -0.900 | 15.246 | -0.582 | -1.878 | 0.227 |
| -1.350 | 16.644 | -0.543 | -1.759 | 0.223 |
| -1.800 | 18.092 | -0.503 | -1.576 | 0.220 |
| -1.800 | 18.092 | -0.503 | -1.576 | 0.220 |
| -2.000 | 18.225 | -0.493 | -1.479 | 0.217 |
| -2.400 | 18.529 | -0.473 | -1.260 | 0.211 |
| -3.000 | 19.069 | -0.448 | -0.888 | 0.202 |
| -3.000 | 19.069 | -0.448 | -0.888 | 0.202 |
| -3.600 | 23.652 | -0.435 | -0.487 | 0.202 |
| -4.100 | 27.467 | -0.422 | -0.140 | 0.203 |
| -4.600 | 31.274 | -0.407 | 0.212 | 0.202 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -5.200 | 35.828 | -0.389 | 0.636 | 0.202 |
| -5.200 | 35.828 | -0.389 | 0.636 | 0.202 |
| -5.950 | 36.517 | -0.352 | 1.164 | 0.177 |
| -6.700 | 37.412 | -0.338 | 1.677 | 0.151 |
| -6.700 | 37.412 | -0.338 | 1.677 | 0.151 |
| -7.400 | 42.139 | -0.338 | 2.133 | 0.147 |
| -8.400 | 48.844 | -0.338 | 2.728 | 0.140 |
| -9.000 | 52.835 | -0.340 | 3.047 | 0.135 |
| -9.700 | 57.456 | -0.341 | 3.379 | 0.129 |
| -10.700 | 63.995 | -0.345 | 3.778 | 0.119 |
| -11.300 | 67.884 | -0.349 | 3.976 | 0.113 |
| -11.300 | 67.884 | -0.349 | 3.976 | 0.113 |
| -11.650 | 70.004 | -0.365 | 4.078 | 0.107 |
| -12.000 | 72.135 | -0.384 | 4.171 | 0.100 |
| -12.000 | 72.135 | -0.384 | 4.171 | 0.100 |
| -12.700 | 76.619 | -0.390 | 4.330 | 0.092 |
| -13.700 | 82.988 | -0.401 | 4.503 | 0.080 |
| -14.100 | 85.525 | -0.405 | 4.555 | 0.076 |
| -14.800 | 89.956 | -0.415 | 4.628 | 0.068 |
| -15.800 | 96.270 | -0.431 | 4.695 | 0.056 |
| -16.200 | 98.793 | -0.438 | 4.711 | 0.051 |
| -16.200 | 98.793 | -0.438 | 4.711 | 0.051 |
| -17.050 | 110.827 | -1.205 | 4.728 | 0.032 |
| -17.900 | 123.122 | -2.000 | 4.724 | 0.013 |
| -17.900 | 123.122 | -2.000 | 4.724 | 0.013 |
| -19.801 | 142.425 | -2.000 | 4.658 | 0.009 |
| -21.701 | 161.662 | -2.000 | 4.536 | 0.006 |
| -23.602 | 180.873 | -2.000 | 4.380 | 0.003 |
| -25.502 | 200.054 | -2.000 | 4.203 | 0.000 |

### 3.46 Results for Vertical 46 (X = -5.79 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.367 | 0.001 | 0.367 | 0.000 | 0.229 |
| 0.267 | 1.590 | 0.268 | 0.000 | 0.228 |
| 0.167 | 3.162 | 0.171 | 0.000 | 0.227 |
| 0.067 | 4.714 | 0.076 | 0.000 | 0.227 |
| -0.033 | 6.249 | -0.018 | 0.000 | 0.226 |
| -0.133 | 7.766 | -0.109 | 0.000 | 0.226 |
| -0.233 | 9.266 | -0.199 | 0.001 | 0.225 |
| -0.267 | 9.765 | -0.229 | 0.002 | 0.225 |
| -0.333 | 10.750 | -0.287 | 0.003 | 0.225 |
| -0.433 | 12.219 | -0.373 | 0.006 | 0.225 |
| -0.533 | 13.592 | -0.458 | -0.071 | 0.224 |
| -0.633 | 14.053 | -0.541 | -1.045 | 0.224 |
| -0.720 | 14.446 | -0.613 | -1.894 | 0.224 |
| -0.900 | 15.240 | -0.578 | -1.871 | 0.225 |
| -0.900 | 15.240 | -0.578 | -1.871 | 0.225 |
| -1.350 | 16.624 | -0.539 | -1.768 | 0.221 |
| -1.800 | 18.057 | -0.499 | -1.605 | 0.218 |
| -1.800 | 18.057 | -0.499 | -1.605 | 0.218 |
| -2.000 | 18.183 | -0.489 | -1.516 | 0.215 |
| -2.400 | 18.473 | -0.470 | -1.313 | 0.209 |
| -3.000 | 18.996 | -0.445 | -0.962 | 0.200 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.000 | 18.996 | -0.445 | -0.962 | 0.200 |
| -3.600 | 23.564 | -0.432 | -0.577 | 0.201 |
| -4.100 | 27.370 | -0.419 | -0.240 | 0.201 |
| -4.600 | 31.170 | -0.405 | 0.103 | 0.201 |
| -5.200 | 35.718 | -0.386 | 0.520 | 0.200 |
| -5.200 | 35.718 | -0.386 | 0.520 | 0.200 |
| -5.950 | 36.403 | -0.350 | 1.040 | 0.175 |
| -6.700 | 37.294 | -0.335 | 1.549 | 0.150 |
| -6.700 | 37.294 | -0.335 | 1.549 | 0.150 |
| -7.400 | 42.017 | -0.335 | 2.002 | 0.146 |
| -8.400 | 48.721 | -0.336 | 2.597 | 0.139 |
| -9.000 | 52.713 | -0.337 | 2.918 | 0.134 |
| -9.700 | 57.337 | -0.339 | 3.253 | 0.128 |
| -10.700 | 63.882 | -0.343 | 3.658 | 0.119 |
| -11.300 | 67.775 | -0.346 | 3.861 | 0.113 |
| -11.300 | 67.776 | -0.346 | 3.861 | 0.113 |
| -11.650 | 69.896 | -0.363 | 3.966 | 0.106 |
| -12.000 | 72.028 | -0.381 | 4.062 | 0.099 |
| -12.000 | 72.028 | -0.381 | 4.062 | 0.099 |
| -12.700 | 76.518 | -0.387 | 4.228 | 0.092 |
| -13.700 | 82.894 | -0.398 | 4.409 | 0.080 |
| -14.100 | 85.435 | -0.402 | 4.465 | 0.076 |
| -14.800 | 89.871 | -0.412 | 4.544 | 0.067 |
| -15.800 | 96.192 | -0.427 | 4.620 | 0.055 |
| -16.200 | 98.718 | -0.435 | 4.639 | 0.051 |
| -16.200 | 98.718 | -0.435 | 4.639 | 0.051 |
| -17.050 | 110.776 | -1.203 | 4.662 | 0.032 |
| -17.900 | 123.092 | -2.000 | 4.664 | 0.013 |
| -17.900 | 123.092 | -2.000 | 4.664 | 0.013 |
| -19.801 | 142.408 | -2.000 | 4.610 | 0.009 |
| -21.701 | 161.655 | -2.000 | 4.498 | 0.006 |
| -23.602 | 180.875 | -2.000 | 4.350 | 0.003 |
| -25.502 | 200.063 | -2.000 | 4.180 | 0.000 |

### 3.47 Results for Vertical 47 (X = -4.00 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.401 | 0.001 | 0.401 | 0.000 | 0.203 |
| 0.301 | 1.591 | 0.302 | 0.000 | 0.203 |
| 0.201 | 3.165 | 0.205 | 0.000 | 0.202 |
| 0.101 | 4.722 | 0.109 | 0.000 | 0.202 |
| 0.001 | 6.262 | 0.015 | 0.000 | 0.201 |
| -0.099 | 7.786 | -0.077 | 0.000 | 0.201 |
| -0.199 | 9.294 | -0.168 | 0.000 | 0.200 |
| -0.250 | 10.050 | -0.213 | 0.000 | 0.200 |
| -0.299 | 10.787 | -0.257 | 0.000 | 0.200 |
| -0.399 | 12.265 | -0.344 | 0.000 | 0.199 |
| -0.499 | 13.323 | -0.430 | -0.405 | 0.199 |
| -0.599 | 13.792 | -0.515 | -1.385 | 0.199 |
| -0.630 | 13.937 | -0.541 | -1.693 | 0.199 |
| -0.900 | 15.157 | -0.495 | -1.690 | 0.199 |
| -0.900 | 15.157 | -0.495 | -1.690 | 0.199 |
| -1.350 | 16.487 | -0.461 | -1.680 | 0.195 |
| -1.800 | 17.825 | -0.425 | -1.655 | 0.192 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.800 | 17.825 | -0.425 | -1.655 | 0.192 |
| -2.000 | 17.890 | -0.416 | -1.637 | 0.189 |
| -2.400 | 18.050 | -0.399 | -1.588 | 0.183 |
| -3.000 | 18.366 | -0.378 | -1.475 | 0.175 |
| -3.000 | 18.366 | -0.378 | -1.475 | 0.175 |
| -3.600 | 22.725 | -0.366 | -1.317 | 0.176 |
| -4.100 | 26.375 | -0.355 | -1.153 | 0.176 |
| -4.600 | 30.038 | -0.343 | -0.964 | 0.176 |
| -5.200 | 34.446 | -0.326 | -0.709 | 0.176 |
| -5.200 | 34.446 | -0.326 | -0.709 | 0.176 |
| -5.950 | 35.008 | -0.295 | -0.358 | 0.155 |
| -6.700 | 35.786 | -0.283 | 0.017 | 0.133 |
| -6.700 | 35.786 | -0.283 | 0.017 | 0.133 |
| -7.400 | 40.412 | -0.283 | 0.377 | 0.131 |
| -8.400 | 47.027 | -0.284 | 0.890 | 0.126 |
| -9.000 | 50.991 | -0.285 | 1.188 | 0.122 |
| -9.700 | 55.606 | -0.286 | 1.520 | 0.117 |
| -10.700 | 62.173 | -0.289 | 1.956 | 0.110 |
| -11.300 | 66.096 | -0.292 | 2.194 | 0.104 |
| -11.300 | 66.096 | -0.292 | 2.194 | 0.104 |
| -11.650 | 68.218 | -0.306 | 2.324 | 0.098 |
| -12.000 | 70.352 | -0.322 | 2.447 | 0.092 |
| -12.000 | 70.352 | -0.322 | 2.447 | 0.092 |
| -12.700 | 74.896 | -0.327 | 2.673 | 0.085 |
| -13.700 | 81.359 | -0.336 | 2.952 | 0.075 |
| -14.100 | 83.936 | -0.341 | 3.050 | 0.071 |
| -14.800 | 88.435 | -0.349 | 3.202 | 0.063 |
| -15.800 | 94.847 | -0.363 | 3.381 | 0.052 |
| -16.200 | 97.407 | -0.370 | 3.442 | 0.048 |
| -16.200 | 97.407 | -0.370 | 3.442 | 0.048 |
| -17.050 | 109.877 | -1.171 | 3.551 | 0.030 |
| -17.900 | 122.591 | -2.000 | 3.635 | 0.011 |
| -17.900 | 122.591 | -2.000 | 3.635 | 0.011 |
| -19.801 | 142.079 | -2.000 | 3.751 | 0.008 |
| -21.701 | 161.477 | -2.000 | 3.788 | 0.005 |
| -23.602 | 180.827 | -2.000 | 3.767 | 0.003 |
| -25.502 | 200.125 | -2.000 | 3.706 | 0.000 |

### 3.48 Results for Vertical 48 (X = -3.78 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.396 | 0.001 | 0.396 | 0.000 | 0.201 |
| 0.296 | 1.591 | 0.297 | 0.000 | 0.201 |
| 0.196 | 3.165 | 0.200 | 0.000 | 0.200 |
| 0.096 | 4.722 | 0.104 | 0.000 | 0.200 |
| -0.004 | 6.263 | 0.010 | 0.000 | 0.199 |
| -0.104 | 7.787 | -0.082 | 0.000 | 0.198 |
| -0.204 | 9.296 | -0.173 | 0.000 | 0.198 |
| -0.252 | 10.015 | -0.216 | 0.000 | 0.198 |
| -0.304 | 10.789 | -0.262 | 0.000 | 0.198 |
| -0.404 | 12.268 | -0.350 | 0.000 | 0.197 |
| -0.504 | 13.190 | -0.436 | -0.542 | 0.197 |
| -0.604 | 13.660 | -0.521 | -1.522 | 0.197 |
| -0.620 | 13.732 | -0.534 | -1.675 | 0.197 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.900 | 15.009 | -0.487 | -1.673 | 0.197 |
| -0.900 | 15.009 | -0.487 | -1.673 | 0.197 |
| -1.350 | 16.342 | -0.453 | -1.665 | 0.193 |
| -1.800 | 17.680 | -0.418 | -1.644 | 0.190 |
| -1.800 | 17.680 | -0.418 | -1.644 | 0.190 |
| -2.000 | 17.744 | -0.408 | -1.629 | 0.187 |
| -2.400 | 17.898 | -0.392 | -1.588 | 0.181 |
| -3.000 | 18.203 | -0.371 | -1.490 | 0.173 |
| -3.000 | 18.203 | -0.371 | -1.490 | 0.173 |
| -3.600 | 22.545 | -0.359 | -1.350 | 0.174 |
| -4.100 | 26.181 | -0.348 | -1.202 | 0.174 |
| -4.600 | 29.829 | -0.336 | -1.029 | 0.174 |
| -5.200 | 34.221 | -0.320 | -0.792 | 0.174 |
| -5.200 | 34.221 | -0.320 | -0.792 | 0.174 |
| -5.950 | 34.765 | -0.289 | -0.462 | 0.153 |
| -6.700 | 35.525 | -0.277 | -0.105 | 0.131 |
| -6.700 | 35.525 | -0.277 | -0.105 | 0.131 |
| -7.400 | 40.137 | -0.277 | 0.240 | 0.129 |
| -8.400 | 46.735 | -0.278 | 0.737 | 0.124 |
| -9.000 | 50.692 | -0.279 | 1.028 | 0.121 |
| -9.700 | 55.301 | -0.280 | 1.354 | 0.116 |
| -10.700 | 61.862 | -0.283 | 1.787 | 0.109 |
| -11.300 | 65.784 | -0.286 | 2.025 | 0.104 |
| -11.300 | 65.785 | -0.286 | 2.025 | 0.104 |
| -11.650 | 67.904 | -0.300 | 2.155 | 0.098 |
| -12.000 | 70.035 | -0.315 | 2.279 | 0.091 |
| -12.000 | 70.035 | -0.315 | 2.279 | 0.091 |
| -12.700 | 74.581 | -0.320 | 2.508 | 0.085 |
| -13.700 | 81.048 | -0.329 | 2.793 | 0.075 |
| -14.100 | 83.627 | -0.334 | 2.893 | 0.070 |
| -14.800 | 88.131 | -0.342 | 3.051 | 0.063 |
| -15.800 | 94.549 | -0.356 | 3.239 | 0.052 |
| -16.200 | 97.112 | -0.362 | 3.303 | 0.047 |
| -16.200 | 97.112 | -0.362 | 3.303 | 0.047 |
| -17.050 | 109.628 | -1.167 | 3.419 | 0.030 |
| -17.900 | 122.386 | -2.000 | 3.512 | 0.011 |
| -17.900 | 122.386 | -2.000 | 3.512 | 0.011 |
| -19.801 | 141.891 | -2.000 | 3.644 | 0.008 |
| -21.701 | 161.304 | -2.000 | 3.696 | 0.005 |
| -23.602 | 180.668 | -2.000 | 3.689 | 0.003 |
| -25.502 | 199.978 | -2.000 | 3.640 | 0.000 |

### 3.49 Results for Vertical 49 (X = -3.53 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.392 | 0.001 | 0.392 | 0.000 | 0.199 |
| 0.292 | 1.591 | 0.293 | 0.000 | 0.199 |
| 0.192 | 3.165 | 0.196 | 0.000 | 0.198 |
| 0.092 | 4.723 | 0.100 | 0.000 | 0.197 |
| -0.008 | 6.264 | 0.006 | 0.000 | 0.197 |
| -0.108 | 7.789 | -0.086 | 0.000 | 0.196 |
| -0.208 | 9.298 | -0.177 | 0.000 | 0.196 |
| -0.254 | 9.987 | -0.218 | 0.000 | 0.196 |
| -0.308 | 10.792 | -0.266 | 0.000 | 0.195 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.408 | 12.271 | -0.354 | 0.000 | 0.195 |
| -0.508 | 13.053 | -0.440 | -0.683 | 0.195 |
| -0.607 | 13.521 | -0.525 | -1.656 | 0.195 |
| -0.608 | 13.525 | -0.524 | -1.656 | 0.195 |
| -0.900 | 14.863 | -0.476 | -1.654 | 0.195 |
| -0.900 | 14.863 | -0.476 | -1.654 | 0.195 |
| -1.350 | 16.200 | -0.443 | -1.648 | 0.191 |
| -1.800 | 17.539 | -0.408 | -1.631 | 0.188 |
| -1.800 | 17.539 | -0.408 | -1.631 | 0.188 |
| -2.000 | 17.601 | -0.399 | -1.619 | 0.185 |
| -2.400 | 17.751 | -0.383 | -1.585 | 0.179 |
| -3.000 | 18.044 | -0.362 | -1.502 | 0.171 |
| -3.000 | 18.044 | -0.362 | -1.502 | 0.171 |
| -3.600 | 22.370 | -0.351 | -1.380 | 0.171 |
| -4.100 | 25.991 | -0.340 | -1.249 | 0.172 |
| -4.600 | 29.624 | -0.328 | -1.092 | 0.172 |
| -5.200 | 33.998 | -0.312 | -0.876 | 0.172 |
| -5.200 | 33.998 | -0.312 | -0.876 | 0.172 |
| -5.950 | 34.522 | -0.282 | -0.569 | 0.151 |
| -6.700 | 35.262 | -0.270 | -0.233 | 0.130 |
| -6.700 | 35.262 | -0.270 | -0.233 | 0.130 |
| -7.400 | 39.857 | -0.270 | 0.095 | 0.127 |
| -8.400 | 46.435 | -0.271 | 0.573 | 0.123 |
| -9.000 | 50.383 | -0.271 | 0.855 | 0.119 |
| -9.700 | 54.984 | -0.273 | 1.174 | 0.115 |
| -10.700 | 61.539 | -0.276 | 1.602 | 0.107 |
| -11.300 | 65.459 | -0.279 | 1.838 | 0.103 |
| -11.300 | 65.459 | -0.279 | 1.838 | 0.103 |
| -11.650 | 67.575 | -0.292 | 1.969 | 0.097 |
| -12.000 | 69.704 | -0.307 | 2.093 | 0.090 |
| -12.000 | 69.704 | -0.307 | 2.093 | 0.090 |
| -12.700 | 74.250 | -0.312 | 2.325 | 0.084 |
| -13.700 | 80.721 | -0.321 | 2.615 | 0.074 |
| -14.100 | 83.303 | -0.325 | 2.718 | 0.070 |
| -14.800 | 87.811 | -0.333 | 2.881 | 0.062 |
| -15.800 | 94.235 | -0.347 | 3.078 | 0.052 |
| -16.200 | 96.801 | -0.353 | 3.146 | 0.047 |
| -16.200 | 96.801 | -0.353 | 3.146 | 0.047 |
| -17.050 | 109.370 | -1.163 | 3.271 | 0.030 |
| -17.900 | 122.179 | -2.000 | 3.371 | 0.011 |
| -17.900 | 122.179 | -2.000 | 3.371 | 0.011 |
| -19.801 | 141.703 | -2.000 | 3.522 | 0.008 |
| -21.701 | 161.133 | -2.000 | 3.591 | 0.005 |
| -23.602 | 180.512 | -2.000 | 3.599 | 0.002 |
| -25.502 | 199.836 | -2.000 | 3.563 | 0.000 |

### 3.50 Results for Vertical 50 (X = -2.23 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.369 | 0.001 | 0.369 | 0.000 | 0.190 |
| 0.269 | 1.591 | 0.270 | 0.000 | 0.189 |
| 0.169 | 3.166 | 0.172 | 0.000 | 0.188 |
| 0.069 | 4.725 | 0.077 | 0.000 | 0.188 |
| -0.031 | 6.267 | -0.017 | 0.000 | 0.187 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.131 | 7.794 | -0.110 | 0.000 | 0.187 |
| -0.231 | 9.306 | -0.201 | 0.000 | 0.186 |
| -0.266 | 9.824 | -0.232 | 0.000 | 0.186 |
| -0.331 | 10.803 | -0.291 | 0.000 | 0.186 |
| -0.431 | 11.798 | -0.379 | -0.488 | 0.185 |
| -0.531 | 12.287 | -0.465 | -1.469 | 0.185 |
| -0.542 | 12.338 | -0.474 | -1.572 | 0.185 |
| -0.631 | 12.767 | -0.462 | -1.572 | 0.185 |
| -0.900 | 14.031 | -0.421 | -1.572 | 0.186 |
| -0.900 | 14.031 | -0.421 | -1.572 | 0.186 |
| -1.350 | 15.388 | -0.390 | -1.570 | 0.182 |
| -1.800 | 16.739 | -0.357 | -1.564 | 0.178 |
| -1.800 | 16.739 | -0.357 | -1.564 | 0.178 |
| -2.000 | 16.799 | -0.349 | -1.559 | 0.175 |
| -2.400 | 16.940 | -0.334 | -1.546 | 0.169 |
| -3.000 | 17.201 | -0.315 | -1.510 | 0.160 |
| -3.000 | 17.201 | -0.315 | -1.510 | 0.160 |
| -3.600 | 21.472 | -0.304 | -1.450 | 0.161 |
| -4.100 | 25.038 | -0.294 | -1.380 | 0.162 |
| -4.600 | 28.611 | -0.283 | -1.290 | 0.162 |
| -5.200 | 32.909 | -0.268 | -1.158 | 0.162 |
| -5.200 | 32.909 | -0.268 | -1.158 | 0.162 |
| -5.950 | 33.343 | -0.239 | -0.957 | 0.142 |
| -6.700 | 33.987 | -0.227 | -0.722 | 0.121 |
| -6.700 | 33.987 | -0.227 | -0.722 | 0.121 |
| -7.400 | 38.495 | -0.227 | -0.478 | 0.120 |
| -8.400 | 44.966 | -0.228 | -0.105 | 0.116 |
| -9.000 | 48.861 | -0.228 | 0.127 | 0.113 |
| -9.700 | 53.411 | -0.230 | 0.399 | 0.109 |
| -10.700 | 59.914 | -0.233 | 0.779 | 0.102 |
| -11.300 | 63.813 | -0.235 | 0.999 | 0.097 |
| -11.300 | 63.813 | -0.235 | 0.999 | 0.097 |
| -11.650 | 65.909 | -0.247 | 1.122 | 0.092 |
| -12.000 | 68.018 | -0.261 | 1.243 | 0.086 |
| -12.000 | 68.018 | -0.261 | 1.243 | 0.086 |
| -12.700 | 72.558 | -0.265 | 1.473 | 0.080 |
| -13.700 | 79.032 | -0.273 | 1.773 | 0.071 |
| -14.100 | 81.617 | -0.277 | 1.884 | 0.067 |
| -14.800 | 86.136 | -0.284 | 2.063 | 0.060 |
| -15.800 | 92.581 | -0.297 | 2.291 | 0.050 |
| -16.200 | 95.157 | -0.303 | 2.373 | 0.045 |
| -16.200 | 95.157 | -0.303 | 2.373 | 0.045 |
| -17.050 | 108.007 | -1.138 | 2.529 | 0.028 |
| -17.900 | 121.092 | -2.000 | 2.663 | 0.010 |
| -17.900 | 121.093 | -2.000 | 2.663 | 0.010 |
| -19.801 | 140.695 | -2.000 | 2.891 | 0.007 |
| -21.701 | 160.203 | -2.000 | 3.037 | 0.005 |
| -23.602 | 179.654 | -2.000 | 3.116 | 0.002 |
| -25.502 | 199.044 | -2.000 | 3.145 | 0.000 |

### 3.51 Results for Vertical 51 (X = -2.08 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.368 | 0.001 | 0.368 | 0.000 | 0.189 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.268 | 1.591 | 0.269 | 0.000 | 0.188 |
| 0.168 | 3.166 | 0.171 | 0.000 | 0.187 |
| 0.068 | 4.725 | 0.076 | 0.000 | 0.187 |
| -0.032 | 6.267 | -0.018 | 0.000 | 0.186 |
| -0.132 | 7.794 | -0.111 | 0.000 | 0.186 |
| -0.232 | 9.306 | -0.202 | 0.000 | 0.185 |
| -0.266 | 9.817 | -0.233 | 0.000 | 0.185 |
| -0.332 | 10.804 | -0.292 | 0.000 | 0.185 |
| -0.432 | 11.725 | -0.380 | -0.561 | 0.185 |
| -0.532 | 12.215 | -0.466 | -1.542 | 0.184 |
| -0.534 | 12.226 | -0.468 | -1.564 | 0.184 |
| -0.632 | 12.696 | -0.455 | -1.564 | 0.185 |
| -0.900 | 13.959 | -0.414 | -1.564 | 0.185 |
| -0.900 | 13.959 | -0.414 | -1.564 | 0.185 |
| -1.350 | 15.317 | -0.383 | -1.562 | 0.181 |
| -1.800 | 16.669 | -0.351 | -1.557 | 0.177 |
| -1.800 | 16.669 | -0.351 | -1.557 | 0.177 |
| -2.000 | 16.730 | -0.343 | -1.553 | 0.174 |
| -2.400 | 16.870 | -0.328 | -1.540 | 0.168 |
| -3.000 | 17.129 | -0.309 | -1.507 | 0.160 |
| -3.000 | 17.129 | -0.309 | -1.507 | 0.160 |
| -3.600 | 21.397 | -0.298 | -1.452 | 0.160 |
| -4.100 | 24.959 | -0.288 | -1.387 | 0.161 |
| -4.600 | 28.527 | -0.277 | -1.303 | 0.161 |
| -5.200 | 32.818 | -0.262 | -1.177 | 0.161 |
| -5.200 | 32.818 | -0.262 | -1.177 | 0.161 |
| -5.950 | 33.245 | -0.233 | -0.986 | 0.141 |
| -6.700 | 33.879 | -0.222 | -0.760 | 0.121 |
| -6.700 | 33.879 | -0.222 | -0.760 | 0.121 |
| -7.400 | 38.378 | -0.222 | -0.526 | 0.119 |
| -8.400 | 44.838 | -0.222 | -0.163 | 0.115 |
| -9.000 | 48.727 | -0.223 | 0.063 | 0.112 |
| -9.700 | 53.271 | -0.224 | 0.329 | 0.108 |
| -10.700 | 59.767 | -0.227 | 0.702 | 0.101 |
| -11.300 | 63.663 | -0.229 | 0.919 | 0.097 |
| -11.300 | 63.663 | -0.229 | 0.919 | 0.097 |
| -11.650 | 65.756 | -0.241 | 1.042 | 0.091 |
| -12.000 | 67.864 | -0.255 | 1.161 | 0.085 |
| -12.000 | 67.864 | -0.255 | 1.161 | 0.085 |
| -12.700 | 72.402 | -0.260 | 1.390 | 0.079 |
| -13.700 | 78.874 | -0.267 | 1.689 | 0.070 |
| -14.100 | 81.459 | -0.271 | 1.800 | 0.066 |
| -14.800 | 85.978 | -0.279 | 1.981 | 0.060 |
| -15.800 | 92.425 | -0.291 | 2.210 | 0.049 |
| -16.200 | 95.001 | -0.297 | 2.293 | 0.045 |
| -16.200 | 95.001 | -0.297 | 2.293 | 0.045 |
| -17.050 | 107.883 | -1.135 | 2.451 | 0.028 |
| -17.900 | 121.001 | -2.000 | 2.588 | 0.010 |
| -17.900 | 121.001 | -2.000 | 2.588 | 0.010 |
| -19.801 | 140.611 | -2.000 | 2.824 | 0.007 |
| -21.701 | 160.126 | -2.000 | 2.976 | 0.005 |
| -23.602 | 179.584 | -2.000 | 3.062 | 0.002 |
| -25.502 | 198.980 | -2.000 | 3.098 | 0.000 |

### 3.52 Results for Vertical 52 (X = -1.31 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.365 | 0.001 | 0.365 | 0.000 | 0.184 |
| 0.265 | 1.592 | 0.266 | 0.000 | 0.184 |
| 0.165 | 3.167 | 0.168 | 0.000 | 0.183 |
| 0.065 | 4.726 | 0.073 | 0.000 | 0.182 |
| -0.035 | 6.269 | -0.022 | 0.000 | 0.182 |
| -0.135 | 7.797 | -0.114 | 0.000 | 0.181 |
| -0.235 | 9.310 | -0.205 | 0.000 | 0.181 |
| -0.268 | 9.798 | -0.235 | 0.000 | 0.181 |
| -0.335 | 10.808 | -0.295 | 0.000 | 0.180 |
| -0.435 | 11.361 | -0.383 | -0.932 | 0.180 |
| -0.496 | 11.660 | -0.436 | -1.527 | 0.180 |
| -0.535 | 11.853 | -0.431 | -1.527 | 0.180 |
| -0.635 | 12.339 | -0.417 | -1.527 | 0.180 |
| -0.900 | 13.602 | -0.379 | -1.527 | 0.181 |
| -0.900 | 13.602 | -0.379 | -1.527 | 0.181 |
| -1.350 | 14.969 | -0.349 | -1.526 | 0.177 |
| -1.800 | 16.330 | -0.318 | -1.523 | 0.173 |
| -1.800 | 16.330 | -0.318 | -1.523 | 0.173 |
| -2.000 | 16.391 | -0.310 | -1.520 | 0.170 |
| -2.400 | 16.531 | -0.295 | -1.512 | 0.163 |
| -3.000 | 16.785 | -0.277 | -1.491 | 0.155 |
| -3.000 | 16.785 | -0.277 | -1.491 | 0.155 |
| -3.600 | 21.037 | -0.267 | -1.454 | 0.156 |
| -4.100 | 24.582 | -0.257 | -1.408 | 0.156 |
| -4.600 | 28.130 | -0.246 | -1.348 | 0.156 |
| -5.200 | 32.393 | -0.231 | -1.255 | 0.156 |
| -5.200 | 32.393 | -0.231 | -1.255 | 0.156 |
| -5.950 | 32.783 | -0.203 | -1.107 | 0.136 |
| -6.700 | 33.375 | -0.192 | -0.927 | 0.117 |
| -6.700 | 33.375 | -0.192 | -0.927 | 0.117 |
| -7.400 | 37.831 | -0.192 | -0.735 | 0.115 |
| -8.400 | 44.234 | -0.193 | -0.428 | 0.111 |
| -9.000 | 48.092 | -0.194 | -0.232 | 0.108 |
| -9.700 | 52.604 | -0.195 | 0.003 | 0.105 |
| -10.700 | 59.063 | -0.197 | 0.341 | 0.098 |
| -11.300 | 62.941 | -0.200 | 0.541 | 0.094 |
| -11.300 | 62.941 | -0.200 | 0.541 | 0.094 |
| -11.650 | 65.021 | -0.211 | 0.656 | 0.089 |
| -12.000 | 67.116 | -0.224 | 0.769 | 0.083 |
| -12.000 | 67.116 | -0.224 | 0.769 | 0.083 |
| -12.700 | 71.642 | -0.228 | 0.987 | 0.077 |
| -13.700 | 78.104 | -0.236 | 1.280 | 0.069 |
| -14.100 | 80.687 | -0.240 | 1.390 | 0.065 |
| -14.800 | 85.204 | -0.247 | 1.571 | 0.058 |
| -15.800 | 91.653 | -0.259 | 1.807 | 0.048 |
| -16.200 | 94.231 | -0.265 | 1.893 | 0.044 |
| -16.200 | 94.231 | -0.265 | 1.893 | 0.044 |
| -17.050 | 107.282 | -1.119 | 2.061 | 0.027 |
| -17.900 | 120.569 | -2.000 | 2.210 | 0.010 |
| -17.900 | 120.569 | -2.000 | 2.210 | 0.010 |
| -19.801 | 140.210 | -2.000 | 2.476 | 0.007 |
| -21.701 | 159.760 | -2.000 | 2.662 | 0.005 |
| -23.602 | 179.252 | -2.000 | 2.782 | 0.002 |
| -25.502 | 198.681 | -2.000 | 2.849 | 0.000 |

### 3.53 Results for Vertical 53 (X = -0.85 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.455 | 0.001 | 0.455 | 0.000 | 0.182 |
| 0.355 | 1.592 | 0.356 | 0.000 | 0.181 |
| 0.255 | 3.167 | 0.258 | 0.000 | 0.180 |
| 0.155 | 4.727 | 0.162 | 0.000 | 0.180 |
| 0.055 | 6.271 | 0.068 | 0.000 | 0.179 |
| -0.045 | 7.800 | -0.025 | 0.000 | 0.179 |
| -0.145 | 9.315 | -0.116 | 0.000 | 0.178 |
| -0.223 | 10.478 | -0.186 | 0.000 | 0.178 |
| -0.245 | 10.815 | -0.206 | 0.000 | 0.178 |
| -0.345 | 12.055 | -0.294 | -0.246 | 0.178 |
| -0.445 | 12.548 | -0.381 | -1.227 | 0.177 |
| -0.473 | 12.682 | -0.405 | -1.499 | 0.177 |
| -0.545 | 13.030 | -0.395 | -1.499 | 0.177 |
| -0.900 | 14.702 | -0.341 | -1.499 | 0.178 |
| -0.900 | 14.702 | -0.341 | -1.499 | 0.178 |
| -1.350 | 16.056 | -0.310 | -1.498 | 0.174 |
| -1.800 | 17.405 | -0.278 | -1.496 | 0.170 |
| -1.800 | 17.405 | -0.278 | -1.496 | 0.170 |
| -2.000 | 17.464 | -0.270 | -1.494 | 0.166 |
| -2.400 | 17.599 | -0.255 | -1.488 | 0.160 |
| -3.000 | 17.846 | -0.236 | -1.471 | 0.152 |
| -3.000 | 17.847 | -0.236 | -1.471 | 0.152 |
| -3.600 | 22.093 | -0.226 | -1.441 | 0.152 |
| -4.100 | 25.632 | -0.217 | -1.404 | 0.153 |
| -4.600 | 29.172 | -0.206 | -1.354 | 0.153 |
| -5.200 | 33.425 | -0.192 | -1.276 | 0.153 |
| -5.200 | 33.425 | -0.192 | -1.276 | 0.153 |
| -5.950 | 33.810 | -0.166 | -1.150 | 0.133 |
| -6.700 | 34.400 | -0.157 | -0.993 | 0.113 |
| -6.700 | 34.400 | -0.157 | -0.993 | 0.113 |
| -7.400 | 38.836 | -0.157 | -0.822 | 0.112 |
| -8.400 | 45.211 | -0.158 | -0.546 | 0.108 |
| -9.000 | 49.053 | -0.159 | -0.367 | 0.106 |
| -9.700 | 53.549 | -0.160 | -0.150 | 0.102 |
| -10.700 | 59.989 | -0.163 | 0.167 | 0.096 |
| -11.300 | 63.859 | -0.165 | 0.357 | 0.092 |
| -11.300 | 63.859 | -0.165 | 0.357 | 0.092 |
| -11.650 | 65.942 | -0.178 | 0.466 | 0.087 |
| -12.000 | 68.042 | -0.192 | 0.574 | 0.081 |
| -12.000 | 68.042 | -0.192 | 0.574 | 0.081 |
| -12.700 | 72.563 | -0.196 | 0.785 | 0.076 |
| -13.700 | 79.022 | -0.204 | 1.071 | 0.067 |
| -14.100 | 81.605 | -0.208 | 1.179 | 0.064 |
| -14.800 | 86.124 | -0.216 | 1.359 | 0.057 |
| -15.800 | 92.578 | -0.228 | 1.595 | 0.047 |
| -16.200 | 95.159 | -0.234 | 1.683 | 0.044 |
| -16.200 | 95.159 | -0.234 | 1.683 | 0.044 |
| -17.050 | 108.360 | -1.104 | 1.854 | 0.027 |
| -17.900 | 121.804 | -2.000 | 2.008 | 0.009 |
| -17.900 | 121.804 | -2.000 | 2.008 | 0.009 |
| -19.801 | 141.460 | -2.000 | 2.288 | 0.007 |
| -21.701 | 161.026 | -2.000 | 2.491 | 0.005 |
| -23.602 | 180.536 | -2.000 | 2.628 | 0.002 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -25.502 | 199.982 | -2.000 | 2.712 | 0.000 |

### 3.54 Results for Vertical 54 (X = -0.67 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.349 | 0.001 | 0.349 | 0.000 | 0.181 |
| 0.249 | 1.592 | 0.250 | 0.000 | 0.181 |
| 0.149 | 3.167 | 0.152 | 0.000 | 0.180 |
| 0.049 | 4.726 | 0.057 | 0.000 | 0.179 |
| -0.051 | 6.270 | -0.038 | 0.000 | 0.179 |
| -0.151 | 7.798 | -0.130 | 0.000 | 0.178 |
| -0.251 | 9.312 | -0.222 | 0.000 | 0.178 |
| -0.276 | 9.681 | -0.244 | 0.000 | 0.178 |
| -0.351 | 10.413 | -0.311 | -0.398 | 0.177 |
| -0.451 | 10.919 | -0.400 | -1.379 | 0.177 |
| -0.463 | 10.981 | -0.411 | -1.502 | 0.177 |
| -0.551 | 11.415 | -0.400 | -1.502 | 0.177 |
| -0.651 | 11.906 | -0.387 | -1.502 | 0.178 |
| -0.900 | 13.105 | -0.352 | -1.502 | 0.178 |
| -0.900 | 13.105 | -0.352 | -1.502 | 0.178 |
| -1.350 | 14.483 | -0.323 | -1.501 | 0.174 |
| -1.800 | 15.852 | -0.293 | -1.499 | 0.170 |
| -1.800 | 15.852 | -0.293 | -1.499 | 0.170 |
| -2.000 | 15.915 | -0.285 | -1.497 | 0.167 |
| -2.400 | 16.057 | -0.271 | -1.492 | 0.161 |
| -3.000 | 16.309 | -0.253 | -1.477 | 0.152 |
| -3.000 | 16.309 | -0.253 | -1.477 | 0.152 |
| -3.600 | 20.555 | -0.243 | -1.449 | 0.153 |
| -4.100 | 24.090 | -0.234 | -1.415 | 0.153 |
| -4.600 | 27.625 | -0.223 | -1.369 | 0.153 |
| -5.200 | 31.871 | -0.208 | -1.296 | 0.153 |
| -5.200 | 31.871 | -0.208 | -1.296 | 0.153 |
| -5.950 | 32.235 | -0.181 | -1.177 | 0.133 |
| -6.700 | 32.793 | -0.170 | -1.029 | 0.114 |
| -6.700 | 32.793 | -0.170 | -1.029 | 0.114 |
| -7.400 | 37.219 | -0.170 | -0.867 | 0.112 |
| -8.400 | 43.579 | -0.170 | -0.602 | 0.109 |
| -9.000 | 47.413 | -0.171 | -0.430 | 0.106 |
| -9.700 | 51.899 | -0.172 | -0.220 | 0.102 |
| -10.700 | 58.325 | -0.174 | 0.089 | 0.096 |
| -11.300 | 62.187 | -0.176 | 0.274 | 0.092 |
| -11.300 | 62.187 | -0.176 | 0.274 | 0.092 |
| -11.650 | 64.254 | -0.187 | 0.381 | 0.087 |
| -12.000 | 66.336 | -0.200 | 0.487 | 0.081 |
| -12.000 | 66.336 | -0.200 | 0.487 | 0.081 |
| -12.700 | 70.849 | -0.204 | 0.695 | 0.076 |
| -13.700 | 77.297 | -0.211 | 0.977 | 0.067 |
| -14.100 | 79.876 | -0.215 | 1.085 | 0.064 |
| -14.800 | 84.389 | -0.222 | 1.264 | 0.057 |
| -15.800 | 90.834 | -0.233 | 1.500 | 0.047 |
| -16.200 | 93.411 | -0.239 | 1.587 | 0.043 |
| -16.200 | 93.411 | -0.239 | 1.587 | 0.043 |
| -17.050 | 106.595 | -1.106 | 1.760 | 0.027 |
| -17.900 | 120.014 | -2.000 | 1.915 | 0.009 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -17.900 | 120.014 | -2.000 | 1.915 | 0.009 |
| -19.801 | 139.675 | -2.000 | 2.200 | 0.007 |
| -21.701 | 159.247 | -2.000 | 2.409 | 0.004 |
| -23.602 | 178.764 | -2.000 | 2.553 | 0.002 |
| -25.502 | 198.216 | -2.000 | 2.643 | 0.000 |

### 3.55 Results for Vertical 55 (X = -0.32 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.254 | 0.001 | 0.254 | 0.000 | 0.180 |
| 0.154 | 1.592 | 0.155 | 0.000 | 0.179 |
| 0.054 | 3.167 | 0.057 | 0.000 | 0.179 |
| -0.046 | 4.726 | -0.038 | 0.000 | 0.178 |
| -0.146 | 6.269 | -0.133 | 0.000 | 0.177 |
| -0.246 | 7.798 | -0.225 | 0.000 | 0.177 |
| -0.323 | 8.673 | -0.296 | -0.291 | 0.177 |
| -0.346 | 8.794 | -0.317 | -0.517 | 0.177 |
| -0.446 | 9.313 | -0.406 | -1.497 | 0.176 |
| -0.446 | 9.314 | -0.406 | -1.497 | 0.176 |
| -0.546 | 9.825 | -0.395 | -1.497 | 0.177 |
| -0.646 | 10.330 | -0.384 | -1.497 | 0.177 |
| -0.746 | 10.830 | -0.372 | -1.497 | 0.177 |
| -0.900 | 11.589 | -0.352 | -1.497 | 0.177 |
| -0.900 | 11.589 | -0.352 | -1.497 | 0.177 |
| -1.350 | 12.992 | -0.325 | -1.496 | 0.173 |
| -1.800 | 14.382 | -0.298 | -1.495 | 0.169 |
| -1.800 | 14.382 | -0.298 | -1.495 | 0.169 |
| -2.000 | 14.450 | -0.290 | -1.493 | 0.166 |
| -2.400 | 14.598 | -0.277 | -1.489 | 0.160 |
| -3.000 | 14.856 | -0.260 | -1.476 | 0.152 |
| -3.000 | 14.856 | -0.260 | -1.476 | 0.152 |
| -3.600 | 19.099 | -0.250 | -1.453 | 0.153 |
| -4.100 | 22.630 | -0.241 | -1.424 | 0.153 |
| -4.600 | 26.160 | -0.230 | -1.384 | 0.153 |
| -5.200 | 30.394 | -0.215 | -1.320 | 0.153 |
| -5.200 | 30.394 | -0.215 | -1.320 | 0.153 |
| -5.950 | 30.735 | -0.186 | -1.214 | 0.133 |
| -6.700 | 31.260 | -0.174 | -1.081 | 0.113 |
| -6.700 | 31.260 | -0.174 | -1.081 | 0.113 |
| -7.400 | 35.670 | -0.173 | -0.933 | 0.112 |
| -8.400 | 42.006 | -0.174 | -0.690 | 0.108 |
| -9.000 | 45.826 | -0.174 | -0.529 | 0.106 |
| -9.700 | 50.295 | -0.175 | -0.332 | 0.102 |
| -10.700 | 56.700 | -0.177 | -0.040 | 0.096 |
| -11.300 | 60.551 | -0.179 | 0.137 | 0.092 |
| -11.300 | 60.551 | -0.179 | 0.137 | 0.092 |
| -11.650 | 62.599 | -0.188 | 0.239 | 0.087 |
| -12.000 | 64.663 | -0.199 | 0.342 | 0.081 |
| -12.000 | 64.663 | -0.199 | 0.342 | 0.081 |
| -12.700 | 69.165 | -0.203 | 0.543 | 0.075 |
| -13.700 | 75.599 | -0.209 | 0.818 | 0.067 |
| -14.100 | 78.173 | -0.213 | 0.924 | 0.063 |
| -14.800 | 82.678 | -0.219 | 1.101 | 0.057 |
| -15.800 | 89.113 | -0.230 | 1.335 | 0.047 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -16.200 | 91.687 | -0.235 | 1.423 | 0.043 |
| -16.200 | 91.687 | -0.235 | 1.423 | 0.043 |
| -17.050 | 104.895 | -1.105 | 1.597 | 0.027 |
| -17.900 | 118.331 | -2.000 | 1.754 | 0.009 |
| -17.900 | 118.332 | -2.000 | 1.754 | 0.009 |
| -19.801 | 138.000 | -2.000 | 2.047 | 0.007 |
| -21.701 | 157.583 | -2.000 | 2.266 | 0.004 |
| -23.602 | 177.111 | -2.000 | 2.422 | 0.002 |
| -25.502 | 196.576 | -2.000 | 2.524 | 0.000 |

### 3.56 Results for Vertical 56 (X = -0.04 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.045 | 0.001 | 0.045 | 0.000 | 0.178 |
| -0.055 | 1.592 | -0.054 | 0.000 | 0.178 |
| -0.155 | 3.167 | -0.152 | 0.000 | 0.177 |
| -0.255 | 4.726 | -0.247 | 0.000 | 0.176 |
| -0.355 | 5.521 | -0.342 | -0.749 | 0.176 |
| -0.427 | 5.921 | -0.409 | -1.460 | 0.176 |
| -0.432 | 5.946 | -0.413 | -1.505 | 0.176 |
| -0.455 | 6.071 | -0.412 | -1.505 | 0.176 |
| -0.555 | 6.613 | -0.404 | -1.505 | 0.176 |
| -0.655 | 7.149 | -0.395 | -1.505 | 0.177 |
| -0.755 | 7.679 | -0.386 | -1.505 | 0.177 |
| -0.855 | 8.203 | -0.377 | -1.505 | 0.177 |
| -0.900 | 8.437 | -0.372 | -1.505 | 0.177 |
| -0.900 | 8.437 | -0.372 | -1.505 | 0.177 |
| -0.955 | 8.617 | -0.370 | -1.504 | 0.177 |
| -1.350 | 9.895 | -0.351 | -1.504 | 0.174 |
| -1.800 | 11.333 | -0.329 | -1.503 | 0.170 |
| -1.800 | 11.333 | -0.329 | -1.503 | 0.170 |
| -2.000 | 11.412 | -0.322 | -1.501 | 0.167 |
| -2.400 | 11.578 | -0.311 | -1.498 | 0.162 |
| -3.000 | 11.853 | -0.296 | -1.487 | 0.154 |
| -3.000 | 11.853 | -0.296 | -1.487 | 0.154 |
| -3.600 | 16.098 | -0.286 | -1.466 | 0.155 |
| -4.100 | 19.628 | -0.277 | -1.440 | 0.156 |
| -4.600 | 23.153 | -0.266 | -1.404 | 0.156 |
| -5.200 | 27.378 | -0.251 | -1.346 | 0.156 |
| -5.200 | 27.378 | -0.251 | -1.346 | 0.156 |
| -5.950 | 27.688 | -0.220 | -1.250 | 0.135 |
| -6.700 | 28.163 | -0.204 | -1.127 | 0.115 |
| -6.700 | 28.163 | -0.204 | -1.127 | 0.115 |
| -7.400 | 32.558 | -0.203 | -0.991 | 0.113 |
| -8.400 | 38.873 | -0.203 | -0.762 | 0.110 |
| -9.000 | 42.679 | -0.202 | -0.611 | 0.107 |
| -9.700 | 47.134 | -0.203 | -0.424 | 0.103 |
| -10.700 | 53.516 | -0.204 | -0.145 | 0.097 |
| -11.300 | 57.354 | -0.205 | 0.026 | 0.093 |
| -11.300 | 57.354 | -0.205 | 0.026 | 0.093 |
| -11.650 | 59.370 | -0.212 | 0.125 | 0.087 |
| -12.000 | 61.401 | -0.220 | 0.224 | 0.082 |
| -12.000 | 61.401 | -0.220 | 0.224 | 0.082 |
| -12.700 | 65.888 | -0.222 | 0.420 | 0.076 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -13.700 | 72.303 | -0.228 | 0.689 | 0.067 |
| -14.100 | 74.869 | -0.230 | 0.793 | 0.064 |
| -14.800 | 79.360 | -0.235 | 0.968 | 0.057 |
| -15.800 | 85.776 | -0.244 | 1.201 | 0.047 |
| -16.200 | 88.343 | -0.249 | 1.288 | 0.043 |
| -16.200 | 88.343 | -0.249 | 1.288 | 0.043 |
| -17.050 | 101.493 | -1.113 | 1.462 | 0.027 |
| -17.900 | 114.853 | -2.000 | 1.621 | 0.009 |
| -17.900 | 114.853 | -2.000 | 1.621 | 0.009 |
| -19.801 | 134.527 | -2.000 | 1.919 | 0.007 |
| -21.701 | 154.117 | -2.000 | 2.146 | 0.004 |
| -23.602 | 173.654 | -2.000 | 2.310 | 0.002 |
| -25.502 | 193.127 | -2.000 | 2.421 | 0.000 |

### 3.57 Results for Vertical 57 (X = 0.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.017 | 0.001 | 0.017 | 0.000 | 0.178 |
| -0.083 | 1.592 | -0.083 | 0.000 | 0.177 |
| -0.183 | 3.167 | -0.180 | 0.000 | 0.177 |
| -0.283 | 4.658 | -0.276 | -0.068 | 0.176 |
| -0.383 | 5.222 | -0.370 | -1.049 | 0.176 |
| -0.430 | 5.479 | -0.414 | -1.505 | 0.176 |
| -0.442 | 5.544 | -0.413 | -1.505 | 0.176 |
| -0.483 | 5.773 | -0.410 | -1.505 | 0.176 |
| -0.583 | 6.318 | -0.402 | -1.505 | 0.176 |
| -0.683 | 6.857 | -0.394 | -1.505 | 0.177 |
| -0.783 | 7.390 | -0.385 | -1.505 | 0.177 |
| -0.883 | 7.917 | -0.376 | -1.505 | 0.177 |
| -0.900 | 8.003 | -0.374 | -1.505 | 0.177 |
| -0.900 | 8.003 | -0.374 | -1.505 | 0.177 |
| -0.983 | 8.277 | -0.371 | -1.505 | 0.176 |
| -1.350 | 9.469 | -0.355 | -1.505 | 0.174 |
| -1.800 | 10.914 | -0.332 | -1.503 | 0.170 |
| -1.800 | 10.914 | -0.332 | -1.503 | 0.170 |
| -2.000 | 10.995 | -0.326 | -1.502 | 0.168 |
| -2.400 | 11.164 | -0.315 | -1.498 | 0.162 |
| -3.000 | 11.441 | -0.300 | -1.488 | 0.155 |
| -3.000 | 11.441 | -0.300 | -1.488 | 0.155 |
| -3.600 | 15.688 | -0.291 | -1.468 | 0.156 |
| -4.100 | 19.218 | -0.282 | -1.442 | 0.156 |
| -4.600 | 22.742 | -0.271 | -1.407 | 0.156 |
| -5.200 | 26.966 | -0.256 | -1.350 | 0.156 |
| -5.200 | 26.966 | -0.256 | -1.350 | 0.156 |
| -5.950 | 27.272 | -0.225 | -1.255 | 0.135 |
| -6.700 | 27.741 | -0.208 | -1.134 | 0.115 |
| -6.700 | 27.741 | -0.208 | -1.134 | 0.115 |
| -7.400 | 32.134 | -0.207 | -0.998 | 0.114 |
| -8.400 | 38.446 | -0.206 | -0.772 | 0.110 |
| -9.000 | 42.250 | -0.206 | -0.622 | 0.107 |
| -9.700 | 46.702 | -0.207 | -0.437 | 0.103 |
| -10.700 | 53.082 | -0.207 | -0.159 | 0.097 |
| -11.300 | 56.918 | -0.209 | 0.010 | 0.093 |
| -11.300 | 56.918 | -0.209 | 0.010 | 0.093 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -11.650 | 58.930 | -0.215 | 0.109 | 0.087 |
| -12.000 | 60.955 | -0.222 | 0.208 | 0.082 |
| -12.000 | 60.955 | -0.222 | 0.208 | 0.082 |
| -12.700 | 65.441 | -0.225 | 0.402 | 0.076 |
| -13.700 | 71.852 | -0.230 | 0.671 | 0.067 |
| -14.100 | 74.418 | -0.232 | 0.775 | 0.064 |
| -14.800 | 78.907 | -0.237 | 0.949 | 0.057 |
| -15.800 | 85.320 | -0.246 | 1.182 | 0.047 |
| -16.200 | 87.886 | -0.251 | 1.269 | 0.043 |
| -16.200 | 87.886 | -0.251 | 1.269 | 0.043 |
| -17.050 | 101.029 | -1.114 | 1.443 | 0.027 |
| -17.900 | 114.378 | -2.000 | 1.602 | 0.009 |
| -17.900 | 114.379 | -2.000 | 1.602 | 0.009 |
| -19.801 | 134.053 | -2.000 | 1.901 | 0.007 |
| -21.701 | 153.644 | -2.000 | 2.129 | 0.004 |
| -23.602 | 173.182 | -2.000 | 2.294 | 0.002 |
| -25.502 | 192.657 | -2.000 | 2.406 | 0.000 |

### 3.58 Results for Vertical 58 (X = 0.45 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.298 | 0.001 | -0.298 | 0.000 | 0.174 |
| -0.398 | 0.611 | -0.397 | -0.981 | 0.175 |
| -0.430 | 0.803 | -0.429 | -1.295 | 0.176 |
| -0.498 | 1.209 | -0.427 | -1.295 | 0.176 |
| -0.598 | 1.799 | -0.424 | -1.295 | 0.177 |
| -0.599 | 1.805 | -0.424 | -1.295 | 0.177 |
| -0.698 | 2.383 | -0.420 | -1.295 | 0.177 |
| -0.798 | 2.959 | -0.416 | -1.295 | 0.178 |
| -0.898 | 3.529 | -0.411 | -1.295 | 0.178 |
| -0.900 | 3.541 | -0.411 | -1.295 | 0.178 |
| -0.900 | 3.541 | -0.411 | -1.295 | 0.178 |
| -0.998 | 3.880 | -0.409 | -1.295 | 0.178 |
| -1.098 | 4.225 | -0.406 | -1.295 | 0.178 |
| -1.198 | 4.568 | -0.404 | -1.295 | 0.177 |
| -1.298 | 4.910 | -0.401 | -1.295 | 0.177 |
| -1.350 | 5.087 | -0.399 | -1.294 | 0.177 |
| -1.800 | 6.602 | -0.384 | -1.293 | 0.174 |
| -1.800 | 6.602 | -0.384 | -1.293 | 0.174 |
| -2.000 | 6.699 | -0.380 | -1.292 | 0.172 |
| -2.400 | 6.897 | -0.372 | -1.289 | 0.168 |
| -3.000 | 7.206 | -0.360 | -1.281 | 0.162 |
| -3.000 | 7.206 | -0.360 | -1.281 | 0.162 |
| -3.600 | 11.460 | -0.353 | -1.264 | 0.163 |
| -4.100 | 14.991 | -0.344 | -1.243 | 0.163 |
| -4.600 | 18.510 | -0.333 | -1.214 | 0.163 |
| -5.200 | 22.721 | -0.318 | -1.165 | 0.162 |
| -5.200 | 22.721 | -0.318 | -1.165 | 0.162 |
| -5.950 | 22.984 | -0.283 | -1.084 | 0.140 |
| -6.700 | 23.388 | -0.261 | -0.978 | 0.119 |
| -6.700 | 23.388 | -0.261 | -0.978 | 0.119 |
| -7.400 | 27.762 | -0.260 | -0.858 | 0.118 |
| -8.400 | 34.043 | -0.259 | -0.656 | 0.113 |
| -9.000 | 37.828 | -0.258 | -0.519 | 0.110 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -9.700 | 42.257 | -0.258 | -0.349 | 0.106 |
| -10.700 | 48.605 | -0.257 | -0.092 | 0.099 |
| -11.300 | 52.422 | -0.258 | 0.067 | 0.095 |
| -11.300 | 52.422 | -0.258 | 0.067 | 0.095 |
| -11.650 | 54.392 | -0.260 | 0.160 | 0.089 |
| -12.000 | 56.374 | -0.264 | 0.253 | 0.083 |
| -12.000 | 56.374 | -0.264 | 0.253 | 0.083 |
| -12.700 | 60.839 | -0.265 | 0.439 | 0.077 |
| -13.700 | 67.223 | -0.269 | 0.697 | 0.068 |
| -14.100 | 69.777 | -0.270 | 0.797 | 0.064 |
| -14.800 | 74.248 | -0.274 | 0.967 | 0.058 |
| -15.800 | 80.637 | -0.281 | 1.196 | 0.047 |
| -16.200 | 83.192 | -0.284 | 1.283 | 0.043 |
| -16.200 | 83.192 | -0.284 | 1.283 | 0.043 |
| -17.050 | 96.182 | -1.132 | 1.457 | 0.027 |
| -17.900 | 109.358 | -2.000 | 1.617 | 0.009 |
| -17.900 | 109.358 | -2.000 | 1.617 | 0.009 |
| -19.801 | 129.039 | -2.000 | 1.922 | 0.007 |
| -21.701 | 148.641 | -2.000 | 2.160 | 0.004 |
| -23.602 | 168.191 | -2.000 | 2.337 | 0.002 |
| -25.502 | 187.679 | -2.000 | 2.462 | 0.000 |

### 3.59 Results for Vertical 59 (X = 0.59 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.900 | 0.001 | -0.430 | 0.000 | 0.267 |
| -1.000 | 0.367 | -0.430 | 0.000 | 0.264 |
| -1.100 | 0.732 | -0.429 | 0.000 | 0.262 |
| -1.200 | 1.093 | -0.429 | 0.000 | 0.259 |
| -1.300 | 1.451 | -0.427 | 0.000 | 0.257 |
| -1.350 | 1.628 | -0.427 | 0.000 | 0.255 |
| -1.400 | 1.806 | -0.426 | 0.000 | 0.254 |
| -1.500 | 2.158 | -0.424 | 0.001 | 0.252 |
| -1.600 | 2.507 | -0.422 | 0.001 | 0.249 |
| -1.700 | 2.854 | -0.420 | 0.001 | 0.247 |
| -1.800 | 3.199 | -0.417 | 0.001 | 0.245 |
| -1.800 | 3.199 | -0.417 | 0.001 | 0.245 |
| -1.900 | 3.252 | -0.416 | 0.002 | 0.241 |
| -2.000 | 3.306 | -0.414 | 0.002 | 0.237 |
| -2.400 | 3.525 | -0.408 | 0.005 | 0.222 |
| -3.000 | 3.862 | -0.399 | 0.013 | 0.202 |
| -3.000 | 3.862 | -0.399 | 0.013 | 0.202 |
| -3.600 | 8.126 | -0.393 | 0.029 | 0.201 |
| -4.100 | 11.654 | -0.384 | 0.049 | 0.200 |
| -4.600 | 15.162 | -0.372 | 0.077 | 0.198 |
| -5.200 | 19.349 | -0.355 | 0.123 | 0.196 |
| -5.200 | 19.349 | -0.355 | 0.123 | 0.196 |
| -5.950 | 19.539 | -0.313 | 0.201 | 0.167 |
| -6.700 | 19.873 | -0.284 | 0.302 | 0.140 |
| -6.700 | 19.873 | -0.284 | 0.302 | 0.140 |
| -7.400 | 24.238 | -0.283 | 0.417 | 0.137 |
| -8.400 | 30.506 | -0.281 | 0.613 | 0.130 |
| -9.000 | 34.282 | -0.280 | 0.746 | 0.125 |
| -9.700 | 38.702 | -0.278 | 0.911 | 0.120 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -10.700 | 45.035 | -0.277 | 1.162 | 0.111 |
| -11.300 | 48.843 | -0.277 | 1.318 | 0.105 |
| -11.300 | 48.843 | -0.277 | 1.318 | 0.105 |
| -11.650 | 50.789 | -0.277 | 1.409 | 0.099 |
| -12.000 | 52.747 | -0.279 | 1.501 | 0.092 |
| -12.000 | 52.747 | -0.279 | 1.501 | 0.092 |
| -12.700 | 57.203 | -0.280 | 1.683 | 0.085 |
| -13.700 | 63.574 | -0.282 | 1.939 | 0.075 |
| -14.100 | 66.124 | -0.283 | 2.038 | 0.070 |
| -14.800 | 70.587 | -0.286 | 2.206 | 0.062 |
| -15.800 | 76.965 | -0.292 | 2.434 | 0.051 |
| -16.200 | 79.517 | -0.295 | 2.520 | 0.046 |
| -16.200 | 79.517 | -0.295 | 2.520 | 0.046 |
| -17.050 | 92.452 | -1.137 | 2.694 | 0.029 |
| -17.900 | 105.573 | -2.000 | 2.854 | 0.010 |
| -17.900 | 105.573 | -2.000 | 2.854 | 0.010 |
| -19.801 | 125.256 | -2.000 | 3.161 | 0.008 |
| -21.701 | 144.860 | -2.000 | 3.401 | 0.005 |
| -23.602 | 164.414 | -2.000 | 3.582 | 0.002 |
| -25.502 | 183.905 | -2.000 | 3.711 | 0.000 |

### 3.60 Results for Vertical 60 (X = 0.60 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.951 | 0.001 | -0.430 | 0.000 | 0.267 |
| -1.051 | 0.367 | -0.430 | 0.000 | 0.265 |
| -1.151 | 0.732 | -0.429 | 0.000 | 0.262 |
| -1.251 | 1.093 | -0.429 | 0.000 | 0.259 |
| -1.351 | 1.451 | -0.427 | 0.000 | 0.257 |
| -1.375 | 1.538 | -0.427 | 0.000 | 0.256 |
| -1.451 | 1.806 | -0.426 | 0.001 | 0.254 |
| -1.551 | 2.158 | -0.424 | 0.001 | 0.252 |
| -1.651 | 2.508 | -0.422 | 0.001 | 0.249 |
| -1.751 | 2.855 | -0.420 | 0.001 | 0.247 |
| -1.800 | 3.024 | -0.419 | 0.001 | 0.246 |
| -1.800 | 3.024 | -0.419 | 0.001 | 0.246 |
| -1.851 | 3.052 | -0.418 | 0.002 | 0.244 |
| -1.951 | 3.106 | -0.416 | 0.002 | 0.240 |
| -2.000 | 3.133 | -0.416 | 0.002 | 0.238 |
| -2.400 | 3.354 | -0.410 | 0.005 | 0.223 |
| -3.000 | 3.694 | -0.401 | 0.013 | 0.203 |
| -3.000 | 3.694 | -0.401 | 0.013 | 0.203 |
| -3.600 | 7.960 | -0.395 | 0.028 | 0.202 |
| -4.100 | 11.489 | -0.386 | 0.048 | 0.200 |
| -4.600 | 14.998 | -0.375 | 0.076 | 0.199 |
| -5.200 | 19.186 | -0.357 | 0.122 | 0.197 |
| -5.200 | 19.186 | -0.357 | 0.122 | 0.197 |
| -5.950 | 19.376 | -0.316 | 0.200 | 0.168 |
| -6.700 | 19.708 | -0.287 | 0.301 | 0.141 |
| -6.700 | 19.708 | -0.287 | 0.301 | 0.141 |
| -7.400 | 24.073 | -0.285 | 0.416 | 0.137 |
| -8.400 | 30.340 | -0.283 | 0.611 | 0.130 |
| -9.000 | 34.116 | -0.282 | 0.743 | 0.126 |
| -9.700 | 38.534 | -0.281 | 0.908 | 0.120 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -10.700 | 44.866 | -0.280 | 1.159 | 0.111 |
| -11.300 | 48.674 | -0.280 | 1.314 | 0.105 |
| -11.300 | 48.675 | -0.280 | 1.314 | 0.105 |
| -11.650 | 50.619 | -0.280 | 1.405 | 0.099 |
| -12.000 | 52.575 | -0.281 | 1.497 | 0.092 |
| -12.000 | 52.575 | -0.281 | 1.497 | 0.092 |
| -12.700 | 57.030 | -0.282 | 1.679 | 0.085 |
| -13.700 | 63.400 | -0.284 | 1.934 | 0.075 |
| -14.100 | 65.949 | -0.285 | 2.033 | 0.070 |
| -14.800 | 70.412 | -0.288 | 2.202 | 0.062 |
| -15.800 | 76.789 | -0.294 | 2.429 | 0.051 |
| -16.200 | 79.340 | -0.297 | 2.515 | 0.046 |
| -16.200 | 79.340 | -0.297 | 2.515 | 0.046 |
| -17.050 | 92.268 | -1.138 | 2.689 | 0.029 |
| -17.900 | 105.380 | -2.000 | 2.849 | 0.010 |
| -17.900 | 105.380 | -2.000 | 2.849 | 0.010 |
| -19.801 | 125.063 | -2.000 | 3.156 | 0.008 |
| -21.701 | 144.667 | -2.000 | 3.396 | 0.005 |
| -23.602 | 164.221 | -2.000 | 3.577 | 0.002 |
| -25.502 | 183.713 | -2.000 | 3.707 | 0.000 |

### 3.61 Results for Vertical 61 (X = 0.72 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.424 | 0.001 | -0.430 | 0.000 | 0.269 |
| -1.524 | 0.368 | -0.430 | 0.001 | 0.266 |
| -1.612 | 0.689 | -0.429 | 0.001 | 0.264 |
| -1.624 | 0.732 | -0.429 | 0.001 | 0.264 |
| -1.724 | 1.094 | -0.429 | 0.001 | 0.261 |
| -1.800 | 1.367 | -0.428 | 0.001 | 0.259 |
| -1.800 | 1.367 | -0.428 | 0.001 | 0.259 |
| -1.824 | 1.382 | -0.428 | 0.001 | 0.258 |
| -1.924 | 1.444 | -0.427 | 0.002 | 0.254 |
| -2.000 | 1.491 | -0.426 | 0.002 | 0.250 |
| -2.024 | 1.506 | -0.426 | 0.002 | 0.249 |
| -2.124 | 1.569 | -0.425 | 0.003 | 0.245 |
| -2.224 | 1.631 | -0.425 | 0.003 | 0.241 |
| -2.324 | 1.693 | -0.424 | 0.004 | 0.237 |
| -2.400 | 1.740 | -0.423 | 0.005 | 0.234 |
| -2.424 | 1.755 | -0.423 | 0.005 | 0.233 |
| -3.000 | 2.115 | -0.419 | 0.012 | 0.210 |
| -3.000 | 2.115 | -0.419 | 0.012 | 0.210 |
| -3.600 | 6.395 | -0.414 | 0.027 | 0.208 |
| -4.100 | 9.934 | -0.406 | 0.046 | 0.207 |
| -4.600 | 13.450 | -0.395 | 0.073 | 0.205 |
| -5.200 | 17.643 | -0.378 | 0.117 | 0.202 |
| -5.200 | 17.643 | -0.378 | 0.117 | 0.202 |
| -5.950 | 17.839 | -0.338 | 0.192 | 0.172 |
| -6.700 | 18.168 | -0.309 | 0.289 | 0.144 |
| -6.700 | 18.168 | -0.309 | 0.289 | 0.144 |
| -7.400 | 22.528 | -0.307 | 0.401 | 0.140 |
| -8.400 | 28.788 | -0.305 | 0.591 | 0.133 |
| -9.000 | 32.560 | -0.304 | 0.720 | 0.128 |
| -9.700 | 36.972 | -0.302 | 0.881 | 0.122 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -10.700 | 43.296 | -0.301 | 1.127 | 0.112 |
| -11.300 | 47.099 | -0.300 | 1.280 | 0.106 |
| -11.300 | 47.099 | -0.300 | 1.280 | 0.106 |
| -11.650 | 49.028 | -0.299 | 1.370 | 0.100 |
| -12.000 | 50.969 | -0.299 | 1.460 | 0.093 |
| -12.000 | 50.969 | -0.299 | 1.460 | 0.093 |
| -12.700 | 55.418 | -0.299 | 1.640 | 0.086 |
| -13.700 | 61.778 | -0.301 | 1.892 | 0.075 |
| -14.100 | 64.324 | -0.302 | 1.990 | 0.071 |
| -14.800 | 68.780 | -0.304 | 2.158 | 0.063 |
| -15.800 | 75.147 | -0.309 | 2.384 | 0.051 |
| -16.200 | 77.694 | -0.312 | 2.470 | 0.047 |
| -16.200 | 77.694 | -0.312 | 2.470 | 0.047 |
| -17.050 | 90.555 | -1.146 | 2.643 | 0.029 |
| -17.900 | 103.588 | -2.000 | 2.803 | 0.010 |
| -17.900 | 103.589 | -2.000 | 2.803 | 0.010 |
| -19.801 | 123.272 | -2.000 | 3.111 | 0.008 |
| -21.701 | 142.879 | -2.000 | 3.354 | 0.005 |
| -23.602 | 162.435 | -2.000 | 3.537 | 0.002 |
| -25.502 | 181.930 | -2.000 | 3.670 | 0.000 |

### 3.62 Results for Vertical 62 (X = 0.90 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.636 | 0.002 | -0.430 | 0.001 | 0.270 |
| -1.718 | 0.303 | -0.430 | 0.001 | 0.268 |
| -1.736 | 0.368 | -0.430 | 0.001 | 0.267 |
| -1.800 | 0.602 | -0.430 | 0.001 | 0.265 |
| -1.800 | 0.602 | -0.430 | 0.001 | 0.265 |
| -1.836 | 0.626 | -0.429 | 0.001 | 0.264 |
| -1.936 | 0.692 | -0.429 | 0.002 | 0.259 |
| -2.000 | 0.734 | -0.429 | 0.002 | 0.256 |
| -2.036 | 0.758 | -0.429 | 0.002 | 0.254 |
| -2.136 | 0.824 | -0.428 | 0.003 | 0.250 |
| -2.236 | 0.889 | -0.428 | 0.003 | 0.245 |
| -2.336 | 0.955 | -0.428 | 0.004 | 0.241 |
| -2.400 | 0.997 | -0.427 | 0.004 | 0.238 |
| -2.436 | 1.020 | -0.427 | 0.005 | 0.236 |
| -2.536 | 1.086 | -0.427 | 0.006 | 0.232 |
| -2.636 | 1.151 | -0.426 | 0.007 | 0.228 |
| -3.000 | 1.389 | -0.424 | 0.011 | 0.213 |
| -3.000 | 1.389 | -0.424 | 0.011 | 0.213 |
| -3.600 | 5.675 | -0.420 | 0.025 | 0.211 |
| -4.100 | 9.218 | -0.413 | 0.043 | 0.208 |
| -4.600 | 12.737 | -0.403 | 0.068 | 0.206 |
| -5.200 | 16.932 | -0.386 | 0.109 | 0.204 |
| -5.200 | 16.932 | -0.386 | 0.109 | 0.204 |
| -5.950 | 17.132 | -0.347 | 0.179 | 0.173 |
| -6.700 | 17.458 | -0.318 | 0.272 | 0.144 |
| -6.700 | 17.458 | -0.318 | 0.272 | 0.144 |
| -7.400 | 21.813 | -0.316 | 0.378 | 0.140 |
| -8.400 | 28.064 | -0.314 | 0.559 | 0.133 |
| -9.000 | 31.830 | -0.313 | 0.683 | 0.128 |
| -9.700 | 36.236 | -0.311 | 0.839 | 0.122 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -10.700 | 42.550 | -0.310 | 1.077 | 0.112 |
| -11.300 | 46.348 | -0.309 | 1.225 | 0.106 |
| -11.300 | 46.348 | -0.309 | 1.225 | 0.106 |
| -11.650 | 48.270 | -0.307 | 1.313 | 0.100 |
| -12.000 | 50.203 | -0.307 | 1.401 | 0.093 |
| -12.000 | 50.203 | -0.307 | 1.401 | 0.093 |
| -12.700 | 54.646 | -0.307 | 1.577 | 0.086 |
| -13.700 | 60.999 | -0.308 | 1.824 | 0.075 |
| -14.100 | 63.542 | -0.309 | 1.921 | 0.071 |
| -14.800 | 67.993 | -0.311 | 2.086 | 0.063 |
| -15.800 | 74.354 | -0.316 | 2.310 | 0.051 |
| -16.200 | 76.900 | -0.318 | 2.396 | 0.046 |
| -16.200 | 76.900 | -0.318 | 2.396 | 0.046 |
| -17.050 | 89.731 | -1.150 | 2.568 | 0.029 |
| -17.900 | 102.730 | -2.000 | 2.728 | 0.010 |
| -17.900 | 102.730 | -2.000 | 2.728 | 0.010 |
| -19.801 | 122.415 | -2.000 | 3.038 | 0.008 |
| -21.701 | 142.025 | -2.000 | 3.283 | 0.005 |
| -23.602 | 161.586 | -2.000 | 3.471 | 0.002 |
| -25.502 | 181.086 | -2.000 | 3.608 | 0.000 |

### 3.63 Results for Vertical 63 (X = 1.54 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.710 | 0.002 | -0.430 | 0.001 | 0.267 |
| -1.755 | 0.167 | -0.430 | 0.001 | 0.266 |
| -1.800 | 0.332 | -0.430 | 0.001 | 0.264 |
| -1.800 | 0.332 | -0.430 | 0.001 | 0.264 |
| -1.810 | 0.338 | -0.430 | 0.001 | 0.264 |
| -1.910 | 0.406 | -0.430 | 0.001 | 0.259 |
| -2.000 | 0.466 | -0.429 | 0.001 | 0.255 |
| -2.010 | 0.473 | -0.429 | 0.001 | 0.254 |
| -2.110 | 0.540 | -0.429 | 0.002 | 0.250 |
| -2.210 | 0.607 | -0.429 | 0.002 | 0.245 |
| -2.310 | 0.673 | -0.429 | 0.003 | 0.241 |
| -2.400 | 0.733 | -0.428 | 0.003 | 0.237 |
| -2.410 | 0.740 | -0.428 | 0.003 | 0.236 |
| -2.510 | 0.806 | -0.428 | 0.004 | 0.232 |
| -2.610 | 0.872 | -0.428 | 0.005 | 0.227 |
| -2.710 | 0.938 | -0.427 | 0.005 | 0.223 |
| -3.000 | 1.130 | -0.426 | 0.009 | 0.211 |
| -3.000 | 1.130 | -0.426 | 0.009 | 0.211 |
| -3.600 | 5.416 | -0.422 | 0.019 | 0.208 |
| -4.100 | 8.958 | -0.415 | 0.033 | 0.206 |
| -4.600 | 12.474 | -0.405 | 0.052 | 0.204 |
| -5.200 | 16.665 | -0.389 | 0.085 | 0.201 |
| -5.200 | 16.665 | -0.389 | 0.085 | 0.201 |
| -5.950 | 16.859 | -0.351 | 0.142 | 0.170 |
| -6.700 | 17.174 | -0.322 | 0.219 | 0.142 |
| -6.700 | 17.174 | -0.322 | 0.219 | 0.142 |
| -7.400 | 21.512 | -0.321 | 0.308 | 0.138 |
| -8.400 | 27.737 | -0.318 | 0.464 | 0.131 |
| -9.000 | 31.486 | -0.317 | 0.571 | 0.126 |
| -9.700 | 35.874 | -0.316 | 0.708 | 0.120 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -10.700 | 42.161 | -0.314 | 0.920 | 0.110 |
| -11.300 | 45.944 | -0.313 | 1.054 | 0.105 |
| -11.300 | 45.944 | -0.313 | 1.054 | 0.105 |
| -11.650 | 47.857 | -0.311 | 1.134 | 0.098 |
| -12.000 | 49.781 | -0.310 | 1.215 | 0.092 |
| -12.000 | 49.781 | -0.310 | 1.215 | 0.092 |
| -12.700 | 54.210 | -0.311 | 1.378 | 0.084 |
| -13.700 | 60.545 | -0.312 | 1.609 | 0.074 |
| -14.100 | 63.082 | -0.313 | 1.701 | 0.069 |
| -14.800 | 67.524 | -0.315 | 1.858 | 0.062 |
| -15.800 | 73.875 | -0.319 | 2.074 | 0.050 |
| -16.200 | 76.417 | -0.321 | 2.157 | 0.046 |
| -16.200 | 76.417 | -0.321 | 2.157 | 0.046 |
| -17.050 | 89.230 | -1.151 | 2.326 | 0.028 |
| -17.900 | 102.211 | -2.000 | 2.484 | 0.010 |
| -17.900 | 102.211 | -2.000 | 2.484 | 0.010 |
| -18.701 | 110.513 | -2.000 | 2.623 | 0.009 |
| -19.701 | 120.864 | -2.000 | 2.782 | 0.007 |
| -20.701 | 131.198 | -2.000 | 2.924 | 0.006 |
| -21.701 | 141.517 | -2.000 | 3.051 | 0.005 |
| -23.602 | 161.090 | -2.000 | 3.251 | 0.002 |
| -25.502 | 180.604 | -2.000 | 3.402 | 0.000 |

### 3.64 Results for Vertical 64 (X = 2.40 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.799 | 0.002 | -0.430 | 0.001 | 0.265 |
| -1.800 | 0.002 | -0.430 | 0.001 | 0.265 |
| -1.800 | 0.004 | -0.430 | 0.001 | 0.265 |
| -1.800 | 0.004 | -0.430 | 0.001 | 0.265 |
| -1.899 | 0.073 | -0.430 | 0.001 | 0.260 |
| -1.999 | 0.141 | -0.430 | 0.001 | 0.255 |
| -2.000 | 0.142 | -0.430 | 0.001 | 0.255 |
| -2.099 | 0.210 | -0.430 | 0.001 | 0.250 |
| -2.199 | 0.278 | -0.430 | 0.001 | 0.245 |
| -2.299 | 0.346 | -0.430 | 0.002 | 0.240 |
| -2.399 | 0.413 | -0.429 | 0.002 | 0.235 |
| -2.400 | 0.414 | -0.429 | 0.002 | 0.235 |
| -2.499 | 0.481 | -0.429 | 0.003 | 0.231 |
| -2.599 | 0.548 | -0.429 | 0.003 | 0.226 |
| -2.699 | 0.616 | -0.429 | 0.004 | 0.222 |
| -2.799 | 0.683 | -0.428 | 0.004 | 0.217 |
| -3.000 | 0.817 | -0.428 | 0.006 | 0.208 |
| -3.000 | 0.817 | -0.428 | 0.006 | 0.208 |
| -3.600 | 5.105 | -0.424 | 0.013 | 0.205 |
| -4.100 | 8.645 | -0.418 | 0.023 | 0.203 |
| -4.600 | 12.160 | -0.408 | 0.038 | 0.201 |
| -5.200 | 16.347 | -0.393 | 0.063 | 0.198 |
| -5.200 | 16.347 | -0.393 | 0.063 | 0.198 |
| -5.950 | 16.536 | -0.355 | 0.106 | 0.167 |
| -6.700 | 16.839 | -0.327 | 0.166 | 0.139 |
| -6.700 | 16.839 | -0.327 | 0.166 | 0.139 |
| -7.400 | 21.159 | -0.325 | 0.237 | 0.135 |
| -8.400 | 27.355 | -0.323 | 0.364 | 0.128 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -9.000 | 31.086 | -0.322 | 0.453 | 0.123 |
| -9.700 | 35.451 | -0.321 | 0.568 | 0.117 |
| -10.700 | 41.708 | -0.319 | 0.749 | 0.108 |
| -11.300 | 45.472 | -0.318 | 0.866 | 0.102 |
| -11.300 | 45.472 | -0.318 | 0.866 | 0.102 |
| -11.650 | 47.374 | -0.316 | 0.936 | 0.096 |
| -12.000 | 49.286 | -0.315 | 1.007 | 0.090 |
| -12.000 | 49.286 | -0.315 | 1.007 | 0.090 |
| -12.700 | 53.696 | -0.315 | 1.152 | 0.083 |
| -13.700 | 60.009 | -0.316 | 1.363 | 0.072 |
| -14.100 | 62.537 | -0.317 | 1.446 | 0.068 |
| -14.800 | 66.967 | -0.319 | 1.592 | 0.060 |
| -15.800 | 73.302 | -0.323 | 1.795 | 0.049 |
| -16.200 | 75.839 | -0.325 | 1.874 | 0.045 |
| -16.200 | 75.839 | -0.325 | 1.874 | 0.045 |
| -17.050 | 88.629 | -1.154 | 2.036 | 0.027 |
| -17.900 | 101.586 | -2.000 | 2.191 | 0.009 |
| -17.900 | 101.586 | -2.000 | 2.191 | 0.009 |
| -18.701 | 109.886 | -2.000 | 2.328 | 0.008 |
| -19.701 | 120.237 | -2.000 | 2.486 | 0.007 |
| -20.701 | 130.574 | -2.000 | 2.631 | 0.006 |
| -21.701 | 140.897 | -2.000 | 2.762 | 0.005 |
| -23.602 | 160.482 | -2.000 | 2.974 | 0.002 |
| -25.502 | 180.012 | -2.000 | 3.141 | 0.000 |

### 3.65 Results for Vertical 65 (X = 2.41 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.800 | 0.002 | -0.430 | 0.001 | 0.265 |
| -1.900 | 0.070 | -0.430 | 0.001 | 0.260 |
| -2.000 | 0.138 | -0.430 | 0.001 | 0.255 |
| -2.100 | 0.207 | -0.430 | 0.001 | 0.250 |
| -2.200 | 0.275 | -0.430 | 0.001 | 0.245 |
| -2.300 | 0.343 | -0.430 | 0.002 | 0.240 |
| -2.400 | 0.411 | -0.429 | 0.002 | 0.235 |
| -2.500 | 0.478 | -0.429 | 0.003 | 0.231 |
| -2.600 | 0.545 | -0.429 | 0.003 | 0.226 |
| -2.700 | 0.613 | -0.429 | 0.004 | 0.222 |
| -2.800 | 0.680 | -0.429 | 0.004 | 0.217 |
| -3.000 | 0.814 | -0.428 | 0.006 | 0.208 |
| -3.000 | 0.814 | -0.428 | 0.006 | 0.208 |
| -3.600 | 5.101 | -0.424 | 0.013 | 0.205 |
| -4.100 | 8.642 | -0.418 | 0.023 | 0.203 |
| -4.600 | 12.157 | -0.408 | 0.038 | 0.201 |
| -5.200 | 16.344 | -0.393 | 0.062 | 0.198 |
| -5.200 | 16.344 | -0.393 | 0.062 | 0.198 |
| -5.950 | 16.534 | -0.355 | 0.106 | 0.167 |
| -6.700 | 16.838 | -0.327 | 0.166 | 0.139 |
| -6.700 | 16.838 | -0.327 | 0.166 | 0.139 |
| -7.400 | 21.158 | -0.326 | 0.236 | 0.135 |
| -8.400 | 27.354 | -0.324 | 0.362 | 0.128 |
| -9.000 | 31.084 | -0.322 | 0.451 | 0.123 |
| -9.700 | 35.449 | -0.321 | 0.566 | 0.117 |
| -10.700 | 41.705 | -0.319 | 0.747 | 0.108 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -11.300 | 45.469 | -0.318 | 0.863 | 0.102 |
| -11.300 | 45.470 | -0.318 | 0.863 | 0.102 |
| -11.650 | 47.371 | -0.316 | 0.933 | 0.096 |
| -12.000 | 49.283 | -0.315 | 1.004 | 0.090 |
| -12.000 | 49.283 | -0.315 | 1.004 | 0.090 |
| -12.700 | 53.693 | -0.315 | 1.149 | 0.083 |
| -13.700 | 60.005 | -0.316 | 1.359 | 0.072 |
| -14.100 | 62.533 | -0.317 | 1.443 | 0.068 |
| -14.800 | 66.962 | -0.319 | 1.588 | 0.060 |
| -15.800 | 73.298 | -0.323 | 1.791 | 0.049 |
| -16.200 | 75.834 | -0.325 | 1.870 | 0.045 |
| -16.200 | 75.834 | -0.325 | 1.870 | 0.045 |
| -17.050 | 88.623 | -1.154 | 2.032 | 0.027 |
| -17.900 | 101.578 | -2.000 | 2.186 | 0.009 |
| -17.900 | 101.578 | -2.000 | 2.186 | 0.009 |
| -18.701 | 109.878 | -2.000 | 2.323 | 0.008 |
| -19.701 | 120.229 | -2.000 | 2.482 | 0.007 |
| -20.701 | 130.566 | -2.000 | 2.627 | 0.006 |
| -21.701 | 140.889 | -2.000 | 2.758 | 0.005 |
| -23.602 | 160.475 | -2.000 | 2.970 | 0.002 |
| -25.502 | 180.004 | -2.000 | 3.137 | 0.000 |

### 3.66 Results for Vertical 66 (X = 3.07 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.850 | 0.002 | -0.430 | 0.001 | 0.260 |
| -1.950 | 0.069 | -0.430 | 0.001 | 0.255 |
| -2.000 | 0.104 | -0.430 | 0.001 | 0.252 |
| -2.050 | 0.138 | -0.430 | 0.001 | 0.250 |
| -2.150 | 0.207 | -0.430 | 0.001 | 0.245 |
| -2.250 | 0.275 | -0.430 | 0.001 | 0.240 |
| -2.350 | 0.343 | -0.430 | 0.002 | 0.235 |
| -2.425 | 0.393 | -0.429 | 0.002 | 0.232 |
| -2.450 | 0.410 | -0.429 | 0.002 | 0.231 |
| -2.550 | 0.478 | -0.429 | 0.002 | 0.226 |
| -2.650 | 0.545 | -0.429 | 0.003 | 0.221 |
| -2.750 | 0.612 | -0.429 | 0.003 | 0.217 |
| -2.850 | 0.679 | -0.429 | 0.004 | 0.212 |
| -3.000 | 0.780 | -0.428 | 0.005 | 0.206 |
| -3.000 | 0.780 | -0.428 | 0.005 | 0.206 |
| -3.600 | 5.066 | -0.425 | 0.010 | 0.203 |
| -4.100 | 8.606 | -0.418 | 0.018 | 0.200 |
| -4.600 | 12.118 | -0.409 | 0.030 | 0.198 |
| -5.200 | 16.301 | -0.393 | 0.050 | 0.196 |
| -5.200 | 16.301 | -0.393 | 0.050 | 0.196 |
| -5.950 | 16.486 | -0.356 | 0.086 | 0.165 |
| -6.700 | 16.782 | -0.328 | 0.135 | 0.137 |
| -6.700 | 16.782 | -0.328 | 0.135 | 0.137 |
| -7.400 | 21.091 | -0.327 | 0.194 | 0.133 |
| -8.400 | 27.268 | -0.325 | 0.302 | 0.126 |
| -9.000 | 30.986 | -0.323 | 0.379 | 0.121 |
| -9.700 | 35.337 | -0.322 | 0.479 | 0.115 |
| -10.700 | 41.572 | -0.320 | 0.639 | 0.106 |
| -11.300 | 45.324 | -0.319 | 0.744 | 0.101 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -11.300 | 45.324 | -0.319 | 0.744 | 0.101 |
| -11.650 | 47.218 | -0.317 | 0.807 | 0.094 |
| -12.000 | 49.123 | -0.316 | 0.871 | 0.088 |
| -12.000 | 49.123 | -0.316 | 0.871 | 0.088 |
| -12.700 | 53.520 | -0.316 | 1.003 | 0.081 |
| -13.700 | 59.816 | -0.317 | 1.197 | 0.071 |
| -14.100 | 62.338 | -0.318 | 1.275 | 0.067 |
| -14.800 | 66.758 | -0.320 | 1.411 | 0.059 |
| -15.800 | 73.081 | -0.324 | 1.603 | 0.049 |
| -16.200 | 75.614 | -0.326 | 1.678 | 0.044 |
| -16.200 | 75.614 | -0.326 | 1.678 | 0.044 |
| -17.050 | 88.393 | -1.154 | 1.834 | 0.027 |
| -17.900 | 101.338 | -2.000 | 1.984 | 0.009 |
| -17.900 | 101.338 | -2.000 | 1.984 | 0.009 |
| -18.701 | 109.636 | -2.000 | 2.118 | 0.008 |
| -19.701 | 119.985 | -2.000 | 2.275 | 0.007 |
| -20.701 | 130.322 | -2.000 | 2.420 | 0.006 |
| -21.701 | 140.646 | -2.000 | 2.553 | 0.004 |
| -23.602 | 160.238 | -2.000 | 2.771 | 0.002 |
| -25.502 | 179.777 | -2.000 | 2.947 | 0.000 |

### 3.67 Results for Vertical 67 (X = 3.77 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.977 | 0.002 | -0.430 | 0.001 | 0.253 |
| -2.000 | 0.016 | -0.430 | 0.001 | 0.251 |
| -2.077 | 0.069 | -0.430 | 0.001 | 0.247 |
| -2.177 | 0.138 | -0.430 | 0.001 | 0.242 |
| -2.277 | 0.207 | -0.430 | 0.001 | 0.237 |
| -2.377 | 0.275 | -0.430 | 0.001 | 0.233 |
| -2.477 | 0.343 | -0.430 | 0.001 | 0.228 |
| -2.489 | 0.350 | -0.430 | 0.001 | 0.227 |
| -2.577 | 0.410 | -0.429 | 0.002 | 0.223 |
| -2.677 | 0.478 | -0.429 | 0.002 | 0.218 |
| -2.777 | 0.545 | -0.429 | 0.002 | 0.214 |
| -2.877 | 0.612 | -0.429 | 0.003 | 0.209 |
| -2.977 | 0.679 | -0.429 | 0.003 | 0.205 |
| -3.000 | 0.695 | -0.429 | 0.004 | 0.204 |
| -3.000 | 0.695 | -0.429 | 0.004 | 0.204 |
| -3.600 | 4.981 | -0.425 | 0.008 | 0.201 |
| -4.100 | 8.520 | -0.419 | 0.014 | 0.198 |
| -4.600 | 12.032 | -0.409 | 0.023 | 0.196 |
| -5.200 | 16.213 | -0.394 | 0.040 | 0.194 |
| -5.200 | 16.213 | -0.394 | 0.040 | 0.194 |
| -5.950 | 16.394 | -0.357 | 0.069 | 0.163 |
| -6.700 | 16.685 | -0.330 | 0.110 | 0.135 |
| -6.700 | 16.685 | -0.330 | 0.110 | 0.135 |
| -7.400 | 20.984 | -0.328 | 0.159 | 0.131 |
| -8.400 | 27.144 | -0.326 | 0.250 | 0.124 |
| -9.000 | 30.852 | -0.325 | 0.316 | 0.119 |
| -9.700 | 35.189 | -0.323 | 0.403 | 0.113 |
| -10.700 | 41.404 | -0.322 | 0.544 | 0.105 |
| -11.300 | 45.144 | -0.321 | 0.636 | 0.099 |
| -11.300 | 45.144 | -0.321 | 0.636 | 0.099 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -11.650 | 47.031 | -0.319 | 0.692 | 0.093 |
| -12.000 | 48.929 | -0.318 | 0.750 | 0.087 |
| -12.000 | 48.930 | -0.318 | 0.750 | 0.087 |
| -12.700 | 53.314 | -0.318 | 0.870 | 0.080 |
| -13.700 | 59.592 | -0.319 | 1.047 | 0.070 |
| -14.100 | 62.108 | -0.319 | 1.119 | 0.066 |
| -14.800 | 66.517 | -0.321 | 1.245 | 0.059 |
| -15.800 | 72.828 | -0.325 | 1.425 | 0.048 |
| -16.200 | 75.356 | -0.327 | 1.496 | 0.044 |
| -16.200 | 75.356 | -0.327 | 1.496 | 0.044 |
| -17.050 | 88.121 | -1.155 | 1.645 | 0.027 |
| -17.900 | 101.054 | -2.000 | 1.789 | 0.009 |
| -17.900 | 101.054 | -2.000 | 1.789 | 0.009 |
| -18.701 | 109.347 | -2.000 | 1.919 | 0.008 |
| -19.701 | 119.693 | -2.000 | 2.073 | 0.007 |
| -20.701 | 130.029 | -2.000 | 2.217 | 0.005 |
| -21.701 | 140.353 | -2.000 | 2.350 | 0.004 |
| -23.602 | 159.949 | -2.000 | 2.572 | 0.002 |
| -25.502 | 179.495 | -2.000 | 2.754 | 0.000 |

### 3.68 Results for Vertical 68 (X = 3.95 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.978 | 0.001 | -0.430 | 0.000 | 0.252 |
| -2.000 | 0.016 | -0.430 | 0.001 | 0.251 |
| -2.078 | 0.069 | -0.430 | 0.001 | 0.247 |
| -2.178 | 0.138 | -0.430 | 0.001 | 0.242 |
| -2.278 | 0.207 | -0.430 | 0.001 | 0.237 |
| -2.378 | 0.275 | -0.430 | 0.001 | 0.232 |
| -2.478 | 0.343 | -0.430 | 0.001 | 0.227 |
| -2.489 | 0.350 | -0.430 | 0.001 | 0.227 |
| -2.578 | 0.410 | -0.429 | 0.002 | 0.222 |
| -2.678 | 0.478 | -0.429 | 0.002 | 0.218 |
| -2.778 | 0.545 | -0.429 | 0.002 | 0.213 |
| -2.878 | 0.612 | -0.429 | 0.003 | 0.209 |
| -2.978 | 0.679 | -0.429 | 0.003 | 0.204 |
| -3.000 | 0.694 | -0.429 | 0.003 | 0.203 |
| -3.000 | 0.694 | -0.429 | 0.003 | 0.203 |
| -3.600 | 4.980 | -0.425 | 0.007 | 0.200 |
| -4.100 | 8.519 | -0.419 | 0.013 | 0.198 |
| -4.600 | 12.030 | -0.409 | 0.022 | 0.196 |
| -5.200 | 16.210 | -0.394 | 0.037 | 0.193 |
| -5.200 | 16.210 | -0.394 | 0.037 | 0.193 |
| -5.950 | 16.391 | -0.357 | 0.065 | 0.162 |
| -6.700 | 16.680 | -0.330 | 0.104 | 0.134 |
| -6.700 | 16.680 | -0.330 | 0.104 | 0.134 |
| -7.400 | 20.977 | -0.328 | 0.151 | 0.130 |
| -8.400 | 27.134 | -0.326 | 0.238 | 0.123 |
| -9.000 | 30.839 | -0.325 | 0.302 | 0.119 |
| -9.700 | 35.172 | -0.324 | 0.385 | 0.113 |
| -10.700 | 41.383 | -0.322 | 0.521 | 0.104 |
| -11.300 | 45.120 | -0.321 | 0.611 | 0.099 |
| -11.300 | 45.120 | -0.321 | 0.611 | 0.099 |
| -11.650 | 47.005 | -0.319 | 0.665 | 0.093 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -12.000 | 48.902 | -0.318 | 0.722 | 0.086 |
| -12.000 | 48.902 | -0.318 | 0.722 | 0.086 |
| -12.700 | 53.283 | -0.318 | 0.838 | 0.080 |
| -13.700 | 59.557 | -0.319 | 1.010 | 0.070 |
| -14.100 | 62.071 | -0.320 | 1.081 | 0.066 |
| -14.800 | 66.478 | -0.322 | 1.205 | 0.058 |
| -15.800 | 72.785 | -0.326 | 1.382 | 0.048 |
| -16.200 | 75.313 | -0.328 | 1.452 | 0.043 |
| -16.200 | 75.313 | -0.328 | 1.452 | 0.043 |
| -17.050 | 88.074 | -1.155 | 1.598 | 0.026 |
| -17.900 | 101.004 | -2.000 | 1.741 | 0.009 |
| -17.900 | 101.004 | -2.000 | 1.741 | 0.009 |
| -18.701 | 109.297 | -2.000 | 1.869 | 0.008 |
| -19.701 | 119.642 | -2.000 | 2.022 | 0.007 |
| -20.701 | 129.977 | -2.000 | 2.166 | 0.005 |
| -21.701 | 140.301 | -2.000 | 2.298 | 0.004 |
| -23.602 | 159.898 | -2.000 | 2.521 | 0.002 |
| -25.502 | 179.445 | -2.000 | 2.706 | 0.000 |

### 3.69 Results for Vertical 69 (X = 10.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.978 | 0.001 | -0.430 | 0.000 | 0.241 |
| -2.000 | 0.015 | -0.430 | 0.000 | 0.240 |
| -2.078 | 0.069 | -0.430 | 0.000 | 0.236 |
| -2.178 | 0.137 | -0.430 | 0.000 | 0.231 |
| -2.278 | 0.206 | -0.430 | 0.000 | 0.226 |
| -2.378 | 0.274 | -0.430 | 0.000 | 0.222 |
| -2.478 | 0.342 | -0.430 | 0.000 | 0.217 |
| -2.489 | 0.349 | -0.430 | 0.000 | 0.216 |
| -2.578 | 0.409 | -0.429 | 0.000 | 0.212 |
| -2.678 | 0.476 | -0.429 | 0.000 | 0.208 |
| -2.778 | 0.543 | -0.429 | 0.000 | 0.203 |
| -2.878 | 0.610 | -0.429 | 0.000 | 0.199 |
| -2.978 | 0.677 | -0.429 | 0.001 | 0.194 |
| -3.000 | 0.692 | -0.429 | 0.001 | 0.193 |
| -3.000 | 0.692 | -0.429 | 0.001 | 0.193 |
| -3.600 | 4.975 | -0.425 | 0.001 | 0.190 |
| -4.100 | 8.511 | -0.419 | 0.002 | 0.188 |
| -4.600 | 12.018 | -0.410 | 0.004 | 0.186 |
| -5.200 | 16.190 | -0.395 | 0.007 | 0.183 |
| -5.200 | 16.190 | -0.395 | 0.007 | 0.183 |
| -5.950 | 16.360 | -0.359 | 0.013 | 0.152 |
| -6.700 | 16.629 | -0.333 | 0.023 | 0.124 |
| -6.700 | 16.629 | -0.333 | 0.023 | 0.124 |
| -7.400 | 20.891 | -0.332 | 0.034 | 0.121 |
| -8.400 | 26.984 | -0.330 | 0.058 | 0.114 |
| -9.000 | 30.644 | -0.328 | 0.076 | 0.110 |
| -9.700 | 34.920 | -0.327 | 0.102 | 0.104 |
| -10.700 | 41.040 | -0.325 | 0.147 | 0.096 |
| -11.300 | 44.719 | -0.325 | 0.179 | 0.091 |
| -11.300 | 44.719 | -0.325 | 0.179 | 0.091 |
| -11.650 | 46.571 | -0.323 | 0.199 | 0.085 |
| -12.000 | 48.433 | -0.322 | 0.220 | 0.079 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -12.000 | 48.433 | -0.322 | 0.220 | 0.079 |
| -12.700 | 52.743 | -0.322 | 0.266 | 0.073 |
| -13.700 | 58.916 | -0.323 | 0.339 | 0.064 |
| -14.100 | 61.391 | -0.323 | 0.371 | 0.060 |
| -14.800 | 65.730 | -0.325 | 0.429 | 0.054 |
| -15.800 | 71.947 | -0.329 | 0.517 | 0.044 |
| -16.200 | 74.440 | -0.331 | 0.554 | 0.040 |
| -16.200 | 74.440 | -0.331 | 0.554 | 0.040 |
| -17.050 | 87.120 | -1.157 | 0.635 | 0.024 |
| -17.900 | 99.973 | -2.000 | 0.719 | 0.007 |
| -17.900 | 99.973 | -2.000 | 0.719 | 0.007 |
| -18.701 | 108.216 | -2.000 | 0.800 | 0.006 |
| -19.701 | 118.509 | -2.000 | 0.901 | 0.005 |
| -20.701 | 128.803 | -2.000 | 1.004 | 0.004 |
| -21.701 | 139.095 | -2.000 | 1.105 | 0.004 |
| -23.602 | 158.656 | -2.000 | 1.293 | 0.002 |
| -25.502 | 178.196 | -2.000 | 1.469 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -40.00 | 0.00 | -2.18 | 0.179 |
| 2 | -34.00 | 0.00 | -2.18 | 0.190 |
| 3 | -32.86 | 0.00 | -2.16 | 0.196 |
| 4 | -32.18 | 0.00 | -2.16 | 0.199 |
| 5 | -28.93 | 0.00 | -2.11 | 0.261 |
| 6 | -22.58 | 0.00 | -2.06 | 0.655 |
| 7 | -22.01 | 0.00 | -2.06 | 0.682 |
| 8 | -20.54 | 0.00 | -2.06 | 0.745 |
| 9 | -20.14 | 0.00 | -2.07 | 0.762 |
| 10 | -19.53 | 0.00 | -2.08 | 0.785 |
| 11 | -19.41 | 0.00 | -2.08 | 0.792 |
| 12 | -16.10 | 0.00 | -2.23 | 0.945 |
| 13 | -14.71 | 0.00 | -2.29 | 1.007 |
| 14 | -14.57 | 0.00 | -2.30 | 1.016 |
| 15 | -14.23 | 0.00 | -2.37 | 1.051 |
| 16 | -14.00 | 0.00 | -2.65 | 1.289 |
| 17 | -13.77 | 0.00 | -2.95 | 1.005 |
| 18 | -13.72 | 0.00 | -3.00 | 0.923 |
| 19 | -13.42 | 0.00 | -3.27 | 0.928 |
| 20 | -12.87 | 0.00 | -3.23 | 0.914 |
| 21 | -12.15 | 0.00 | -3.17 | 0.894 |
| 22 | -11.98 | 0.00 | -3.16 | 0.888 |
| 23 | -11.77 | 0.00 | -3.14 | 0.882 |
| 24 | -11.76 | 0.00 | -3.00 | 0.876 |
| 25 | -11.73 | 0.00 | -2.65 | 1.237 |
| 26 | -11.64 | 0.00 | -1.82 | 0.995 |
| 27 | -11.60 | 0.00 | -1.80 | 0.973 |
| 28 | -11.29 | 0.00 | -1.64 | 0.877 |
| 29 | -11.18 | 0.00 | -1.59 | 0.849 |
| 30 | -11.05 | 0.00 | -1.53 | 0.822 |
| 31 | -10.83 | 0.00 | -1.42 | 0.779 |
| 32 | -10.47 | 0.00 | -1.24 | 0.720 |
| 33 | -9.90 | 0.00 | -0.98 | 0.644 |
| 34 | -9.75 | 0.00 | -0.90 | 0.624 |
| 35 | -9.51 | 0.00 | -0.78 | 0.581 |
| 36 | -9.50 | 0.00 | -0.78 | 0.578 |
| 37 | -8.25 | 0.00 | -0.15 | 0.410 |
| 38 | -7.51 | 0.00 | 0.22 | 0.317 |
| 39 | -7.39 | 0.00 | 0.28 | 0.292 |
| 40 | -7.38 | 0.00 | 0.28 | 0.290 |
| 41 | -7.14 | 0.00 | 0.32 | 0.270 |
| 42 | -7.13 | 0.00 | 0.32 | 0.269 |
| 43 | -6.83 | 0.00 | 0.34 | 0.256 |
| 44 | -6.69 | 0.00 | 0.35 | 0.251 |
| 45 | -5.90 | 0.00 | 0.36 | 0.231 |
| 46 | -5.79 | 0.00 | 0.37 | 0.229 |
| 47 | -4.00 | 0.00 | 0.40 | 0.203 |
| 48 | -3.78 | 0.00 | 0.40 | 0.201 |
| 49 | -3.53 | 0.00 | 0.39 | 0.199 |
| 50 | -2.23 | 0.00 | 0.37 | 0.190 |
| 51 | -2.08 | 0.00 | 0.37 | 0.189 |
| 52 | -1.31 | 0.00 | 0.36 | 0.184 |
| 53 | -0.85 | 0.00 | 0.46 | 0.182 |

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 54 | -0.67 | 0.00 | 0.35 | 0.181 |
| 55 | -0.32 | 0.00 | 0.25 | 0.180 |
| 56 | -0.04 | 0.00 | 0.04 | 0.178 |
| 57 | 0.00 | 0.00 | 0.02 | 0.178 |
| 58 | 0.45 | 0.00 | -0.30 | 0.174 |
| 59 | 0.59 | 0.00 | -0.90 | 0.267 |
| 60 | 0.60 | 0.00 | -0.95 | 0.267 |
| 61 | 0.72 | 0.00 | -1.42 | 0.269 |
| 62 | 0.90 | 0.00 | -1.64 | 0.270 |
| 63 | 1.54 | 0.00 | -1.71 | 0.267 |
| 64 | 2.40 | 0.00 | -1.80 | 0.265 |
| 65 | 2.41 | 0.00 | -1.80 | 0.265 |
| 66 | 3.07 | 0.00 | -1.85 | 0.260 |
| 67 | 3.77 | 0.00 | -1.98 | 0.253 |
| 68 | 3.95 | 0.00 | -1.98 | 0.252 |
| 69 | 10.00 | 0.00 | -1.98 | 0.241 |

## 4.2 Residual Times

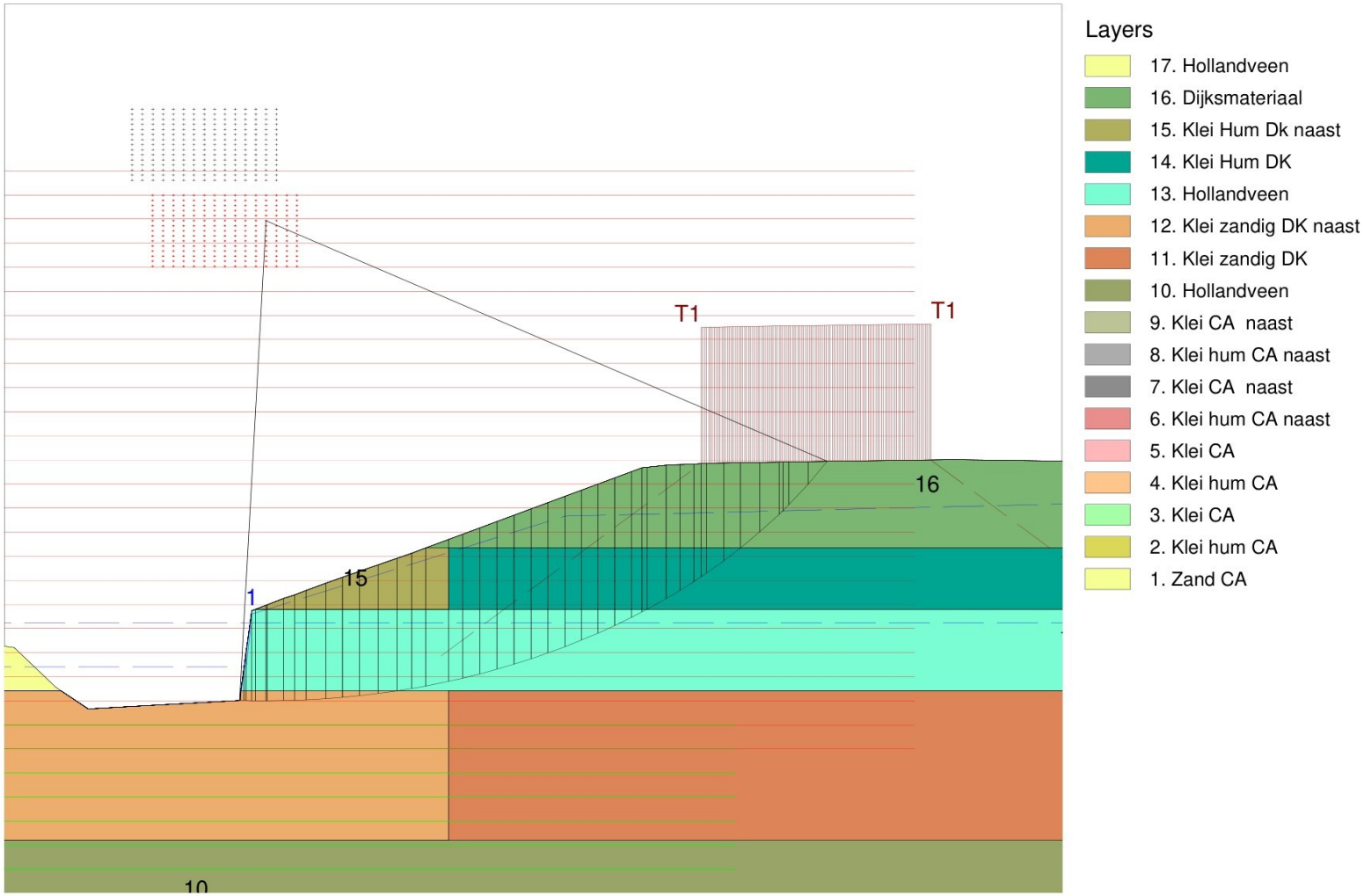
| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 540 | 0.021 | 11.466 | 0.159 |
| | 5040 | 0.128 | 71.458 | 0.051 |
| 2 | 540 | 0.024 | 12.424 | 0.166 |
| | 5040 | 0.137 | 72.092 | 0.053 |
| 3 | 540 | 0.025 | 12.699 | 0.171 |
| | 5040 | 0.142 | 72.350 | 0.054 |
| 4 | 540 | 0.026 | 12.920 | 0.173 |
| | 5040 | 0.144 | 72.523 | 0.055 |
| 5 | 540 | 0.055 | 20.926 | 0.207 |
| | 5040 | 0.199 | 76.315 | 0.062 |
| 6 | 540 | 0.285 | 43.577 | 0.370 |
| | 5040 | 0.565 | 86.266 | 0.090 |
| 7 | 540 | 0.299 | 43.874 | 0.383 |
| | 5040 | 0.591 | 86.694 | 0.091 |
| 8 | 540 | 0.330 | 44.347 | 0.414 |
| | 5040 | 0.651 | 87.426 | 0.094 |
| 9 | 540 | 0.339 | 44.496 | 0.423 |
| | 5040 | 0.667 | 87.569 | 0.095 |
| 10 | 540 | 0.352 | 44.854 | 0.433 |
| | 5040 | 0.689 | 87.767 | 0.096 |
| 11 | 540 | 0.356 | 44.910 | 0.436 |
| | 5040 | 0.696 | 87.809 | 0.097 |
| 12 | 540 | 0.419 | 44.369 | 0.526 |
| | 5040 | 0.809 | 85.624 | 0.136 |
| 13 | 540 | 0.440 | 43.641 | 0.568 |
| | 5040 | 0.859 | 85.258 | 0.148 |
| 14 | 540 | 0.441 | 43.465 | 0.574 |
| | 5040 | 0.865 | 85.215 | 0.150 |
| 15 | 540 | 0.448 | 42.641 | 0.603 |
| | 5040 | 0.894 | 85.015 | 0.158 |
| 16 | 540 | 0.536 | 41.604 | 0.753 |
| | 5040 | 1.100 | 85.342 | 0.189 |
| 17 | 540 | 0.375 | 37.302 | 0.630 |
| | 5040 | 0.839 | 83.502 | 0.166 |
| 18 | 540 | 0.303 | 32.868 | 0.619 |
| | 5040 | 0.758 | 82.106 | 0.165 |
| 19 | 540 | 0.290 | 31.278 | 0.638 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 5040 | 0.760 | 81.826 | 0.169 |
| 20 | 540 | 0.283 | 30.998 | 0.631 |
| | 5040 | 0.745 | 81.470 | 0.169 |
| 21 | 540 | 0.278 | 31.142 | 0.615 |
| | 5040 | 0.726 | 81.303 | 0.167 |
| 22 | 540 | 0.278 | 31.280 | 0.610 |
| | 5040 | 0.722 | 81.336 | 0.166 |
| 23 | 540 | 0.282 | 31.974 | 0.600 |
| | 5040 | 0.719 | 81.586 | 0.162 |
| 24 | 540 | 0.287 | 32.741 | 0.590 |
| | 5040 | 0.715 | 81.625 | 0.161 |
| 25 | 540 | 0.516 | 41.706 | 0.721 |
| | 5040 | 1.049 | 84.754 | 0.189 |
| 26 | 540 | 0.431 | 43.345 | 0.564 |
| | 5040 | 0.861 | 86.574 | 0.134 |
| 27 | 540 | 0.424 | 43.569 | 0.549 |
| | 5040 | 0.843 | 86.578 | 0.131 |
| 28 | 540 | 0.298 | 33.943 | 0.580 |
| | 5040 | 0.734 | 83.644 | 0.144 |
| 29 | 540 | 0.276 | 32.466 | 0.574 |
| | 5040 | 0.704 | 82.942 | 0.145 |
| 30 | 540 | 0.256 | 31.111 | 0.566 |
| | 5040 | 0.675 | 82.163 | 0.147 |
| 31 | 540 | 0.230 | 29.511 | 0.549 |
| | 5040 | 0.631 | 80.981 | 0.148 |
| 32 | 540 | 0.203 | 28.210 | 0.517 |
| | 5040 | 0.572 | 79.455 | 0.148 |
| 33 | 540 | 0.177 | 27.553 | 0.467 |
| | 5040 | 0.500 | 77.679 | 0.144 |
| 34 | 540 | 0.170 | 27.334 | 0.453 |
| | 5040 | 0.483 | 77.383 | 0.141 |
| 35 | 540 | 0.147 | 25.348 | 0.434 |
| | 5040 | 0.443 | 76.200 | 0.138 |
| 36 | 540 | 0.148 | 25.562 | 0.430 |
| | 5040 | 0.441 | 76.290 | 0.137 |
| 37 | 540 | 0.082 | 19.890 | 0.328 |
| | 5040 | 0.296 | 72.081 | 0.114 |
| 38 | 540 | 0.046 | 14.475 | 0.271 |
| | 5040 | 0.217 | 68.464 | 0.100 |
| 39 | 540 | 0.030 | 10.224 | 0.262 |
| | 5040 | 0.194 | 66.562 | 0.098 |
| 40 | 540 | 0.029 | 9.829 | 0.261 |
| | 5040 | 0.193 | 66.397 | 0.097 |
| 41 | 540 | 0.021 | 7.868 | 0.249 |
| | 5040 | 0.176 | 65.291 | 0.094 |
| 42 | 540 | 0.021 | 7.799 | 0.248 |
| | 5040 | 0.176 | 65.242 | 0.094 |
| 43 | 540 | 0.018 | 7.164 | 0.237 |
| | 5040 | 0.166 | 64.817 | 0.090 |
| 44 | 540 | 0.017 | 6.948 | 0.233 |
| | 5040 | 0.162 | 64.659 | 0.089 |
| 45 | 540 | 0.014 | 6.074 | 0.217 |
| | 5040 | 0.148 | 64.055 | 0.083 |
| 46 | 540 | 0.014 | 5.972 | 0.215 |
| | 5040 | 0.146 | 63.988 | 0.082 |
| 47 | 540 | 0.009 | 4.589 | 0.194 |
| | 5040 | 0.128 | 62.945 | 0.075 |
| 48 | 540 | 0.009 | 4.466 | 0.192 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 5040 | 0.127 | 62.871 | 0.075 |
| 49 | 540 | 0.009 | 4.322 | 0.191 |
| | 5040 | 0.125 | 62.770 | 0.074 |
| 50 | 540 | 0.007 | 3.650 | 0.183 |
| | 5040 | 0.118 | 62.364 | 0.071 |
| 51 | 540 | 0.007 | 3.578 | 0.182 |
| | 5040 | 0.118 | 62.319 | 0.071 |
| 52 | 540 | 0.006 | 3.217 | 0.178 |
| | 5040 | 0.114 | 62.070 | 0.070 |
| 53 | 540 | 0.005 | 2.850 | 0.177 |
| | 5040 | 0.112 | 61.577 | 0.070 |
| 54 | 540 | 0.005 | 2.969 | 0.176 |
| | 5040 | 0.112 | 61.963 | 0.069 |
| 55 | 540 | 0.005 | 3.027 | 0.174 |
| | 5040 | 0.112 | 62.346 | 0.068 |
| 56 | 540 | 0.006 | 3.498 | 0.172 |
| | 5040 | 0.113 | 63.560 | 0.065 |
| 57 | 540 | 0.006 | 3.587 | 0.172 |
| | 5040 | 0.114 | 63.748 | 0.065 |
| 58 | 540 | 0.009 | 5.088 | 0.165 |
| | 5040 | 0.114 | 65.194 | 0.061 |
| 59 | 540 | 0.021 | 7.777 | 0.246 |
| | 5040 | 0.176 | 65.847 | 0.091 |
| 60 | 540 | 0.021 | 7.871 | 0.246 |
| | 5040 | 0.176 | 65.977 | 0.091 |
| 61 | 540 | 0.024 | 9.009 | 0.245 |
| | 5040 | 0.181 | 67.382 | 0.088 |
| 62 | 540 | 0.026 | 9.811 | 0.243 |
| | 5040 | 0.184 | 68.200 | 0.086 |
| 63 | 540 | 0.027 | 10.087 | 0.240 |
| | 5040 | 0.183 | 68.450 | 0.084 |
| 64 | 540 | 0.029 | 10.840 | 0.236 |
| | 5040 | 0.183 | 68.975 | 0.082 |
| 65 | 540 | 0.029 | 10.846 | 0.236 |
| | 5040 | 0.183 | 68.971 | 0.082 |
| 66 | 540 | 0.028 | 10.734 | 0.232 |
| | 5040 | 0.179 | 68.878 | 0.081 |
| 67 | 540 | 0.027 | 10.706 | 0.226 |
| | 5040 | 0.174 | 68.795 | 0.079 |
| 68 | 540 | 0.027 | 10.665 | 0.225 |
| | 5040 | 0.173 | 68.767 | 0.079 |
| 69 | 540 | 0.024 | 9.959 | 0.217 |
| | 5040 | 0.165 | 68.285 | 0.076 |

## End of Report

# Critical Circle Bishop




Xm : -11.48 [m]
Ym : 3.91 [m]

Radius : 7.06 [m]
Safety : 0.43

D-Geo Stability 18.2 : 13.295_hui_stbi.sti

waalpartners civil engineering

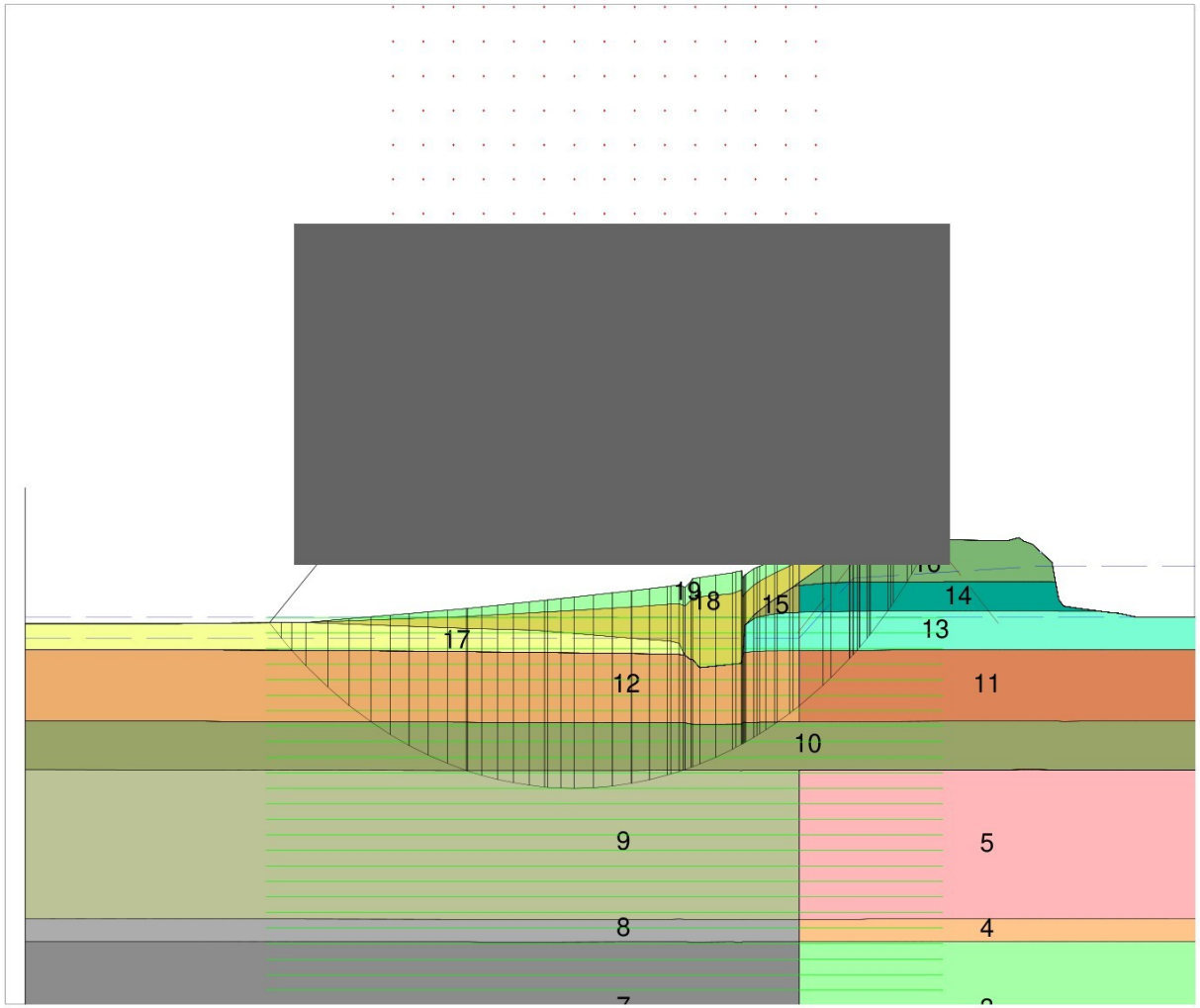

Zuidweg 75
2671MP Naaldwijk
Phone 0174 627791
Fax


N468
profiel 13.295
huidige STBI

| | |
|---|---|
| date | 2/13/2025 |
| drw. | - |
| ctr. | - |
| form. | A3 |

Annex -

# Critical Circle Bishop




Xm : -18.36 [m]
Ym : 9.38 [m]

Radius : 16.67 [m]
Safety : 1.56


waalpartners civil engineering

Zuidweg 75
2671MP Naaldwijk

Phone
Fax 0174 627791


N468
profiel 13.295
Ontwerp STBI

| | | |
|---|---|---|
| date | 2/13/2025 | dfw. - |
| | - | ctr. |
| Annex - | | form. A3 |

D-Geo Stability 18.2 : 13.295_eind_stbi koe540.sti

Bijlage 5.2 SB08

# Input View




N468
profiel 13.650

Ontwerp STBI


waalpartners civil engineering

Zuidweg 75
2671MP Naaldwijk

Phone 0174 627791
Email -


| date | drw. |
|---|---|
| 2/13/2025 | - |

| ctr. | form. |
|---|---|
| - | A3 |

Annex -

D-Settlement 23.2 : 13.650_dstab_koe.sli

# Report for D-Settlement 23.2

Settlement Calculations
Developed by Deltares

| | |
|---|---|
| Company: | Waalpartners civil engineering |
| Date of report: | 2/13/2025 |
| Time of report: | 6:24:49 PM |
| Report with version: | 23.2.1.41771 |
| Date of calculation: | 1/13/2025 |
| Time of calculation: | 3:39:46 PM |
| Calculated with version: | 23.2.1.41771 |
| File name: | 13.650_dstab_-koe |
| Project identification: | N468<br>profiel 13.650<br>Ontwerp STBI |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 19 - X - | -40.000 | -33.566 | -31.711 | -31.079 | -30.808 |
| 19 - Y - | -2.466 | -2.466 | -2.495 | -2.512 | -2.513 |
| 19 - X - | -27.415 | -26.622 | -24.013 | -22.802 | -21.766 |
| 19 - Y - | -2.523 | -2.521 | -2.524 | -2.543 | -2.539 |
| 19 - X - | -21.022 | -19.549 | -19.194 | -16.579 | -15.339 |
| 19 - Y - | -2.493 | -2.472 | -2.460 | -2.384 | -2.601 |
| 19 - X - | -15.000 | -14.735 | -14.193 | -12.524 | -11.650 |
| 19 - Y - | -2.650 | -3.335 | -3.699 | -3.512 | -3.400 |
| 19 - X - | -11.650 | -11.556 | -11.546 | -10.587 | -10.032 |
| 19 - Y - | -2.650 | -2.093 | -1.949 | -1.525 | -1.316 |
| 19 - X - | -9.404 | -8.368 | -7.364 | -7.087 | -6.678 |
| 19 - Y - | -1.023 | -0.550 | -0.108 | -0.131 | -0.141 |
| 19 - X - | -6.573 | -6.090 | -5.774 | -4.540 | -3.981 |
| 19 - Y - | -0.133 | -0.117 | -0.108 | -0.083 | -0.072 |
| 19 - X - | -3.469 | -3.074 | -2.161 | -1.569 | -1.379 |
| 19 - Y - | -0.079 | -0.085 | -0.098 | -0.110 | -0.114 |
| 19 - X - | -1.263 | -0.905 | -0.830 | -0.782 | -0.742 |
| 19 - Y - | -0.123 | -0.098 | -0.088 | -0.081 | -0.088 |
| 19 - X - | -0.664 | -0.539 | -0.362 | 0.217 | 0.475 |
| 19 - Y - | -0.102 | -0.132 | -0.158 | -0.326 | -1.630 |
| 19 - X - | 0.817 | 1.946 | 2.061 | 3.796 | 10.000 |
| 19 - Y - | -1.898 | -1.665 | -1.629 | -2.063 | -2.063 |
| 18 - X - | -40.000 | -33.566 | -31.711 | -31.079 | -30.808 |
| 18 - Y - | -2.466 | -2.466 | -2.495 | -2.512 | -2.513 |
| 18 - X - | -27.415 | -26.622 | -24.013 | -22.802 | -21.766 |
| 18 - Y - | -2.523 | -2.521 | -2.524 | -2.543 | -2.539 |
| 18 - X - | -21.022 | -19.549 | -19.194 | -16.579 | -15.339 |
| 18 - Y - | -2.493 | -2.472 | -2.460 | -2.384 | -2.601 |
| 18 - X - | -15.000 | -14.735 | -14.193 | -12.524 | -11.650 |
| 18 - Y - | -2.650 | -3.335 | -3.699 | -3.512 | -3.400 |
| 18 - X - | -11.650 | -11.556 | -9.455 | 10.000 | |
| 18 - Y - | -2.650 | -2.093 | -2.094 | -2.100 | |
| 17 - X - | -40.000 | -9.455 | -9.455 | 10.000 | |
| 17 - Y - | -4.500 | -4.500 | -2.094 | -2.100 | |
| 16 - X - | -40.000 | -9.455 | 10.000 | | |
| 16 - Y - | -4.500 | -4.500 | -4.500 | | |
| 15 - X - | -40.000 | -9.455 | 10.000 | | |
| 15 - Y - | -5.400 | -5.400 | -5.400 | | |
| 14 - X - | -40.000 | -9.455 | -9.455 | 10.000 | |
| 14 - Y - | -6.200 | -6.200 | -5.400 | -5.400 | |
| 13 - X - | -40.000 | -9.455 | 10.000 | | |
| 13 - Y - | -6.200 | -6.200 | -6.200 | | |
| 12 - X - | -40.000 | -9.455 | 10.000 | | |
| 12 - Y - | -6.900 | -6.900 | -6.900 | | |
| 11 - X - | -40.000 | -9.455 | -9.455 | 10.000 | |
| 11 - Y - | -8.700 | -8.700 | -6.900 | -6.900 | |
| 10 - X - | -40.000 | -9.455 | 10.000 | | |
| 10 - Y - | -8.700 | -8.700 | -8.700 | | |
| 9 - X - | -40.000 | -9.455 | 10.000 | | |
| 9 - Y - | -9.500 | -9.500 | -9.500 | | |
| 8 - X - | -40.000 | -9.455 | -9.455 | 10.000 | |
| 8 - Y - | -10.700 | -10.700 | -9.500 | -9.500 | |
| 7 - X - | -40.000 | -9.455 | -9.455 | -9.455 | 10.000 |
| 7 - Y - | -11.100 | -11.100 | -10.700 | -9.500 | -9.500 |

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 6 - X - | -40.000 | -9.455 | -9.455 | -9.455 | -9.455 |
| 6 - Y - | -16.000 | -16.000 | -11.100 | -10.700 | -9.500 |
| 6 - X - | 10.000 | | | | |
| 6 - Y - | -9.500 | | | | |
| 5 - X - | -40.000 | -9.455 | -9.455 | -9.455 | -9.455 |
| 5 - Y - | -18.100 | -18.100 | -16.000 | -11.100 | -10.700 |
| 5 - X - | -9.455 | 10.000 | | | |
| 5 - Y - | -9.500 | -9.500 | | | |
| 4 - X - | -40.000 | -9.455 | -9.455 | -9.455 | -9.455 |
| 4 - Y - | -18.100 | -18.100 | -16.000 | -11.100 | -10.700 |
| 4 - X - | 10.000 | | | | |
| 4 - Y - | -10.700 | | | | |
| 3 - X - | -40.000 | -9.455 | -9.455 | -9.455 | 10.000 |
| 3 - Y - | -18.100 | -18.100 | -16.000 | -11.100 | -11.100 |
| 2 - X - | -40.000 | -9.455 | -9.455 | 10.000 | |
| 2 - Y - | -18.100 | -18.100 | -16.000 | -16.000 | |
| 1 - X - | -40.000 | -9.455 | 10.000 | | |
| 1 - Y - | -18.100 | -18.100 | -18.100 | | |
| 0 - X - | -40.000 | 10.000 | | | |
| 0 - Y - | -25.502 | -25.502 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -40.000 | -9.465 | -7.370 | 0.750 | 10.000 |
| 1 - Y - | -2.650 | -2.650 | -0.800 | -0.430 | -0.430 |
| 2 - X - | -40.000 | 10.000 | | | |
| 2 - Y - | -2.000 | -2.000 | | | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | |
| - Loads: | Simulate |
| End of consolidation: | 10000.00 [days] |
| No maintain profile | |
| Pc (initial): | Variable parallel to the initial effective stress |
| Pc (per step): | Automatic increased to the final effective stresses |
| Creep rate reference time: | 1.000 [days] |
| No imaginary surface | |
| With submerging | |
| (only for non uniform loads) | |
| - Iteration stop criterium : | 0.10 [m] |
| Load column width | |
| - Non-Uniform Loads : | 1.00 [m] |
| - Trapeziform Loads : | 1.00 [m] |

## 2.4 Soil Profiles

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 19 | Dijksmateriaal | 1 | 1 |
| 18 | Klei Hum Dk naast | 1 | 1 |
| 17 | Klei Hum DK | 1 | 1 |
| 16 | Hollandveen | 1 | 1 |

| Layer number | Material name | PI-line top | PI-line bottom |
|---|---|---|---|
| 15 | Klei silt DKnaast | 1 | 1 |
| 14 | klei Silt DK | 1 | 1 |
| 13 | Hollandveen | 1 | 1 |
| 12 | Klei CA  naast | 1 | 1 |
| 11 | Klei CA | 1 | 1 |
| 10 | Hollandveen | 1 | 1 |
| 9 | Klei CA  naast | 1 | 1 |
| 8 | Klei hum CA naast | 1 | 1 |
| 7 | Klei CA  naast | 1 | 1 |
| 6 | Klei hum CA naast | 1 | 1 |
| 5 | Klei CA | 1 | 1 |
| 4 | Klei hum CA | 1 | 1 |
| 3 | Klei CA | 1 | 1 |
| 2 | Klei hum CA | 1 | 1 |
| 1 | Zand CA | 2 | 2 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 19 | No | 16.00 | 16.00 |
| 18 | No | 13.50 | 13.50 |
| 17 | No | 13.50 | 13.50 |
| 16 | No | 10.50 | 10.50 |
| 15 | No | 15.10 | 15.10 |
| 14 | No | 15.10 | 15.10 |
| 13 | No | 10.50 | 10.50 |
| 12 | No | 15.90 | 15.90 |
| 11 | No | 15.90 | 15.90 |
| 10 | No | 10.50 | 10.50 |
| 9 | No | 15.90 | 15.90 |
| 8 | No | 15.10 | 15.10 |
| 7 | No | 15.90 | 15.90 |
| 6 | No | 15.10 | 15.10 |
| 5 | No | 15.90 | 15.90 |
| 4 | No | 15.10 | 15.10 |
| 3 | No | 15.90 | 15.90 |
| 2 | No | 15.10 | 15.10 |
| 1 | Yes | 18.00 | 20.00 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] |
|---|---|---|
| 19 | Vert. cons. | 1.00E-08 |
| 18 | Vert. cons. | 4.07E-08 |
| 17 | Vert. cons. | 4.07E-08 |
| 16 | Vert. cons. | 1.00E-07 |
| 15 | Vert. cons. | 5.00E-08 |
| 14 | Vert. cons. | 5.00E-08 |
| 13 | Vert. cons. | 1.00E-07 |
| 12 | Vert. cons. | 6.02E-07 |
| 11 | Vert. cons. | 6.02E-07 |
| 10 | Vert. cons. | 1.00E-07 |
| 9 | Vert. cons. | 6.02E-07 |
| 8 | Vert. cons. | 9.27E-08 |
| 7 | Vert. cons. | 6.02E-07 |
| 6 | Vert. cons. | 9.27E-08 |
| 5 | Vert. cons. | 6.02E-07 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] |
|---|---|---|
| 4 | Vert. cons. | 9.27E-08 |
| 3 | Vert. cons. | 6.02E-07 |
| 2 | Vert. cons. | 9.27E-08 |
| 1 | Vert. cons. | - |

| Layer number | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|
| 19 | - | - | - |
| 18 | - | - | - |
| 17 | - | - | - |
| 16 | - | - | - |
| 15 | - | - | - |
| 14 | - | - | - |
| 13 | - | - | - |
| 12 | - | - | - |
| 11 | - | - | - |
| 10 | - | - | - |
| 9 | - | - | - |
| 8 | - | - | - |
| 7 | - | - | - |
| 6 | - | - | - |
| 5 | - | - | - |
| 4 | - | - | - |
| 3 | - | - | - |
| 2 | - | - | - |
| 1 | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 19 | - | 1.50 | - |
| 18 | - | 1.50 | - |
| 17 | - | 1.50 | - |
| 16 | - | 1.80 | - |
| 15 | - | 1.50 | - |
| 14 | - | 1.50 | - |
| 13 | - | 1.80 | - |
| 12 | - | 1.50 | - |
| 11 | - | 1.50 | - |
| 10 | - | 1.80 | - |
| 9 | - | 1.50 | - |
| 8 | - | 1.50 | - |
| 7 | - | 1.50 | - |
| 6 | - | 1.50 | - |
| 5 | - | 1.50 | - |
| 4 | - | 1.50 | - |
| 3 | - | 1.50 | - |
| 2 | - | 1.50 | - |
| 1 | - | 1.39 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 19 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 18 | 0.0338000 | 0.2190000 | 0.0174000 | - | - | - |
| 17 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 16 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 15 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 14 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 13 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 12 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 11 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 10 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 9 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 8 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 7 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 6 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 5 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 4 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 3 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 2 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 1 | 0.0100000 | 0.1062000 | 0.0033000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time | Unit weight | |
|---|---|---|---|
| | [days] | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 1 | -1 | 14.00 | 14.00 |
| 2 | 2 | 16.00 | 16.00 |
| 3 | 2 | 19.00 | 19.00 |
| 4 | 2 | 25.00 | 25.00 |
| 5 | 2 | 16.00 | 16.00 |
| 6 | 2 | 16.00 | 16.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -15.00 | -11.65 | | | | |
| 1 - Y - | -2.65 | -2.65 | | | | |
| 2 - X - | -27.41 | -12.18 | -8.23 | -7.13 | -6.73 | -6.73 |
| 2 - Y - | -2.52 | -1.00 | 0.32 | 0.37 | 0.38 | -0.14 |
| 3 - X - | -6.73 | -6.73 | -5.48 | -3.98 | -2.48 | -1.23 |
| 3 - Y - | -0.14 | 0.18 | 0.21 | 0.25 | 0.21 | 0.18 |
| 3 - X - | -0.83 | -0.83 | | | | |
| 3 - Y - | 0.17 | -0.09 | | | | |
| 4 - X - | -6.73 | -6.73 | -5.48 | -3.98 | -2.48 | -1.23 |
| 4 - Y - | -0.14 | 0.38 | 0.41 | 0.45 | 0.41 | 0.38 |
| 4 - X - | -0.83 | -0.83 | | | | |
| 4 - Y - | 0.37 | 0.17 | | | | |
| 5 - X - | -0.83 | -0.83 | 0.04 | 0.19 | | |
| 5 - Y - | -0.09 | 0.37 | 0.33 | -0.32 | | |
| 6 - X - | -27.41 | -16.58 | -12.18 | -8.23 | -7.45 | |
| 6 - Y - | -2.52 | -0.25 | 0.40 | 0.50 | 0.35 | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -40.000 | -33.566 | -31.711 | -31.079 | -30.808 |
| 6 - 10 | -27.415 | -26.622 | -24.013 | -22.802 | -21.766 |
| 11 - 15 | -21.022 | -19.800 | -19.549 | -19.194 | -16.579 |
| 16 - 20 | -15.339 | -15.000 | -14.735 | -14.193 | -13.330 |
| 21 - 25 | -12.524 | -12.180 | -11.650 | -11.556 | -11.546 |
| 26 - 30 | -10.587 | -10.032 | -9.465 | -9.455 | -9.404 |
| 31 - 35 | -8.368 | -8.231 | -7.449 | -7.370 | -7.364 |
| 36 - 40 | -7.131 | -7.087 | -6.731 | -6.678 | -6.573 |
| 41 - 45 | -6.090 | -5.774 | -5.482 | -4.540 | -3.981 |
| 46 - 50 | -3.469 | -3.074 | -2.480 | -2.161 | -1.569 |

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 51 - 55 | -1.379 | -1.263 | -1.231 | -0.905 | -0.831 |
| 56 - 60 | -0.830 | -0.782 | -0.742 | -0.664 | -0.539 |
| 61 - 65 | -0.362 | 0.042 | 0.188 | 0.217 | 0.475 |
| 66 - 70 | 0.750 | 0.817 | 1.946 | 2.061 | 3.796 |
| 71 | 10.000 | | | | |

# 3 Results per Vertical

## 3.1 Results for Vertical 1 (X = -40.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.466 | 0.001 | -2.466 | 0.000 | 0.184 |
| -2.566 | 0.547 | -2.566 | -0.801 | 0.182 |
| -2.650 | 0.853 | -2.649 | -1.625 | 0.182 |
| -2.666 | 0.911 | -2.649 | -1.625 | 0.182 |
| -2.766 | 1.274 | -2.649 | -1.625 | 0.182 |
| -2.866 | 1.635 | -2.648 | -1.625 | 0.181 |
| -2.966 | 1.995 | -2.647 | -1.625 | 0.181 |
| -3.066 | 2.354 | -2.646 | -1.625 | 0.180 |
| -3.166 | 2.712 | -2.645 | -1.625 | 0.179 |
| -3.266 | 3.068 | -2.643 | -1.625 | 0.178 |
| -3.366 | 3.424 | -2.642 | -1.624 | 0.177 |
| -3.466 | 3.779 | -2.641 | -1.624 | 0.175 |
| -3.483 | 3.839 | -2.640 | -1.624 | 0.175 |
| -4.000 | 5.654 | -2.631 | -1.623 | 0.168 |
| -4.500 | 7.386 | -2.619 | -1.622 | 0.159 |
| -4.500 | 7.386 | -2.619 | -1.622 | 0.159 |
| -4.950 | 7.676 | -2.617 | -1.620 | 0.153 |
| -5.400 | 7.969 | -2.615 | -1.616 | 0.147 |
| -5.400 | 7.969 | -2.615 | -1.616 | 0.147 |
| -5.800 | 10.016 | -2.607 | -1.612 | 0.145 |
| -6.200 | 12.052 | -2.599 | -1.606 | 0.142 |
| -6.200 | 12.052 | -2.599 | -1.606 | 0.142 |
| -6.550 | 12.279 | -2.596 | -1.600 | 0.134 |
| -6.900 | 12.509 | -2.594 | -1.593 | 0.127 |
| -6.900 | 12.509 | -2.594 | -1.593 | 0.127 |
| -7.800 | 18.001 | -2.593 | -1.568 | 0.125 |
| -8.700 | 23.500 | -2.591 | -1.531 | 0.122 |
| -8.700 | 23.500 | -2.591 | -1.531 | 0.122 |
| -9.100 | 23.768 | -2.588 | -1.511 | 0.109 |
| -9.500 | 24.045 | -2.586 | -1.489 | 0.095 |
| -9.500 | 24.045 | -2.586 | -1.489 | 0.095 |
| -10.100 | 27.730 | -2.585 | -1.450 | 0.092 |
| -10.700 | 31.422 | -2.584 | -1.405 | 0.089 |
| -10.700 | 31.422 | -2.584 | -1.405 | 0.089 |
| -10.900 | 32.480 | -2.583 | -1.389 | 0.086 |
| -11.100 | 33.540 | -2.581 | -1.373 | 0.084 |
| -11.100 | 33.540 | -2.581 | -1.373 | 0.084 |
| -11.950 | 38.788 | -2.581 | -1.294 | 0.078 |
| -12.950 | 44.981 | -2.580 | -1.189 | 0.071 |
| -13.550 | 48.706 | -2.580 | -1.119 | 0.066 |
| -14.400 | 53.995 | -2.581 | -1.012 | 0.059 |
| -15.400 | 60.236 | -2.582 | -0.877 | 0.051 |
| -16.000 | 63.990 | -2.583 | -0.791 | 0.046 |
| -16.000 | 63.990 | -2.583 | -0.791 | 0.046 |
| -16.550 | 67.102 | -2.596 | -0.711 | 0.036 |
| -17.050 | 69.963 | -2.610 | -0.636 | 0.027 |
| -17.600 | 73.146 | -2.629 | -0.552 | 0.016 |
| -18.100 | 76.075 | -2.650 | -0.475 | 0.006 |
| -18.100 | 69.698 | -2.000 | -0.475 | 0.006 |
| -18.600 | 74.873 | -2.000 | -0.398 | 0.006 |
| -19.101 | 80.058 | -2.000 | -0.319 | 0.006 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -20.101 | 90.408 | -2.000 | -0.162 | 0.005 |
| -21.101 | 100.758 | -2.000 | -0.006 | 0.004 |
| -21.801 | 108.001 | -2.000 | 0.102 | 0.003 |
| -23.602 | 126.631 | -2.000 | 0.372 | 0.002 |
| -25.502 | 146.268 | -2.000 | 0.641 | 0.000 |

### 3.2 Results for Vertical 2 (X = -33.57 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.466 | 0.001 | -2.466 | 0.000 | 0.198 |
| -2.566 | 0.406 | -2.566 | -0.942 | 0.197 |
| -2.650 | 0.712 | -2.649 | -1.766 | 0.197 |
| -2.666 | 0.770 | -2.649 | -1.766 | 0.197 |
| -2.766 | 1.133 | -2.649 | -1.766 | 0.197 |
| -2.866 | 1.494 | -2.648 | -1.766 | 0.197 |
| -2.966 | 1.854 | -2.647 | -1.766 | 0.196 |
| -3.066 | 2.214 | -2.646 | -1.765 | 0.196 |
| -3.166 | 2.572 | -2.645 | -1.765 | 0.195 |
| -3.266 | 2.929 | -2.644 | -1.765 | 0.194 |
| -3.366 | 3.285 | -2.642 | -1.764 | 0.193 |
| -3.466 | 3.640 | -2.641 | -1.764 | 0.192 |
| -3.483 | 3.701 | -2.640 | -1.763 | 0.192 |
| -4.000 | 5.520 | -2.631 | -1.758 | 0.185 |
| -4.500 | 7.260 | -2.619 | -1.748 | 0.178 |
| -4.500 | 7.260 | -2.619 | -1.748 | 0.178 |
| -4.950 | 7.563 | -2.617 | -1.733 | 0.173 |
| -5.400 | 7.874 | -2.615 | -1.711 | 0.168 |
| -5.400 | 7.874 | -2.615 | -1.711 | 0.168 |
| -5.800 | 9.941 | -2.607 | -1.685 | 0.166 |
| -6.200 | 12.002 | -2.598 | -1.651 | 0.163 |
| -6.200 | 12.002 | -2.598 | -1.651 | 0.163 |
| -6.550 | 12.256 | -2.596 | -1.617 | 0.156 |
| -6.900 | 12.519 | -2.594 | -1.576 | 0.148 |
| -6.900 | 12.519 | -2.594 | -1.576 | 0.148 |
| -7.800 | 18.115 | -2.592 | -1.446 | 0.147 |
| -8.700 | 23.741 | -2.590 | -1.282 | 0.143 |
| -8.700 | 23.741 | -2.590 | -1.282 | 0.143 |
| -9.100 | 24.070 | -2.587 | -1.199 | 0.129 |
| -9.500 | 24.411 | -2.585 | -1.111 | 0.114 |
| -9.500 | 24.411 | -2.585 | -1.111 | 0.114 |
| -10.100 | 28.199 | -2.584 | -0.971 | 0.111 |
| -10.700 | 31.996 | -2.583 | -0.821 | 0.107 |
| -10.700 | 31.996 | -2.583 | -0.821 | 0.107 |
| -10.900 | 33.088 | -2.581 | -0.769 | 0.104 |
| -11.100 | 34.183 | -2.580 | -0.717 | 0.101 |
| -11.100 | 34.183 | -2.580 | -0.717 | 0.101 |
| -11.950 | 39.582 | -2.579 | -0.489 | 0.094 |
| -12.950 | 45.949 | -2.578 | -0.211 | 0.085 |
| -13.550 | 49.774 | -2.578 | -0.042 | 0.079 |
| -14.400 | 55.199 | -2.579 | 0.197 | 0.071 |
| -15.400 | 61.586 | -2.580 | 0.474 | 0.060 |
| -16.000 | 65.420 | -2.582 | 0.637 | 0.054 |
| -16.000 | 65.420 | -2.582 | 0.637 | 0.054 |
| -16.550 | 68.603 | -2.594 | 0.783 | 0.043 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -17.050 | 71.525 | -2.609 | 0.913 | 0.033 |
| -17.600 | 74.771 | -2.629 | 1.052 | 0.021 |
| -18.100 | 77.752 | -2.650 | 1.175 | 0.010 |
| -18.100 | 71.375 | -2.000 | 1.175 | 0.010 |
| -18.600 | 76.593 | -2.000 | 1.294 | 0.010 |
| -19.101 | 81.817 | -2.000 | 1.410 | 0.009 |
| -20.101 | 92.234 | -2.000 | 1.630 | 0.007 |
| -21.101 | 102.634 | -2.000 | 1.833 | 0.006 |
| -21.801 | 109.904 | -2.000 | 1.966 | 0.005 |
| -23.602 | 128.572 | -2.000 | 2.271 | 0.003 |
| -25.502 | 148.210 | -2.000 | 2.537 | 0.000 |

### 3.3 Results for Vertical 3 (X = -31.71 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.495 | 0.001 | -2.495 | 0.000 | 0.216 |
| -2.595 | 0.368 | -2.595 | -0.980 | 0.216 |
| -2.650 | 0.568 | -2.649 | -1.520 | 0.216 |
| -2.695 | 0.731 | -2.649 | -1.520 | 0.216 |
| -2.795 | 1.093 | -2.648 | -1.519 | 0.216 |
| -2.895 | 1.453 | -2.648 | -1.519 | 0.216 |
| -2.995 | 1.812 | -2.646 | -1.519 | 0.216 |
| -3.095 | 2.170 | -2.645 | -1.518 | 0.215 |
| -3.195 | 2.527 | -2.644 | -1.517 | 0.215 |
| -3.295 | 2.882 | -2.642 | -1.516 | 0.214 |
| -3.395 | 3.237 | -2.641 | -1.515 | 0.213 |
| -3.495 | 3.590 | -2.639 | -1.514 | 0.212 |
| -3.498 | 3.599 | -2.639 | -1.514 | 0.212 |
| -4.000 | 5.359 | -2.628 | -1.502 | 0.206 |
| -4.500 | 7.091 | -2.614 | -1.478 | 0.199 |
| -4.500 | 7.091 | -2.614 | -1.478 | 0.199 |
| -4.950 | 7.410 | -2.612 | -1.444 | 0.194 |
| -5.400 | 7.744 | -2.609 | -1.395 | 0.188 |
| -5.400 | 7.744 | -2.609 | -1.395 | 0.188 |
| -5.800 | 9.828 | -2.600 | -1.340 | 0.186 |
| -6.200 | 11.909 | -2.590 | -1.274 | 0.183 |
| -6.200 | 11.909 | -2.590 | -1.274 | 0.183 |
| -6.550 | 12.193 | -2.587 | -1.207 | 0.175 |
| -6.900 | 12.487 | -2.585 | -1.132 | 0.167 |
| -6.900 | 12.487 | -2.585 | -1.132 | 0.167 |
| -7.800 | 18.175 | -2.583 | -0.908 | 0.165 |
| -8.700 | 23.896 | -2.581 | -0.648 | 0.160 |
| -8.700 | 23.896 | -2.581 | -0.648 | 0.160 |
| -9.100 | 24.263 | -2.578 | -0.524 | 0.144 |
| -9.500 | 24.642 | -2.575 | -0.396 | 0.128 |
| -9.500 | 24.642 | -2.575 | -0.396 | 0.128 |
| -10.100 | 28.488 | -2.574 | -0.197 | 0.124 |
| -10.700 | 32.339 | -2.573 | 0.007 | 0.119 |
| -10.700 | 32.339 | -2.573 | 0.007 | 0.119 |
| -10.900 | 33.448 | -2.571 | 0.076 | 0.116 |
| -11.100 | 34.558 | -2.570 | 0.144 | 0.112 |
| -11.100 | 34.558 | -2.570 | 0.144 | 0.112 |
| -11.950 | 40.024 | -2.569 | 0.438 | 0.104 |
| -12.950 | 46.457 | -2.568 | 0.781 | 0.094 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -13.550 | 50.317 | -2.568 | 0.983 | 0.087 |
| -14.400 | 55.784 | -2.569 | 1.261 | 0.078 |
| -15.400 | 62.212 | -2.571 | 1.574 | 0.066 |
| -16.000 | 66.066 | -2.572 | 1.753 | 0.059 |
| -16.000 | 66.066 | -2.572 | 1.753 | 0.059 |
| -16.550 | 69.282 | -2.587 | 1.911 | 0.047 |
| -17.050 | 72.233 | -2.604 | 2.049 | 0.036 |
| -17.600 | 75.512 | -2.626 | 2.195 | 0.024 |
| -18.100 | 78.522 | -2.650 | 2.322 | 0.013 |
| -18.100 | 72.146 | -2.000 | 2.322 | 0.013 |
| -18.600 | 77.367 | -2.000 | 2.444 | 0.012 |
| -19.101 | 82.592 | -2.000 | 2.560 | 0.011 |
| -20.101 | 93.006 | -2.000 | 2.776 | 0.009 |
| -21.101 | 103.398 | -2.000 | 2.971 | 0.007 |
| -21.801 | 110.660 | -2.000 | 3.095 | 0.006 |
| -23.602 | 129.299 | -2.000 | 3.369 | 0.003 |
| -25.502 | 148.896 | -2.000 | 3.595 | 0.000 |

### 3.4 Results for Vertical 4 (X = -31.08 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.512 | 0.002 | -2.512 | 0.001 | 0.230 |
| -2.612 | 0.368 | -2.612 | -0.980 | 0.230 |
| -2.650 | 0.506 | -2.650 | -1.353 | 0.230 |
| -2.712 | 0.731 | -2.649 | -1.353 | 0.230 |
| -2.812 | 1.092 | -2.648 | -1.352 | 0.230 |
| -2.912 | 1.453 | -2.647 | -1.352 | 0.230 |
| -3.012 | 1.811 | -2.646 | -1.351 | 0.230 |
| -3.112 | 2.169 | -2.645 | -1.350 | 0.230 |
| -3.212 | 2.525 | -2.644 | -1.349 | 0.229 |
| -3.312 | 2.880 | -2.642 | -1.348 | 0.228 |
| -3.412 | 3.234 | -2.640 | -1.346 | 0.227 |
| -3.506 | 3.565 | -2.639 | -1.344 | 0.226 |
| -3.512 | 3.586 | -2.638 | -1.344 | 0.226 |
| -4.500 | 7.028 | -2.612 | -1.293 | 0.212 |
| -4.500 | 7.028 | -2.612 | -1.293 | 0.212 |
| -4.950 | 7.359 | -2.610 | -1.245 | 0.207 |
| -5.400 | 7.708 | -2.607 | -1.180 | 0.201 |
| -5.400 | 7.708 | -2.607 | -1.180 | 0.201 |
| -5.800 | 9.805 | -2.598 | -1.107 | 0.198 |
| -6.200 | 11.898 | -2.587 | -1.022 | 0.194 |
| -6.200 | 11.898 | -2.587 | -1.022 | 0.194 |
| -6.550 | 12.198 | -2.584 | -0.938 | 0.186 |
| -6.900 | 12.508 | -2.581 | -0.846 | 0.177 |
| -6.900 | 12.508 | -2.581 | -0.846 | 0.177 |
| -7.800 | 18.239 | -2.580 | -0.579 | 0.174 |
| -8.700 | 23.999 | -2.577 | -0.278 | 0.169 |
| -8.700 | 23.999 | -2.577 | -0.278 | 0.169 |
| -9.100 | 24.381 | -2.574 | -0.137 | 0.152 |
| -9.500 | 24.775 | -2.571 | 0.007 | 0.135 |
| -9.500 | 24.775 | -2.571 | 0.007 | 0.135 |
| -10.100 | 28.642 | -2.570 | 0.227 | 0.131 |
| -10.700 | 32.512 | -2.569 | 0.449 | 0.125 |
| -10.700 | 32.512 | -2.569 | 0.449 | 0.125 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -10.900 | 33.626 | -2.567 | 0.524 | 0.121 |
| -11.100 | 34.741 | -2.565 | 0.598 | 0.118 |
| -11.100 | 34.741 | -2.565 | 0.598 | 0.118 |
| -11.950 | 40.229 | -2.564 | 0.913 | 0.109 |
| -12.950 | 46.683 | -2.564 | 1.275 | 0.098 |
| -13.550 | 50.553 | -2.564 | 1.486 | 0.091 |
| -14.400 | 56.031 | -2.565 | 1.774 | 0.081 |
| -15.400 | 62.468 | -2.567 | 2.095 | 0.068 |
| -16.000 | 66.327 | -2.568 | 2.277 | 0.061 |
| -16.000 | 66.327 | -2.568 | 2.277 | 0.061 |
| -16.550 | 69.553 | -2.584 | 2.436 | 0.049 |
| -17.050 | 72.514 | -2.602 | 2.575 | 0.038 |
| -17.600 | 75.803 | -2.625 | 2.721 | 0.025 |
| -18.100 | 78.824 | -2.650 | 2.847 | 0.014 |
| -18.100 | 72.447 | -2.000 | 2.847 | 0.014 |
| -18.600 | 77.667 | -2.000 | 2.967 | 0.012 |
| -19.101 | 82.891 | -2.000 | 3.081 | 0.011 |
| -20.101 | 93.299 | -2.000 | 3.292 | 0.009 |
| -21.101 | 103.685 | -2.000 | 3.479 | 0.008 |
| -21.801 | 110.941 | -2.000 | 3.597 | 0.006 |
| -23.602 | 129.563 | -2.000 | 3.855 | 0.003 |
| -25.502 | 149.140 | -2.000 | 4.060 | 0.000 |

### 3.5 Results for Vertical 5 (X = -30.81 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.513 | 0.002 | -2.513 | 0.001 | 0.234 |
| -2.613 | 0.368 | -2.613 | -0.980 | 0.234 |
| -2.650 | 0.502 | -2.650 | -1.343 | 0.234 |
| -2.713 | 0.731 | -2.649 | -1.343 | 0.235 |
| -2.813 | 1.092 | -2.648 | -1.342 | 0.235 |
| -2.913 | 1.452 | -2.647 | -1.342 | 0.235 |
| -3.013 | 1.811 | -2.646 | -1.341 | 0.234 |
| -3.113 | 2.169 | -2.645 | -1.340 | 0.234 |
| -3.213 | 2.525 | -2.644 | -1.339 | 0.233 |
| -3.313 | 2.880 | -2.642 | -1.337 | 0.233 |
| -3.413 | 3.234 | -2.640 | -1.335 | 0.232 |
| -3.506 | 3.564 | -2.638 | -1.333 | 0.231 |
| -3.513 | 3.587 | -2.638 | -1.333 | 0.231 |
| -4.500 | 7.031 | -2.612 | -1.272 | 0.217 |
| -4.500 | 7.031 | -2.612 | -1.272 | 0.217 |
| -4.950 | 7.368 | -2.609 | -1.217 | 0.211 |
| -5.400 | 7.727 | -2.606 | -1.142 | 0.205 |
| -5.400 | 7.727 | -2.606 | -1.142 | 0.205 |
| -5.800 | 9.831 | -2.597 | -1.060 | 0.202 |
| -6.200 | 11.933 | -2.586 | -0.965 | 0.199 |
| -6.200 | 11.933 | -2.586 | -0.965 | 0.199 |
| -6.550 | 12.240 | -2.583 | -0.873 | 0.190 |
| -6.900 | 12.558 | -2.580 | -0.772 | 0.181 |
| -6.900 | 12.559 | -2.580 | -0.772 | 0.181 |
| -7.800 | 18.310 | -2.579 | -0.484 | 0.178 |
| -8.700 | 24.088 | -2.576 | -0.166 | 0.172 |
| -8.700 | 24.088 | -2.576 | -0.166 | 0.172 |
| -9.100 | 24.477 | -2.573 | -0.018 | 0.155 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -9.500 | 24.877 | -2.570 | 0.132 | 0.138 |
| -9.500 | 24.877 | -2.570 | 0.133 | 0.138 |
| -10.100 | 28.753 | -2.569 | 0.361 | 0.133 |
| -10.700 | 32.631 | -2.568 | 0.592 | 0.127 |
| -10.700 | 32.631 | -2.568 | 0.592 | 0.127 |
| -10.900 | 33.747 | -2.566 | 0.669 | 0.124 |
| -11.100 | 34.865 | -2.564 | 0.746 | 0.120 |
| -11.100 | 34.865 | -2.564 | 0.746 | 0.120 |
| -11.950 | 40.361 | -2.563 | 1.069 | 0.111 |
| -12.950 | 46.823 | -2.563 | 1.438 | 0.099 |
| -13.550 | 50.697 | -2.563 | 1.653 | 0.092 |
| -14.400 | 56.179 | -2.564 | 1.944 | 0.082 |
| -15.400 | 62.620 | -2.566 | 2.267 | 0.069 |
| -16.000 | 66.479 | -2.567 | 2.450 | 0.062 |
| -16.000 | 66.479 | -2.567 | 2.450 | 0.062 |
| -16.550 | 69.708 | -2.583 | 2.609 | 0.049 |
| -17.050 | 72.671 | -2.601 | 2.748 | 0.038 |
| -17.600 | 75.962 | -2.625 | 2.893 | 0.026 |
| -18.100 | 78.985 | -2.650 | 3.018 | 0.014 |
| -18.100 | 72.609 | -2.000 | 3.018 | 0.014 |
| -18.600 | 77.827 | -2.000 | 3.137 | 0.013 |
| -19.101 | 83.049 | -2.000 | 3.250 | 0.012 |
| -20.101 | 93.455 | -2.000 | 3.458 | 0.010 |
| -21.101 | 103.837 | -2.000 | 3.641 | 0.008 |
| -21.801 | 111.090 | -2.000 | 3.757 | 0.006 |
| -23.602 | 129.704 | -2.000 | 4.006 | 0.003 |
| -25.502 | 149.272 | -2.000 | 4.202 | 0.000 |

### 3.6 Results for Vertical 6 (X = -27.41 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.523 | 0.626 | -2.523 | 0.625 | 0.388 |
| -2.623 | 0.990 | -2.622 | -0.353 | 0.381 |
| -2.650 | 1.089 | -2.649 | -0.616 | 0.380 |
| -2.723 | 1.356 | -2.648 | -0.610 | 0.379 |
| -2.823 | 1.727 | -2.647 | -0.595 | 0.377 |
| -2.923 | 2.104 | -2.645 | -0.572 | 0.375 |
| -3.023 | 2.485 | -2.644 | -0.542 | 0.374 |
| -3.123 | 2.871 | -2.641 | -0.505 | 0.372 |
| -3.223 | 3.259 | -2.639 | -0.464 | 0.369 |
| -3.323 | 3.649 | -2.637 | -0.419 | 0.367 |
| -3.423 | 4.038 | -2.634 | -0.372 | 0.365 |
| -3.511 | 4.382 | -2.631 | -0.329 | 0.363 |
| -3.523 | 4.426 | -2.631 | -0.323 | 0.362 |
| -4.500 | 8.130 | -2.591 | 0.164 | 0.335 |
| -4.500 | 8.130 | -2.591 | 0.164 | 0.335 |
| -4.950 | 8.624 | -2.587 | 0.389 | 0.318 |
| -5.400 | 9.124 | -2.583 | 0.617 | 0.299 |
| -5.400 | 9.124 | -2.583 | 0.617 | 0.299 |
| -5.800 | 11.317 | -2.570 | 0.823 | 0.291 |
| -6.200 | 13.494 | -2.555 | 1.032 | 0.283 |
| -6.200 | 13.494 | -2.555 | 1.032 | 0.283 |
| -6.550 | 13.884 | -2.551 | 1.216 | 0.267 |
| -6.900 | 14.280 | -2.548 | 1.402 | 0.250 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -6.900 | 14.280 | -2.548 | 1.402 | 0.250 |
| -7.800 | 20.217 | -2.546 | 1.878 | 0.239 |
| -8.700 | 26.143 | -2.543 | 2.345 | 0.226 |
| -8.700 | 26.143 | -2.543 | 2.345 | 0.226 |
| -9.100 | 26.584 | -2.539 | 2.548 | 0.203 |
| -9.500 | 27.031 | -2.536 | 2.746 | 0.180 |
| -9.500 | 27.031 | -2.536 | 2.746 | 0.180 |
| -10.100 | 30.970 | -2.535 | 3.036 | 0.171 |
| -10.700 | 34.899 | -2.534 | 3.313 | 0.161 |
| -10.700 | 34.899 | -2.534 | 3.313 | 0.161 |
| -10.900 | 36.031 | -2.532 | 3.403 | 0.156 |
| -11.100 | 37.164 | -2.531 | 3.491 | 0.152 |
| -11.100 | 37.164 | -2.531 | 3.491 | 0.152 |
| -11.950 | 42.703 | -2.530 | 3.848 | 0.138 |
| -12.950 | 49.190 | -2.530 | 4.232 | 0.122 |
| -13.550 | 53.068 | -2.531 | 4.442 | 0.113 |
| -14.400 | 58.544 | -2.532 | 4.715 | 0.099 |
| -15.400 | 64.962 | -2.536 | 4.998 | 0.083 |
| -16.000 | 68.802 | -2.538 | 5.148 | 0.074 |
| -16.000 | 68.802 | -2.538 | 5.148 | 0.074 |
| -16.550 | 72.066 | -2.561 | 5.275 | 0.060 |
| -17.050 | 75.063 | -2.585 | 5.380 | 0.047 |
| -17.600 | 78.395 | -2.617 | 5.485 | 0.033 |
| -18.100 | 81.456 | -2.650 | 5.572 | 0.020 |
| -18.100 | 75.079 | -2.000 | 5.572 | 0.020 |
| -18.600 | 80.259 | -2.000 | 5.651 | 0.018 |
| -19.101 | 85.440 | -2.000 | 5.722 | 0.016 |
| -20.101 | 95.760 | -2.000 | 5.842 | 0.013 |
| -21.101 | 106.052 | -2.000 | 5.935 | 0.010 |
| -21.801 | 113.241 | -2.000 | 5.986 | 0.008 |
| -23.602 | 131.687 | -2.000 | 6.069 | 0.004 |
| -25.502 | 151.082 | -2.000 | 6.094 | 0.000 |

### 3.7 Results for Vertical 7 (X = -26.62 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.521 | 2.239 | -2.521 | 2.238 | 0.489 |
| -2.621 | 2.597 | -2.619 | 1.268 | 0.473 |
| -2.650 | 2.699 | -2.647 | 0.985 | 0.470 |
| -2.721 | 2.949 | -2.645 | 0.990 | 0.464 |
| -2.821 | 3.300 | -2.643 | 0.998 | 0.457 |
| -2.921 | 3.649 | -2.640 | 1.006 | 0.450 |
| -3.021 | 3.995 | -2.637 | 1.013 | 0.444 |
| -3.121 | 4.338 | -2.634 | 1.019 | 0.438 |
| -3.221 | 4.679 | -2.630 | 1.026 | 0.433 |
| -3.321 | 5.018 | -2.626 | 1.033 | 0.427 |
| -3.421 | 5.357 | -2.622 | 1.041 | 0.422 |
| -3.510 | 5.660 | -2.619 | 1.050 | 0.418 |
| -3.521 | 5.695 | -2.618 | 1.051 | 0.417 |
| -4.500 | 9.033 | -2.568 | 1.265 | 0.376 |
| -4.500 | 9.033 | -2.568 | 1.265 | 0.376 |
| -4.950 | 9.456 | -2.564 | 1.426 | 0.352 |
| -5.400 | 9.910 | -2.559 | 1.613 | 0.326 |
| -5.400 | 9.910 | -2.559 | 1.613 | 0.326 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -5.800 | 12.064 | -2.544 | 1.796 | 0.316 |
| -6.200 | 14.212 | -2.528 | 1.989 | 0.306 |
| -6.200 | 14.212 | -2.528 | 1.989 | 0.306 |
| -6.550 | 14.590 | -2.524 | 2.163 | 0.287 |
| -6.900 | 14.977 | -2.520 | 2.342 | 0.267 |
| -6.900 | 14.977 | -2.520 | 2.342 | 0.267 |
| -7.800 | 20.901 | -2.518 | 2.805 | 0.253 |
| -8.700 | 26.818 | -2.515 | 3.262 | 0.238 |
| -8.700 | 26.818 | -2.515 | 3.262 | 0.238 |
| -9.100 | 27.255 | -2.511 | 3.460 | 0.214 |
| -9.500 | 27.700 | -2.508 | 3.653 | 0.189 |
| -9.500 | 27.700 | -2.508 | 3.653 | 0.189 |
| -10.100 | 31.631 | -2.508 | 3.932 | 0.179 |
| -10.700 | 35.552 | -2.507 | 4.199 | 0.169 |
| -10.700 | 35.552 | -2.507 | 4.199 | 0.169 |
| -10.900 | 36.686 | -2.506 | 4.284 | 0.163 |
| -11.100 | 37.821 | -2.505 | 4.368 | 0.158 |
| -11.100 | 37.821 | -2.505 | 4.368 | 0.158 |
| -11.950 | 43.345 | -2.505 | 4.707 | 0.144 |
| -12.950 | 49.815 | -2.505 | 5.064 | 0.127 |
| -13.550 | 53.681 | -2.506 | 5.257 | 0.117 |
| -14.400 | 59.140 | -2.509 | 5.503 | 0.103 |
| -15.400 | 65.537 | -2.513 | 5.753 | 0.086 |
| -16.000 | 69.363 | -2.516 | 5.884 | 0.076 |
| -16.000 | 69.363 | -2.516 | 5.884 | 0.076 |
| -16.550 | 72.660 | -2.544 | 5.991 | 0.062 |
| -17.050 | 75.691 | -2.574 | 6.079 | 0.049 |
| -17.600 | 79.062 | -2.611 | 6.165 | 0.035 |
| -18.100 | 82.163 | -2.650 | 6.234 | 0.021 |
| -18.100 | 75.786 | -2.000 | 6.234 | 0.021 |
| -18.600 | 80.948 | -2.000 | 6.296 | 0.019 |
| -19.101 | 86.112 | -2.000 | 6.349 | 0.017 |
| -20.101 | 96.398 | -2.000 | 6.435 | 0.014 |
| -21.101 | 106.656 | -2.000 | 6.495 | 0.011 |
| -21.801 | 113.822 | -2.000 | 6.523 | 0.009 |
| -23.602 | 132.212 | -2.000 | 6.551 | 0.004 |
| -25.502 | 151.552 | -2.000 | 6.522 | 0.000 |

### 3.8 Results for Vertical 8 (X = -24.01 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.524 | 6.209 | -2.524 | 6.208 | 0.768 |
| -2.624 | 6.508 | -2.616 | 5.236 | 0.740 |
| -2.650 | 6.587 | -2.640 | 4.984 | 0.735 |
| -2.724 | 6.813 | -2.634 | 4.995 | 0.722 |
| -2.824 | 7.123 | -2.626 | 5.014 | 0.705 |
| -2.924 | 7.438 | -2.618 | 5.039 | 0.690 |
| -3.024 | 7.756 | -2.610 | 5.067 | 0.676 |
| -3.124 | 8.076 | -2.602 | 5.099 | 0.663 |
| -3.224 | 8.397 | -2.593 | 5.134 | 0.651 |
| -3.324 | 8.720 | -2.585 | 5.171 | 0.640 |
| -3.424 | 9.043 | -2.576 | 5.210 | 0.629 |
| -3.512 | 9.328 | -2.568 | 5.246 | 0.620 |
| -3.524 | 9.366 | -2.567 | 5.251 | 0.619 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -4.500 | 12.487 | -2.475 | 5.680 | 0.540 |
| -4.500 | 12.487 | -2.475 | 5.680 | 0.540 |
| -4.950 | 12.911 | -2.466 | 5.876 | 0.487 |
| -5.400 | 13.338 | -2.459 | 6.066 | 0.436 |
| -5.400 | 13.338 | -2.459 | 6.066 | 0.436 |
| -5.800 | 15.387 | -2.435 | 6.232 | 0.416 |
| -6.200 | 17.419 | -2.409 | 6.396 | 0.398 |
| -6.200 | 17.419 | -2.409 | 6.396 | 0.398 |
| -6.550 | 17.746 | -2.404 | 6.536 | 0.366 |
| -6.900 | 18.081 | -2.399 | 6.675 | 0.334 |
| -6.900 | 18.081 | -2.399 | 6.675 | 0.334 |
| -7.800 | 23.886 | -2.396 | 7.022 | 0.308 |
| -8.700 | 29.673 | -2.392 | 7.347 | 0.285 |
| -8.700 | 29.673 | -2.392 | 7.347 | 0.285 |
| -9.100 | 30.052 | -2.388 | 7.482 | 0.254 |
| -9.500 | 30.441 | -2.386 | 7.612 | 0.223 |
| -9.500 | 30.441 | -2.386 | 7.612 | 0.223 |
| -10.100 | 34.286 | -2.385 | 7.794 | 0.209 |
| -10.700 | 38.120 | -2.385 | 7.961 | 0.195 |
| -10.700 | 38.120 | -2.385 | 7.961 | 0.195 |
| -10.900 | 39.242 | -2.386 | 8.013 | 0.189 |
| -11.100 | 40.367 | -2.387 | 8.063 | 0.183 |
| -11.100 | 40.367 | -2.387 | 8.063 | 0.183 |
| -11.950 | 45.768 | -2.389 | 8.254 | 0.165 |
| -12.950 | 52.095 | -2.392 | 8.435 | 0.144 |
| -13.550 | 55.878 | -2.395 | 8.521 | 0.133 |
| -14.400 | 61.221 | -2.401 | 8.616 | 0.116 |
| -15.400 | 67.490 | -2.409 | 8.690 | 0.098 |
| -16.000 | 71.245 | -2.416 | 8.717 | 0.087 |
| -16.000 | 71.245 | -2.416 | 8.717 | 0.087 |
| -16.550 | 74.679 | -2.467 | 8.730 | 0.072 |
| -17.050 | 77.852 | -2.520 | 8.734 | 0.058 |
| -17.600 | 81.400 | -2.585 | 8.729 | 0.042 |
| -18.100 | 84.680 | -2.650 | 8.718 | 0.027 |
| -18.100 | 78.304 | -2.000 | 8.718 | 0.027 |
| -18.600 | 83.386 | -2.000 | 8.700 | 0.025 |
| -19.101 | 88.472 | -2.000 | 8.677 | 0.022 |
| -20.101 | 98.607 | -2.000 | 8.614 | 0.017 |
| -21.101 | 108.722 | -2.000 | 8.534 | 0.013 |
| -21.801 | 115.793 | -2.000 | 8.469 | 0.011 |
| -23.602 | 133.956 | -2.000 | 8.276 | 0.005 |
| -25.502 | 153.085 | -2.000 | 8.043 | 0.000 |

### 3.9 Results for Vertical 9 (X = -22.80 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.543 | 9.049 | -2.543 | 9.048 | 0.906 |
| -2.643 | 9.338 | -2.631 | 8.108 | 0.875 |
| -2.650 | 9.359 | -2.637 | 8.043 | 0.874 |
| -2.743 | 9.628 | -2.626 | 8.079 | 0.853 |
| -2.843 | 9.907 | -2.614 | 8.106 | 0.833 |
| -2.943 | 10.184 | -2.602 | 8.132 | 0.815 |
| -3.043 | 10.463 | -2.590 | 8.159 | 0.797 |
| -3.143 | 10.743 | -2.578 | 8.188 | 0.782 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.243 | 11.023 | -2.566 | 8.218 | 0.767 |
| -3.343 | 11.304 | -2.553 | 8.249 | 0.752 |
| -3.443 | 11.584 | -2.541 | 8.281 | 0.739 |
| -3.522 | 11.804 | -2.531 | 8.306 | 0.729 |
| -3.543 | 11.864 | -2.529 | 8.313 | 0.726 |
| -4.500 | 14.506 | -2.407 | 8.618 | 0.630 |
| -4.500 | 14.506 | -2.407 | 8.618 | 0.630 |
| -4.950 | 14.855 | -2.396 | 8.762 | 0.563 |
| -5.400 | 15.217 | -2.387 | 8.906 | 0.497 |
| -5.400 | 15.217 | -2.387 | 8.906 | 0.497 |
| -5.800 | 17.171 | -2.357 | 9.031 | 0.472 |
| -6.200 | 19.114 | -2.327 | 9.154 | 0.449 |
| -6.200 | 19.114 | -2.327 | 9.154 | 0.449 |
| -6.550 | 19.397 | -2.320 | 9.259 | 0.410 |
| -6.900 | 19.689 | -2.315 | 9.361 | 0.371 |
| -6.900 | 19.689 | -2.315 | 9.361 | 0.371 |
| -7.800 | 25.396 | -2.311 | 9.607 | 0.339 |
| -8.700 | 31.084 | -2.308 | 9.827 | 0.311 |
| -8.700 | 31.084 | -2.308 | 9.827 | 0.311 |
| -9.100 | 31.420 | -2.304 | 9.914 | 0.276 |
| -9.500 | 31.769 | -2.302 | 9.995 | 0.242 |
| -9.500 | 31.769 | -2.302 | 9.995 | 0.242 |
| -10.100 | 35.548 | -2.302 | 10.103 | 0.225 |
| -10.700 | 39.316 | -2.302 | 10.194 | 0.209 |
| -10.700 | 39.316 | -2.302 | 10.194 | 0.209 |
| -10.900 | 40.430 | -2.305 | 10.220 | 0.203 |
| -11.100 | 41.548 | -2.308 | 10.245 | 0.196 |
| -11.100 | 41.548 | -2.308 | 10.245 | 0.196 |
| -11.950 | 46.859 | -2.310 | 10.329 | 0.176 |
| -12.950 | 53.083 | -2.315 | 10.385 | 0.154 |
| -13.550 | 56.807 | -2.320 | 10.398 | 0.141 |
| -14.400 | 62.073 | -2.327 | 10.392 | 0.124 |
| -15.400 | 68.258 | -2.339 | 10.352 | 0.104 |
| -16.000 | 71.967 | -2.348 | 10.312 | 0.093 |
| -16.000 | 71.967 | -2.348 | 10.312 | 0.093 |
| -16.550 | 75.496 | -2.415 | 10.267 | 0.077 |
| -17.050 | 78.769 | -2.483 | 10.220 | 0.063 |
| -17.600 | 82.443 | -2.567 | 10.161 | 0.046 |
| -18.100 | 85.852 | -2.650 | 10.101 | 0.031 |
| -18.100 | 79.476 | -2.000 | 10.101 | 0.031 |
| -18.600 | 84.511 | -2.000 | 10.038 | 0.028 |
| -19.101 | 89.551 | -2.000 | 9.970 | 0.025 |
| -20.101 | 99.600 | -2.000 | 9.824 | 0.019 |
| -21.101 | 109.635 | -2.000 | 9.666 | 0.015 |
| -21.801 | 116.653 | -2.000 | 9.551 | 0.012 |
| -23.602 | 134.695 | -2.000 | 9.241 | 0.006 |
| -25.502 | 153.714 | -2.000 | 8.903 | 0.000 |

### 3.10 Results for Vertical 10 (X = -21.77 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.539 | 11.713 | -2.539 | 11.712 | 0.996 |
| -2.639 | 11.940 | -2.623 | 10.752 | 0.963 |
| -2.650 | 11.969 | -2.632 | 10.650 | 0.960 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.739 | 12.199 | -2.617 | 10.693 | 0.939 |
| -2.839 | 12.455 | -2.601 | 10.735 | 0.917 |
| -2.939 | 12.707 | -2.586 | 10.775 | 0.897 |
| -3.039 | 12.958 | -2.570 | 10.811 | 0.878 |
| -3.139 | 13.205 | -2.554 | 10.844 | 0.861 |
| -3.239 | 13.449 | -2.538 | 10.874 | 0.844 |
| -3.339 | 13.691 | -2.522 | 10.902 | 0.828 |
| -3.439 | 13.930 | -2.507 | 10.928 | 0.813 |
| -3.519 | 14.122 | -2.494 | 10.947 | 0.802 |
| -3.539 | 14.168 | -2.491 | 10.952 | 0.799 |
| -4.500 | 16.435 | -2.339 | 11.157 | 0.690 |
| -4.500 | 16.435 | -2.339 | 11.157 | 0.690 |
| -4.950 | 16.714 | -2.327 | 11.250 | 0.613 |
| -5.400 | 17.010 | -2.315 | 11.343 | 0.538 |
| -5.400 | 17.010 | -2.315 | 11.343 | 0.538 |
| -5.800 | 18.877 | -2.282 | 11.424 | 0.510 |
| -6.200 | 20.739 | -2.247 | 11.503 | 0.484 |
| -6.200 | 20.739 | -2.247 | 11.503 | 0.484 |
| -6.550 | 20.977 | -2.240 | 11.568 | 0.440 |
| -6.900 | 21.228 | -2.234 | 11.631 | 0.397 |
| -6.900 | 21.228 | -2.234 | 11.631 | 0.397 |
| -7.800 | 26.837 | -2.230 | 11.773 | 0.359 |
| -8.700 | 32.428 | -2.227 | 11.885 | 0.328 |
| -8.700 | 32.428 | -2.227 | 11.885 | 0.328 |
| -9.100 | 32.723 | -2.223 | 11.923 | 0.291 |
| -9.500 | 33.036 | -2.222 | 11.954 | 0.254 |
| -9.500 | 33.036 | -2.222 | 11.954 | 0.254 |
| -10.100 | 36.749 | -2.223 | 11.986 | 0.236 |
| -10.700 | 40.452 | -2.224 | 12.001 | 0.219 |
| -10.700 | 40.452 | -2.224 | 12.001 | 0.219 |
| -10.900 | 41.558 | -2.228 | 12.002 | 0.212 |
| -11.100 | 42.670 | -2.233 | 12.002 | 0.205 |
| -11.100 | 42.670 | -2.233 | 12.002 | 0.205 |
| -11.950 | 47.889 | -2.237 | 11.978 | 0.183 |
| -12.950 | 54.010 | -2.244 | 11.910 | 0.160 |
| -13.550 | 57.675 | -2.249 | 11.850 | 0.146 |
| -14.400 | 62.861 | -2.259 | 11.744 | 0.128 |
| -15.400 | 68.962 | -2.274 | 11.593 | 0.108 |
| -16.000 | 72.626 | -2.284 | 11.491 | 0.096 |
| -16.000 | 72.626 | -2.284 | 11.491 | 0.096 |
| -16.550 | 76.242 | -2.366 | 11.390 | 0.081 |
| -17.050 | 79.608 | -2.449 | 11.294 | 0.066 |
| -17.600 | 83.399 | -2.550 | 11.184 | 0.049 |
| -18.100 | 86.928 | -2.650 | 11.080 | 0.033 |
| -18.100 | 80.552 | -2.000 | 11.080 | 0.033 |
| -18.600 | 85.543 | -2.000 | 10.974 | 0.030 |
| -19.101 | 90.541 | -2.000 | 10.865 | 0.026 |
| -20.101 | 100.510 | -2.000 | 10.643 | 0.021 |
| -21.101 | 110.473 | -2.000 | 10.416 | 0.016 |
| -21.801 | 117.444 | -2.000 | 10.256 | 0.013 |
| -23.602 | 135.379 | -2.000 | 9.843 | 0.006 |
| -25.502 | 154.303 | -2.000 | 9.415 | 0.000 |

### 3.11 Results for Vertical 11 (X = -21.02 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.493 | 13.744 | -2.493 | 13.743 | 1.014 |
| -2.593 | 13.977 | -2.574 | 12.815 | 0.980 |
| -2.650 | 14.087 | -2.620 | 12.262 | 0.966 |
| -2.693 | 14.172 | -2.612 | 12.268 | 0.956 |
| -2.793 | 14.372 | -2.593 | 12.281 | 0.935 |
| -2.893 | 14.574 | -2.575 | 12.295 | 0.915 |
| -2.993 | 14.779 | -2.557 | 12.309 | 0.897 |
| -3.093 | 14.985 | -2.539 | 12.325 | 0.879 |
| -3.193 | 15.193 | -2.520 | 12.341 | 0.863 |
| -3.293 | 15.403 | -2.502 | 12.359 | 0.847 |
| -3.393 | 15.614 | -2.485 | 12.377 | 0.832 |
| -3.493 | 15.826 | -2.467 | 12.395 | 0.818 |
| -3.497 | 15.834 | -2.466 | 12.396 | 0.817 |
| -4.000 | 16.913 | -2.377 | 12.492 | 0.754 |
| -4.500 | 17.997 | -2.290 | 12.581 | 0.701 |
| -4.500 | 17.997 | -2.290 | 12.581 | 0.701 |
| -4.950 | 18.245 | -2.276 | 12.655 | 0.623 |
| -5.400 | 18.507 | -2.264 | 12.721 | 0.546 |
| -5.400 | 18.507 | -2.264 | 12.721 | 0.546 |
| -5.800 | 20.328 | -2.228 | 12.775 | 0.517 |
| -6.200 | 22.145 | -2.192 | 12.823 | 0.491 |
| -6.200 | 22.145 | -2.192 | 12.823 | 0.491 |
| -6.550 | 22.356 | -2.184 | 12.861 | 0.446 |
| -6.900 | 22.579 | -2.178 | 12.895 | 0.401 |
| -6.900 | 22.579 | -2.178 | 12.895 | 0.401 |
| -7.800 | 28.119 | -2.175 | 12.959 | 0.362 |
| -8.700 | 33.638 | -2.172 | 12.987 | 0.330 |
| -8.700 | 33.638 | -2.172 | 12.987 | 0.330 |
| -9.100 | 33.905 | -2.169 | 12.986 | 0.292 |
| -9.500 | 34.190 | -2.169 | 12.978 | 0.255 |
| -9.500 | 34.190 | -2.169 | 12.978 | 0.255 |
| -10.100 | 37.852 | -2.170 | 12.950 | 0.236 |
| -10.700 | 41.502 | -2.171 | 12.905 | 0.219 |
| -10.700 | 41.502 | -2.171 | 12.905 | 0.219 |
| -10.900 | 42.604 | -2.177 | 12.885 | 0.212 |
| -11.100 | 43.710 | -2.183 | 12.864 | 0.205 |
| -11.100 | 43.710 | -2.183 | 12.864 | 0.205 |
| -11.950 | 48.856 | -2.188 | 12.755 | 0.183 |
| -12.950 | 54.892 | -2.196 | 12.589 | 0.159 |
| -13.550 | 58.508 | -2.203 | 12.472 | 0.146 |
| -14.400 | 63.631 | -2.214 | 12.289 | 0.128 |
| -15.400 | 69.663 | -2.231 | 12.053 | 0.108 |
| -16.000 | 73.290 | -2.243 | 11.902 | 0.097 |
| -16.000 | 73.290 | -2.243 | 11.902 | 0.097 |
| -16.550 | 76.957 | -2.334 | 11.760 | 0.081 |
| -17.050 | 80.379 | -2.426 | 11.627 | 0.066 |
| -17.600 | 84.241 | -2.538 | 11.479 | 0.049 |
| -18.100 | 87.845 | -2.650 | 11.342 | 0.033 |
| -18.100 | 81.469 | -2.000 | 11.342 | 0.033 |
| -18.600 | 86.426 | -2.000 | 11.204 | 0.030 |
| -19.101 | 91.392 | -2.000 | 11.065 | 0.026 |
| -20.101 | 101.303 | -2.000 | 10.787 | 0.021 |
| -21.101 | 111.213 | -2.000 | 10.510 | 0.016 |
| -21.801 | 118.150 | -2.000 | 10.317 | 0.013 |
| -23.602 | 136.007 | -2.000 | 9.831 | 0.006 |
| -25.502 | 154.863 | -2.000 | 9.338 | 0.000 |

### 3.12 Results for Vertical 12 (X = -19.80 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.476 | 16.783 | -2.476 | 16.782 | 1.091 |
| -2.576 | 16.959 | -2.551 | 15.852 | 1.055 |
| -2.650 | 17.085 | -2.607 | 15.151 | 1.036 |
| -2.676 | 17.129 | -2.601 | 15.161 | 1.030 |
| -2.776 | 17.303 | -2.577 | 15.199 | 1.008 |
| -2.876 | 17.480 | -2.554 | 15.236 | 0.987 |
| -2.976 | 17.657 | -2.531 | 15.271 | 0.968 |
| -3.076 | 17.834 | -2.508 | 15.303 | 0.949 |
| -3.176 | 18.009 | -2.485 | 15.332 | 0.931 |
| -3.276 | 18.184 | -2.463 | 15.359 | 0.914 |
| -3.376 | 18.358 | -2.440 | 15.383 | 0.898 |
| -3.476 | 18.532 | -2.418 | 15.405 | 0.883 |
| -3.488 | 18.553 | -2.415 | 15.408 | 0.881 |
| -4.000 | 19.445 | -2.305 | 15.496 | 0.811 |
| -4.500 | 20.332 | -2.201 | 15.551 | 0.754 |
| -4.500 | 20.332 | -2.201 | 15.551 | 0.754 |
| -4.950 | 20.516 | -2.185 | 15.583 | 0.668 |
| -5.400 | 20.715 | -2.171 | 15.601 | 0.584 |
| -5.400 | 20.715 | -2.171 | 15.601 | 0.584 |
| -5.800 | 22.448 | -2.130 | 15.607 | 0.551 |
| -6.200 | 24.184 | -2.091 | 15.605 | 0.523 |
| -6.200 | 24.184 | -2.091 | 15.605 | 0.523 |
| -6.550 | 24.349 | -2.082 | 15.597 | 0.473 |
| -6.900 | 24.529 | -2.076 | 15.582 | 0.424 |
| -6.900 | 24.529 | -2.076 | 15.582 | 0.424 |
| -7.800 | 29.958 | -2.072 | 15.513 | 0.381 |
| -8.700 | 35.354 | -2.069 | 15.394 | 0.345 |
| -8.700 | 35.354 | -2.069 | 15.394 | 0.345 |
| -9.100 | 35.569 | -2.068 | 15.325 | 0.305 |
| -9.500 | 35.803 | -2.069 | 15.247 | 0.265 |
| -9.500 | 35.803 | -2.069 | 15.247 | 0.265 |
| -10.100 | 39.370 | -2.070 | 15.111 | 0.245 |
| -10.700 | 42.924 | -2.073 | 14.956 | 0.226 |
| -10.700 | 42.924 | -2.073 | 14.956 | 0.226 |
| -10.900 | 44.013 | -2.081 | 14.900 | 0.219 |
| -11.100 | 45.109 | -2.090 | 14.843 | 0.212 |
| -11.100 | 45.109 | -2.090 | 14.843 | 0.212 |
| -11.950 | 50.116 | -2.096 | 14.580 | 0.189 |
| -12.950 | 55.998 | -2.107 | 14.239 | 0.164 |
| -13.550 | 59.527 | -2.115 | 14.023 | 0.150 |
| -14.400 | 64.536 | -2.129 | 13.705 | 0.132 |
| -15.400 | 70.450 | -2.150 | 13.322 | 0.111 |
| -16.000 | 74.015 | -2.164 | 13.090 | 0.100 |
| -16.000 | 74.015 | -2.164 | 13.090 | 0.100 |
| -16.550 | 77.784 | -2.273 | 12.877 | 0.084 |
| -17.050 | 81.317 | -2.384 | 12.683 | 0.069 |
| -17.600 | 85.323 | -2.517 | 12.471 | 0.052 |
| -18.100 | 89.077 | -2.650 | 12.280 | 0.035 |
| -18.100 | 82.701 | -2.000 | 12.280 | 0.035 |
| -18.600 | 87.603 | -2.000 | 12.091 | 0.031 |
| -19.101 | 92.517 | -2.000 | 11.902 | 0.028 |
| -20.101 | 102.331 | -2.000 | 11.534 | 0.022 |
| -21.101 | 112.155 | -2.000 | 11.175 | 0.017 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -21.801 | 119.037 | -2.000 | 10.931 | 0.013 |
| -23.602 | 136.771 | -2.000 | 10.328 | 0.006 |
| -25.502 | 155.520 | -2.000 | 9.734 | 0.000 |

### 3.13 Results for Vertical 13 (X = -19.55 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.472 | 17.529 | -2.472 | 17.528 | 1.106 |
| -2.572 | 17.666 | -2.546 | 16.572 | 1.070 |
| -2.650 | 17.787 | -2.604 | 15.835 | 1.049 |
| -2.672 | 17.823 | -2.598 | 15.844 | 1.044 |
| -2.772 | 17.987 | -2.573 | 15.885 | 1.022 |
| -2.872 | 18.152 | -2.549 | 15.921 | 1.001 |
| -2.972 | 18.314 | -2.525 | 15.953 | 0.981 |
| -3.072 | 18.476 | -2.501 | 15.980 | 0.962 |
| -3.172 | 18.636 | -2.477 | 16.005 | 0.944 |
| -3.272 | 18.797 | -2.453 | 16.027 | 0.927 |
| -3.372 | 18.957 | -2.430 | 16.047 | 0.911 |
| -3.472 | 19.117 | -2.407 | 16.065 | 0.895 |
| -3.486 | 19.140 | -2.404 | 16.067 | 0.893 |
| -4.000 | 19.973 | -2.288 | 16.135 | 0.822 |
| -4.500 | 20.808 | -2.182 | 16.172 | 0.764 |
| -4.500 | 20.808 | -2.182 | 16.172 | 0.764 |
| -4.950 | 20.974 | -2.165 | 16.190 | 0.676 |
| -5.400 | 21.158 | -2.151 | 16.195 | 0.591 |
| -5.400 | 21.158 | -2.151 | 16.195 | 0.591 |
| -5.800 | 22.873 | -2.109 | 16.191 | 0.558 |
| -6.200 | 24.594 | -2.068 | 16.178 | 0.529 |
| -6.200 | 24.594 | -2.068 | 16.178 | 0.529 |
| -6.550 | 24.750 | -2.060 | 16.160 | 0.478 |
| -6.900 | 24.921 | -2.053 | 16.135 | 0.429 |
| -6.900 | 24.921 | -2.053 | 16.135 | 0.429 |
| -7.800 | 30.329 | -2.050 | 16.037 | 0.384 |
| -8.700 | 35.698 | -2.047 | 15.887 | 0.348 |
| -8.700 | 35.698 | -2.047 | 15.887 | 0.348 |
| -9.100 | 35.903 | -2.046 | 15.803 | 0.307 |
| -9.500 | 36.125 | -2.047 | 15.709 | 0.267 |
| -9.500 | 36.125 | -2.047 | 15.709 | 0.267 |
| -10.100 | 39.671 | -2.049 | 15.549 | 0.246 |
| -10.700 | 43.203 | -2.051 | 15.370 | 0.228 |
| -10.700 | 43.203 | -2.051 | 15.370 | 0.228 |
| -10.900 | 44.289 | -2.060 | 15.306 | 0.220 |
| -11.100 | 45.382 | -2.069 | 15.241 | 0.213 |
| -11.100 | 45.382 | -2.069 | 15.241 | 0.213 |
| -11.950 | 50.359 | -2.076 | 14.945 | 0.190 |
| -12.950 | 56.206 | -2.087 | 14.566 | 0.165 |
| -13.550 | 59.717 | -2.096 | 14.329 | 0.151 |
| -14.400 | 64.701 | -2.111 | 13.983 | 0.132 |
| -15.400 | 70.590 | -2.132 | 13.570 | 0.112 |
| -16.000 | 74.142 | -2.147 | 13.321 | 0.100 |
| -16.000 | 74.142 | -2.147 | 13.321 | 0.100 |
| -16.550 | 77.934 | -2.260 | 13.093 | 0.084 |
| -17.050 | 81.492 | -2.374 | 12.887 | 0.070 |
| -17.600 | 85.530 | -2.513 | 12.662 | 0.052 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -18.100 | 89.318 | -2.650 | 12.460 | 0.035 |
| -18.100 | 82.941 | -2.000 | 12.460 | 0.035 |
| -18.600 | 87.833 | -2.000 | 12.260 | 0.032 |
| -19.101 | 92.736 | -2.000 | 12.062 | 0.028 |
| -20.101 | 102.531 | -2.000 | 11.675 | 0.022 |
| -21.101 | 112.337 | -2.000 | 11.301 | 0.017 |
| -21.801 | 119.208 | -2.000 | 11.046 | 0.013 |
| -23.602 | 136.917 | -2.000 | 10.421 | 0.006 |
| -25.502 | 155.646 | -2.000 | 9.807 | 0.000 |

### 3.14 Results for Vertical 14 (X = -19.19 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.460 | 18.730 | -2.460 | 18.729 | 1.119 |
| -2.560 | 18.826 | -2.532 | 17.750 | 1.083 |
| -2.650 | 18.926 | -2.598 | 16.876 | 1.059 |
| -2.660 | 18.938 | -2.595 | 16.877 | 1.057 |
| -2.760 | 19.053 | -2.568 | 16.884 | 1.035 |
| -2.860 | 19.174 | -2.542 | 16.893 | 1.013 |
| -2.960 | 19.300 | -2.516 | 16.903 | 0.993 |
| -3.060 | 19.430 | -2.491 | 16.913 | 0.974 |
| -3.160 | 19.563 | -2.466 | 16.923 | 0.956 |
| -3.260 | 19.697 | -2.441 | 16.933 | 0.939 |
| -3.360 | 19.834 | -2.416 | 16.941 | 0.922 |
| -3.460 | 19.972 | -2.392 | 16.949 | 0.907 |
| -3.480 | 20.000 | -2.387 | 16.950 | 0.903 |
| -4.000 | 20.746 | -2.265 | 16.976 | 0.831 |
| -4.500 | 21.510 | -2.154 | 16.983 | 0.772 |
| -4.500 | 21.510 | -2.154 | 16.983 | 0.772 |
| -4.950 | 21.649 | -2.136 | 16.979 | 0.683 |
| -5.400 | 21.813 | -2.122 | 16.966 | 0.597 |
| -5.400 | 21.813 | -2.122 | 16.966 | 0.597 |
| -5.800 | 23.505 | -2.079 | 16.946 | 0.563 |
| -6.200 | 25.207 | -2.038 | 16.918 | 0.534 |
| -6.200 | 25.207 | -2.038 | 16.918 | 0.534 |
| -6.550 | 25.352 | -2.029 | 16.886 | 0.482 |
| -6.900 | 25.513 | -2.022 | 16.847 | 0.432 |
| -6.900 | 25.513 | -2.022 | 16.847 | 0.432 |
| -7.800 | 30.891 | -2.019 | 16.709 | 0.387 |
| -8.700 | 36.222 | -2.016 | 16.512 | 0.350 |
| -8.700 | 36.222 | -2.016 | 16.512 | 0.350 |
| -9.100 | 36.411 | -2.015 | 16.406 | 0.309 |
| -9.500 | 36.616 | -2.017 | 16.289 | 0.268 |
| -9.500 | 36.616 | -2.017 | 16.289 | 0.268 |
| -10.100 | 40.131 | -2.019 | 16.095 | 0.247 |
| -10.700 | 43.630 | -2.022 | 15.881 | 0.228 |
| -10.700 | 43.630 | -2.022 | 15.881 | 0.228 |
| -10.900 | 44.712 | -2.032 | 15.805 | 0.221 |
| -11.100 | 45.801 | -2.042 | 15.728 | 0.213 |
| -11.100 | 45.801 | -2.042 | 15.728 | 0.213 |
| -11.950 | 50.733 | -2.049 | 15.383 | 0.190 |
| -12.950 | 56.530 | -2.061 | 14.952 | 0.165 |
| -13.550 | 60.013 | -2.070 | 14.684 | 0.151 |
| -14.400 | 64.962 | -2.086 | 14.298 | 0.133 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -15.400 | 70.815 | -2.108 | 13.841 | 0.112 |
| -16.000 | 74.348 | -2.124 | 13.569 | 0.100 |
| -16.000 | 74.349 | -2.124 | 13.569 | 0.100 |
| -16.550 | 78.171 | -2.242 | 13.321 | 0.085 |
| -17.050 | 81.761 | -2.362 | 13.097 | 0.070 |
| -17.600 | 85.842 | -2.506 | 12.855 | 0.053 |
| -18.100 | 89.674 | -2.650 | 12.637 | 0.036 |
| -18.100 | 83.298 | -2.000 | 12.637 | 0.036 |
| -18.600 | 88.173 | -2.000 | 12.422 | 0.032 |
| -19.101 | 93.062 | -2.000 | 12.211 | 0.028 |
| -20.101 | 102.830 | -2.000 | 11.799 | 0.022 |
| -21.101 | 112.612 | -2.000 | 11.402 | 0.017 |
| -21.801 | 119.469 | -2.000 | 11.133 | 0.014 |
| -23.602 | 137.144 | -2.000 | 10.477 | 0.006 |
| -25.502 | 155.844 | -2.000 | 9.836 | 0.000 |

### 3.15 Results for Vertical 15 (X = -16.58 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.384 | 25.705 | -2.384 | 25.704 | 1.207 |
| -2.484 | 25.966 | -2.446 | 24.993 | 1.168 |
| -2.584 | 25.965 | -2.508 | 24.013 | 1.139 |
| -2.650 | 25.960 | -2.549 | 23.357 | 1.123 |
| -2.684 | 25.958 | -2.537 | 23.352 | 1.116 |
| -2.784 | 25.951 | -2.501 | 23.331 | 1.094 |
| -2.884 | 25.944 | -2.465 | 23.304 | 1.073 |
| -2.984 | 25.941 | -2.430 | 23.273 | 1.053 |
| -3.084 | 25.936 | -2.396 | 23.235 | 1.033 |
| -3.184 | 25.936 | -2.362 | 23.195 | 1.015 |
| -3.284 | 25.942 | -2.329 | 23.157 | 0.997 |
| -3.384 | 25.939 | -2.297 | 23.104 | 0.980 |
| -3.442 | 25.956 | -2.278 | 23.089 | 0.970 |
| -4.000 | 26.194 | -2.108 | 22.931 | 0.887 |
| -4.500 | 26.578 | -1.968 | 22.799 | 0.823 |
| -4.500 | 26.578 | -1.968 | 22.799 | 0.823 |
| -4.950 | 26.654 | -1.946 | 22.693 | 0.726 |
| -5.400 | 26.797 | -1.928 | 22.589 | 0.632 |
| -5.400 | 26.797 | -1.928 | 22.589 | 0.632 |
| -5.800 | 28.421 | -1.878 | 22.482 | 0.595 |
| -6.200 | 30.042 | -1.831 | 22.351 | 0.562 |
| -6.200 | 30.042 | -1.831 | 22.351 | 0.562 |
| -6.550 | 30.128 | -1.821 | 22.211 | 0.506 |
| -6.900 | 30.204 | -1.814 | 22.048 | 0.451 |
| -6.900 | 30.204 | -1.814 | 22.048 | 0.451 |
| -7.800 | 35.247 | -1.811 | 21.521 | 0.401 |
| -8.700 | 40.126 | -1.810 | 20.876 | 0.360 |
| -8.700 | 40.126 | -1.810 | 20.876 | 0.360 |
| -9.100 | 40.114 | -1.811 | 20.562 | 0.316 |
| -9.500 | 40.123 | -1.817 | 20.238 | 0.272 |
| -9.500 | 40.123 | -1.817 | 20.238 | 0.272 |
| -10.100 | 43.309 | -1.820 | 19.736 | 0.250 |
| -10.700 | 46.491 | -1.825 | 19.226 | 0.230 |
| -10.700 | 46.491 | -1.825 | 19.226 | 0.230 |
| -10.900 | 47.516 | -1.840 | 19.055 | 0.222 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -11.100 | 48.553 | -1.855 | 18.884 | 0.215 |
| -11.100 | 48.553 | -1.855 | 18.884 | 0.215 |
| -11.950 | 53.089 | -1.866 | 18.162 | 0.190 |
| -12.950 | 58.481 | -1.883 | 17.332 | 0.165 |
| -13.550 | 61.753 | -1.896 | 16.848 | 0.151 |
| -14.400 | 66.441 | -1.917 | 16.184 | 0.133 |
| -15.400 | 72.041 | -1.946 | 15.440 | 0.113 |
| -16.000 | 75.449 | -1.967 | 15.012 | 0.102 |
| -16.000 | 75.449 | -1.967 | 15.012 | 0.102 |
| -16.550 | 79.473 | -2.121 | 14.633 | 0.086 |
| -17.050 | 83.290 | -2.276 | 14.299 | 0.072 |
| -17.600 | 87.665 | -2.463 | 13.942 | 0.054 |
| -18.100 | 91.812 | -2.650 | 13.628 | 0.037 |
| -18.100 | 85.435 | -2.000 | 13.628 | 0.037 |
| -18.600 | 90.212 | -2.000 | 13.324 | 0.033 |
| -19.101 | 95.008 | -2.000 | 13.028 | 0.029 |
| -20.101 | 104.609 | -2.000 | 12.463 | 0.023 |
| -21.101 | 114.244 | -2.000 | 11.932 | 0.017 |
| -21.801 | 121.009 | -2.000 | 11.579 | 0.014 |
| -23.602 | 138.483 | -2.000 | 10.735 | 0.006 |
| -25.502 | 157.012 | -2.000 | 9.935 | 0.000 |

### 3.16 Results for Vertical 16 (X = -15.34 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.601 | 28.907 | -2.601 | 28.906 | 1.439 |
| -2.650 | 28.599 | -2.625 | 28.179 | 1.416 |
| -2.701 | 28.824 | -2.600 | 28.464 | 1.396 |
| -2.801 | 29.150 | -2.551 | 28.904 | 1.360 |
| -2.901 | 29.091 | -2.502 | 28.951 | 1.327 |
| -3.001 | 28.801 | -2.455 | 28.753 | 1.296 |
| -3.101 | 28.474 | -2.410 | 28.501 | 1.268 |
| -3.201 | 28.243 | -2.366 | 28.315 | 1.241 |
| -3.301 | 28.127 | -2.323 | 28.216 | 1.216 |
| -3.401 | 27.979 | -2.281 | 28.071 | 1.193 |
| -3.501 | 28.026 | -2.240 | 28.117 | 1.170 |
| -3.550 | 28.012 | -2.220 | 28.103 | 1.160 |
| -3.601 | 27.989 | -2.200 | 28.082 | 1.149 |
| -4.500 | 28.443 | -1.869 | 27.972 | 0.992 |
| -4.500 | 28.443 | -1.869 | 27.972 | 0.992 |
| -4.950 | 28.746 | -1.842 | 27.954 | 0.868 |
| -5.400 | 28.909 | -1.819 | 27.838 | 0.749 |
| -5.400 | 28.909 | -1.819 | 27.838 | 0.748 |
| -5.800 | 30.313 | -1.755 | 27.650 | 0.702 |
| -6.200 | 31.642 | -1.695 | 27.392 | 0.662 |
| -6.200 | 31.642 | -1.695 | 27.392 | 0.662 |
| -6.550 | 31.517 | -1.683 | 27.120 | 0.593 |
| -6.900 | 31.370 | -1.674 | 26.812 | 0.525 |
| -6.900 | 31.370 | -1.674 | 26.812 | 0.525 |
| -7.800 | 35.869 | -1.669 | 25.909 | 0.462 |
| -8.700 | 40.268 | -1.668 | 24.920 | 0.412 |
| -8.700 | 40.268 | -1.668 | 24.920 | 0.412 |
| -9.100 | 40.069 | -1.669 | 24.471 | 0.361 |
| -9.500 | 39.914 | -1.675 | 24.021 | 0.311 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -9.500 | 39.914 | -1.675 | 24.021 | 0.311 |
| -10.100 | 42.882 | -1.679 | 23.351 | 0.284 |
| -10.700 | 45.879 | -1.684 | 22.694 | 0.260 |
| -10.700 | 45.879 | -1.684 | 22.694 | 0.260 |
| -10.900 | 46.866 | -1.701 | 22.479 | 0.251 |
| -11.100 | 47.870 | -1.719 | 22.265 | 0.242 |
| -11.100 | 47.870 | -1.719 | 22.265 | 0.242 |
| -11.950 | 52.217 | -1.731 | 21.382 | 0.214 |
| -12.950 | 57.443 | -1.751 | 20.396 | 0.185 |
| -13.550 | 60.638 | -1.765 | 19.835 | 0.169 |
| -14.400 | 65.243 | -1.790 | 19.076 | 0.149 |
| -15.400 | 70.779 | -1.824 | 18.237 | 0.127 |
| -16.000 | 74.162 | -1.848 | 17.761 | 0.114 |
| -16.000 | 74.162 | -1.848 | 17.761 | 0.114 |
| -16.550 | 78.391 | -2.027 | 17.342 | 0.098 |
| -17.050 | 82.428 | -2.209 | 16.974 | 0.082 |
| -17.600 | 87.089 | -2.429 | 16.584 | 0.063 |
| -18.100 | 91.537 | -2.650 | 16.242 | 0.045 |
| -18.100 | 85.161 | -2.000 | 16.242 | 0.045 |
| -18.600 | 89.908 | -2.000 | 15.911 | 0.040 |
| -19.101 | 94.676 | -2.000 | 15.591 | 0.035 |
| -20.101 | 104.228 | -2.000 | 14.983 | 0.028 |
| -21.101 | 113.821 | -2.000 | 14.414 | 0.021 |
| -21.801 | 120.560 | -2.000 | 14.037 | 0.017 |
| -23.602 | 137.976 | -2.000 | 13.141 | 0.008 |
| -25.502 | 156.459 | -2.000 | 12.298 | 0.000 |

### 3.17 Results for Vertical 17 (X = -15.00 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.650 | 27.678 | -2.650 | 27.677 | 1.480 |
| -2.750 | 29.438 | -2.601 | 29.339 | 1.431 |
| -2.850 | 29.614 | -2.551 | 29.431 | 1.394 |
| -2.950 | 29.859 | -2.501 | 29.584 | 1.361 |
| -3.050 | 29.990 | -2.452 | 29.739 | 1.331 |
| -3.150 | 29.924 | -2.404 | 29.795 | 1.303 |
| -3.250 | 29.688 | -2.357 | 29.709 | 1.277 |
| -3.350 | 29.341 | -2.312 | 29.513 | 1.252 |
| -3.450 | 29.090 | -2.267 | 29.397 | 1.228 |
| -3.550 | 28.822 | -2.225 | 29.240 | 1.205 |
| -3.575 | 28.769 | -2.214 | 29.210 | 1.199 |
| -3.650 | 28.665 | -2.183 | 29.144 | 1.183 |
| -4.500 | 29.800 | -1.854 | 29.512 | 1.030 |
| -4.500 | 29.800 | -1.854 | 29.512 | 1.030 |
| -4.950 | 29.966 | -1.825 | 29.452 | 0.901 |
| -5.400 | 29.950 | -1.800 | 29.259 | 0.776 |
| -5.400 | 29.950 | -1.800 | 29.259 | 0.776 |
| -5.800 | 31.160 | -1.732 | 28.993 | 0.728 |
| -6.200 | 32.310 | -1.668 | 28.657 | 0.686 |
| -6.200 | 32.310 | -1.668 | 28.657 | 0.686 |
| -6.550 | 32.064 | -1.655 | 28.318 | 0.613 |
| -6.900 | 31.808 | -1.645 | 27.948 | 0.543 |
| -6.900 | 31.808 | -1.645 | 27.948 | 0.543 |
| -7.800 | 36.090 | -1.641 | 26.907 | 0.476 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -8.700 | 40.331 | -1.639 | 25.812 | 0.424 |
| -8.700 | 40.331 | -1.639 | 25.812 | 0.424 |
| -9.100 | 40.077 | -1.640 | 25.325 | 0.371 |
| -9.500 | 39.875 | -1.646 | 24.841 | 0.320 |
| -9.500 | 39.875 | -1.646 | 24.841 | 0.320 |
| -10.100 | 42.784 | -1.650 | 24.129 | 0.292 |
| -10.700 | 45.735 | -1.656 | 23.437 | 0.267 |
| -10.700 | 45.735 | -1.656 | 23.437 | 0.267 |
| -10.900 | 46.711 | -1.672 | 23.211 | 0.258 |
| -11.100 | 47.705 | -1.691 | 22.988 | 0.249 |
| -11.100 | 47.705 | -1.691 | 22.988 | 0.249 |
| -11.950 | 52.009 | -1.704 | 22.069 | 0.220 |
| -12.950 | 57.197 | -1.724 | 21.051 | 0.190 |
| -13.550 | 60.376 | -1.739 | 20.474 | 0.174 |
| -14.400 | 64.964 | -1.763 | 19.696 | 0.152 |
| -15.400 | 70.488 | -1.799 | 18.840 | 0.130 |
| -16.000 | 73.866 | -1.823 | 18.355 | 0.117 |
| -16.000 | 73.867 | -1.823 | 18.355 | 0.117 |
| -16.550 | 78.136 | -2.008 | 17.928 | 0.101 |
| -17.050 | 82.219 | -2.195 | 17.555 | 0.084 |
| -17.600 | 86.940 | -2.422 | 17.158 | 0.065 |
| -18.100 | 91.453 | -2.650 | 16.811 | 0.047 |
| -18.100 | 85.077 | -2.000 | 16.811 | 0.047 |
| -18.600 | 89.818 | -2.000 | 16.476 | 0.042 |
| -19.101 | 94.581 | -2.000 | 16.151 | 0.037 |
| -20.101 | 104.124 | -2.000 | 15.535 | 0.029 |
| -21.101 | 113.710 | -2.000 | 14.959 | 0.022 |
| -21.801 | 120.444 | -2.000 | 14.578 | 0.018 |
| -23.602 | 137.850 | -2.000 | 13.673 | 0.008 |
| -25.502 | 156.324 | -2.000 | 12.822 | 0.000 |

### 3.18 Results for Vertical 18 (X = -14.73 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.335 | 33.113 | -2.650 | 31.107 | 1.465 |
| -3.435 | 32.959 | -2.591 | 31.017 | 1.435 |
| -3.535 | 32.808 | -2.535 | 30.937 | 1.407 |
| -3.635 | 32.556 | -2.481 | 30.898 | 1.381 |
| -3.735 | 32.320 | -2.429 | 30.859 | 1.356 |
| -3.835 | 32.065 | -2.379 | 30.792 | 1.332 |
| -3.917 | 31.864 | -2.338 | 30.734 | 1.313 |
| -3.935 | 31.824 | -2.329 | 30.722 | 1.309 |
| -4.035 | 31.621 | -2.282 | 30.660 | 1.287 |
| -4.135 | 31.464 | -2.235 | 30.612 | 1.266 |
| -4.235 | 31.343 | -2.190 | 30.576 | 1.245 |
| -4.335 | 31.250 | -2.145 | 30.545 | 1.225 |
| -4.500 | 31.128 | -2.075 | 30.496 | 1.194 |
| -4.500 | 31.128 | -2.075 | 30.496 | 1.194 |
| -4.950 | 30.945 | -2.040 | 30.310 | 1.038 |
| -5.400 | 30.650 | -2.011 | 30.010 | 0.887 |
| -5.400 | 30.650 | -2.011 | 30.010 | 0.887 |
| -5.800 | 31.537 | -1.926 | 29.658 | 0.828 |
| -6.200 | 32.395 | -1.847 | 29.245 | 0.778 |
| -6.200 | 32.395 | -1.847 | 29.245 | 0.778 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -6.550 | 32.009 | -1.831 | 28.845 | 0.693 |
| -6.900 | 31.630 | -1.818 | 28.420 | 0.609 |
| -6.900 | 31.630 | -1.818 | 28.420 | 0.609 |
| -7.800 | 35.708 | -1.811 | 27.265 | 0.530 |
| -8.700 | 39.800 | -1.806 | 26.089 | 0.468 |
| -8.700 | 39.800 | -1.806 | 26.089 | 0.468 |
| -9.100 | 39.456 | -1.802 | 25.573 | 0.408 |
| -9.500 | 39.171 | -1.803 | 25.065 | 0.350 |
| -9.500 | 39.171 | -1.803 | 25.065 | 0.350 |
| -10.100 | 42.017 | -1.805 | 24.323 | 0.318 |
| -10.700 | 44.912 | -1.808 | 23.606 | 0.289 |
| -10.700 | 44.912 | -1.808 | 23.606 | 0.289 |
| -10.900 | 45.822 | -1.819 | 23.373 | 0.279 |
| -11.100 | 46.748 | -1.832 | 23.143 | 0.269 |
| -11.100 | 46.748 | -1.832 | 23.143 | 0.269 |
| -11.950 | 50.984 | -1.841 | 22.199 | 0.235 |
| -12.950 | 56.098 | -1.856 | 21.161 | 0.202 |
| -13.550 | 59.235 | -1.868 | 20.573 | 0.183 |
| -14.400 | 63.763 | -1.888 | 19.784 | 0.160 |
| -15.400 | 69.215 | -1.918 | 18.916 | 0.135 |
| -16.000 | 72.550 | -1.939 | 18.426 | 0.121 |
| -16.000 | 72.551 | -1.939 | 18.426 | 0.121 |
| -16.550 | 76.553 | -2.097 | 17.994 | 0.103 |
| -17.050 | 80.374 | -2.257 | 17.617 | 0.087 |
| -17.600 | 84.782 | -2.453 | 17.217 | 0.067 |
| -18.100 | 88.986 | -2.650 | 16.866 | 0.048 |
| -18.100 | 82.610 | -2.000 | 16.866 | 0.048 |
| -18.600 | 87.348 | -2.000 | 16.528 | 0.043 |
| -19.101 | 92.108 | -2.000 | 16.201 | 0.038 |
| -20.101 | 101.645 | -2.000 | 15.580 | 0.030 |
| -21.101 | 111.227 | -2.000 | 15.000 | 0.022 |
| -21.801 | 117.958 | -2.000 | 14.616 | 0.018 |
| -23.602 | 135.357 | -2.000 | 13.705 | 0.008 |
| -25.502 | 153.825 | -2.000 | 12.850 | 0.000 |

### 3.19 Results for Vertical 19 (X = -14.19 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.699 | 36.951 | -2.650 | 32.962 | 1.464 |
| -3.799 | 36.723 | -2.587 | 32.989 | 1.439 |
| -3.899 | 36.467 | -2.528 | 32.983 | 1.415 |
| -3.999 | 36.181 | -2.471 | 32.947 | 1.392 |
| -4.099 | 35.875 | -2.416 | 32.888 | 1.370 |
| -4.099 | 35.873 | -2.415 | 32.887 | 1.370 |
| -4.199 | 35.561 | -2.362 | 32.813 | 1.348 |
| -4.299 | 35.247 | -2.310 | 32.727 | 1.328 |
| -4.399 | 34.940 | -2.260 | 32.634 | 1.308 |
| -4.499 | 34.642 | -2.211 | 32.534 | 1.288 |
| -4.500 | 34.639 | -2.211 | 32.533 | 1.288 |
| -4.500 | 34.639 | -2.211 | 32.533 | 1.288 |
| -4.599 | 34.430 | -2.202 | 32.430 | 1.251 |
| -4.699 | 34.219 | -2.193 | 32.322 | 1.214 |
| -4.950 | 33.700 | -2.171 | 32.032 | 1.121 |
| -5.400 | 32.803 | -2.138 | 31.456 | 0.956 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -5.400 | 32.803 | -2.138 | 31.456 | 0.956 |
| -5.800 | 33.175 | -2.040 | 30.894 | 0.893 |
| -6.200 | 33.608 | -1.950 | 30.300 | 0.837 |
| -6.200 | 33.608 | -1.950 | 30.300 | 0.837 |
| -6.550 | 32.973 | -1.931 | 29.765 | 0.744 |
| -6.900 | 32.384 | -1.916 | 29.224 | 0.652 |
| -6.900 | 32.384 | -1.916 | 29.224 | 0.652 |
| -7.800 | 36.095 | -1.907 | 27.841 | 0.564 |
| -8.700 | 39.946 | -1.901 | 26.513 | 0.497 |
| -8.700 | 39.946 | -1.901 | 26.512 | 0.497 |
| -9.100 | 39.502 | -1.894 | 25.946 | 0.432 |
| -9.500 | 39.130 | -1.892 | 25.396 | 0.369 |
| -9.500 | 39.130 | -1.892 | 25.396 | 0.369 |
| -10.100 | 41.892 | -1.893 | 24.602 | 0.334 |
| -10.700 | 44.719 | -1.895 | 23.844 | 0.303 |
| -10.700 | 44.719 | -1.895 | 23.844 | 0.303 |
| -10.900 | 45.581 | -1.903 | 23.600 | 0.292 |
| -11.100 | 46.460 | -1.912 | 23.359 | 0.281 |
| -11.100 | 46.460 | -1.912 | 23.359 | 0.281 |
| -11.950 | 50.625 | -1.919 | 22.379 | 0.245 |
| -12.950 | 55.671 | -1.932 | 21.308 | 0.209 |
| -13.550 | 58.771 | -1.942 | 20.706 | 0.190 |
| -14.400 | 63.252 | -1.959 | 19.900 | 0.165 |
| -15.400 | 68.653 | -1.986 | 19.018 | 0.138 |
| -16.000 | 71.958 | -2.004 | 18.520 | 0.123 |
| -16.000 | 71.958 | -2.004 | 18.520 | 0.123 |
| -16.550 | 75.805 | -2.147 | 18.083 | 0.105 |
| -17.050 | 79.473 | -2.293 | 17.700 | 0.088 |
| -17.600 | 83.700 | -2.471 | 17.295 | 0.068 |
| -18.100 | 87.726 | -2.650 | 16.941 | 0.049 |
| -18.100 | 81.350 | -2.000 | 16.941 | 0.049 |
| -18.600 | 86.084 | -2.000 | 16.599 | 0.043 |
| -19.101 | 90.840 | -2.000 | 16.268 | 0.038 |
| -20.101 | 100.370 | -2.000 | 15.642 | 0.030 |
| -21.101 | 109.945 | -2.000 | 15.057 | 0.023 |
| -21.801 | 116.672 | -2.000 | 14.670 | 0.018 |
| -23.602 | 134.063 | -2.000 | 13.751 | 0.008 |
| -25.502 | 152.524 | -2.000 | 12.889 | 0.000 |

### 3.20 Results for Vertical 20 (X = -13.33 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.602 | 38.948 | -2.650 | 35.049 | 1.436 |
| -3.702 | 38.735 | -2.584 | 35.009 | 1.411 |
| -3.802 | 38.465 | -2.521 | 34.977 | 1.386 |
| -3.902 | 38.225 | -2.460 | 34.948 | 1.363 |
| -4.002 | 37.997 | -2.401 | 34.916 | 1.341 |
| -4.051 | 37.886 | -2.373 | 34.897 | 1.330 |
| -4.102 | 37.768 | -2.344 | 34.873 | 1.319 |
| -4.202 | 37.526 | -2.288 | 34.813 | 1.298 |
| -4.302 | 37.265 | -2.234 | 34.733 | 1.278 |
| -4.402 | 36.983 | -2.181 | 34.632 | 1.259 |
| -4.500 | 36.690 | -2.130 | 34.513 | 1.241 |
| -4.500 | 36.690 | -2.130 | 34.513 | 1.241 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -4.502 | 36.686 | -2.130 | 34.510 | 1.240 |
| -4.602 | 36.466 | -2.120 | 34.371 | 1.204 |
| -4.950 | 35.566 | -2.089 | 33.782 | 1.081 |
| -5.400 | 34.276 | -2.054 | 32.887 | 0.924 |
| -5.400 | 34.276 | -2.054 | 32.886 | 0.924 |
| -5.800 | 34.274 | -1.955 | 32.052 | 0.863 |
| -6.200 | 34.389 | -1.864 | 31.223 | 0.809 |
| -6.200 | 34.389 | -1.864 | 31.223 | 0.809 |
| -6.550 | 33.526 | -1.845 | 30.518 | 0.719 |
| -6.900 | 32.751 | -1.831 | 29.835 | 0.630 |
| -6.900 | 32.751 | -1.831 | 29.835 | 0.630 |
| -7.800 | 36.124 | -1.823 | 28.198 | 0.546 |
| -8.700 | 39.782 | -1.817 | 26.719 | 0.481 |
| -8.700 | 39.782 | -1.817 | 26.719 | 0.481 |
| -9.100 | 39.293 | -1.812 | 26.108 | 0.418 |
| -9.500 | 38.890 | -1.812 | 25.523 | 0.358 |
| -9.500 | 38.890 | -1.812 | 25.523 | 0.358 |
| -10.100 | 41.607 | -1.813 | 24.689 | 0.324 |
| -10.700 | 44.404 | -1.816 | 23.904 | 0.294 |
| -10.700 | 44.404 | -1.816 | 23.904 | 0.294 |
| -10.900 | 45.279 | -1.826 | 23.653 | 0.284 |
| -11.100 | 46.173 | -1.838 | 23.406 | 0.273 |
| -11.100 | 46.173 | -1.838 | 23.406 | 0.273 |
| -11.950 | 50.326 | -1.846 | 22.407 | 0.239 |
| -12.950 | 55.374 | -1.861 | 21.325 | 0.204 |
| -13.550 | 58.481 | -1.873 | 20.719 | 0.186 |
| -14.400 | 62.978 | -1.893 | 19.911 | 0.162 |
| -15.400 | 68.403 | -1.922 | 19.028 | 0.136 |
| -16.000 | 71.726 | -1.942 | 18.530 | 0.122 |
| -16.000 | 71.726 | -1.942 | 18.530 | 0.122 |
| -16.550 | 75.708 | -2.099 | 18.093 | 0.104 |
| -17.050 | 79.513 | -2.259 | 17.711 | 0.087 |
| -17.600 | 83.907 | -2.454 | 17.307 | 0.068 |
| -18.100 | 88.101 | -2.650 | 16.953 | 0.048 |
| -18.100 | 81.724 | -2.000 | 16.953 | 0.048 |
| -18.600 | 86.458 | -2.000 | 16.611 | 0.043 |
| -19.101 | 91.214 | -2.000 | 16.281 | 0.038 |
| -20.101 | 100.744 | -2.000 | 15.655 | 0.030 |
| -21.101 | 110.319 | -2.000 | 15.071 | 0.023 |
| -21.801 | 117.046 | -2.000 | 14.684 | 0.018 |
| -23.602 | 134.437 | -2.000 | 13.766 | 0.008 |
| -25.502 | 152.897 | -2.000 | 12.903 | 0.000 |

### 3.21 Results for Vertical 21 (X = -12.52 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.512 | 40.647 | -2.650 | 37.080 | 1.427 |
| -3.612 | 40.355 | -2.577 | 37.016 | 1.401 |
| -3.712 | 40.028 | -2.508 | 36.977 | 1.375 |
| -3.812 | 39.587 | -2.442 | 36.825 | 1.351 |
| -3.912 | 39.077 | -2.377 | 36.607 | 1.328 |
| -4.006 | 38.565 | -2.319 | 36.368 | 1.307 |
| -4.012 | 38.532 | -2.315 | 36.352 | 1.305 |
| -4.112 | 37.980 | -2.256 | 36.079 | 1.284 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -4.212 | 37.438 | -2.198 | 35.798 | 1.263 |
| -4.312 | 36.915 | -2.142 | 35.516 | 1.243 |
| -4.412 | 36.413 | -2.089 | 35.235 | 1.223 |
| -4.500 | 35.991 | -2.043 | 34.991 | 1.206 |
| -4.500 | 35.991 | -2.043 | 34.991 | 1.206 |
| -4.512 | 35.947 | -2.042 | 34.958 | 1.202 |
| -4.950 | 34.444 | -2.002 | 33.794 | 1.046 |
| -5.400 | 33.061 | -1.968 | 32.674 | 0.890 |
| -5.400 | 33.061 | -1.968 | 32.674 | 0.890 |
| -5.800 | 33.108 | -1.874 | 31.738 | 0.830 |
| -6.200 | 33.300 | -1.787 | 30.854 | 0.778 |
| -6.200 | 33.300 | -1.787 | 30.854 | 0.778 |
| -6.550 | 32.480 | -1.770 | 30.121 | 0.690 |
| -6.900 | 31.750 | -1.756 | 29.424 | 0.605 |
| -6.900 | 31.750 | -1.756 | 29.424 | 0.605 |
| -7.800 | 35.206 | -1.749 | 27.783 | 0.524 |
| -8.700 | 38.939 | -1.744 | 26.327 | 0.462 |
| -8.700 | 38.939 | -1.744 | 26.327 | 0.462 |
| -9.100 | 38.495 | -1.741 | 25.730 | 0.403 |
| -9.500 | 38.135 | -1.743 | 25.159 | 0.344 |
| -9.500 | 38.135 | -1.743 | 25.159 | 0.344 |
| -10.100 | 40.895 | -1.745 | 24.350 | 0.312 |
| -10.700 | 43.734 | -1.749 | 23.590 | 0.284 |
| -10.700 | 43.734 | -1.749 | 23.590 | 0.284 |
| -10.900 | 44.641 | -1.761 | 23.347 | 0.274 |
| -11.100 | 45.568 | -1.775 | 23.108 | 0.264 |
| -11.100 | 45.568 | -1.775 | 23.108 | 0.264 |
| -11.950 | 49.775 | -1.785 | 22.142 | 0.232 |
| -12.950 | 54.883 | -1.802 | 21.096 | 0.199 |
| -13.550 | 58.025 | -1.815 | 20.510 | 0.181 |
| -14.400 | 62.567 | -1.837 | 19.726 | 0.158 |
| -15.400 | 68.045 | -1.868 | 18.868 | 0.134 |
| -16.000 | 71.399 | -1.890 | 18.384 | 0.120 |
| -16.000 | 71.399 | -1.890 | 18.384 | 0.120 |
| -16.550 | 75.509 | -2.059 | 17.959 | 0.103 |
| -17.050 | 79.439 | -2.231 | 17.586 | 0.087 |
| -17.600 | 83.982 | -2.440 | 17.191 | 0.067 |
| -18.100 | 88.323 | -2.650 | 16.846 | 0.048 |
| -18.100 | 81.946 | -2.000 | 16.846 | 0.048 |
| -18.600 | 86.688 | -2.000 | 16.512 | 0.043 |
| -19.101 | 91.451 | -2.000 | 16.188 | 0.038 |
| -20.101 | 100.994 | -2.000 | 15.575 | 0.030 |
| -21.101 | 110.580 | -2.000 | 15.000 | 0.022 |
| -21.801 | 117.314 | -2.000 | 14.620 | 0.018 |
| -23.602 | 134.718 | -2.000 | 13.715 | 0.008 |
| -25.502 | 153.190 | -2.000 | 12.864 | 0.000 |

### 3.22 Results for Vertical 22 (X = -12.18 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.468 | 40.641 | -2.650 | 37.285 | 1.430 |
| -3.568 | 40.163 | -2.576 | 37.118 | 1.403 |
| -3.668 | 39.565 | -2.506 | 36.877 | 1.377 |
| -3.768 | 38.894 | -2.439 | 36.569 | 1.352 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.868 | 38.231 | -2.375 | 36.245 | 1.328 |
| -3.968 | 37.602 | -2.313 | 35.927 | 1.305 |
| -3.984 | 37.504 | -2.304 | 35.876 | 1.302 |
| -4.068 | 37.004 | -2.254 | 35.613 | 1.283 |
| -4.168 | 36.433 | -2.197 | 35.304 | 1.262 |
| -4.268 | 35.890 | -2.141 | 34.999 | 1.241 |
| -4.368 | 35.375 | -2.088 | 34.702 | 1.221 |
| -4.468 | 34.890 | -2.037 | 34.411 | 1.202 |
| -4.500 | 34.741 | -2.021 | 34.320 | 1.196 |
| -4.500 | 34.741 | -2.021 | 34.320 | 1.196 |
| -4.950 | 33.244 | -1.981 | 33.114 | 1.034 |
| -5.400 | 31.985 | -1.948 | 32.029 | 0.878 |
| -5.400 | 31.985 | -1.948 | 32.029 | 0.878 |
| -5.800 | 32.186 | -1.858 | 31.137 | 0.818 |
| -6.200 | 32.521 | -1.775 | 30.300 | 0.767 |
| -6.200 | 32.521 | -1.775 | 30.300 | 0.767 |
| -6.550 | 31.793 | -1.758 | 29.605 | 0.680 |
| -6.900 | 31.142 | -1.745 | 28.944 | 0.596 |
| -6.900 | 31.142 | -1.745 | 28.944 | 0.596 |
| -7.800 | 34.749 | -1.739 | 27.381 | 0.517 |
| -8.700 | 38.588 | -1.734 | 25.986 | 0.456 |
| -8.700 | 38.588 | -1.734 | 25.986 | 0.456 |
| -9.100 | 38.185 | -1.732 | 25.412 | 0.398 |
| -9.500 | 37.862 | -1.734 | 24.864 | 0.340 |
| -9.500 | 37.862 | -1.734 | 24.864 | 0.340 |
| -10.100 | 40.664 | -1.736 | 24.083 | 0.309 |
| -10.700 | 43.539 | -1.740 | 23.349 | 0.281 |
| -10.700 | 43.539 | -1.740 | 23.349 | 0.281 |
| -10.900 | 44.462 | -1.753 | 23.114 | 0.272 |
| -11.100 | 45.404 | -1.768 | 22.882 | 0.262 |
| -11.100 | 45.404 | -1.768 | 22.882 | 0.262 |
| -11.950 | 49.650 | -1.778 | 21.946 | 0.230 |
| -12.950 | 54.796 | -1.795 | 20.928 | 0.197 |
| -13.550 | 57.957 | -1.808 | 20.357 | 0.180 |
| -14.400 | 62.524 | -1.830 | 19.592 | 0.157 |
| -15.400 | 68.026 | -1.862 | 18.752 | 0.133 |
| -16.000 | 71.393 | -1.885 | 18.278 | 0.120 |
| -16.000 | 71.393 | -1.885 | 18.278 | 0.120 |
| -16.550 | 75.526 | -2.055 | 17.860 | 0.103 |
| -17.050 | 79.477 | -2.228 | 17.494 | 0.086 |
| -17.600 | 84.042 | -2.438 | 17.106 | 0.067 |
| -18.100 | 88.401 | -2.650 | 16.766 | 0.048 |
| -18.100 | 82.025 | -2.000 | 16.766 | 0.048 |
| -18.600 | 86.772 | -2.000 | 16.437 | 0.042 |
| -19.101 | 91.540 | -2.000 | 16.119 | 0.038 |
| -20.101 | 101.092 | -2.000 | 15.514 | 0.029 |
| -21.101 | 110.686 | -2.000 | 14.946 | 0.022 |
| -21.801 | 117.424 | -2.000 | 14.570 | 0.018 |
| -23.602 | 134.839 | -2.000 | 13.675 | 0.008 |
| -25.502 | 153.319 | -2.000 | 12.831 | 0.000 |

### 3.23 Results for Vertical 23 (X = -11.65 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.400 | 39.653 | -2.650 | 35.314 | 1.307 |
| -3.500 | 39.046 | -2.587 | 34.886 | 1.282 |
| -3.600 | 38.441 | -2.527 | 34.507 | 1.259 |
| -3.700 | 37.876 | -2.469 | 34.153 | 1.237 |
| -3.800 | 37.358 | -2.413 | 33.828 | 1.215 |
| -3.900 | 36.893 | -2.359 | 33.536 | 1.195 |
| -3.950 | 36.681 | -2.333 | 33.401 | 1.185 |
| -4.000 | 36.480 | -2.307 | 33.273 | 1.175 |
| -4.100 | 36.110 | -2.256 | 33.031 | 1.156 |
| -4.200 | 35.773 | -2.207 | 32.805 | 1.137 |
| -4.300 | 35.464 | -2.159 | 32.590 | 1.119 |
| -4.400 | 35.178 | -2.113 | 32.381 | 1.102 |
| -4.500 | 34.910 | -2.068 | 32.178 | 1.085 |
| -4.500 | 34.910 | -2.068 | 32.178 | 1.085 |
| -4.950 | 34.030 | -2.032 | 31.297 | 0.945 |
| -5.400 | 33.230 | -2.002 | 30.456 | 0.811 |
| -5.400 | 33.230 | -2.002 | 30.456 | 0.811 |
| -5.800 | 33.802 | -1.918 | 29.736 | 0.760 |
| -6.200 | 34.442 | -1.841 | 29.042 | 0.715 |
| -6.200 | 34.442 | -1.841 | 29.042 | 0.715 |
| -6.550 | 33.910 | -1.825 | 28.456 | 0.638 |
| -6.900 | 33.426 | -1.813 | 27.890 | 0.564 |
| -6.900 | 33.426 | -1.813 | 27.890 | 0.564 |
| -7.800 | 37.353 | -1.807 | 26.523 | 0.494 |
| -8.700 | 41.415 | -1.802 | 25.276 | 0.439 |
| -8.700 | 41.415 | -1.802 | 25.276 | 0.439 |
| -9.100 | 41.090 | -1.800 | 24.756 | 0.384 |
| -9.500 | 40.833 | -1.802 | 24.256 | 0.331 |
| -9.500 | 40.833 | -1.802 | 24.256 | 0.331 |
| -10.100 | 43.719 | -1.804 | 23.540 | 0.301 |
| -10.700 | 46.664 | -1.808 | 22.861 | 0.276 |
| -10.700 | 46.664 | -1.808 | 22.861 | 0.276 |
| -10.900 | 47.601 | -1.820 | 22.642 | 0.266 |
| -11.100 | 48.556 | -1.834 | 22.427 | 0.257 |
| -11.100 | 48.556 | -1.834 | 22.427 | 0.257 |
| -11.950 | 52.871 | -1.844 | 21.551 | 0.226 |
| -12.950 | 58.077 | -1.860 | 20.592 | 0.194 |
| -13.550 | 61.265 | -1.872 | 20.051 | 0.177 |
| -14.400 | 65.861 | -1.893 | 19.322 | 0.155 |
| -15.400 | 71.383 | -1.922 | 18.520 | 0.131 |
| -16.000 | 74.756 | -1.943 | 18.064 | 0.117 |
| -16.000 | 74.756 | -1.943 | 18.064 | 0.117 |
| -16.550 | 78.789 | -2.101 | 17.662 | 0.100 |
| -17.050 | 82.628 | -2.261 | 17.309 | 0.084 |
| -17.600 | 87.047 | -2.456 | 16.934 | 0.064 |
| -18.100 | 91.249 | -2.650 | 16.605 | 0.046 |
| -18.100 | 84.872 | -2.000 | 16.605 | 0.046 |
| -18.600 | 89.630 | -2.000 | 16.287 | 0.041 |
| -19.101 | 94.409 | -2.000 | 15.977 | 0.036 |
| -20.101 | 103.979 | -2.000 | 15.389 | 0.028 |
| -21.101 | 113.588 | -2.000 | 14.836 | 0.022 |
| -21.801 | 120.335 | -2.000 | 14.469 | 0.017 |
| -23.602 | 137.770 | -2.000 | 13.592 | 0.008 |
| -25.502 | 156.266 | -2.000 | 12.764 | 0.000 |

### 3.24 Results for Vertical 24 (X = -11.56 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.093 | 35.302 | -2.093 | 35.301 | 1.080 |
| -2.193 | 38.180 | -2.149 | 37.266 | 1.038 |
| -2.293 | 39.098 | -2.202 | 37.291 | 1.006 |
| -2.393 | 36.695 | -2.257 | 33.981 | 0.979 |
| -2.493 | 35.939 | -2.315 | 32.289 | 0.956 |
| -2.593 | 35.814 | -2.374 | 31.216 | 0.936 |
| -2.650 | 35.959 | -2.408 | 30.817 | 0.925 |
| -2.693 | 36.411 | -2.390 | 31.282 | 0.917 |
| -2.793 | 37.292 | -2.349 | 32.195 | 0.899 |
| -2.893 | 36.187 | -2.309 | 31.115 | 0.881 |
| -2.993 | 35.051 | -2.271 | 29.985 | 0.865 |
| -3.093 | 34.315 | -2.234 | 29.237 | 0.848 |
| -3.296 | 33.347 | -2.164 | 28.208 | 0.817 |
| -3.900 | 33.959 | -1.972 | 27.351 | 0.737 |
| -4.500 | 33.665 | -1.801 | 26.249 | 0.671 |
| -4.500 | 33.665 | -1.801 | 26.249 | 0.671 |
| -4.950 | 33.067 | -1.780 | 25.445 | 0.589 |
| -5.400 | 32.493 | -1.765 | 24.657 | 0.511 |
| -5.400 | 32.493 | -1.765 | 24.657 | 0.511 |
| -5.800 | 33.546 | -1.724 | 23.975 | 0.481 |
| -6.200 | 34.643 | -1.688 | 23.312 | 0.454 |
| -6.200 | 34.643 | -1.688 | 23.312 | 0.454 |
| -6.550 | 34.240 | -1.682 | 22.750 | 0.407 |
| -6.900 | 33.871 | -1.678 | 22.204 | 0.361 |
| -6.900 | 33.871 | -1.678 | 22.204 | 0.361 |
| -7.800 | 37.919 | -1.677 | 20.880 | 0.322 |
| -8.700 | 42.085 | -1.679 | 19.664 | 0.290 |
| -8.700 | 42.085 | -1.679 | 19.664 | 0.290 |
| -9.100 | 41.871 | -1.686 | 19.156 | 0.254 |
| -9.500 | 41.713 | -1.697 | 18.667 | 0.219 |
| -9.500 | 41.713 | -1.697 | 18.667 | 0.219 |
| -10.100 | 44.651 | -1.703 | 17.964 | 0.202 |
| -10.700 | 47.644 | -1.710 | 17.296 | 0.187 |
| -10.700 | 47.644 | -1.710 | 17.296 | 0.187 |
| -10.900 | 48.667 | -1.731 | 17.081 | 0.181 |
| -11.100 | 49.708 | -1.753 | 16.869 | 0.175 |
| -11.100 | 49.708 | -1.753 | 16.869 | 0.175 |
| -11.950 | 54.085 | -1.767 | 16.006 | 0.156 |
| -12.950 | 59.359 | -1.789 | 15.059 | 0.137 |
| -13.550 | 62.584 | -1.804 | 14.524 | 0.127 |
| -14.400 | 67.229 | -1.829 | 13.803 | 0.113 |
| -15.400 | 72.804 | -1.863 | 13.008 | 0.098 |
| -16.000 | 76.204 | -1.886 | 12.556 | 0.089 |
| -16.000 | 76.205 | -1.886 | 12.556 | 0.089 |
| -16.550 | 80.393 | -2.060 | 12.157 | 0.076 |
| -17.050 | 84.369 | -2.233 | 11.807 | 0.063 |
| -17.600 | 88.934 | -2.443 | 11.435 | 0.047 |
| -18.100 | 93.269 | -2.650 | 11.108 | 0.031 |
| -18.100 | 86.892 | -2.000 | 11.108 | 0.031 |
| -18.600 | 91.653 | -2.000 | 10.791 | 0.028 |
| -19.101 | 96.433 | -2.000 | 10.484 | 0.025 |
| -20.101 | 106.007 | -2.000 | 9.899 | 0.019 |
| -21.101 | 115.619 | -2.000 | 9.349 | 0.014 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -21.801 | 122.368 | -2.000 | 8.983 | 0.011 |
| -23.602 | 139.807 | -2.000 | 8.111 | 0.005 |
| -25.502 | 158.306 | -2.000 | 7.285 | 0.000 |

### 3.25 Results for Vertical 25 (X = -11.55 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.949 | 32.855 | -1.949 | 32.854 | 0.993 |
| -2.000 | 40.667 | -1.941 | 40.427 | 0.971 |
| -2.021 | 40.596 | -1.935 | 40.284 | 0.964 |
| -2.049 | 36.008 | -1.930 | 35.577 | 0.954 |
| -2.093 | 30.935 | -1.929 | 30.245 | 0.942 |
| -2.093 | 30.935 | -1.929 | 30.244 | 0.942 |
| -2.149 | 30.399 | -1.967 | 29.121 | 0.927 |
| -2.249 | 30.178 | -2.037 | 27.845 | 0.904 |
| -2.349 | 33.623 | -2.106 | 30.249 | 0.883 |
| -2.449 | 31.947 | -2.174 | 27.536 | 0.864 |
| -2.549 | 31.153 | -2.244 | 25.687 | 0.847 |
| -2.649 | 30.762 | -2.315 | 24.230 | 0.832 |
| -2.650 | 30.762 | -2.316 | 24.219 | 0.832 |
| -2.749 | 31.339 | -2.287 | 24.708 | 0.818 |
| -2.849 | 36.240 | -2.256 | 29.543 | 0.804 |
| -2.949 | 35.500 | -2.224 | 28.754 | 0.789 |
| -3.297 | 33.743 | -2.119 | 26.740 | 0.741 |
| -3.900 | 34.571 | -1.956 | 25.863 | 0.670 |
| -4.500 | 34.578 | -1.811 | 24.787 | 0.610 |
| -4.500 | 34.578 | -1.811 | 24.787 | 0.610 |
| -4.950 | 34.026 | -1.793 | 23.990 | 0.538 |
| -5.400 | 33.489 | -1.780 | 23.209 | 0.469 |
| -5.400 | 33.489 | -1.780 | 23.208 | 0.469 |
| -5.800 | 34.632 | -1.748 | 22.530 | 0.442 |
| -6.200 | 35.816 | -1.721 | 21.871 | 0.417 |
| -6.200 | 35.816 | -1.721 | 21.871 | 0.417 |
| -6.550 | 35.433 | -1.716 | 21.311 | 0.375 |
| -6.900 | 35.083 | -1.714 | 20.767 | 0.334 |
| -6.900 | 35.083 | -1.714 | 20.767 | 0.334 |
| -7.800 | 39.148 | -1.714 | 19.448 | 0.299 |
| -8.700 | 43.328 | -1.717 | 18.236 | 0.271 |
| -8.700 | 43.328 | -1.717 | 18.236 | 0.271 |
| -9.100 | 43.128 | -1.725 | 17.729 | 0.237 |
| -9.500 | 42.982 | -1.737 | 17.240 | 0.205 |
| -9.500 | 42.982 | -1.737 | 17.240 | 0.205 |
| -10.100 | 45.925 | -1.743 | 16.539 | 0.190 |
| -10.700 | 48.921 | -1.751 | 15.873 | 0.177 |
| -10.700 | 48.921 | -1.751 | 15.873 | 0.177 |
| -10.900 | 49.949 | -1.772 | 15.658 | 0.171 |
| -11.100 | 50.993 | -1.794 | 15.446 | 0.165 |
| -11.100 | 50.993 | -1.794 | 15.446 | 0.165 |
| -11.950 | 55.372 | -1.808 | 14.584 | 0.148 |
| -12.950 | 60.645 | -1.830 | 13.639 | 0.131 |
| -13.550 | 63.868 | -1.845 | 13.104 | 0.121 |
| -14.400 | 68.507 | -1.869 | 12.384 | 0.108 |
| -15.400 | 74.070 | -1.902 | 11.590 | 0.094 |
| -16.000 | 77.461 | -1.924 | 11.138 | 0.086 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -16.000 | 77.461 | -1.924 | 11.138 | 0.086 |
| -16.550 | 81.571 | -2.090 | 10.740 | 0.073 |
| -17.050 | 85.466 | -2.255 | 10.390 | 0.061 |
| -17.600 | 89.928 | -2.453 | 10.018 | 0.045 |
| -18.100 | 94.156 | -2.650 | 9.692 | 0.030 |
| -18.100 | 87.780 | -2.000 | 9.692 | 0.030 |
| -18.600 | 92.540 | -2.000 | 9.375 | 0.027 |
| -19.101 | 97.321 | -2.000 | 9.068 | 0.024 |
| -20.101 | 106.895 | -2.000 | 8.483 | 0.018 |
| -21.101 | 116.507 | -2.000 | 7.933 | 0.014 |
| -21.801 | 123.257 | -2.000 | 7.568 | 0.011 |
| -23.602 | 140.697 | -2.000 | 6.696 | 0.005 |
| -25.502 | 159.196 | -2.000 | 5.871 | 0.000 |

### 3.26 Results for Vertical 26 (X = -10.59 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.525 | 30.232 | -1.525 | 30.231 | 0.841 |
| -1.625 | 31.909 | -1.538 | 31.165 | 0.806 |
| -1.725 | 33.568 | -1.549 | 32.098 | 0.781 |
| -1.809 | 34.334 | -1.557 | 32.262 | 0.763 |
| -1.825 | 34.453 | -1.558 | 32.269 | 0.760 |
| -1.925 | 35.164 | -1.568 | 32.264 | 0.743 |
| -2.000 | 35.652 | -1.576 | 32.212 | 0.731 |
| -2.025 | 35.807 | -1.579 | 32.186 | 0.727 |
| -2.093 | 35.979 | -1.586 | 31.862 | 0.718 |
| -2.093 | 35.979 | -1.586 | 31.862 | 0.718 |
| -2.125 | 35.953 | -1.608 | 31.500 | 0.713 |
| -2.225 | 35.837 | -1.679 | 30.318 | 0.697 |
| -2.325 | 35.679 | -1.751 | 29.090 | 0.684 |
| -2.425 | 35.495 | -1.823 | 27.830 | 0.671 |
| -2.525 | 35.306 | -1.896 | 26.559 | 0.659 |
| -2.650 | 35.072 | -1.987 | 24.964 | 0.645 |
| -3.297 | 34.079 | -1.832 | 23.106 | 0.584 |
| -3.900 | 34.057 | -1.710 | 22.040 | 0.536 |
| -4.500 | 34.746 | -1.608 | 21.356 | 0.493 |
| -4.500 | 34.746 | -1.608 | 21.356 | 0.493 |
| -4.950 | 34.737 | -1.596 | 20.961 | 0.444 |
| -5.400 | 34.783 | -1.589 | 20.589 | 0.396 |
| -5.400 | 34.783 | -1.589 | 20.589 | 0.396 |
| -5.800 | 36.564 | -1.576 | 20.255 | 0.377 |
| -6.200 | 38.358 | -1.568 | 19.910 | 0.359 |
| -6.200 | 38.358 | -1.568 | 19.910 | 0.359 |
| -6.550 | 38.358 | -1.568 | 19.600 | 0.327 |
| -6.900 | 38.360 | -1.571 | 19.284 | 0.296 |
| -6.900 | 38.360 | -1.571 | 19.284 | 0.296 |
| -7.800 | 43.117 | -1.574 | 18.454 | 0.271 |
| -8.700 | 47.834 | -1.581 | 17.620 | 0.250 |
| -8.700 | 47.834 | -1.581 | 17.620 | 0.250 |
| -9.100 | 47.879 | -1.595 | 17.253 | 0.222 |
| -9.500 | 47.956 | -1.614 | 16.890 | 0.194 |
| -9.500 | 47.956 | -1.614 | 16.890 | 0.194 |
| -10.100 | 51.133 | -1.622 | 16.353 | 0.182 |
| -10.700 | 54.332 | -1.632 | 15.828 | 0.171 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -10.700 | 54.332 | -1.632 | 15.828 | 0.171 |
| -10.900 | 55.477 | -1.660 | 15.656 | 0.165 |
| -11.100 | 56.638 | -1.689 | 15.485 | 0.160 |
| -11.100 | 56.638 | -1.689 | 15.485 | 0.160 |
| -11.950 | 61.243 | -1.707 | 14.776 | 0.145 |
| -12.950 | 66.737 | -1.733 | 13.977 | 0.129 |
| -13.550 | 70.076 | -1.751 | 13.517 | 0.120 |
| -14.400 | 74.861 | -1.780 | 12.888 | 0.108 |
| -15.400 | 80.575 | -1.818 | 12.184 | 0.094 |
| -16.000 | 84.049 | -1.843 | 11.779 | 0.086 |
| -16.000 | 84.049 | -1.843 | 11.779 | 0.086 |
| -16.550 | 88.404 | -2.029 | 11.420 | 0.073 |
| -17.050 | 92.523 | -2.213 | 11.102 | 0.061 |
| -17.600 | 97.232 | -2.434 | 10.763 | 0.045 |
| -18.100 | 101.685 | -2.650 | 10.463 | 0.030 |
| -18.100 | 95.309 | -2.000 | 10.463 | 0.030 |
| -19.901 | 112.596 | -2.000 | 9.450 | 0.020 |
| -21.801 | 130.947 | -2.000 | 8.487 | 0.011 |
| -23.602 | 148.437 | -2.000 | 7.663 | 0.005 |
| -25.502 | 166.979 | -2.000 | 6.877 | 0.000 |

### 3.27 Results for Vertical 27 (X = -10.03 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.316 | 26.848 | -1.316 | 26.847 | 0.776 |
| -1.416 | 28.793 | -1.341 | 27.925 | 0.742 |
| -1.516 | 29.902 | -1.365 | 28.184 | 0.718 |
| -1.616 | 30.835 | -1.388 | 28.276 | 0.698 |
| -1.705 | 31.505 | -1.408 | 28.200 | 0.683 |
| -1.716 | 31.578 | -1.410 | 28.179 | 0.682 |
| -1.816 | 32.135 | -1.433 | 27.895 | 0.667 |
| -1.916 | 32.578 | -1.456 | 27.492 | 0.655 |
| -2.000 | 32.950 | -1.476 | 27.146 | 0.645 |
| -2.016 | 33.027 | -1.480 | 27.085 | 0.643 |
| -2.094 | 33.432 | -1.499 | 26.821 | 0.636 |
| -2.094 | 33.432 | -1.499 | 26.821 | 0.636 |
| -2.116 | 33.615 | -1.516 | 26.756 | 0.633 |
| -2.216 | 33.681 | -1.591 | 25.713 | 0.621 |
| -2.316 | 33.661 | -1.667 | 24.582 | 0.610 |
| -2.650 | 33.866 | -1.923 | 21.048 | 0.579 |
| -3.297 | 34.318 | -1.785 | 20.466 | 0.530 |
| -3.900 | 34.852 | -1.674 | 19.856 | 0.489 |
| -4.500 | 35.751 | -1.581 | 19.397 | 0.453 |
| -4.500 | 35.751 | -1.581 | 19.397 | 0.453 |
| -4.950 | 35.803 | -1.571 | 19.142 | 0.411 |
| -5.400 | 35.958 | -1.565 | 18.924 | 0.371 |
| -5.400 | 35.958 | -1.565 | 18.924 | 0.371 |
| -5.800 | 37.902 | -1.556 | 18.737 | 0.355 |
| -6.200 | 39.881 | -1.552 | 18.542 | 0.340 |
| -6.200 | 39.881 | -1.552 | 18.542 | 0.340 |
| -6.550 | 40.026 | -1.553 | 18.361 | 0.312 |
| -6.900 | 40.172 | -1.556 | 18.168 | 0.284 |
| -6.900 | 40.172 | -1.556 | 18.168 | 0.284 |
| -7.800 | 45.263 | -1.561 | 17.621 | 0.263 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -8.700 | 50.265 | -1.568 | 17.019 | 0.244 |
| -8.700 | 50.265 | -1.568 | 17.018 | 0.244 |
| -9.100 | 50.428 | -1.583 | 16.740 | 0.217 |
| -9.500 | 50.613 | -1.603 | 16.456 | 0.191 |
| -9.500 | 50.613 | -1.603 | 16.456 | 0.191 |
| -10.100 | 53.923 | -1.612 | 16.026 | 0.179 |
| -10.700 | 57.238 | -1.622 | 15.593 | 0.169 |
| -10.700 | 57.238 | -1.622 | 15.593 | 0.169 |
| -10.900 | 58.428 | -1.651 | 15.449 | 0.164 |
| -11.100 | 59.632 | -1.681 | 15.305 | 0.159 |
| -11.100 | 59.632 | -1.681 | 15.305 | 0.159 |
| -11.950 | 64.363 | -1.700 | 14.698 | 0.145 |
| -12.950 | 69.980 | -1.727 | 13.998 | 0.129 |
| -13.550 | 73.381 | -1.745 | 13.588 | 0.120 |
| -14.400 | 78.242 | -1.774 | 13.021 | 0.108 |
| -15.400 | 84.032 | -1.813 | 12.378 | 0.094 |
| -16.000 | 87.544 | -1.838 | 12.006 | 0.085 |
| -16.000 | 87.544 | -1.838 | 12.006 | 0.085 |
| -16.550 | 91.948 | -2.026 | 11.673 | 0.072 |
| -17.050 | 96.103 | -2.212 | 11.378 | 0.060 |
| -17.600 | 100.848 | -2.433 | 11.061 | 0.044 |
| -18.100 | 105.327 | -2.650 | 10.780 | 0.029 |
| -18.100 | 98.950 | -2.000 | 10.780 | 0.029 |
| -19.901 | 116.300 | -2.000 | 9.824 | 0.019 |
| -21.801 | 134.700 | -2.000 | 8.907 | 0.011 |
| -23.602 | 152.227 | -2.000 | 8.117 | 0.005 |
| -25.502 | 170.799 | -2.000 | 7.359 | 0.000 |

### 3.28 Results for Vertical 28 (X = -9.46 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.051 | 29.507 | -1.051 | 29.506 | 0.711 |
| -1.151 | 27.087 | -1.080 | 26.187 | 0.676 |
| -1.251 | 26.734 | -1.114 | 24.881 | 0.653 |
| -1.351 | 27.078 | -1.150 | 24.257 | 0.635 |
| -1.451 | 27.683 | -1.186 | 23.891 | 0.619 |
| -1.551 | 28.323 | -1.221 | 23.561 | 0.606 |
| -1.573 | 28.459 | -1.229 | 23.490 | 0.603 |
| -1.651 | 28.967 | -1.257 | 23.235 | 0.595 |
| -1.751 | 29.655 | -1.293 | 22.953 | 0.585 |
| -1.851 | 30.408 | -1.329 | 22.738 | 0.576 |
| -1.951 | 31.220 | -1.364 | 22.583 | 0.568 |
| -2.000 | 31.629 | -1.381 | 22.524 | 0.564 |
| -2.051 | 32.072 | -1.399 | 22.470 | 0.561 |
| -2.094 | 32.442 | -1.414 | 22.430 | 0.558 |
| -2.094 | 32.442 | -1.414 | 22.430 | 0.558 |
| -2.650 | 34.054 | -1.855 | 17.662 | 0.515 |
| -3.297 | 35.144 | -1.734 | 17.558 | 0.476 |
| -3.900 | 36.299 | -1.636 | 17.449 | 0.442 |
| -4.500 | 37.618 | -1.554 | 17.340 | 0.412 |
| -4.500 | 37.618 | -1.554 | 17.340 | 0.412 |
| -4.950 | 37.826 | -1.545 | 17.277 | 0.378 |
| -5.400 | 38.109 | -1.540 | 17.224 | 0.345 |
| -5.400 | 38.109 | -1.540 | 17.224 | 0.345 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -5.800 | 40.194 | -1.535 | 17.175 | 0.332 |
| -6.200 | 42.325 | -1.534 | 17.114 | 0.319 |
| -6.200 | 42.325 | -1.534 | 17.114 | 0.319 |
| -6.550 | 42.583 | -1.536 | 17.047 | 0.294 |
| -6.900 | 42.845 | -1.541 | 16.964 | 0.270 |
| -6.900 | 42.846 | -1.541 | 16.964 | 0.270 |
| -7.800 | 48.216 | -1.546 | 16.677 | 0.252 |
| -8.700 | 53.473 | -1.553 | 16.298 | 0.236 |
| -8.700 | 53.473 | -1.553 | 16.298 | 0.236 |
| -9.100 | 53.746 | -1.570 | 16.106 | 0.211 |
| -9.500 | 54.034 | -1.591 | 15.902 | 0.186 |
| -9.500 | 54.034 | -1.591 | 15.902 | 0.186 |
| -10.100 | 57.475 | -1.600 | 15.580 | 0.175 |
| -10.700 | 60.905 | -1.611 | 15.243 | 0.166 |
| -10.700 | 60.905 | -1.611 | 15.243 | 0.166 |
| -10.900 | 62.141 | -1.641 | 15.128 | 0.161 |
| -11.100 | 63.388 | -1.672 | 15.012 | 0.156 |
| -11.100 | 63.388 | -1.672 | 15.012 | 0.156 |
| -11.950 | 68.250 | -1.692 | 14.512 | 0.142 |
| -12.950 | 73.995 | -1.720 | 13.917 | 0.127 |
| -13.550 | 77.462 | -1.738 | 13.561 | 0.118 |
| -14.400 | 82.406 | -1.768 | 13.062 | 0.106 |
| -15.400 | 88.278 | -1.807 | 12.486 | 0.092 |
| -16.000 | 91.833 | -1.833 | 12.149 | 0.084 |
| -16.000 | 91.833 | -1.833 | 12.149 | 0.084 |
| -16.550 | 96.289 | -2.023 | 11.846 | 0.071 |
| -17.050 | 100.487 | -2.210 | 11.575 | 0.059 |
| -17.600 | 105.272 | -2.432 | 11.283 | 0.043 |
| -18.100 | 109.780 | -2.650 | 11.023 | 0.028 |
| -18.100 | 103.404 | -2.000 | 11.023 | 0.028 |
| -19.901 | 120.823 | -2.000 | 10.132 | 0.019 |
| -21.801 | 139.281 | -2.000 | 9.267 | 0.011 |
| -23.602 | 156.850 | -2.000 | 8.516 | 0.005 |
| -25.502 | 175.456 | -2.000 | 7.791 | 0.000 |

### 3.29 Results for Vertical 29 (X = -9.46 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.047 | 28.266 | -1.047 | 28.265 | 0.710 |
| -1.147 | 20.284 | -1.086 | 19.283 | 0.677 |
| -1.247 | 25.393 | -1.130 | 23.341 | 0.655 |
| -1.347 | 26.765 | -1.167 | 23.726 | 0.637 |
| -1.447 | 27.606 | -1.203 | 23.595 | 0.621 |
| -1.547 | 28.351 | -1.239 | 23.371 | 0.608 |
| -1.570 | 28.518 | -1.247 | 23.309 | 0.605 |
| -1.647 | 29.050 | -1.274 | 23.103 | 0.597 |
| -1.747 | 29.764 | -1.310 | 22.853 | 0.586 |
| -1.847 | 30.527 | -1.345 | 22.653 | 0.577 |
| -1.947 | 31.340 | -1.380 | 22.505 | 0.569 |
| -2.000 | 31.789 | -1.398 | 22.443 | 0.566 |
| -2.047 | 32.190 | -1.414 | 22.396 | 0.562 |
| -2.094 | 32.600 | -1.431 | 22.353 | 0.559 |
| -2.094 | 32.600 | -1.431 | 22.353 | 0.559 |
| -2.641 | 34.092 | -1.864 | 17.578 | 0.517 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.297 | 35.190 | -1.739 | 17.478 | 0.477 |
| -3.900 | 36.339 | -1.640 | 17.377 | 0.443 |
| -4.500 | 37.652 | -1.556 | 17.274 | 0.413 |
| -4.500 | 37.652 | -1.556 | 17.274 | 0.413 |
| -4.950 | 37.860 | -1.547 | 17.214 | 0.379 |
| -5.400 | 38.143 | -1.542 | 17.165 | 0.346 |
| -5.400 | 38.143 | -1.542 | 17.165 | 0.346 |
| -5.800 | 40.224 | -1.536 | 17.118 | 0.332 |
| -6.200 | 42.348 | -1.535 | 17.059 | 0.319 |
| -6.200 | 42.348 | -1.535 | 17.059 | 0.319 |
| -6.550 | 42.606 | -1.537 | 16.993 | 0.295 |
| -6.900 | 42.868 | -1.541 | 16.912 | 0.271 |
| -6.900 | 42.868 | -1.541 | 16.912 | 0.271 |
| -7.800 | 48.241 | -1.546 | 16.630 | 0.253 |
| -8.700 | 53.501 | -1.553 | 16.254 | 0.236 |
| -8.700 | 53.501 | -1.553 | 16.254 | 0.236 |
| -9.100 | 53.773 | -1.570 | 16.064 | 0.211 |
| -9.500 | 54.060 | -1.590 | 15.862 | 0.186 |
| -9.500 | 54.060 | -1.590 | 15.862 | 0.186 |
| -10.100 | 57.502 | -1.600 | 15.542 | 0.176 |
| -10.700 | 60.933 | -1.611 | 15.206 | 0.166 |
| -10.700 | 60.933 | -1.611 | 15.206 | 0.166 |
| -10.900 | 62.166 | -1.640 | 15.092 | 0.161 |
| -11.100 | 63.410 | -1.671 | 14.976 | 0.156 |
| -11.100 | 63.410 | -1.671 | 14.976 | 0.156 |
| -11.950 | 68.273 | -1.691 | 14.478 | 0.142 |
| -12.950 | 74.017 | -1.718 | 13.885 | 0.127 |
| -13.550 | 77.484 | -1.736 | 13.530 | 0.118 |
| -14.400 | 82.426 | -1.765 | 13.032 | 0.106 |
| -15.400 | 88.297 | -1.804 | 12.457 | 0.092 |
| -16.000 | 91.850 | -1.830 | 12.121 | 0.084 |
| -16.000 | 91.851 | -1.830 | 12.121 | 0.084 |
| -16.550 | 96.293 | -2.019 | 11.818 | 0.071 |
| -17.050 | 100.478 | -2.204 | 11.548 | 0.058 |
| -17.600 | 105.248 | -2.425 | 11.256 | 0.043 |
| -18.100 | 109.741 | -2.641 | 10.997 | 0.028 |
| -18.100 | 103.452 | -2.000 | 10.997 | 0.028 |
| -19.901 | 120.872 | -2.000 | 10.107 | 0.019 |
| -21.801 | 139.331 | -2.000 | 9.243 | 0.011 |
| -23.602 | 156.901 | -2.000 | 8.492 | 0.005 |
| -25.502 | 175.508 | -2.000 | 7.768 | 0.000 |

### 3.30 Results for Vertical 30 (X = -9.40 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.023 | 22.383 | -1.023 | 22.382 | 0.707 |
| -1.123 | 21.692 | -1.063 | 20.680 | 0.675 |
| -1.223 | 20.793 | -1.107 | 18.732 | 0.654 |
| -1.323 | 23.937 | -1.149 | 20.845 | 0.637 |
| -1.423 | 25.991 | -1.186 | 21.920 | 0.623 |
| -1.523 | 27.308 | -1.219 | 22.290 | 0.610 |
| -1.559 | 27.688 | -1.231 | 22.337 | 0.606 |
| -1.623 | 28.307 | -1.251 | 22.355 | 0.599 |
| -1.723 | 29.168 | -1.282 | 22.292 | 0.589 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.823 | 29.988 | -1.313 | 22.191 | 0.580 |
| -1.923 | 30.808 | -1.343 | 22.094 | 0.572 |
| -2.000 | 31.447 | -1.367 | 22.030 | 0.567 |
| -2.023 | 31.640 | -1.373 | 22.012 | 0.565 |
| -2.094 | 32.238 | -1.395 | 21.963 | 0.561 |
| -2.094 | 32.239 | -1.395 | 21.963 | 0.561 |
| -2.596 | 33.473 | -1.817 | 17.198 | 0.522 |
| -3.297 | 34.997 | -1.717 | 17.124 | 0.482 |
| -3.900 | 36.421 | -1.642 | 17.058 | 0.451 |
| -4.500 | 37.964 | -1.579 | 16.986 | 0.423 |
| -4.500 | 37.964 | -1.579 | 16.986 | 0.423 |
| -4.950 | 38.180 | -1.569 | 16.944 | 0.388 |
| -5.400 | 38.466 | -1.563 | 16.909 | 0.354 |
| -5.400 | 38.466 | -1.563 | 16.909 | 0.354 |
| -5.800 | 40.525 | -1.554 | 16.874 | 0.340 |
| -6.200 | 42.624 | -1.549 | 16.827 | 0.327 |
| -6.200 | 42.624 | -1.549 | 16.827 | 0.327 |
| -6.550 | 42.881 | -1.550 | 16.771 | 0.301 |
| -6.900 | 43.142 | -1.553 | 16.698 | 0.276 |
| -6.900 | 43.142 | -1.553 | 16.698 | 0.276 |
| -7.800 | 48.529 | -1.557 | 16.438 | 0.258 |
| -8.700 | 53.801 | -1.564 | 16.081 | 0.241 |
| -8.700 | 53.801 | -1.564 | 16.081 | 0.241 |
| -9.100 | 54.065 | -1.579 | 15.898 | 0.215 |
| -9.500 | 54.345 | -1.598 | 15.703 | 0.189 |
| -9.500 | 54.345 | -1.598 | 15.703 | 0.189 |
| -10.100 | 57.791 | -1.607 | 15.392 | 0.178 |
| -10.700 | 61.224 | -1.617 | 15.065 | 0.168 |
| -10.700 | 61.224 | -1.617 | 15.065 | 0.168 |
| -10.900 | 62.441 | -1.644 | 14.953 | 0.163 |
| -11.100 | 63.669 | -1.673 | 14.840 | 0.158 |
| -11.100 | 63.669 | -1.673 | 14.840 | 0.158 |
| -11.950 | 68.531 | -1.692 | 14.352 | 0.144 |
| -12.950 | 74.271 | -1.717 | 13.768 | 0.128 |
| -13.550 | 77.733 | -1.735 | 13.418 | 0.119 |
| -14.400 | 82.668 | -1.762 | 12.926 | 0.107 |
| -15.400 | 88.526 | -1.799 | 12.358 | 0.092 |
| -16.000 | 92.071 | -1.824 | 12.024 | 0.084 |
| -16.000 | 92.071 | -1.824 | 12.024 | 0.084 |
| -16.550 | 96.428 | -2.003 | 11.724 | 0.071 |
| -17.050 | 100.529 | -2.180 | 11.456 | 0.058 |
| -17.600 | 105.197 | -2.390 | 11.167 | 0.043 |
| -18.100 | 109.591 | -2.596 | 10.910 | 0.028 |
| -18.100 | 103.743 | -2.000 | 10.910 | 0.028 |
| -19.901 | 121.171 | -2.000 | 10.026 | 0.019 |
| -21.801 | 139.635 | -2.000 | 9.167 | 0.011 |
| -23.602 | 157.208 | -2.000 | 8.420 | 0.005 |
| -25.502 | 175.818 | -2.000 | 7.698 | 0.000 |

### 3.31 Results for Vertical 31 (X = -8.37 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.550 | 18.461 | -0.550 | 18.460 | 0.614 |
| -0.650 | 16.705 | -0.608 | 15.521 | 0.584 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.750 | 15.556 | -0.669 | 13.146 | 0.565 |
| -0.850 | 17.433 | -0.731 | 13.797 | 0.551 |
| -0.950 | 20.764 | -0.788 | 15.956 | 0.539 |
| -1.050 | 22.319 | -0.839 | 16.386 | 0.528 |
| -1.150 | 23.504 | -0.889 | 16.469 | 0.519 |
| -1.250 | 24.568 | -0.936 | 16.444 | 0.511 |
| -1.322 | 24.606 | -0.970 | 15.704 | 0.505 |
| -1.350 | 24.608 | -0.983 | 15.408 | 0.503 |
| -1.450 | 24.605 | -1.029 | 14.330 | 0.497 |
| -1.550 | 24.597 | -1.076 | 13.244 | 0.492 |
| -1.681 | 24.605 | -1.139 | 11.822 | 0.487 |
| -2.000 | 24.798 | -0.979 | 11.612 | 0.479 |
| -2.094 | 24.908 | -0.933 | 11.588 | 0.477 |
| -2.094 | 24.908 | -0.933 | 11.588 | 0.477 |
| -2.697 | 26.639 | -0.868 | 11.733 | 0.452 |
| -3.297 | 28.667 | -0.809 | 12.128 | 0.429 |
| -3.900 | 30.812 | -0.756 | 12.568 | 0.407 |
| -4.500 | 32.989 | -0.711 | 12.965 | 0.386 |
| -4.500 | 32.989 | -0.711 | 12.965 | 0.386 |
| -4.950 | 33.504 | -0.705 | 13.223 | 0.358 |
| -5.400 | 34.027 | -0.701 | 13.447 | 0.330 |
| -5.400 | 34.027 | -0.701 | 13.447 | 0.330 |
| -5.800 | 36.300 | -0.696 | 13.617 | 0.319 |
| -6.200 | 38.595 | -0.696 | 13.759 | 0.308 |
| -6.200 | 38.595 | -0.696 | 13.759 | 0.308 |
| -6.550 | 38.991 | -0.698 | 13.860 | 0.286 |
| -6.900 | 39.387 | -0.702 | 13.938 | 0.264 |
| -6.900 | 39.387 | -0.702 | 13.938 | 0.264 |
| -7.800 | 45.114 | -0.706 | 14.041 | 0.248 |
| -8.700 | 50.715 | -0.712 | 14.011 | 0.233 |
| -8.700 | 50.715 | -0.712 | 14.011 | 0.233 |
| -9.100 | 51.114 | -0.727 | 13.961 | 0.209 |
| -9.500 | 51.519 | -0.744 | 13.891 | 0.184 |
| -9.500 | 51.519 | -0.744 | 13.891 | 0.184 |
| -10.100 | 55.149 | -0.753 | 13.754 | 0.175 |
| -10.700 | 58.752 | -0.762 | 13.585 | 0.165 |
| -10.700 | 58.752 | -0.762 | 13.585 | 0.165 |
| -10.900 | 60.008 | -0.788 | 13.523 | 0.160 |
| -11.100 | 61.272 | -0.815 | 13.458 | 0.155 |
| -11.100 | 61.272 | -0.815 | 13.458 | 0.155 |
| -11.950 | 66.332 | -0.832 | 13.155 | 0.141 |
| -12.950 | 72.268 | -0.856 | 12.760 | 0.126 |
| -13.550 | 75.832 | -0.873 | 12.509 | 0.117 |
| -14.400 | 80.891 | -0.899 | 12.143 | 0.105 |
| -15.400 | 86.870 | -0.933 | 11.703 | 0.090 |
| -16.000 | 90.477 | -0.956 | 11.438 | 0.081 |
| -16.000 | 90.477 | -0.956 | 11.438 | 0.081 |
| -16.550 | 94.792 | -1.125 | 11.195 | 0.068 |
| -17.050 | 98.840 | -1.291 | 10.976 | 0.056 |
| -17.600 | 103.435 | -1.488 | 10.736 | 0.040 |
| -18.100 | 107.749 | -1.681 | 10.521 | 0.026 |
| -18.100 | 110.875 | -2.000 | 10.521 | 0.026 |
| -19.901 | 128.443 | -2.000 | 9.765 | 0.017 |
| -21.801 | 147.023 | -2.000 | 9.013 | 0.010 |
| -23.602 | 164.683 | -2.000 | 8.347 | 0.005 |
| -25.502 | 183.365 | -2.000 | 7.693 | 0.000 |

### 3.32 Results for Vertical 32 (X = -8.23 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.490 | 14.525 | -0.490 | 14.524 | 0.601 |
| -0.590 | 16.026 | -0.553 | 14.786 | 0.572 |
| -0.690 | 16.586 | -0.615 | 14.122 | 0.553 |
| -0.790 | 16.973 | -0.676 | 13.289 | 0.539 |
| -0.890 | 17.576 | -0.737 | 12.676 | 0.528 |
| -0.990 | 19.079 | -0.796 | 12.980 | 0.519 |
| -1.090 | 20.878 | -0.852 | 13.608 | 0.511 |
| -1.190 | 21.963 | -0.905 | 13.554 | 0.504 |
| -1.290 | 22.444 | -0.956 | 12.915 | 0.498 |
| -1.292 | 22.453 | -0.957 | 12.898 | 0.497 |
| -1.390 | 22.792 | -1.007 | 12.151 | 0.492 |
| -1.490 | 23.053 | -1.057 | 11.301 | 0.488 |
| -1.560 | 23.204 | -1.092 | 10.666 | 0.485 |
| -2.000 | 23.966 | -0.880 | 10.792 | 0.474 |
| -2.094 | 24.137 | -0.835 | 10.814 | 0.472 |
| -2.094 | 24.137 | -0.835 | 10.814 | 0.472 |
| -2.697 | 26.031 | -0.772 | 11.106 | 0.448 |
| -3.297 | 28.130 | -0.714 | 11.562 | 0.426 |
| -3.900 | 30.323 | -0.661 | 12.045 | 0.405 |
| -4.500 | 32.539 | -0.616 | 12.482 | 0.384 |
| -4.500 | 32.539 | -0.616 | 12.482 | 0.384 |
| -4.950 | 33.078 | -0.610 | 12.767 | 0.357 |
| -5.400 | 33.620 | -0.606 | 13.015 | 0.329 |
| -5.400 | 33.620 | -0.606 | 13.015 | 0.329 |
| -5.800 | 35.901 | -0.600 | 13.204 | 0.318 |
| -6.200 | 38.201 | -0.599 | 13.365 | 0.307 |
| -6.200 | 38.201 | -0.599 | 13.365 | 0.307 |
| -6.550 | 38.606 | -0.600 | 13.481 | 0.285 |
| -6.900 | 39.012 | -0.604 | 13.574 | 0.264 |
| -6.900 | 39.012 | -0.604 | 13.574 | 0.264 |
| -7.800 | 44.768 | -0.608 | 13.713 | 0.248 |
| -8.700 | 50.399 | -0.614 | 13.717 | 0.233 |
| -8.700 | 50.399 | -0.614 | 13.717 | 0.233 |
| -9.100 | 50.806 | -0.628 | 13.681 | 0.209 |
| -9.500 | 51.218 | -0.645 | 13.626 | 0.184 |
| -9.500 | 51.218 | -0.645 | 13.626 | 0.184 |
| -10.100 | 54.867 | -0.653 | 13.509 | 0.174 |
| -10.700 | 58.487 | -0.662 | 13.358 | 0.165 |
| -10.700 | 58.487 | -0.662 | 13.358 | 0.165 |
| -10.900 | 59.741 | -0.687 | 13.302 | 0.160 |
| -11.100 | 61.003 | -0.713 | 13.242 | 0.155 |
| -11.100 | 61.003 | -0.713 | 13.242 | 0.155 |
| -11.950 | 66.083 | -0.730 | 12.963 | 0.141 |
| -12.950 | 72.040 | -0.753 | 12.591 | 0.126 |
| -13.550 | 75.613 | -0.769 | 12.353 | 0.117 |
| -14.400 | 80.684 | -0.795 | 12.003 | 0.104 |
| -15.400 | 86.674 | -0.829 | 11.580 | 0.090 |
| -16.000 | 90.286 | -0.851 | 11.324 | 0.081 |
| -16.000 | 90.286 | -0.851 | 11.324 | 0.081 |
| -16.550 | 94.573 | -1.016 | 11.089 | 0.068 |
| -17.050 | 98.593 | -1.179 | 10.876 | 0.055 |
| -17.600 | 103.154 | -1.372 | 10.643 | 0.040 |
| -18.100 | 107.433 | -1.560 | 10.433 | 0.025 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -18.100 | 111.746 | -2.000 | 10.433 | 0.025 |
| -19.901 | 129.334 | -2.000 | 9.696 | 0.017 |
| -21.801 | 147.930 | -2.000 | 8.959 | 0.010 |
| -23.602 | 165.601 | -2.000 | 8.303 | 0.005 |
| -25.502 | 184.294 | -2.000 | 7.659 | 0.000 |

### 3.33 Results for Vertical 33 (X = -7.45 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.145 | 8.669 | -0.145 | 8.668 | 0.540 |
| -0.245 | 6.276 | -0.229 | 4.841 | 0.518 |
| -0.345 | 12.753 | -0.308 | 9.923 | 0.504 |
| -0.445 | 14.218 | -0.378 | 10.077 | 0.492 |
| -0.545 | 14.800 | -0.446 | 9.372 | 0.483 |
| -0.645 | 15.193 | -0.512 | 8.498 | 0.475 |
| -0.745 | 15.552 | -0.577 | 7.602 | 0.469 |
| -0.845 | 15.880 | -0.642 | 6.680 | 0.464 |
| -0.870 | 15.956 | -0.657 | 6.452 | 0.463 |
| -0.945 | 16.187 | -0.630 | 6.481 | 0.460 |
| -1.045 | 16.486 | -0.594 | 6.515 | 0.457 |
| -1.120 | 16.710 | -0.567 | 6.542 | 0.455 |
| -1.145 | 16.788 | -0.558 | 6.553 | 0.454 |
| -2.000 | 19.915 | -0.242 | 7.485 | 0.439 |
| -2.095 | 20.278 | -0.206 | 7.615 | 0.438 |
| -2.095 | 20.278 | -0.206 | 7.615 | 0.438 |
| -2.697 | 22.763 | -0.154 | 8.390 | 0.421 |
| -3.297 | 25.172 | -0.104 | 9.076 | 0.403 |
| -3.900 | 27.565 | -0.057 | 9.701 | 0.385 |
| -4.500 | 29.936 | -0.017 | 10.256 | 0.368 |
| -4.500 | 29.936 | -0.017 | 10.256 | 0.368 |
| -4.950 | 30.557 | -0.010 | 10.626 | 0.343 |
| -5.400 | 31.170 | -0.006 | 10.955 | 0.319 |
| -5.400 | 31.170 | -0.006 | 10.955 | 0.319 |
| -5.800 | 33.495 | 0.000 | 11.214 | 0.308 |
| -6.200 | 35.829 | 0.004 | 11.442 | 0.298 |
| -6.200 | 35.829 | 0.004 | 11.442 | 0.298 |
| -6.550 | 36.273 | 0.003 | 11.616 | 0.278 |
| -6.900 | 36.716 | 0.000 | 11.768 | 0.257 |
| -6.900 | 36.716 | 0.000 | 11.768 | 0.257 |
| -7.800 | 42.590 | -0.003 | 12.059 | 0.243 |
| -8.700 | 48.351 | -0.008 | 12.215 | 0.229 |
| -8.700 | 48.351 | -0.008 | 12.215 | 0.229 |
| -9.100 | 48.802 | -0.020 | 12.247 | 0.206 |
| -9.500 | 49.258 | -0.034 | 12.257 | 0.182 |
| -9.500 | 49.258 | -0.034 | 12.257 | 0.182 |
| -10.100 | 52.996 | -0.041 | 12.236 | 0.172 |
| -10.700 | 56.701 | -0.049 | 12.178 | 0.163 |
| -10.700 | 56.701 | -0.049 | 12.178 | 0.163 |
| -10.900 | 57.958 | -0.072 | 12.151 | 0.158 |
| -11.100 | 59.222 | -0.095 | 12.120 | 0.153 |
| -11.100 | 59.222 | -0.095 | 12.120 | 0.153 |
| -11.950 | 64.411 | -0.110 | 11.959 | 0.140 |
| -12.950 | 70.481 | -0.131 | 11.713 | 0.124 |
| -13.550 | 74.115 | -0.145 | 11.543 | 0.115 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -14.400 | 79.261 | -0.168 | 11.282 | 0.103 |
| -15.400 | 85.325 | -0.199 | 10.954 | 0.088 |
| -16.000 | 88.973 | -0.220 | 10.749 | 0.079 |
| -16.000 | 88.973 | -0.220 | 10.749 | 0.079 |
| -16.550 | 93.172 | -0.371 | 10.557 | 0.066 |
| -17.050 | 97.100 | -0.520 | 10.382 | 0.053 |
| -17.600 | 101.546 | -0.697 | 10.187 | 0.038 |
| -18.100 | 105.706 | -0.870 | 10.010 | 0.023 |
| -18.100 | 116.794 | -2.000 | 10.010 | 0.023 |
| -19.901 | 134.493 | -2.000 | 9.376 | 0.016 |
| -21.801 | 153.183 | -2.000 | 8.726 | 0.010 |
| -23.602 | 170.926 | -2.000 | 8.137 | 0.005 |
| -25.502 | 189.680 | -2.000 | 7.551 | 0.000 |

### 3.34 Results for Vertical 34 (X = -7.37 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.111 | 8.060 | -0.111 | 8.059 | 0.533 |
| -0.211 | 9.270 | -0.191 | 7.859 | 0.510 |
| -0.311 | 9.583 | -0.271 | 6.775 | 0.497 |
| -0.411 | 11.101 | -0.348 | 6.914 | 0.487 |
| -0.511 | 12.780 | -0.421 | 7.255 | 0.479 |
| -0.611 | 13.852 | -0.491 | 7.027 | 0.472 |
| -0.711 | 14.585 | -0.558 | 6.482 | 0.467 |
| -0.800 | 15.089 | -0.617 | 5.855 | 0.463 |
| -0.811 | 15.143 | -0.613 | 5.879 | 0.462 |
| -0.911 | 15.602 | -0.579 | 6.058 | 0.459 |
| -1.011 | 16.001 | -0.544 | 6.183 | 0.455 |
| -1.103 | 16.340 | -0.511 | 6.272 | 0.453 |
| -1.111 | 16.369 | -0.508 | 6.279 | 0.452 |
| -2.000 | 19.704 | -0.184 | 7.285 | 0.437 |
| -2.095 | 20.068 | -0.149 | 7.412 | 0.436 |
| -2.095 | 20.068 | -0.149 | 7.412 | 0.436 |
| -2.697 | 22.552 | -0.097 | 8.183 | 0.419 |
| -3.297 | 24.964 | -0.047 | 8.869 | 0.402 |
| -3.900 | 27.358 | -0.001 | 9.495 | 0.384 |
| -4.500 | 29.730 | 0.040 | 10.052 | 0.366 |
| -4.500 | 29.730 | 0.040 | 10.052 | 0.366 |
| -4.950 | 30.353 | 0.047 | 10.424 | 0.342 |
| -5.400 | 30.966 | 0.051 | 10.756 | 0.318 |
| -5.400 | 30.966 | 0.051 | 10.756 | 0.318 |
| -5.800 | 33.290 | 0.058 | 11.018 | 0.307 |
| -6.200 | 35.621 | 0.061 | 11.249 | 0.297 |
| -6.200 | 35.621 | 0.061 | 11.249 | 0.297 |
| -6.550 | 36.066 | 0.061 | 11.427 | 0.277 |
| -6.900 | 36.510 | 0.059 | 11.582 | 0.257 |
| -6.900 | 36.510 | 0.059 | 11.582 | 0.257 |
| -7.800 | 42.391 | 0.056 | 11.883 | 0.243 |
| -8.700 | 48.159 | 0.051 | 12.051 | 0.229 |
| -8.700 | 48.159 | 0.051 | 12.051 | 0.229 |
| -9.100 | 48.613 | 0.039 | 12.088 | 0.205 |
| -9.500 | 49.071 | 0.025 | 12.103 | 0.181 |
| -9.500 | 49.071 | 0.025 | 12.103 | 0.181 |
| -10.100 | 52.815 | 0.018 | 12.090 | 0.172 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -10.700 | 56.527 | 0.010 | 12.040 | 0.162 |
| -10.700 | 56.527 | 0.010 | 12.040 | 0.162 |
| -10.900 | 57.783 | -0.012 | 12.016 | 0.158 |
| -11.100 | 59.046 | -0.035 | 11.988 | 0.153 |
| -11.100 | 59.046 | -0.035 | 11.988 | 0.153 |
| -11.950 | 64.244 | -0.049 | 11.837 | 0.139 |
| -12.950 | 70.323 | -0.070 | 11.603 | 0.124 |
| -13.550 | 73.962 | -0.084 | 11.440 | 0.115 |
| -14.400 | 79.114 | -0.107 | 11.188 | 0.102 |
| -15.400 | 85.184 | -0.137 | 10.868 | 0.088 |
| -16.000 | 88.836 | -0.158 | 10.668 | 0.079 |
| -16.000 | 88.836 | -0.158 | 10.668 | 0.079 |
| -16.550 | 93.022 | -0.307 | 10.481 | 0.066 |
| -17.050 | 96.936 | -0.454 | 10.309 | 0.053 |
| -17.600 | 101.365 | -0.629 | 10.119 | 0.038 |
| -18.100 | 105.509 | -0.800 | 9.945 | 0.023 |
| -18.100 | 117.281 | -2.000 | 9.945 | 0.023 |
| -19.901 | 134.992 | -2.000 | 9.321 | 0.016 |
| -21.801 | 153.691 | -2.000 | 8.680 | 0.010 |
| -23.602 | 171.442 | -2.000 | 8.098 | 0.005 |
| -25.502 | 190.202 | -2.000 | 7.518 | 0.000 |

### 3.35 Results for Vertical 35 (X = -7.36 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.108 | 8.081 | -0.108 | 8.080 | 0.533 |
| -0.208 | 9.310 | -0.189 | 7.901 | 0.510 |
| -0.308 | 9.702 | -0.268 | 6.897 | 0.496 |
| -0.408 | 11.065 | -0.345 | 6.880 | 0.486 |
| -0.508 | 12.699 | -0.419 | 7.175 | 0.479 |
| -0.608 | 13.801 | -0.488 | 6.975 | 0.472 |
| -0.708 | 14.558 | -0.556 | 6.453 | 0.466 |
| -0.800 | 15.090 | -0.616 | 5.822 | 0.462 |
| -0.808 | 15.133 | -0.613 | 5.841 | 0.462 |
| -0.908 | 15.602 | -0.579 | 6.031 | 0.458 |
| -1.008 | 16.009 | -0.544 | 6.163 | 0.455 |
| -1.101 | 16.358 | -0.511 | 6.258 | 0.452 |
| -1.108 | 16.382 | -0.508 | 6.264 | 0.452 |
| -2.000 | 19.732 | -0.184 | 7.276 | 0.437 |
| -2.095 | 20.096 | -0.148 | 7.404 | 0.436 |
| -2.095 | 20.096 | -0.148 | 7.404 | 0.436 |
| -2.697 | 22.579 | -0.096 | 8.173 | 0.419 |
| -3.297 | 24.991 | -0.046 | 8.860 | 0.401 |
| -3.900 | 27.386 | 0.000 | 9.486 | 0.384 |
| -4.500 | 29.758 | 0.041 | 10.043 | 0.366 |
| -4.500 | 29.758 | 0.041 | 10.043 | 0.366 |
| -4.950 | 30.380 | 0.047 | 10.415 | 0.342 |
| -5.400 | 30.994 | 0.051 | 10.747 | 0.317 |
| -5.400 | 30.994 | 0.051 | 10.747 | 0.317 |
| -5.800 | 33.318 | 0.058 | 11.009 | 0.307 |
| -6.200 | 35.650 | 0.062 | 11.240 | 0.297 |
| -6.200 | 35.650 | 0.062 | 11.240 | 0.297 |
| -6.550 | 36.095 | 0.061 | 11.419 | 0.277 |
| -6.900 | 36.539 | 0.059 | 11.574 | 0.257 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -6.900 | 36.539 | 0.059 | 11.574 | 0.257 |
| -7.800 | 42.421 | 0.056 | 11.875 | 0.243 |
| -8.700 | 48.190 | 0.051 | 12.044 | 0.229 |
| -8.700 | 48.190 | 0.051 | 12.044 | 0.229 |
| -9.100 | 48.644 | 0.040 | 12.081 | 0.205 |
| -9.500 | 49.102 | 0.025 | 12.097 | 0.181 |
| -9.500 | 49.102 | 0.025 | 12.097 | 0.181 |
| -10.100 | 52.847 | 0.018 | 12.085 | 0.172 |
| -10.700 | 56.559 | 0.010 | 12.035 | 0.162 |
| -10.700 | 56.559 | 0.010 | 12.035 | 0.162 |
| -10.900 | 57.816 | -0.011 | 12.011 | 0.158 |
| -11.100 | 59.079 | -0.034 | 11.984 | 0.153 |
| -11.100 | 59.079 | -0.034 | 11.984 | 0.153 |
| -11.950 | 64.278 | -0.049 | 11.833 | 0.139 |
| -12.950 | 70.358 | -0.070 | 11.600 | 0.124 |
| -13.550 | 73.997 | -0.084 | 11.437 | 0.115 |
| -14.400 | 79.150 | -0.107 | 11.186 | 0.102 |
| -15.400 | 85.221 | -0.137 | 10.867 | 0.088 |
| -16.000 | 88.873 | -0.157 | 10.668 | 0.079 |
| -16.000 | 88.873 | -0.157 | 10.668 | 0.079 |
| -16.550 | 93.060 | -0.307 | 10.481 | 0.066 |
| -17.050 | 96.974 | -0.454 | 10.309 | 0.053 |
| -17.600 | 101.404 | -0.629 | 10.119 | 0.038 |
| -18.100 | 105.549 | -0.800 | 9.946 | 0.023 |
| -18.100 | 117.324 | -2.000 | 9.946 | 0.023 |
| -19.901 | 135.035 | -2.000 | 9.323 | 0.016 |
| -21.801 | 153.735 | -2.000 | 8.682 | 0.010 |
| -23.602 | 171.487 | -2.000 | 8.101 | 0.005 |
| -25.502 | 190.248 | -2.000 | 7.521 | 0.000 |

### 3.36 Results for Vertical 36 (X = -7.13 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.127 | 8.191 | -0.127 | 8.190 | 0.527 |
| -0.227 | 9.727 | -0.208 | 8.321 | 0.503 |
| -0.327 | 11.279 | -0.285 | 8.496 | 0.489 |
| -0.427 | 12.213 | -0.359 | 8.082 | 0.478 |
| -0.527 | 12.577 | -0.431 | 7.118 | 0.470 |
| -0.627 | 13.078 | -0.502 | 6.307 | 0.463 |
| -0.727 | 13.650 | -0.571 | 5.581 | 0.458 |
| -0.789 | 14.006 | -0.614 | 5.140 | 0.456 |
| -0.827 | 14.221 | -0.601 | 5.238 | 0.454 |
| -0.927 | 14.754 | -0.569 | 5.471 | 0.451 |
| -1.027 | 15.245 | -0.536 | 5.667 | 0.448 |
| -1.111 | 15.626 | -0.508 | 5.805 | 0.446 |
| -1.127 | 15.698 | -0.502 | 5.830 | 0.445 |
| -2.000 | 19.153 | -0.197 | 6.882 | 0.431 |
| -2.095 | 19.514 | -0.162 | 6.997 | 0.431 |
| -2.095 | 19.514 | -0.162 | 6.997 | 0.431 |
| -2.697 | 21.960 | -0.111 | 7.715 | 0.414 |
| -3.297 | 24.361 | -0.063 | 8.381 | 0.397 |
| -3.900 | 26.750 | -0.017 | 8.995 | 0.380 |
| -4.500 | 29.119 | 0.024 | 9.546 | 0.362 |
| -4.500 | 29.119 | 0.024 | 9.546 | 0.362 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -4.950 | 29.740 | 0.030 | 9.918 | 0.339 |
| -5.400 | 30.354 | 0.034 | 10.252 | 0.315 |
| -5.400 | 30.354 | 0.034 | 10.252 | 0.315 |
| -5.800 | 32.673 | 0.042 | 10.519 | 0.305 |
| -6.200 | 35.000 | 0.047 | 10.757 | 0.295 |
| -6.200 | 35.000 | 0.047 | 10.757 | 0.295 |
| -6.550 | 35.447 | 0.046 | 10.941 | 0.275 |
| -6.900 | 35.892 | 0.044 | 11.105 | 0.255 |
| -6.900 | 35.892 | 0.044 | 11.105 | 0.255 |
| -7.800 | 41.789 | 0.041 | 11.430 | 0.241 |
| -8.700 | 47.579 | 0.037 | 11.628 | 0.228 |
| -8.700 | 47.579 | 0.037 | 11.628 | 0.228 |
| -9.100 | 48.040 | 0.026 | 11.679 | 0.204 |
| -9.500 | 48.505 | 0.012 | 11.709 | 0.181 |
| -9.500 | 48.505 | 0.012 | 11.709 | 0.181 |
| -10.100 | 52.268 | 0.006 | 11.719 | 0.171 |
| -10.700 | 56.000 | -0.002 | 11.691 | 0.162 |
| -10.700 | 56.000 | -0.002 | 11.691 | 0.162 |
| -10.900 | 57.255 | -0.023 | 11.674 | 0.157 |
| -11.100 | 58.517 | -0.045 | 11.654 | 0.152 |
| -11.100 | 58.517 | -0.045 | 11.654 | 0.152 |
| -11.950 | 63.741 | -0.059 | 11.534 | 0.139 |
| -12.950 | 69.851 | -0.079 | 11.334 | 0.124 |
| -13.550 | 73.505 | -0.093 | 11.190 | 0.115 |
| -14.400 | 78.678 | -0.115 | 10.963 | 0.102 |
| -15.400 | 84.770 | -0.144 | 10.671 | 0.087 |
| -16.000 | 88.432 | -0.164 | 10.487 | 0.079 |
| -16.000 | 88.432 | -0.164 | 10.487 | 0.079 |
| -16.550 | 92.593 | -0.309 | 10.313 | 0.065 |
| -17.050 | 96.480 | -0.452 | 10.152 | 0.053 |
| -17.600 | 100.877 | -0.623 | 9.973 | 0.038 |
| -18.100 | 104.988 | -0.789 | 9.809 | 0.023 |
| -18.100 | 116.867 | -2.000 | 9.809 | 0.023 |
| -19.901 | 134.612 | -2.000 | 9.217 | 0.016 |
| -21.801 | 153.340 | -2.000 | 8.603 | 0.009 |
| -23.602 | 171.114 | -2.000 | 8.043 | 0.005 |
| -25.502 | 189.893 | -2.000 | 7.481 | 0.000 |

### 3.37 Results for Vertical 37 (X = -7.09 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.131 | 8.443 | -0.131 | 8.442 | 0.526 |
| -0.231 | 10.203 | -0.210 | 8.805 | 0.502 |
| -0.331 | 11.555 | -0.287 | 8.788 | 0.488 |
| -0.431 | 12.414 | -0.361 | 8.302 | 0.477 |
| -0.531 | 12.729 | -0.433 | 7.293 | 0.468 |
| -0.631 | 13.148 | -0.503 | 6.402 | 0.462 |
| -0.731 | 13.645 | -0.572 | 5.601 | 0.457 |
| -0.787 | 13.938 | -0.611 | 5.169 | 0.454 |
| -0.831 | 14.166 | -0.597 | 5.262 | 0.453 |
| -0.931 | 14.673 | -0.565 | 5.465 | 0.449 |
| -1.031 | 15.151 | -0.532 | 5.646 | 0.446 |
| -1.113 | 15.520 | -0.505 | 5.776 | 0.444 |
| -1.131 | 15.599 | -0.499 | 5.802 | 0.444 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.000 | 19.044 | -0.197 | 6.829 | 0.430 |
| -2.095 | 19.404 | -0.162 | 6.941 | 0.429 |
| -2.095 | 19.404 | -0.162 | 6.941 | 0.429 |
| -2.697 | 21.839 | -0.112 | 7.645 | 0.413 |
| -3.297 | 24.236 | -0.064 | 8.303 | 0.396 |
| -3.900 | 26.623 | -0.018 | 8.912 | 0.379 |
| -4.500 | 28.991 | 0.022 | 9.461 | 0.362 |
| -4.500 | 28.991 | 0.022 | 9.461 | 0.362 |
| -4.950 | 29.611 | 0.029 | 9.831 | 0.338 |
| -5.400 | 30.224 | 0.033 | 10.166 | 0.314 |
| -5.400 | 30.224 | 0.033 | 10.166 | 0.314 |
| -5.800 | 32.543 | 0.040 | 10.432 | 0.304 |
| -6.200 | 34.870 | 0.045 | 10.671 | 0.294 |
| -6.200 | 34.870 | 0.045 | 10.671 | 0.294 |
| -6.550 | 35.317 | 0.045 | 10.856 | 0.275 |
| -6.900 | 35.763 | 0.043 | 11.021 | 0.255 |
| -6.900 | 35.763 | 0.043 | 11.021 | 0.255 |
| -7.800 | 41.662 | 0.040 | 11.350 | 0.241 |
| -8.700 | 47.456 | 0.035 | 11.553 | 0.228 |
| -8.700 | 47.456 | 0.035 | 11.553 | 0.228 |
| -9.100 | 47.918 | 0.025 | 11.606 | 0.204 |
| -9.500 | 48.384 | 0.011 | 11.639 | 0.180 |
| -9.500 | 48.384 | 0.011 | 11.639 | 0.180 |
| -10.100 | 52.150 | 0.005 | 11.652 | 0.171 |
| -10.700 | 55.885 | -0.003 | 11.628 | 0.162 |
| -10.700 | 55.885 | -0.003 | 11.628 | 0.162 |
| -10.900 | 57.141 | -0.024 | 11.613 | 0.157 |
| -11.100 | 58.403 | -0.046 | 11.594 | 0.152 |
| -11.100 | 58.403 | -0.046 | 11.594 | 0.152 |
| -11.950 | 63.632 | -0.060 | 11.479 | 0.139 |
| -12.950 | 69.747 | -0.080 | 11.285 | 0.124 |
| -13.550 | 73.405 | -0.093 | 11.145 | 0.115 |
| -14.400 | 78.582 | -0.115 | 10.923 | 0.102 |
| -15.400 | 84.677 | -0.145 | 10.636 | 0.087 |
| -16.000 | 88.342 | -0.164 | 10.454 | 0.079 |
| -16.000 | 88.342 | -0.164 | 10.453 | 0.079 |
| -16.550 | 92.500 | -0.309 | 10.282 | 0.065 |
| -17.050 | 96.384 | -0.452 | 10.123 | 0.053 |
| -17.600 | 100.776 | -0.621 | 9.947 | 0.038 |
| -18.100 | 104.883 | -0.787 | 9.785 | 0.023 |
| -18.100 | 116.782 | -2.000 | 9.785 | 0.023 |
| -19.901 | 134.533 | -2.000 | 9.198 | 0.016 |
| -21.801 | 153.267 | -2.000 | 8.590 | 0.009 |
| -23.602 | 171.044 | -2.000 | 8.033 | 0.005 |
| -25.502 | 189.828 | -2.000 | 7.474 | 0.000 |

### 3.38 Results for Vertical 38 (X = -6.73 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.140 | 9.711 | -0.140 | 9.710 | 0.519 |
| -0.240 | 11.196 | -0.217 | 9.817 | 0.494 |
| -0.340 | 12.563 | -0.292 | 9.830 | 0.478 |
| -0.440 | 13.292 | -0.364 | 9.230 | 0.466 |
| -0.540 | 13.580 | -0.435 | 8.207 | 0.457 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.640 | 13.855 | -0.505 | 7.181 | 0.450 |
| -0.740 | 14.138 | -0.573 | 6.169 | 0.445 |
| -0.771 | 14.230 | -0.595 | 5.859 | 0.443 |
| -0.840 | 14.441 | -0.573 | 5.857 | 0.441 |
| -0.940 | 14.767 | -0.541 | 5.874 | 0.437 |
| -1.040 | 15.109 | -0.510 | 5.910 | 0.434 |
| -1.117 | 15.382 | -0.485 | 5.948 | 0.432 |
| -1.140 | 15.462 | -0.477 | 5.960 | 0.431 |
| -2.000 | 18.609 | -0.191 | 6.592 | 0.417 |
| -2.095 | 18.955 | -0.158 | 6.674 | 0.417 |
| -2.095 | 18.955 | -0.158 | 6.674 | 0.417 |
| -2.697 | 21.263 | -0.110 | 7.228 | 0.401 |
| -3.297 | 23.590 | -0.064 | 7.792 | 0.385 |
| -3.900 | 25.937 | -0.021 | 8.340 | 0.368 |
| -4.500 | 28.283 | 0.018 | 8.849 | 0.352 |
| -4.500 | 28.283 | 0.018 | 8.849 | 0.352 |
| -4.950 | 28.886 | 0.024 | 9.200 | 0.330 |
| -5.400 | 29.486 | 0.028 | 9.522 | 0.307 |
| -5.400 | 29.486 | 0.028 | 9.522 | 0.307 |
| -5.800 | 31.800 | 0.035 | 9.783 | 0.297 |
| -6.200 | 34.123 | 0.040 | 10.020 | 0.288 |
| -6.200 | 34.123 | 0.040 | 10.020 | 0.288 |
| -6.550 | 34.567 | 0.039 | 10.207 | 0.269 |
| -6.900 | 35.013 | 0.038 | 10.375 | 0.250 |
| -6.900 | 35.013 | 0.038 | 10.375 | 0.250 |
| -7.800 | 40.922 | 0.035 | 10.724 | 0.237 |
| -8.700 | 46.738 | 0.030 | 10.958 | 0.224 |
| -8.700 | 46.738 | 0.030 | 10.958 | 0.224 |
| -9.100 | 47.210 | 0.020 | 11.028 | 0.201 |
| -9.500 | 47.687 | 0.007 | 11.078 | 0.178 |
| -9.500 | 47.687 | 0.007 | 11.078 | 0.178 |
| -10.100 | 51.478 | 0.001 | 11.120 | 0.169 |
| -10.700 | 55.239 | -0.006 | 11.124 | 0.160 |
| -10.700 | 55.239 | -0.006 | 11.124 | 0.160 |
| -10.900 | 56.497 | -0.027 | 11.119 | 0.155 |
| -11.100 | 57.762 | -0.048 | 11.109 | 0.151 |
| -11.100 | 57.762 | -0.048 | 11.109 | 0.151 |
| -11.950 | 63.030 | -0.061 | 11.036 | 0.138 |
| -12.950 | 69.189 | -0.081 | 10.888 | 0.123 |
| -13.550 | 72.871 | -0.094 | 10.775 | 0.114 |
| -14.400 | 78.082 | -0.115 | 10.589 | 0.101 |
| -15.400 | 84.212 | -0.144 | 10.341 | 0.087 |
| -16.000 | 87.896 | -0.163 | 10.181 | 0.078 |
| -16.000 | 87.896 | -0.163 | 10.181 | 0.078 |
| -16.550 | 92.039 | -0.304 | 10.029 | 0.065 |
| -17.050 | 95.907 | -0.444 | 9.887 | 0.052 |
| -17.600 | 100.278 | -0.609 | 9.727 | 0.037 |
| -18.100 | 104.362 | -0.771 | 9.580 | 0.023 |
| -18.100 | 116.420 | -2.000 | 9.580 | 0.023 |
| -19.901 | 134.222 | -2.000 | 9.041 | 0.015 |
| -21.801 | 153.000 | -2.000 | 8.473 | 0.009 |
| -23.602 | 170.811 | -2.000 | 7.948 | 0.004 |
| -25.502 | 189.624 | -2.000 | 7.417 | 0.000 |

### 3.39 Results for Vertical 39 (X = -6.68 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.141 | 9.261 | -0.141 | 9.260 | 0.517 |
| -0.241 | 11.062 | -0.219 | 9.676 | 0.493 |
| -0.341 | 12.559 | -0.294 | 9.818 | 0.477 |
| -0.441 | 13.307 | -0.367 | 9.235 | 0.465 |
| -0.541 | 13.623 | -0.437 | 8.240 | 0.456 |
| -0.641 | 13.914 | -0.507 | 7.231 | 0.449 |
| -0.741 | 14.201 | -0.576 | 6.225 | 0.443 |
| -0.768 | 14.282 | -0.594 | 5.950 | 0.442 |
| -0.841 | 14.501 | -0.572 | 5.944 | 0.439 |
| -0.941 | 14.816 | -0.540 | 5.952 | 0.436 |
| -1.041 | 15.147 | -0.508 | 5.976 | 0.432 |
| -1.118 | 15.408 | -0.483 | 6.004 | 0.430 |
| -1.141 | 15.488 | -0.476 | 6.013 | 0.429 |
| -2.000 | 18.571 | -0.191 | 6.577 | 0.416 |
| -2.095 | 18.914 | -0.158 | 6.654 | 0.415 |
| -2.095 | 18.914 | -0.158 | 6.654 | 0.415 |
| -2.697 | 21.198 | -0.110 | 7.181 | 0.399 |
| -3.297 | 23.511 | -0.065 | 7.728 | 0.383 |
| -3.900 | 25.848 | -0.022 | 8.264 | 0.367 |
| -4.500 | 28.188 | 0.017 | 8.764 | 0.351 |
| -4.500 | 28.188 | 0.017 | 8.764 | 0.351 |
| -4.950 | 28.787 | 0.023 | 9.111 | 0.329 |
| -5.400 | 29.384 | 0.027 | 9.430 | 0.306 |
| -5.400 | 29.384 | 0.027 | 9.430 | 0.306 |
| -5.800 | 31.695 | 0.034 | 9.689 | 0.296 |
| -6.200 | 34.016 | 0.039 | 9.925 | 0.287 |
| -6.200 | 34.016 | 0.039 | 9.925 | 0.287 |
| -6.550 | 34.460 | 0.038 | 10.111 | 0.268 |
| -6.900 | 34.905 | 0.037 | 10.280 | 0.249 |
| -6.900 | 34.905 | 0.037 | 10.280 | 0.249 |
| -7.800 | 40.813 | 0.034 | 10.630 | 0.236 |
| -8.700 | 46.632 | 0.030 | 10.868 | 0.224 |
| -8.700 | 46.632 | 0.030 | 10.868 | 0.224 |
| -9.100 | 47.105 | 0.019 | 10.939 | 0.201 |
| -9.500 | 47.583 | 0.006 | 10.992 | 0.178 |
| -9.500 | 47.584 | 0.006 | 10.992 | 0.178 |
| -10.100 | 51.377 | 0.000 | 11.037 | 0.169 |
| -10.700 | 55.142 | -0.007 | 11.045 | 0.160 |
| -10.700 | 55.142 | -0.007 | 11.045 | 0.160 |
| -10.900 | 56.400 | -0.027 | 11.041 | 0.155 |
| -11.100 | 57.665 | -0.048 | 11.033 | 0.150 |
| -11.100 | 57.665 | -0.048 | 11.033 | 0.150 |
| -11.950 | 62.938 | -0.062 | 10.965 | 0.137 |
| -12.950 | 69.103 | -0.081 | 10.825 | 0.122 |
| -13.550 | 72.789 | -0.094 | 10.715 | 0.113 |
| -14.400 | 78.004 | -0.115 | 10.534 | 0.101 |
| -15.400 | 84.139 | -0.144 | 10.292 | 0.087 |
| -16.000 | 87.826 | -0.163 | 10.135 | 0.078 |
| -16.000 | 87.826 | -0.163 | 10.135 | 0.078 |
| -16.550 | 91.967 | -0.304 | 9.986 | 0.065 |
| -17.050 | 95.832 | -0.442 | 9.846 | 0.052 |
| -17.600 | 100.199 | -0.607 | 9.689 | 0.037 |
| -18.100 | 104.279 | -0.768 | 9.544 | 0.023 |
| -18.100 | 116.361 | -2.000 | 9.544 | 0.023 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -19.901 | 134.170 | -2.000 | 9.012 | 0.015 |
| -21.801 | 152.954 | -2.000 | 8.450 | 0.009 |
| -23.602 | 170.771 | -2.000 | 7.930 | 0.004 |
| -25.502 | 189.588 | -2.000 | 7.403 | 0.000 |

### 3.40 Results for Vertical 40 (X = -6.57 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.133 | 10.101 | -0.133 | 10.100 | 0.514 |
| -0.233 | 11.271 | -0.210 | 9.894 | 0.489 |
| -0.333 | 12.621 | -0.285 | 9.888 | 0.473 |
| -0.433 | 13.459 | -0.358 | 9.395 | 0.461 |
| -0.533 | 13.808 | -0.429 | 8.433 | 0.452 |
| -0.633 | 14.121 | -0.498 | 7.446 | 0.445 |
| -0.733 | 14.416 | -0.567 | 6.447 | 0.439 |
| -0.764 | 14.506 | -0.588 | 6.141 | 0.438 |
| -0.833 | 14.710 | -0.566 | 6.131 | 0.435 |
| -0.933 | 15.011 | -0.534 | 6.124 | 0.431 |
| -1.033 | 15.322 | -0.502 | 6.128 | 0.428 |
| -1.114 | 15.581 | -0.476 | 6.141 | 0.426 |
| -1.133 | 15.642 | -0.470 | 6.145 | 0.425 |
| -2.000 | 18.638 | -0.184 | 6.580 | 0.411 |
| -2.095 | 18.974 | -0.152 | 6.647 | 0.410 |
| -2.095 | 18.974 | -0.152 | 6.647 | 0.410 |
| -2.697 | 21.210 | -0.105 | 7.121 | 0.394 |
| -3.297 | 23.492 | -0.059 | 7.632 | 0.379 |
| -3.900 | 25.811 | -0.017 | 8.142 | 0.363 |
| -4.500 | 28.139 | 0.020 | 8.624 | 0.347 |
| -4.500 | 28.139 | 0.020 | 8.624 | 0.347 |
| -4.950 | 28.729 | 0.027 | 8.961 | 0.325 |
| -5.400 | 29.319 | 0.030 | 9.273 | 0.303 |
| -5.400 | 29.319 | 0.030 | 9.273 | 0.303 |
| -5.800 | 31.629 | 0.037 | 9.528 | 0.294 |
| -6.200 | 33.949 | 0.042 | 9.760 | 0.284 |
| -6.200 | 33.949 | 0.042 | 9.760 | 0.284 |
| -6.550 | 34.391 | 0.041 | 9.945 | 0.266 |
| -6.900 | 34.834 | 0.039 | 10.113 | 0.247 |
| -6.900 | 34.834 | 0.039 | 10.113 | 0.247 |
| -7.800 | 40.743 | 0.037 | 10.466 | 0.235 |
| -8.700 | 46.566 | 0.032 | 10.709 | 0.222 |
| -8.700 | 46.566 | 0.032 | 10.709 | 0.222 |
| -9.100 | 47.042 | 0.022 | 10.784 | 0.200 |
| -9.500 | 47.524 | 0.009 | 10.841 | 0.177 |
| -9.500 | 47.524 | 0.009 | 10.841 | 0.177 |
| -10.100 | 51.324 | 0.003 | 10.893 | 0.168 |
| -10.700 | 55.095 | -0.004 | 10.909 | 0.159 |
| -10.700 | 55.095 | -0.004 | 10.909 | 0.159 |
| -10.900 | 56.356 | -0.024 | 10.907 | 0.154 |
| -11.100 | 57.623 | -0.045 | 10.902 | 0.150 |
| -11.100 | 57.623 | -0.045 | 10.902 | 0.150 |
| -11.950 | 62.907 | -0.059 | 10.845 | 0.137 |
| -12.950 | 69.085 | -0.078 | 10.717 | 0.122 |
| -13.550 | 72.779 | -0.091 | 10.615 | 0.113 |
| -14.400 | 78.004 | -0.112 | 10.444 | 0.101 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -15.400 | 84.150 | -0.141 | 10.213 | 0.086 |
| -16.000 | 87.843 | -0.160 | 10.063 | 0.078 |
| -16.000 | 87.843 | -0.160 | 10.063 | 0.078 |
| -16.550 | 91.986 | -0.300 | 9.919 | 0.064 |
| -17.050 | 95.853 | -0.438 | 9.784 | 0.052 |
| -17.600 | 100.222 | -0.603 | 9.631 | 0.037 |
| -18.100 | 104.302 | -0.764 | 9.491 | 0.022 |
| -18.100 | 116.431 | -2.000 | 9.491 | 0.022 |
| -19.901 | 134.255 | -2.000 | 8.972 | 0.015 |
| -21.801 | 153.052 | -2.000 | 8.423 | 0.009 |
| -23.602 | 170.879 | -2.000 | 7.912 | 0.004 |
| -25.502 | 189.705 | -2.000 | 7.394 | 0.000 |

### 3.41 Results for Vertical 41 (X = -6.09 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.117 | 10.891 | -0.117 | 10.890 | 0.504 |
| -0.217 | 12.293 | -0.193 | 10.925 | 0.478 |
| -0.317 | 13.579 | -0.267 | 10.866 | 0.461 |
| -0.417 | 14.355 | -0.339 | 10.318 | 0.449 |
| -0.517 | 14.603 | -0.409 | 9.259 | 0.439 |
| -0.617 | 14.845 | -0.479 | 8.204 | 0.432 |
| -0.717 | 15.091 | -0.547 | 7.157 | 0.426 |
| -0.742 | 15.153 | -0.564 | 6.899 | 0.424 |
| -0.817 | 15.344 | -0.540 | 6.857 | 0.421 |
| -0.917 | 15.603 | -0.509 | 6.806 | 0.417 |
| -1.017 | 15.870 | -0.477 | 6.764 | 0.413 |
| -1.106 | 16.112 | -0.449 | 6.732 | 0.410 |
| -1.117 | 16.142 | -0.446 | 6.729 | 0.410 |
| -2.000 | 18.810 | -0.162 | 6.715 | 0.394 |
| -2.095 | 19.117 | -0.131 | 6.739 | 0.393 |
| -2.095 | 19.117 | -0.131 | 6.739 | 0.393 |
| -2.698 | 21.137 | -0.086 | 6.976 | 0.377 |
| -3.298 | 23.262 | -0.043 | 7.304 | 0.362 |
| -3.900 | 25.470 | -0.004 | 7.676 | 0.347 |
| -4.500 | 27.722 | 0.031 | 8.056 | 0.332 |
| -4.500 | 27.722 | 0.031 | 8.056 | 0.332 |
| -4.950 | 28.257 | 0.037 | 8.334 | 0.312 |
| -5.400 | 28.805 | 0.040 | 8.601 | 0.291 |
| -5.400 | 28.805 | 0.040 | 8.601 | 0.291 |
| -5.800 | 31.091 | 0.046 | 8.824 | 0.282 |
| -6.200 | 33.395 | 0.049 | 9.034 | 0.273 |
| -6.200 | 33.395 | 0.049 | 9.034 | 0.273 |
| -6.550 | 33.821 | 0.049 | 9.204 | 0.256 |
| -6.900 | 34.253 | 0.047 | 9.362 | 0.238 |
| -6.900 | 34.253 | 0.047 | 9.362 | 0.238 |
| -7.800 | 40.146 | 0.044 | 9.709 | 0.227 |
| -8.700 | 45.975 | 0.040 | 9.967 | 0.216 |
| -8.700 | 45.975 | 0.040 | 9.967 | 0.216 |
| -9.100 | 46.458 | 0.030 | 10.054 | 0.194 |
| -9.500 | 46.950 | 0.017 | 10.125 | 0.172 |
| -9.500 | 46.950 | 0.017 | 10.125 | 0.172 |
| -10.100 | 50.772 | 0.011 | 10.202 | 0.164 |
| -10.700 | 54.569 | 0.004 | 10.247 | 0.155 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -10.700 | 54.569 | 0.004 | 10.247 | 0.155 |
| -10.900 | 55.835 | -0.016 | 10.255 | 0.151 |
| -11.100 | 57.108 | -0.036 | 10.260 | 0.146 |
| -11.100 | 57.108 | -0.036 | 10.260 | 0.146 |
| -11.950 | 62.435 | -0.050 | 10.249 | 0.134 |
| -12.950 | 68.666 | -0.068 | 10.175 | 0.120 |
| -13.550 | 72.391 | -0.081 | 10.105 | 0.111 |
| -14.400 | 77.659 | -0.102 | 9.979 | 0.099 |
| -15.400 | 83.853 | -0.130 | 9.798 | 0.085 |
| -16.000 | 87.572 | -0.149 | 9.675 | 0.076 |
| -16.000 | 87.572 | -0.149 | 9.675 | 0.076 |
| -16.550 | 91.717 | -0.286 | 9.556 | 0.063 |
| -17.050 | 95.583 | -0.422 | 9.442 | 0.051 |
| -17.600 | 99.946 | -0.584 | 9.312 | 0.036 |
| -18.100 | 104.019 | -0.742 | 9.191 | 0.022 |
| -18.100 | 116.364 | -2.000 | 9.191 | 0.022 |
| -19.901 | 134.256 | -2.000 | 8.736 | 0.015 |
| -21.801 | 153.112 | -2.000 | 8.241 | 0.009 |
| -23.602 | 170.985 | -2.000 | 7.775 | 0.004 |
| -25.502 | 189.852 | -2.000 | 7.294 | 0.000 |

### 3.42 Results for Vertical 42 (X = -5.77 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.108 | 10.922 | -0.108 | 10.921 | 0.497 |
| -0.208 | 12.325 | -0.185 | 10.954 | 0.471 |
| -0.308 | 13.655 | -0.259 | 10.934 | 0.455 |
| -0.408 | 14.484 | -0.331 | 10.435 | 0.442 |
| -0.508 | 14.773 | -0.402 | 9.414 | 0.432 |
| -0.608 | 15.049 | -0.471 | 8.390 | 0.425 |
| -0.708 | 15.319 | -0.540 | 7.363 | 0.418 |
| -0.727 | 15.371 | -0.554 | 7.166 | 0.417 |
| -0.808 | 15.587 | -0.528 | 7.129 | 0.414 |
| -0.908 | 15.855 | -0.497 | 7.086 | 0.409 |
| -1.008 | 16.125 | -0.466 | 7.044 | 0.405 |
| -1.102 | 16.379 | -0.436 | 7.008 | 0.402 |
| -1.108 | 16.397 | -0.434 | 7.006 | 0.402 |
| -2.000 | 18.986 | -0.151 | 6.854 | 0.384 |
| -2.095 | 19.279 | -0.120 | 6.859 | 0.384 |
| -2.095 | 19.279 | -0.120 | 6.859 | 0.384 |
| -2.698 | 21.182 | -0.076 | 6.970 | 0.367 |
| -3.298 | 23.204 | -0.035 | 7.184 | 0.352 |
| -3.900 | 25.329 | 0.003 | 7.459 | 0.337 |
| -4.500 | 27.517 | 0.037 | 7.762 | 0.323 |
| -4.500 | 27.517 | 0.037 | 7.762 | 0.323 |
| -4.950 | 28.008 | 0.042 | 7.993 | 0.303 |
| -5.400 | 28.518 | 0.045 | 8.222 | 0.283 |
| -5.400 | 28.518 | 0.045 | 8.222 | 0.283 |
| -5.800 | 30.782 | 0.051 | 8.418 | 0.275 |
| -6.200 | 33.067 | 0.053 | 8.605 | 0.266 |
| -6.200 | 33.067 | 0.053 | 8.605 | 0.266 |
| -6.550 | 33.478 | 0.053 | 8.761 | 0.250 |
| -6.900 | 33.896 | 0.051 | 8.907 | 0.232 |
| -6.900 | 33.896 | 0.051 | 8.907 | 0.232 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -7.800 | 39.767 | 0.048 | 9.237 | 0.222 |
| -8.700 | 45.590 | 0.044 | 9.495 | 0.211 |
| -8.700 | 45.590 | 0.044 | 9.495 | 0.211 |
| -9.100 | 46.075 | 0.034 | 9.586 | 0.190 |
| -9.500 | 46.569 | 0.021 | 9.663 | 0.169 |
| -9.500 | 46.569 | 0.021 | 9.663 | 0.169 |
| -10.100 | 50.399 | 0.015 | 9.752 | 0.161 |
| -10.700 | 54.209 | 0.008 | 9.811 | 0.153 |
| -10.700 | 54.209 | 0.008 | 9.811 | 0.153 |
| -10.900 | 55.478 | -0.011 | 9.824 | 0.148 |
| -11.100 | 56.753 | -0.031 | 9.835 | 0.144 |
| -11.100 | 56.753 | -0.031 | 9.835 | 0.144 |
| -11.950 | 62.103 | -0.044 | 9.848 | 0.132 |
| -12.950 | 68.362 | -0.063 | 9.807 | 0.118 |
| -13.550 | 72.105 | -0.076 | 9.756 | 0.110 |
| -14.400 | 77.399 | -0.096 | 9.657 | 0.098 |
| -15.400 | 83.621 | -0.123 | 9.505 | 0.084 |
| -16.000 | 87.357 | -0.142 | 9.400 | 0.076 |
| -16.000 | 87.357 | -0.142 | 9.400 | 0.076 |
| -16.550 | 91.500 | -0.278 | 9.296 | 0.063 |
| -17.050 | 95.363 | -0.412 | 9.196 | 0.050 |
| -17.600 | 99.722 | -0.571 | 9.081 | 0.036 |
| -18.100 | 103.788 | -0.727 | 8.972 | 0.021 |
| -18.100 | 116.274 | -2.000 | 8.972 | 0.021 |
| -19.901 | 134.209 | -2.000 | 8.557 | 0.015 |
| -21.801 | 153.104 | -2.000 | 8.099 | 0.009 |
| -23.602 | 171.008 | -2.000 | 7.661 | 0.004 |
| -25.502 | 189.901 | -2.000 | 7.206 | 0.000 |

### 3.43 Results for Vertical 43 (X = -5.48 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.102 | 10.935 | -0.102 | 10.934 | 0.492 |
| -0.202 | 12.329 | -0.179 | 10.953 | 0.466 |
| -0.302 | 13.663 | -0.254 | 10.934 | 0.449 |
| -0.402 | 14.482 | -0.327 | 10.422 | 0.436 |
| -0.502 | 14.796 | -0.398 | 9.421 | 0.427 |
| -0.602 | 15.099 | -0.468 | 8.419 | 0.419 |
| -0.702 | 15.393 | -0.537 | 7.414 | 0.413 |
| -0.714 | 15.428 | -0.545 | 7.294 | 0.412 |
| -0.802 | 15.684 | -0.518 | 7.271 | 0.408 |
| -0.902 | 15.970 | -0.487 | 7.242 | 0.403 |
| -1.002 | 16.254 | -0.456 | 7.212 | 0.399 |
| -1.099 | 16.526 | -0.426 | 7.182 | 0.396 |
| -1.102 | 16.536 | -0.425 | 7.181 | 0.395 |
| -2.000 | 19.122 | -0.142 | 6.979 | 0.377 |
| -2.095 | 19.407 | -0.112 | 6.972 | 0.376 |
| -2.095 | 19.407 | -0.112 | 6.972 | 0.376 |
| -2.698 | 21.227 | -0.069 | 6.993 | 0.359 |
| -3.298 | 23.165 | -0.028 | 7.114 | 0.344 |
| -3.900 | 25.214 | 0.009 | 7.304 | 0.329 |
| -4.500 | 27.340 | 0.041 | 7.534 | 0.315 |
| -4.500 | 27.340 | 0.041 | 7.534 | 0.315 |
| -4.950 | 27.787 | 0.046 | 7.720 | 0.296 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -5.400 | 28.260 | 0.049 | 7.909 | 0.276 |
| -5.400 | 28.260 | 0.049 | 7.909 | 0.276 |
| -5.800 | 30.498 | 0.054 | 8.077 | 0.268 |
| -6.200 | 32.762 | 0.057 | 8.241 | 0.260 |
| -6.200 | 32.762 | 0.057 | 8.241 | 0.260 |
| -6.550 | 33.155 | 0.056 | 8.380 | 0.244 |
| -6.900 | 33.559 | 0.054 | 8.512 | 0.227 |
| -6.900 | 33.559 | 0.054 | 8.512 | 0.227 |
| -7.800 | 39.404 | 0.051 | 8.820 | 0.217 |
| -8.700 | 45.217 | 0.047 | 9.072 | 0.207 |
| -8.700 | 45.217 | 0.047 | 9.072 | 0.207 |
| -9.100 | 45.699 | 0.037 | 9.164 | 0.187 |
| -9.500 | 46.193 | 0.025 | 9.244 | 0.166 |
| -9.500 | 46.193 | 0.025 | 9.244 | 0.166 |
| -10.100 | 50.029 | 0.019 | 9.341 | 0.158 |
| -10.700 | 53.847 | 0.012 | 9.411 | 0.150 |
| -10.700 | 53.847 | 0.012 | 9.411 | 0.150 |
| -10.900 | 55.116 | -0.007 | 9.429 | 0.146 |
| -11.100 | 56.392 | -0.027 | 9.444 | 0.142 |
| -11.100 | 56.393 | -0.027 | 9.444 | 0.142 |
| -11.950 | 61.760 | -0.040 | 9.478 | 0.130 |
| -12.950 | 68.044 | -0.058 | 9.462 | 0.117 |
| -13.550 | 71.802 | -0.070 | 9.428 | 0.108 |
| -14.400 | 77.117 | -0.091 | 9.352 | 0.097 |
| -15.400 | 83.364 | -0.118 | 9.227 | 0.083 |
| -16.000 | 87.114 | -0.136 | 9.138 | 0.075 |
| -16.000 | 87.114 | -0.136 | 9.138 | 0.075 |
| -16.550 | 91.255 | -0.270 | 9.047 | 0.062 |
| -17.050 | 95.114 | -0.403 | 8.959 | 0.050 |
| -17.600 | 99.466 | -0.560 | 8.856 | 0.035 |
| -18.100 | 103.526 | -0.714 | 8.759 | 0.021 |
| -18.100 | 116.142 | -2.000 | 8.759 | 0.021 |
| -19.901 | 134.116 | -2.000 | 8.381 | 0.015 |
| -21.801 | 153.046 | -2.000 | 7.956 | 0.009 |
| -23.602 | 170.978 | -2.000 | 7.545 | 0.004 |
| -25.502 | 189.897 | -2.000 | 7.113 | 0.000 |

### 3.44 Results for Vertical 44 (X = -4.54 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.083 | 10.958 | -0.083 | 10.957 | 0.475 |
| -0.183 | 12.428 | -0.161 | 11.044 | 0.449 |
| -0.283 | 13.785 | -0.237 | 11.038 | 0.432 |
| -0.383 | 14.529 | -0.310 | 10.441 | 0.420 |
| -0.483 | 14.863 | -0.383 | 9.449 | 0.410 |
| -0.583 | 15.186 | -0.454 | 8.455 | 0.402 |
| -0.671 | 15.464 | -0.516 | 7.577 | 0.396 |
| -0.683 | 15.501 | -0.512 | 7.575 | 0.396 |
| -0.783 | 15.812 | -0.483 | 7.557 | 0.391 |
| -0.883 | 16.120 | -0.453 | 7.537 | 0.386 |
| -0.983 | 16.425 | -0.423 | 7.516 | 0.381 |
| -1.083 | 16.727 | -0.393 | 7.494 | 0.378 |
| -1.089 | 16.746 | -0.391 | 7.493 | 0.377 |
| -2.000 | 19.444 | -0.115 | 7.261 | 0.356 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.096 | 19.725 | -0.086 | 7.236 | 0.355 |
| -2.096 | 19.725 | -0.086 | 7.236 | 0.355 |
| -2.698 | 21.405 | -0.045 | 7.100 | 0.337 |
| -3.298 | 23.155 | -0.007 | 7.009 | 0.321 |
| -3.900 | 25.003 | 0.028 | 6.972 | 0.306 |
| -4.500 | 26.942 | 0.057 | 6.987 | 0.293 |
| -4.500 | 26.942 | 0.057 | 6.987 | 0.293 |
| -4.950 | 27.249 | 0.062 | 7.028 | 0.274 |
| -5.400 | 27.598 | 0.064 | 7.090 | 0.256 |
| -5.400 | 27.598 | 0.064 | 7.090 | 0.256 |
| -5.800 | 29.749 | 0.068 | 7.159 | 0.249 |
| -6.200 | 31.937 | 0.069 | 7.239 | 0.241 |
| -6.200 | 31.937 | 0.069 | 7.239 | 0.241 |
| -6.550 | 32.267 | 0.068 | 7.315 | 0.226 |
| -6.900 | 32.615 | 0.066 | 7.395 | 0.211 |
| -6.900 | 32.615 | 0.066 | 7.395 | 0.211 |
| -7.800 | 38.355 | 0.064 | 7.608 | 0.203 |
| -8.700 | 44.110 | 0.059 | 7.815 | 0.194 |
| -8.700 | 44.110 | 0.059 | 7.815 | 0.194 |
| -9.100 | 44.577 | 0.050 | 7.900 | 0.175 |
| -9.500 | 45.061 | 0.038 | 7.980 | 0.156 |
| -9.500 | 45.061 | 0.038 | 7.980 | 0.156 |
| -10.100 | 48.899 | 0.033 | 8.087 | 0.149 |
| -10.700 | 52.731 | 0.026 | 8.178 | 0.142 |
| -10.700 | 52.731 | 0.026 | 8.178 | 0.142 |
| -10.900 | 53.999 | 0.008 | 8.205 | 0.138 |
| -11.100 | 55.275 | -0.011 | 8.230 | 0.134 |
| -11.100 | 55.275 | -0.011 | 8.230 | 0.134 |
| -11.950 | 60.684 | -0.023 | 8.313 | 0.124 |
| -12.950 | 67.027 | -0.041 | 8.366 | 0.112 |
| -13.550 | 70.826 | -0.053 | 8.377 | 0.104 |
| -14.400 | 76.199 | -0.072 | 8.366 | 0.093 |
| -15.400 | 82.515 | -0.098 | 8.319 | 0.080 |
| -16.000 | 86.306 | -0.115 | 8.275 | 0.072 |
| -16.000 | 86.306 | -0.115 | 8.275 | 0.072 |
| -16.550 | 90.438 | -0.244 | 8.225 | 0.060 |
| -17.050 | 94.284 | -0.372 | 8.174 | 0.048 |
| -17.600 | 98.618 | -0.523 | 8.110 | 0.034 |
| -18.100 | 102.656 | -0.671 | 8.046 | 0.020 |
| -18.100 | 115.693 | -2.000 | 8.046 | 0.020 |
| -19.901 | 133.788 | -2.000 | 7.782 | 0.014 |
| -21.801 | 152.829 | -2.000 | 7.462 | 0.008 |
| -23.602 | 170.850 | -2.000 | 7.135 | 0.004 |
| -25.502 | 189.848 | -2.000 | 6.779 | 0.000 |

### 3.45 Results for Vertical 45 (X = -3.98 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.072 | 10.969 | -0.072 | 10.968 | 0.466 |
| -0.172 | 12.429 | -0.151 | 11.040 | 0.440 |
| -0.272 | 13.782 | -0.227 | 11.024 | 0.423 |
| -0.372 | 14.453 | -0.301 | 10.346 | 0.410 |
| -0.472 | 14.786 | -0.374 | 9.346 | 0.400 |
| -0.572 | 15.113 | -0.446 | 8.348 | 0.393 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.646 | 15.352 | -0.499 | 7.614 | 0.388 |
| -0.672 | 15.437 | -0.491 | 7.610 | 0.387 |
| -0.772 | 15.761 | -0.463 | 7.596 | 0.381 |
| -0.872 | 16.082 | -0.434 | 7.581 | 0.376 |
| -0.972 | 16.400 | -0.405 | 7.565 | 0.372 |
| -1.072 | 16.716 | -0.375 | 7.548 | 0.368 |
| -1.084 | 16.753 | -0.372 | 7.546 | 0.367 |
| -2.000 | 19.543 | -0.101 | 7.322 | 0.346 |
| -2.096 | 19.827 | -0.073 | 7.293 | 0.344 |
| -2.096 | 19.827 | -0.073 | 7.293 | 0.344 |
| -2.698 | 21.466 | -0.033 | 7.104 | 0.326 |
| -3.298 | 23.145 | 0.004 | 6.931 | 0.309 |
| -3.900 | 24.906 | 0.037 | 6.794 | 0.294 |
| -4.500 | 26.757 | 0.065 | 6.707 | 0.281 |
| -4.500 | 26.757 | 0.065 | 6.707 | 0.281 |
| -4.950 | 26.994 | 0.070 | 6.675 | 0.263 |
| -5.400 | 27.277 | 0.072 | 6.670 | 0.245 |
| -5.400 | 27.277 | 0.072 | 6.670 | 0.245 |
| -5.800 | 29.380 | 0.075 | 6.686 | 0.238 |
| -6.200 | 31.525 | 0.076 | 6.719 | 0.231 |
| -6.200 | 31.525 | 0.076 | 6.719 | 0.231 |
| -6.550 | 31.818 | 0.075 | 6.759 | 0.217 |
| -6.900 | 32.135 | 0.073 | 6.807 | 0.202 |
| -6.900 | 32.135 | 0.073 | 6.807 | 0.202 |
| -7.800 | 37.810 | 0.070 | 6.960 | 0.195 |
| -8.700 | 43.525 | 0.066 | 7.133 | 0.187 |
| -8.700 | 43.525 | 0.066 | 7.133 | 0.187 |
| -9.100 | 43.979 | 0.057 | 7.210 | 0.169 |
| -9.500 | 44.453 | 0.046 | 7.285 | 0.150 |
| -9.500 | 44.453 | 0.046 | 7.285 | 0.150 |
| -10.100 | 48.286 | 0.040 | 7.392 | 0.144 |
| -10.700 | 52.120 | 0.034 | 7.489 | 0.138 |
| -10.700 | 52.120 | 0.034 | 7.489 | 0.138 |
| -10.900 | 53.385 | 0.016 | 7.519 | 0.134 |
| -11.100 | 54.658 | -0.002 | 7.547 | 0.130 |
| -11.100 | 54.658 | -0.002 | 7.547 | 0.130 |
| -11.950 | 60.081 | -0.014 | 7.651 | 0.120 |
| -12.950 | 66.450 | -0.031 | 7.736 | 0.109 |
| -13.550 | 70.266 | -0.043 | 7.768 | 0.101 |
| -14.400 | 75.667 | -0.061 | 7.789 | 0.091 |
| -15.400 | 82.017 | -0.087 | 7.782 | 0.078 |
| -16.000 | 85.828 | -0.104 | 7.762 | 0.071 |
| -16.000 | 85.828 | -0.104 | 7.762 | 0.071 |
| -16.550 | 89.950 | -0.229 | 7.734 | 0.058 |
| -17.050 | 93.786 | -0.354 | 7.702 | 0.047 |
| -17.600 | 98.105 | -0.501 | 7.659 | 0.033 |
| -18.100 | 102.127 | -0.646 | 7.614 | 0.019 |
| -18.100 | 115.414 | -2.000 | 7.614 | 0.019 |
| -19.901 | 133.576 | -2.000 | 7.414 | 0.013 |
| -21.801 | 152.679 | -2.000 | 7.152 | 0.008 |
| -23.602 | 170.751 | -2.000 | 6.874 | 0.004 |
| -25.502 | 189.797 | -2.000 | 6.563 | 0.000 |

### 3.46 Results for Vertical 46 (X = -3.47 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.079 | 10.966 | -0.079 | 10.965 | 0.458 |
| -0.179 | 12.378 | -0.158 | 10.985 | 0.432 |
| -0.279 | 13.739 | -0.235 | 10.973 | 0.415 |
| -0.379 | 14.168 | -0.310 | 10.047 | 0.403 |
| -0.479 | 14.514 | -0.383 | 9.052 | 0.393 |
| -0.579 | 14.853 | -0.456 | 8.058 | 0.385 |
| -0.622 | 14.999 | -0.488 | 7.628 | 0.383 |
| -0.679 | 15.189 | -0.472 | 7.620 | 0.379 |
| -0.779 | 15.522 | -0.444 | 7.606 | 0.374 |
| -0.879 | 15.851 | -0.416 | 7.590 | 0.369 |
| -0.979 | 16.176 | -0.388 | 7.573 | 0.364 |
| -1.079 | 16.498 | -0.360 | 7.555 | 0.360 |
| -1.087 | 16.525 | -0.357 | 7.553 | 0.360 |
| -2.000 | 19.343 | -0.095 | 7.294 | 0.337 |
| -2.096 | 19.629 | -0.067 | 7.259 | 0.336 |
| -2.096 | 19.629 | -0.067 | 7.259 | 0.336 |
| -2.698 | 21.229 | -0.028 | 7.021 | 0.317 |
| -3.298 | 22.852 | 0.008 | 6.781 | 0.300 |
| -3.900 | 24.550 | 0.039 | 6.570 | 0.285 |
| -4.500 | 26.335 | 0.067 | 6.407 | 0.271 |
| -4.500 | 26.335 | 0.067 | 6.407 | 0.271 |
| -4.950 | 26.519 | 0.071 | 6.321 | 0.254 |
| -5.400 | 26.753 | 0.073 | 6.266 | 0.236 |
| -5.400 | 26.753 | 0.073 | 6.266 | 0.236 |
| -5.800 | 28.817 | 0.076 | 6.241 | 0.230 |
| -6.200 | 30.926 | 0.076 | 6.238 | 0.223 |
| -6.200 | 30.926 | 0.076 | 6.238 | 0.223 |
| -6.550 | 31.191 | 0.076 | 6.250 | 0.209 |
| -6.900 | 31.481 | 0.073 | 6.273 | 0.195 |
| -6.900 | 31.481 | 0.073 | 6.273 | 0.195 |
| -7.800 | 37.104 | 0.071 | 6.378 | 0.188 |
| -8.700 | 42.784 | 0.067 | 6.521 | 0.181 |
| -8.700 | 42.784 | 0.067 | 6.521 | 0.181 |
| -9.100 | 43.224 | 0.058 | 6.590 | 0.164 |
| -9.500 | 43.688 | 0.047 | 6.661 | 0.146 |
| -9.500 | 43.688 | 0.047 | 6.661 | 0.146 |
| -10.100 | 47.515 | 0.042 | 6.766 | 0.140 |
| -10.700 | 51.346 | 0.036 | 6.866 | 0.134 |
| -10.700 | 51.346 | 0.036 | 6.866 | 0.134 |
| -10.900 | 52.606 | 0.019 | 6.898 | 0.130 |
| -11.100 | 53.874 | 0.001 | 6.928 | 0.127 |
| -11.100 | 53.874 | 0.001 | 6.928 | 0.127 |
| -11.950 | 59.305 | -0.010 | 7.047 | 0.117 |
| -12.950 | 65.691 | -0.026 | 7.156 | 0.106 |
| -13.550 | 69.519 | -0.038 | 7.205 | 0.099 |
| -14.400 | 74.940 | -0.056 | 7.253 | 0.089 |
| -15.400 | 81.315 | -0.080 | 7.278 | 0.077 |
| -16.000 | 85.140 | -0.097 | 7.278 | 0.069 |
| -16.000 | 85.140 | -0.097 | 7.278 | 0.069 |
| -16.550 | 89.244 | -0.219 | 7.268 | 0.057 |
| -17.050 | 93.060 | -0.339 | 7.252 | 0.045 |
| -17.600 | 97.354 | -0.482 | 7.228 | 0.032 |
| -18.100 | 101.352 | -0.622 | 7.199 | 0.018 |
| -18.100 | 114.867 | -2.000 | 7.199 | 0.018 |
| -19.901 | 133.086 | -2.000 | 7.054 | 0.013 |
| -21.801 | 152.244 | -2.000 | 6.845 | 0.008 |
| -23.602 | 170.362 | -2.000 | 6.610 | 0.004 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -25.502 | 189.450 | -2.000 | 6.339 | 0.000 |

### 3.47 Results for Vertical 47 (X = -3.07 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.085 | 10.887 | -0.085 | 10.886 | 0.452 |
| -0.185 | 12.322 | -0.164 | 10.924 | 0.426 |
| -0.285 | 13.566 | -0.242 | 10.791 | 0.409 |
| -0.385 | 13.939 | -0.317 | 9.805 | 0.397 |
| -0.485 | 14.296 | -0.391 | 8.815 | 0.387 |
| -0.585 | 14.644 | -0.465 | 7.822 | 0.379 |
| -0.604 | 14.710 | -0.479 | 7.630 | 0.378 |
| -0.685 | 14.985 | -0.457 | 7.618 | 0.373 |
| -0.785 | 15.322 | -0.430 | 7.601 | 0.368 |
| -0.885 | 15.655 | -0.403 | 7.582 | 0.363 |
| -0.985 | 15.983 | -0.376 | 7.561 | 0.358 |
| -1.085 | 16.308 | -0.348 | 7.538 | 0.354 |
| -1.090 | 16.326 | -0.346 | 7.537 | 0.354 |
| -2.000 | 19.140 | -0.091 | 7.224 | 0.330 |
| -2.096 | 19.426 | -0.064 | 7.182 | 0.329 |
| -2.096 | 19.426 | -0.064 | 7.182 | 0.329 |
| -2.698 | 20.989 | -0.026 | 6.899 | 0.309 |
| -3.298 | 22.574 | 0.009 | 6.611 | 0.293 |
| -3.900 | 24.230 | 0.040 | 6.351 | 0.278 |
| -4.500 | 25.976 | 0.066 | 6.141 | 0.264 |
| -4.500 | 25.976 | 0.066 | 6.141 | 0.264 |
| -4.950 | 26.129 | 0.070 | 6.023 | 0.247 |
| -5.400 | 26.334 | 0.072 | 5.938 | 0.230 |
| -5.400 | 26.334 | 0.072 | 5.938 | 0.230 |
| -5.800 | 28.374 | 0.075 | 5.890 | 0.223 |
| -6.200 | 30.462 | 0.076 | 5.864 | 0.217 |
| -6.200 | 30.462 | 0.076 | 5.864 | 0.217 |
| -6.550 | 30.709 | 0.075 | 5.859 | 0.203 |
| -6.900 | 30.983 | 0.073 | 5.868 | 0.190 |
| -6.900 | 30.983 | 0.073 | 5.868 | 0.190 |
| -7.800 | 36.573 | 0.070 | 5.942 | 0.184 |
| -8.700 | 42.230 | 0.067 | 6.067 | 0.177 |
| -8.700 | 42.230 | 0.067 | 6.067 | 0.177 |
| -9.100 | 42.661 | 0.058 | 6.131 | 0.160 |
| -9.500 | 43.117 | 0.048 | 6.199 | 0.142 |
| -9.500 | 43.117 | 0.048 | 6.199 | 0.142 |
| -10.100 | 46.939 | 0.043 | 6.302 | 0.137 |
| -10.700 | 50.769 | 0.037 | 6.404 | 0.131 |
| -10.700 | 50.769 | 0.037 | 6.404 | 0.131 |
| -10.900 | 52.024 | 0.021 | 6.437 | 0.128 |
| -11.100 | 53.287 | 0.003 | 6.469 | 0.124 |
| -11.100 | 53.287 | 0.003 | 6.469 | 0.124 |
| -11.950 | 58.723 | -0.008 | 6.597 | 0.115 |
| -12.950 | 65.118 | -0.023 | 6.722 | 0.104 |
| -13.550 | 68.955 | -0.034 | 6.783 | 0.097 |
| -14.400 | 74.388 | -0.052 | 6.849 | 0.087 |
| -15.400 | 80.779 | -0.076 | 6.897 | 0.076 |
| -16.000 | 84.615 | -0.092 | 6.911 | 0.068 |
| -16.000 | 84.615 | -0.092 | 6.911 | 0.068 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -16.550 | 88.701 | -0.211 | 6.915 | 0.056 |
| -17.050 | 92.499 | -0.328 | 6.911 | 0.045 |
| -17.600 | 96.773 | -0.467 | 6.899 | 0.031 |
| -18.100 | 100.748 | -0.604 | 6.882 | 0.018 |
| -18.100 | 114.440 | -2.000 | 6.882 | 0.018 |
| -19.901 | 132.701 | -2.000 | 6.777 | 0.013 |
| -21.801 | 151.899 | -2.000 | 6.607 | 0.008 |
| -23.602 | 170.052 | -2.000 | 6.406 | 0.004 |
| -25.502 | 189.171 | -2.000 | 6.165 | 0.000 |

### 3.48 Results for Vertical 48 (X = -2.48 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.093 | 10.782 | -0.093 | 10.781 | 0.441 |
| -0.193 | 12.204 | -0.174 | 10.799 | 0.415 |
| -0.293 | 13.165 | -0.252 | 10.376 | 0.399 |
| -0.393 | 13.543 | -0.328 | 9.386 | 0.386 |
| -0.493 | 13.911 | -0.403 | 8.396 | 0.377 |
| -0.577 | 14.214 | -0.466 | 7.567 | 0.371 |
| -0.593 | 14.273 | -0.462 | 7.565 | 0.369 |
| -0.693 | 14.627 | -0.436 | 7.551 | 0.363 |
| -0.793 | 14.974 | -0.410 | 7.532 | 0.358 |
| -0.893 | 15.313 | -0.384 | 7.508 | 0.352 |
| -0.993 | 15.645 | -0.358 | 7.480 | 0.348 |
| -1.093 | 15.971 | -0.331 | 7.446 | 0.343 |
| -1.095 | 15.975 | -0.331 | 7.446 | 0.343 |
| -2.000 | 18.750 | -0.087 | 7.009 | 0.319 |
| -2.096 | 19.033 | -0.061 | 6.953 | 0.318 |
| -2.096 | 19.033 | -0.061 | 6.953 | 0.318 |
| -2.698 | 20.533 | -0.025 | 6.591 | 0.298 |
| -3.298 | 22.065 | 0.009 | 6.237 | 0.282 |
| -3.900 | 23.679 | 0.039 | 5.922 | 0.267 |
| -4.500 | 25.389 | 0.064 | 5.666 | 0.254 |
| -4.500 | 25.389 | 0.064 | 5.666 | 0.254 |
| -4.950 | 25.512 | 0.068 | 5.517 | 0.237 |
| -5.400 | 25.690 | 0.070 | 5.404 | 0.221 |
| -5.400 | 25.690 | 0.070 | 5.404 | 0.221 |
| -5.800 | 27.708 | 0.073 | 5.334 | 0.215 |
| -6.200 | 29.774 | 0.073 | 5.288 | 0.208 |
| -6.200 | 29.774 | 0.073 | 5.288 | 0.208 |
| -6.550 | 30.003 | 0.073 | 5.267 | 0.196 |
| -6.900 | 30.261 | 0.071 | 5.262 | 0.183 |
| -6.900 | 30.261 | 0.071 | 5.262 | 0.183 |
| -7.800 | 35.818 | 0.068 | 5.307 | 0.177 |
| -8.700 | 41.451 | 0.065 | 5.413 | 0.171 |
| -8.700 | 41.451 | 0.065 | 5.413 | 0.171 |
| -9.100 | 41.871 | 0.057 | 5.472 | 0.154 |
| -9.500 | 42.316 | 0.047 | 5.537 | 0.138 |
| -9.500 | 42.316 | 0.047 | 5.537 | 0.138 |
| -10.100 | 46.132 | 0.042 | 5.639 | 0.133 |
| -10.700 | 49.960 | 0.037 | 5.744 | 0.127 |
| -10.700 | 49.960 | 0.037 | 5.744 | 0.127 |
| -10.900 | 51.207 | 0.021 | 5.779 | 0.124 |
| -11.100 | 52.463 | 0.005 | 5.813 | 0.120 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -11.100 | 52.463 | 0.005 | 5.813 | 0.120 |
| -11.950 | 57.903 | -0.005 | 5.954 | 0.112 |
| -12.950 | 64.311 | -0.020 | 6.101 | 0.101 |
| -13.550 | 68.157 | -0.031 | 6.177 | 0.095 |
| -14.400 | 73.606 | -0.047 | 6.268 | 0.085 |
| -15.400 | 80.018 | -0.070 | 6.347 | 0.074 |
| -16.000 | 83.867 | -0.086 | 6.381 | 0.067 |
| -16.000 | 83.867 | -0.086 | 6.381 | 0.067 |
| -16.550 | 87.923 | -0.199 | 6.403 | 0.055 |
| -17.050 | 91.690 | -0.312 | 6.415 | 0.043 |
| -17.600 | 95.927 | -0.446 | 6.422 | 0.030 |
| -18.100 | 99.866 | -0.577 | 6.421 | 0.017 |
| -18.100 | 113.823 | -2.000 | 6.421 | 0.017 |
| -19.901 | 132.144 | -2.000 | 6.374 | 0.012 |
| -21.801 | 151.400 | -2.000 | 6.259 | 0.007 |
| -23.602 | 169.602 | -2.000 | 6.106 | 0.004 |
| -25.502 | 188.768 | -2.000 | 5.909 | 0.000 |

### 3.49 Results for Vertical 49 (X = -2.16 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.098 | 10.705 | -0.098 | 10.704 | 0.435 |
| -0.198 | 12.168 | -0.178 | 10.759 | 0.409 |
| -0.298 | 12.990 | -0.257 | 10.193 | 0.392 |
| -0.398 | 13.372 | -0.334 | 9.203 | 0.380 |
| -0.498 | 13.737 | -0.410 | 8.204 | 0.371 |
| -0.563 | 13.966 | -0.458 | 7.554 | 0.366 |
| -0.598 | 14.090 | -0.450 | 7.545 | 0.363 |
| -0.698 | 14.434 | -0.425 | 7.514 | 0.357 |
| -0.798 | 14.771 | -0.400 | 7.479 | 0.351 |
| -0.898 | 15.102 | -0.374 | 7.439 | 0.346 |
| -0.998 | 15.426 | -0.349 | 7.395 | 0.341 |
| -1.097 | 15.741 | -0.323 | 7.348 | 0.337 |
| -1.098 | 15.744 | -0.323 | 7.348 | 0.337 |
| -2.000 | 18.472 | -0.087 | 6.811 | 0.313 |
| -2.096 | 18.754 | -0.061 | 6.747 | 0.312 |
| -2.096 | 18.755 | -0.061 | 6.747 | 0.312 |
| -2.698 | 20.222 | -0.025 | 6.344 | 0.292 |
| -3.298 | 21.735 | 0.007 | 5.963 | 0.276 |
| -3.900 | 23.339 | 0.036 | 5.630 | 0.262 |
| -4.500 | 25.043 | 0.061 | 5.363 | 0.249 |
| -4.500 | 25.043 | 0.061 | 5.363 | 0.249 |
| -4.950 | 25.161 | 0.065 | 5.208 | 0.232 |
| -5.400 | 25.334 | 0.067 | 5.091 | 0.217 |
| -5.400 | 25.334 | 0.067 | 5.091 | 0.217 |
| -5.800 | 27.346 | 0.070 | 5.016 | 0.211 |
| -6.200 | 29.406 | 0.071 | 4.967 | 0.204 |
| -6.200 | 29.406 | 0.071 | 4.967 | 0.204 |
| -6.550 | 29.632 | 0.070 | 4.942 | 0.192 |
| -6.900 | 29.885 | 0.068 | 4.934 | 0.179 |
| -6.900 | 29.885 | 0.068 | 4.934 | 0.179 |
| -7.800 | 35.433 | 0.066 | 4.972 | 0.174 |
| -8.700 | 41.059 | 0.063 | 5.073 | 0.168 |
| -8.700 | 41.059 | 0.063 | 5.073 | 0.168 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -9.100 | 41.474 | 0.055 | 5.132 | 0.152 |
| -9.500 | 41.914 | 0.046 | 5.196 | 0.135 |
| -9.500 | 41.915 | 0.046 | 5.196 | 0.135 |
| -10.100 | 45.728 | 0.041 | 5.299 | 0.131 |
| -10.700 | 49.555 | 0.035 | 5.406 | 0.126 |
| -10.700 | 49.555 | 0.035 | 5.406 | 0.126 |
| -10.900 | 50.799 | 0.021 | 5.442 | 0.122 |
| -11.100 | 52.050 | 0.005 | 5.478 | 0.119 |
| -11.100 | 52.050 | 0.005 | 5.478 | 0.119 |
| -11.950 | 57.492 | -0.005 | 5.625 | 0.110 |
| -12.950 | 63.905 | -0.020 | 5.783 | 0.100 |
| -13.550 | 67.755 | -0.030 | 5.867 | 0.094 |
| -14.400 | 73.211 | -0.046 | 5.969 | 0.084 |
| -15.400 | 79.632 | -0.068 | 6.064 | 0.073 |
| -16.000 | 83.486 | -0.083 | 6.107 | 0.066 |
| -16.000 | 83.486 | -0.083 | 6.107 | 0.066 |
| -16.550 | 87.523 | -0.194 | 6.138 | 0.054 |
| -17.050 | 91.271 | -0.304 | 6.159 | 0.043 |
| -17.600 | 95.485 | -0.434 | 6.175 | 0.030 |
| -18.100 | 99.401 | -0.563 | 6.182 | 0.017 |
| -18.100 | 113.501 | -2.000 | 6.182 | 0.017 |
| -19.901 | 131.851 | -2.000 | 6.164 | 0.012 |
| -21.801 | 151.137 | -2.000 | 6.078 | 0.007 |
| -23.602 | 169.365 | -2.000 | 5.949 | 0.004 |
| -25.502 | 188.555 | -2.000 | 5.776 | 0.000 |

### 3.50 Results for Vertical 50 (X = -1.57 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.110 | 10.645 | -0.110 | 10.644 | 0.421 |
| -0.210 | 12.046 | -0.191 | 10.631 | 0.395 |
| -0.310 | 12.536 | -0.270 | 9.723 | 0.379 |
| -0.410 | 12.890 | -0.348 | 8.693 | 0.367 |
| -0.510 | 13.222 | -0.426 | 7.649 | 0.358 |
| -0.536 | 13.304 | -0.445 | 7.378 | 0.356 |
| -0.610 | 13.538 | -0.428 | 7.321 | 0.351 |
| -0.710 | 13.846 | -0.405 | 7.238 | 0.344 |
| -0.810 | 14.151 | -0.381 | 7.154 | 0.338 |
| -0.910 | 14.454 | -0.358 | 7.071 | 0.333 |
| -1.010 | 14.758 | -0.334 | 6.990 | 0.328 |
| -1.103 | 15.041 | -0.311 | 6.917 | 0.324 |
| -1.110 | 15.061 | -0.310 | 6.912 | 0.324 |
| -2.000 | 17.735 | -0.091 | 6.223 | 0.301 |
| -2.096 | 18.020 | -0.067 | 6.147 | 0.300 |
| -2.096 | 18.020 | -0.067 | 6.147 | 0.300 |
| -2.698 | 19.454 | -0.033 | 5.691 | 0.281 |
| -3.298 | 20.963 | -0.002 | 5.290 | 0.266 |
| -3.900 | 22.581 | 0.026 | 4.961 | 0.252 |
| -4.500 | 24.305 | 0.050 | 4.707 | 0.240 |
| -4.500 | 24.305 | 0.050 | 4.707 | 0.240 |
| -4.950 | 24.434 | 0.054 | 4.563 | 0.225 |
| -5.400 | 24.616 | 0.056 | 4.456 | 0.210 |
| -5.400 | 24.617 | 0.056 | 4.456 | 0.210 |
| -5.800 | 26.631 | 0.059 | 4.389 | 0.204 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -6.200 | 28.690 | 0.061 | 4.345 | 0.198 |
| -6.200 | 28.690 | 0.061 | 4.345 | 0.198 |
| -6.550 | 28.917 | 0.060 | 4.325 | 0.186 |
| -6.900 | 29.169 | 0.059 | 4.319 | 0.174 |
| -6.900 | 29.169 | 0.059 | 4.319 | 0.174 |
| -7.800 | 34.718 | 0.057 | 4.362 | 0.169 |
| -8.700 | 40.341 | 0.054 | 4.466 | 0.164 |
| -8.700 | 40.341 | 0.054 | 4.466 | 0.164 |
| -9.100 | 40.749 | 0.047 | 4.526 | 0.148 |
| -9.500 | 41.183 | 0.038 | 4.593 | 0.132 |
| -9.500 | 41.183 | 0.038 | 4.593 | 0.132 |
| -10.100 | 44.995 | 0.034 | 4.700 | 0.127 |
| -10.700 | 48.822 | 0.029 | 4.813 | 0.123 |
| -10.700 | 48.822 | 0.029 | 4.813 | 0.123 |
| -10.900 | 50.056 | 0.015 | 4.851 | 0.119 |
| -11.100 | 51.298 | 0.001 | 4.889 | 0.116 |
| -11.100 | 51.298 | 0.001 | 4.889 | 0.116 |
| -11.950 | 56.743 | -0.009 | 5.048 | 0.108 |
| -12.950 | 63.163 | -0.022 | 5.225 | 0.098 |
| -13.550 | 67.019 | -0.032 | 5.321 | 0.092 |
| -14.400 | 72.484 | -0.047 | 5.444 | 0.083 |
| -15.400 | 78.917 | -0.068 | 5.565 | 0.071 |
| -16.000 | 82.780 | -0.082 | 5.624 | 0.065 |
| -16.000 | 82.780 | -0.082 | 5.624 | 0.065 |
| -16.550 | 86.772 | -0.187 | 5.671 | 0.053 |
| -17.050 | 90.476 | -0.290 | 5.706 | 0.042 |
| -17.600 | 94.638 | -0.414 | 5.737 | 0.029 |
| -18.100 | 98.503 | -0.536 | 5.759 | 0.016 |
| -18.100 | 112.868 | -2.000 | 5.759 | 0.016 |
| -19.901 | 131.270 | -2.000 | 5.791 | 0.011 |
| -21.801 | 150.608 | -2.000 | 5.756 | 0.007 |
| -23.602 | 168.882 | -2.000 | 5.671 | 0.003 |
| -25.502 | 188.115 | -2.000 | 5.540 | 0.000 |

### 3.51 Results for Vertical 51 (X = -1.38 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.114 | 10.629 | -0.114 | 10.628 | 0.415 |
| -0.214 | 12.053 | -0.195 | 10.636 | 0.390 |
| -0.314 | 12.427 | -0.275 | 9.611 | 0.373 |
| -0.414 | 12.699 | -0.353 | 8.495 | 0.362 |
| -0.514 | 12.962 | -0.431 | 7.376 | 0.353 |
| -0.527 | 12.997 | -0.441 | 7.231 | 0.352 |
| -0.614 | 13.235 | -0.422 | 7.122 | 0.346 |
| -0.714 | 13.520 | -0.399 | 7.010 | 0.339 |
| -0.814 | 13.816 | -0.376 | 6.911 | 0.333 |
| -0.914 | 14.120 | -0.353 | 6.821 | 0.328 |
| -1.014 | 14.428 | -0.330 | 6.738 | 0.324 |
| -1.105 | 14.712 | -0.309 | 6.666 | 0.320 |
| -1.114 | 14.739 | -0.307 | 6.659 | 0.319 |
| -2.000 | 17.442 | -0.094 | 5.962 | 0.297 |
| -2.096 | 17.730 | -0.071 | 5.884 | 0.296 |
| -2.097 | 17.730 | -0.071 | 5.884 | 0.296 |
| -2.698 | 19.163 | -0.037 | 5.422 | 0.278 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.298 | 20.684 | -0.007 | 5.029 | 0.263 |
| -3.900 | 22.318 | 0.021 | 4.713 | 0.250 |
| -4.500 | 24.058 | 0.045 | 4.475 | 0.238 |
| -4.500 | 24.058 | 0.045 | 4.475 | 0.238 |
| -4.950 | 24.198 | 0.049 | 4.341 | 0.223 |
| -5.400 | 24.388 | 0.051 | 4.242 | 0.208 |
| -5.400 | 24.388 | 0.051 | 4.242 | 0.208 |
| -5.800 | 26.406 | 0.055 | 4.181 | 0.202 |
| -6.200 | 28.467 | 0.056 | 4.143 | 0.197 |
| -6.200 | 28.467 | 0.056 | 4.143 | 0.197 |
| -6.550 | 28.697 | 0.056 | 4.127 | 0.185 |
| -6.900 | 28.951 | 0.055 | 4.125 | 0.173 |
| -6.900 | 28.951 | 0.055 | 4.125 | 0.173 |
| -7.800 | 34.504 | 0.053 | 4.173 | 0.168 |
| -8.700 | 40.130 | 0.050 | 4.282 | 0.163 |
| -8.700 | 40.130 | 0.050 | 4.282 | 0.163 |
| -9.100 | 40.536 | 0.043 | 4.343 | 0.147 |
| -9.500 | 40.968 | 0.035 | 4.411 | 0.131 |
| -9.500 | 40.968 | 0.035 | 4.411 | 0.131 |
| -10.100 | 44.781 | 0.031 | 4.520 | 0.127 |
| -10.700 | 48.607 | 0.026 | 4.635 | 0.122 |
| -10.700 | 48.607 | 0.026 | 4.635 | 0.122 |
| -10.900 | 49.838 | 0.013 | 4.674 | 0.118 |
| -11.100 | 51.077 | -0.001 | 4.713 | 0.115 |
| -11.100 | 51.077 | -0.001 | 4.713 | 0.115 |
| -11.950 | 56.523 | -0.011 | 4.876 | 0.107 |
| -12.950 | 62.944 | -0.024 | 5.059 | 0.097 |
| -13.550 | 66.801 | -0.033 | 5.159 | 0.091 |
| -14.400 | 72.269 | -0.048 | 5.288 | 0.082 |
| -15.400 | 78.705 | -0.068 | 5.416 | 0.071 |
| -16.000 | 82.569 | -0.082 | 5.481 | 0.064 |
| -16.000 | 82.569 | -0.082 | 5.481 | 0.064 |
| -16.550 | 86.545 | -0.185 | 5.532 | 0.053 |
| -17.050 | 90.234 | -0.287 | 5.571 | 0.041 |
| -17.600 | 94.377 | -0.408 | 5.607 | 0.028 |
| -18.100 | 98.223 | -0.527 | 5.633 | 0.016 |
| -18.100 | 112.673 | -2.000 | 5.633 | 0.016 |
| -19.901 | 131.090 | -2.000 | 5.681 | 0.011 |
| -21.801 | 150.444 | -2.000 | 5.661 | 0.007 |
| -23.602 | 168.732 | -2.000 | 5.590 | 0.003 |
| -25.502 | 187.979 | -2.000 | 5.472 | 0.000 |

### 3.52 Results for Vertical 52 (X = -1.26 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.123 | 10.690 | -0.123 | 10.689 | 0.412 |
| -0.223 | 11.929 | -0.204 | 10.511 | 0.386 |
| -0.323 | 12.105 | -0.284 | 9.285 | 0.370 |
| -0.423 | 12.340 | -0.363 | 8.127 | 0.359 |
| -0.522 | 12.595 | -0.441 | 7.011 | 0.350 |
| -0.523 | 12.598 | -0.440 | 7.010 | 0.350 |
| -0.623 | 12.878 | -0.419 | 6.884 | 0.343 |
| -0.723 | 13.175 | -0.397 | 6.778 | 0.337 |
| -0.823 | 13.486 | -0.374 | 6.687 | 0.331 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.923 | 13.804 | -0.352 | 6.606 | 0.326 |
| -1.023 | 14.126 | -0.329 | 6.532 | 0.321 |
| -1.110 | 14.405 | -0.309 | 6.469 | 0.317 |
| -1.123 | 14.448 | -0.306 | 6.460 | 0.317 |
| -2.000 | 17.162 | -0.100 | 5.773 | 0.296 |
| -2.097 | 17.452 | -0.076 | 5.695 | 0.294 |
| -2.097 | 17.452 | -0.076 | 5.695 | 0.294 |
| -2.698 | 18.890 | -0.044 | 5.233 | 0.277 |
| -3.298 | 20.422 | -0.013 | 4.848 | 0.262 |
| -3.900 | 22.068 | 0.014 | 4.544 | 0.249 |
| -4.500 | 23.819 | 0.038 | 4.317 | 0.237 |
| -4.500 | 23.819 | 0.038 | 4.317 | 0.237 |
| -4.950 | 23.966 | 0.042 | 4.191 | 0.222 |
| -5.400 | 24.162 | 0.045 | 4.099 | 0.207 |
| -5.400 | 24.162 | 0.045 | 4.099 | 0.207 |
| -5.800 | 26.183 | 0.049 | 4.043 | 0.202 |
| -6.200 | 28.244 | 0.051 | 4.009 | 0.196 |
| -6.200 | 28.244 | 0.051 | 4.009 | 0.196 |
| -6.550 | 28.475 | 0.051 | 3.996 | 0.184 |
| -6.900 | 28.731 | 0.049 | 3.996 | 0.172 |
| -6.900 | 28.731 | 0.049 | 3.996 | 0.172 |
| -7.800 | 34.287 | 0.048 | 4.050 | 0.168 |
| -8.700 | 39.914 | 0.045 | 4.161 | 0.162 |
| -8.700 | 39.914 | 0.045 | 4.161 | 0.162 |
| -9.100 | 40.319 | 0.039 | 4.224 | 0.147 |
| -9.500 | 40.749 | 0.031 | 4.292 | 0.131 |
| -9.500 | 40.749 | 0.031 | 4.292 | 0.131 |
| -10.100 | 44.562 | 0.026 | 4.403 | 0.126 |
| -10.700 | 48.389 | 0.022 | 4.519 | 0.121 |
| -10.700 | 48.389 | 0.022 | 4.519 | 0.121 |
| -10.900 | 49.617 | 0.009 | 4.559 | 0.118 |
| -11.100 | 50.852 | -0.005 | 4.598 | 0.115 |
| -11.100 | 50.852 | -0.005 | 4.598 | 0.115 |
| -11.950 | 56.298 | -0.014 | 4.764 | 0.107 |
| -12.950 | 62.720 | -0.027 | 4.950 | 0.097 |
| -13.550 | 66.577 | -0.036 | 5.053 | 0.091 |
| -14.400 | 72.045 | -0.051 | 5.185 | 0.082 |
| -15.400 | 78.482 | -0.071 | 5.318 | 0.071 |
| -16.000 | 82.347 | -0.084 | 5.385 | 0.064 |
| -16.000 | 82.347 | -0.084 | 5.385 | 0.064 |
| -16.550 | 86.308 | -0.185 | 5.439 | 0.052 |
| -17.050 | 89.983 | -0.285 | 5.481 | 0.041 |
| -17.600 | 94.109 | -0.404 | 5.520 | 0.028 |
| -18.100 | 97.939 | -0.522 | 5.549 | 0.016 |
| -18.100 | 112.441 | -2.000 | 5.549 | 0.016 |
| -19.901 | 130.868 | -2.000 | 5.605 | 0.011 |
| -21.801 | 150.231 | -2.000 | 5.595 | 0.007 |
| -23.602 | 168.528 | -2.000 | 5.532 | 0.003 |
| -25.502 | 187.783 | -2.000 | 5.421 | 0.000 |

### 3.53 Results for Vertical 53 (X = -1.23 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.121 | 10.487 | -0.121 | 10.486 | 0.411 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.221 | 11.752 | -0.203 | 10.331 | 0.385 |
| -0.321 | 12.014 | -0.283 | 9.188 | 0.369 |
| -0.421 | 12.273 | -0.362 | 8.051 | 0.358 |
| -0.520 | 12.539 | -0.440 | 6.935 | 0.349 |
| -0.521 | 12.541 | -0.440 | 6.935 | 0.349 |
| -0.621 | 12.827 | -0.418 | 6.815 | 0.342 |
| -0.721 | 13.131 | -0.396 | 6.714 | 0.336 |
| -0.821 | 13.447 | -0.374 | 6.628 | 0.330 |
| -0.921 | 13.771 | -0.352 | 6.551 | 0.325 |
| -1.021 | 14.097 | -0.329 | 6.480 | 0.320 |
| -1.109 | 14.383 | -0.309 | 6.419 | 0.317 |
| -1.121 | 14.422 | -0.306 | 6.410 | 0.316 |
| -2.000 | 17.151 | -0.100 | 5.724 | 0.295 |
| -2.097 | 17.442 | -0.077 | 5.645 | 0.294 |
| -2.097 | 17.442 | -0.077 | 5.645 | 0.294 |
| -2.698 | 18.880 | -0.044 | 5.184 | 0.276 |
| -3.298 | 20.416 | -0.014 | 4.802 | 0.261 |
| -3.900 | 22.066 | 0.014 | 4.502 | 0.248 |
| -4.500 | 23.820 | 0.038 | 4.279 | 0.237 |
| -4.500 | 23.820 | 0.038 | 4.279 | 0.237 |
| -4.950 | 23.970 | 0.042 | 4.155 | 0.222 |
| -5.400 | 24.168 | 0.044 | 4.065 | 0.207 |
| -5.400 | 24.168 | 0.044 | 4.065 | 0.207 |
| -5.800 | 26.189 | 0.048 | 4.011 | 0.201 |
| -6.200 | 28.251 | 0.051 | 3.978 | 0.196 |
| -6.200 | 28.251 | 0.051 | 3.978 | 0.196 |
| -6.550 | 28.483 | 0.050 | 3.966 | 0.184 |
| -6.900 | 28.739 | 0.049 | 3.967 | 0.172 |
| -6.900 | 28.739 | 0.049 | 3.967 | 0.172 |
| -7.800 | 34.297 | 0.047 | 4.021 | 0.168 |
| -8.700 | 39.925 | 0.045 | 4.134 | 0.162 |
| -8.700 | 39.925 | 0.045 | 4.134 | 0.162 |
| -9.100 | 40.330 | 0.038 | 4.197 | 0.146 |
| -9.500 | 40.759 | 0.030 | 4.266 | 0.130 |
| -9.500 | 40.759 | 0.030 | 4.266 | 0.130 |
| -10.100 | 44.572 | 0.026 | 4.377 | 0.126 |
| -10.700 | 48.399 | 0.022 | 4.494 | 0.121 |
| -10.700 | 48.399 | 0.022 | 4.494 | 0.121 |
| -10.900 | 49.627 | 0.009 | 4.533 | 0.118 |
| -11.100 | 50.862 | -0.005 | 4.573 | 0.115 |
| -11.100 | 50.862 | -0.005 | 4.573 | 0.115 |
| -11.950 | 56.308 | -0.014 | 4.740 | 0.107 |
| -12.950 | 62.730 | -0.027 | 4.926 | 0.097 |
| -13.550 | 66.588 | -0.036 | 5.030 | 0.091 |
| -14.400 | 72.056 | -0.050 | 5.163 | 0.082 |
| -15.400 | 78.494 | -0.070 | 5.297 | 0.071 |
| -16.000 | 82.359 | -0.084 | 5.365 | 0.064 |
| -16.000 | 82.359 | -0.084 | 5.365 | 0.064 |
| -16.550 | 86.318 | -0.185 | 5.420 | 0.052 |
| -17.050 | 89.991 | -0.284 | 5.462 | 0.041 |
| -17.600 | 94.115 | -0.403 | 5.502 | 0.028 |
| -18.100 | 97.942 | -0.520 | 5.531 | 0.016 |
| -18.100 | 112.459 | -2.000 | 5.531 | 0.016 |
| -19.901 | 130.888 | -2.000 | 5.591 | 0.011 |
| -21.801 | 150.254 | -2.000 | 5.583 | 0.007 |
| -23.602 | 168.553 | -2.000 | 5.522 | 0.003 |
| -25.502 | 187.810 | -2.000 | 5.413 | 0.000 |

### 3.54 Results for Vertical 54 (X = -0.91 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.098 | 8.617 | -0.098 | 8.616 | 0.396 |
| -0.198 | 10.246 | -0.183 | 8.793 | 0.371 |
| -0.298 | 10.813 | -0.266 | 7.928 | 0.357 |
| -0.398 | 11.250 | -0.347 | 6.946 | 0.346 |
| -0.498 | 11.691 | -0.428 | 5.978 | 0.338 |
| -0.505 | 11.724 | -0.434 | 5.906 | 0.338 |
| -0.598 | 12.132 | -0.415 | 5.923 | 0.332 |
| -0.698 | 12.566 | -0.395 | 5.938 | 0.326 |
| -0.798 | 12.985 | -0.374 | 5.943 | 0.321 |
| -0.898 | 13.386 | -0.353 | 5.933 | 0.316 |
| -0.998 | 13.766 | -0.331 | 5.906 | 0.312 |
| -1.097 | 14.125 | -0.310 | 5.863 | 0.308 |
| -1.098 | 14.127 | -0.309 | 5.863 | 0.308 |
| -2.000 | 16.982 | -0.104 | 5.149 | 0.288 |
| -2.097 | 17.277 | -0.081 | 5.070 | 0.287 |
| -2.097 | 17.277 | -0.081 | 5.070 | 0.287 |
| -2.698 | 18.746 | -0.049 | 4.632 | 0.270 |
| -3.298 | 20.332 | -0.019 | 4.298 | 0.257 |
| -3.900 | 22.035 | 0.008 | 4.049 | 0.244 |
| -4.500 | 23.832 | 0.032 | 3.872 | 0.233 |
| -4.500 | 23.832 | 0.032 | 3.872 | 0.233 |
| -4.950 | 24.010 | 0.036 | 3.777 | 0.219 |
| -5.400 | 24.231 | 0.039 | 3.712 | 0.204 |
| -5.400 | 24.231 | 0.039 | 3.712 | 0.204 |
| -5.800 | 26.264 | 0.044 | 3.676 | 0.199 |
| -6.200 | 28.334 | 0.047 | 3.658 | 0.194 |
| -6.200 | 28.334 | 0.047 | 3.658 | 0.194 |
| -6.550 | 28.575 | 0.047 | 3.657 | 0.182 |
| -6.900 | 28.839 | 0.045 | 3.667 | 0.170 |
| -6.900 | 28.839 | 0.045 | 3.667 | 0.170 |
| -7.800 | 34.412 | 0.044 | 3.739 | 0.166 |
| -8.700 | 40.048 | 0.041 | 3.863 | 0.161 |
| -8.700 | 40.048 | 0.041 | 3.863 | 0.161 |
| -9.100 | 40.452 | 0.036 | 3.930 | 0.145 |
| -9.500 | 40.881 | 0.028 | 4.002 | 0.129 |
| -9.500 | 40.881 | 0.028 | 4.002 | 0.129 |
| -10.100 | 44.696 | 0.024 | 4.118 | 0.125 |
| -10.700 | 48.525 | 0.020 | 4.240 | 0.120 |
| -10.700 | 48.525 | 0.020 | 4.240 | 0.120 |
| -10.900 | 49.748 | 0.007 | 4.281 | 0.117 |
| -11.100 | 50.978 | -0.006 | 4.322 | 0.113 |
| -11.100 | 50.979 | -0.006 | 4.322 | 0.113 |
| -11.950 | 56.428 | -0.014 | 4.496 | 0.106 |
| -12.950 | 62.853 | -0.027 | 4.692 | 0.096 |
| -13.550 | 66.713 | -0.035 | 4.802 | 0.090 |
| -14.400 | 72.185 | -0.050 | 4.945 | 0.081 |
| -15.400 | 78.628 | -0.069 | 5.091 | 0.070 |
| -16.000 | 82.497 | -0.082 | 5.167 | 0.063 |
| -16.000 | 82.497 | -0.082 | 5.167 | 0.063 |
| -16.550 | 86.433 | -0.180 | 5.229 | 0.052 |
| -17.050 | 90.083 | -0.276 | 5.278 | 0.041 |
| -17.600 | 94.180 | -0.392 | 5.325 | 0.028 |
| -18.100 | 97.982 | -0.505 | 5.362 | 0.015 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -18.100 | 112.644 | -2.000 | 5.362 | 0.015 |
| -19.901 | 131.099 | -2.000 | 5.446 | 0.011 |
| -21.801 | 150.491 | -2.000 | 5.463 | 0.007 |
| -23.602 | 168.813 | -2.000 | 5.424 | 0.003 |
| -25.502 | 188.093 | -2.000 | 5.338 | 0.000 |

### 3.55 Results for Vertical 55 (X = -0.83 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.088 | 10.848 | -0.088 | 10.847 | 0.392 |
| -0.188 | 9.823 | -0.172 | 8.383 | 0.368 |
| -0.288 | 10.538 | -0.255 | 7.658 | 0.353 |
| -0.388 | 11.065 | -0.337 | 6.761 | 0.343 |
| -0.488 | 11.559 | -0.418 | 5.841 | 0.335 |
| -0.502 | 11.627 | -0.430 | 5.711 | 0.334 |
| -0.588 | 12.036 | -0.413 | 5.754 | 0.329 |
| -0.688 | 12.498 | -0.393 | 5.794 | 0.323 |
| -0.788 | 12.937 | -0.372 | 5.816 | 0.318 |
| -0.888 | 13.350 | -0.351 | 5.816 | 0.313 |
| -0.988 | 13.737 | -0.330 | 5.793 | 0.309 |
| -1.088 | 14.100 | -0.308 | 5.751 | 0.305 |
| -1.092 | 14.115 | -0.307 | 5.748 | 0.305 |
| -2.000 | 16.982 | -0.102 | 5.007 | 0.286 |
| -2.097 | 17.280 | -0.080 | 4.928 | 0.285 |
| -2.097 | 17.280 | -0.080 | 4.928 | 0.285 |
| -2.698 | 18.761 | -0.048 | 4.501 | 0.269 |
| -3.298 | 20.365 | -0.018 | 4.183 | 0.255 |
| -3.900 | 22.084 | 0.009 | 3.950 | 0.243 |
| -4.500 | 23.894 | 0.034 | 3.785 | 0.232 |
| -4.500 | 23.894 | 0.034 | 3.785 | 0.232 |
| -4.950 | 24.079 | 0.038 | 3.698 | 0.218 |
| -5.400 | 24.307 | 0.040 | 3.640 | 0.204 |
| -5.400 | 24.307 | 0.040 | 3.640 | 0.204 |
| -5.800 | 26.345 | 0.045 | 3.608 | 0.198 |
| -6.200 | 28.418 | 0.048 | 3.594 | 0.193 |
| -6.200 | 28.418 | 0.048 | 3.594 | 0.193 |
| -6.550 | 28.662 | 0.048 | 3.596 | 0.181 |
| -6.900 | 28.928 | 0.047 | 3.608 | 0.170 |
| -6.900 | 28.928 | 0.047 | 3.608 | 0.170 |
| -7.800 | 34.505 | 0.045 | 3.685 | 0.166 |
| -8.700 | 40.144 | 0.043 | 3.812 | 0.160 |
| -8.700 | 40.144 | 0.043 | 3.812 | 0.160 |
| -9.100 | 40.549 | 0.037 | 3.880 | 0.145 |
| -9.500 | 40.978 | 0.029 | 3.954 | 0.129 |
| -9.500 | 40.978 | 0.029 | 3.954 | 0.129 |
| -10.100 | 44.794 | 0.026 | 4.071 | 0.125 |
| -10.700 | 48.624 | 0.021 | 4.194 | 0.120 |
| -10.700 | 48.624 | 0.021 | 4.194 | 0.120 |
| -10.900 | 49.847 | 0.009 | 4.235 | 0.117 |
| -11.100 | 51.077 | -0.004 | 4.277 | 0.113 |
| -11.100 | 51.077 | -0.004 | 4.277 | 0.113 |
| -11.950 | 56.527 | -0.013 | 4.452 | 0.106 |
| -12.950 | 62.954 | -0.025 | 4.650 | 0.096 |
| -13.550 | 66.815 | -0.034 | 4.761 | 0.090 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -14.400 | 72.288 | -0.048 | 4.906 | 0.081 |
| -15.400 | 78.733 | -0.067 | 5.056 | 0.070 |
| -16.000 | 82.603 | -0.080 | 5.133 | 0.063 |
| -16.000 | 82.603 | -0.080 | 5.133 | 0.063 |
| -16.550 | 86.537 | -0.177 | 5.196 | 0.052 |
| -17.050 | 90.185 | -0.274 | 5.247 | 0.041 |
| -17.600 | 94.280 | -0.389 | 5.296 | 0.028 |
| -18.100 | 98.080 | -0.502 | 5.334 | 0.015 |
| -18.100 | 112.775 | -2.000 | 5.334 | 0.015 |
| -19.901 | 131.235 | -2.000 | 5.424 | 0.011 |
| -21.801 | 150.633 | -2.000 | 5.446 | 0.007 |
| -23.602 | 168.960 | -2.000 | 5.413 | 0.003 |
| -25.502 | 188.244 | -2.000 | 5.331 | 0.000 |

### 3.56 Results for Vertical 56 (X = -0.83 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.088 | 9.820 | -0.088 | 9.819 | 0.392 |
| -0.188 | 9.833 | -0.173 | 8.385 | 0.368 |
| -0.288 | 10.541 | -0.256 | 7.653 | 0.353 |
| -0.388 | 11.067 | -0.338 | 6.755 | 0.343 |
| -0.488 | 11.561 | -0.419 | 5.836 | 0.335 |
| -0.502 | 11.629 | -0.431 | 5.706 | 0.334 |
| -0.588 | 12.039 | -0.414 | 5.750 | 0.329 |
| -0.688 | 12.501 | -0.394 | 5.790 | 0.323 |
| -0.788 | 12.941 | -0.373 | 5.812 | 0.318 |
| -0.888 | 13.353 | -0.352 | 5.812 | 0.313 |
| -0.988 | 13.740 | -0.331 | 5.789 | 0.309 |
| -1.088 | 14.103 | -0.309 | 5.747 | 0.305 |
| -1.092 | 14.118 | -0.308 | 5.745 | 0.305 |
| -2.000 | 16.984 | -0.103 | 5.003 | 0.286 |
| -2.097 | 17.281 | -0.080 | 4.924 | 0.285 |
| -2.097 | 17.281 | -0.080 | 4.924 | 0.285 |
| -2.698 | 18.763 | -0.048 | 4.497 | 0.269 |
| -3.298 | 20.367 | -0.019 | 4.180 | 0.255 |
| -3.900 | 22.085 | 0.009 | 3.947 | 0.243 |
| -4.500 | 23.896 | 0.033 | 3.782 | 0.232 |
| -4.500 | 23.896 | 0.033 | 3.782 | 0.232 |
| -4.950 | 24.081 | 0.037 | 3.695 | 0.218 |
| -5.400 | 24.309 | 0.040 | 3.636 | 0.204 |
| -5.400 | 24.309 | 0.040 | 3.636 | 0.204 |
| -5.800 | 26.347 | 0.044 | 3.605 | 0.198 |
| -6.200 | 28.420 | 0.047 | 3.591 | 0.193 |
| -6.200 | 28.420 | 0.047 | 3.591 | 0.193 |
| -6.550 | 28.664 | 0.047 | 3.593 | 0.181 |
| -6.900 | 28.929 | 0.046 | 3.605 | 0.170 |
| -6.900 | 28.929 | 0.046 | 3.605 | 0.170 |
| -7.800 | 34.507 | 0.045 | 3.682 | 0.166 |
| -8.700 | 40.146 | 0.042 | 3.809 | 0.160 |
| -8.700 | 40.146 | 0.042 | 3.809 | 0.160 |
| -9.100 | 40.550 | 0.037 | 3.877 | 0.145 |
| -9.500 | 40.979 | 0.029 | 3.951 | 0.129 |
| -9.500 | 40.979 | 0.029 | 3.951 | 0.129 |
| -10.100 | 44.795 | 0.025 | 4.068 | 0.125 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -10.700 | 48.625 | 0.021 | 4.191 | 0.120 |
| -10.700 | 48.625 | 0.021 | 4.191 | 0.120 |
| -10.900 | 49.847 | 0.008 | 4.232 | 0.117 |
| -11.100 | 51.078 | -0.005 | 4.274 | 0.113 |
| -11.100 | 51.078 | -0.005 | 4.274 | 0.113 |
| -11.950 | 56.528 | -0.013 | 4.449 | 0.106 |
| -12.950 | 62.954 | -0.025 | 4.647 | 0.096 |
| -13.550 | 66.815 | -0.034 | 4.759 | 0.090 |
| -14.400 | 72.289 | -0.048 | 4.904 | 0.081 |
| -15.400 | 78.734 | -0.067 | 5.053 | 0.070 |
| -16.000 | 82.603 | -0.080 | 5.131 | 0.063 |
| -16.000 | 82.603 | -0.080 | 5.131 | 0.063 |
| -16.550 | 86.536 | -0.178 | 5.194 | 0.052 |
| -17.050 | 90.184 | -0.274 | 5.245 | 0.041 |
| -17.600 | 94.278 | -0.389 | 5.294 | 0.028 |
| -18.100 | 98.077 | -0.502 | 5.332 | 0.015 |
| -18.100 | 112.772 | -2.000 | 5.332 | 0.015 |
| -19.901 | 131.232 | -2.000 | 5.421 | 0.011 |
| -21.801 | 150.630 | -2.000 | 5.444 | 0.007 |
| -23.602 | 168.957 | -2.000 | 5.410 | 0.003 |
| -25.502 | 188.242 | -2.000 | 5.329 | 0.000 |

### 3.57 Results for Vertical 57 (X = -0.78 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.081 | 9.020 | -0.081 | 9.019 | 0.390 |
| -0.181 | 9.893 | -0.166 | 8.438 | 0.366 |
| -0.281 | 10.508 | -0.250 | 7.613 | 0.351 |
| -0.381 | 11.018 | -0.332 | 6.697 | 0.341 |
| -0.481 | 11.520 | -0.413 | 5.783 | 0.333 |
| -0.500 | 11.613 | -0.429 | 5.611 | 0.332 |
| -0.581 | 12.011 | -0.413 | 5.661 | 0.327 |
| -0.681 | 12.484 | -0.393 | 5.711 | 0.321 |
| -0.781 | 12.932 | -0.372 | 5.740 | 0.316 |
| -0.881 | 13.349 | -0.351 | 5.743 | 0.312 |
| -0.981 | 13.736 | -0.330 | 5.720 | 0.307 |
| -1.081 | 14.097 | -0.309 | 5.675 | 0.304 |
| -1.089 | 14.125 | -0.307 | 5.670 | 0.303 |
| -2.000 | 16.989 | -0.102 | 4.905 | 0.284 |
| -2.097 | 17.288 | -0.079 | 4.826 | 0.284 |
| -2.097 | 17.288 | -0.079 | 4.826 | 0.284 |
| -2.698 | 18.780 | -0.048 | 4.409 | 0.268 |
| -3.298 | 20.396 | -0.018 | 4.102 | 0.254 |
| -3.900 | 22.125 | 0.009 | 3.880 | 0.243 |
| -4.500 | 23.944 | 0.034 | 3.724 | 0.232 |
| -4.500 | 23.944 | 0.034 | 3.724 | 0.232 |
| -4.950 | 24.135 | 0.038 | 3.642 | 0.218 |
| -5.400 | 24.367 | 0.040 | 3.588 | 0.203 |
| -5.400 | 24.367 | 0.040 | 3.588 | 0.203 |
| -5.800 | 26.408 | 0.045 | 3.559 | 0.198 |
| -6.200 | 28.483 | 0.048 | 3.549 | 0.193 |
| -6.200 | 28.483 | 0.048 | 3.549 | 0.193 |
| -6.550 | 28.729 | 0.048 | 3.552 | 0.181 |
| -6.900 | 28.996 | 0.047 | 3.566 | 0.170 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -6.900 | 28.996 | 0.047 | 3.566 | 0.170 |
| -7.800 | 34.576 | 0.045 | 3.646 | 0.165 |
| -8.700 | 40.217 | 0.043 | 3.775 | 0.160 |
| -8.700 | 40.217 | 0.043 | 3.775 | 0.160 |
| -9.100 | 40.622 | 0.037 | 3.844 | 0.145 |
| -9.500 | 41.051 | 0.030 | 3.918 | 0.129 |
| -9.500 | 41.051 | 0.030 | 3.918 | 0.129 |
| -10.100 | 44.868 | 0.026 | 4.036 | 0.124 |
| -10.700 | 48.697 | 0.021 | 4.160 | 0.120 |
| -10.700 | 48.698 | 0.021 | 4.160 | 0.120 |
| -10.900 | 49.920 | 0.009 | 4.201 | 0.116 |
| -11.100 | 51.150 | -0.004 | 4.243 | 0.113 |
| -11.100 | 51.150 | -0.004 | 4.243 | 0.113 |
| -11.950 | 56.601 | -0.012 | 4.420 | 0.105 |
| -12.950 | 63.028 | -0.024 | 4.619 | 0.096 |
| -13.550 | 66.889 | -0.033 | 4.731 | 0.090 |
| -14.400 | 72.364 | -0.047 | 4.878 | 0.081 |
| -15.400 | 78.810 | -0.066 | 5.029 | 0.070 |
| -16.000 | 82.680 | -0.079 | 5.108 | 0.063 |
| -16.000 | 82.680 | -0.079 | 5.108 | 0.063 |
| -16.550 | 86.612 | -0.176 | 5.172 | 0.052 |
| -17.050 | 90.258 | -0.272 | 5.224 | 0.041 |
| -17.600 | 94.350 | -0.387 | 5.274 | 0.028 |
| -18.100 | 98.147 | -0.500 | 5.313 | 0.015 |
| -18.100 | 112.864 | -2.000 | 5.313 | 0.015 |
| -19.901 | 131.328 | -2.000 | 5.406 | 0.011 |
| -21.801 | 150.729 | -2.000 | 5.432 | 0.007 |
| -23.602 | 169.060 | -2.000 | 5.402 | 0.003 |
| -25.502 | 188.348 | -2.000 | 5.323 | 0.000 |

### 3.58 Results for Vertical 58 (X = -0.74 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.088 | 8.594 | -0.088 | 8.593 | 0.388 |
| -0.188 | 9.850 | -0.174 | 8.391 | 0.365 |
| -0.288 | 10.398 | -0.257 | 7.498 | 0.350 |
| -0.388 | 10.880 | -0.340 | 6.552 | 0.340 |
| -0.488 | 11.374 | -0.421 | 5.629 | 0.332 |
| -0.498 | 11.423 | -0.429 | 5.537 | 0.332 |
| -0.588 | 11.868 | -0.412 | 5.595 | 0.326 |
| -0.688 | 12.346 | -0.392 | 5.648 | 0.320 |
| -0.788 | 12.795 | -0.372 | 5.676 | 0.315 |
| -0.888 | 13.209 | -0.351 | 5.674 | 0.311 |
| -0.988 | 13.591 | -0.330 | 5.644 | 0.307 |
| -1.088 | 13.948 | -0.309 | 5.592 | 0.303 |
| -1.092 | 13.963 | -0.308 | 5.589 | 0.303 |
| -2.000 | 16.811 | -0.106 | 4.804 | 0.284 |
| -2.097 | 17.112 | -0.083 | 4.726 | 0.283 |
| -2.097 | 17.113 | -0.083 | 4.726 | 0.283 |
| -2.698 | 18.614 | -0.052 | 4.317 | 0.267 |
| -3.298 | 20.241 | -0.022 | 4.021 | 0.254 |
| -3.900 | 21.980 | 0.005 | 3.807 | 0.242 |
| -4.500 | 23.806 | 0.030 | 3.659 | 0.232 |
| -4.500 | 23.806 | 0.030 | 3.659 | 0.232 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -4.950 | 24.000 | 0.034 | 3.582 | 0.217 |
| -5.400 | 24.235 | 0.036 | 3.531 | 0.203 |
| -5.400 | 24.235 | 0.036 | 3.531 | 0.203 |
| -5.800 | 26.277 | 0.041 | 3.506 | 0.198 |
| -6.200 | 28.353 | 0.045 | 3.497 | 0.193 |
| -6.200 | 28.353 | 0.045 | 3.497 | 0.193 |
| -6.550 | 28.599 | 0.045 | 3.502 | 0.181 |
| -6.900 | 28.867 | 0.044 | 3.518 | 0.170 |
| -6.900 | 28.867 | 0.044 | 3.518 | 0.170 |
| -7.800 | 34.450 | 0.042 | 3.601 | 0.165 |
| -8.700 | 40.092 | 0.040 | 3.731 | 0.160 |
| -8.700 | 40.092 | 0.040 | 3.731 | 0.160 |
| -9.100 | 40.496 | 0.034 | 3.801 | 0.144 |
| -9.500 | 40.924 | 0.027 | 3.875 | 0.129 |
| -9.500 | 40.924 | 0.027 | 3.875 | 0.129 |
| -10.100 | 44.741 | 0.023 | 3.994 | 0.124 |
| -10.700 | 48.571 | 0.019 | 4.118 | 0.120 |
| -10.700 | 48.571 | 0.019 | 4.118 | 0.120 |
| -10.900 | 49.792 | 0.007 | 4.160 | 0.116 |
| -11.100 | 51.020 | -0.006 | 4.202 | 0.113 |
| -11.100 | 51.020 | -0.006 | 4.202 | 0.113 |
| -11.950 | 56.471 | -0.015 | 4.380 | 0.105 |
| -12.950 | 62.898 | -0.027 | 4.580 | 0.096 |
| -13.550 | 66.759 | -0.035 | 4.693 | 0.090 |
| -14.400 | 72.233 | -0.049 | 4.841 | 0.081 |
| -15.400 | 78.679 | -0.068 | 4.993 | 0.070 |
| -16.000 | 82.548 | -0.081 | 5.073 | 0.063 |
| -16.000 | 82.549 | -0.081 | 5.073 | 0.063 |
| -16.550 | 86.473 | -0.177 | 5.138 | 0.052 |
| -17.050 | 90.112 | -0.272 | 5.190 | 0.040 |
| -17.600 | 94.196 | -0.386 | 5.241 | 0.028 |
| -18.100 | 97.985 | -0.498 | 5.281 | 0.015 |
| -18.100 | 112.719 | -2.000 | 5.281 | 0.015 |
| -19.901 | 131.186 | -2.000 | 5.377 | 0.011 |
| -21.801 | 150.590 | -2.000 | 5.406 | 0.007 |
| -23.602 | 168.924 | -2.000 | 5.379 | 0.003 |
| -25.502 | 188.214 | -2.000 | 5.303 | 0.000 |

### 3.59 Results for Vertical 59 (X = -0.66 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.102 | 8.119 | -0.102 | 8.118 | 0.386 |
| -0.202 | 9.948 | -0.188 | 8.487 | 0.363 |
| -0.302 | 10.238 | -0.272 | 7.335 | 0.348 |
| -0.402 | 10.654 | -0.354 | 6.322 | 0.338 |
| -0.494 | 11.091 | -0.430 | 5.445 | 0.331 |
| -0.502 | 11.128 | -0.429 | 5.449 | 0.330 |
| -0.602 | 11.624 | -0.410 | 5.511 | 0.324 |
| -0.702 | 12.100 | -0.390 | 5.557 | 0.319 |
| -0.802 | 12.537 | -0.370 | 5.570 | 0.314 |
| -0.902 | 12.934 | -0.350 | 5.549 | 0.309 |
| -1.002 | 13.300 | -0.329 | 5.498 | 0.305 |
| -1.099 | 13.633 | -0.309 | 5.429 | 0.301 |
| -1.102 | 13.642 | -0.308 | 5.427 | 0.301 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.000 | 16.447 | -0.112 | 4.601 | 0.283 |
| -2.097 | 16.753 | -0.090 | 4.524 | 0.282 |
| -2.097 | 16.753 | -0.090 | 4.524 | 0.282 |
| -2.698 | 18.278 | -0.059 | 4.134 | 0.267 |
| -3.298 | 19.929 | -0.029 | 3.860 | 0.254 |
| -3.900 | 21.687 | -0.002 | 3.665 | 0.242 |
| -4.500 | 23.526 | 0.022 | 3.531 | 0.231 |
| -4.500 | 23.527 | 0.022 | 3.531 | 0.231 |
| -4.950 | 23.730 | 0.026 | 3.464 | 0.217 |
| -5.400 | 23.972 | 0.029 | 3.420 | 0.203 |
| -5.400 | 23.972 | 0.029 | 3.420 | 0.203 |
| -5.800 | 26.016 | 0.034 | 3.401 | 0.198 |
| -6.200 | 28.092 | 0.038 | 3.397 | 0.192 |
| -6.200 | 28.092 | 0.038 | 3.397 | 0.192 |
| -6.550 | 28.341 | 0.038 | 3.405 | 0.181 |
| -6.900 | 28.611 | 0.037 | 3.424 | 0.169 |
| -6.900 | 28.611 | 0.037 | 3.424 | 0.169 |
| -7.800 | 34.197 | 0.036 | 3.512 | 0.165 |
| -8.700 | 39.841 | 0.034 | 3.646 | 0.160 |
| -8.700 | 39.841 | 0.034 | 3.646 | 0.160 |
| -9.100 | 40.245 | 0.028 | 3.717 | 0.144 |
| -9.500 | 40.671 | 0.021 | 3.793 | 0.128 |
| -9.500 | 40.671 | 0.021 | 3.793 | 0.128 |
| -10.100 | 44.488 | 0.018 | 3.913 | 0.124 |
| -10.700 | 48.318 | 0.013 | 4.038 | 0.120 |
| -10.700 | 48.318 | 0.013 | 4.038 | 0.120 |
| -10.900 | 49.536 | 0.002 | 4.080 | 0.116 |
| -11.100 | 50.762 | -0.011 | 4.123 | 0.113 |
| -11.100 | 50.762 | -0.011 | 4.123 | 0.113 |
| -11.950 | 56.212 | -0.019 | 4.302 | 0.105 |
| -12.950 | 62.638 | -0.031 | 4.505 | 0.096 |
| -13.550 | 66.499 | -0.039 | 4.619 | 0.090 |
| -14.400 | 71.972 | -0.053 | 4.769 | 0.081 |
| -15.400 | 78.417 | -0.071 | 4.924 | 0.070 |
| -16.000 | 82.286 | -0.084 | 5.005 | 0.063 |
| -16.000 | 82.286 | -0.084 | 5.005 | 0.063 |
| -16.550 | 86.197 | -0.179 | 5.072 | 0.051 |
| -17.050 | 89.822 | -0.272 | 5.126 | 0.040 |
| -17.600 | 93.890 | -0.384 | 5.179 | 0.027 |
| -18.100 | 97.663 | -0.494 | 5.220 | 0.015 |
| -18.100 | 112.432 | -2.000 | 5.220 | 0.015 |
| -19.901 | 130.905 | -2.000 | 5.321 | 0.011 |
| -21.801 | 150.315 | -2.000 | 5.357 | 0.007 |
| -23.602 | 168.653 | -2.000 | 5.334 | 0.003 |
| -25.502 | 187.949 | -2.000 | 5.263 | 0.000 |

### 3.60 Results for Vertical 60 (X = -0.54 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.132 | 8.029 | -0.132 | 8.028 | 0.383 |
| -0.232 | 9.565 | -0.218 | 8.101 | 0.360 |
| -0.332 | 9.828 | -0.302 | 6.920 | 0.346 |
| -0.432 | 10.246 | -0.385 | 5.905 | 0.336 |
| -0.489 | 10.546 | -0.432 | 5.395 | 0.331 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.532 | 10.774 | -0.424 | 5.431 | 0.328 |
| -0.632 | 11.261 | -0.406 | 5.479 | 0.322 |
| -0.732 | 11.686 | -0.387 | 5.470 | 0.316 |
| -0.832 | 12.061 | -0.368 | 5.415 | 0.311 |
| -0.932 | 12.402 | -0.348 | 5.330 | 0.306 |
| -1.032 | 12.721 | -0.328 | 5.226 | 0.302 |
| -1.114 | 12.975 | -0.312 | 5.133 | 0.299 |
| -1.132 | 13.029 | -0.308 | 5.113 | 0.298 |
| -2.000 | 15.733 | -0.125 | 4.241 | 0.281 |
| -2.097 | 16.051 | -0.103 | 4.170 | 0.281 |
| -2.097 | 16.051 | -0.103 | 4.170 | 0.281 |
| -2.698 | 17.623 | -0.073 | 3.819 | 0.266 |
| -3.298 | 19.317 | -0.044 | 3.584 | 0.253 |
| -3.900 | 21.108 | -0.017 | 3.422 | 0.242 |
| -4.500 | 22.971 | 0.008 | 3.314 | 0.231 |
| -4.500 | 22.971 | 0.008 | 3.314 | 0.231 |
| -4.950 | 23.189 | 0.012 | 3.262 | 0.217 |
| -5.400 | 23.442 | 0.015 | 3.232 | 0.203 |
| -5.400 | 23.442 | 0.015 | 3.232 | 0.203 |
| -5.800 | 25.490 | 0.021 | 3.221 | 0.198 |
| -6.200 | 27.567 | 0.025 | 3.225 | 0.193 |
| -6.200 | 27.567 | 0.025 | 3.225 | 0.193 |
| -6.550 | 27.819 | 0.026 | 3.239 | 0.181 |
| -6.900 | 28.091 | 0.025 | 3.262 | 0.170 |
| -6.900 | 28.091 | 0.025 | 3.262 | 0.170 |
| -7.800 | 33.685 | 0.024 | 3.360 | 0.165 |
| -8.700 | 39.333 | 0.022 | 3.500 | 0.160 |
| -8.700 | 39.333 | 0.022 | 3.500 | 0.160 |
| -9.100 | 39.734 | 0.017 | 3.573 | 0.144 |
| -9.500 | 40.157 | 0.010 | 3.650 | 0.128 |
| -9.500 | 40.157 | 0.010 | 3.650 | 0.128 |
| -10.100 | 43.974 | 0.007 | 3.773 | 0.124 |
| -10.700 | 47.804 | 0.003 | 3.900 | 0.120 |
| -10.700 | 47.804 | 0.003 | 3.900 | 0.120 |
| -10.900 | 49.017 | -0.008 | 3.943 | 0.116 |
| -11.100 | 50.237 | -0.020 | 3.986 | 0.113 |
| -11.100 | 50.237 | -0.020 | 3.986 | 0.113 |
| -11.950 | 55.686 | -0.028 | 4.169 | 0.105 |
| -12.950 | 62.110 | -0.039 | 4.375 | 0.095 |
| -13.550 | 65.970 | -0.048 | 4.491 | 0.089 |
| -14.400 | 71.442 | -0.061 | 4.644 | 0.080 |
| -15.400 | 77.884 | -0.079 | 4.804 | 0.069 |
| -16.000 | 81.752 | -0.091 | 4.888 | 0.063 |
| -16.000 | 81.752 | -0.091 | 4.888 | 0.063 |
| -16.550 | 85.636 | -0.182 | 4.957 | 0.051 |
| -17.050 | 89.235 | -0.273 | 5.014 | 0.040 |
| -17.600 | 93.272 | -0.382 | 5.069 | 0.027 |
| -18.100 | 97.016 | -0.489 | 5.113 | 0.015 |
| -18.100 | 111.842 | -2.000 | 5.113 | 0.015 |
| -19.901 | 130.323 | -2.000 | 5.223 | 0.011 |
| -21.801 | 149.743 | -2.000 | 5.267 | 0.007 |
| -23.602 | 168.090 | -2.000 | 5.253 | 0.003 |
| -25.502 | 187.394 | -2.000 | 5.190 | 0.000 |

### 3.61 Results for Vertical 61 (X = -0.36 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.158 | 7.960 | -0.158 | 7.959 | 0.379 |
| -0.258 | 9.391 | -0.244 | 7.927 | 0.355 |
| -0.358 | 10.011 | -0.328 | 7.106 | 0.341 |
| -0.458 | 10.426 | -0.411 | 6.092 | 0.330 |
| -0.481 | 10.501 | -0.429 | 5.844 | 0.328 |
| -0.558 | 10.727 | -0.415 | 5.726 | 0.323 |
| -0.658 | 10.978 | -0.397 | 5.536 | 0.316 |
| -0.758 | 11.211 | -0.379 | 5.330 | 0.310 |
| -0.858 | 11.444 | -0.361 | 5.124 | 0.304 |
| -0.958 | 11.684 | -0.342 | 4.928 | 0.300 |
| -1.058 | 11.937 | -0.323 | 4.745 | 0.296 |
| -1.127 | 12.121 | -0.310 | 4.628 | 0.293 |
| -1.158 | 12.204 | -0.304 | 4.579 | 0.292 |
| -2.000 | 14.899 | -0.136 | 3.710 | 0.278 |
| -2.097 | 15.238 | -0.116 | 3.651 | 0.277 |
| -2.097 | 15.238 | -0.116 | 3.651 | 0.277 |
| -2.698 | 16.899 | -0.087 | 3.378 | 0.264 |
| -3.298 | 18.665 | -0.058 | 3.208 | 0.252 |
| -3.900 | 20.510 | -0.031 | 3.098 | 0.241 |
| -4.500 | 22.412 | -0.006 | 3.029 | 0.231 |
| -4.500 | 22.412 | -0.006 | 3.029 | 0.231 |
| -4.950 | 22.652 | -0.002 | 3.001 | 0.217 |
| -5.400 | 22.923 | 0.001 | 2.989 | 0.203 |
| -5.400 | 22.923 | 0.001 | 2.989 | 0.203 |
| -5.800 | 24.978 | 0.007 | 2.993 | 0.198 |
| -6.200 | 27.059 | 0.013 | 3.008 | 0.192 |
| -6.200 | 27.059 | 0.013 | 3.008 | 0.192 |
| -6.550 | 27.318 | 0.013 | 3.031 | 0.181 |
| -6.900 | 27.594 | 0.013 | 3.061 | 0.169 |
| -6.900 | 27.595 | 0.013 | 3.061 | 0.169 |
| -7.800 | 33.200 | 0.012 | 3.173 | 0.165 |
| -8.700 | 38.854 | 0.010 | 3.323 | 0.160 |
| -8.700 | 38.854 | 0.010 | 3.323 | 0.160 |
| -9.100 | 39.253 | 0.006 | 3.398 | 0.144 |
| -9.500 | 39.674 | -0.001 | 3.478 | 0.128 |
| -9.500 | 39.674 | -0.001 | 3.478 | 0.128 |
| -10.100 | 43.492 | -0.004 | 3.605 | 0.124 |
| -10.700 | 47.322 | -0.008 | 3.735 | 0.119 |
| -10.700 | 47.322 | -0.008 | 3.735 | 0.119 |
| -10.900 | 48.529 | -0.018 | 3.779 | 0.116 |
| -11.100 | 49.744 | -0.029 | 3.823 | 0.113 |
| -11.100 | 49.744 | -0.029 | 3.823 | 0.113 |
| -11.950 | 55.192 | -0.037 | 4.009 | 0.105 |
| -12.950 | 61.615 | -0.047 | 4.220 | 0.095 |
| -13.550 | 65.474 | -0.055 | 4.340 | 0.089 |
| -14.400 | 70.945 | -0.068 | 4.498 | 0.080 |
| -15.400 | 77.386 | -0.085 | 4.663 | 0.069 |
| -16.000 | 81.253 | -0.097 | 4.751 | 0.062 |
| -16.000 | 81.253 | -0.097 | 4.751 | 0.062 |
| -16.550 | 85.107 | -0.185 | 4.824 | 0.051 |
| -17.050 | 88.678 | -0.272 | 4.883 | 0.040 |
| -17.600 | 92.682 | -0.377 | 4.942 | 0.027 |
| -18.100 | 96.394 | -0.481 | 4.989 | 0.015 |
| -18.100 | 111.298 | -2.000 | 4.989 | 0.015 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -19.901 | 129.792 | -2.000 | 5.112 | 0.011 |
| -21.801 | 149.224 | -2.000 | 5.169 | 0.007 |
| -23.602 | 167.583 | -2.000 | 5.166 | 0.003 |
| -25.502 | 186.898 | -2.000 | 5.114 | 0.000 |

### 3.62 Results for Vertical 62 (X = 0.04 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.275 | 6.551 | -0.275 | 6.550 | 0.376 |
| -0.375 | 7.256 | -0.361 | 5.797 | 0.355 |
| -0.462 | 7.453 | -0.434 | 4.733 | 0.344 |
| -0.475 | 7.469 | -0.432 | 4.689 | 0.343 |
| -0.575 | 7.601 | -0.417 | 4.356 | 0.334 |
| -0.675 | 7.805 | -0.401 | 4.095 | 0.327 |
| -0.775 | 8.072 | -0.385 | 3.900 | 0.321 |
| -0.875 | 8.382 | -0.369 | 3.752 | 0.316 |
| -0.975 | 8.723 | -0.352 | 3.638 | 0.312 |
| -1.075 | 9.085 | -0.335 | 3.549 | 0.309 |
| -1.175 | 9.462 | -0.317 | 3.481 | 0.306 |
| -1.186 | 9.503 | -0.315 | 3.474 | 0.305 |
| -1.275 | 9.849 | -0.299 | 3.427 | 0.303 |
| -2.000 | 12.750 | -0.153 | 3.275 | 0.293 |
| -2.097 | 13.133 | -0.131 | 3.270 | 0.293 |
| -2.097 | 13.133 | -0.131 | 3.270 | 0.293 |
| -2.698 | 15.040 | -0.100 | 3.266 | 0.279 |
| -3.298 | 16.960 | -0.068 | 3.281 | 0.267 |
| -3.900 | 18.899 | -0.037 | 3.305 | 0.255 |
| -4.500 | 20.854 | -0.008 | 3.335 | 0.244 |
| -4.500 | 20.854 | -0.008 | 3.335 | 0.244 |
| -4.950 | 21.141 | -0.002 | 3.364 | 0.229 |
| -5.400 | 21.449 | 0.002 | 3.399 | 0.214 |
| -5.400 | 21.449 | 0.002 | 3.399 | 0.214 |
| -5.800 | 23.506 | 0.011 | 3.437 | 0.209 |
| -6.200 | 25.580 | 0.020 | 3.481 | 0.203 |
| -6.200 | 25.580 | 0.020 | 3.481 | 0.203 |
| -6.550 | 25.851 | 0.022 | 3.524 | 0.191 |
| -6.900 | 26.137 | 0.022 | 3.573 | 0.178 |
| -6.900 | 26.137 | 0.022 | 3.573 | 0.178 |
| -7.800 | 31.771 | 0.022 | 3.719 | 0.173 |
| -8.700 | 37.441 | 0.021 | 3.892 | 0.167 |
| -8.700 | 37.441 | 0.021 | 3.892 | 0.167 |
| -9.100 | 37.837 | 0.017 | 3.975 | 0.151 |
| -9.500 | 38.255 | 0.012 | 4.062 | 0.134 |
| -9.500 | 38.255 | 0.012 | 4.062 | 0.134 |
| -10.100 | 42.077 | 0.009 | 4.197 | 0.129 |
| -10.700 | 45.910 | 0.006 | 4.335 | 0.124 |
| -10.700 | 45.910 | 0.006 | 4.335 | 0.124 |
| -10.900 | 47.111 | -0.004 | 4.381 | 0.120 |
| -11.100 | 48.318 | -0.014 | 4.427 | 0.117 |
| -11.100 | 48.318 | -0.014 | 4.427 | 0.117 |
| -11.950 | 53.769 | -0.021 | 4.623 | 0.108 |
| -12.950 | 60.197 | -0.031 | 4.845 | 0.098 |
| -13.550 | 64.059 | -0.038 | 4.971 | 0.092 |
| -14.400 | 69.535 | -0.051 | 5.139 | 0.082 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -15.400 | 75.985 | -0.068 | 5.317 | 0.070 |
| -16.000 | 79.859 | -0.079 | 5.413 | 0.063 |
| -16.000 | 79.859 | -0.079 | 5.413 | 0.063 |
| -16.550 | 83.714 | -0.167 | 5.493 | 0.052 |
| -17.050 | 87.288 | -0.254 | 5.560 | 0.040 |
| -17.600 | 91.299 | -0.359 | 5.627 | 0.027 |
| -18.100 | 95.020 | -0.462 | 5.681 | 0.015 |
| -18.100 | 110.105 | -2.000 | 5.681 | 0.015 |
| -19.901 | 128.625 | -2.000 | 5.830 | 0.011 |
| -21.801 | 148.086 | -2.000 | 5.915 | 0.007 |
| -23.602 | 166.470 | -2.000 | 5.936 | 0.003 |
| -25.502 | 185.811 | -2.000 | 5.909 | 0.000 |

### 3.63 Results for Vertical 63 (X = 0.19 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.318 | 2.656 | -0.318 | 2.655 | 0.373 |
| -0.418 | 3.834 | -0.410 | 2.306 | 0.359 |
| -0.456 | 4.195 | -0.445 | 2.094 | 0.356 |
| -0.518 | 4.700 | -0.438 | 2.279 | 0.351 |
| -0.618 | 5.409 | -0.427 | 2.481 | 0.345 |
| -0.718 | 6.050 | -0.414 | 2.628 | 0.340 |
| -0.818 | 6.642 | -0.400 | 2.738 | 0.335 |
| -0.918 | 7.197 | -0.385 | 2.821 | 0.331 |
| -1.018 | 7.724 | -0.369 | 2.885 | 0.327 |
| -1.118 | 8.229 | -0.352 | 2.936 | 0.324 |
| -1.207 | 8.668 | -0.337 | 2.975 | 0.322 |
| -1.218 | 8.718 | -0.335 | 2.979 | 0.321 |
| -1.318 | 9.193 | -0.316 | 3.016 | 0.319 |
| -2.000 | 12.196 | -0.173 | 3.198 | 0.310 |
| -2.097 | 12.593 | -0.150 | 3.219 | 0.309 |
| -2.097 | 12.593 | -0.150 | 3.219 | 0.309 |
| -2.698 | 14.596 | -0.117 | 3.331 | 0.294 |
| -3.298 | 16.564 | -0.083 | 3.419 | 0.281 |
| -3.900 | 18.524 | -0.049 | 3.493 | 0.268 |
| -4.500 | 20.484 | -0.016 | 3.560 | 0.256 |
| -4.500 | 20.484 | -0.016 | 3.560 | 0.256 |
| -4.950 | 20.787 | -0.010 | 3.610 | 0.240 |
| -5.400 | 21.106 | -0.006 | 3.663 | 0.224 |
| -5.400 | 21.106 | -0.006 | 3.663 | 0.224 |
| -5.800 | 23.155 | 0.006 | 3.713 | 0.218 |
| -6.200 | 25.219 | 0.017 | 3.767 | 0.211 |
| -6.200 | 25.219 | 0.017 | 3.767 | 0.211 |
| -6.550 | 25.493 | 0.019 | 3.819 | 0.198 |
| -6.900 | 25.781 | 0.020 | 3.874 | 0.185 |
| -6.900 | 25.781 | 0.020 | 3.874 | 0.185 |
| -7.800 | 31.424 | 0.020 | 4.033 | 0.179 |
| -8.700 | 37.099 | 0.019 | 4.215 | 0.173 |
| -8.700 | 37.099 | 0.019 | 4.215 | 0.173 |
| -9.100 | 37.492 | 0.017 | 4.301 | 0.155 |
| -9.500 | 37.907 | 0.012 | 4.391 | 0.138 |
| -9.500 | 37.907 | 0.012 | 4.391 | 0.138 |
| -10.100 | 41.730 | 0.009 | 4.529 | 0.133 |
| -10.700 | 45.563 | 0.006 | 4.670 | 0.127 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -10.700 | 45.563 | 0.006 | 4.670 | 0.127 |
| -10.900 | 46.759 | -0.003 | 4.717 | 0.124 |
| -11.100 | 47.962 | -0.013 | 4.764 | 0.120 |
| -11.100 | 47.962 | -0.013 | 4.764 | 0.120 |
| -11.950 | 53.414 | -0.019 | 4.963 | 0.111 |
| -12.950 | 59.841 | -0.029 | 5.188 | 0.100 |
| -13.550 | 63.703 | -0.036 | 5.317 | 0.094 |
| -14.400 | 69.180 | -0.048 | 5.488 | 0.084 |
| -15.400 | 75.631 | -0.065 | 5.671 | 0.072 |
| -16.000 | 79.506 | -0.076 | 5.769 | 0.064 |
| -16.000 | 79.506 | -0.076 | 5.769 | 0.064 |
| -16.550 | 83.353 | -0.163 | 5.852 | 0.053 |
| -17.050 | 86.921 | -0.249 | 5.922 | 0.041 |
| -17.600 | 90.925 | -0.353 | 5.991 | 0.028 |
| -18.100 | 94.640 | -0.456 | 6.048 | 0.015 |
| -18.100 | 109.791 | -2.000 | 6.048 | 0.015 |
| -19.901 | 128.320 | -2.000 | 6.206 | 0.011 |
| -21.801 | 147.790 | -2.000 | 6.300 | 0.007 |
| -23.602 | 166.183 | -2.000 | 6.331 | 0.003 |
| -25.502 | 185.533 | -2.000 | 6.312 | 0.000 |

### 3.64 Results for Vertical 64 (X = 0.22 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.326 | 0.479 | -0.326 | 0.478 | 0.369 |
| -0.426 | 2.914 | -0.422 | 1.355 | 0.360 |
| -0.454 | 3.321 | -0.448 | 1.331 | 0.358 |
| -0.526 | 4.135 | -0.442 | 1.763 | 0.354 |
| -0.626 | 5.010 | -0.431 | 2.124 | 0.349 |
| -0.726 | 5.744 | -0.419 | 2.359 | 0.343 |
| -0.826 | 6.398 | -0.405 | 2.527 | 0.339 |
| -0.926 | 6.997 | -0.390 | 2.652 | 0.335 |
| -1.026 | 7.557 | -0.375 | 2.748 | 0.331 |
| -1.126 | 8.088 | -0.358 | 2.825 | 0.328 |
| -1.211 | 8.523 | -0.343 | 2.879 | 0.326 |
| -1.226 | 8.596 | -0.340 | 2.887 | 0.325 |
| -1.326 | 9.086 | -0.321 | 2.941 | 0.323 |
| -2.000 | 12.100 | -0.179 | 3.183 | 0.314 |
| -2.097 | 12.500 | -0.156 | 3.209 | 0.313 |
| -2.097 | 12.500 | -0.156 | 3.209 | 0.313 |
| -2.698 | 14.521 | -0.122 | 3.344 | 0.298 |
| -3.298 | 16.497 | -0.087 | 3.447 | 0.284 |
| -3.900 | 18.461 | -0.052 | 3.531 | 0.271 |
| -4.500 | 20.421 | -0.019 | 3.605 | 0.259 |
| -4.500 | 20.421 | -0.019 | 3.605 | 0.259 |
| -4.950 | 20.727 | -0.013 | 3.659 | 0.242 |
| -5.400 | 21.047 | -0.008 | 3.715 | 0.226 |
| -5.400 | 21.047 | -0.008 | 3.715 | 0.226 |
| -5.800 | 23.095 | 0.004 | 3.768 | 0.220 |
| -6.200 | 25.155 | 0.016 | 3.825 | 0.213 |
| -6.200 | 25.155 | 0.016 | 3.825 | 0.213 |
| -6.550 | 25.430 | 0.018 | 3.877 | 0.200 |
| -6.900 | 25.718 | 0.019 | 3.934 | 0.187 |
| -6.900 | 25.718 | 0.019 | 3.934 | 0.187 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -7.800 | 31.363 | 0.019 | 4.096 | 0.181 |
| -8.700 | 37.039 | 0.018 | 4.279 | 0.174 |
| -8.700 | 37.039 | 0.018 | 4.279 | 0.174 |
| -9.100 | 37.432 | 0.016 | 4.366 | 0.157 |
| -9.500 | 37.845 | 0.011 | 4.456 | 0.139 |
| -9.500 | 37.845 | 0.011 | 4.456 | 0.139 |
| -10.100 | 41.668 | 0.009 | 4.595 | 0.134 |
| -10.700 | 45.501 | 0.006 | 4.736 | 0.128 |
| -10.700 | 45.501 | 0.006 | 4.736 | 0.128 |
| -10.900 | 46.697 | -0.003 | 4.784 | 0.124 |
| -11.100 | 47.898 | -0.013 | 4.831 | 0.121 |
| -11.100 | 47.898 | -0.013 | 4.831 | 0.121 |
| -11.950 | 53.349 | -0.020 | 5.030 | 0.112 |
| -12.950 | 59.777 | -0.029 | 5.257 | 0.101 |
| -13.550 | 63.639 | -0.036 | 5.386 | 0.094 |
| -14.400 | 69.116 | -0.048 | 5.558 | 0.084 |
| -15.400 | 75.567 | -0.065 | 5.741 | 0.072 |
| -16.000 | 79.441 | -0.076 | 5.840 | 0.065 |
| -16.000 | 79.441 | -0.076 | 5.840 | 0.065 |
| -16.550 | 83.286 | -0.162 | 5.924 | 0.053 |
| -17.050 | 86.851 | -0.248 | 5.993 | 0.041 |
| -17.600 | 90.852 | -0.352 | 6.063 | 0.028 |
| -18.100 | 94.565 | -0.454 | 6.121 | 0.015 |
| -18.100 | 109.729 | -2.000 | 6.121 | 0.015 |
| -19.901 | 128.259 | -2.000 | 6.281 | 0.011 |
| -21.801 | 147.732 | -2.000 | 6.377 | 0.007 |
| -23.602 | 166.126 | -2.000 | 6.409 | 0.003 |
| -25.502 | 185.478 | -2.000 | 6.392 | 0.000 |

### 3.65 Results for Vertical 65 (X = 0.47 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.630 | 3.158 | -0.443 | 3.157 | 0.598 |
| -1.730 | 3.757 | -0.430 | 3.258 | 0.574 |
| -1.830 | 4.331 | -0.416 | 3.349 | 0.560 |
| -1.864 | 4.517 | -0.411 | 3.378 | 0.556 |
| -1.930 | 4.880 | -0.401 | 3.432 | 0.549 |
| -2.000 | 5.251 | -0.389 | 3.486 | 0.543 |
| -2.030 | 5.407 | -0.384 | 3.508 | 0.540 |
| -2.097 | 5.749 | -0.371 | 3.555 | 0.535 |
| -2.097 | 5.749 | -0.371 | 3.555 | 0.535 |
| -2.130 | 5.878 | -0.370 | 3.577 | 0.532 |
| -2.230 | 6.266 | -0.365 | 3.641 | 0.522 |
| -2.330 | 6.647 | -0.361 | 3.700 | 0.513 |
| -2.430 | 7.022 | -0.356 | 3.754 | 0.504 |
| -2.530 | 7.391 | -0.350 | 3.806 | 0.496 |
| -2.630 | 7.755 | -0.345 | 3.853 | 0.488 |
| -3.299 | 10.083 | -0.305 | 4.110 | 0.443 |
| -3.900 | 12.069 | -0.264 | 4.280 | 0.411 |
| -4.500 | 13.993 | -0.220 | 4.417 | 0.383 |
| -4.500 | 13.993 | -0.220 | 4.417 | 0.383 |
| -4.950 | 14.310 | -0.211 | 4.508 | 0.350 |
| -5.400 | 14.634 | -0.204 | 4.594 | 0.318 |
| -5.400 | 14.634 | -0.204 | 4.594 | 0.318 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -5.800 | 16.604 | -0.182 | 4.669 | 0.305 |
| -6.200 | 18.568 | -0.158 | 4.744 | 0.293 |
| -6.200 | 18.568 | -0.158 | 4.744 | 0.293 |
| -6.550 | 18.826 | -0.153 | 4.811 | 0.272 |
| -6.900 | 19.095 | -0.149 | 4.879 | 0.250 |
| -6.900 | 19.095 | -0.149 | 4.879 | 0.250 |
| -7.800 | 24.738 | -0.146 | 5.064 | 0.236 |
| -8.700 | 30.400 | -0.144 | 5.264 | 0.222 |
| -8.700 | 30.400 | -0.144 | 5.264 | 0.222 |
| -9.100 | 30.745 | -0.141 | 5.356 | 0.198 |
| -9.500 | 31.108 | -0.140 | 5.451 | 0.174 |
| -9.500 | 31.109 | -0.140 | 5.451 | 0.174 |
| -10.100 | 34.914 | -0.140 | 5.595 | 0.165 |
| -10.700 | 38.727 | -0.141 | 5.742 | 0.156 |
| -10.700 | 38.727 | -0.141 | 5.742 | 0.156 |
| -10.900 | 39.859 | -0.143 | 5.791 | 0.151 |
| -11.100 | 40.997 | -0.146 | 5.839 | 0.147 |
| -11.100 | 40.997 | -0.146 | 5.839 | 0.147 |
| -11.950 | 46.413 | -0.149 | 6.045 | 0.134 |
| -12.950 | 52.794 | -0.153 | 6.278 | 0.118 |
| -13.550 | 56.627 | -0.157 | 6.411 | 0.109 |
| -14.400 | 62.060 | -0.164 | 6.589 | 0.096 |
| -15.400 | 68.455 | -0.174 | 6.779 | 0.081 |
| -16.000 | 72.294 | -0.181 | 6.883 | 0.072 |
| -16.000 | 72.294 | -0.181 | 6.883 | 0.072 |
| -16.550 | 75.865 | -0.239 | 6.971 | 0.059 |
| -17.050 | 79.168 | -0.298 | 7.044 | 0.046 |
| -17.600 | 82.866 | -0.370 | 7.119 | 0.032 |
| -18.100 | 86.289 | -0.443 | 7.180 | 0.018 |
| -18.100 | 101.568 | -2.000 | 7.180 | 0.018 |
| -19.901 | 120.114 | -2.000 | 7.356 | 0.013 |
| -21.801 | 139.603 | -2.000 | 7.468 | 0.008 |
| -23.602 | 158.013 | -2.000 | 7.515 | 0.004 |
| -25.502 | 177.380 | -2.000 | 7.513 | 0.000 |

### 3.66 Results for Vertical 66 (X = 0.75 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.846 | 2.414 | -0.430 | 2.413 | 0.618 |
| -1.945 | 3.055 | -0.421 | 2.528 | 0.597 |
| -1.971 | 3.216 | -0.418 | 2.557 | 0.593 |
| -2.000 | 3.393 | -0.415 | 2.588 | 0.589 |
| -2.045 | 3.669 | -0.409 | 2.635 | 0.584 |
| -2.097 | 3.976 | -0.403 | 2.687 | 0.579 |
| -2.097 | 3.976 | -0.403 | 2.687 | 0.579 |
| -2.145 | 4.187 | -0.401 | 2.734 | 0.573 |
| -2.245 | 4.615 | -0.398 | 2.826 | 0.560 |
| -2.345 | 5.034 | -0.394 | 2.912 | 0.549 |
| -2.445 | 5.444 | -0.390 | 2.992 | 0.539 |
| -2.545 | 5.847 | -0.386 | 3.067 | 0.529 |
| -2.645 | 6.243 | -0.382 | 3.137 | 0.520 |
| -2.745 | 6.632 | -0.377 | 3.203 | 0.511 |
| -2.845 | 7.016 | -0.372 | 3.265 | 0.503 |
| -3.299 | 8.689 | -0.347 | 3.508 | 0.470 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.900 | 10.790 | -0.310 | 3.758 | 0.434 |
| -4.500 | 12.795 | -0.268 | 3.956 | 0.404 |
| -4.500 | 12.795 | -0.268 | 3.956 | 0.404 |
| -4.950 | 13.150 | -0.260 | 4.084 | 0.368 |
| -5.400 | 13.504 | -0.253 | 4.200 | 0.333 |
| -5.400 | 13.504 | -0.253 | 4.200 | 0.333 |
| -5.800 | 15.493 | -0.230 | 4.297 | 0.319 |
| -6.200 | 17.466 | -0.206 | 4.391 | 0.306 |
| -6.200 | 17.466 | -0.206 | 4.391 | 0.306 |
| -6.550 | 17.735 | -0.200 | 4.471 | 0.283 |
| -6.900 | 18.013 | -0.195 | 4.552 | 0.260 |
| -6.900 | 18.013 | -0.195 | 4.552 | 0.260 |
| -7.800 | 23.677 | -0.192 | 4.761 | 0.243 |
| -8.700 | 29.349 | -0.189 | 4.978 | 0.228 |
| -8.700 | 29.349 | -0.189 | 4.978 | 0.228 |
| -9.100 | 29.688 | -0.186 | 5.076 | 0.204 |
| -9.500 | 30.045 | -0.183 | 5.176 | 0.179 |
| -9.500 | 30.045 | -0.183 | 5.176 | 0.179 |
| -10.100 | 33.851 | -0.183 | 5.327 | 0.169 |
| -10.700 | 37.662 | -0.183 | 5.478 | 0.159 |
| -10.700 | 37.662 | -0.183 | 5.478 | 0.159 |
| -10.900 | 38.779 | -0.184 | 5.529 | 0.154 |
| -11.100 | 39.900 | -0.185 | 5.579 | 0.149 |
| -11.100 | 39.900 | -0.185 | 5.579 | 0.149 |
| -11.950 | 45.310 | -0.186 | 5.790 | 0.136 |
| -12.950 | 51.683 | -0.189 | 6.030 | 0.120 |
| -13.550 | 55.509 | -0.192 | 6.167 | 0.110 |
| -14.400 | 60.931 | -0.197 | 6.351 | 0.097 |
| -15.400 | 67.312 | -0.205 | 6.549 | 0.082 |
| -16.000 | 71.142 | -0.211 | 6.657 | 0.072 |
| -16.000 | 71.142 | -0.211 | 6.657 | 0.072 |
| -16.550 | 74.618 | -0.259 | 6.749 | 0.059 |
| -17.050 | 77.829 | -0.308 | 6.827 | 0.046 |
| -17.600 | 81.421 | -0.369 | 6.906 | 0.032 |
| -18.100 | 84.741 | -0.430 | 6.972 | 0.018 |
| -18.100 | 100.142 | -2.000 | 6.972 | 0.018 |
| -18.600 | 105.303 | -2.000 | 7.032 | 0.017 |
| -19.101 | 110.468 | -2.000 | 7.086 | 0.015 |
| -20.101 | 120.761 | -2.000 | 7.179 | 0.012 |
| -21.101 | 131.032 | -2.000 | 7.252 | 0.010 |
| -21.801 | 138.210 | -2.000 | 7.292 | 0.008 |
| -23.602 | 156.636 | -2.000 | 7.354 | 0.004 |
| -25.502 | 176.018 | -2.000 | 7.368 | 0.000 |

### 3.67 Results for Vertical 67 (X = 0.82 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.898 | 2.278 | -0.430 | 2.277 | 0.624 |
| -1.998 | 2.921 | -0.421 | 2.392 | 0.603 |
| -1.998 | 2.924 | -0.421 | 2.393 | 0.603 |
| -2.000 | 2.937 | -0.421 | 2.395 | 0.603 |
| -2.097 | 3.539 | -0.410 | 2.499 | 0.591 |
| -2.097 | 3.539 | -0.410 | 2.499 | 0.591 |
| -2.098 | 3.543 | -0.410 | 2.500 | 0.591 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.198 | 3.983 | -0.407 | 2.600 | 0.577 |
| -2.298 | 4.414 | -0.404 | 2.693 | 0.565 |
| -2.398 | 4.836 | -0.401 | 2.780 | 0.553 |
| -2.498 | 5.250 | -0.397 | 2.862 | 0.543 |
| -2.598 | 5.656 | -0.393 | 2.938 | 0.533 |
| -2.698 | 6.055 | -0.389 | 3.010 | 0.523 |
| -2.798 | 6.448 | -0.384 | 3.078 | 0.515 |
| -2.898 | 6.834 | -0.379 | 3.143 | 0.506 |
| -3.299 | 8.332 | -0.358 | 3.368 | 0.477 |
| -3.900 | 10.460 | -0.322 | 3.636 | 0.440 |
| -4.500 | 12.486 | -0.281 | 3.847 | 0.409 |
| -4.500 | 12.486 | -0.281 | 3.847 | 0.409 |
| -4.950 | 12.851 | -0.273 | 3.983 | 0.373 |
| -5.400 | 13.213 | -0.266 | 4.105 | 0.336 |
| -5.400 | 13.213 | -0.266 | 4.105 | 0.336 |
| -5.800 | 15.207 | -0.243 | 4.208 | 0.322 |
| -6.200 | 17.185 | -0.219 | 4.306 | 0.309 |
| -6.200 | 17.185 | -0.219 | 4.306 | 0.309 |
| -6.550 | 17.457 | -0.213 | 4.390 | 0.286 |
| -6.900 | 17.737 | -0.208 | 4.473 | 0.262 |
| -6.900 | 17.737 | -0.208 | 4.474 | 0.262 |
| -7.800 | 23.406 | -0.205 | 4.689 | 0.245 |
| -8.700 | 29.081 | -0.202 | 4.909 | 0.230 |
| -8.700 | 29.081 | -0.202 | 4.909 | 0.230 |
| -9.100 | 29.419 | -0.198 | 5.009 | 0.205 |
| -9.500 | 29.774 | -0.196 | 5.110 | 0.180 |
| -9.500 | 29.774 | -0.196 | 5.110 | 0.180 |
| -10.100 | 33.580 | -0.195 | 5.262 | 0.170 |
| -10.700 | 37.391 | -0.195 | 5.415 | 0.160 |
| -10.700 | 37.391 | -0.195 | 5.415 | 0.160 |
| -10.900 | 38.505 | -0.195 | 5.466 | 0.155 |
| -11.100 | 39.623 | -0.196 | 5.517 | 0.150 |
| -11.100 | 39.623 | -0.196 | 5.517 | 0.150 |
| -11.950 | 45.032 | -0.197 | 5.729 | 0.136 |
| -12.950 | 51.403 | -0.200 | 5.971 | 0.120 |
| -13.550 | 55.227 | -0.202 | 6.109 | 0.111 |
| -14.400 | 60.647 | -0.207 | 6.294 | 0.097 |
| -15.400 | 67.025 | -0.215 | 6.493 | 0.082 |
| -16.000 | 70.853 | -0.220 | 6.603 | 0.072 |
| -16.000 | 70.853 | -0.220 | 6.603 | 0.072 |
| -16.550 | 74.308 | -0.266 | 6.696 | 0.059 |
| -17.050 | 77.499 | -0.313 | 6.774 | 0.046 |
| -17.600 | 81.067 | -0.371 | 6.854 | 0.032 |
| -18.100 | 84.364 | -0.430 | 6.921 | 0.018 |
| -18.100 | 99.766 | -2.000 | 6.921 | 0.018 |
| -18.600 | 104.927 | -2.000 | 6.982 | 0.016 |
| -19.101 | 110.094 | -2.000 | 7.038 | 0.015 |
| -20.101 | 120.388 | -2.000 | 7.133 | 0.012 |
| -21.101 | 130.662 | -2.000 | 7.208 | 0.010 |
| -21.801 | 137.841 | -2.000 | 7.249 | 0.008 |
| -23.602 | 156.270 | -2.000 | 7.315 | 0.004 |
| -25.502 | 175.657 | -2.000 | 7.332 | 0.000 |

### 3.68 Results for Vertical 68 (X = 1.95 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.665 | 0.370 | -0.430 | 0.369 | 0.460 |
| -1.765 | 1.032 | -0.428 | 0.434 | 0.452 |
| -1.865 | 1.680 | -0.424 | 0.503 | 0.447 |
| -1.881 | 1.783 | -0.423 | 0.514 | 0.447 |
| -1.965 | 2.312 | -0.418 | 0.574 | 0.445 |
| -2.000 | 2.529 | -0.415 | 0.599 | 0.444 |
| -2.065 | 2.929 | -0.410 | 0.647 | 0.442 |
| -2.098 | 3.126 | -0.407 | 0.671 | 0.442 |
| -2.098 | 3.126 | -0.407 | 0.671 | 0.442 |
| -2.165 | 3.411 | -0.406 | 0.722 | 0.439 |
| -2.265 | 3.832 | -0.403 | 0.798 | 0.435 |
| -2.365 | 4.251 | -0.401 | 0.874 | 0.430 |
| -2.465 | 4.668 | -0.398 | 0.950 | 0.426 |
| -2.565 | 5.082 | -0.395 | 1.027 | 0.422 |
| -2.665 | 5.493 | -0.391 | 1.102 | 0.418 |
| -3.299 | 8.029 | -0.365 | 1.559 | 0.393 |
| -3.900 | 10.320 | -0.333 | 1.940 | 0.371 |
| -4.500 | 12.512 | -0.297 | 2.270 | 0.351 |
| -4.500 | 12.512 | -0.297 | 2.270 | 0.351 |
| -4.950 | 12.969 | -0.290 | 2.489 | 0.325 |
| -5.400 | 13.414 | -0.283 | 2.688 | 0.298 |
| -5.400 | 13.414 | -0.283 | 2.688 | 0.298 |
| -5.800 | 15.488 | -0.263 | 2.851 | 0.287 |
| -6.200 | 17.539 | -0.240 | 3.004 | 0.277 |
| -6.200 | 17.539 | -0.240 | 3.004 | 0.277 |
| -6.550 | 17.857 | -0.235 | 3.131 | 0.258 |
| -6.900 | 18.178 | -0.231 | 3.252 | 0.238 |
| -6.900 | 18.178 | -0.231 | 3.252 | 0.238 |
| -7.800 | 23.927 | -0.228 | 3.548 | 0.225 |
| -8.700 | 29.661 | -0.225 | 3.826 | 0.213 |
| -8.700 | 29.661 | -0.225 | 3.826 | 0.213 |
| -9.100 | 30.019 | -0.221 | 3.946 | 0.190 |
| -9.500 | 30.391 | -0.218 | 4.065 | 0.167 |
| -9.500 | 30.391 | -0.218 | 4.065 | 0.167 |
| -10.100 | 34.218 | -0.218 | 4.240 | 0.158 |
| -10.700 | 38.046 | -0.217 | 4.412 | 0.150 |
| -10.700 | 38.046 | -0.217 | 4.412 | 0.150 |
| -10.900 | 39.162 | -0.217 | 4.469 | 0.145 |
| -11.100 | 40.282 | -0.218 | 4.525 | 0.140 |
| -11.100 | 40.282 | -0.218 | 4.525 | 0.140 |
| -11.950 | 45.708 | -0.219 | 4.760 | 0.128 |
| -12.950 | 52.094 | -0.221 | 5.024 | 0.113 |
| -13.550 | 55.927 | -0.223 | 5.176 | 0.105 |
| -14.400 | 61.359 | -0.227 | 5.381 | 0.092 |
| -15.400 | 67.751 | -0.234 | 5.605 | 0.077 |
| -16.000 | 71.588 | -0.239 | 5.729 | 0.069 |
| -16.000 | 71.588 | -0.239 | 5.729 | 0.069 |
| -16.550 | 75.014 | -0.280 | 5.837 | 0.056 |
| -17.050 | 78.176 | -0.323 | 5.930 | 0.043 |
| -17.600 | 81.709 | -0.376 | 6.025 | 0.029 |
| -18.100 | 84.972 | -0.430 | 6.107 | 0.016 |
| -18.100 | 100.373 | -2.000 | 6.107 | 0.016 |
| -19.901 | 118.993 | -2.000 | 6.356 | 0.012 |
| -21.801 | 138.563 | -2.000 | 6.549 | 0.007 |
| -23.602 | 157.049 | -2.000 | 6.672 | 0.004 |
| -25.502 | 176.494 | -2.000 | 6.746 | 0.000 |

### 3.69 Results for Vertical 69 (X = 2.06 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.629 | 0.298 | -0.430 | 0.297 | 0.445 |
| -1.729 | 0.953 | -0.428 | 0.353 | 0.438 |
| -1.829 | 1.595 | -0.424 | 0.413 | 0.434 |
| -1.863 | 1.812 | -0.423 | 0.435 | 0.433 |
| -1.929 | 2.223 | -0.419 | 0.477 | 0.432 |
| -2.000 | 2.659 | -0.414 | 0.523 | 0.430 |
| -2.029 | 2.836 | -0.411 | 0.542 | 0.430 |
| -2.098 | 3.248 | -0.405 | 0.589 | 0.429 |
| -2.098 | 3.248 | -0.405 | 0.589 | 0.429 |
| -2.129 | 3.378 | -0.405 | 0.611 | 0.427 |
| -2.229 | 3.794 | -0.402 | 0.680 | 0.424 |
| -2.329 | 4.208 | -0.400 | 0.751 | 0.420 |
| -2.429 | 4.620 | -0.397 | 0.823 | 0.416 |
| -2.529 | 5.031 | -0.394 | 0.895 | 0.412 |
| -2.629 | 5.439 | -0.390 | 0.967 | 0.409 |
| -3.299 | 8.107 | -0.363 | 1.433 | 0.384 |
| -3.900 | 10.396 | -0.331 | 1.811 | 0.364 |
| -4.500 | 12.592 | -0.296 | 2.142 | 0.344 |
| -4.500 | 12.592 | -0.296 | 2.142 | 0.344 |
| -4.950 | 13.052 | -0.289 | 2.363 | 0.319 |
| -5.400 | 13.500 | -0.282 | 2.565 | 0.293 |
| -5.400 | 13.500 | -0.282 | 2.565 | 0.293 |
| -5.800 | 15.579 | -0.261 | 2.732 | 0.283 |
| -6.200 | 17.635 | -0.239 | 2.887 | 0.273 |
| -6.200 | 17.635 | -0.239 | 2.887 | 0.273 |
| -6.550 | 17.957 | -0.234 | 3.017 | 0.254 |
| -6.900 | 18.280 | -0.230 | 3.141 | 0.235 |
| -6.900 | 18.280 | -0.230 | 3.141 | 0.235 |
| -7.800 | 24.035 | -0.227 | 3.441 | 0.223 |
| -8.700 | 29.774 | -0.224 | 3.724 | 0.211 |
| -8.700 | 29.774 | -0.224 | 3.724 | 0.211 |
| -9.100 | 30.135 | -0.220 | 3.846 | 0.188 |
| -9.500 | 30.508 | -0.218 | 3.966 | 0.166 |
| -9.500 | 30.508 | -0.218 | 3.966 | 0.166 |
| -10.100 | 34.338 | -0.217 | 4.144 | 0.157 |
| -10.700 | 38.167 | -0.217 | 4.317 | 0.148 |
| -10.700 | 38.167 | -0.217 | 4.317 | 0.148 |
| -10.900 | 39.284 | -0.217 | 4.374 | 0.144 |
| -11.100 | 40.404 | -0.217 | 4.431 | 0.139 |
| -11.100 | 40.404 | -0.217 | 4.431 | 0.139 |
| -11.950 | 45.832 | -0.218 | 4.667 | 0.127 |
| -12.950 | 52.221 | -0.220 | 4.934 | 0.113 |
| -13.550 | 56.055 | -0.222 | 5.087 | 0.104 |
| -14.400 | 61.489 | -0.227 | 5.293 | 0.092 |
| -15.400 | 67.883 | -0.233 | 5.519 | 0.077 |
| -16.000 | 71.721 | -0.239 | 5.645 | 0.068 |
| -16.000 | 71.721 | -0.239 | 5.645 | 0.068 |
| -16.550 | 75.149 | -0.280 | 5.754 | 0.055 |
| -17.050 | 78.314 | -0.323 | 5.848 | 0.043 |
| -17.600 | 81.849 | -0.376 | 5.945 | 0.029 |
| -18.100 | 85.113 | -0.430 | 6.027 | 0.016 |
| -18.100 | 100.515 | -2.000 | 6.027 | 0.016 |
| -19.901 | 119.139 | -2.000 | 6.282 | 0.012 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -21.801 | 138.714 | -2.000 | 6.480 | 0.007 |
| -23.602 | 157.206 | -2.000 | 6.608 | 0.004 |
| -25.502 | 176.657 | -2.000 | 6.688 | 0.000 |

### 3.70 Results for Vertical 70 (X = 3.80 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.063 | 0.102 | -0.430 | 0.101 | 0.408 |
| -2.081 | 0.212 | -0.430 | 0.104 | 0.406 |
| -2.098 | 0.322 | -0.430 | 0.107 | 0.405 |
| -2.098 | 0.322 | -0.430 | 0.107 | 0.405 |
| -2.163 | 0.571 | -0.430 | 0.118 | 0.401 |
| -2.263 | 0.954 | -0.429 | 0.137 | 0.397 |
| -2.363 | 1.337 | -0.428 | 0.157 | 0.392 |
| -2.463 | 1.718 | -0.427 | 0.179 | 0.389 |
| -2.563 | 2.099 | -0.426 | 0.203 | 0.385 |
| -2.663 | 2.479 | -0.425 | 0.228 | 0.381 |
| -2.763 | 2.859 | -0.423 | 0.254 | 0.378 |
| -2.863 | 3.238 | -0.421 | 0.282 | 0.374 |
| -2.963 | 3.616 | -0.419 | 0.311 | 0.371 |
| -3.063 | 3.993 | -0.417 | 0.341 | 0.368 |
| -3.299 | 4.880 | -0.411 | 0.416 | 0.360 |
| -3.900 | 7.117 | -0.391 | 0.629 | 0.342 |
| -4.500 | 9.316 | -0.366 | 0.859 | 0.326 |
| -4.500 | 9.316 | -0.366 | 0.859 | 0.326 |
| -4.950 | 9.750 | -0.361 | 1.037 | 0.303 |
| -5.400 | 10.189 | -0.356 | 1.215 | 0.280 |
| -5.400 | 10.189 | -0.356 | 1.215 | 0.280 |
| -5.800 | 12.299 | -0.339 | 1.371 | 0.271 |
| -6.200 | 14.387 | -0.321 | 1.525 | 0.262 |
| -6.200 | 14.387 | -0.321 | 1.525 | 0.262 |
| -6.550 | 14.718 | -0.316 | 1.657 | 0.244 |
| -6.900 | 15.051 | -0.313 | 1.786 | 0.226 |
| -6.900 | 15.051 | -0.313 | 1.786 | 0.226 |
| -7.800 | 20.827 | -0.310 | 2.108 | 0.215 |
| -8.700 | 26.586 | -0.307 | 2.414 | 0.203 |
| -8.700 | 26.586 | -0.307 | 2.414 | 0.203 |
| -9.100 | 26.949 | -0.302 | 2.546 | 0.182 |
| -9.500 | 27.321 | -0.298 | 2.675 | 0.160 |
| -9.500 | 27.322 | -0.298 | 2.675 | 0.160 |
| -10.100 | 31.157 | -0.297 | 2.866 | 0.151 |
| -10.700 | 34.990 | -0.296 | 3.051 | 0.143 |
| -10.700 | 34.990 | -0.296 | 3.051 | 0.143 |
| -10.900 | 36.091 | -0.295 | 3.112 | 0.139 |
| -11.100 | 37.195 | -0.293 | 3.172 | 0.134 |
| -11.100 | 37.195 | -0.293 | 3.172 | 0.134 |
| -11.950 | 42.621 | -0.292 | 3.422 | 0.122 |
| -12.950 | 49.004 | -0.293 | 3.705 | 0.108 |
| -13.550 | 52.833 | -0.293 | 3.868 | 0.100 |
| -14.400 | 58.257 | -0.295 | 4.090 | 0.088 |
| -15.400 | 64.639 | -0.299 | 4.336 | 0.074 |
| -16.000 | 68.469 | -0.302 | 4.476 | 0.065 |
| -16.000 | 68.469 | -0.302 | 4.476 | 0.065 |
| -16.550 | 71.761 | -0.328 | 4.598 | 0.052 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -17.050 | 74.794 | -0.356 | 4.705 | 0.040 |
| -17.600 | 78.175 | -0.392 | 4.817 | 0.027 |
| -18.100 | 81.290 | -0.430 | 4.914 | 0.014 |
| -18.100 | 96.692 | -2.000 | 4.914 | 0.014 |
| -18.600 | 101.884 | -2.000 | 5.007 | 0.013 |
| -19.101 | 107.082 | -2.000 | 5.095 | 0.012 |
| -20.101 | 117.442 | -2.000 | 5.257 | 0.010 |
| -21.101 | 127.784 | -2.000 | 5.400 | 0.008 |
| -21.801 | 135.012 | -2.000 | 5.490 | 0.007 |
| -23.602 | 153.571 | -2.000 | 5.684 | 0.003 |
| -25.502 | 173.093 | -2.000 | 5.834 | 0.000 |

### 3.71 Results for Vertical 71 (X = 10.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.063 | 0.004 | -0.430 | 0.003 | 0.297 |
| -2.082 | 0.117 | -0.430 | 0.003 | 0.297 |
| -2.100 | 0.231 | -0.430 | 0.003 | 0.297 |
| -2.100 | 0.231 | -0.430 | 0.003 | 0.297 |
| -2.163 | 0.463 | -0.430 | 0.004 | 0.295 |
| -2.263 | 0.829 | -0.429 | 0.004 | 0.292 |
| -2.363 | 1.194 | -0.429 | 0.005 | 0.289 |
| -2.463 | 1.557 | -0.428 | 0.006 | 0.287 |
| -2.563 | 1.918 | -0.427 | 0.007 | 0.284 |
| -2.663 | 2.278 | -0.426 | 0.008 | 0.281 |
| -2.763 | 2.636 | -0.425 | 0.009 | 0.279 |
| -2.863 | 2.993 | -0.424 | 0.011 | 0.276 |
| -2.963 | 3.348 | -0.422 | 0.012 | 0.274 |
| -3.063 | 3.701 | -0.420 | 0.014 | 0.272 |
| -3.300 | 4.535 | -0.416 | 0.018 | 0.266 |
| -3.900 | 6.614 | -0.400 | 0.034 | 0.253 |
| -4.500 | 8.660 | -0.381 | 0.057 | 0.240 |
| -4.500 | 8.660 | -0.381 | 0.057 | 0.240 |
| -4.950 | 8.951 | -0.377 | 0.080 | 0.224 |
| -5.400 | 9.251 | -0.373 | 0.107 | 0.208 |
| -5.400 | 9.251 | -0.373 | 0.107 | 0.208 |
| -5.800 | 11.271 | -0.360 | 0.136 | 0.201 |
| -6.200 | 13.279 | -0.346 | 0.169 | 0.195 |
| -6.200 | 13.279 | -0.346 | 0.169 | 0.195 |
| -6.550 | 13.519 | -0.342 | 0.201 | 0.183 |
| -6.900 | 13.766 | -0.339 | 0.236 | 0.170 |
| -6.900 | 13.766 | -0.339 | 0.236 | 0.170 |
| -7.800 | 19.329 | -0.337 | 0.339 | 0.164 |
| -8.700 | 24.906 | -0.334 | 0.460 | 0.157 |
| -8.700 | 24.906 | -0.334 | 0.460 | 0.157 |
| -9.100 | 25.202 | -0.330 | 0.519 | 0.140 |
| -9.500 | 25.511 | -0.327 | 0.581 | 0.123 |
| -9.500 | 25.511 | -0.327 | 0.581 | 0.123 |
| -10.100 | 29.253 | -0.326 | 0.678 | 0.118 |
| -10.700 | 33.002 | -0.326 | 0.780 | 0.112 |
| -10.700 | 33.002 | -0.326 | 0.780 | 0.112 |
| -10.900 | 34.077 | -0.324 | 0.815 | 0.109 |
| -11.100 | 35.155 | -0.322 | 0.851 | 0.105 |
| -11.100 | 35.155 | -0.322 | 0.851 | 0.105 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -11.950 | 40.482 | -0.321 | 1.006 | 0.097 |
| -12.950 | 46.763 | -0.321 | 1.196 | 0.087 |
| -13.550 | 50.538 | -0.322 | 1.312 | 0.081 |
| -14.400 | 55.896 | -0.323 | 1.478 | 0.072 |
| -15.400 | 62.213 | -0.326 | 1.675 | 0.060 |
| -16.000 | 66.010 | -0.328 | 1.793 | 0.054 |
| -16.000 | 66.010 | -0.328 | 1.793 | 0.054 |
| -16.550 | 69.226 | -0.348 | 1.900 | 0.043 |
| -17.050 | 72.187 | -0.370 | 1.996 | 0.032 |
| -17.600 | 75.489 | -0.399 | 2.102 | 0.021 |
| -18.100 | 78.531 | -0.430 | 2.196 | 0.010 |
| -18.100 | 93.933 | -2.000 | 2.196 | 0.010 |
| -18.600 | 99.123 | -2.000 | 2.289 | 0.009 |
| -19.101 | 104.322 | -2.000 | 2.380 | 0.008 |
| -20.101 | 114.695 | -2.000 | 2.558 | 0.007 |
| -21.101 | 125.060 | -2.000 | 2.729 | 0.006 |
| -21.801 | 132.311 | -2.000 | 2.843 | 0.005 |
| -23.602 | 150.947 | -2.000 | 3.117 | 0.002 |
| -25.502 | 170.574 | -2.000 | 3.374 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -40.00 | 0.00 | -2.47 | 0.184 |
| 2 | -33.57 | 0.00 | -2.47 | 0.198 |
| 3 | -31.71 | 0.00 | -2.50 | 0.216 |
| 4 | -31.08 | 0.00 | -2.51 | 0.230 |
| 5 | -30.81 | 0.00 | -2.51 | 0.234 |
| 6 | -27.41 | 0.00 | -2.52 | 0.388 |
| 7 | -26.62 | 0.00 | -2.52 | 0.489 |
| 8 | -24.01 | 0.00 | -2.52 | 0.768 |
| 9 | -22.80 | 0.00 | -2.54 | 0.906 |
| 10 | -21.77 | 0.00 | -2.54 | 0.996 |
| 11 | -21.02 | 0.00 | -2.49 | 1.014 |
| 12 | -19.80 | 0.00 | -2.48 | 1.091 |
| 13 | -19.55 | 0.00 | -2.47 | 1.106 |
| 14 | -19.19 | 0.00 | -2.46 | 1.119 |
| 15 | -16.58 | 0.00 | -2.38 | 1.207 |
| 16 | -15.34 | 0.00 | -2.60 | 1.439 |
| 17 | -15.00 | 0.00 | -2.65 | 1.480 |
| 18 | -14.73 | 0.00 | -3.33 | 1.465 |
| 19 | -14.19 | 0.00 | -3.70 | 1.464 |
| 20 | -13.33 | 0.00 | -3.60 | 1.436 |
| 21 | -12.52 | 0.00 | -3.51 | 1.427 |
| 22 | -12.18 | 0.00 | -3.47 | 1.430 |
| 23 | -11.65 | 0.00 | -3.40 | 1.307 |
| 24 | -11.56 | 0.00 | -2.09 | 1.080 |
| 25 | -11.55 | 0.00 | -1.95 | 0.993 |
| 26 | -10.59 | 0.00 | -1.53 | 0.841 |
| 27 | -10.03 | 0.00 | -1.32 | 0.776 |
| 28 | -9.46 | 0.00 | -1.05 | 0.711 |
| 29 | -9.46 | 0.00 | -1.05 | 0.710 |
| 30 | -9.40 | 0.00 | -1.02 | 0.707 |
| 31 | -8.37 | 0.00 | -0.55 | 0.614 |
| 32 | -8.23 | 0.00 | -0.49 | 0.601 |
| 33 | -7.45 | 0.00 | -0.15 | 0.540 |
| 34 | -7.37 | 0.00 | -0.11 | 0.533 |
| 35 | -7.36 | 0.00 | -0.11 | 0.533 |
| 36 | -7.13 | 0.00 | -0.13 | 0.527 |
| 37 | -7.09 | 0.00 | -0.13 | 0.526 |
| 38 | -6.73 | 0.00 | -0.14 | 0.519 |
| 39 | -6.68 | 0.00 | -0.14 | 0.517 |
| 40 | -6.57 | 0.00 | -0.13 | 0.514 |
| 41 | -6.09 | 0.00 | -0.12 | 0.504 |
| 42 | -5.77 | 0.00 | -0.11 | 0.497 |
| 43 | -5.48 | 0.00 | -0.10 | 0.492 |
| 44 | -4.54 | 0.00 | -0.08 | 0.475 |
| 45 | -3.98 | 0.00 | -0.07 | 0.466 |
| 46 | -3.47 | 0.00 | -0.08 | 0.458 |
| 47 | -3.07 | 0.00 | -0.09 | 0.452 |
| 48 | -2.48 | 0.00 | -0.09 | 0.441 |
| 49 | -2.16 | 0.00 | -0.10 | 0.435 |
| 50 | -1.57 | 0.00 | -0.11 | 0.421 |
| 51 | -1.38 | 0.00 | -0.11 | 0.415 |
| 52 | -1.26 | 0.00 | -0.12 | 0.412 |
| 53 | -1.23 | 0.00 | -0.12 | 0.411 |

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 54 | -0.91 | 0.00 | -0.10 | 0.396 |
| 55 | -0.83 | 0.00 | -0.09 | 0.392 |
| 56 | -0.83 | 0.00 | -0.09 | 0.392 |
| 57 | -0.78 | 0.00 | -0.08 | 0.390 |
| 58 | -0.74 | 0.00 | -0.09 | 0.388 |
| 59 | -0.66 | 0.00 | -0.10 | 0.386 |
| 60 | -0.54 | 0.00 | -0.13 | 0.383 |
| 61 | -0.36 | 0.00 | -0.16 | 0.379 |
| 62 | 0.04 | 0.00 | -0.28 | 0.376 |
| 63 | 0.19 | 0.00 | -0.32 | 0.373 |
| 64 | 0.22 | 0.00 | -0.33 | 0.369 |
| 65 | 0.47 | 0.00 | -1.63 | 0.598 |
| 66 | 0.75 | 0.00 | -1.85 | 0.618 |
| 67 | 0.82 | 0.00 | -1.90 | 0.624 |
| 68 | 1.95 | 0.00 | -1.67 | 0.460 |
| 69 | 2.06 | 0.00 | -1.63 | 0.445 |
| 70 | 3.80 | 0.00 | -2.06 | 0.408 |
| 71 | 10.00 | 0.00 | -2.06 | 0.297 |

### 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 540 | 0.025 | 13.789 | 0.158 |
| | 5040 | 0.136 | 73.960 | 0.048 |
| 2 | 540 | 0.031 | 15.458 | 0.167 |
| | 5040 | 0.149 | 75.291 | 0.049 |
| 3 | 540 | 0.034 | 15.834 | 0.182 |
| | 5040 | 0.155 | 71.950 | 0.061 |
| 4 | 540 | 0.036 | 15.633 | 0.194 |
| | 5040 | 0.162 | 70.389 | 0.068 |
| 5 | 540 | 0.037 | 15.715 | 0.197 |
| | 5040 | 0.165 | 70.412 | 0.069 |
| 6 | 540 | 0.081 | 20.925 | 0.307 |
| | 5040 | 0.289 | 74.421 | 0.099 |
| 7 | 540 | 0.129 | 26.421 | 0.360 |
| | 5040 | 0.377 | 77.072 | 0.112 |
| 8 | 540 | 0.241 | 31.389 | 0.527 |
| | 5040 | 0.622 | 81.027 | 0.146 |
| 9 | 540 | 0.284 | 31.354 | 0.622 |
| | 5040 | 0.735 | 81.072 | 0.172 |
| 10 | 540 | 0.309 | 30.996 | 0.687 |
| | 5040 | 0.804 | 80.778 | 0.191 |
| 11 | 540 | 0.310 | 30.621 | 0.703 |
| | 5040 | 0.815 | 80.419 | 0.199 |
| 12 | 540 | 0.329 | 30.157 | 0.762 |
| | 5040 | 0.874 | 80.094 | 0.217 |
| 13 | 540 | 0.332 | 30.063 | 0.773 |
| | 5040 | 0.885 | 80.016 | 0.221 |
| 14 | 540 | 0.335 | 29.939 | 0.784 |
| | 5040 | 0.894 | 79.891 | 0.225 |
| 15 | 540 | 0.356 | 29.466 | 0.851 |
| | 5040 | 0.956 | 79.226 | 0.251 |
| 16 | 540 | 0.426 | 29.580 | 1.013 |
| | 5040 | 1.147 | 79.710 | 0.292 |
| 17 | 540 | 0.443 | 29.929 | 1.037 |
| | 5040 | 1.182 | 79.862 | 0.298 |
| 18 | 540 | 0.402 | 27.479 | 1.062 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 5040 | 1.177 | 80.345 | 0.288 |
| 19 | 540 | 0.394 | 26.925 | 1.070 |
| | 5040 | 1.187 | 81.049 | 0.277 |
| 20 | 540 | 0.379 | 26.413 | 1.057 |
| | 5040 | 1.150 | 80.087 | 0.286 |
| 21 | 540 | 0.366 | 25.632 | 1.062 |
| | 5040 | 1.129 | 79.094 | 0.298 |
| 22 | 540 | 0.366 | 25.605 | 1.064 |
| | 5040 | 1.129 | 78.914 | 0.302 |
| 23 | 540 | 0.336 | 25.721 | 0.971 |
| | 5040 | 1.032 | 78.962 | 0.275 |
| 24 | 540 | 0.331 | 30.644 | 0.749 |
| | 5040 | 0.846 | 78.360 | 0.234 |
| 25 | 540 | 0.275 | 27.716 | 0.718 |
| | 5040 | 0.783 | 78.823 | 0.210 |
| 26 | 540 | 0.206 | 24.464 | 0.636 |
| | 5040 | 0.636 | 75.601 | 0.205 |
| 27 | 540 | 0.186 | 23.981 | 0.590 |
| | 5040 | 0.580 | 74.675 | 0.197 |
| 28 | 540 | 0.168 | 23.621 | 0.543 |
| | 5040 | 0.525 | 73.797 | 0.186 |
| 29 | 540 | 0.168 | 23.731 | 0.541 |
| | 5040 | 0.524 | 73.853 | 0.186 |
| 30 | 540 | 0.167 | 23.557 | 0.541 |
| | 5040 | 0.520 | 73.490 | 0.187 |
| 31 | 540 | 0.142 | 23.132 | 0.472 |
| | 5040 | 0.442 | 72.092 | 0.171 |
| 32 | 540 | 0.136 | 22.600 | 0.465 |
| | 5040 | 0.432 | 71.835 | 0.169 |
| 33 | 540 | 0.115 | 21.311 | 0.425 |
| | 5040 | 0.382 | 70.785 | 0.158 |
| 34 | 540 | 0.111 | 20.802 | 0.422 |
| | 5040 | 0.377 | 70.625 | 0.157 |
| 35 | 540 | 0.111 | 20.795 | 0.422 |
| | 5040 | 0.376 | 70.617 | 0.157 |
| 36 | 540 | 0.111 | 21.063 | 0.416 |
| | 5040 | 0.373 | 70.713 | 0.154 |
| 37 | 540 | 0.112 | 21.192 | 0.415 |
| | 5040 | 0.372 | 70.762 | 0.154 |
| 38 | 540 | 0.113 | 21.805 | 0.406 |
| | 5040 | 0.368 | 70.968 | 0.151 |
| 39 | 540 | 0.113 | 21.828 | 0.404 |
| | 5040 | 0.367 | 70.978 | 0.150 |
| 40 | 540 | 0.113 | 21.962 | 0.401 |
| | 5040 | 0.365 | 71.025 | 0.149 |
| 41 | 540 | 0.113 | 22.511 | 0.391 |
| | 5040 | 0.359 | 71.218 | 0.145 |
| 42 | 540 | 0.113 | 22.668 | 0.385 |
| | 5040 | 0.355 | 71.280 | 0.143 |
| 43 | 540 | 0.112 | 22.754 | 0.380 |
| | 5040 | 0.351 | 71.310 | 0.141 |
| 44 | 540 | 0.109 | 22.958 | 0.366 |
| | 5040 | 0.339 | 71.407 | 0.136 |
| 45 | 540 | 0.107 | 23.028 | 0.358 |
| | 5040 | 0.333 | 71.440 | 0.133 |
| 46 | 540 | 0.106 | 23.083 | 0.352 |
| | 5040 | 0.327 | 71.501 | 0.131 |
| 47 | 540 | 0.104 | 23.135 | 0.347 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 5040 | 0.323 | 71.547 | 0.129 |
| 48 | 540 | 0.102 | 23.233 | 0.338 |
| | 5040 | 0.316 | 71.658 | 0.125 |
| 49 | 540 | 0.101 | 23.316 | 0.333 |
| | 5040 | 0.312 | 71.721 | 0.123 |
| 50 | 540 | 0.099 | 23.449 | 0.322 |
| | 5040 | 0.302 | 71.810 | 0.119 |
| 51 | 540 | 0.097 | 23.457 | 0.318 |
| | 5040 | 0.298 | 71.796 | 0.117 |
| 52 | 540 | 0.097 | 23.415 | 0.316 |
| | 5040 | 0.296 | 71.804 | 0.116 |
| 53 | 540 | 0.096 | 23.377 | 0.315 |
| | 5040 | 0.295 | 71.781 | 0.116 |
| 54 | 540 | 0.090 | 22.853 | 0.305 |
| | 5040 | 0.283 | 71.498 | 0.113 |
| 55 | 540 | 0.089 | 22.796 | 0.303 |
| | 5040 | 0.280 | 71.457 | 0.112 |
| 56 | 540 | 0.089 | 22.761 | 0.303 |
| | 5040 | 0.280 | 71.429 | 0.112 |
| 57 | 540 | 0.089 | 22.707 | 0.301 |
| | 5040 | 0.278 | 71.380 | 0.112 |
| 58 | 540 | 0.088 | 22.688 | 0.300 |
| | 5040 | 0.277 | 71.385 | 0.111 |
| 59 | 540 | 0.088 | 22.714 | 0.299 |
| | 5040 | 0.276 | 71.422 | 0.110 |
| 60 | 540 | 0.088 | 22.860 | 0.296 |
| | 5040 | 0.274 | 71.555 | 0.109 |
| 61 | 540 | 0.088 | 23.237 | 0.291 |
| | 5040 | 0.272 | 71.742 | 0.107 |
| 62 | 540 | 0.080 | 21.188 | 0.297 |
| | 5040 | 0.258 | 68.566 | 0.118 |
| 63 | 540 | 0.067 | 17.862 | 0.307 |
| | 5040 | 0.248 | 66.335 | 0.126 |
| 64 | 540 | 0.060 | 16.326 | 0.309 |
| | 5040 | 0.242 | 65.575 | 0.127 |
| 65 | 540 | 0.119 | 19.869 | 0.479 |
| | 5040 | 0.433 | 72.409 | 0.165 |
| 66 | 540 | 0.133 | 21.543 | 0.485 |
| | 5040 | 0.459 | 74.275 | 0.159 |
| 67 | 540 | 0.139 | 22.322 | 0.485 |
| | 5040 | 0.467 | 74.803 | 0.157 |
| 68 | 540 | 0.061 | 13.350 | 0.398 |
| | 5040 | 0.320 | 69.601 | 0.140 |
| 69 | 540 | 0.056 | 12.510 | 0.389 |
| | 5040 | 0.307 | 68.921 | 0.138 |
| 70 | 540 | 0.057 | 14.056 | 0.351 |
| | 5040 | 0.289 | 70.887 | 0.119 |
| 71 | 540 | 0.027 | 9.069 | 0.270 |
| | 5040 | 0.200 | 67.432 | 0.097 |

## 5 Warnings and errors

List of non-fatal warnings and errors generated during calculation.

1 Non-uniform load [2]: Co-ordinate (6) lies below surface

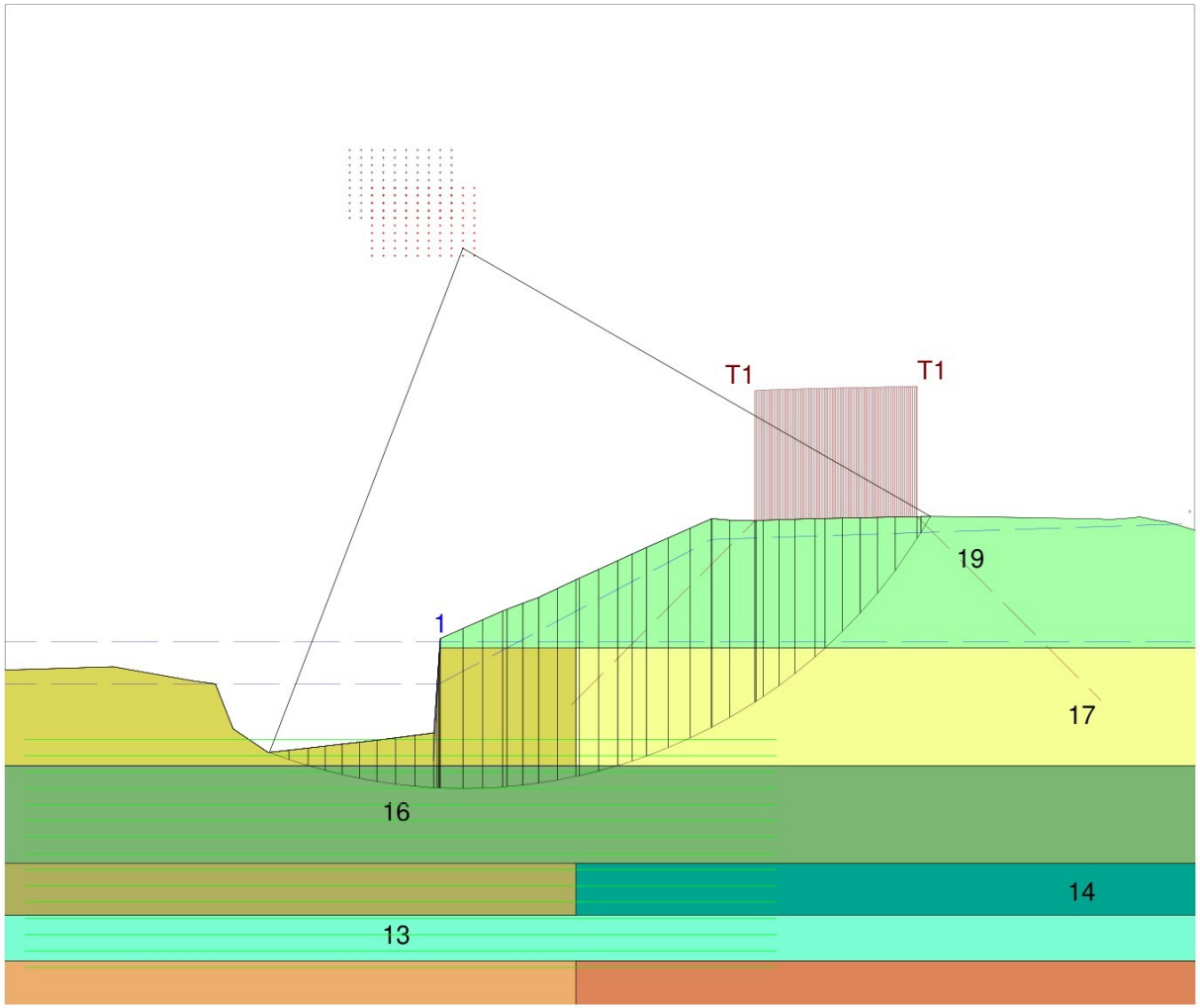
2 Non-uniform load [3]: Co-ordinate (1) lies below surface

3 Non-uniform load [4]: Co-ordinate (1) lies below surface

4 Non-uniform load [5]: Co-ordinate (4) lies below surface

## End of Report

# Critical Circle Bishop




Layers

- 19. Dijksmateriaal
- 18. Klei Hum Dk naast
- 17. Klei Hum DK
- 16. Hollandveen
- 15. Klei silt DKnaast
- 14. Klei silt DK
- 13. Hollandveen
- 12. Klei CA naast
- 11. Klei CA
- 10. Hollandveen
- 9. Klei CA naast
- 8. Klei hum CA naast
- 7. Klei CA naast
- 6. Klei hum CA naast
- 5. Klei CA
- 4. Klei hum CA
- 3. Klei CA
- 2. Klei hum CA
- 1. Zand CA

Xm : -11.20 [m]
Ym : 4.05 [m]

Radius : 8.30 [m]
Safety : 0.56

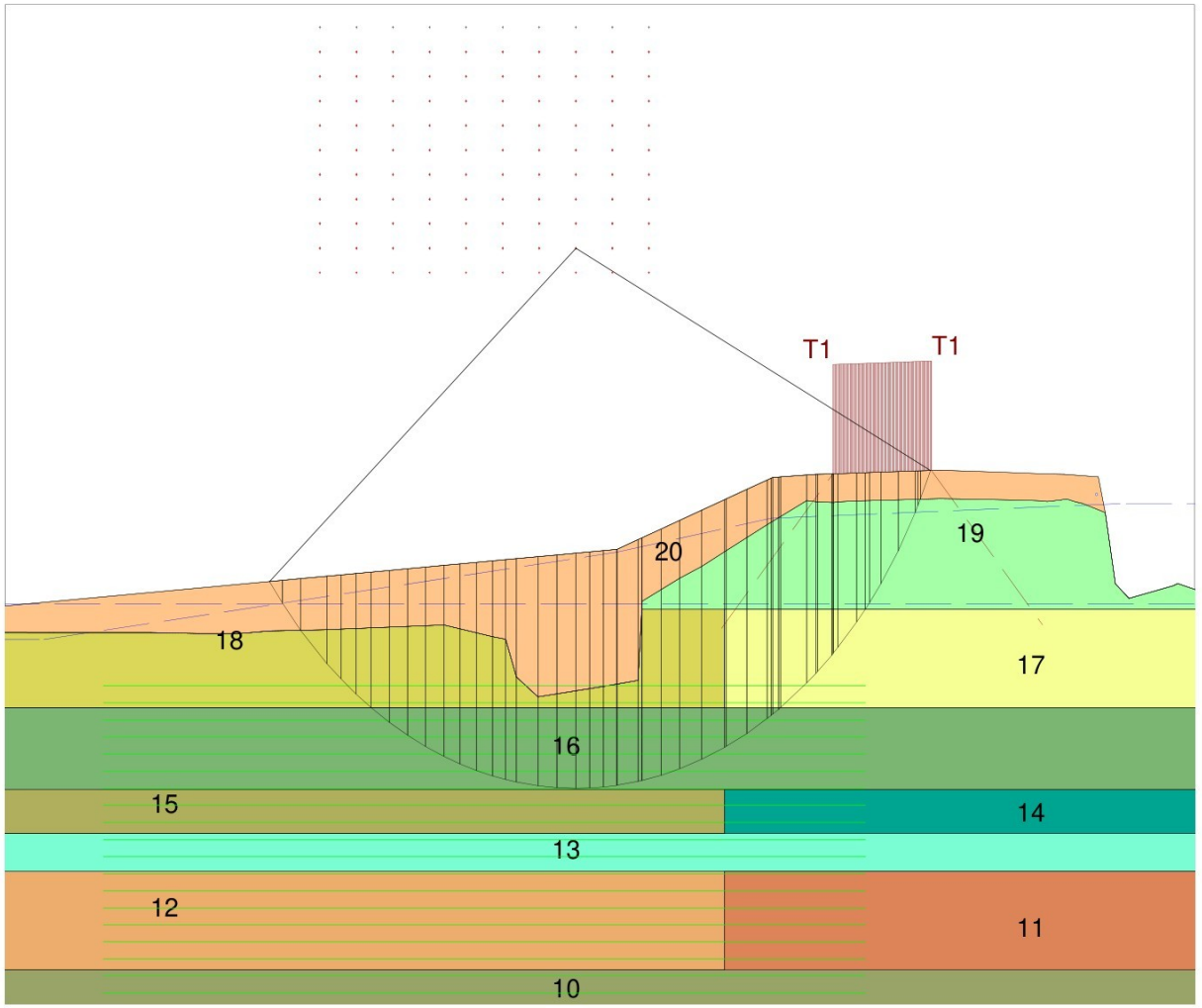
N468
profiel 13.650
huidige STBI

waalpartners civil engineering
Zuidweg 75
2671MP Naaldwijk
Phone
Fax 0174 627791

date 2/13/2025
dfw. -
ctr. -
form. A3
Annex -

D-Geo Stability 18.2 : 13.650_hui_stbi.sti

# Critical Circle Bishop




Layers

- 20. nieuw profiel
- 19. Dijksmateriaal
- 18. Klei Hum Dk naast
- 17. Klei Hum DK
- 16. Hollandveen
- 15. Klei silt DKnaast
- 14. Klei silt DK
- 13. Hollandveen
- 12. Klei CA naast
- 11. Klei CA
- 10. Hollandveen
- 9. Klei CA naast
- 8. Klei hum CA naast
- 7. Klei CA naast
- 6. Klei hum CA naast
- 5. Klei CA
- 4. Klei hum CA
- 3. Klei CA
- 2. Klei hum CA
- 1. Zand CA

Xm : -13.23 [m]
Ym : 4.51 [m]

Radius : 9.88 [m]
Safety : 1.37

waalpartners civil engineering
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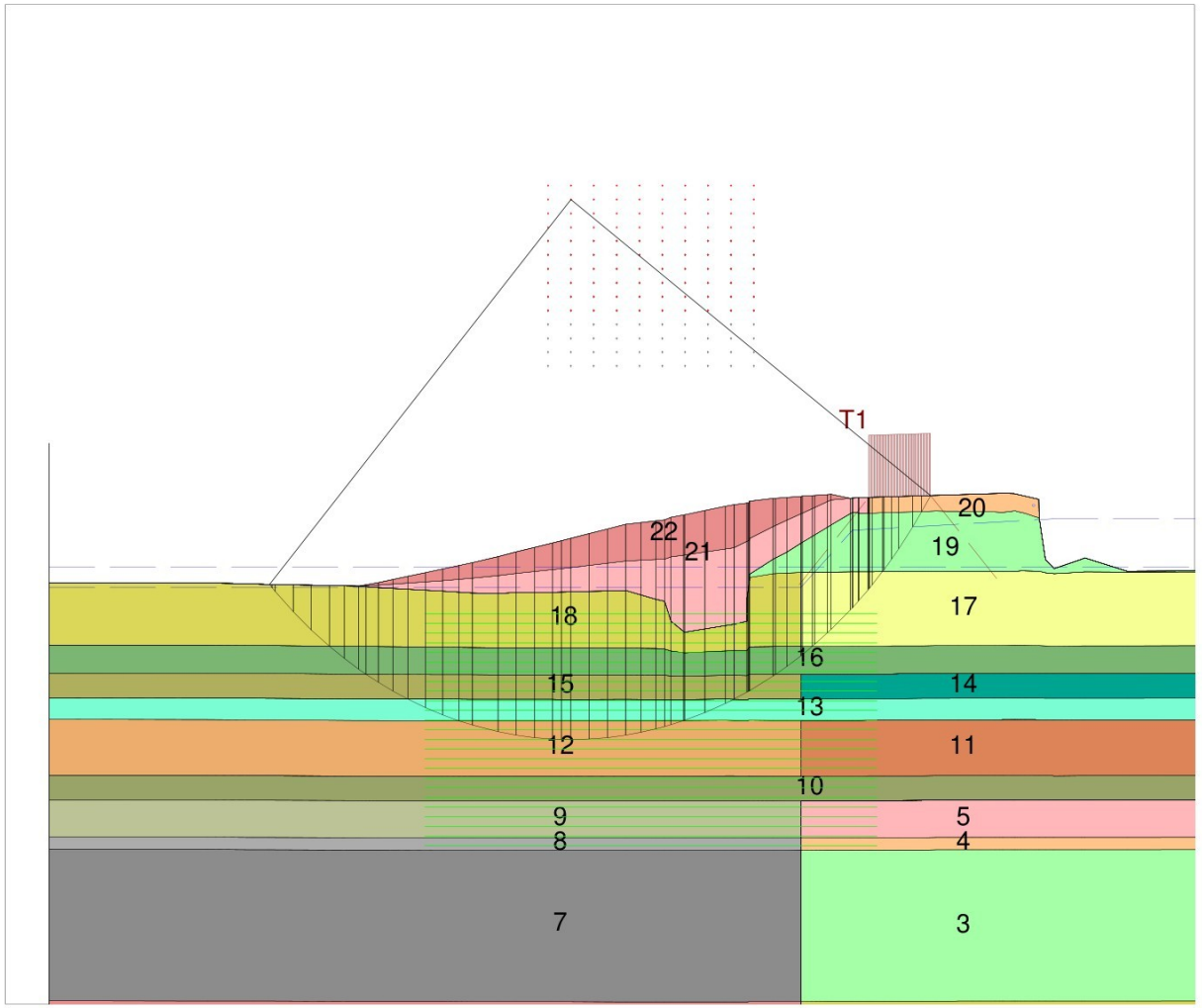
N468
profiel 13.650

Ontwerp STBI

| | | | |
|---|---|---|---|
| date | 2/13/2025 | drw. | - |
| | - | ctr. | |
| | Annex - | form. | A3 |

D-Geo Stability 18.2 : 13.650_eind_stbi koe -1.0 15.sti

# Critical Circle Bishop




Layers

- 22. nieuw profiel
- 21. nieuw profiel
- 20. nieuw profiel
- 19. Dijksmateriaal
- 18. Klei Hum Dk naast
- 17. Klei Hum DK
- 16. Hollandveen
- 15. Klei silt DKnaast
- 14. Klei silt DK
- 13. Hollandveen
- 12. Klei CA naast
- 11. Klei CA
- 10. Hollandveen
- 9. Klei CA naast
- 8. Klei hum CA naast
- 7. Klei CA naast
- 6. Klei hum CA naast
- 5. Klei CA
- 4. Klei hum CA
- 3. Klei CA
- 2. Klei hum CA
- 1. Zand CA

Xm : -18.80 [m]
Ym : 9.90 [m]

Radius : 17.46 [m]
Safety : 1.21

N468
profiel 13.650

Ontwerp STBI

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date 2/13/2025
dfw. -
ctr. -
form. A3
Annex -

D-Geo Stability 18.2 : 13.650_eind_stbi koe -1.0 10at540.sti

Bijlage 5.2 SBDMW06A

# Input View




N468
profiel 13.650

Ontwerp STBI


waalpartners civil engineering

Zuidweg 75
2671MP Naaldwijk

Phone 0174 627791
Email -


| date | drw. |
|---|---|
| 2/13/2025 | - |

| ctr. | form. |
|---|---|
| - | A3 |

Annex -

D-Settlement 23.2 : 13.650_dstab_koe.sli

# Report for D-Settlement 23.2

Settlement Calculations
Developed by Deltares

| | |
|---|---|
| Company: | Waalpartners civil engineering |
| Date of report: | 2/13/2025 |
| Time of report: | 6:24:49 PM |
| Report with version: | 23.2.1.41771 |
| Date of calculation: | 1/13/2025 |
| Time of calculation: | 3:39:46 PM |
| Calculated with version: | 23.2.1.41771 |
| File name: | 13.650_dstab_-koe |
| Project identification: | N468<br>profiel 13.650<br>Ontwerp STBI |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 19 - X - | -40.000 | -33.566 | -31.711 | -31.079 | -30.808 |
| 19 - Y - | -2.466 | -2.466 | -2.495 | -2.512 | -2.513 |
| 19 - X - | -27.415 | -26.622 | -24.013 | -22.802 | -21.766 |
| 19 - Y - | -2.523 | -2.521 | -2.524 | -2.543 | -2.539 |
| 19 - X - | -21.022 | -19.549 | -19.194 | -16.579 | -15.339 |
| 19 - Y - | -2.493 | -2.472 | -2.460 | -2.384 | -2.601 |
| 19 - X - | -15.000 | -14.735 | -14.193 | -12.524 | -11.650 |
| 19 - Y - | -2.650 | -3.335 | -3.699 | -3.512 | -3.400 |
| 19 - X - | -11.650 | -11.556 | -11.546 | -10.587 | -10.032 |
| 19 - Y - | -2.650 | -2.093 | -1.949 | -1.525 | -1.316 |
| 19 - X - | -9.404 | -8.368 | -7.364 | -7.087 | -6.678 |
| 19 - Y - | -1.023 | -0.550 | -0.108 | -0.131 | -0.141 |
| 19 - X - | -6.573 | -6.090 | -5.774 | -4.540 | -3.981 |
| 19 - Y - | -0.133 | -0.117 | -0.108 | -0.083 | -0.072 |
| 19 - X - | -3.469 | -3.074 | -2.161 | -1.569 | -1.379 |
| 19 - Y - | -0.079 | -0.085 | -0.098 | -0.110 | -0.114 |
| 19 - X - | -1.263 | -0.905 | -0.830 | -0.782 | -0.742 |
| 19 - Y - | -0.123 | -0.098 | -0.088 | -0.081 | -0.088 |
| 19 - X - | -0.664 | -0.539 | -0.362 | 0.217 | 0.475 |
| 19 - Y - | -0.102 | -0.132 | -0.158 | -0.326 | -1.630 |
| 19 - X - | 0.817 | 1.946 | 2.061 | 3.796 | 10.000 |
| 19 - Y - | -1.898 | -1.665 | -1.629 | -2.063 | -2.063 |
| 18 - X - | -40.000 | -33.566 | -31.711 | -31.079 | -30.808 |
| 18 - Y - | -2.466 | -2.466 | -2.495 | -2.512 | -2.513 |
| 18 - X - | -27.415 | -26.622 | -24.013 | -22.802 | -21.766 |
| 18 - Y - | -2.523 | -2.521 | -2.524 | -2.543 | -2.539 |
| 18 - X - | -21.022 | -19.549 | -19.194 | -16.579 | -15.339 |
| 18 - Y - | -2.493 | -2.472 | -2.460 | -2.384 | -2.601 |
| 18 - X - | -15.000 | -14.735 | -14.193 | -12.524 | -11.650 |
| 18 - Y - | -2.650 | -3.335 | -3.699 | -3.512 | -3.400 |
| 18 - X - | -11.650 | -11.556 | -9.455 | 10.000 | |
| 18 - Y - | -2.650 | -2.093 | -2.094 | -2.100 | |
| 17 - X - | -40.000 | -9.455 | -9.455 | 10.000 | |
| 17 - Y - | -4.500 | -4.500 | -2.094 | -2.100 | |
| 16 - X - | -40.000 | -9.455 | 10.000 | | |
| 16 - Y - | -4.500 | -4.500 | -4.500 | | |
| 15 - X - | -40.000 | -9.455 | 10.000 | | |
| 15 - Y - | -5.400 | -5.400 | -5.400 | | |
| 14 - X - | -40.000 | -9.455 | -9.455 | 10.000 | |
| 14 - Y - | -6.200 | -6.200 | -5.400 | -5.400 | |
| 13 - X - | -40.000 | -9.455 | 10.000 | | |
| 13 - Y - | -6.200 | -6.200 | -6.200 | | |
| 12 - X - | -40.000 | -9.455 | 10.000 | | |
| 12 - Y - | -6.900 | -6.900 | -6.900 | | |
| 11 - X - | -40.000 | -9.455 | -9.455 | 10.000 | |
| 11 - Y - | -8.700 | -8.700 | -6.900 | -6.900 | |
| 10 - X - | -40.000 | -9.455 | 10.000 | | |
| 10 - Y - | -8.700 | -8.700 | -8.700 | | |
| 9 - X - | -40.000 | -9.455 | 10.000 | | |
| 9 - Y - | -9.500 | -9.500 | -9.500 | | |
| 8 - X - | -40.000 | -9.455 | -9.455 | 10.000 | |
| 8 - Y - | -10.700 | -10.700 | -9.500 | -9.500 | |
| 7 - X - | -40.000 | -9.455 | -9.455 | -9.455 | 10.000 |
| 7 - Y - | -11.100 | -11.100 | -10.700 | -9.500 | -9.500 |

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 6 - X - | -40.000 | -9.455 | -9.455 | -9.455 | -9.455 |
| 6 - Y - | -16.000 | -16.000 | -11.100 | -10.700 | -9.500 |
| 6 - X - | 10.000 | | | | |
| 6 - Y - | -9.500 | | | | |
| 5 - X - | -40.000 | -9.455 | -9.455 | -9.455 | -9.455 |
| 5 - Y - | -18.100 | -18.100 | -16.000 | -11.100 | -10.700 |
| 5 - X - | -9.455 | 10.000 | | | |
| 5 - Y - | -9.500 | -9.500 | | | |
| 4 - X - | -40.000 | -9.455 | -9.455 | -9.455 | -9.455 |
| 4 - Y - | -18.100 | -18.100 | -16.000 | -11.100 | -10.700 |
| 4 - X - | 10.000 | | | | |
| 4 - Y - | -10.700 | | | | |
| 3 - X - | -40.000 | -9.455 | -9.455 | -9.455 | 10.000 |
| 3 - Y - | -18.100 | -18.100 | -16.000 | -11.100 | -11.100 |
| 2 - X - | -40.000 | -9.455 | -9.455 | 10.000 | |
| 2 - Y - | -18.100 | -18.100 | -16.000 | -16.000 | |
| 1 - X - | -40.000 | -9.455 | 10.000 | | |
| 1 - Y - | -18.100 | -18.100 | -18.100 | | |
| 0 - X - | -40.000 | 10.000 | | | |
| 0 - Y - | -25.502 | -25.502 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -40.000 | -9.465 | -7.370 | 0.750 | 10.000 |
| 1 - Y - | -2.650 | -2.650 | -0.800 | -0.430 | -0.430 |
| 2 - X - | -40.000 | 10.000 | | | |
| 2 - Y - | -2.000 | -2.000 | | | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | |
| - Loads: | Simulate |
| End of consolidation: | 10000.00 [days] |
| No maintain profile | |
| Pc (initial): | Variable parallel to the initial effective stress |
| Pc (per step): | Automatic increased to the final effective stresses |
| Creep rate reference time: | 1.000 [days] |
| No imaginary surface | |
| With submerging | |
| (only for non uniform loads) | |
| - Iteration stop criterium : | 0.10 [m] |
| Load column width | |
| - Non-Uniform Loads : | 1.00 [m] |
| - Trapeziform Loads : | 1.00 [m] |

## 2.4 Soil Profiles

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 19 | Dijksmateriaal | 1 | 1 |
| 18 | Klei Hum Dk naast | 1 | 1 |
| 17 | Klei Hum DK | 1 | 1 |
| 16 | Hollandveen | 1 | 1 |

| Layer number | Material name | PI-line top | PI-line bottom |
|---|---|---|---|
| 15 | Klei silt DKnaast | 1 | 1 |
| 14 | klei Silt DK | 1 | 1 |
| 13 | Hollandveen | 1 | 1 |
| 12 | Klei CA  naast | 1 | 1 |
| 11 | Klei CA | 1 | 1 |
| 10 | Hollandveen | 1 | 1 |
| 9 | Klei CA  naast | 1 | 1 |
| 8 | Klei hum CA naast | 1 | 1 |
| 7 | Klei CA  naast | 1 | 1 |
| 6 | Klei hum CA naast | 1 | 1 |
| 5 | Klei CA | 1 | 1 |
| 4 | Klei hum CA | 1 | 1 |
| 3 | Klei CA | 1 | 1 |
| 2 | Klei hum CA | 1 | 1 |
| 1 | Zand CA | 2 | 2 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 19 | No | 16.00 | 16.00 |
| 18 | No | 13.50 | 13.50 |
| 17 | No | 13.50 | 13.50 |
| 16 | No | 10.50 | 10.50 |
| 15 | No | 15.10 | 15.10 |
| 14 | No | 15.10 | 15.10 |
| 13 | No | 10.50 | 10.50 |
| 12 | No | 15.90 | 15.90 |
| 11 | No | 15.90 | 15.90 |
| 10 | No | 10.50 | 10.50 |
| 9 | No | 15.90 | 15.90 |
| 8 | No | 15.10 | 15.10 |
| 7 | No | 15.90 | 15.90 |
| 6 | No | 15.10 | 15.10 |
| 5 | No | 15.90 | 15.90 |
| 4 | No | 15.10 | 15.10 |
| 3 | No | 15.90 | 15.90 |
| 2 | No | 15.10 | 15.10 |
| 1 | Yes | 18.00 | 20.00 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] |
|---|---|---|
| 19 | Vert. cons. | 1.00E-08 |
| 18 | Vert. cons. | 4.07E-08 |
| 17 | Vert. cons. | 4.07E-08 |
| 16 | Vert. cons. | 1.00E-07 |
| 15 | Vert. cons. | 5.00E-08 |
| 14 | Vert. cons. | 5.00E-08 |
| 13 | Vert. cons. | 1.00E-07 |
| 12 | Vert. cons. | 6.02E-07 |
| 11 | Vert. cons. | 6.02E-07 |
| 10 | Vert. cons. | 1.00E-07 |
| 9 | Vert. cons. | 6.02E-07 |
| 8 | Vert. cons. | 9.27E-08 |
| 7 | Vert. cons. | 6.02E-07 |
| 6 | Vert. cons. | 9.27E-08 |
| 5 | Vert. cons. | 6.02E-07 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] |
|---|---|---|
| 4 | Vert. cons. | 9.27E-08 |
| 3 | Vert. cons. | 6.02E-07 |
| 2 | Vert. cons. | 9.27E-08 |
| 1 | Vert. cons. | - |

| Layer number | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|
| 19 | - | - | - |
| 18 | - | - | - |
| 17 | - | - | - |
| 16 | - | - | - |
| 15 | - | - | - |
| 14 | - | - | - |
| 13 | - | - | - |
| 12 | - | - | - |
| 11 | - | - | - |
| 10 | - | - | - |
| 9 | - | - | - |
| 8 | - | - | - |
| 7 | - | - | - |
| 6 | - | - | - |
| 5 | - | - | - |
| 4 | - | - | - |
| 3 | - | - | - |
| 2 | - | - | - |
| 1 | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 19 | - | 1.50 | - |
| 18 | - | 1.50 | - |
| 17 | - | 1.50 | - |
| 16 | - | 1.80 | - |
| 15 | - | 1.50 | - |
| 14 | - | 1.50 | - |
| 13 | - | 1.80 | - |
| 12 | - | 1.50 | - |
| 11 | - | 1.50 | - |
| 10 | - | 1.80 | - |
| 9 | - | 1.50 | - |
| 8 | - | 1.50 | - |
| 7 | - | 1.50 | - |
| 6 | - | 1.50 | - |
| 5 | - | 1.50 | - |
| 4 | - | 1.50 | - |
| 3 | - | 1.50 | - |
| 2 | - | 1.50 | - |
| 1 | - | 1.39 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 19 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 18 | 0.0338000 | 0.2190000 | 0.0174000 | - | - | - |
| 17 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 16 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 15 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 14 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 13 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 12 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 11 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 10 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 9 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 8 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 7 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 6 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 5 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 4 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 3 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 2 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 1 | 0.0100000 | 0.1062000 | 0.0033000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time | Unit weight | |
|---|---|---|---|
| | [days] | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 1 | -1 | 14.00 | 14.00 |
| 2 | 2 | 16.00 | 16.00 |
| 3 | 2 | 19.00 | 19.00 |
| 4 | 2 | 25.00 | 25.00 |
| 5 | 2 | 16.00 | 16.00 |
| 6 | 2 | 16.00 | 16.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -15.00 | -11.65 | | | | |
| 1 - Y - | -2.65 | -2.65 | | | | |
| 2 - X - | -27.41 | -12.18 | -8.23 | -7.13 | -6.73 | -6.73 |
| 2 - Y - | -2.52 | -1.00 | 0.32 | 0.37 | 0.38 | -0.14 |
| 3 - X - | -6.73 | -6.73 | -5.48 | -3.98 | -2.48 | -1.23 |
| 3 - Y - | -0.14 | 0.18 | 0.21 | 0.25 | 0.21 | 0.18 |
| 3 - X - | -0.83 | -0.83 | | | | |
| 3 - Y - | 0.17 | -0.09 | | | | |
| 4 - X - | -6.73 | -6.73 | -5.48 | -3.98 | -2.48 | -1.23 |
| 4 - Y - | -0.14 | 0.38 | 0.41 | 0.45 | 0.41 | 0.38 |
| 4 - X - | -0.83 | -0.83 | | | | |
| 4 - Y - | 0.37 | 0.17 | | | | |
| 5 - X - | -0.83 | -0.83 | 0.04 | 0.19 | | |
| 5 - Y - | -0.09 | 0.37 | 0.33 | -0.32 | | |
| 6 - X - | -27.41 | -16.58 | -12.18 | -8.23 | -7.45 | |
| 6 - Y - | -2.52 | -0.25 | 0.40 | 0.50 | 0.35 | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -40.000 | -33.566 | -31.711 | -31.079 | -30.808 |
| 6 - 10 | -27.415 | -26.622 | -24.013 | -22.802 | -21.766 |
| 11 - 15 | -21.022 | -19.800 | -19.549 | -19.194 | -16.579 |
| 16 - 20 | -15.339 | -15.000 | -14.735 | -14.193 | -13.330 |
| 21 - 25 | -12.524 | -12.180 | -11.650 | -11.556 | -11.546 |
| 26 - 30 | -10.587 | -10.032 | -9.465 | -9.455 | -9.404 |
| 31 - 35 | -8.368 | -8.231 | -7.449 | -7.370 | -7.364 |
| 36 - 40 | -7.131 | -7.087 | -6.731 | -6.678 | -6.573 |
| 41 - 45 | -6.090 | -5.774 | -5.482 | -4.540 | -3.981 |
| 46 - 50 | -3.469 | -3.074 | -2.480 | -2.161 | -1.569 |

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 51 - 55 | -1.379 | -1.263 | -1.231 | -0.905 | -0.831 |
| 56 - 60 | -0.830 | -0.782 | -0.742 | -0.664 | -0.539 |
| 61 - 65 | -0.362 | 0.042 | 0.188 | 0.217 | 0.475 |
| 66 - 70 | 0.750 | 0.817 | 1.946 | 2.061 | 3.796 |
| 71 | 10.000 | | | | |

# 3 Results per Vertical

## 3.1 Results for Vertical 1 (X = -40.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.466 | 0.001 | -2.466 | 0.000 | 0.184 |
| -2.566 | 0.547 | -2.566 | -0.801 | 0.182 |
| -2.650 | 0.853 | -2.649 | -1.625 | 0.182 |
| -2.666 | 0.911 | -2.649 | -1.625 | 0.182 |
| -2.766 | 1.274 | -2.649 | -1.625 | 0.182 |
| -2.866 | 1.635 | -2.648 | -1.625 | 0.181 |
| -2.966 | 1.995 | -2.647 | -1.625 | 0.181 |
| -3.066 | 2.354 | -2.646 | -1.625 | 0.180 |
| -3.166 | 2.712 | -2.645 | -1.625 | 0.179 |
| -3.266 | 3.068 | -2.643 | -1.625 | 0.178 |
| -3.366 | 3.424 | -2.642 | -1.624 | 0.177 |
| -3.466 | 3.779 | -2.641 | -1.624 | 0.175 |
| -3.483 | 3.839 | -2.640 | -1.624 | 0.175 |
| -4.000 | 5.654 | -2.631 | -1.623 | 0.168 |
| -4.500 | 7.386 | -2.619 | -1.622 | 0.159 |
| -4.500 | 7.386 | -2.619 | -1.622 | 0.159 |
| -4.950 | 7.676 | -2.617 | -1.620 | 0.153 |
| -5.400 | 7.969 | -2.615 | -1.616 | 0.147 |
| -5.400 | 7.969 | -2.615 | -1.616 | 0.147 |
| -5.800 | 10.016 | -2.607 | -1.612 | 0.145 |
| -6.200 | 12.052 | -2.599 | -1.606 | 0.142 |
| -6.200 | 12.052 | -2.599 | -1.606 | 0.142 |
| -6.550 | 12.279 | -2.596 | -1.600 | 0.134 |
| -6.900 | 12.509 | -2.594 | -1.593 | 0.127 |
| -6.900 | 12.509 | -2.594 | -1.593 | 0.127 |
| -7.800 | 18.001 | -2.593 | -1.568 | 0.125 |
| -8.700 | 23.500 | -2.591 | -1.531 | 0.122 |
| -8.700 | 23.500 | -2.591 | -1.531 | 0.122 |
| -9.100 | 23.768 | -2.588 | -1.511 | 0.109 |
| -9.500 | 24.045 | -2.586 | -1.489 | 0.095 |
| -9.500 | 24.045 | -2.586 | -1.489 | 0.095 |
| -10.100 | 27.730 | -2.585 | -1.450 | 0.092 |
| -10.700 | 31.422 | -2.584 | -1.405 | 0.089 |
| -10.700 | 31.422 | -2.584 | -1.405 | 0.089 |
| -10.900 | 32.480 | -2.583 | -1.389 | 0.086 |
| -11.100 | 33.540 | -2.581 | -1.373 | 0.084 |
| -11.100 | 33.540 | -2.581 | -1.373 | 0.084 |
| -11.950 | 38.788 | -2.581 | -1.294 | 0.078 |
| -12.950 | 44.981 | -2.580 | -1.189 | 0.071 |
| -13.550 | 48.706 | -2.580 | -1.119 | 0.066 |
| -14.400 | 53.995 | -2.581 | -1.012 | 0.059 |
| -15.400 | 60.236 | -2.582 | -0.877 | 0.051 |
| -16.000 | 63.990 | -2.583 | -0.791 | 0.046 |
| -16.000 | 63.990 | -2.583 | -0.791 | 0.046 |
| -16.550 | 67.102 | -2.596 | -0.711 | 0.036 |
| -17.050 | 69.963 | -2.610 | -0.636 | 0.027 |
| -17.600 | 73.146 | -2.629 | -0.552 | 0.016 |
| -18.100 | 76.075 | -2.650 | -0.475 | 0.006 |
| -18.100 | 69.698 | -2.000 | -0.475 | 0.006 |
| -18.600 | 74.873 | -2.000 | -0.398 | 0.006 |
| -19.101 | 80.058 | -2.000 | -0.319 | 0.006 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -20.101 | 90.408 | -2.000 | -0.162 | 0.005 |
| -21.101 | 100.758 | -2.000 | -0.006 | 0.004 |
| -21.801 | 108.001 | -2.000 | 0.102 | 0.003 |
| -23.602 | 126.631 | -2.000 | 0.372 | 0.002 |
| -25.502 | 146.268 | -2.000 | 0.641 | 0.000 |

### 3.2 Results for Vertical 2 (X = -33.57 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.466 | 0.001 | -2.466 | 0.000 | 0.198 |
| -2.566 | 0.406 | -2.566 | -0.942 | 0.197 |
| -2.650 | 0.712 | -2.649 | -1.766 | 0.197 |
| -2.666 | 0.770 | -2.649 | -1.766 | 0.197 |
| -2.766 | 1.133 | -2.649 | -1.766 | 0.197 |
| -2.866 | 1.494 | -2.648 | -1.766 | 0.197 |
| -2.966 | 1.854 | -2.647 | -1.766 | 0.196 |
| -3.066 | 2.214 | -2.646 | -1.765 | 0.196 |
| -3.166 | 2.572 | -2.645 | -1.765 | 0.195 |
| -3.266 | 2.929 | -2.644 | -1.765 | 0.194 |
| -3.366 | 3.285 | -2.642 | -1.764 | 0.193 |
| -3.466 | 3.640 | -2.641 | -1.764 | 0.192 |
| -3.483 | 3.701 | -2.640 | -1.763 | 0.192 |
| -4.000 | 5.520 | -2.631 | -1.758 | 0.185 |
| -4.500 | 7.260 | -2.619 | -1.748 | 0.178 |
| -4.500 | 7.260 | -2.619 | -1.748 | 0.178 |
| -4.950 | 7.563 | -2.617 | -1.733 | 0.173 |
| -5.400 | 7.874 | -2.615 | -1.711 | 0.168 |
| -5.400 | 7.874 | -2.615 | -1.711 | 0.168 |
| -5.800 | 9.941 | -2.607 | -1.685 | 0.166 |
| -6.200 | 12.002 | -2.598 | -1.651 | 0.163 |
| -6.200 | 12.002 | -2.598 | -1.651 | 0.163 |
| -6.550 | 12.256 | -2.596 | -1.617 | 0.156 |
| -6.900 | 12.519 | -2.594 | -1.576 | 0.148 |
| -6.900 | 12.519 | -2.594 | -1.576 | 0.148 |
| -7.800 | 18.115 | -2.592 | -1.446 | 0.147 |
| -8.700 | 23.741 | -2.590 | -1.282 | 0.143 |
| -8.700 | 23.741 | -2.590 | -1.282 | 0.143 |
| -9.100 | 24.070 | -2.587 | -1.199 | 0.129 |
| -9.500 | 24.411 | -2.585 | -1.111 | 0.114 |
| -9.500 | 24.411 | -2.585 | -1.111 | 0.114 |
| -10.100 | 28.199 | -2.584 | -0.971 | 0.111 |
| -10.700 | 31.996 | -2.583 | -0.821 | 0.107 |
| -10.700 | 31.996 | -2.583 | -0.821 | 0.107 |
| -10.900 | 33.088 | -2.581 | -0.769 | 0.104 |
| -11.100 | 34.183 | -2.580 | -0.717 | 0.101 |
| -11.100 | 34.183 | -2.580 | -0.717 | 0.101 |
| -11.950 | 39.582 | -2.579 | -0.489 | 0.094 |
| -12.950 | 45.949 | -2.578 | -0.211 | 0.085 |
| -13.550 | 49.774 | -2.578 | -0.042 | 0.079 |
| -14.400 | 55.199 | -2.579 | 0.197 | 0.071 |
| -15.400 | 61.586 | -2.580 | 0.474 | 0.060 |
| -16.000 | 65.420 | -2.582 | 0.637 | 0.054 |
| -16.000 | 65.420 | -2.582 | 0.637 | 0.054 |
| -16.550 | 68.603 | -2.594 | 0.783 | 0.043 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -17.050 | 71.525 | -2.609 | 0.913 | 0.033 |
| -17.600 | 74.771 | -2.629 | 1.052 | 0.021 |
| -18.100 | 77.752 | -2.650 | 1.175 | 0.010 |
| -18.100 | 71.375 | -2.000 | 1.175 | 0.010 |
| -18.600 | 76.593 | -2.000 | 1.294 | 0.010 |
| -19.101 | 81.817 | -2.000 | 1.410 | 0.009 |
| -20.101 | 92.234 | -2.000 | 1.630 | 0.007 |
| -21.101 | 102.634 | -2.000 | 1.833 | 0.006 |
| -21.801 | 109.904 | -2.000 | 1.966 | 0.005 |
| -23.602 | 128.572 | -2.000 | 2.271 | 0.003 |
| -25.502 | 148.210 | -2.000 | 2.537 | 0.000 |

### 3.3 Results for Vertical 3 (X = -31.71 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.495 | 0.001 | -2.495 | 0.000 | 0.216 |
| -2.595 | 0.368 | -2.595 | -0.980 | 0.216 |
| -2.650 | 0.568 | -2.649 | -1.520 | 0.216 |
| -2.695 | 0.731 | -2.649 | -1.520 | 0.216 |
| -2.795 | 1.093 | -2.648 | -1.519 | 0.216 |
| -2.895 | 1.453 | -2.648 | -1.519 | 0.216 |
| -2.995 | 1.812 | -2.646 | -1.519 | 0.216 |
| -3.095 | 2.170 | -2.645 | -1.518 | 0.215 |
| -3.195 | 2.527 | -2.644 | -1.517 | 0.215 |
| -3.295 | 2.882 | -2.642 | -1.516 | 0.214 |
| -3.395 | 3.237 | -2.641 | -1.515 | 0.213 |
| -3.495 | 3.590 | -2.639 | -1.514 | 0.212 |
| -3.498 | 3.599 | -2.639 | -1.514 | 0.212 |
| -4.000 | 5.359 | -2.628 | -1.502 | 0.206 |
| -4.500 | 7.091 | -2.614 | -1.478 | 0.199 |
| -4.500 | 7.091 | -2.614 | -1.478 | 0.199 |
| -4.950 | 7.410 | -2.612 | -1.444 | 0.194 |
| -5.400 | 7.744 | -2.609 | -1.395 | 0.188 |
| -5.400 | 7.744 | -2.609 | -1.395 | 0.188 |
| -5.800 | 9.828 | -2.600 | -1.340 | 0.186 |
| -6.200 | 11.909 | -2.590 | -1.274 | 0.183 |
| -6.200 | 11.909 | -2.590 | -1.274 | 0.183 |
| -6.550 | 12.193 | -2.587 | -1.207 | 0.175 |
| -6.900 | 12.487 | -2.585 | -1.132 | 0.167 |
| -6.900 | 12.487 | -2.585 | -1.132 | 0.167 |
| -7.800 | 18.175 | -2.583 | -0.908 | 0.165 |
| -8.700 | 23.896 | -2.581 | -0.648 | 0.160 |
| -8.700 | 23.896 | -2.581 | -0.648 | 0.160 |
| -9.100 | 24.263 | -2.578 | -0.524 | 0.144 |
| -9.500 | 24.642 | -2.575 | -0.396 | 0.128 |
| -9.500 | 24.642 | -2.575 | -0.396 | 0.128 |
| -10.100 | 28.488 | -2.574 | -0.197 | 0.124 |
| -10.700 | 32.339 | -2.573 | 0.007 | 0.119 |
| -10.700 | 32.339 | -2.573 | 0.007 | 0.119 |
| -10.900 | 33.448 | -2.571 | 0.076 | 0.116 |
| -11.100 | 34.558 | -2.570 | 0.144 | 0.112 |
| -11.100 | 34.558 | -2.570 | 0.144 | 0.112 |
| -11.950 | 40.024 | -2.569 | 0.438 | 0.104 |
| -12.950 | 46.457 | -2.568 | 0.781 | 0.094 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -13.550 | 50.317 | -2.568 | 0.983 | 0.087 |
| -14.400 | 55.784 | -2.569 | 1.261 | 0.078 |
| -15.400 | 62.212 | -2.571 | 1.574 | 0.066 |
| -16.000 | 66.066 | -2.572 | 1.753 | 0.059 |
| -16.000 | 66.066 | -2.572 | 1.753 | 0.059 |
| -16.550 | 69.282 | -2.587 | 1.911 | 0.047 |
| -17.050 | 72.233 | -2.604 | 2.049 | 0.036 |
| -17.600 | 75.512 | -2.626 | 2.195 | 0.024 |
| -18.100 | 78.522 | -2.650 | 2.322 | 0.013 |
| -18.100 | 72.146 | -2.000 | 2.322 | 0.013 |
| -18.600 | 77.367 | -2.000 | 2.444 | 0.012 |
| -19.101 | 82.592 | -2.000 | 2.560 | 0.011 |
| -20.101 | 93.006 | -2.000 | 2.776 | 0.009 |
| -21.101 | 103.398 | -2.000 | 2.971 | 0.007 |
| -21.801 | 110.660 | -2.000 | 3.095 | 0.006 |
| -23.602 | 129.299 | -2.000 | 3.369 | 0.003 |
| -25.502 | 148.896 | -2.000 | 3.595 | 0.000 |

### 3.4 Results for Vertical 4 (X = -31.08 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.512 | 0.002 | -2.512 | 0.001 | 0.230 |
| -2.612 | 0.368 | -2.612 | -0.980 | 0.230 |
| -2.650 | 0.506 | -2.650 | -1.353 | 0.230 |
| -2.712 | 0.731 | -2.649 | -1.353 | 0.230 |
| -2.812 | 1.092 | -2.648 | -1.352 | 0.230 |
| -2.912 | 1.453 | -2.647 | -1.352 | 0.230 |
| -3.012 | 1.811 | -2.646 | -1.351 | 0.230 |
| -3.112 | 2.169 | -2.645 | -1.350 | 0.230 |
| -3.212 | 2.525 | -2.644 | -1.349 | 0.229 |
| -3.312 | 2.880 | -2.642 | -1.348 | 0.228 |
| -3.412 | 3.234 | -2.640 | -1.346 | 0.227 |
| -3.506 | 3.565 | -2.639 | -1.344 | 0.226 |
| -3.512 | 3.586 | -2.638 | -1.344 | 0.226 |
| -4.500 | 7.028 | -2.612 | -1.293 | 0.212 |
| -4.500 | 7.028 | -2.612 | -1.293 | 0.212 |
| -4.950 | 7.359 | -2.610 | -1.245 | 0.207 |
| -5.400 | 7.708 | -2.607 | -1.180 | 0.201 |
| -5.400 | 7.708 | -2.607 | -1.180 | 0.201 |
| -5.800 | 9.805 | -2.598 | -1.107 | 0.198 |
| -6.200 | 11.898 | -2.587 | -1.022 | 0.194 |
| -6.200 | 11.898 | -2.587 | -1.022 | 0.194 |
| -6.550 | 12.198 | -2.584 | -0.938 | 0.186 |
| -6.900 | 12.508 | -2.581 | -0.846 | 0.177 |
| -6.900 | 12.508 | -2.581 | -0.846 | 0.177 |
| -7.800 | 18.239 | -2.580 | -0.579 | 0.174 |
| -8.700 | 23.999 | -2.577 | -0.278 | 0.169 |
| -8.700 | 23.999 | -2.577 | -0.278 | 0.169 |
| -9.100 | 24.381 | -2.574 | -0.137 | 0.152 |
| -9.500 | 24.775 | -2.571 | 0.007 | 0.135 |
| -9.500 | 24.775 | -2.571 | 0.007 | 0.135 |
| -10.100 | 28.642 | -2.570 | 0.227 | 0.131 |
| -10.700 | 32.512 | -2.569 | 0.449 | 0.125 |
| -10.700 | 32.512 | -2.569 | 0.449 | 0.125 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -10.900 | 33.626 | -2.567 | 0.524 | 0.121 |
| -11.100 | 34.741 | -2.565 | 0.598 | 0.118 |
| -11.100 | 34.741 | -2.565 | 0.598 | 0.118 |
| -11.950 | 40.229 | -2.564 | 0.913 | 0.109 |
| -12.950 | 46.683 | -2.564 | 1.275 | 0.098 |
| -13.550 | 50.553 | -2.564 | 1.486 | 0.091 |
| -14.400 | 56.031 | -2.565 | 1.774 | 0.081 |
| -15.400 | 62.468 | -2.567 | 2.095 | 0.068 |
| -16.000 | 66.327 | -2.568 | 2.277 | 0.061 |
| -16.000 | 66.327 | -2.568 | 2.277 | 0.061 |
| -16.550 | 69.553 | -2.584 | 2.436 | 0.049 |
| -17.050 | 72.514 | -2.602 | 2.575 | 0.038 |
| -17.600 | 75.803 | -2.625 | 2.721 | 0.025 |
| -18.100 | 78.824 | -2.650 | 2.847 | 0.014 |
| -18.100 | 72.447 | -2.000 | 2.847 | 0.014 |
| -18.600 | 77.667 | -2.000 | 2.967 | 0.012 |
| -19.101 | 82.891 | -2.000 | 3.081 | 0.011 |
| -20.101 | 93.299 | -2.000 | 3.292 | 0.009 |
| -21.101 | 103.685 | -2.000 | 3.479 | 0.008 |
| -21.801 | 110.941 | -2.000 | 3.597 | 0.006 |
| -23.602 | 129.563 | -2.000 | 3.855 | 0.003 |
| -25.502 | 149.140 | -2.000 | 4.060 | 0.000 |

### 3.5 Results for Vertical 5 (X = -30.81 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.513 | 0.002 | -2.513 | 0.001 | 0.234 |
| -2.613 | 0.368 | -2.613 | -0.980 | 0.234 |
| -2.650 | 0.502 | -2.650 | -1.343 | 0.234 |
| -2.713 | 0.731 | -2.649 | -1.343 | 0.235 |
| -2.813 | 1.092 | -2.648 | -1.342 | 0.235 |
| -2.913 | 1.452 | -2.647 | -1.342 | 0.235 |
| -3.013 | 1.811 | -2.646 | -1.341 | 0.234 |
| -3.113 | 2.169 | -2.645 | -1.340 | 0.234 |
| -3.213 | 2.525 | -2.644 | -1.339 | 0.233 |
| -3.313 | 2.880 | -2.642 | -1.337 | 0.233 |
| -3.413 | 3.234 | -2.640 | -1.335 | 0.232 |
| -3.506 | 3.564 | -2.638 | -1.333 | 0.231 |
| -3.513 | 3.587 | -2.638 | -1.333 | 0.231 |
| -4.500 | 7.031 | -2.612 | -1.272 | 0.217 |
| -4.500 | 7.031 | -2.612 | -1.272 | 0.217 |
| -4.950 | 7.368 | -2.609 | -1.217 | 0.211 |
| -5.400 | 7.727 | -2.606 | -1.142 | 0.205 |
| -5.400 | 7.727 | -2.606 | -1.142 | 0.205 |
| -5.800 | 9.831 | -2.597 | -1.060 | 0.202 |
| -6.200 | 11.933 | -2.586 | -0.965 | 0.199 |
| -6.200 | 11.933 | -2.586 | -0.965 | 0.199 |
| -6.550 | 12.240 | -2.583 | -0.873 | 0.190 |
| -6.900 | 12.558 | -2.580 | -0.772 | 0.181 |
| -6.900 | 12.559 | -2.580 | -0.772 | 0.181 |
| -7.800 | 18.310 | -2.579 | -0.484 | 0.178 |
| -8.700 | 24.088 | -2.576 | -0.166 | 0.172 |
| -8.700 | 24.088 | -2.576 | -0.166 | 0.172 |
| -9.100 | 24.477 | -2.573 | -0.018 | 0.155 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -9.500 | 24.877 | -2.570 | 0.132 | 0.138 |
| -9.500 | 24.877 | -2.570 | 0.133 | 0.138 |
| -10.100 | 28.753 | -2.569 | 0.361 | 0.133 |
| -10.700 | 32.631 | -2.568 | 0.592 | 0.127 |
| -10.700 | 32.631 | -2.568 | 0.592 | 0.127 |
| -10.900 | 33.747 | -2.566 | 0.669 | 0.124 |
| -11.100 | 34.865 | -2.564 | 0.746 | 0.120 |
| -11.100 | 34.865 | -2.564 | 0.746 | 0.120 |
| -11.950 | 40.361 | -2.563 | 1.069 | 0.111 |
| -12.950 | 46.823 | -2.563 | 1.438 | 0.099 |
| -13.550 | 50.697 | -2.563 | 1.653 | 0.092 |
| -14.400 | 56.179 | -2.564 | 1.944 | 0.082 |
| -15.400 | 62.620 | -2.566 | 2.267 | 0.069 |
| -16.000 | 66.479 | -2.567 | 2.450 | 0.062 |
| -16.000 | 66.479 | -2.567 | 2.450 | 0.062 |
| -16.550 | 69.708 | -2.583 | 2.609 | 0.049 |
| -17.050 | 72.671 | -2.601 | 2.748 | 0.038 |
| -17.600 | 75.962 | -2.625 | 2.893 | 0.026 |
| -18.100 | 78.985 | -2.650 | 3.018 | 0.014 |
| -18.100 | 72.609 | -2.000 | 3.018 | 0.014 |
| -18.600 | 77.827 | -2.000 | 3.137 | 0.013 |
| -19.101 | 83.049 | -2.000 | 3.250 | 0.012 |
| -20.101 | 93.455 | -2.000 | 3.458 | 0.010 |
| -21.101 | 103.837 | -2.000 | 3.641 | 0.008 |
| -21.801 | 111.090 | -2.000 | 3.757 | 0.006 |
| -23.602 | 129.704 | -2.000 | 4.006 | 0.003 |
| -25.502 | 149.272 | -2.000 | 4.202 | 0.000 |

### 3.6 Results for Vertical 6 (X = -27.41 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.523 | 0.626 | -2.523 | 0.625 | 0.388 |
| -2.623 | 0.990 | -2.622 | -0.353 | 0.381 |
| -2.650 | 1.089 | -2.649 | -0.616 | 0.380 |
| -2.723 | 1.356 | -2.648 | -0.610 | 0.379 |
| -2.823 | 1.727 | -2.647 | -0.595 | 0.377 |
| -2.923 | 2.104 | -2.645 | -0.572 | 0.375 |
| -3.023 | 2.485 | -2.644 | -0.542 | 0.374 |
| -3.123 | 2.871 | -2.641 | -0.505 | 0.372 |
| -3.223 | 3.259 | -2.639 | -0.464 | 0.369 |
| -3.323 | 3.649 | -2.637 | -0.419 | 0.367 |
| -3.423 | 4.038 | -2.634 | -0.372 | 0.365 |
| -3.511 | 4.382 | -2.631 | -0.329 | 0.363 |
| -3.523 | 4.426 | -2.631 | -0.323 | 0.362 |
| -4.500 | 8.130 | -2.591 | 0.164 | 0.335 |
| -4.500 | 8.130 | -2.591 | 0.164 | 0.335 |
| -4.950 | 8.624 | -2.587 | 0.389 | 0.318 |
| -5.400 | 9.124 | -2.583 | 0.617 | 0.299 |
| -5.400 | 9.124 | -2.583 | 0.617 | 0.299 |
| -5.800 | 11.317 | -2.570 | 0.823 | 0.291 |
| -6.200 | 13.494 | -2.555 | 1.032 | 0.283 |
| -6.200 | 13.494 | -2.555 | 1.032 | 0.283 |
| -6.550 | 13.884 | -2.551 | 1.216 | 0.267 |
| -6.900 | 14.280 | -2.548 | 1.402 | 0.250 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -6.900 | 14.280 | -2.548 | 1.402 | 0.250 |
| -7.800 | 20.217 | -2.546 | 1.878 | 0.239 |
| -8.700 | 26.143 | -2.543 | 2.345 | 0.226 |
| -8.700 | 26.143 | -2.543 | 2.345 | 0.226 |
| -9.100 | 26.584 | -2.539 | 2.548 | 0.203 |
| -9.500 | 27.031 | -2.536 | 2.746 | 0.180 |
| -9.500 | 27.031 | -2.536 | 2.746 | 0.180 |
| -10.100 | 30.970 | -2.535 | 3.036 | 0.171 |
| -10.700 | 34.899 | -2.534 | 3.313 | 0.161 |
| -10.700 | 34.899 | -2.534 | 3.313 | 0.161 |
| -10.900 | 36.031 | -2.532 | 3.403 | 0.156 |
| -11.100 | 37.164 | -2.531 | 3.491 | 0.152 |
| -11.100 | 37.164 | -2.531 | 3.491 | 0.152 |
| -11.950 | 42.703 | -2.530 | 3.848 | 0.138 |
| -12.950 | 49.190 | -2.530 | 4.232 | 0.122 |
| -13.550 | 53.068 | -2.531 | 4.442 | 0.113 |
| -14.400 | 58.544 | -2.532 | 4.715 | 0.099 |
| -15.400 | 64.962 | -2.536 | 4.998 | 0.083 |
| -16.000 | 68.802 | -2.538 | 5.148 | 0.074 |
| -16.000 | 68.802 | -2.538 | 5.148 | 0.074 |
| -16.550 | 72.066 | -2.561 | 5.275 | 0.060 |
| -17.050 | 75.063 | -2.585 | 5.380 | 0.047 |
| -17.600 | 78.395 | -2.617 | 5.485 | 0.033 |
| -18.100 | 81.456 | -2.650 | 5.572 | 0.020 |
| -18.100 | 75.079 | -2.000 | 5.572 | 0.020 |
| -18.600 | 80.259 | -2.000 | 5.651 | 0.018 |
| -19.101 | 85.440 | -2.000 | 5.722 | 0.016 |
| -20.101 | 95.760 | -2.000 | 5.842 | 0.013 |
| -21.101 | 106.052 | -2.000 | 5.935 | 0.010 |
| -21.801 | 113.241 | -2.000 | 5.986 | 0.008 |
| -23.602 | 131.687 | -2.000 | 6.069 | 0.004 |
| -25.502 | 151.082 | -2.000 | 6.094 | 0.000 |

### 3.7 Results for Vertical 7 (X = -26.62 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.521 | 2.239 | -2.521 | 2.238 | 0.489 |
| -2.621 | 2.597 | -2.619 | 1.268 | 0.473 |
| -2.650 | 2.699 | -2.647 | 0.985 | 0.470 |
| -2.721 | 2.949 | -2.645 | 0.990 | 0.464 |
| -2.821 | 3.300 | -2.643 | 0.998 | 0.457 |
| -2.921 | 3.649 | -2.640 | 1.006 | 0.450 |
| -3.021 | 3.995 | -2.637 | 1.013 | 0.444 |
| -3.121 | 4.338 | -2.634 | 1.019 | 0.438 |
| -3.221 | 4.679 | -2.630 | 1.026 | 0.433 |
| -3.321 | 5.018 | -2.626 | 1.033 | 0.427 |
| -3.421 | 5.357 | -2.622 | 1.041 | 0.422 |
| -3.510 | 5.660 | -2.619 | 1.050 | 0.418 |
| -3.521 | 5.695 | -2.618 | 1.051 | 0.417 |
| -4.500 | 9.033 | -2.568 | 1.265 | 0.376 |
| -4.500 | 9.033 | -2.568 | 1.265 | 0.376 |
| -4.950 | 9.456 | -2.564 | 1.426 | 0.352 |
| -5.400 | 9.910 | -2.559 | 1.613 | 0.326 |
| -5.400 | 9.910 | -2.559 | 1.613 | 0.326 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -5.800 | 12.064 | -2.544 | 1.796 | 0.316 |
| -6.200 | 14.212 | -2.528 | 1.989 | 0.306 |
| -6.200 | 14.212 | -2.528 | 1.989 | 0.306 |
| -6.550 | 14.590 | -2.524 | 2.163 | 0.287 |
| -6.900 | 14.977 | -2.520 | 2.342 | 0.267 |
| -6.900 | 14.977 | -2.520 | 2.342 | 0.267 |
| -7.800 | 20.901 | -2.518 | 2.805 | 0.253 |
| -8.700 | 26.818 | -2.515 | 3.262 | 0.238 |
| -8.700 | 26.818 | -2.515 | 3.262 | 0.238 |
| -9.100 | 27.255 | -2.511 | 3.460 | 0.214 |
| -9.500 | 27.700 | -2.508 | 3.653 | 0.189 |
| -9.500 | 27.700 | -2.508 | 3.653 | 0.189 |
| -10.100 | 31.631 | -2.508 | 3.932 | 0.179 |
| -10.700 | 35.552 | -2.507 | 4.199 | 0.169 |
| -10.700 | 35.552 | -2.507 | 4.199 | 0.169 |
| -10.900 | 36.686 | -2.506 | 4.284 | 0.163 |
| -11.100 | 37.821 | -2.505 | 4.368 | 0.158 |
| -11.100 | 37.821 | -2.505 | 4.368 | 0.158 |
| -11.950 | 43.345 | -2.505 | 4.707 | 0.144 |
| -12.950 | 49.815 | -2.505 | 5.064 | 0.127 |
| -13.550 | 53.681 | -2.506 | 5.257 | 0.117 |
| -14.400 | 59.140 | -2.509 | 5.503 | 0.103 |
| -15.400 | 65.537 | -2.513 | 5.753 | 0.086 |
| -16.000 | 69.363 | -2.516 | 5.884 | 0.076 |
| -16.000 | 69.363 | -2.516 | 5.884 | 0.076 |
| -16.550 | 72.660 | -2.544 | 5.991 | 0.062 |
| -17.050 | 75.691 | -2.574 | 6.079 | 0.049 |
| -17.600 | 79.062 | -2.611 | 6.165 | 0.035 |
| -18.100 | 82.163 | -2.650 | 6.234 | 0.021 |
| -18.100 | 75.786 | -2.000 | 6.234 | 0.021 |
| -18.600 | 80.948 | -2.000 | 6.296 | 0.019 |
| -19.101 | 86.112 | -2.000 | 6.349 | 0.017 |
| -20.101 | 96.398 | -2.000 | 6.435 | 0.014 |
| -21.101 | 106.656 | -2.000 | 6.495 | 0.011 |
| -21.801 | 113.822 | -2.000 | 6.523 | 0.009 |
| -23.602 | 132.212 | -2.000 | 6.551 | 0.004 |
| -25.502 | 151.552 | -2.000 | 6.522 | 0.000 |

### 3.8 Results for Vertical 8 (X = -24.01 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.524 | 6.209 | -2.524 | 6.208 | 0.768 |
| -2.624 | 6.508 | -2.616 | 5.236 | 0.740 |
| -2.650 | 6.587 | -2.640 | 4.984 | 0.735 |
| -2.724 | 6.813 | -2.634 | 4.995 | 0.722 |
| -2.824 | 7.123 | -2.626 | 5.014 | 0.705 |
| -2.924 | 7.438 | -2.618 | 5.039 | 0.690 |
| -3.024 | 7.756 | -2.610 | 5.067 | 0.676 |
| -3.124 | 8.076 | -2.602 | 5.099 | 0.663 |
| -3.224 | 8.397 | -2.593 | 5.134 | 0.651 |
| -3.324 | 8.720 | -2.585 | 5.171 | 0.640 |
| -3.424 | 9.043 | -2.576 | 5.210 | 0.629 |
| -3.512 | 9.328 | -2.568 | 5.246 | 0.620 |
| -3.524 | 9.366 | -2.567 | 5.251 | 0.619 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -4.500 | 12.487 | -2.475 | 5.680 | 0.540 |
| -4.500 | 12.487 | -2.475 | 5.680 | 0.540 |
| -4.950 | 12.911 | -2.466 | 5.876 | 0.487 |
| -5.400 | 13.338 | -2.459 | 6.066 | 0.436 |
| -5.400 | 13.338 | -2.459 | 6.066 | 0.436 |
| -5.800 | 15.387 | -2.435 | 6.232 | 0.416 |
| -6.200 | 17.419 | -2.409 | 6.396 | 0.398 |
| -6.200 | 17.419 | -2.409 | 6.396 | 0.398 |
| -6.550 | 17.746 | -2.404 | 6.536 | 0.366 |
| -6.900 | 18.081 | -2.399 | 6.675 | 0.334 |
| -6.900 | 18.081 | -2.399 | 6.675 | 0.334 |
| -7.800 | 23.886 | -2.396 | 7.022 | 0.308 |
| -8.700 | 29.673 | -2.392 | 7.347 | 0.285 |
| -8.700 | 29.673 | -2.392 | 7.347 | 0.285 |
| -9.100 | 30.052 | -2.388 | 7.482 | 0.254 |
| -9.500 | 30.441 | -2.386 | 7.612 | 0.223 |
| -9.500 | 30.441 | -2.386 | 7.612 | 0.223 |
| -10.100 | 34.286 | -2.385 | 7.794 | 0.209 |
| -10.700 | 38.120 | -2.385 | 7.961 | 0.195 |
| -10.700 | 38.120 | -2.385 | 7.961 | 0.195 |
| -10.900 | 39.242 | -2.386 | 8.013 | 0.189 |
| -11.100 | 40.367 | -2.387 | 8.063 | 0.183 |
| -11.100 | 40.367 | -2.387 | 8.063 | 0.183 |
| -11.950 | 45.768 | -2.389 | 8.254 | 0.165 |
| -12.950 | 52.095 | -2.392 | 8.435 | 0.144 |
| -13.550 | 55.878 | -2.395 | 8.521 | 0.133 |
| -14.400 | 61.221 | -2.401 | 8.616 | 0.116 |
| -15.400 | 67.490 | -2.409 | 8.690 | 0.098 |
| -16.000 | 71.245 | -2.416 | 8.717 | 0.087 |
| -16.000 | 71.245 | -2.416 | 8.717 | 0.087 |
| -16.550 | 74.679 | -2.467 | 8.730 | 0.072 |
| -17.050 | 77.852 | -2.520 | 8.734 | 0.058 |
| -17.600 | 81.400 | -2.585 | 8.729 | 0.042 |
| -18.100 | 84.680 | -2.650 | 8.718 | 0.027 |
| -18.100 | 78.304 | -2.000 | 8.718 | 0.027 |
| -18.600 | 83.386 | -2.000 | 8.700 | 0.025 |
| -19.101 | 88.472 | -2.000 | 8.677 | 0.022 |
| -20.101 | 98.607 | -2.000 | 8.614 | 0.017 |
| -21.101 | 108.722 | -2.000 | 8.534 | 0.013 |
| -21.801 | 115.793 | -2.000 | 8.469 | 0.011 |
| -23.602 | 133.956 | -2.000 | 8.276 | 0.005 |
| -25.502 | 153.085 | -2.000 | 8.043 | 0.000 |

### 3.9 Results for Vertical 9 (X = -22.80 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.543 | 9.049 | -2.543 | 9.048 | 0.906 |
| -2.643 | 9.338 | -2.631 | 8.108 | 0.875 |
| -2.650 | 9.359 | -2.637 | 8.043 | 0.874 |
| -2.743 | 9.628 | -2.626 | 8.079 | 0.853 |
| -2.843 | 9.907 | -2.614 | 8.106 | 0.833 |
| -2.943 | 10.184 | -2.602 | 8.132 | 0.815 |
| -3.043 | 10.463 | -2.590 | 8.159 | 0.797 |
| -3.143 | 10.743 | -2.578 | 8.188 | 0.782 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.243 | 11.023 | -2.566 | 8.218 | 0.767 |
| -3.343 | 11.304 | -2.553 | 8.249 | 0.752 |
| -3.443 | 11.584 | -2.541 | 8.281 | 0.739 |
| -3.522 | 11.804 | -2.531 | 8.306 | 0.729 |
| -3.543 | 11.864 | -2.529 | 8.313 | 0.726 |
| -4.500 | 14.506 | -2.407 | 8.618 | 0.630 |
| -4.500 | 14.506 | -2.407 | 8.618 | 0.630 |
| -4.950 | 14.855 | -2.396 | 8.762 | 0.563 |
| -5.400 | 15.217 | -2.387 | 8.906 | 0.497 |
| -5.400 | 15.217 | -2.387 | 8.906 | 0.497 |
| -5.800 | 17.171 | -2.357 | 9.031 | 0.472 |
| -6.200 | 19.114 | -2.327 | 9.154 | 0.449 |
| -6.200 | 19.114 | -2.327 | 9.154 | 0.449 |
| -6.550 | 19.397 | -2.320 | 9.259 | 0.410 |
| -6.900 | 19.689 | -2.315 | 9.361 | 0.371 |
| -6.900 | 19.689 | -2.315 | 9.361 | 0.371 |
| -7.800 | 25.396 | -2.311 | 9.607 | 0.339 |
| -8.700 | 31.084 | -2.308 | 9.827 | 0.311 |
| -8.700 | 31.084 | -2.308 | 9.827 | 0.311 |
| -9.100 | 31.420 | -2.304 | 9.914 | 0.276 |
| -9.500 | 31.769 | -2.302 | 9.995 | 0.242 |
| -9.500 | 31.769 | -2.302 | 9.995 | 0.242 |
| -10.100 | 35.548 | -2.302 | 10.103 | 0.225 |
| -10.700 | 39.316 | -2.302 | 10.194 | 0.209 |
| -10.700 | 39.316 | -2.302 | 10.194 | 0.209 |
| -10.900 | 40.430 | -2.305 | 10.220 | 0.203 |
| -11.100 | 41.548 | -2.308 | 10.245 | 0.196 |
| -11.100 | 41.548 | -2.308 | 10.245 | 0.196 |
| -11.950 | 46.859 | -2.310 | 10.329 | 0.176 |
| -12.950 | 53.083 | -2.315 | 10.385 | 0.154 |
| -13.550 | 56.807 | -2.320 | 10.398 | 0.141 |
| -14.400 | 62.073 | -2.327 | 10.392 | 0.124 |
| -15.400 | 68.258 | -2.339 | 10.352 | 0.104 |
| -16.000 | 71.967 | -2.348 | 10.312 | 0.093 |
| -16.000 | 71.967 | -2.348 | 10.312 | 0.093 |
| -16.550 | 75.496 | -2.415 | 10.267 | 0.077 |
| -17.050 | 78.769 | -2.483 | 10.220 | 0.063 |
| -17.600 | 82.443 | -2.567 | 10.161 | 0.046 |
| -18.100 | 85.852 | -2.650 | 10.101 | 0.031 |
| -18.100 | 79.476 | -2.000 | 10.101 | 0.031 |
| -18.600 | 84.511 | -2.000 | 10.038 | 0.028 |
| -19.101 | 89.551 | -2.000 | 9.970 | 0.025 |
| -20.101 | 99.600 | -2.000 | 9.824 | 0.019 |
| -21.101 | 109.635 | -2.000 | 9.666 | 0.015 |
| -21.801 | 116.653 | -2.000 | 9.551 | 0.012 |
| -23.602 | 134.695 | -2.000 | 9.241 | 0.006 |
| -25.502 | 153.714 | -2.000 | 8.903 | 0.000 |

### 3.10 Results for Vertical 10 (X = -21.77 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.539 | 11.713 | -2.539 | 11.712 | 0.996 |
| -2.639 | 11.940 | -2.623 | 10.752 | 0.963 |
| -2.650 | 11.969 | -2.632 | 10.650 | 0.960 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.739 | 12.199 | -2.617 | 10.693 | 0.939 |
| -2.839 | 12.455 | -2.601 | 10.735 | 0.917 |
| -2.939 | 12.707 | -2.586 | 10.775 | 0.897 |
| -3.039 | 12.958 | -2.570 | 10.811 | 0.878 |
| -3.139 | 13.205 | -2.554 | 10.844 | 0.861 |
| -3.239 | 13.449 | -2.538 | 10.874 | 0.844 |
| -3.339 | 13.691 | -2.522 | 10.902 | 0.828 |
| -3.439 | 13.930 | -2.507 | 10.928 | 0.813 |
| -3.519 | 14.122 | -2.494 | 10.947 | 0.802 |
| -3.539 | 14.168 | -2.491 | 10.952 | 0.799 |
| -4.500 | 16.435 | -2.339 | 11.157 | 0.690 |
| -4.500 | 16.435 | -2.339 | 11.157 | 0.690 |
| -4.950 | 16.714 | -2.327 | 11.250 | 0.613 |
| -5.400 | 17.010 | -2.315 | 11.343 | 0.538 |
| -5.400 | 17.010 | -2.315 | 11.343 | 0.538 |
| -5.800 | 18.877 | -2.282 | 11.424 | 0.510 |
| -6.200 | 20.739 | -2.247 | 11.503 | 0.484 |
| -6.200 | 20.739 | -2.247 | 11.503 | 0.484 |
| -6.550 | 20.977 | -2.240 | 11.568 | 0.440 |
| -6.900 | 21.228 | -2.234 | 11.631 | 0.397 |
| -6.900 | 21.228 | -2.234 | 11.631 | 0.397 |
| -7.800 | 26.837 | -2.230 | 11.773 | 0.359 |
| -8.700 | 32.428 | -2.227 | 11.885 | 0.328 |
| -8.700 | 32.428 | -2.227 | 11.885 | 0.328 |
| -9.100 | 32.723 | -2.223 | 11.923 | 0.291 |
| -9.500 | 33.036 | -2.222 | 11.954 | 0.254 |
| -9.500 | 33.036 | -2.222 | 11.954 | 0.254 |
| -10.100 | 36.749 | -2.223 | 11.986 | 0.236 |
| -10.700 | 40.452 | -2.224 | 12.001 | 0.219 |
| -10.700 | 40.452 | -2.224 | 12.001 | 0.219 |
| -10.900 | 41.558 | -2.228 | 12.002 | 0.212 |
| -11.100 | 42.670 | -2.233 | 12.002 | 0.205 |
| -11.100 | 42.670 | -2.233 | 12.002 | 0.205 |
| -11.950 | 47.889 | -2.237 | 11.978 | 0.183 |
| -12.950 | 54.010 | -2.244 | 11.910 | 0.160 |
| -13.550 | 57.675 | -2.249 | 11.850 | 0.146 |
| -14.400 | 62.861 | -2.259 | 11.744 | 0.128 |
| -15.400 | 68.962 | -2.274 | 11.593 | 0.108 |
| -16.000 | 72.626 | -2.284 | 11.491 | 0.096 |
| -16.000 | 72.626 | -2.284 | 11.491 | 0.096 |
| -16.550 | 76.242 | -2.366 | 11.390 | 0.081 |
| -17.050 | 79.608 | -2.449 | 11.294 | 0.066 |
| -17.600 | 83.399 | -2.550 | 11.184 | 0.049 |
| -18.100 | 86.928 | -2.650 | 11.080 | 0.033 |
| -18.100 | 80.552 | -2.000 | 11.080 | 0.033 |
| -18.600 | 85.543 | -2.000 | 10.974 | 0.030 |
| -19.101 | 90.541 | -2.000 | 10.865 | 0.026 |
| -20.101 | 100.510 | -2.000 | 10.643 | 0.021 |
| -21.101 | 110.473 | -2.000 | 10.416 | 0.016 |
| -21.801 | 117.444 | -2.000 | 10.256 | 0.013 |
| -23.602 | 135.379 | -2.000 | 9.843 | 0.006 |
| -25.502 | 154.303 | -2.000 | 9.415 | 0.000 |

### 3.11 Results for Vertical 11 (X = -21.02 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.493 | 13.744 | -2.493 | 13.743 | 1.014 |
| -2.593 | 13.977 | -2.574 | 12.815 | 0.980 |
| -2.650 | 14.087 | -2.620 | 12.262 | 0.966 |
| -2.693 | 14.172 | -2.612 | 12.268 | 0.956 |
| -2.793 | 14.372 | -2.593 | 12.281 | 0.935 |
| -2.893 | 14.574 | -2.575 | 12.295 | 0.915 |
| -2.993 | 14.779 | -2.557 | 12.309 | 0.897 |
| -3.093 | 14.985 | -2.539 | 12.325 | 0.879 |
| -3.193 | 15.193 | -2.520 | 12.341 | 0.863 |
| -3.293 | 15.403 | -2.502 | 12.359 | 0.847 |
| -3.393 | 15.614 | -2.485 | 12.377 | 0.832 |
| -3.493 | 15.826 | -2.467 | 12.395 | 0.818 |
| -3.497 | 15.834 | -2.466 | 12.396 | 0.817 |
| -4.000 | 16.913 | -2.377 | 12.492 | 0.754 |
| -4.500 | 17.997 | -2.290 | 12.581 | 0.701 |
| -4.500 | 17.997 | -2.290 | 12.581 | 0.701 |
| -4.950 | 18.245 | -2.276 | 12.655 | 0.623 |
| -5.400 | 18.507 | -2.264 | 12.721 | 0.546 |
| -5.400 | 18.507 | -2.264 | 12.721 | 0.546 |
| -5.800 | 20.328 | -2.228 | 12.775 | 0.517 |
| -6.200 | 22.145 | -2.192 | 12.823 | 0.491 |
| -6.200 | 22.145 | -2.192 | 12.823 | 0.491 |
| -6.550 | 22.356 | -2.184 | 12.861 | 0.446 |
| -6.900 | 22.579 | -2.178 | 12.895 | 0.401 |
| -6.900 | 22.579 | -2.178 | 12.895 | 0.401 |
| -7.800 | 28.119 | -2.175 | 12.959 | 0.362 |
| -8.700 | 33.638 | -2.172 | 12.987 | 0.330 |
| -8.700 | 33.638 | -2.172 | 12.987 | 0.330 |
| -9.100 | 33.905 | -2.169 | 12.986 | 0.292 |
| -9.500 | 34.190 | -2.169 | 12.978 | 0.255 |
| -9.500 | 34.190 | -2.169 | 12.978 | 0.255 |
| -10.100 | 37.852 | -2.170 | 12.950 | 0.236 |
| -10.700 | 41.502 | -2.171 | 12.905 | 0.219 |
| -10.700 | 41.502 | -2.171 | 12.905 | 0.219 |
| -10.900 | 42.604 | -2.177 | 12.885 | 0.212 |
| -11.100 | 43.710 | -2.183 | 12.864 | 0.205 |
| -11.100 | 43.710 | -2.183 | 12.864 | 0.205 |
| -11.950 | 48.856 | -2.188 | 12.755 | 0.183 |
| -12.950 | 54.892 | -2.196 | 12.589 | 0.159 |
| -13.550 | 58.508 | -2.203 | 12.472 | 0.146 |
| -14.400 | 63.631 | -2.214 | 12.289 | 0.128 |
| -15.400 | 69.663 | -2.231 | 12.053 | 0.108 |
| -16.000 | 73.290 | -2.243 | 11.902 | 0.097 |
| -16.000 | 73.290 | -2.243 | 11.902 | 0.097 |
| -16.550 | 76.957 | -2.334 | 11.760 | 0.081 |
| -17.050 | 80.379 | -2.426 | 11.627 | 0.066 |
| -17.600 | 84.241 | -2.538 | 11.479 | 0.049 |
| -18.100 | 87.845 | -2.650 | 11.342 | 0.033 |
| -18.100 | 81.469 | -2.000 | 11.342 | 0.033 |
| -18.600 | 86.426 | -2.000 | 11.204 | 0.030 |
| -19.101 | 91.392 | -2.000 | 11.065 | 0.026 |
| -20.101 | 101.303 | -2.000 | 10.787 | 0.021 |
| -21.101 | 111.213 | -2.000 | 10.510 | 0.016 |
| -21.801 | 118.150 | -2.000 | 10.317 | 0.013 |
| -23.602 | 136.007 | -2.000 | 9.831 | 0.006 |
| -25.502 | 154.863 | -2.000 | 9.338 | 0.000 |

### 3.12 Results for Vertical 12 (X = -19.80 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.476 | 16.783 | -2.476 | 16.782 | 1.091 |
| -2.576 | 16.959 | -2.551 | 15.852 | 1.055 |
| -2.650 | 17.085 | -2.607 | 15.151 | 1.036 |
| -2.676 | 17.129 | -2.601 | 15.161 | 1.030 |
| -2.776 | 17.303 | -2.577 | 15.199 | 1.008 |
| -2.876 | 17.480 | -2.554 | 15.236 | 0.987 |
| -2.976 | 17.657 | -2.531 | 15.271 | 0.968 |
| -3.076 | 17.834 | -2.508 | 15.303 | 0.949 |
| -3.176 | 18.009 | -2.485 | 15.332 | 0.931 |
| -3.276 | 18.184 | -2.463 | 15.359 | 0.914 |
| -3.376 | 18.358 | -2.440 | 15.383 | 0.898 |
| -3.476 | 18.532 | -2.418 | 15.405 | 0.883 |
| -3.488 | 18.553 | -2.415 | 15.408 | 0.881 |
| -4.000 | 19.445 | -2.305 | 15.496 | 0.811 |
| -4.500 | 20.332 | -2.201 | 15.551 | 0.754 |
| -4.500 | 20.332 | -2.201 | 15.551 | 0.754 |
| -4.950 | 20.516 | -2.185 | 15.583 | 0.668 |
| -5.400 | 20.715 | -2.171 | 15.601 | 0.584 |
| -5.400 | 20.715 | -2.171 | 15.601 | 0.584 |
| -5.800 | 22.448 | -2.130 | 15.607 | 0.551 |
| -6.200 | 24.184 | -2.091 | 15.605 | 0.523 |
| -6.200 | 24.184 | -2.091 | 15.605 | 0.523 |
| -6.550 | 24.349 | -2.082 | 15.597 | 0.473 |
| -6.900 | 24.529 | -2.076 | 15.582 | 0.424 |
| -6.900 | 24.529 | -2.076 | 15.582 | 0.424 |
| -7.800 | 29.958 | -2.072 | 15.513 | 0.381 |
| -8.700 | 35.354 | -2.069 | 15.394 | 0.345 |
| -8.700 | 35.354 | -2.069 | 15.394 | 0.345 |
| -9.100 | 35.569 | -2.068 | 15.325 | 0.305 |
| -9.500 | 35.803 | -2.069 | 15.247 | 0.265 |
| -9.500 | 35.803 | -2.069 | 15.247 | 0.265 |
| -10.100 | 39.370 | -2.070 | 15.111 | 0.245 |
| -10.700 | 42.924 | -2.073 | 14.956 | 0.226 |
| -10.700 | 42.924 | -2.073 | 14.956 | 0.226 |
| -10.900 | 44.013 | -2.081 | 14.900 | 0.219 |
| -11.100 | 45.109 | -2.090 | 14.843 | 0.212 |
| -11.100 | 45.109 | -2.090 | 14.843 | 0.212 |
| -11.950 | 50.116 | -2.096 | 14.580 | 0.189 |
| -12.950 | 55.998 | -2.107 | 14.239 | 0.164 |
| -13.550 | 59.527 | -2.115 | 14.023 | 0.150 |
| -14.400 | 64.536 | -2.129 | 13.705 | 0.132 |
| -15.400 | 70.450 | -2.150 | 13.322 | 0.111 |
| -16.000 | 74.015 | -2.164 | 13.090 | 0.100 |
| -16.000 | 74.015 | -2.164 | 13.090 | 0.100 |
| -16.550 | 77.784 | -2.273 | 12.877 | 0.084 |
| -17.050 | 81.317 | -2.384 | 12.683 | 0.069 |
| -17.600 | 85.323 | -2.517 | 12.471 | 0.052 |
| -18.100 | 89.077 | -2.650 | 12.280 | 0.035 |
| -18.100 | 82.701 | -2.000 | 12.280 | 0.035 |
| -18.600 | 87.603 | -2.000 | 12.091 | 0.031 |
| -19.101 | 92.517 | -2.000 | 11.902 | 0.028 |
| -20.101 | 102.331 | -2.000 | 11.534 | 0.022 |
| -21.101 | 112.155 | -2.000 | 11.175 | 0.017 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -21.801 | 119.037 | -2.000 | 10.931 | 0.013 |
| -23.602 | 136.771 | -2.000 | 10.328 | 0.006 |
| -25.502 | 155.520 | -2.000 | 9.734 | 0.000 |

### 3.13 Results for Vertical 13 (X = -19.55 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.472 | 17.529 | -2.472 | 17.528 | 1.106 |
| -2.572 | 17.666 | -2.546 | 16.572 | 1.070 |
| -2.650 | 17.787 | -2.604 | 15.835 | 1.049 |
| -2.672 | 17.823 | -2.598 | 15.844 | 1.044 |
| -2.772 | 17.987 | -2.573 | 15.885 | 1.022 |
| -2.872 | 18.152 | -2.549 | 15.921 | 1.001 |
| -2.972 | 18.314 | -2.525 | 15.953 | 0.981 |
| -3.072 | 18.476 | -2.501 | 15.980 | 0.962 |
| -3.172 | 18.636 | -2.477 | 16.005 | 0.944 |
| -3.272 | 18.797 | -2.453 | 16.027 | 0.927 |
| -3.372 | 18.957 | -2.430 | 16.047 | 0.911 |
| -3.472 | 19.117 | -2.407 | 16.065 | 0.895 |
| -3.486 | 19.140 | -2.404 | 16.067 | 0.893 |
| -4.000 | 19.973 | -2.288 | 16.135 | 0.822 |
| -4.500 | 20.808 | -2.182 | 16.172 | 0.764 |
| -4.500 | 20.808 | -2.182 | 16.172 | 0.764 |
| -4.950 | 20.974 | -2.165 | 16.190 | 0.676 |
| -5.400 | 21.158 | -2.151 | 16.195 | 0.591 |
| -5.400 | 21.158 | -2.151 | 16.195 | 0.591 |
| -5.800 | 22.873 | -2.109 | 16.191 | 0.558 |
| -6.200 | 24.594 | -2.068 | 16.178 | 0.529 |
| -6.200 | 24.594 | -2.068 | 16.178 | 0.529 |
| -6.550 | 24.750 | -2.060 | 16.160 | 0.478 |
| -6.900 | 24.921 | -2.053 | 16.135 | 0.429 |
| -6.900 | 24.921 | -2.053 | 16.135 | 0.429 |
| -7.800 | 30.329 | -2.050 | 16.037 | 0.384 |
| -8.700 | 35.698 | -2.047 | 15.887 | 0.348 |
| -8.700 | 35.698 | -2.047 | 15.887 | 0.348 |
| -9.100 | 35.903 | -2.046 | 15.803 | 0.307 |
| -9.500 | 36.125 | -2.047 | 15.709 | 0.267 |
| -9.500 | 36.125 | -2.047 | 15.709 | 0.267 |
| -10.100 | 39.671 | -2.049 | 15.549 | 0.246 |
| -10.700 | 43.203 | -2.051 | 15.370 | 0.228 |
| -10.700 | 43.203 | -2.051 | 15.370 | 0.228 |
| -10.900 | 44.289 | -2.060 | 15.306 | 0.220 |
| -11.100 | 45.382 | -2.069 | 15.241 | 0.213 |
| -11.100 | 45.382 | -2.069 | 15.241 | 0.213 |
| -11.950 | 50.359 | -2.076 | 14.945 | 0.190 |
| -12.950 | 56.206 | -2.087 | 14.566 | 0.165 |
| -13.550 | 59.717 | -2.096 | 14.329 | 0.151 |
| -14.400 | 64.701 | -2.111 | 13.983 | 0.132 |
| -15.400 | 70.590 | -2.132 | 13.570 | 0.112 |
| -16.000 | 74.142 | -2.147 | 13.321 | 0.100 |
| -16.000 | 74.142 | -2.147 | 13.321 | 0.100 |
| -16.550 | 77.934 | -2.260 | 13.093 | 0.084 |
| -17.050 | 81.492 | -2.374 | 12.887 | 0.070 |
| -17.600 | 85.530 | -2.513 | 12.662 | 0.052 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -18.100 | 89.318 | -2.650 | 12.460 | 0.035 |
| -18.100 | 82.941 | -2.000 | 12.460 | 0.035 |
| -18.600 | 87.833 | -2.000 | 12.260 | 0.032 |
| -19.101 | 92.736 | -2.000 | 12.062 | 0.028 |
| -20.101 | 102.531 | -2.000 | 11.675 | 0.022 |
| -21.101 | 112.337 | -2.000 | 11.301 | 0.017 |
| -21.801 | 119.208 | -2.000 | 11.046 | 0.013 |
| -23.602 | 136.917 | -2.000 | 10.421 | 0.006 |
| -25.502 | 155.646 | -2.000 | 9.807 | 0.000 |

### 3.14 Results for Vertical 14 (X = -19.19 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.460 | 18.730 | -2.460 | 18.729 | 1.119 |
| -2.560 | 18.826 | -2.532 | 17.750 | 1.083 |
| -2.650 | 18.926 | -2.598 | 16.876 | 1.059 |
| -2.660 | 18.938 | -2.595 | 16.877 | 1.057 |
| -2.760 | 19.053 | -2.568 | 16.884 | 1.035 |
| -2.860 | 19.174 | -2.542 | 16.893 | 1.013 |
| -2.960 | 19.300 | -2.516 | 16.903 | 0.993 |
| -3.060 | 19.430 | -2.491 | 16.913 | 0.974 |
| -3.160 | 19.563 | -2.466 | 16.923 | 0.956 |
| -3.260 | 19.697 | -2.441 | 16.933 | 0.939 |
| -3.360 | 19.834 | -2.416 | 16.941 | 0.922 |
| -3.460 | 19.972 | -2.392 | 16.949 | 0.907 |
| -3.480 | 20.000 | -2.387 | 16.950 | 0.903 |
| -4.000 | 20.746 | -2.265 | 16.976 | 0.831 |
| -4.500 | 21.510 | -2.154 | 16.983 | 0.772 |
| -4.500 | 21.510 | -2.154 | 16.983 | 0.772 |
| -4.950 | 21.649 | -2.136 | 16.979 | 0.683 |
| -5.400 | 21.813 | -2.122 | 16.966 | 0.597 |
| -5.400 | 21.813 | -2.122 | 16.966 | 0.597 |
| -5.800 | 23.505 | -2.079 | 16.946 | 0.563 |
| -6.200 | 25.207 | -2.038 | 16.918 | 0.534 |
| -6.200 | 25.207 | -2.038 | 16.918 | 0.534 |
| -6.550 | 25.352 | -2.029 | 16.886 | 0.482 |
| -6.900 | 25.513 | -2.022 | 16.847 | 0.432 |
| -6.900 | 25.513 | -2.022 | 16.847 | 0.432 |
| -7.800 | 30.891 | -2.019 | 16.709 | 0.387 |
| -8.700 | 36.222 | -2.016 | 16.512 | 0.350 |
| -8.700 | 36.222 | -2.016 | 16.512 | 0.350 |
| -9.100 | 36.411 | -2.015 | 16.406 | 0.309 |
| -9.500 | 36.616 | -2.017 | 16.289 | 0.268 |
| -9.500 | 36.616 | -2.017 | 16.289 | 0.268 |
| -10.100 | 40.131 | -2.019 | 16.095 | 0.247 |
| -10.700 | 43.630 | -2.022 | 15.881 | 0.228 |
| -10.700 | 43.630 | -2.022 | 15.881 | 0.228 |
| -10.900 | 44.712 | -2.032 | 15.805 | 0.221 |
| -11.100 | 45.801 | -2.042 | 15.728 | 0.213 |
| -11.100 | 45.801 | -2.042 | 15.728 | 0.213 |
| -11.950 | 50.733 | -2.049 | 15.383 | 0.190 |
| -12.950 | 56.530 | -2.061 | 14.952 | 0.165 |
| -13.550 | 60.013 | -2.070 | 14.684 | 0.151 |
| -14.400 | 64.962 | -2.086 | 14.298 | 0.133 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -15.400 | 70.815 | -2.108 | 13.841 | 0.112 |
| -16.000 | 74.348 | -2.124 | 13.569 | 0.100 |
| -16.000 | 74.349 | -2.124 | 13.569 | 0.100 |
| -16.550 | 78.171 | -2.242 | 13.321 | 0.085 |
| -17.050 | 81.761 | -2.362 | 13.097 | 0.070 |
| -17.600 | 85.842 | -2.506 | 12.855 | 0.053 |
| -18.100 | 89.674 | -2.650 | 12.637 | 0.036 |
| -18.100 | 83.298 | -2.000 | 12.637 | 0.036 |
| -18.600 | 88.173 | -2.000 | 12.422 | 0.032 |
| -19.101 | 93.062 | -2.000 | 12.211 | 0.028 |
| -20.101 | 102.830 | -2.000 | 11.799 | 0.022 |
| -21.101 | 112.612 | -2.000 | 11.402 | 0.017 |
| -21.801 | 119.469 | -2.000 | 11.133 | 0.014 |
| -23.602 | 137.144 | -2.000 | 10.477 | 0.006 |
| -25.502 | 155.844 | -2.000 | 9.836 | 0.000 |

### 3.15 Results for Vertical 15 (X = -16.58 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.384 | 25.705 | -2.384 | 25.704 | 1.207 |
| -2.484 | 25.966 | -2.446 | 24.993 | 1.168 |
| -2.584 | 25.965 | -2.508 | 24.013 | 1.139 |
| -2.650 | 25.960 | -2.549 | 23.357 | 1.123 |
| -2.684 | 25.958 | -2.537 | 23.352 | 1.116 |
| -2.784 | 25.951 | -2.501 | 23.331 | 1.094 |
| -2.884 | 25.944 | -2.465 | 23.304 | 1.073 |
| -2.984 | 25.941 | -2.430 | 23.273 | 1.053 |
| -3.084 | 25.936 | -2.396 | 23.235 | 1.033 |
| -3.184 | 25.936 | -2.362 | 23.195 | 1.015 |
| -3.284 | 25.942 | -2.329 | 23.157 | 0.997 |
| -3.384 | 25.939 | -2.297 | 23.104 | 0.980 |
| -3.442 | 25.956 | -2.278 | 23.089 | 0.970 |
| -4.000 | 26.194 | -2.108 | 22.931 | 0.887 |
| -4.500 | 26.578 | -1.968 | 22.799 | 0.823 |
| -4.500 | 26.578 | -1.968 | 22.799 | 0.823 |
| -4.950 | 26.654 | -1.946 | 22.693 | 0.726 |
| -5.400 | 26.797 | -1.928 | 22.589 | 0.632 |
| -5.400 | 26.797 | -1.928 | 22.589 | 0.632 |
| -5.800 | 28.421 | -1.878 | 22.482 | 0.595 |
| -6.200 | 30.042 | -1.831 | 22.351 | 0.562 |
| -6.200 | 30.042 | -1.831 | 22.351 | 0.562 |
| -6.550 | 30.128 | -1.821 | 22.211 | 0.506 |
| -6.900 | 30.204 | -1.814 | 22.048 | 0.451 |
| -6.900 | 30.204 | -1.814 | 22.048 | 0.451 |
| -7.800 | 35.247 | -1.811 | 21.521 | 0.401 |
| -8.700 | 40.126 | -1.810 | 20.876 | 0.360 |
| -8.700 | 40.126 | -1.810 | 20.876 | 0.360 |
| -9.100 | 40.114 | -1.811 | 20.562 | 0.316 |
| -9.500 | 40.123 | -1.817 | 20.238 | 0.272 |
| -9.500 | 40.123 | -1.817 | 20.238 | 0.272 |
| -10.100 | 43.309 | -1.820 | 19.736 | 0.250 |
| -10.700 | 46.491 | -1.825 | 19.226 | 0.230 |
| -10.700 | 46.491 | -1.825 | 19.226 | 0.230 |
| -10.900 | 47.516 | -1.840 | 19.055 | 0.222 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -11.100 | 48.553 | -1.855 | 18.884 | 0.215 |
| -11.100 | 48.553 | -1.855 | 18.884 | 0.215 |
| -11.950 | 53.089 | -1.866 | 18.162 | 0.190 |
| -12.950 | 58.481 | -1.883 | 17.332 | 0.165 |
| -13.550 | 61.753 | -1.896 | 16.848 | 0.151 |
| -14.400 | 66.441 | -1.917 | 16.184 | 0.133 |
| -15.400 | 72.041 | -1.946 | 15.440 | 0.113 |
| -16.000 | 75.449 | -1.967 | 15.012 | 0.102 |
| -16.000 | 75.449 | -1.967 | 15.012 | 0.102 |
| -16.550 | 79.473 | -2.121 | 14.633 | 0.086 |
| -17.050 | 83.290 | -2.276 | 14.299 | 0.072 |
| -17.600 | 87.665 | -2.463 | 13.942 | 0.054 |
| -18.100 | 91.812 | -2.650 | 13.628 | 0.037 |
| -18.100 | 85.435 | -2.000 | 13.628 | 0.037 |
| -18.600 | 90.212 | -2.000 | 13.324 | 0.033 |
| -19.101 | 95.008 | -2.000 | 13.028 | 0.029 |
| -20.101 | 104.609 | -2.000 | 12.463 | 0.023 |
| -21.101 | 114.244 | -2.000 | 11.932 | 0.017 |
| -21.801 | 121.009 | -2.000 | 11.579 | 0.014 |
| -23.602 | 138.483 | -2.000 | 10.735 | 0.006 |
| -25.502 | 157.012 | -2.000 | 9.935 | 0.000 |

### 3.16 Results for Vertical 16 (X = -15.34 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.601 | 28.907 | -2.601 | 28.906 | 1.439 |
| -2.650 | 28.599 | -2.625 | 28.179 | 1.416 |
| -2.701 | 28.824 | -2.600 | 28.464 | 1.396 |
| -2.801 | 29.150 | -2.551 | 28.904 | 1.360 |
| -2.901 | 29.091 | -2.502 | 28.951 | 1.327 |
| -3.001 | 28.801 | -2.455 | 28.753 | 1.296 |
| -3.101 | 28.474 | -2.410 | 28.501 | 1.268 |
| -3.201 | 28.243 | -2.366 | 28.315 | 1.241 |
| -3.301 | 28.127 | -2.323 | 28.216 | 1.216 |
| -3.401 | 27.979 | -2.281 | 28.071 | 1.193 |
| -3.501 | 28.026 | -2.240 | 28.117 | 1.170 |
| -3.550 | 28.012 | -2.220 | 28.103 | 1.160 |
| -3.601 | 27.989 | -2.200 | 28.082 | 1.149 |
| -4.500 | 28.443 | -1.869 | 27.972 | 0.992 |
| -4.500 | 28.443 | -1.869 | 27.972 | 0.992 |
| -4.950 | 28.746 | -1.842 | 27.954 | 0.868 |
| -5.400 | 28.909 | -1.819 | 27.838 | 0.749 |
| -5.400 | 28.909 | -1.819 | 27.838 | 0.748 |
| -5.800 | 30.313 | -1.755 | 27.650 | 0.702 |
| -6.200 | 31.642 | -1.695 | 27.392 | 0.662 |
| -6.200 | 31.642 | -1.695 | 27.392 | 0.662 |
| -6.550 | 31.517 | -1.683 | 27.120 | 0.593 |
| -6.900 | 31.370 | -1.674 | 26.812 | 0.525 |
| -6.900 | 31.370 | -1.674 | 26.812 | 0.525 |
| -7.800 | 35.869 | -1.669 | 25.909 | 0.462 |
| -8.700 | 40.268 | -1.668 | 24.920 | 0.412 |
| -8.700 | 40.268 | -1.668 | 24.920 | 0.412 |
| -9.100 | 40.069 | -1.669 | 24.471 | 0.361 |
| -9.500 | 39.914 | -1.675 | 24.021 | 0.311 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -9.500 | 39.914 | -1.675 | 24.021 | 0.311 |
| -10.100 | 42.882 | -1.679 | 23.351 | 0.284 |
| -10.700 | 45.879 | -1.684 | 22.694 | 0.260 |
| -10.700 | 45.879 | -1.684 | 22.694 | 0.260 |
| -10.900 | 46.866 | -1.701 | 22.479 | 0.251 |
| -11.100 | 47.870 | -1.719 | 22.265 | 0.242 |
| -11.100 | 47.870 | -1.719 | 22.265 | 0.242 |
| -11.950 | 52.217 | -1.731 | 21.382 | 0.214 |
| -12.950 | 57.443 | -1.751 | 20.396 | 0.185 |
| -13.550 | 60.638 | -1.765 | 19.835 | 0.169 |
| -14.400 | 65.243 | -1.790 | 19.076 | 0.149 |
| -15.400 | 70.779 | -1.824 | 18.237 | 0.127 |
| -16.000 | 74.162 | -1.848 | 17.761 | 0.114 |
| -16.000 | 74.162 | -1.848 | 17.761 | 0.114 |
| -16.550 | 78.391 | -2.027 | 17.342 | 0.098 |
| -17.050 | 82.428 | -2.209 | 16.974 | 0.082 |
| -17.600 | 87.089 | -2.429 | 16.584 | 0.063 |
| -18.100 | 91.537 | -2.650 | 16.242 | 0.045 |
| -18.100 | 85.161 | -2.000 | 16.242 | 0.045 |
| -18.600 | 89.908 | -2.000 | 15.911 | 0.040 |
| -19.101 | 94.676 | -2.000 | 15.591 | 0.035 |
| -20.101 | 104.228 | -2.000 | 14.983 | 0.028 |
| -21.101 | 113.821 | -2.000 | 14.414 | 0.021 |
| -21.801 | 120.560 | -2.000 | 14.037 | 0.017 |
| -23.602 | 137.976 | -2.000 | 13.141 | 0.008 |
| -25.502 | 156.459 | -2.000 | 12.298 | 0.000 |

### 3.17 Results for Vertical 17 (X = -15.00 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.650 | 27.678 | -2.650 | 27.677 | 1.480 |
| -2.750 | 29.438 | -2.601 | 29.339 | 1.431 |
| -2.850 | 29.614 | -2.551 | 29.431 | 1.394 |
| -2.950 | 29.859 | -2.501 | 29.584 | 1.361 |
| -3.050 | 29.990 | -2.452 | 29.739 | 1.331 |
| -3.150 | 29.924 | -2.404 | 29.795 | 1.303 |
| -3.250 | 29.688 | -2.357 | 29.709 | 1.277 |
| -3.350 | 29.341 | -2.312 | 29.513 | 1.252 |
| -3.450 | 29.090 | -2.267 | 29.397 | 1.228 |
| -3.550 | 28.822 | -2.225 | 29.240 | 1.205 |
| -3.575 | 28.769 | -2.214 | 29.210 | 1.199 |
| -3.650 | 28.665 | -2.183 | 29.144 | 1.183 |
| -4.500 | 29.800 | -1.854 | 29.512 | 1.030 |
| -4.500 | 29.800 | -1.854 | 29.512 | 1.030 |
| -4.950 | 29.966 | -1.825 | 29.452 | 0.901 |
| -5.400 | 29.950 | -1.800 | 29.259 | 0.776 |
| -5.400 | 29.950 | -1.800 | 29.259 | 0.776 |
| -5.800 | 31.160 | -1.732 | 28.993 | 0.728 |
| -6.200 | 32.310 | -1.668 | 28.657 | 0.686 |
| -6.200 | 32.310 | -1.668 | 28.657 | 0.686 |
| -6.550 | 32.064 | -1.655 | 28.318 | 0.613 |
| -6.900 | 31.808 | -1.645 | 27.948 | 0.543 |
| -6.900 | 31.808 | -1.645 | 27.948 | 0.543 |
| -7.800 | 36.090 | -1.641 | 26.907 | 0.476 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -8.700 | 40.331 | -1.639 | 25.812 | 0.424 |
| -8.700 | 40.331 | -1.639 | 25.812 | 0.424 |
| -9.100 | 40.077 | -1.640 | 25.325 | 0.371 |
| -9.500 | 39.875 | -1.646 | 24.841 | 0.320 |
| -9.500 | 39.875 | -1.646 | 24.841 | 0.320 |
| -10.100 | 42.784 | -1.650 | 24.129 | 0.292 |
| -10.700 | 45.735 | -1.656 | 23.437 | 0.267 |
| -10.700 | 45.735 | -1.656 | 23.437 | 0.267 |
| -10.900 | 46.711 | -1.672 | 23.211 | 0.258 |
| -11.100 | 47.705 | -1.691 | 22.988 | 0.249 |
| -11.100 | 47.705 | -1.691 | 22.988 | 0.249 |
| -11.950 | 52.009 | -1.704 | 22.069 | 0.220 |
| -12.950 | 57.197 | -1.724 | 21.051 | 0.190 |
| -13.550 | 60.376 | -1.739 | 20.474 | 0.174 |
| -14.400 | 64.964 | -1.763 | 19.696 | 0.152 |
| -15.400 | 70.488 | -1.799 | 18.840 | 0.130 |
| -16.000 | 73.866 | -1.823 | 18.355 | 0.117 |
| -16.000 | 73.867 | -1.823 | 18.355 | 0.117 |
| -16.550 | 78.136 | -2.008 | 17.928 | 0.101 |
| -17.050 | 82.219 | -2.195 | 17.555 | 0.084 |
| -17.600 | 86.940 | -2.422 | 17.158 | 0.065 |
| -18.100 | 91.453 | -2.650 | 16.811 | 0.047 |
| -18.100 | 85.077 | -2.000 | 16.811 | 0.047 |
| -18.600 | 89.818 | -2.000 | 16.476 | 0.042 |
| -19.101 | 94.581 | -2.000 | 16.151 | 0.037 |
| -20.101 | 104.124 | -2.000 | 15.535 | 0.029 |
| -21.101 | 113.710 | -2.000 | 14.959 | 0.022 |
| -21.801 | 120.444 | -2.000 | 14.578 | 0.018 |
| -23.602 | 137.850 | -2.000 | 13.673 | 0.008 |
| -25.502 | 156.324 | -2.000 | 12.822 | 0.000 |

### 3.18 Results for Vertical 18 (X = -14.73 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.335 | 33.113 | -2.650 | 31.107 | 1.465 |
| -3.435 | 32.959 | -2.591 | 31.017 | 1.435 |
| -3.535 | 32.808 | -2.535 | 30.937 | 1.407 |
| -3.635 | 32.556 | -2.481 | 30.898 | 1.381 |
| -3.735 | 32.320 | -2.429 | 30.859 | 1.356 |
| -3.835 | 32.065 | -2.379 | 30.792 | 1.332 |
| -3.917 | 31.864 | -2.338 | 30.734 | 1.313 |
| -3.935 | 31.824 | -2.329 | 30.722 | 1.309 |
| -4.035 | 31.621 | -2.282 | 30.660 | 1.287 |
| -4.135 | 31.464 | -2.235 | 30.612 | 1.266 |
| -4.235 | 31.343 | -2.190 | 30.576 | 1.245 |
| -4.335 | 31.250 | -2.145 | 30.545 | 1.225 |
| -4.500 | 31.128 | -2.075 | 30.496 | 1.194 |
| -4.500 | 31.128 | -2.075 | 30.496 | 1.194 |
| -4.950 | 30.945 | -2.040 | 30.310 | 1.038 |
| -5.400 | 30.650 | -2.011 | 30.010 | 0.887 |
| -5.400 | 30.650 | -2.011 | 30.010 | 0.887 |
| -5.800 | 31.537 | -1.926 | 29.658 | 0.828 |
| -6.200 | 32.395 | -1.847 | 29.245 | 0.778 |
| -6.200 | 32.395 | -1.847 | 29.245 | 0.778 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -6.550 | 32.009 | -1.831 | 28.845 | 0.693 |
| -6.900 | 31.630 | -1.818 | 28.420 | 0.609 |
| -6.900 | 31.630 | -1.818 | 28.420 | 0.609 |
| -7.800 | 35.708 | -1.811 | 27.265 | 0.530 |
| -8.700 | 39.800 | -1.806 | 26.089 | 0.468 |
| -8.700 | 39.800 | -1.806 | 26.089 | 0.468 |
| -9.100 | 39.456 | -1.802 | 25.573 | 0.408 |
| -9.500 | 39.171 | -1.803 | 25.065 | 0.350 |
| -9.500 | 39.171 | -1.803 | 25.065 | 0.350 |
| -10.100 | 42.017 | -1.805 | 24.323 | 0.318 |
| -10.700 | 44.912 | -1.808 | 23.606 | 0.289 |
| -10.700 | 44.912 | -1.808 | 23.606 | 0.289 |
| -10.900 | 45.822 | -1.819 | 23.373 | 0.279 |
| -11.100 | 46.748 | -1.832 | 23.143 | 0.269 |
| -11.100 | 46.748 | -1.832 | 23.143 | 0.269 |
| -11.950 | 50.984 | -1.841 | 22.199 | 0.235 |
| -12.950 | 56.098 | -1.856 | 21.161 | 0.202 |
| -13.550 | 59.235 | -1.868 | 20.573 | 0.183 |
| -14.400 | 63.763 | -1.888 | 19.784 | 0.160 |
| -15.400 | 69.215 | -1.918 | 18.916 | 0.135 |
| -16.000 | 72.550 | -1.939 | 18.426 | 0.121 |
| -16.000 | 72.551 | -1.939 | 18.426 | 0.121 |
| -16.550 | 76.553 | -2.097 | 17.994 | 0.103 |
| -17.050 | 80.374 | -2.257 | 17.617 | 0.087 |
| -17.600 | 84.782 | -2.453 | 17.217 | 0.067 |
| -18.100 | 88.986 | -2.650 | 16.866 | 0.048 |
| -18.100 | 82.610 | -2.000 | 16.866 | 0.048 |
| -18.600 | 87.348 | -2.000 | 16.528 | 0.043 |
| -19.101 | 92.108 | -2.000 | 16.201 | 0.038 |
| -20.101 | 101.645 | -2.000 | 15.580 | 0.030 |
| -21.101 | 111.227 | -2.000 | 15.000 | 0.022 |
| -21.801 | 117.958 | -2.000 | 14.616 | 0.018 |
| -23.602 | 135.357 | -2.000 | 13.705 | 0.008 |
| -25.502 | 153.825 | -2.000 | 12.850 | 0.000 |

### 3.19 Results for Vertical 19 (X = -14.19 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.699 | 36.951 | -2.650 | 32.962 | 1.464 |
| -3.799 | 36.723 | -2.587 | 32.989 | 1.439 |
| -3.899 | 36.467 | -2.528 | 32.983 | 1.415 |
| -3.999 | 36.181 | -2.471 | 32.947 | 1.392 |
| -4.099 | 35.875 | -2.416 | 32.888 | 1.370 |
| -4.099 | 35.873 | -2.415 | 32.887 | 1.370 |
| -4.199 | 35.561 | -2.362 | 32.813 | 1.348 |
| -4.299 | 35.247 | -2.310 | 32.727 | 1.328 |
| -4.399 | 34.940 | -2.260 | 32.634 | 1.308 |
| -4.499 | 34.642 | -2.211 | 32.534 | 1.288 |
| -4.500 | 34.639 | -2.211 | 32.533 | 1.288 |
| -4.500 | 34.639 | -2.211 | 32.533 | 1.288 |
| -4.599 | 34.430 | -2.202 | 32.430 | 1.251 |
| -4.699 | 34.219 | -2.193 | 32.322 | 1.214 |
| -4.950 | 33.700 | -2.171 | 32.032 | 1.121 |
| -5.400 | 32.803 | -2.138 | 31.456 | 0.956 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -5.400 | 32.803 | -2.138 | 31.456 | 0.956 |
| -5.800 | 33.175 | -2.040 | 30.894 | 0.893 |
| -6.200 | 33.608 | -1.950 | 30.300 | 0.837 |
| -6.200 | 33.608 | -1.950 | 30.300 | 0.837 |
| -6.550 | 32.973 | -1.931 | 29.765 | 0.744 |
| -6.900 | 32.384 | -1.916 | 29.224 | 0.652 |
| -6.900 | 32.384 | -1.916 | 29.224 | 0.652 |
| -7.800 | 36.095 | -1.907 | 27.841 | 0.564 |
| -8.700 | 39.946 | -1.901 | 26.513 | 0.497 |
| -8.700 | 39.946 | -1.901 | 26.512 | 0.497 |
| -9.100 | 39.502 | -1.894 | 25.946 | 0.432 |
| -9.500 | 39.130 | -1.892 | 25.396 | 0.369 |
| -9.500 | 39.130 | -1.892 | 25.396 | 0.369 |
| -10.100 | 41.892 | -1.893 | 24.602 | 0.334 |
| -10.700 | 44.719 | -1.895 | 23.844 | 0.303 |
| -10.700 | 44.719 | -1.895 | 23.844 | 0.303 |
| -10.900 | 45.581 | -1.903 | 23.600 | 0.292 |
| -11.100 | 46.460 | -1.912 | 23.359 | 0.281 |
| -11.100 | 46.460 | -1.912 | 23.359 | 0.281 |
| -11.950 | 50.625 | -1.919 | 22.379 | 0.245 |
| -12.950 | 55.671 | -1.932 | 21.308 | 0.209 |
| -13.550 | 58.771 | -1.942 | 20.706 | 0.190 |
| -14.400 | 63.252 | -1.959 | 19.900 | 0.165 |
| -15.400 | 68.653 | -1.986 | 19.018 | 0.138 |
| -16.000 | 71.958 | -2.004 | 18.520 | 0.123 |
| -16.000 | 71.958 | -2.004 | 18.520 | 0.123 |
| -16.550 | 75.805 | -2.147 | 18.083 | 0.105 |
| -17.050 | 79.473 | -2.293 | 17.700 | 0.088 |
| -17.600 | 83.700 | -2.471 | 17.295 | 0.068 |
| -18.100 | 87.726 | -2.650 | 16.941 | 0.049 |
| -18.100 | 81.350 | -2.000 | 16.941 | 0.049 |
| -18.600 | 86.084 | -2.000 | 16.599 | 0.043 |
| -19.101 | 90.840 | -2.000 | 16.268 | 0.038 |
| -20.101 | 100.370 | -2.000 | 15.642 | 0.030 |
| -21.101 | 109.945 | -2.000 | 15.057 | 0.023 |
| -21.801 | 116.672 | -2.000 | 14.670 | 0.018 |
| -23.602 | 134.063 | -2.000 | 13.751 | 0.008 |
| -25.502 | 152.524 | -2.000 | 12.889 | 0.000 |

### 3.20 Results for Vertical 20 (X = -13.33 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.602 | 38.948 | -2.650 | 35.049 | 1.436 |
| -3.702 | 38.735 | -2.584 | 35.009 | 1.411 |
| -3.802 | 38.465 | -2.521 | 34.977 | 1.386 |
| -3.902 | 38.225 | -2.460 | 34.948 | 1.363 |
| -4.002 | 37.997 | -2.401 | 34.916 | 1.341 |
| -4.051 | 37.886 | -2.373 | 34.897 | 1.330 |
| -4.102 | 37.768 | -2.344 | 34.873 | 1.319 |
| -4.202 | 37.526 | -2.288 | 34.813 | 1.298 |
| -4.302 | 37.265 | -2.234 | 34.733 | 1.278 |
| -4.402 | 36.983 | -2.181 | 34.632 | 1.259 |
| -4.500 | 36.690 | -2.130 | 34.513 | 1.241 |
| -4.500 | 36.690 | -2.130 | 34.513 | 1.241 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -4.502 | 36.686 | -2.130 | 34.510 | 1.240 |
| -4.602 | 36.466 | -2.120 | 34.371 | 1.204 |
| -4.950 | 35.566 | -2.089 | 33.782 | 1.081 |
| -5.400 | 34.276 | -2.054 | 32.887 | 0.924 |
| -5.400 | 34.276 | -2.054 | 32.886 | 0.924 |
| -5.800 | 34.274 | -1.955 | 32.052 | 0.863 |
| -6.200 | 34.389 | -1.864 | 31.223 | 0.809 |
| -6.200 | 34.389 | -1.864 | 31.223 | 0.809 |
| -6.550 | 33.526 | -1.845 | 30.518 | 0.719 |
| -6.900 | 32.751 | -1.831 | 29.835 | 0.630 |
| -6.900 | 32.751 | -1.831 | 29.835 | 0.630 |
| -7.800 | 36.124 | -1.823 | 28.198 | 0.546 |
| -8.700 | 39.782 | -1.817 | 26.719 | 0.481 |
| -8.700 | 39.782 | -1.817 | 26.719 | 0.481 |
| -9.100 | 39.293 | -1.812 | 26.108 | 0.418 |
| -9.500 | 38.890 | -1.812 | 25.523 | 0.358 |
| -9.500 | 38.890 | -1.812 | 25.523 | 0.358 |
| -10.100 | 41.607 | -1.813 | 24.689 | 0.324 |
| -10.700 | 44.404 | -1.816 | 23.904 | 0.294 |
| -10.700 | 44.404 | -1.816 | 23.904 | 0.294 |
| -10.900 | 45.279 | -1.826 | 23.653 | 0.284 |
| -11.100 | 46.173 | -1.838 | 23.406 | 0.273 |
| -11.100 | 46.173 | -1.838 | 23.406 | 0.273 |
| -11.950 | 50.326 | -1.846 | 22.407 | 0.239 |
| -12.950 | 55.374 | -1.861 | 21.325 | 0.204 |
| -13.550 | 58.481 | -1.873 | 20.719 | 0.186 |
| -14.400 | 62.978 | -1.893 | 19.911 | 0.162 |
| -15.400 | 68.403 | -1.922 | 19.028 | 0.136 |
| -16.000 | 71.726 | -1.942 | 18.530 | 0.122 |
| -16.000 | 71.726 | -1.942 | 18.530 | 0.122 |
| -16.550 | 75.708 | -2.099 | 18.093 | 0.104 |
| -17.050 | 79.513 | -2.259 | 17.711 | 0.087 |
| -17.600 | 83.907 | -2.454 | 17.307 | 0.068 |
| -18.100 | 88.101 | -2.650 | 16.953 | 0.048 |
| -18.100 | 81.724 | -2.000 | 16.953 | 0.048 |
| -18.600 | 86.458 | -2.000 | 16.611 | 0.043 |
| -19.101 | 91.214 | -2.000 | 16.281 | 0.038 |
| -20.101 | 100.744 | -2.000 | 15.655 | 0.030 |
| -21.101 | 110.319 | -2.000 | 15.071 | 0.023 |
| -21.801 | 117.046 | -2.000 | 14.684 | 0.018 |
| -23.602 | 134.437 | -2.000 | 13.766 | 0.008 |
| -25.502 | 152.897 | -2.000 | 12.903 | 0.000 |

### 3.21 Results for Vertical 21 (X = -12.52 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.512 | 40.647 | -2.650 | 37.080 | 1.427 |
| -3.612 | 40.355 | -2.577 | 37.016 | 1.401 |
| -3.712 | 40.028 | -2.508 | 36.977 | 1.375 |
| -3.812 | 39.587 | -2.442 | 36.825 | 1.351 |
| -3.912 | 39.077 | -2.377 | 36.607 | 1.328 |
| -4.006 | 38.565 | -2.319 | 36.368 | 1.307 |
| -4.012 | 38.532 | -2.315 | 36.352 | 1.305 |
| -4.112 | 37.980 | -2.256 | 36.079 | 1.284 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -4.212 | 37.438 | -2.198 | 35.798 | 1.263 |
| -4.312 | 36.915 | -2.142 | 35.516 | 1.243 |
| -4.412 | 36.413 | -2.089 | 35.235 | 1.223 |
| -4.500 | 35.991 | -2.043 | 34.991 | 1.206 |
| -4.500 | 35.991 | -2.043 | 34.991 | 1.206 |
| -4.512 | 35.947 | -2.042 | 34.958 | 1.202 |
| -4.950 | 34.444 | -2.002 | 33.794 | 1.046 |
| -5.400 | 33.061 | -1.968 | 32.674 | 0.890 |
| -5.400 | 33.061 | -1.968 | 32.674 | 0.890 |
| -5.800 | 33.108 | -1.874 | 31.738 | 0.830 |
| -6.200 | 33.300 | -1.787 | 30.854 | 0.778 |
| -6.200 | 33.300 | -1.787 | 30.854 | 0.778 |
| -6.550 | 32.480 | -1.770 | 30.121 | 0.690 |
| -6.900 | 31.750 | -1.756 | 29.424 | 0.605 |
| -6.900 | 31.750 | -1.756 | 29.424 | 0.605 |
| -7.800 | 35.206 | -1.749 | 27.783 | 0.524 |
| -8.700 | 38.939 | -1.744 | 26.327 | 0.462 |
| -8.700 | 38.939 | -1.744 | 26.327 | 0.462 |
| -9.100 | 38.495 | -1.741 | 25.730 | 0.403 |
| -9.500 | 38.135 | -1.743 | 25.159 | 0.344 |
| -9.500 | 38.135 | -1.743 | 25.159 | 0.344 |
| -10.100 | 40.895 | -1.745 | 24.350 | 0.312 |
| -10.700 | 43.734 | -1.749 | 23.590 | 0.284 |
| -10.700 | 43.734 | -1.749 | 23.590 | 0.284 |
| -10.900 | 44.641 | -1.761 | 23.347 | 0.274 |
| -11.100 | 45.568 | -1.775 | 23.108 | 0.264 |
| -11.100 | 45.568 | -1.775 | 23.108 | 0.264 |
| -11.950 | 49.775 | -1.785 | 22.142 | 0.232 |
| -12.950 | 54.883 | -1.802 | 21.096 | 0.199 |
| -13.550 | 58.025 | -1.815 | 20.510 | 0.181 |
| -14.400 | 62.567 | -1.837 | 19.726 | 0.158 |
| -15.400 | 68.045 | -1.868 | 18.868 | 0.134 |
| -16.000 | 71.399 | -1.890 | 18.384 | 0.120 |
| -16.000 | 71.399 | -1.890 | 18.384 | 0.120 |
| -16.550 | 75.509 | -2.059 | 17.959 | 0.103 |
| -17.050 | 79.439 | -2.231 | 17.586 | 0.087 |
| -17.600 | 83.982 | -2.440 | 17.191 | 0.067 |
| -18.100 | 88.323 | -2.650 | 16.846 | 0.048 |
| -18.100 | 81.946 | -2.000 | 16.846 | 0.048 |
| -18.600 | 86.688 | -2.000 | 16.512 | 0.043 |
| -19.101 | 91.451 | -2.000 | 16.188 | 0.038 |
| -20.101 | 100.994 | -2.000 | 15.575 | 0.030 |
| -21.101 | 110.580 | -2.000 | 15.000 | 0.022 |
| -21.801 | 117.314 | -2.000 | 14.620 | 0.018 |
| -23.602 | 134.718 | -2.000 | 13.715 | 0.008 |
| -25.502 | 153.190 | -2.000 | 12.864 | 0.000 |

### 3.22 Results for Vertical 22 (X = -12.18 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.468 | 40.641 | -2.650 | 37.285 | 1.430 |
| -3.568 | 40.163 | -2.576 | 37.118 | 1.403 |
| -3.668 | 39.565 | -2.506 | 36.877 | 1.377 |
| -3.768 | 38.894 | -2.439 | 36.569 | 1.352 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.868 | 38.231 | -2.375 | 36.245 | 1.328 |
| -3.968 | 37.602 | -2.313 | 35.927 | 1.305 |
| -3.984 | 37.504 | -2.304 | 35.876 | 1.302 |
| -4.068 | 37.004 | -2.254 | 35.613 | 1.283 |
| -4.168 | 36.433 | -2.197 | 35.304 | 1.262 |
| -4.268 | 35.890 | -2.141 | 34.999 | 1.241 |
| -4.368 | 35.375 | -2.088 | 34.702 | 1.221 |
| -4.468 | 34.890 | -2.037 | 34.411 | 1.202 |
| -4.500 | 34.741 | -2.021 | 34.320 | 1.196 |
| -4.500 | 34.741 | -2.021 | 34.320 | 1.196 |
| -4.950 | 33.244 | -1.981 | 33.114 | 1.034 |
| -5.400 | 31.985 | -1.948 | 32.029 | 0.878 |
| -5.400 | 31.985 | -1.948 | 32.029 | 0.878 |
| -5.800 | 32.186 | -1.858 | 31.137 | 0.818 |
| -6.200 | 32.521 | -1.775 | 30.300 | 0.767 |
| -6.200 | 32.521 | -1.775 | 30.300 | 0.767 |
| -6.550 | 31.793 | -1.758 | 29.605 | 0.680 |
| -6.900 | 31.142 | -1.745 | 28.944 | 0.596 |
| -6.900 | 31.142 | -1.745 | 28.944 | 0.596 |
| -7.800 | 34.749 | -1.739 | 27.381 | 0.517 |
| -8.700 | 38.588 | -1.734 | 25.986 | 0.456 |
| -8.700 | 38.588 | -1.734 | 25.986 | 0.456 |
| -9.100 | 38.185 | -1.732 | 25.412 | 0.398 |
| -9.500 | 37.862 | -1.734 | 24.864 | 0.340 |
| -9.500 | 37.862 | -1.734 | 24.864 | 0.340 |
| -10.100 | 40.664 | -1.736 | 24.083 | 0.309 |
| -10.700 | 43.539 | -1.740 | 23.349 | 0.281 |
| -10.700 | 43.539 | -1.740 | 23.349 | 0.281 |
| -10.900 | 44.462 | -1.753 | 23.114 | 0.272 |
| -11.100 | 45.404 | -1.768 | 22.882 | 0.262 |
| -11.100 | 45.404 | -1.768 | 22.882 | 0.262 |
| -11.950 | 49.650 | -1.778 | 21.946 | 0.230 |
| -12.950 | 54.796 | -1.795 | 20.928 | 0.197 |
| -13.550 | 57.957 | -1.808 | 20.357 | 0.180 |
| -14.400 | 62.524 | -1.830 | 19.592 | 0.157 |
| -15.400 | 68.026 | -1.862 | 18.752 | 0.133 |
| -16.000 | 71.393 | -1.885 | 18.278 | 0.120 |
| -16.000 | 71.393 | -1.885 | 18.278 | 0.120 |
| -16.550 | 75.526 | -2.055 | 17.860 | 0.103 |
| -17.050 | 79.477 | -2.228 | 17.494 | 0.086 |
| -17.600 | 84.042 | -2.438 | 17.106 | 0.067 |
| -18.100 | 88.401 | -2.650 | 16.766 | 0.048 |
| -18.100 | 82.025 | -2.000 | 16.766 | 0.048 |
| -18.600 | 86.772 | -2.000 | 16.437 | 0.042 |
| -19.101 | 91.540 | -2.000 | 16.119 | 0.038 |
| -20.101 | 101.092 | -2.000 | 15.514 | 0.029 |
| -21.101 | 110.686 | -2.000 | 14.946 | 0.022 |
| -21.801 | 117.424 | -2.000 | 14.570 | 0.018 |
| -23.602 | 134.839 | -2.000 | 13.675 | 0.008 |
| -25.502 | 153.319 | -2.000 | 12.831 | 0.000 |

### 3.23 Results for Vertical 23 (X = -11.65 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.400 | 39.653 | -2.650 | 35.314 | 1.307 |
| -3.500 | 39.046 | -2.587 | 34.886 | 1.282 |
| -3.600 | 38.441 | -2.527 | 34.507 | 1.259 |
| -3.700 | 37.876 | -2.469 | 34.153 | 1.237 |
| -3.800 | 37.358 | -2.413 | 33.828 | 1.215 |
| -3.900 | 36.893 | -2.359 | 33.536 | 1.195 |
| -3.950 | 36.681 | -2.333 | 33.401 | 1.185 |
| -4.000 | 36.480 | -2.307 | 33.273 | 1.175 |
| -4.100 | 36.110 | -2.256 | 33.031 | 1.156 |
| -4.200 | 35.773 | -2.207 | 32.805 | 1.137 |
| -4.300 | 35.464 | -2.159 | 32.590 | 1.119 |
| -4.400 | 35.178 | -2.113 | 32.381 | 1.102 |
| -4.500 | 34.910 | -2.068 | 32.178 | 1.085 |
| -4.500 | 34.910 | -2.068 | 32.178 | 1.085 |
| -4.950 | 34.030 | -2.032 | 31.297 | 0.945 |
| -5.400 | 33.230 | -2.002 | 30.456 | 0.811 |
| -5.400 | 33.230 | -2.002 | 30.456 | 0.811 |
| -5.800 | 33.802 | -1.918 | 29.736 | 0.760 |
| -6.200 | 34.442 | -1.841 | 29.042 | 0.715 |
| -6.200 | 34.442 | -1.841 | 29.042 | 0.715 |
| -6.550 | 33.910 | -1.825 | 28.456 | 0.638 |
| -6.900 | 33.426 | -1.813 | 27.890 | 0.564 |
| -6.900 | 33.426 | -1.813 | 27.890 | 0.564 |
| -7.800 | 37.353 | -1.807 | 26.523 | 0.494 |
| -8.700 | 41.415 | -1.802 | 25.276 | 0.439 |
| -8.700 | 41.415 | -1.802 | 25.276 | 0.439 |
| -9.100 | 41.090 | -1.800 | 24.756 | 0.384 |
| -9.500 | 40.833 | -1.802 | 24.256 | 0.331 |
| -9.500 | 40.833 | -1.802 | 24.256 | 0.331 |
| -10.100 | 43.719 | -1.804 | 23.540 | 0.301 |
| -10.700 | 46.664 | -1.808 | 22.861 | 0.276 |
| -10.700 | 46.664 | -1.808 | 22.861 | 0.276 |
| -10.900 | 47.601 | -1.820 | 22.642 | 0.266 |
| -11.100 | 48.556 | -1.834 | 22.427 | 0.257 |
| -11.100 | 48.556 | -1.834 | 22.427 | 0.257 |
| -11.950 | 52.871 | -1.844 | 21.551 | 0.226 |
| -12.950 | 58.077 | -1.860 | 20.592 | 0.194 |
| -13.550 | 61.265 | -1.872 | 20.051 | 0.177 |
| -14.400 | 65.861 | -1.893 | 19.322 | 0.155 |
| -15.400 | 71.383 | -1.922 | 18.520 | 0.131 |
| -16.000 | 74.756 | -1.943 | 18.064 | 0.117 |
| -16.000 | 74.756 | -1.943 | 18.064 | 0.117 |
| -16.550 | 78.789 | -2.101 | 17.662 | 0.100 |
| -17.050 | 82.628 | -2.261 | 17.309 | 0.084 |
| -17.600 | 87.047 | -2.456 | 16.934 | 0.064 |
| -18.100 | 91.249 | -2.650 | 16.605 | 0.046 |
| -18.100 | 84.872 | -2.000 | 16.605 | 0.046 |
| -18.600 | 89.630 | -2.000 | 16.287 | 0.041 |
| -19.101 | 94.409 | -2.000 | 15.977 | 0.036 |
| -20.101 | 103.979 | -2.000 | 15.389 | 0.028 |
| -21.101 | 113.588 | -2.000 | 14.836 | 0.022 |
| -21.801 | 120.335 | -2.000 | 14.469 | 0.017 |
| -23.602 | 137.770 | -2.000 | 13.592 | 0.008 |
| -25.502 | 156.266 | -2.000 | 12.764 | 0.000 |

### 3.24 Results for Vertical 24 (X = -11.56 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.093 | 35.302 | -2.093 | 35.301 | 1.080 |
| -2.193 | 38.180 | -2.149 | 37.266 | 1.038 |
| -2.293 | 39.098 | -2.202 | 37.291 | 1.006 |
| -2.393 | 36.695 | -2.257 | 33.981 | 0.979 |
| -2.493 | 35.939 | -2.315 | 32.289 | 0.956 |
| -2.593 | 35.814 | -2.374 | 31.216 | 0.936 |
| -2.650 | 35.959 | -2.408 | 30.817 | 0.925 |
| -2.693 | 36.411 | -2.390 | 31.282 | 0.917 |
| -2.793 | 37.292 | -2.349 | 32.195 | 0.899 |
| -2.893 | 36.187 | -2.309 | 31.115 | 0.881 |
| -2.993 | 35.051 | -2.271 | 29.985 | 0.865 |
| -3.093 | 34.315 | -2.234 | 29.237 | 0.848 |
| -3.296 | 33.347 | -2.164 | 28.208 | 0.817 |
| -3.900 | 33.959 | -1.972 | 27.351 | 0.737 |
| -4.500 | 33.665 | -1.801 | 26.249 | 0.671 |
| -4.500 | 33.665 | -1.801 | 26.249 | 0.671 |
| -4.950 | 33.067 | -1.780 | 25.445 | 0.589 |
| -5.400 | 32.493 | -1.765 | 24.657 | 0.511 |
| -5.400 | 32.493 | -1.765 | 24.657 | 0.511 |
| -5.800 | 33.546 | -1.724 | 23.975 | 0.481 |
| -6.200 | 34.643 | -1.688 | 23.312 | 0.454 |
| -6.200 | 34.643 | -1.688 | 23.312 | 0.454 |
| -6.550 | 34.240 | -1.682 | 22.750 | 0.407 |
| -6.900 | 33.871 | -1.678 | 22.204 | 0.361 |
| -6.900 | 33.871 | -1.678 | 22.204 | 0.361 |
| -7.800 | 37.919 | -1.677 | 20.880 | 0.322 |
| -8.700 | 42.085 | -1.679 | 19.664 | 0.290 |
| -8.700 | 42.085 | -1.679 | 19.664 | 0.290 |
| -9.100 | 41.871 | -1.686 | 19.156 | 0.254 |
| -9.500 | 41.713 | -1.697 | 18.667 | 0.219 |
| -9.500 | 41.713 | -1.697 | 18.667 | 0.219 |
| -10.100 | 44.651 | -1.703 | 17.964 | 0.202 |
| -10.700 | 47.644 | -1.710 | 17.296 | 0.187 |
| -10.700 | 47.644 | -1.710 | 17.296 | 0.187 |
| -10.900 | 48.667 | -1.731 | 17.081 | 0.181 |
| -11.100 | 49.708 | -1.753 | 16.869 | 0.175 |
| -11.100 | 49.708 | -1.753 | 16.869 | 0.175 |
| -11.950 | 54.085 | -1.767 | 16.006 | 0.156 |
| -12.950 | 59.359 | -1.789 | 15.059 | 0.137 |
| -13.550 | 62.584 | -1.804 | 14.524 | 0.127 |
| -14.400 | 67.229 | -1.829 | 13.803 | 0.113 |
| -15.400 | 72.804 | -1.863 | 13.008 | 0.098 |
| -16.000 | 76.204 | -1.886 | 12.556 | 0.089 |
| -16.000 | 76.205 | -1.886 | 12.556 | 0.089 |
| -16.550 | 80.393 | -2.060 | 12.157 | 0.076 |
| -17.050 | 84.369 | -2.233 | 11.807 | 0.063 |
| -17.600 | 88.934 | -2.443 | 11.435 | 0.047 |
| -18.100 | 93.269 | -2.650 | 11.108 | 0.031 |
| -18.100 | 86.892 | -2.000 | 11.108 | 0.031 |
| -18.600 | 91.653 | -2.000 | 10.791 | 0.028 |
| -19.101 | 96.433 | -2.000 | 10.484 | 0.025 |
| -20.101 | 106.007 | -2.000 | 9.899 | 0.019 |
| -21.101 | 115.619 | -2.000 | 9.349 | 0.014 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -21.801 | 122.368 | -2.000 | 8.983 | 0.011 |
| -23.602 | 139.807 | -2.000 | 8.111 | 0.005 |
| -25.502 | 158.306 | -2.000 | 7.285 | 0.000 |

### 3.25 Results for Vertical 25 (X = -11.55 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.949 | 32.855 | -1.949 | 32.854 | 0.993 |
| -2.000 | 40.667 | -1.941 | 40.427 | 0.971 |
| -2.021 | 40.596 | -1.935 | 40.284 | 0.964 |
| -2.049 | 36.008 | -1.930 | 35.577 | 0.954 |
| -2.093 | 30.935 | -1.929 | 30.245 | 0.942 |
| -2.093 | 30.935 | -1.929 | 30.244 | 0.942 |
| -2.149 | 30.399 | -1.967 | 29.121 | 0.927 |
| -2.249 | 30.178 | -2.037 | 27.845 | 0.904 |
| -2.349 | 33.623 | -2.106 | 30.249 | 0.883 |
| -2.449 | 31.947 | -2.174 | 27.536 | 0.864 |
| -2.549 | 31.153 | -2.244 | 25.687 | 0.847 |
| -2.649 | 30.762 | -2.315 | 24.230 | 0.832 |
| -2.650 | 30.762 | -2.316 | 24.219 | 0.832 |
| -2.749 | 31.339 | -2.287 | 24.708 | 0.818 |
| -2.849 | 36.240 | -2.256 | 29.543 | 0.804 |
| -2.949 | 35.500 | -2.224 | 28.754 | 0.789 |
| -3.297 | 33.743 | -2.119 | 26.740 | 0.741 |
| -3.900 | 34.571 | -1.956 | 25.863 | 0.670 |
| -4.500 | 34.578 | -1.811 | 24.787 | 0.610 |
| -4.500 | 34.578 | -1.811 | 24.787 | 0.610 |
| -4.950 | 34.026 | -1.793 | 23.990 | 0.538 |
| -5.400 | 33.489 | -1.780 | 23.209 | 0.469 |
| -5.400 | 33.489 | -1.780 | 23.208 | 0.469 |
| -5.800 | 34.632 | -1.748 | 22.530 | 0.442 |
| -6.200 | 35.816 | -1.721 | 21.871 | 0.417 |
| -6.200 | 35.816 | -1.721 | 21.871 | 0.417 |
| -6.550 | 35.433 | -1.716 | 21.311 | 0.375 |
| -6.900 | 35.083 | -1.714 | 20.767 | 0.334 |
| -6.900 | 35.083 | -1.714 | 20.767 | 0.334 |
| -7.800 | 39.148 | -1.714 | 19.448 | 0.299 |
| -8.700 | 43.328 | -1.717 | 18.236 | 0.271 |
| -8.700 | 43.328 | -1.717 | 18.236 | 0.271 |
| -9.100 | 43.128 | -1.725 | 17.729 | 0.237 |
| -9.500 | 42.982 | -1.737 | 17.240 | 0.205 |
| -9.500 | 42.982 | -1.737 | 17.240 | 0.205 |
| -10.100 | 45.925 | -1.743 | 16.539 | 0.190 |
| -10.700 | 48.921 | -1.751 | 15.873 | 0.177 |
| -10.700 | 48.921 | -1.751 | 15.873 | 0.177 |
| -10.900 | 49.949 | -1.772 | 15.658 | 0.171 |
| -11.100 | 50.993 | -1.794 | 15.446 | 0.165 |
| -11.100 | 50.993 | -1.794 | 15.446 | 0.165 |
| -11.950 | 55.372 | -1.808 | 14.584 | 0.148 |
| -12.950 | 60.645 | -1.830 | 13.639 | 0.131 |
| -13.550 | 63.868 | -1.845 | 13.104 | 0.121 |
| -14.400 | 68.507 | -1.869 | 12.384 | 0.108 |
| -15.400 | 74.070 | -1.902 | 11.590 | 0.094 |
| -16.000 | 77.461 | -1.924 | 11.138 | 0.086 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -16.000 | 77.461 | -1.924 | 11.138 | 0.086 |
| -16.550 | 81.571 | -2.090 | 10.740 | 0.073 |
| -17.050 | 85.466 | -2.255 | 10.390 | 0.061 |
| -17.600 | 89.928 | -2.453 | 10.018 | 0.045 |
| -18.100 | 94.156 | -2.650 | 9.692 | 0.030 |
| -18.100 | 87.780 | -2.000 | 9.692 | 0.030 |
| -18.600 | 92.540 | -2.000 | 9.375 | 0.027 |
| -19.101 | 97.321 | -2.000 | 9.068 | 0.024 |
| -20.101 | 106.895 | -2.000 | 8.483 | 0.018 |
| -21.101 | 116.507 | -2.000 | 7.933 | 0.014 |
| -21.801 | 123.257 | -2.000 | 7.568 | 0.011 |
| -23.602 | 140.697 | -2.000 | 6.696 | 0.005 |
| -25.502 | 159.196 | -2.000 | 5.871 | 0.000 |

### 3.26 Results for Vertical 26 (X = -10.59 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.525 | 30.232 | -1.525 | 30.231 | 0.841 |
| -1.625 | 31.909 | -1.538 | 31.165 | 0.806 |
| -1.725 | 33.568 | -1.549 | 32.098 | 0.781 |
| -1.809 | 34.334 | -1.557 | 32.262 | 0.763 |
| -1.825 | 34.453 | -1.558 | 32.269 | 0.760 |
| -1.925 | 35.164 | -1.568 | 32.264 | 0.743 |
| -2.000 | 35.652 | -1.576 | 32.212 | 0.731 |
| -2.025 | 35.807 | -1.579 | 32.186 | 0.727 |
| -2.093 | 35.979 | -1.586 | 31.862 | 0.718 |
| -2.093 | 35.979 | -1.586 | 31.862 | 0.718 |
| -2.125 | 35.953 | -1.608 | 31.500 | 0.713 |
| -2.225 | 35.837 | -1.679 | 30.318 | 0.697 |
| -2.325 | 35.679 | -1.751 | 29.090 | 0.684 |
| -2.425 | 35.495 | -1.823 | 27.830 | 0.671 |
| -2.525 | 35.306 | -1.896 | 26.559 | 0.659 |
| -2.650 | 35.072 | -1.987 | 24.964 | 0.645 |
| -3.297 | 34.079 | -1.832 | 23.106 | 0.584 |
| -3.900 | 34.057 | -1.710 | 22.040 | 0.536 |
| -4.500 | 34.746 | -1.608 | 21.356 | 0.493 |
| -4.500 | 34.746 | -1.608 | 21.356 | 0.493 |
| -4.950 | 34.737 | -1.596 | 20.961 | 0.444 |
| -5.400 | 34.783 | -1.589 | 20.589 | 0.396 |
| -5.400 | 34.783 | -1.589 | 20.589 | 0.396 |
| -5.800 | 36.564 | -1.576 | 20.255 | 0.377 |
| -6.200 | 38.358 | -1.568 | 19.910 | 0.359 |
| -6.200 | 38.358 | -1.568 | 19.910 | 0.359 |
| -6.550 | 38.358 | -1.568 | 19.600 | 0.327 |
| -6.900 | 38.360 | -1.571 | 19.284 | 0.296 |
| -6.900 | 38.360 | -1.571 | 19.284 | 0.296 |
| -7.800 | 43.117 | -1.574 | 18.454 | 0.271 |
| -8.700 | 47.834 | -1.581 | 17.620 | 0.250 |
| -8.700 | 47.834 | -1.581 | 17.620 | 0.250 |
| -9.100 | 47.879 | -1.595 | 17.253 | 0.222 |
| -9.500 | 47.956 | -1.614 | 16.890 | 0.194 |
| -9.500 | 47.956 | -1.614 | 16.890 | 0.194 |
| -10.100 | 51.133 | -1.622 | 16.353 | 0.182 |
| -10.700 | 54.332 | -1.632 | 15.828 | 0.171 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -10.700 | 54.332 | -1.632 | 15.828 | 0.171 |
| -10.900 | 55.477 | -1.660 | 15.656 | 0.165 |
| -11.100 | 56.638 | -1.689 | 15.485 | 0.160 |
| -11.100 | 56.638 | -1.689 | 15.485 | 0.160 |
| -11.950 | 61.243 | -1.707 | 14.776 | 0.145 |
| -12.950 | 66.737 | -1.733 | 13.977 | 0.129 |
| -13.550 | 70.076 | -1.751 | 13.517 | 0.120 |
| -14.400 | 74.861 | -1.780 | 12.888 | 0.108 |
| -15.400 | 80.575 | -1.818 | 12.184 | 0.094 |
| -16.000 | 84.049 | -1.843 | 11.779 | 0.086 |
| -16.000 | 84.049 | -1.843 | 11.779 | 0.086 |
| -16.550 | 88.404 | -2.029 | 11.420 | 0.073 |
| -17.050 | 92.523 | -2.213 | 11.102 | 0.061 |
| -17.600 | 97.232 | -2.434 | 10.763 | 0.045 |
| -18.100 | 101.685 | -2.650 | 10.463 | 0.030 |
| -18.100 | 95.309 | -2.000 | 10.463 | 0.030 |
| -19.901 | 112.596 | -2.000 | 9.450 | 0.020 |
| -21.801 | 130.947 | -2.000 | 8.487 | 0.011 |
| -23.602 | 148.437 | -2.000 | 7.663 | 0.005 |
| -25.502 | 166.979 | -2.000 | 6.877 | 0.000 |

### 3.27 Results for Vertical 27 (X = -10.03 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.316 | 26.848 | -1.316 | 26.847 | 0.776 |
| -1.416 | 28.793 | -1.341 | 27.925 | 0.742 |
| -1.516 | 29.902 | -1.365 | 28.184 | 0.718 |
| -1.616 | 30.835 | -1.388 | 28.276 | 0.698 |
| -1.705 | 31.505 | -1.408 | 28.200 | 0.683 |
| -1.716 | 31.578 | -1.410 | 28.179 | 0.682 |
| -1.816 | 32.135 | -1.433 | 27.895 | 0.667 |
| -1.916 | 32.578 | -1.456 | 27.492 | 0.655 |
| -2.000 | 32.950 | -1.476 | 27.146 | 0.645 |
| -2.016 | 33.027 | -1.480 | 27.085 | 0.643 |
| -2.094 | 33.432 | -1.499 | 26.821 | 0.636 |
| -2.094 | 33.432 | -1.499 | 26.821 | 0.636 |
| -2.116 | 33.615 | -1.516 | 26.756 | 0.633 |
| -2.216 | 33.681 | -1.591 | 25.713 | 0.621 |
| -2.316 | 33.661 | -1.667 | 24.582 | 0.610 |
| -2.650 | 33.866 | -1.923 | 21.048 | 0.579 |
| -3.297 | 34.318 | -1.785 | 20.466 | 0.530 |
| -3.900 | 34.852 | -1.674 | 19.856 | 0.489 |
| -4.500 | 35.751 | -1.581 | 19.397 | 0.453 |
| -4.500 | 35.751 | -1.581 | 19.397 | 0.453 |
| -4.950 | 35.803 | -1.571 | 19.142 | 0.411 |
| -5.400 | 35.958 | -1.565 | 18.924 | 0.371 |
| -5.400 | 35.958 | -1.565 | 18.924 | 0.371 |
| -5.800 | 37.902 | -1.556 | 18.737 | 0.355 |
| -6.200 | 39.881 | -1.552 | 18.542 | 0.340 |
| -6.200 | 39.881 | -1.552 | 18.542 | 0.340 |
| -6.550 | 40.026 | -1.553 | 18.361 | 0.312 |
| -6.900 | 40.172 | -1.556 | 18.168 | 0.284 |
| -6.900 | 40.172 | -1.556 | 18.168 | 0.284 |
| -7.800 | 45.263 | -1.561 | 17.621 | 0.263 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -8.700 | 50.265 | -1.568 | 17.019 | 0.244 |
| -8.700 | 50.265 | -1.568 | 17.018 | 0.244 |
| -9.100 | 50.428 | -1.583 | 16.740 | 0.217 |
| -9.500 | 50.613 | -1.603 | 16.456 | 0.191 |
| -9.500 | 50.613 | -1.603 | 16.456 | 0.191 |
| -10.100 | 53.923 | -1.612 | 16.026 | 0.179 |
| -10.700 | 57.238 | -1.622 | 15.593 | 0.169 |
| -10.700 | 57.238 | -1.622 | 15.593 | 0.169 |
| -10.900 | 58.428 | -1.651 | 15.449 | 0.164 |
| -11.100 | 59.632 | -1.681 | 15.305 | 0.159 |
| -11.100 | 59.632 | -1.681 | 15.305 | 0.159 |
| -11.950 | 64.363 | -1.700 | 14.698 | 0.145 |
| -12.950 | 69.980 | -1.727 | 13.998 | 0.129 |
| -13.550 | 73.381 | -1.745 | 13.588 | 0.120 |
| -14.400 | 78.242 | -1.774 | 13.021 | 0.108 |
| -15.400 | 84.032 | -1.813 | 12.378 | 0.094 |
| -16.000 | 87.544 | -1.838 | 12.006 | 0.085 |
| -16.000 | 87.544 | -1.838 | 12.006 | 0.085 |
| -16.550 | 91.948 | -2.026 | 11.673 | 0.072 |
| -17.050 | 96.103 | -2.212 | 11.378 | 0.060 |
| -17.600 | 100.848 | -2.433 | 11.061 | 0.044 |
| -18.100 | 105.327 | -2.650 | 10.780 | 0.029 |
| -18.100 | 98.950 | -2.000 | 10.780 | 0.029 |
| -19.901 | 116.300 | -2.000 | 9.824 | 0.019 |
| -21.801 | 134.700 | -2.000 | 8.907 | 0.011 |
| -23.602 | 152.227 | -2.000 | 8.117 | 0.005 |
| -25.502 | 170.799 | -2.000 | 7.359 | 0.000 |

### 3.28 Results for Vertical 28 (X = -9.46 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.051 | 29.507 | -1.051 | 29.506 | 0.711 |
| -1.151 | 27.087 | -1.080 | 26.187 | 0.676 |
| -1.251 | 26.734 | -1.114 | 24.881 | 0.653 |
| -1.351 | 27.078 | -1.150 | 24.257 | 0.635 |
| -1.451 | 27.683 | -1.186 | 23.891 | 0.619 |
| -1.551 | 28.323 | -1.221 | 23.561 | 0.606 |
| -1.573 | 28.459 | -1.229 | 23.490 | 0.603 |
| -1.651 | 28.967 | -1.257 | 23.235 | 0.595 |
| -1.751 | 29.655 | -1.293 | 22.953 | 0.585 |
| -1.851 | 30.408 | -1.329 | 22.738 | 0.576 |
| -1.951 | 31.220 | -1.364 | 22.583 | 0.568 |
| -2.000 | 31.629 | -1.381 | 22.524 | 0.564 |
| -2.051 | 32.072 | -1.399 | 22.470 | 0.561 |
| -2.094 | 32.442 | -1.414 | 22.430 | 0.558 |
| -2.094 | 32.442 | -1.414 | 22.430 | 0.558 |
| -2.650 | 34.054 | -1.855 | 17.662 | 0.515 |
| -3.297 | 35.144 | -1.734 | 17.558 | 0.476 |
| -3.900 | 36.299 | -1.636 | 17.449 | 0.442 |
| -4.500 | 37.618 | -1.554 | 17.340 | 0.412 |
| -4.500 | 37.618 | -1.554 | 17.340 | 0.412 |
| -4.950 | 37.826 | -1.545 | 17.277 | 0.378 |
| -5.400 | 38.109 | -1.540 | 17.224 | 0.345 |
| -5.400 | 38.109 | -1.540 | 17.224 | 0.345 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -5.800 | 40.194 | -1.535 | 17.175 | 0.332 |
| -6.200 | 42.325 | -1.534 | 17.114 | 0.319 |
| -6.200 | 42.325 | -1.534 | 17.114 | 0.319 |
| -6.550 | 42.583 | -1.536 | 17.047 | 0.294 |
| -6.900 | 42.845 | -1.541 | 16.964 | 0.270 |
| -6.900 | 42.846 | -1.541 | 16.964 | 0.270 |
| -7.800 | 48.216 | -1.546 | 16.677 | 0.252 |
| -8.700 | 53.473 | -1.553 | 16.298 | 0.236 |
| -8.700 | 53.473 | -1.553 | 16.298 | 0.236 |
| -9.100 | 53.746 | -1.570 | 16.106 | 0.211 |
| -9.500 | 54.034 | -1.591 | 15.902 | 0.186 |
| -9.500 | 54.034 | -1.591 | 15.902 | 0.186 |
| -10.100 | 57.475 | -1.600 | 15.580 | 0.175 |
| -10.700 | 60.905 | -1.611 | 15.243 | 0.166 |
| -10.700 | 60.905 | -1.611 | 15.243 | 0.166 |
| -10.900 | 62.141 | -1.641 | 15.128 | 0.161 |
| -11.100 | 63.388 | -1.672 | 15.012 | 0.156 |
| -11.100 | 63.388 | -1.672 | 15.012 | 0.156 |
| -11.950 | 68.250 | -1.692 | 14.512 | 0.142 |
| -12.950 | 73.995 | -1.720 | 13.917 | 0.127 |
| -13.550 | 77.462 | -1.738 | 13.561 | 0.118 |
| -14.400 | 82.406 | -1.768 | 13.062 | 0.106 |
| -15.400 | 88.278 | -1.807 | 12.486 | 0.092 |
| -16.000 | 91.833 | -1.833 | 12.149 | 0.084 |
| -16.000 | 91.833 | -1.833 | 12.149 | 0.084 |
| -16.550 | 96.289 | -2.023 | 11.846 | 0.071 |
| -17.050 | 100.487 | -2.210 | 11.575 | 0.059 |
| -17.600 | 105.272 | -2.432 | 11.283 | 0.043 |
| -18.100 | 109.780 | -2.650 | 11.023 | 0.028 |
| -18.100 | 103.404 | -2.000 | 11.023 | 0.028 |
| -19.901 | 120.823 | -2.000 | 10.132 | 0.019 |
| -21.801 | 139.281 | -2.000 | 9.267 | 0.011 |
| -23.602 | 156.850 | -2.000 | 8.516 | 0.005 |
| -25.502 | 175.456 | -2.000 | 7.791 | 0.000 |

### 3.29 Results for Vertical 29 (X = -9.46 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.047 | 28.266 | -1.047 | 28.265 | 0.710 |
| -1.147 | 20.284 | -1.086 | 19.283 | 0.677 |
| -1.247 | 25.393 | -1.130 | 23.341 | 0.655 |
| -1.347 | 26.765 | -1.167 | 23.726 | 0.637 |
| -1.447 | 27.606 | -1.203 | 23.595 | 0.621 |
| -1.547 | 28.351 | -1.239 | 23.371 | 0.608 |
| -1.570 | 28.518 | -1.247 | 23.309 | 0.605 |
| -1.647 | 29.050 | -1.274 | 23.103 | 0.597 |
| -1.747 | 29.764 | -1.310 | 22.853 | 0.586 |
| -1.847 | 30.527 | -1.345 | 22.653 | 0.577 |
| -1.947 | 31.340 | -1.380 | 22.505 | 0.569 |
| -2.000 | 31.789 | -1.398 | 22.443 | 0.566 |
| -2.047 | 32.190 | -1.414 | 22.396 | 0.562 |
| -2.094 | 32.600 | -1.431 | 22.353 | 0.559 |
| -2.094 | 32.600 | -1.431 | 22.353 | 0.559 |
| -2.641 | 34.092 | -1.864 | 17.578 | 0.517 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.297 | 35.190 | -1.739 | 17.478 | 0.477 |
| -3.900 | 36.339 | -1.640 | 17.377 | 0.443 |
| -4.500 | 37.652 | -1.556 | 17.274 | 0.413 |
| -4.500 | 37.652 | -1.556 | 17.274 | 0.413 |
| -4.950 | 37.860 | -1.547 | 17.214 | 0.379 |
| -5.400 | 38.143 | -1.542 | 17.165 | 0.346 |
| -5.400 | 38.143 | -1.542 | 17.165 | 0.346 |
| -5.800 | 40.224 | -1.536 | 17.118 | 0.332 |
| -6.200 | 42.348 | -1.535 | 17.059 | 0.319 |
| -6.200 | 42.348 | -1.535 | 17.059 | 0.319 |
| -6.550 | 42.606 | -1.537 | 16.993 | 0.295 |
| -6.900 | 42.868 | -1.541 | 16.912 | 0.271 |
| -6.900 | 42.868 | -1.541 | 16.912 | 0.271 |
| -7.800 | 48.241 | -1.546 | 16.630 | 0.253 |
| -8.700 | 53.501 | -1.553 | 16.254 | 0.236 |
| -8.700 | 53.501 | -1.553 | 16.254 | 0.236 |
| -9.100 | 53.773 | -1.570 | 16.064 | 0.211 |
| -9.500 | 54.060 | -1.590 | 15.862 | 0.186 |
| -9.500 | 54.060 | -1.590 | 15.862 | 0.186 |
| -10.100 | 57.502 | -1.600 | 15.542 | 0.176 |
| -10.700 | 60.933 | -1.611 | 15.206 | 0.166 |
| -10.700 | 60.933 | -1.611 | 15.206 | 0.166 |
| -10.900 | 62.166 | -1.640 | 15.092 | 0.161 |
| -11.100 | 63.410 | -1.671 | 14.976 | 0.156 |
| -11.100 | 63.410 | -1.671 | 14.976 | 0.156 |
| -11.950 | 68.273 | -1.691 | 14.478 | 0.142 |
| -12.950 | 74.017 | -1.718 | 13.885 | 0.127 |
| -13.550 | 77.484 | -1.736 | 13.530 | 0.118 |
| -14.400 | 82.426 | -1.765 | 13.032 | 0.106 |
| -15.400 | 88.297 | -1.804 | 12.457 | 0.092 |
| -16.000 | 91.850 | -1.830 | 12.121 | 0.084 |
| -16.000 | 91.851 | -1.830 | 12.121 | 0.084 |
| -16.550 | 96.293 | -2.019 | 11.818 | 0.071 |
| -17.050 | 100.478 | -2.204 | 11.548 | 0.058 |
| -17.600 | 105.248 | -2.425 | 11.256 | 0.043 |
| -18.100 | 109.741 | -2.641 | 10.997 | 0.028 |
| -18.100 | 103.452 | -2.000 | 10.997 | 0.028 |
| -19.901 | 120.872 | -2.000 | 10.107 | 0.019 |
| -21.801 | 139.331 | -2.000 | 9.243 | 0.011 |
| -23.602 | 156.901 | -2.000 | 8.492 | 0.005 |
| -25.502 | 175.508 | -2.000 | 7.768 | 0.000 |

### 3.30 Results for Vertical 30 (X = -9.40 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.023 | 22.383 | -1.023 | 22.382 | 0.707 |
| -1.123 | 21.692 | -1.063 | 20.680 | 0.675 |
| -1.223 | 20.793 | -1.107 | 18.732 | 0.654 |
| -1.323 | 23.937 | -1.149 | 20.845 | 0.637 |
| -1.423 | 25.991 | -1.186 | 21.920 | 0.623 |
| -1.523 | 27.308 | -1.219 | 22.290 | 0.610 |
| -1.559 | 27.688 | -1.231 | 22.337 | 0.606 |
| -1.623 | 28.307 | -1.251 | 22.355 | 0.599 |
| -1.723 | 29.168 | -1.282 | 22.292 | 0.589 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.823 | 29.988 | -1.313 | 22.191 | 0.580 |
| -1.923 | 30.808 | -1.343 | 22.094 | 0.572 |
| -2.000 | 31.447 | -1.367 | 22.030 | 0.567 |
| -2.023 | 31.640 | -1.373 | 22.012 | 0.565 |
| -2.094 | 32.238 | -1.395 | 21.963 | 0.561 |
| -2.094 | 32.239 | -1.395 | 21.963 | 0.561 |
| -2.596 | 33.473 | -1.817 | 17.198 | 0.522 |
| -3.297 | 34.997 | -1.717 | 17.124 | 0.482 |
| -3.900 | 36.421 | -1.642 | 17.058 | 0.451 |
| -4.500 | 37.964 | -1.579 | 16.986 | 0.423 |
| -4.500 | 37.964 | -1.579 | 16.986 | 0.423 |
| -4.950 | 38.180 | -1.569 | 16.944 | 0.388 |
| -5.400 | 38.466 | -1.563 | 16.909 | 0.354 |
| -5.400 | 38.466 | -1.563 | 16.909 | 0.354 |
| -5.800 | 40.525 | -1.554 | 16.874 | 0.340 |
| -6.200 | 42.624 | -1.549 | 16.827 | 0.327 |
| -6.200 | 42.624 | -1.549 | 16.827 | 0.327 |
| -6.550 | 42.881 | -1.550 | 16.771 | 0.301 |
| -6.900 | 43.142 | -1.553 | 16.698 | 0.276 |
| -6.900 | 43.142 | -1.553 | 16.698 | 0.276 |
| -7.800 | 48.529 | -1.557 | 16.438 | 0.258 |
| -8.700 | 53.801 | -1.564 | 16.081 | 0.241 |
| -8.700 | 53.801 | -1.564 | 16.081 | 0.241 |
| -9.100 | 54.065 | -1.579 | 15.898 | 0.215 |
| -9.500 | 54.345 | -1.598 | 15.703 | 0.189 |
| -9.500 | 54.345 | -1.598 | 15.703 | 0.189 |
| -10.100 | 57.791 | -1.607 | 15.392 | 0.178 |
| -10.700 | 61.224 | -1.617 | 15.065 | 0.168 |
| -10.700 | 61.224 | -1.617 | 15.065 | 0.168 |
| -10.900 | 62.441 | -1.644 | 14.953 | 0.163 |
| -11.100 | 63.669 | -1.673 | 14.840 | 0.158 |
| -11.100 | 63.669 | -1.673 | 14.840 | 0.158 |
| -11.950 | 68.531 | -1.692 | 14.352 | 0.144 |
| -12.950 | 74.271 | -1.717 | 13.768 | 0.128 |
| -13.550 | 77.733 | -1.735 | 13.418 | 0.119 |
| -14.400 | 82.668 | -1.762 | 12.926 | 0.107 |
| -15.400 | 88.526 | -1.799 | 12.358 | 0.092 |
| -16.000 | 92.071 | -1.824 | 12.024 | 0.084 |
| -16.000 | 92.071 | -1.824 | 12.024 | 0.084 |
| -16.550 | 96.428 | -2.003 | 11.724 | 0.071 |
| -17.050 | 100.529 | -2.180 | 11.456 | 0.058 |
| -17.600 | 105.197 | -2.390 | 11.167 | 0.043 |
| -18.100 | 109.591 | -2.596 | 10.910 | 0.028 |
| -18.100 | 103.743 | -2.000 | 10.910 | 0.028 |
| -19.901 | 121.171 | -2.000 | 10.026 | 0.019 |
| -21.801 | 139.635 | -2.000 | 9.167 | 0.011 |
| -23.602 | 157.208 | -2.000 | 8.420 | 0.005 |
| -25.502 | 175.818 | -2.000 | 7.698 | 0.000 |

### 3.31 Results for Vertical 31 (X = -8.37 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.550 | 18.461 | -0.550 | 18.460 | 0.614 |
| -0.650 | 16.705 | -0.608 | 15.521 | 0.584 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.750 | 15.556 | -0.669 | 13.146 | 0.565 |
| -0.850 | 17.433 | -0.731 | 13.797 | 0.551 |
| -0.950 | 20.764 | -0.788 | 15.956 | 0.539 |
| -1.050 | 22.319 | -0.839 | 16.386 | 0.528 |
| -1.150 | 23.504 | -0.889 | 16.469 | 0.519 |
| -1.250 | 24.568 | -0.936 | 16.444 | 0.511 |
| -1.322 | 24.606 | -0.970 | 15.704 | 0.505 |
| -1.350 | 24.608 | -0.983 | 15.408 | 0.503 |
| -1.450 | 24.605 | -1.029 | 14.330 | 0.497 |
| -1.550 | 24.597 | -1.076 | 13.244 | 0.492 |
| -1.681 | 24.605 | -1.139 | 11.822 | 0.487 |
| -2.000 | 24.798 | -0.979 | 11.612 | 0.479 |
| -2.094 | 24.908 | -0.933 | 11.588 | 0.477 |
| -2.094 | 24.908 | -0.933 | 11.588 | 0.477 |
| -2.697 | 26.639 | -0.868 | 11.733 | 0.452 |
| -3.297 | 28.667 | -0.809 | 12.128 | 0.429 |
| -3.900 | 30.812 | -0.756 | 12.568 | 0.407 |
| -4.500 | 32.989 | -0.711 | 12.965 | 0.386 |
| -4.500 | 32.989 | -0.711 | 12.965 | 0.386 |
| -4.950 | 33.504 | -0.705 | 13.223 | 0.358 |
| -5.400 | 34.027 | -0.701 | 13.447 | 0.330 |
| -5.400 | 34.027 | -0.701 | 13.447 | 0.330 |
| -5.800 | 36.300 | -0.696 | 13.617 | 0.319 |
| -6.200 | 38.595 | -0.696 | 13.759 | 0.308 |
| -6.200 | 38.595 | -0.696 | 13.759 | 0.308 |
| -6.550 | 38.991 | -0.698 | 13.860 | 0.286 |
| -6.900 | 39.387 | -0.702 | 13.938 | 0.264 |
| -6.900 | 39.387 | -0.702 | 13.938 | 0.264 |
| -7.800 | 45.114 | -0.706 | 14.041 | 0.248 |
| -8.700 | 50.715 | -0.712 | 14.011 | 0.233 |
| -8.700 | 50.715 | -0.712 | 14.011 | 0.233 |
| -9.100 | 51.114 | -0.727 | 13.961 | 0.209 |
| -9.500 | 51.519 | -0.744 | 13.891 | 0.184 |
| -9.500 | 51.519 | -0.744 | 13.891 | 0.184 |
| -10.100 | 55.149 | -0.753 | 13.754 | 0.175 |
| -10.700 | 58.752 | -0.762 | 13.585 | 0.165 |
| -10.700 | 58.752 | -0.762 | 13.585 | 0.165 |
| -10.900 | 60.008 | -0.788 | 13.523 | 0.160 |
| -11.100 | 61.272 | -0.815 | 13.458 | 0.155 |
| -11.100 | 61.272 | -0.815 | 13.458 | 0.155 |
| -11.950 | 66.332 | -0.832 | 13.155 | 0.141 |
| -12.950 | 72.268 | -0.856 | 12.760 | 0.126 |
| -13.550 | 75.832 | -0.873 | 12.509 | 0.117 |
| -14.400 | 80.891 | -0.899 | 12.143 | 0.105 |
| -15.400 | 86.870 | -0.933 | 11.703 | 0.090 |
| -16.000 | 90.477 | -0.956 | 11.438 | 0.081 |
| -16.000 | 90.477 | -0.956 | 11.438 | 0.081 |
| -16.550 | 94.792 | -1.125 | 11.195 | 0.068 |
| -17.050 | 98.840 | -1.291 | 10.976 | 0.056 |
| -17.600 | 103.435 | -1.488 | 10.736 | 0.040 |
| -18.100 | 107.749 | -1.681 | 10.521 | 0.026 |
| -18.100 | 110.875 | -2.000 | 10.521 | 0.026 |
| -19.901 | 128.443 | -2.000 | 9.765 | 0.017 |
| -21.801 | 147.023 | -2.000 | 9.013 | 0.010 |
| -23.602 | 164.683 | -2.000 | 8.347 | 0.005 |
| -25.502 | 183.365 | -2.000 | 7.693 | 0.000 |

### 3.32 Results for Vertical 32 (X = -8.23 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.490 | 14.525 | -0.490 | 14.524 | 0.601 |
| -0.590 | 16.026 | -0.553 | 14.786 | 0.572 |
| -0.690 | 16.586 | -0.615 | 14.122 | 0.553 |
| -0.790 | 16.973 | -0.676 | 13.289 | 0.539 |
| -0.890 | 17.576 | -0.737 | 12.676 | 0.528 |
| -0.990 | 19.079 | -0.796 | 12.980 | 0.519 |
| -1.090 | 20.878 | -0.852 | 13.608 | 0.511 |
| -1.190 | 21.963 | -0.905 | 13.554 | 0.504 |
| -1.290 | 22.444 | -0.956 | 12.915 | 0.498 |
| -1.292 | 22.453 | -0.957 | 12.898 | 0.497 |
| -1.390 | 22.792 | -1.007 | 12.151 | 0.492 |
| -1.490 | 23.053 | -1.057 | 11.301 | 0.488 |
| -1.560 | 23.204 | -1.092 | 10.666 | 0.485 |
| -2.000 | 23.966 | -0.880 | 10.792 | 0.474 |
| -2.094 | 24.137 | -0.835 | 10.814 | 0.472 |
| -2.094 | 24.137 | -0.835 | 10.814 | 0.472 |
| -2.697 | 26.031 | -0.772 | 11.106 | 0.448 |
| -3.297 | 28.130 | -0.714 | 11.562 | 0.426 |
| -3.900 | 30.323 | -0.661 | 12.045 | 0.405 |
| -4.500 | 32.539 | -0.616 | 12.482 | 0.384 |
| -4.500 | 32.539 | -0.616 | 12.482 | 0.384 |
| -4.950 | 33.078 | -0.610 | 12.767 | 0.357 |
| -5.400 | 33.620 | -0.606 | 13.015 | 0.329 |
| -5.400 | 33.620 | -0.606 | 13.015 | 0.329 |
| -5.800 | 35.901 | -0.600 | 13.204 | 0.318 |
| -6.200 | 38.201 | -0.599 | 13.365 | 0.307 |
| -6.200 | 38.201 | -0.599 | 13.365 | 0.307 |
| -6.550 | 38.606 | -0.600 | 13.481 | 0.285 |
| -6.900 | 39.012 | -0.604 | 13.574 | 0.264 |
| -6.900 | 39.012 | -0.604 | 13.574 | 0.264 |
| -7.800 | 44.768 | -0.608 | 13.713 | 0.248 |
| -8.700 | 50.399 | -0.614 | 13.717 | 0.233 |
| -8.700 | 50.399 | -0.614 | 13.717 | 0.233 |
| -9.100 | 50.806 | -0.628 | 13.681 | 0.209 |
| -9.500 | 51.218 | -0.645 | 13.626 | 0.184 |
| -9.500 | 51.218 | -0.645 | 13.626 | 0.184 |
| -10.100 | 54.867 | -0.653 | 13.509 | 0.174 |
| -10.700 | 58.487 | -0.662 | 13.358 | 0.165 |
| -10.700 | 58.487 | -0.662 | 13.358 | 0.165 |
| -10.900 | 59.741 | -0.687 | 13.302 | 0.160 |
| -11.100 | 61.003 | -0.713 | 13.242 | 0.155 |
| -11.100 | 61.003 | -0.713 | 13.242 | 0.155 |
| -11.950 | 66.083 | -0.730 | 12.963 | 0.141 |
| -12.950 | 72.040 | -0.753 | 12.591 | 0.126 |
| -13.550 | 75.613 | -0.769 | 12.353 | 0.117 |
| -14.400 | 80.684 | -0.795 | 12.003 | 0.104 |
| -15.400 | 86.674 | -0.829 | 11.580 | 0.090 |
| -16.000 | 90.286 | -0.851 | 11.324 | 0.081 |
| -16.000 | 90.286 | -0.851 | 11.324 | 0.081 |
| -16.550 | 94.573 | -1.016 | 11.089 | 0.068 |
| -17.050 | 98.593 | -1.179 | 10.876 | 0.055 |
| -17.600 | 103.154 | -1.372 | 10.643 | 0.040 |
| -18.100 | 107.433 | -1.560 | 10.433 | 0.025 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -18.100 | 111.746 | -2.000 | 10.433 | 0.025 |
| -19.901 | 129.334 | -2.000 | 9.696 | 0.017 |
| -21.801 | 147.930 | -2.000 | 8.959 | 0.010 |
| -23.602 | 165.601 | -2.000 | 8.303 | 0.005 |
| -25.502 | 184.294 | -2.000 | 7.659 | 0.000 |

### 3.33 Results for Vertical 33 (X = -7.45 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.145 | 8.669 | -0.145 | 8.668 | 0.540 |
| -0.245 | 6.276 | -0.229 | 4.841 | 0.518 |
| -0.345 | 12.753 | -0.308 | 9.923 | 0.504 |
| -0.445 | 14.218 | -0.378 | 10.077 | 0.492 |
| -0.545 | 14.800 | -0.446 | 9.372 | 0.483 |
| -0.645 | 15.193 | -0.512 | 8.498 | 0.475 |
| -0.745 | 15.552 | -0.577 | 7.602 | 0.469 |
| -0.845 | 15.880 | -0.642 | 6.680 | 0.464 |
| -0.870 | 15.956 | -0.657 | 6.452 | 0.463 |
| -0.945 | 16.187 | -0.630 | 6.481 | 0.460 |
| -1.045 | 16.486 | -0.594 | 6.515 | 0.457 |
| -1.120 | 16.710 | -0.567 | 6.542 | 0.455 |
| -1.145 | 16.788 | -0.558 | 6.553 | 0.454 |
| -2.000 | 19.915 | -0.242 | 7.485 | 0.439 |
| -2.095 | 20.278 | -0.206 | 7.615 | 0.438 |
| -2.095 | 20.278 | -0.206 | 7.615 | 0.438 |
| -2.697 | 22.763 | -0.154 | 8.390 | 0.421 |
| -3.297 | 25.172 | -0.104 | 9.076 | 0.403 |
| -3.900 | 27.565 | -0.057 | 9.701 | 0.385 |
| -4.500 | 29.936 | -0.017 | 10.256 | 0.368 |
| -4.500 | 29.936 | -0.017 | 10.256 | 0.368 |
| -4.950 | 30.557 | -0.010 | 10.626 | 0.343 |
| -5.400 | 31.170 | -0.006 | 10.955 | 0.319 |
| -5.400 | 31.170 | -0.006 | 10.955 | 0.319 |
| -5.800 | 33.495 | 0.000 | 11.214 | 0.308 |
| -6.200 | 35.829 | 0.004 | 11.442 | 0.298 |
| -6.200 | 35.829 | 0.004 | 11.442 | 0.298 |
| -6.550 | 36.273 | 0.003 | 11.616 | 0.278 |
| -6.900 | 36.716 | 0.000 | 11.768 | 0.257 |
| -6.900 | 36.716 | 0.000 | 11.768 | 0.257 |
| -7.800 | 42.590 | -0.003 | 12.059 | 0.243 |
| -8.700 | 48.351 | -0.008 | 12.215 | 0.229 |
| -8.700 | 48.351 | -0.008 | 12.215 | 0.229 |
| -9.100 | 48.802 | -0.020 | 12.247 | 0.206 |
| -9.500 | 49.258 | -0.034 | 12.257 | 0.182 |
| -9.500 | 49.258 | -0.034 | 12.257 | 0.182 |
| -10.100 | 52.996 | -0.041 | 12.236 | 0.172 |
| -10.700 | 56.701 | -0.049 | 12.178 | 0.163 |
| -10.700 | 56.701 | -0.049 | 12.178 | 0.163 |
| -10.900 | 57.958 | -0.072 | 12.151 | 0.158 |
| -11.100 | 59.222 | -0.095 | 12.120 | 0.153 |
| -11.100 | 59.222 | -0.095 | 12.120 | 0.153 |
| -11.950 | 64.411 | -0.110 | 11.959 | 0.140 |
| -12.950 | 70.481 | -0.131 | 11.713 | 0.124 |
| -13.550 | 74.115 | -0.145 | 11.543 | 0.115 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -14.400 | 79.261 | -0.168 | 11.282 | 0.103 |
| -15.400 | 85.325 | -0.199 | 10.954 | 0.088 |
| -16.000 | 88.973 | -0.220 | 10.749 | 0.079 |
| -16.000 | 88.973 | -0.220 | 10.749 | 0.079 |
| -16.550 | 93.172 | -0.371 | 10.557 | 0.066 |
| -17.050 | 97.100 | -0.520 | 10.382 | 0.053 |
| -17.600 | 101.546 | -0.697 | 10.187 | 0.038 |
| -18.100 | 105.706 | -0.870 | 10.010 | 0.023 |
| -18.100 | 116.794 | -2.000 | 10.010 | 0.023 |
| -19.901 | 134.493 | -2.000 | 9.376 | 0.016 |
| -21.801 | 153.183 | -2.000 | 8.726 | 0.010 |
| -23.602 | 170.926 | -2.000 | 8.137 | 0.005 |
| -25.502 | 189.680 | -2.000 | 7.551 | 0.000 |

### 3.34 Results for Vertical 34 (X = -7.37 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.111 | 8.060 | -0.111 | 8.059 | 0.533 |
| -0.211 | 9.270 | -0.191 | 7.859 | 0.510 |
| -0.311 | 9.583 | -0.271 | 6.775 | 0.497 |
| -0.411 | 11.101 | -0.348 | 6.914 | 0.487 |
| -0.511 | 12.780 | -0.421 | 7.255 | 0.479 |
| -0.611 | 13.852 | -0.491 | 7.027 | 0.472 |
| -0.711 | 14.585 | -0.558 | 6.482 | 0.467 |
| -0.800 | 15.089 | -0.617 | 5.855 | 0.463 |
| -0.811 | 15.143 | -0.613 | 5.879 | 0.462 |
| -0.911 | 15.602 | -0.579 | 6.058 | 0.459 |
| -1.011 | 16.001 | -0.544 | 6.183 | 0.455 |
| -1.103 | 16.340 | -0.511 | 6.272 | 0.453 |
| -1.111 | 16.369 | -0.508 | 6.279 | 0.452 |
| -2.000 | 19.704 | -0.184 | 7.285 | 0.437 |
| -2.095 | 20.068 | -0.149 | 7.412 | 0.436 |
| -2.095 | 20.068 | -0.149 | 7.412 | 0.436 |
| -2.697 | 22.552 | -0.097 | 8.183 | 0.419 |
| -3.297 | 24.964 | -0.047 | 8.869 | 0.402 |
| -3.900 | 27.358 | -0.001 | 9.495 | 0.384 |
| -4.500 | 29.730 | 0.040 | 10.052 | 0.366 |
| -4.500 | 29.730 | 0.040 | 10.052 | 0.366 |
| -4.950 | 30.353 | 0.047 | 10.424 | 0.342 |
| -5.400 | 30.966 | 0.051 | 10.756 | 0.318 |
| -5.400 | 30.966 | 0.051 | 10.756 | 0.318 |
| -5.800 | 33.290 | 0.058 | 11.018 | 0.307 |
| -6.200 | 35.621 | 0.061 | 11.249 | 0.297 |
| -6.200 | 35.621 | 0.061 | 11.249 | 0.297 |
| -6.550 | 36.066 | 0.061 | 11.427 | 0.277 |
| -6.900 | 36.510 | 0.059 | 11.582 | 0.257 |
| -6.900 | 36.510 | 0.059 | 11.582 | 0.257 |
| -7.800 | 42.391 | 0.056 | 11.883 | 0.243 |
| -8.700 | 48.159 | 0.051 | 12.051 | 0.229 |
| -8.700 | 48.159 | 0.051 | 12.051 | 0.229 |
| -9.100 | 48.613 | 0.039 | 12.088 | 0.205 |
| -9.500 | 49.071 | 0.025 | 12.103 | 0.181 |
| -9.500 | 49.071 | 0.025 | 12.103 | 0.181 |
| -10.100 | 52.815 | 0.018 | 12.090 | 0.172 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -10.700 | 56.527 | 0.010 | 12.040 | 0.162 |
| -10.700 | 56.527 | 0.010 | 12.040 | 0.162 |
| -10.900 | 57.783 | -0.012 | 12.016 | 0.158 |
| -11.100 | 59.046 | -0.035 | 11.988 | 0.153 |
| -11.100 | 59.046 | -0.035 | 11.988 | 0.153 |
| -11.950 | 64.244 | -0.049 | 11.837 | 0.139 |
| -12.950 | 70.323 | -0.070 | 11.603 | 0.124 |
| -13.550 | 73.962 | -0.084 | 11.440 | 0.115 |
| -14.400 | 79.114 | -0.107 | 11.188 | 0.102 |
| -15.400 | 85.184 | -0.137 | 10.868 | 0.088 |
| -16.000 | 88.836 | -0.158 | 10.668 | 0.079 |
| -16.000 | 88.836 | -0.158 | 10.668 | 0.079 |
| -16.550 | 93.022 | -0.307 | 10.481 | 0.066 |
| -17.050 | 96.936 | -0.454 | 10.309 | 0.053 |
| -17.600 | 101.365 | -0.629 | 10.119 | 0.038 |
| -18.100 | 105.509 | -0.800 | 9.945 | 0.023 |
| -18.100 | 117.281 | -2.000 | 9.945 | 0.023 |
| -19.901 | 134.992 | -2.000 | 9.321 | 0.016 |
| -21.801 | 153.691 | -2.000 | 8.680 | 0.010 |
| -23.602 | 171.442 | -2.000 | 8.098 | 0.005 |
| -25.502 | 190.202 | -2.000 | 7.518 | 0.000 |

### 3.35 Results for Vertical 35 (X = -7.36 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.108 | 8.081 | -0.108 | 8.080 | 0.533 |
| -0.208 | 9.310 | -0.189 | 7.901 | 0.510 |
| -0.308 | 9.702 | -0.268 | 6.897 | 0.496 |
| -0.408 | 11.065 | -0.345 | 6.880 | 0.486 |
| -0.508 | 12.699 | -0.419 | 7.175 | 0.479 |
| -0.608 | 13.801 | -0.488 | 6.975 | 0.472 |
| -0.708 | 14.558 | -0.556 | 6.453 | 0.466 |
| -0.800 | 15.090 | -0.616 | 5.822 | 0.462 |
| -0.808 | 15.133 | -0.613 | 5.841 | 0.462 |
| -0.908 | 15.602 | -0.579 | 6.031 | 0.458 |
| -1.008 | 16.009 | -0.544 | 6.163 | 0.455 |
| -1.101 | 16.358 | -0.511 | 6.258 | 0.452 |
| -1.108 | 16.382 | -0.508 | 6.264 | 0.452 |
| -2.000 | 19.732 | -0.184 | 7.276 | 0.437 |
| -2.095 | 20.096 | -0.148 | 7.404 | 0.436 |
| -2.095 | 20.096 | -0.148 | 7.404 | 0.436 |
| -2.697 | 22.579 | -0.096 | 8.173 | 0.419 |
| -3.297 | 24.991 | -0.046 | 8.860 | 0.401 |
| -3.900 | 27.386 | 0.000 | 9.486 | 0.384 |
| -4.500 | 29.758 | 0.041 | 10.043 | 0.366 |
| -4.500 | 29.758 | 0.041 | 10.043 | 0.366 |
| -4.950 | 30.380 | 0.047 | 10.415 | 0.342 |
| -5.400 | 30.994 | 0.051 | 10.747 | 0.317 |
| -5.400 | 30.994 | 0.051 | 10.747 | 0.317 |
| -5.800 | 33.318 | 0.058 | 11.009 | 0.307 |
| -6.200 | 35.650 | 0.062 | 11.240 | 0.297 |
| -6.200 | 35.650 | 0.062 | 11.240 | 0.297 |
| -6.550 | 36.095 | 0.061 | 11.419 | 0.277 |
| -6.900 | 36.539 | 0.059 | 11.574 | 0.257 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -6.900 | 36.539 | 0.059 | 11.574 | 0.257 |
| -7.800 | 42.421 | 0.056 | 11.875 | 0.243 |
| -8.700 | 48.190 | 0.051 | 12.044 | 0.229 |
| -8.700 | 48.190 | 0.051 | 12.044 | 0.229 |
| -9.100 | 48.644 | 0.040 | 12.081 | 0.205 |
| -9.500 | 49.102 | 0.025 | 12.097 | 0.181 |
| -9.500 | 49.102 | 0.025 | 12.097 | 0.181 |
| -10.100 | 52.847 | 0.018 | 12.085 | 0.172 |
| -10.700 | 56.559 | 0.010 | 12.035 | 0.162 |
| -10.700 | 56.559 | 0.010 | 12.035 | 0.162 |
| -10.900 | 57.816 | -0.011 | 12.011 | 0.158 |
| -11.100 | 59.079 | -0.034 | 11.984 | 0.153 |
| -11.100 | 59.079 | -0.034 | 11.984 | 0.153 |
| -11.950 | 64.278 | -0.049 | 11.833 | 0.139 |
| -12.950 | 70.358 | -0.070 | 11.600 | 0.124 |
| -13.550 | 73.997 | -0.084 | 11.437 | 0.115 |
| -14.400 | 79.150 | -0.107 | 11.186 | 0.102 |
| -15.400 | 85.221 | -0.137 | 10.867 | 0.088 |
| -16.000 | 88.873 | -0.157 | 10.668 | 0.079 |
| -16.000 | 88.873 | -0.157 | 10.668 | 0.079 |
| -16.550 | 93.060 | -0.307 | 10.481 | 0.066 |
| -17.050 | 96.974 | -0.454 | 10.309 | 0.053 |
| -17.600 | 101.404 | -0.629 | 10.119 | 0.038 |
| -18.100 | 105.549 | -0.800 | 9.946 | 0.023 |
| -18.100 | 117.324 | -2.000 | 9.946 | 0.023 |
| -19.901 | 135.035 | -2.000 | 9.323 | 0.016 |
| -21.801 | 153.735 | -2.000 | 8.682 | 0.010 |
| -23.602 | 171.487 | -2.000 | 8.101 | 0.005 |
| -25.502 | 190.248 | -2.000 | 7.521 | 0.000 |

### 3.36 Results for Vertical 36 (X = -7.13 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.127 | 8.191 | -0.127 | 8.190 | 0.527 |
| -0.227 | 9.727 | -0.208 | 8.321 | 0.503 |
| -0.327 | 11.279 | -0.285 | 8.496 | 0.489 |
| -0.427 | 12.213 | -0.359 | 8.082 | 0.478 |
| -0.527 | 12.577 | -0.431 | 7.118 | 0.470 |
| -0.627 | 13.078 | -0.502 | 6.307 | 0.463 |
| -0.727 | 13.650 | -0.571 | 5.581 | 0.458 |
| -0.789 | 14.006 | -0.614 | 5.140 | 0.456 |
| -0.827 | 14.221 | -0.601 | 5.238 | 0.454 |
| -0.927 | 14.754 | -0.569 | 5.471 | 0.451 |
| -1.027 | 15.245 | -0.536 | 5.667 | 0.448 |
| -1.111 | 15.626 | -0.508 | 5.805 | 0.446 |
| -1.127 | 15.698 | -0.502 | 5.830 | 0.445 |
| -2.000 | 19.153 | -0.197 | 6.882 | 0.431 |
| -2.095 | 19.514 | -0.162 | 6.997 | 0.431 |
| -2.095 | 19.514 | -0.162 | 6.997 | 0.431 |
| -2.697 | 21.960 | -0.111 | 7.715 | 0.414 |
| -3.297 | 24.361 | -0.063 | 8.381 | 0.397 |
| -3.900 | 26.750 | -0.017 | 8.995 | 0.380 |
| -4.500 | 29.119 | 0.024 | 9.546 | 0.362 |
| -4.500 | 29.119 | 0.024 | 9.546 | 0.362 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -4.950 | 29.740 | 0.030 | 9.918 | 0.339 |
| -5.400 | 30.354 | 0.034 | 10.252 | 0.315 |
| -5.400 | 30.354 | 0.034 | 10.252 | 0.315 |
| -5.800 | 32.673 | 0.042 | 10.519 | 0.305 |
| -6.200 | 35.000 | 0.047 | 10.757 | 0.295 |
| -6.200 | 35.000 | 0.047 | 10.757 | 0.295 |
| -6.550 | 35.447 | 0.046 | 10.941 | 0.275 |
| -6.900 | 35.892 | 0.044 | 11.105 | 0.255 |
| -6.900 | 35.892 | 0.044 | 11.105 | 0.255 |
| -7.800 | 41.789 | 0.041 | 11.430 | 0.241 |
| -8.700 | 47.579 | 0.037 | 11.628 | 0.228 |
| -8.700 | 47.579 | 0.037 | 11.628 | 0.228 |
| -9.100 | 48.040 | 0.026 | 11.679 | 0.204 |
| -9.500 | 48.505 | 0.012 | 11.709 | 0.181 |
| -9.500 | 48.505 | 0.012 | 11.709 | 0.181 |
| -10.100 | 52.268 | 0.006 | 11.719 | 0.171 |
| -10.700 | 56.000 | -0.002 | 11.691 | 0.162 |
| -10.700 | 56.000 | -0.002 | 11.691 | 0.162 |
| -10.900 | 57.255 | -0.023 | 11.674 | 0.157 |
| -11.100 | 58.517 | -0.045 | 11.654 | 0.152 |
| -11.100 | 58.517 | -0.045 | 11.654 | 0.152 |
| -11.950 | 63.741 | -0.059 | 11.534 | 0.139 |
| -12.950 | 69.851 | -0.079 | 11.334 | 0.124 |
| -13.550 | 73.505 | -0.093 | 11.190 | 0.115 |
| -14.400 | 78.678 | -0.115 | 10.963 | 0.102 |
| -15.400 | 84.770 | -0.144 | 10.671 | 0.087 |
| -16.000 | 88.432 | -0.164 | 10.487 | 0.079 |
| -16.000 | 88.432 | -0.164 | 10.487 | 0.079 |
| -16.550 | 92.593 | -0.309 | 10.313 | 0.065 |
| -17.050 | 96.480 | -0.452 | 10.152 | 0.053 |
| -17.600 | 100.877 | -0.623 | 9.973 | 0.038 |
| -18.100 | 104.988 | -0.789 | 9.809 | 0.023 |
| -18.100 | 116.867 | -2.000 | 9.809 | 0.023 |
| -19.901 | 134.612 | -2.000 | 9.217 | 0.016 |
| -21.801 | 153.340 | -2.000 | 8.603 | 0.009 |
| -23.602 | 171.114 | -2.000 | 8.043 | 0.005 |
| -25.502 | 189.893 | -2.000 | 7.481 | 0.000 |

### 3.37 Results for Vertical 37 (X = -7.09 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.131 | 8.443 | -0.131 | 8.442 | 0.526 |
| -0.231 | 10.203 | -0.210 | 8.805 | 0.502 |
| -0.331 | 11.555 | -0.287 | 8.788 | 0.488 |
| -0.431 | 12.414 | -0.361 | 8.302 | 0.477 |
| -0.531 | 12.729 | -0.433 | 7.293 | 0.468 |
| -0.631 | 13.148 | -0.503 | 6.402 | 0.462 |
| -0.731 | 13.645 | -0.572 | 5.601 | 0.457 |
| -0.787 | 13.938 | -0.611 | 5.169 | 0.454 |
| -0.831 | 14.166 | -0.597 | 5.262 | 0.453 |
| -0.931 | 14.673 | -0.565 | 5.465 | 0.449 |
| -1.031 | 15.151 | -0.532 | 5.646 | 0.446 |
| -1.113 | 15.520 | -0.505 | 5.776 | 0.444 |
| -1.131 | 15.599 | -0.499 | 5.802 | 0.444 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.000 | 19.044 | -0.197 | 6.829 | 0.430 |
| -2.095 | 19.404 | -0.162 | 6.941 | 0.429 |
| -2.095 | 19.404 | -0.162 | 6.941 | 0.429 |
| -2.697 | 21.839 | -0.112 | 7.645 | 0.413 |
| -3.297 | 24.236 | -0.064 | 8.303 | 0.396 |
| -3.900 | 26.623 | -0.018 | 8.912 | 0.379 |
| -4.500 | 28.991 | 0.022 | 9.461 | 0.362 |
| -4.500 | 28.991 | 0.022 | 9.461 | 0.362 |
| -4.950 | 29.611 | 0.029 | 9.831 | 0.338 |
| -5.400 | 30.224 | 0.033 | 10.166 | 0.314 |
| -5.400 | 30.224 | 0.033 | 10.166 | 0.314 |
| -5.800 | 32.543 | 0.040 | 10.432 | 0.304 |
| -6.200 | 34.870 | 0.045 | 10.671 | 0.294 |
| -6.200 | 34.870 | 0.045 | 10.671 | 0.294 |
| -6.550 | 35.317 | 0.045 | 10.856 | 0.275 |
| -6.900 | 35.763 | 0.043 | 11.021 | 0.255 |
| -6.900 | 35.763 | 0.043 | 11.021 | 0.255 |
| -7.800 | 41.662 | 0.040 | 11.350 | 0.241 |
| -8.700 | 47.456 | 0.035 | 11.553 | 0.228 |
| -8.700 | 47.456 | 0.035 | 11.553 | 0.228 |
| -9.100 | 47.918 | 0.025 | 11.606 | 0.204 |
| -9.500 | 48.384 | 0.011 | 11.639 | 0.180 |
| -9.500 | 48.384 | 0.011 | 11.639 | 0.180 |
| -10.100 | 52.150 | 0.005 | 11.652 | 0.171 |
| -10.700 | 55.885 | -0.003 | 11.628 | 0.162 |
| -10.700 | 55.885 | -0.003 | 11.628 | 0.162 |
| -10.900 | 57.141 | -0.024 | 11.613 | 0.157 |
| -11.100 | 58.403 | -0.046 | 11.594 | 0.152 |
| -11.100 | 58.403 | -0.046 | 11.594 | 0.152 |
| -11.950 | 63.632 | -0.060 | 11.479 | 0.139 |
| -12.950 | 69.747 | -0.080 | 11.285 | 0.124 |
| -13.550 | 73.405 | -0.093 | 11.145 | 0.115 |
| -14.400 | 78.582 | -0.115 | 10.923 | 0.102 |
| -15.400 | 84.677 | -0.145 | 10.636 | 0.087 |
| -16.000 | 88.342 | -0.164 | 10.454 | 0.079 |
| -16.000 | 88.342 | -0.164 | 10.453 | 0.079 |
| -16.550 | 92.500 | -0.309 | 10.282 | 0.065 |
| -17.050 | 96.384 | -0.452 | 10.123 | 0.053 |
| -17.600 | 100.776 | -0.621 | 9.947 | 0.038 |
| -18.100 | 104.883 | -0.787 | 9.785 | 0.023 |
| -18.100 | 116.782 | -2.000 | 9.785 | 0.023 |
| -19.901 | 134.533 | -2.000 | 9.198 | 0.016 |
| -21.801 | 153.267 | -2.000 | 8.590 | 0.009 |
| -23.602 | 171.044 | -2.000 | 8.033 | 0.005 |
| -25.502 | 189.828 | -2.000 | 7.474 | 0.000 |

### 3.38 Results for Vertical 38 (X = -6.73 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.140 | 9.711 | -0.140 | 9.710 | 0.519 |
| -0.240 | 11.196 | -0.217 | 9.817 | 0.494 |
| -0.340 | 12.563 | -0.292 | 9.830 | 0.478 |
| -0.440 | 13.292 | -0.364 | 9.230 | 0.466 |
| -0.540 | 13.580 | -0.435 | 8.207 | 0.457 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.640 | 13.855 | -0.505 | 7.181 | 0.450 |
| -0.740 | 14.138 | -0.573 | 6.169 | 0.445 |
| -0.771 | 14.230 | -0.595 | 5.859 | 0.443 |
| -0.840 | 14.441 | -0.573 | 5.857 | 0.441 |
| -0.940 | 14.767 | -0.541 | 5.874 | 0.437 |
| -1.040 | 15.109 | -0.510 | 5.910 | 0.434 |
| -1.117 | 15.382 | -0.485 | 5.948 | 0.432 |
| -1.140 | 15.462 | -0.477 | 5.960 | 0.431 |
| -2.000 | 18.609 | -0.191 | 6.592 | 0.417 |
| -2.095 | 18.955 | -0.158 | 6.674 | 0.417 |
| -2.095 | 18.955 | -0.158 | 6.674 | 0.417 |
| -2.697 | 21.263 | -0.110 | 7.228 | 0.401 |
| -3.297 | 23.590 | -0.064 | 7.792 | 0.385 |
| -3.900 | 25.937 | -0.021 | 8.340 | 0.368 |
| -4.500 | 28.283 | 0.018 | 8.849 | 0.352 |
| -4.500 | 28.283 | 0.018 | 8.849 | 0.352 |
| -4.950 | 28.886 | 0.024 | 9.200 | 0.330 |
| -5.400 | 29.486 | 0.028 | 9.522 | 0.307 |
| -5.400 | 29.486 | 0.028 | 9.522 | 0.307 |
| -5.800 | 31.800 | 0.035 | 9.783 | 0.297 |
| -6.200 | 34.123 | 0.040 | 10.020 | 0.288 |
| -6.200 | 34.123 | 0.040 | 10.020 | 0.288 |
| -6.550 | 34.567 | 0.039 | 10.207 | 0.269 |
| -6.900 | 35.013 | 0.038 | 10.375 | 0.250 |
| -6.900 | 35.013 | 0.038 | 10.375 | 0.250 |
| -7.800 | 40.922 | 0.035 | 10.724 | 0.237 |
| -8.700 | 46.738 | 0.030 | 10.958 | 0.224 |
| -8.700 | 46.738 | 0.030 | 10.958 | 0.224 |
| -9.100 | 47.210 | 0.020 | 11.028 | 0.201 |
| -9.500 | 47.687 | 0.007 | 11.078 | 0.178 |
| -9.500 | 47.687 | 0.007 | 11.078 | 0.178 |
| -10.100 | 51.478 | 0.001 | 11.120 | 0.169 |
| -10.700 | 55.239 | -0.006 | 11.124 | 0.160 |
| -10.700 | 55.239 | -0.006 | 11.124 | 0.160 |
| -10.900 | 56.497 | -0.027 | 11.119 | 0.155 |
| -11.100 | 57.762 | -0.048 | 11.109 | 0.151 |
| -11.100 | 57.762 | -0.048 | 11.109 | 0.151 |
| -11.950 | 63.030 | -0.061 | 11.036 | 0.138 |
| -12.950 | 69.189 | -0.081 | 10.888 | 0.123 |
| -13.550 | 72.871 | -0.094 | 10.775 | 0.114 |
| -14.400 | 78.082 | -0.115 | 10.589 | 0.101 |
| -15.400 | 84.212 | -0.144 | 10.341 | 0.087 |
| -16.000 | 87.896 | -0.163 | 10.181 | 0.078 |
| -16.000 | 87.896 | -0.163 | 10.181 | 0.078 |
| -16.550 | 92.039 | -0.304 | 10.029 | 0.065 |
| -17.050 | 95.907 | -0.444 | 9.887 | 0.052 |
| -17.600 | 100.278 | -0.609 | 9.727 | 0.037 |
| -18.100 | 104.362 | -0.771 | 9.580 | 0.023 |
| -18.100 | 116.420 | -2.000 | 9.580 | 0.023 |
| -19.901 | 134.222 | -2.000 | 9.041 | 0.015 |
| -21.801 | 153.000 | -2.000 | 8.473 | 0.009 |
| -23.602 | 170.811 | -2.000 | 7.948 | 0.004 |
| -25.502 | 189.624 | -2.000 | 7.417 | 0.000 |

### 3.39 Results for Vertical 39 (X = -6.68 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.141 | 9.261 | -0.141 | 9.260 | 0.517 |
| -0.241 | 11.062 | -0.219 | 9.676 | 0.493 |
| -0.341 | 12.559 | -0.294 | 9.818 | 0.477 |
| -0.441 | 13.307 | -0.367 | 9.235 | 0.465 |
| -0.541 | 13.623 | -0.437 | 8.240 | 0.456 |
| -0.641 | 13.914 | -0.507 | 7.231 | 0.449 |
| -0.741 | 14.201 | -0.576 | 6.225 | 0.443 |
| -0.768 | 14.282 | -0.594 | 5.950 | 0.442 |
| -0.841 | 14.501 | -0.572 | 5.944 | 0.439 |
| -0.941 | 14.816 | -0.540 | 5.952 | 0.436 |
| -1.041 | 15.147 | -0.508 | 5.976 | 0.432 |
| -1.118 | 15.408 | -0.483 | 6.004 | 0.430 |
| -1.141 | 15.488 | -0.476 | 6.013 | 0.429 |
| -2.000 | 18.571 | -0.191 | 6.577 | 0.416 |
| -2.095 | 18.914 | -0.158 | 6.654 | 0.415 |
| -2.095 | 18.914 | -0.158 | 6.654 | 0.415 |
| -2.697 | 21.198 | -0.110 | 7.181 | 0.399 |
| -3.297 | 23.511 | -0.065 | 7.728 | 0.383 |
| -3.900 | 25.848 | -0.022 | 8.264 | 0.367 |
| -4.500 | 28.188 | 0.017 | 8.764 | 0.351 |
| -4.500 | 28.188 | 0.017 | 8.764 | 0.351 |
| -4.950 | 28.787 | 0.023 | 9.111 | 0.329 |
| -5.400 | 29.384 | 0.027 | 9.430 | 0.306 |
| -5.400 | 29.384 | 0.027 | 9.430 | 0.306 |
| -5.800 | 31.695 | 0.034 | 9.689 | 0.296 |
| -6.200 | 34.016 | 0.039 | 9.925 | 0.287 |
| -6.200 | 34.016 | 0.039 | 9.925 | 0.287 |
| -6.550 | 34.460 | 0.038 | 10.111 | 0.268 |
| -6.900 | 34.905 | 0.037 | 10.280 | 0.249 |
| -6.900 | 34.905 | 0.037 | 10.280 | 0.249 |
| -7.800 | 40.813 | 0.034 | 10.630 | 0.236 |
| -8.700 | 46.632 | 0.030 | 10.868 | 0.224 |
| -8.700 | 46.632 | 0.030 | 10.868 | 0.224 |
| -9.100 | 47.105 | 0.019 | 10.939 | 0.201 |
| -9.500 | 47.583 | 0.006 | 10.992 | 0.178 |
| -9.500 | 47.584 | 0.006 | 10.992 | 0.178 |
| -10.100 | 51.377 | 0.000 | 11.037 | 0.169 |
| -10.700 | 55.142 | -0.007 | 11.045 | 0.160 |
| -10.700 | 55.142 | -0.007 | 11.045 | 0.160 |
| -10.900 | 56.400 | -0.027 | 11.041 | 0.155 |
| -11.100 | 57.665 | -0.048 | 11.033 | 0.150 |
| -11.100 | 57.665 | -0.048 | 11.033 | 0.150 |
| -11.950 | 62.938 | -0.062 | 10.965 | 0.137 |
| -12.950 | 69.103 | -0.081 | 10.825 | 0.122 |
| -13.550 | 72.789 | -0.094 | 10.715 | 0.113 |
| -14.400 | 78.004 | -0.115 | 10.534 | 0.101 |
| -15.400 | 84.139 | -0.144 | 10.292 | 0.087 |
| -16.000 | 87.826 | -0.163 | 10.135 | 0.078 |
| -16.000 | 87.826 | -0.163 | 10.135 | 0.078 |
| -16.550 | 91.967 | -0.304 | 9.986 | 0.065 |
| -17.050 | 95.832 | -0.442 | 9.846 | 0.052 |
| -17.600 | 100.199 | -0.607 | 9.689 | 0.037 |
| -18.100 | 104.279 | -0.768 | 9.544 | 0.023 |
| -18.100 | 116.361 | -2.000 | 9.544 | 0.023 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -19.901 | 134.170 | -2.000 | 9.012 | 0.015 |
| -21.801 | 152.954 | -2.000 | 8.450 | 0.009 |
| -23.602 | 170.771 | -2.000 | 7.930 | 0.004 |
| -25.502 | 189.588 | -2.000 | 7.403 | 0.000 |

### 3.40 Results for Vertical 40 (X = -6.57 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.133 | 10.101 | -0.133 | 10.100 | 0.514 |
| -0.233 | 11.271 | -0.210 | 9.894 | 0.489 |
| -0.333 | 12.621 | -0.285 | 9.888 | 0.473 |
| -0.433 | 13.459 | -0.358 | 9.395 | 0.461 |
| -0.533 | 13.808 | -0.429 | 8.433 | 0.452 |
| -0.633 | 14.121 | -0.498 | 7.446 | 0.445 |
| -0.733 | 14.416 | -0.567 | 6.447 | 0.439 |
| -0.764 | 14.506 | -0.588 | 6.141 | 0.438 |
| -0.833 | 14.710 | -0.566 | 6.131 | 0.435 |
| -0.933 | 15.011 | -0.534 | 6.124 | 0.431 |
| -1.033 | 15.322 | -0.502 | 6.128 | 0.428 |
| -1.114 | 15.581 | -0.476 | 6.141 | 0.426 |
| -1.133 | 15.642 | -0.470 | 6.145 | 0.425 |
| -2.000 | 18.638 | -0.184 | 6.580 | 0.411 |
| -2.095 | 18.974 | -0.152 | 6.647 | 0.410 |
| -2.095 | 18.974 | -0.152 | 6.647 | 0.410 |
| -2.697 | 21.210 | -0.105 | 7.121 | 0.394 |
| -3.297 | 23.492 | -0.059 | 7.632 | 0.379 |
| -3.900 | 25.811 | -0.017 | 8.142 | 0.363 |
| -4.500 | 28.139 | 0.020 | 8.624 | 0.347 |
| -4.500 | 28.139 | 0.020 | 8.624 | 0.347 |
| -4.950 | 28.729 | 0.027 | 8.961 | 0.325 |
| -5.400 | 29.319 | 0.030 | 9.273 | 0.303 |
| -5.400 | 29.319 | 0.030 | 9.273 | 0.303 |
| -5.800 | 31.629 | 0.037 | 9.528 | 0.294 |
| -6.200 | 33.949 | 0.042 | 9.760 | 0.284 |
| -6.200 | 33.949 | 0.042 | 9.760 | 0.284 |
| -6.550 | 34.391 | 0.041 | 9.945 | 0.266 |
| -6.900 | 34.834 | 0.039 | 10.113 | 0.247 |
| -6.900 | 34.834 | 0.039 | 10.113 | 0.247 |
| -7.800 | 40.743 | 0.037 | 10.466 | 0.235 |
| -8.700 | 46.566 | 0.032 | 10.709 | 0.222 |
| -8.700 | 46.566 | 0.032 | 10.709 | 0.222 |
| -9.100 | 47.042 | 0.022 | 10.784 | 0.200 |
| -9.500 | 47.524 | 0.009 | 10.841 | 0.177 |
| -9.500 | 47.524 | 0.009 | 10.841 | 0.177 |
| -10.100 | 51.324 | 0.003 | 10.893 | 0.168 |
| -10.700 | 55.095 | -0.004 | 10.909 | 0.159 |
| -10.700 | 55.095 | -0.004 | 10.909 | 0.159 |
| -10.900 | 56.356 | -0.024 | 10.907 | 0.154 |
| -11.100 | 57.623 | -0.045 | 10.902 | 0.150 |
| -11.100 | 57.623 | -0.045 | 10.902 | 0.150 |
| -11.950 | 62.907 | -0.059 | 10.845 | 0.137 |
| -12.950 | 69.085 | -0.078 | 10.717 | 0.122 |
| -13.550 | 72.779 | -0.091 | 10.615 | 0.113 |
| -14.400 | 78.004 | -0.112 | 10.444 | 0.101 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -15.400 | 84.150 | -0.141 | 10.213 | 0.086 |
| -16.000 | 87.843 | -0.160 | 10.063 | 0.078 |
| -16.000 | 87.843 | -0.160 | 10.063 | 0.078 |
| -16.550 | 91.986 | -0.300 | 9.919 | 0.064 |
| -17.050 | 95.853 | -0.438 | 9.784 | 0.052 |
| -17.600 | 100.222 | -0.603 | 9.631 | 0.037 |
| -18.100 | 104.302 | -0.764 | 9.491 | 0.022 |
| -18.100 | 116.431 | -2.000 | 9.491 | 0.022 |
| -19.901 | 134.255 | -2.000 | 8.972 | 0.015 |
| -21.801 | 153.052 | -2.000 | 8.423 | 0.009 |
| -23.602 | 170.879 | -2.000 | 7.912 | 0.004 |
| -25.502 | 189.705 | -2.000 | 7.394 | 0.000 |

### 3.41 Results for Vertical 41 (X = -6.09 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.117 | 10.891 | -0.117 | 10.890 | 0.504 |
| -0.217 | 12.293 | -0.193 | 10.925 | 0.478 |
| -0.317 | 13.579 | -0.267 | 10.866 | 0.461 |
| -0.417 | 14.355 | -0.339 | 10.318 | 0.449 |
| -0.517 | 14.603 | -0.409 | 9.259 | 0.439 |
| -0.617 | 14.845 | -0.479 | 8.204 | 0.432 |
| -0.717 | 15.091 | -0.547 | 7.157 | 0.426 |
| -0.742 | 15.153 | -0.564 | 6.899 | 0.424 |
| -0.817 | 15.344 | -0.540 | 6.857 | 0.421 |
| -0.917 | 15.603 | -0.509 | 6.806 | 0.417 |
| -1.017 | 15.870 | -0.477 | 6.764 | 0.413 |
| -1.106 | 16.112 | -0.449 | 6.732 | 0.410 |
| -1.117 | 16.142 | -0.446 | 6.729 | 0.410 |
| -2.000 | 18.810 | -0.162 | 6.715 | 0.394 |
| -2.095 | 19.117 | -0.131 | 6.739 | 0.393 |
| -2.095 | 19.117 | -0.131 | 6.739 | 0.393 |
| -2.698 | 21.137 | -0.086 | 6.976 | 0.377 |
| -3.298 | 23.262 | -0.043 | 7.304 | 0.362 |
| -3.900 | 25.470 | -0.004 | 7.676 | 0.347 |
| -4.500 | 27.722 | 0.031 | 8.056 | 0.332 |
| -4.500 | 27.722 | 0.031 | 8.056 | 0.332 |
| -4.950 | 28.257 | 0.037 | 8.334 | 0.312 |
| -5.400 | 28.805 | 0.040 | 8.601 | 0.291 |
| -5.400 | 28.805 | 0.040 | 8.601 | 0.291 |
| -5.800 | 31.091 | 0.046 | 8.824 | 0.282 |
| -6.200 | 33.395 | 0.049 | 9.034 | 0.273 |
| -6.200 | 33.395 | 0.049 | 9.034 | 0.273 |
| -6.550 | 33.821 | 0.049 | 9.204 | 0.256 |
| -6.900 | 34.253 | 0.047 | 9.362 | 0.238 |
| -6.900 | 34.253 | 0.047 | 9.362 | 0.238 |
| -7.800 | 40.146 | 0.044 | 9.709 | 0.227 |
| -8.700 | 45.975 | 0.040 | 9.967 | 0.216 |
| -8.700 | 45.975 | 0.040 | 9.967 | 0.216 |
| -9.100 | 46.458 | 0.030 | 10.054 | 0.194 |
| -9.500 | 46.950 | 0.017 | 10.125 | 0.172 |
| -9.500 | 46.950 | 0.017 | 10.125 | 0.172 |
| -10.100 | 50.772 | 0.011 | 10.202 | 0.164 |
| -10.700 | 54.569 | 0.004 | 10.247 | 0.155 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -10.700 | 54.569 | 0.004 | 10.247 | 0.155 |
| -10.900 | 55.835 | -0.016 | 10.255 | 0.151 |
| -11.100 | 57.108 | -0.036 | 10.260 | 0.146 |
| -11.100 | 57.108 | -0.036 | 10.260 | 0.146 |
| -11.950 | 62.435 | -0.050 | 10.249 | 0.134 |
| -12.950 | 68.666 | -0.068 | 10.175 | 0.120 |
| -13.550 | 72.391 | -0.081 | 10.105 | 0.111 |
| -14.400 | 77.659 | -0.102 | 9.979 | 0.099 |
| -15.400 | 83.853 | -0.130 | 9.798 | 0.085 |
| -16.000 | 87.572 | -0.149 | 9.675 | 0.076 |
| -16.000 | 87.572 | -0.149 | 9.675 | 0.076 |
| -16.550 | 91.717 | -0.286 | 9.556 | 0.063 |
| -17.050 | 95.583 | -0.422 | 9.442 | 0.051 |
| -17.600 | 99.946 | -0.584 | 9.312 | 0.036 |
| -18.100 | 104.019 | -0.742 | 9.191 | 0.022 |
| -18.100 | 116.364 | -2.000 | 9.191 | 0.022 |
| -19.901 | 134.256 | -2.000 | 8.736 | 0.015 |
| -21.801 | 153.112 | -2.000 | 8.241 | 0.009 |
| -23.602 | 170.985 | -2.000 | 7.775 | 0.004 |
| -25.502 | 189.852 | -2.000 | 7.294 | 0.000 |

### 3.42 Results for Vertical 42 (X = -5.77 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.108 | 10.922 | -0.108 | 10.921 | 0.497 |
| -0.208 | 12.325 | -0.185 | 10.954 | 0.471 |
| -0.308 | 13.655 | -0.259 | 10.934 | 0.455 |
| -0.408 | 14.484 | -0.331 | 10.435 | 0.442 |
| -0.508 | 14.773 | -0.402 | 9.414 | 0.432 |
| -0.608 | 15.049 | -0.471 | 8.390 | 0.425 |
| -0.708 | 15.319 | -0.540 | 7.363 | 0.418 |
| -0.727 | 15.371 | -0.554 | 7.166 | 0.417 |
| -0.808 | 15.587 | -0.528 | 7.129 | 0.414 |
| -0.908 | 15.855 | -0.497 | 7.086 | 0.409 |
| -1.008 | 16.125 | -0.466 | 7.044 | 0.405 |
| -1.102 | 16.379 | -0.436 | 7.008 | 0.402 |
| -1.108 | 16.397 | -0.434 | 7.006 | 0.402 |
| -2.000 | 18.986 | -0.151 | 6.854 | 0.384 |
| -2.095 | 19.279 | -0.120 | 6.859 | 0.384 |
| -2.095 | 19.279 | -0.120 | 6.859 | 0.384 |
| -2.698 | 21.182 | -0.076 | 6.970 | 0.367 |
| -3.298 | 23.204 | -0.035 | 7.184 | 0.352 |
| -3.900 | 25.329 | 0.003 | 7.459 | 0.337 |
| -4.500 | 27.517 | 0.037 | 7.762 | 0.323 |
| -4.500 | 27.517 | 0.037 | 7.762 | 0.323 |
| -4.950 | 28.008 | 0.042 | 7.993 | 0.303 |
| -5.400 | 28.518 | 0.045 | 8.222 | 0.283 |
| -5.400 | 28.518 | 0.045 | 8.222 | 0.283 |
| -5.800 | 30.782 | 0.051 | 8.418 | 0.275 |
| -6.200 | 33.067 | 0.053 | 8.605 | 0.266 |
| -6.200 | 33.067 | 0.053 | 8.605 | 0.266 |
| -6.550 | 33.478 | 0.053 | 8.761 | 0.250 |
| -6.900 | 33.896 | 0.051 | 8.907 | 0.232 |
| -6.900 | 33.896 | 0.051 | 8.907 | 0.232 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -7.800 | 39.767 | 0.048 | 9.237 | 0.222 |
| -8.700 | 45.590 | 0.044 | 9.495 | 0.211 |
| -8.700 | 45.590 | 0.044 | 9.495 | 0.211 |
| -9.100 | 46.075 | 0.034 | 9.586 | 0.190 |
| -9.500 | 46.569 | 0.021 | 9.663 | 0.169 |
| -9.500 | 46.569 | 0.021 | 9.663 | 0.169 |
| -10.100 | 50.399 | 0.015 | 9.752 | 0.161 |
| -10.700 | 54.209 | 0.008 | 9.811 | 0.153 |
| -10.700 | 54.209 | 0.008 | 9.811 | 0.153 |
| -10.900 | 55.478 | -0.011 | 9.824 | 0.148 |
| -11.100 | 56.753 | -0.031 | 9.835 | 0.144 |
| -11.100 | 56.753 | -0.031 | 9.835 | 0.144 |
| -11.950 | 62.103 | -0.044 | 9.848 | 0.132 |
| -12.950 | 68.362 | -0.063 | 9.807 | 0.118 |
| -13.550 | 72.105 | -0.076 | 9.756 | 0.110 |
| -14.400 | 77.399 | -0.096 | 9.657 | 0.098 |
| -15.400 | 83.621 | -0.123 | 9.505 | 0.084 |
| -16.000 | 87.357 | -0.142 | 9.400 | 0.076 |
| -16.000 | 87.357 | -0.142 | 9.400 | 0.076 |
| -16.550 | 91.500 | -0.278 | 9.296 | 0.063 |
| -17.050 | 95.363 | -0.412 | 9.196 | 0.050 |
| -17.600 | 99.722 | -0.571 | 9.081 | 0.036 |
| -18.100 | 103.788 | -0.727 | 8.972 | 0.021 |
| -18.100 | 116.274 | -2.000 | 8.972 | 0.021 |
| -19.901 | 134.209 | -2.000 | 8.557 | 0.015 |
| -21.801 | 153.104 | -2.000 | 8.099 | 0.009 |
| -23.602 | 171.008 | -2.000 | 7.661 | 0.004 |
| -25.502 | 189.901 | -2.000 | 7.206 | 0.000 |

### 3.43 Results for Vertical 43 (X = -5.48 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.102 | 10.935 | -0.102 | 10.934 | 0.492 |
| -0.202 | 12.329 | -0.179 | 10.953 | 0.466 |
| -0.302 | 13.663 | -0.254 | 10.934 | 0.449 |
| -0.402 | 14.482 | -0.327 | 10.422 | 0.436 |
| -0.502 | 14.796 | -0.398 | 9.421 | 0.427 |
| -0.602 | 15.099 | -0.468 | 8.419 | 0.419 |
| -0.702 | 15.393 | -0.537 | 7.414 | 0.413 |
| -0.714 | 15.428 | -0.545 | 7.294 | 0.412 |
| -0.802 | 15.684 | -0.518 | 7.271 | 0.408 |
| -0.902 | 15.970 | -0.487 | 7.242 | 0.403 |
| -1.002 | 16.254 | -0.456 | 7.212 | 0.399 |
| -1.099 | 16.526 | -0.426 | 7.182 | 0.396 |
| -1.102 | 16.536 | -0.425 | 7.181 | 0.395 |
| -2.000 | 19.122 | -0.142 | 6.979 | 0.377 |
| -2.095 | 19.407 | -0.112 | 6.972 | 0.376 |
| -2.095 | 19.407 | -0.112 | 6.972 | 0.376 |
| -2.698 | 21.227 | -0.069 | 6.993 | 0.359 |
| -3.298 | 23.165 | -0.028 | 7.114 | 0.344 |
| -3.900 | 25.214 | 0.009 | 7.304 | 0.329 |
| -4.500 | 27.340 | 0.041 | 7.534 | 0.315 |
| -4.500 | 27.340 | 0.041 | 7.534 | 0.315 |
| -4.950 | 27.787 | 0.046 | 7.720 | 0.296 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -5.400 | 28.260 | 0.049 | 7.909 | 0.276 |
| -5.400 | 28.260 | 0.049 | 7.909 | 0.276 |
| -5.800 | 30.498 | 0.054 | 8.077 | 0.268 |
| -6.200 | 32.762 | 0.057 | 8.241 | 0.260 |
| -6.200 | 32.762 | 0.057 | 8.241 | 0.260 |
| -6.550 | 33.155 | 0.056 | 8.380 | 0.244 |
| -6.900 | 33.559 | 0.054 | 8.512 | 0.227 |
| -6.900 | 33.559 | 0.054 | 8.512 | 0.227 |
| -7.800 | 39.404 | 0.051 | 8.820 | 0.217 |
| -8.700 | 45.217 | 0.047 | 9.072 | 0.207 |
| -8.700 | 45.217 | 0.047 | 9.072 | 0.207 |
| -9.100 | 45.699 | 0.037 | 9.164 | 0.187 |
| -9.500 | 46.193 | 0.025 | 9.244 | 0.166 |
| -9.500 | 46.193 | 0.025 | 9.244 | 0.166 |
| -10.100 | 50.029 | 0.019 | 9.341 | 0.158 |
| -10.700 | 53.847 | 0.012 | 9.411 | 0.150 |
| -10.700 | 53.847 | 0.012 | 9.411 | 0.150 |
| -10.900 | 55.116 | -0.007 | 9.429 | 0.146 |
| -11.100 | 56.392 | -0.027 | 9.444 | 0.142 |
| -11.100 | 56.393 | -0.027 | 9.444 | 0.142 |
| -11.950 | 61.760 | -0.040 | 9.478 | 0.130 |
| -12.950 | 68.044 | -0.058 | 9.462 | 0.117 |
| -13.550 | 71.802 | -0.070 | 9.428 | 0.108 |
| -14.400 | 77.117 | -0.091 | 9.352 | 0.097 |
| -15.400 | 83.364 | -0.118 | 9.227 | 0.083 |
| -16.000 | 87.114 | -0.136 | 9.138 | 0.075 |
| -16.000 | 87.114 | -0.136 | 9.138 | 0.075 |
| -16.550 | 91.255 | -0.270 | 9.047 | 0.062 |
| -17.050 | 95.114 | -0.403 | 8.959 | 0.050 |
| -17.600 | 99.466 | -0.560 | 8.856 | 0.035 |
| -18.100 | 103.526 | -0.714 | 8.759 | 0.021 |
| -18.100 | 116.142 | -2.000 | 8.759 | 0.021 |
| -19.901 | 134.116 | -2.000 | 8.381 | 0.015 |
| -21.801 | 153.046 | -2.000 | 7.956 | 0.009 |
| -23.602 | 170.978 | -2.000 | 7.545 | 0.004 |
| -25.502 | 189.897 | -2.000 | 7.113 | 0.000 |

### 3.44 Results for Vertical 44 (X = -4.54 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.083 | 10.958 | -0.083 | 10.957 | 0.475 |
| -0.183 | 12.428 | -0.161 | 11.044 | 0.449 |
| -0.283 | 13.785 | -0.237 | 11.038 | 0.432 |
| -0.383 | 14.529 | -0.310 | 10.441 | 0.420 |
| -0.483 | 14.863 | -0.383 | 9.449 | 0.410 |
| -0.583 | 15.186 | -0.454 | 8.455 | 0.402 |
| -0.671 | 15.464 | -0.516 | 7.577 | 0.396 |
| -0.683 | 15.501 | -0.512 | 7.575 | 0.396 |
| -0.783 | 15.812 | -0.483 | 7.557 | 0.391 |
| -0.883 | 16.120 | -0.453 | 7.537 | 0.386 |
| -0.983 | 16.425 | -0.423 | 7.516 | 0.381 |
| -1.083 | 16.727 | -0.393 | 7.494 | 0.378 |
| -1.089 | 16.746 | -0.391 | 7.493 | 0.377 |
| -2.000 | 19.444 | -0.115 | 7.261 | 0.356 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.096 | 19.725 | -0.086 | 7.236 | 0.355 |
| -2.096 | 19.725 | -0.086 | 7.236 | 0.355 |
| -2.698 | 21.405 | -0.045 | 7.100 | 0.337 |
| -3.298 | 23.155 | -0.007 | 7.009 | 0.321 |
| -3.900 | 25.003 | 0.028 | 6.972 | 0.306 |
| -4.500 | 26.942 | 0.057 | 6.987 | 0.293 |
| -4.500 | 26.942 | 0.057 | 6.987 | 0.293 |
| -4.950 | 27.249 | 0.062 | 7.028 | 0.274 |
| -5.400 | 27.598 | 0.064 | 7.090 | 0.256 |
| -5.400 | 27.598 | 0.064 | 7.090 | 0.256 |
| -5.800 | 29.749 | 0.068 | 7.159 | 0.249 |
| -6.200 | 31.937 | 0.069 | 7.239 | 0.241 |
| -6.200 | 31.937 | 0.069 | 7.239 | 0.241 |
| -6.550 | 32.267 | 0.068 | 7.315 | 0.226 |
| -6.900 | 32.615 | 0.066 | 7.395 | 0.211 |
| -6.900 | 32.615 | 0.066 | 7.395 | 0.211 |
| -7.800 | 38.355 | 0.064 | 7.608 | 0.203 |
| -8.700 | 44.110 | 0.059 | 7.815 | 0.194 |
| -8.700 | 44.110 | 0.059 | 7.815 | 0.194 |
| -9.100 | 44.577 | 0.050 | 7.900 | 0.175 |
| -9.500 | 45.061 | 0.038 | 7.980 | 0.156 |
| -9.500 | 45.061 | 0.038 | 7.980 | 0.156 |
| -10.100 | 48.899 | 0.033 | 8.087 | 0.149 |
| -10.700 | 52.731 | 0.026 | 8.178 | 0.142 |
| -10.700 | 52.731 | 0.026 | 8.178 | 0.142 |
| -10.900 | 53.999 | 0.008 | 8.205 | 0.138 |
| -11.100 | 55.275 | -0.011 | 8.230 | 0.134 |
| -11.100 | 55.275 | -0.011 | 8.230 | 0.134 |
| -11.950 | 60.684 | -0.023 | 8.313 | 0.124 |
| -12.950 | 67.027 | -0.041 | 8.366 | 0.112 |
| -13.550 | 70.826 | -0.053 | 8.377 | 0.104 |
| -14.400 | 76.199 | -0.072 | 8.366 | 0.093 |
| -15.400 | 82.515 | -0.098 | 8.319 | 0.080 |
| -16.000 | 86.306 | -0.115 | 8.275 | 0.072 |
| -16.000 | 86.306 | -0.115 | 8.275 | 0.072 |
| -16.550 | 90.438 | -0.244 | 8.225 | 0.060 |
| -17.050 | 94.284 | -0.372 | 8.174 | 0.048 |
| -17.600 | 98.618 | -0.523 | 8.110 | 0.034 |
| -18.100 | 102.656 | -0.671 | 8.046 | 0.020 |
| -18.100 | 115.693 | -2.000 | 8.046 | 0.020 |
| -19.901 | 133.788 | -2.000 | 7.782 | 0.014 |
| -21.801 | 152.829 | -2.000 | 7.462 | 0.008 |
| -23.602 | 170.850 | -2.000 | 7.135 | 0.004 |
| -25.502 | 189.848 | -2.000 | 6.779 | 0.000 |

### 3.45 Results for Vertical 45 (X = -3.98 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.072 | 10.969 | -0.072 | 10.968 | 0.466 |
| -0.172 | 12.429 | -0.151 | 11.040 | 0.440 |
| -0.272 | 13.782 | -0.227 | 11.024 | 0.423 |
| -0.372 | 14.453 | -0.301 | 10.346 | 0.410 |
| -0.472 | 14.786 | -0.374 | 9.346 | 0.400 |
| -0.572 | 15.113 | -0.446 | 8.348 | 0.393 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.646 | 15.352 | -0.499 | 7.614 | 0.388 |
| -0.672 | 15.437 | -0.491 | 7.610 | 0.387 |
| -0.772 | 15.761 | -0.463 | 7.596 | 0.381 |
| -0.872 | 16.082 | -0.434 | 7.581 | 0.376 |
| -0.972 | 16.400 | -0.405 | 7.565 | 0.372 |
| -1.072 | 16.716 | -0.375 | 7.548 | 0.368 |
| -1.084 | 16.753 | -0.372 | 7.546 | 0.367 |
| -2.000 | 19.543 | -0.101 | 7.322 | 0.346 |
| -2.096 | 19.827 | -0.073 | 7.293 | 0.344 |
| -2.096 | 19.827 | -0.073 | 7.293 | 0.344 |
| -2.698 | 21.466 | -0.033 | 7.104 | 0.326 |
| -3.298 | 23.145 | 0.004 | 6.931 | 0.309 |
| -3.900 | 24.906 | 0.037 | 6.794 | 0.294 |
| -4.500 | 26.757 | 0.065 | 6.707 | 0.281 |
| -4.500 | 26.757 | 0.065 | 6.707 | 0.281 |
| -4.950 | 26.994 | 0.070 | 6.675 | 0.263 |
| -5.400 | 27.277 | 0.072 | 6.670 | 0.245 |
| -5.400 | 27.277 | 0.072 | 6.670 | 0.245 |
| -5.800 | 29.380 | 0.075 | 6.686 | 0.238 |
| -6.200 | 31.525 | 0.076 | 6.719 | 0.231 |
| -6.200 | 31.525 | 0.076 | 6.719 | 0.231 |
| -6.550 | 31.818 | 0.075 | 6.759 | 0.217 |
| -6.900 | 32.135 | 0.073 | 6.807 | 0.202 |
| -6.900 | 32.135 | 0.073 | 6.807 | 0.202 |
| -7.800 | 37.810 | 0.070 | 6.960 | 0.195 |
| -8.700 | 43.525 | 0.066 | 7.133 | 0.187 |
| -8.700 | 43.525 | 0.066 | 7.133 | 0.187 |
| -9.100 | 43.979 | 0.057 | 7.210 | 0.169 |
| -9.500 | 44.453 | 0.046 | 7.285 | 0.150 |
| -9.500 | 44.453 | 0.046 | 7.285 | 0.150 |
| -10.100 | 48.286 | 0.040 | 7.392 | 0.144 |
| -10.700 | 52.120 | 0.034 | 7.489 | 0.138 |
| -10.700 | 52.120 | 0.034 | 7.489 | 0.138 |
| -10.900 | 53.385 | 0.016 | 7.519 | 0.134 |
| -11.100 | 54.658 | -0.002 | 7.547 | 0.130 |
| -11.100 | 54.658 | -0.002 | 7.547 | 0.130 |
| -11.950 | 60.081 | -0.014 | 7.651 | 0.120 |
| -12.950 | 66.450 | -0.031 | 7.736 | 0.109 |
| -13.550 | 70.266 | -0.043 | 7.768 | 0.101 |
| -14.400 | 75.667 | -0.061 | 7.789 | 0.091 |
| -15.400 | 82.017 | -0.087 | 7.782 | 0.078 |
| -16.000 | 85.828 | -0.104 | 7.762 | 0.071 |
| -16.000 | 85.828 | -0.104 | 7.762 | 0.071 |
| -16.550 | 89.950 | -0.229 | 7.734 | 0.058 |
| -17.050 | 93.786 | -0.354 | 7.702 | 0.047 |
| -17.600 | 98.105 | -0.501 | 7.659 | 0.033 |
| -18.100 | 102.127 | -0.646 | 7.614 | 0.019 |
| -18.100 | 115.414 | -2.000 | 7.614 | 0.019 |
| -19.901 | 133.576 | -2.000 | 7.414 | 0.013 |
| -21.801 | 152.679 | -2.000 | 7.152 | 0.008 |
| -23.602 | 170.751 | -2.000 | 6.874 | 0.004 |
| -25.502 | 189.797 | -2.000 | 6.563 | 0.000 |

### 3.46 Results for Vertical 46 (X = -3.47 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.079 | 10.966 | -0.079 | 10.965 | 0.458 |
| -0.179 | 12.378 | -0.158 | 10.985 | 0.432 |
| -0.279 | 13.739 | -0.235 | 10.973 | 0.415 |
| -0.379 | 14.168 | -0.310 | 10.047 | 0.403 |
| -0.479 | 14.514 | -0.383 | 9.052 | 0.393 |
| -0.579 | 14.853 | -0.456 | 8.058 | 0.385 |
| -0.622 | 14.999 | -0.488 | 7.628 | 0.383 |
| -0.679 | 15.189 | -0.472 | 7.620 | 0.379 |
| -0.779 | 15.522 | -0.444 | 7.606 | 0.374 |
| -0.879 | 15.851 | -0.416 | 7.590 | 0.369 |
| -0.979 | 16.176 | -0.388 | 7.573 | 0.364 |
| -1.079 | 16.498 | -0.360 | 7.555 | 0.360 |
| -1.087 | 16.525 | -0.357 | 7.553 | 0.360 |
| -2.000 | 19.343 | -0.095 | 7.294 | 0.337 |
| -2.096 | 19.629 | -0.067 | 7.259 | 0.336 |
| -2.096 | 19.629 | -0.067 | 7.259 | 0.336 |
| -2.698 | 21.229 | -0.028 | 7.021 | 0.317 |
| -3.298 | 22.852 | 0.008 | 6.781 | 0.300 |
| -3.900 | 24.550 | 0.039 | 6.570 | 0.285 |
| -4.500 | 26.335 | 0.067 | 6.407 | 0.271 |
| -4.500 | 26.335 | 0.067 | 6.407 | 0.271 |
| -4.950 | 26.519 | 0.071 | 6.321 | 0.254 |
| -5.400 | 26.753 | 0.073 | 6.266 | 0.236 |
| -5.400 | 26.753 | 0.073 | 6.266 | 0.236 |
| -5.800 | 28.817 | 0.076 | 6.241 | 0.230 |
| -6.200 | 30.926 | 0.076 | 6.238 | 0.223 |
| -6.200 | 30.926 | 0.076 | 6.238 | 0.223 |
| -6.550 | 31.191 | 0.076 | 6.250 | 0.209 |
| -6.900 | 31.481 | 0.073 | 6.273 | 0.195 |
| -6.900 | 31.481 | 0.073 | 6.273 | 0.195 |
| -7.800 | 37.104 | 0.071 | 6.378 | 0.188 |
| -8.700 | 42.784 | 0.067 | 6.521 | 0.181 |
| -8.700 | 42.784 | 0.067 | 6.521 | 0.181 |
| -9.100 | 43.224 | 0.058 | 6.590 | 0.164 |
| -9.500 | 43.688 | 0.047 | 6.661 | 0.146 |
| -9.500 | 43.688 | 0.047 | 6.661 | 0.146 |
| -10.100 | 47.515 | 0.042 | 6.766 | 0.140 |
| -10.700 | 51.346 | 0.036 | 6.866 | 0.134 |
| -10.700 | 51.346 | 0.036 | 6.866 | 0.134 |
| -10.900 | 52.606 | 0.019 | 6.898 | 0.130 |
| -11.100 | 53.874 | 0.001 | 6.928 | 0.127 |
| -11.100 | 53.874 | 0.001 | 6.928 | 0.127 |
| -11.950 | 59.305 | -0.010 | 7.047 | 0.117 |
| -12.950 | 65.691 | -0.026 | 7.156 | 0.106 |
| -13.550 | 69.519 | -0.038 | 7.205 | 0.099 |
| -14.400 | 74.940 | -0.056 | 7.253 | 0.089 |
| -15.400 | 81.315 | -0.080 | 7.278 | 0.077 |
| -16.000 | 85.140 | -0.097 | 7.278 | 0.069 |
| -16.000 | 85.140 | -0.097 | 7.278 | 0.069 |
| -16.550 | 89.244 | -0.219 | 7.268 | 0.057 |
| -17.050 | 93.060 | -0.339 | 7.252 | 0.045 |
| -17.600 | 97.354 | -0.482 | 7.228 | 0.032 |
| -18.100 | 101.352 | -0.622 | 7.199 | 0.018 |
| -18.100 | 114.867 | -2.000 | 7.199 | 0.018 |
| -19.901 | 133.086 | -2.000 | 7.054 | 0.013 |
| -21.801 | 152.244 | -2.000 | 6.845 | 0.008 |
| -23.602 | 170.362 | -2.000 | 6.610 | 0.004 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -25.502 | 189.450 | -2.000 | 6.339 | 0.000 |

### 3.47 Results for Vertical 47 (X = -3.07 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.085 | 10.887 | -0.085 | 10.886 | 0.452 |
| -0.185 | 12.322 | -0.164 | 10.924 | 0.426 |
| -0.285 | 13.566 | -0.242 | 10.791 | 0.409 |
| -0.385 | 13.939 | -0.317 | 9.805 | 0.397 |
| -0.485 | 14.296 | -0.391 | 8.815 | 0.387 |
| -0.585 | 14.644 | -0.465 | 7.822 | 0.379 |
| -0.604 | 14.710 | -0.479 | 7.630 | 0.378 |
| -0.685 | 14.985 | -0.457 | 7.618 | 0.373 |
| -0.785 | 15.322 | -0.430 | 7.601 | 0.368 |
| -0.885 | 15.655 | -0.403 | 7.582 | 0.363 |
| -0.985 | 15.983 | -0.376 | 7.561 | 0.358 |
| -1.085 | 16.308 | -0.348 | 7.538 | 0.354 |
| -1.090 | 16.326 | -0.346 | 7.537 | 0.354 |
| -2.000 | 19.140 | -0.091 | 7.224 | 0.330 |
| -2.096 | 19.426 | -0.064 | 7.182 | 0.329 |
| -2.096 | 19.426 | -0.064 | 7.182 | 0.329 |
| -2.698 | 20.989 | -0.026 | 6.899 | 0.309 |
| -3.298 | 22.574 | 0.009 | 6.611 | 0.293 |
| -3.900 | 24.230 | 0.040 | 6.351 | 0.278 |
| -4.500 | 25.976 | 0.066 | 6.141 | 0.264 |
| -4.500 | 25.976 | 0.066 | 6.141 | 0.264 |
| -4.950 | 26.129 | 0.070 | 6.023 | 0.247 |
| -5.400 | 26.334 | 0.072 | 5.938 | 0.230 |
| -5.400 | 26.334 | 0.072 | 5.938 | 0.230 |
| -5.800 | 28.374 | 0.075 | 5.890 | 0.223 |
| -6.200 | 30.462 | 0.076 | 5.864 | 0.217 |
| -6.200 | 30.462 | 0.076 | 5.864 | 0.217 |
| -6.550 | 30.709 | 0.075 | 5.859 | 0.203 |
| -6.900 | 30.983 | 0.073 | 5.868 | 0.190 |
| -6.900 | 30.983 | 0.073 | 5.868 | 0.190 |
| -7.800 | 36.573 | 0.070 | 5.942 | 0.184 |
| -8.700 | 42.230 | 0.067 | 6.067 | 0.177 |
| -8.700 | 42.230 | 0.067 | 6.067 | 0.177 |
| -9.100 | 42.661 | 0.058 | 6.131 | 0.160 |
| -9.500 | 43.117 | 0.048 | 6.199 | 0.142 |
| -9.500 | 43.117 | 0.048 | 6.199 | 0.142 |
| -10.100 | 46.939 | 0.043 | 6.302 | 0.137 |
| -10.700 | 50.769 | 0.037 | 6.404 | 0.131 |
| -10.700 | 50.769 | 0.037 | 6.404 | 0.131 |
| -10.900 | 52.024 | 0.021 | 6.437 | 0.128 |
| -11.100 | 53.287 | 0.003 | 6.469 | 0.124 |
| -11.100 | 53.287 | 0.003 | 6.469 | 0.124 |
| -11.950 | 58.723 | -0.008 | 6.597 | 0.115 |
| -12.950 | 65.118 | -0.023 | 6.722 | 0.104 |
| -13.550 | 68.955 | -0.034 | 6.783 | 0.097 |
| -14.400 | 74.388 | -0.052 | 6.849 | 0.087 |
| -15.400 | 80.779 | -0.076 | 6.897 | 0.076 |
| -16.000 | 84.615 | -0.092 | 6.911 | 0.068 |
| -16.000 | 84.615 | -0.092 | 6.911 | 0.068 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -16.550 | 88.701 | -0.211 | 6.915 | 0.056 |
| -17.050 | 92.499 | -0.328 | 6.911 | 0.045 |
| -17.600 | 96.773 | -0.467 | 6.899 | 0.031 |
| -18.100 | 100.748 | -0.604 | 6.882 | 0.018 |
| -18.100 | 114.440 | -2.000 | 6.882 | 0.018 |
| -19.901 | 132.701 | -2.000 | 6.777 | 0.013 |
| -21.801 | 151.899 | -2.000 | 6.607 | 0.008 |
| -23.602 | 170.052 | -2.000 | 6.406 | 0.004 |
| -25.502 | 189.171 | -2.000 | 6.165 | 0.000 |

### 3.48 Results for Vertical 48 (X = -2.48 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.093 | 10.782 | -0.093 | 10.781 | 0.441 |
| -0.193 | 12.204 | -0.174 | 10.799 | 0.415 |
| -0.293 | 13.165 | -0.252 | 10.376 | 0.399 |
| -0.393 | 13.543 | -0.328 | 9.386 | 0.386 |
| -0.493 | 13.911 | -0.403 | 8.396 | 0.377 |
| -0.577 | 14.214 | -0.466 | 7.567 | 0.371 |
| -0.593 | 14.273 | -0.462 | 7.565 | 0.369 |
| -0.693 | 14.627 | -0.436 | 7.551 | 0.363 |
| -0.793 | 14.974 | -0.410 | 7.532 | 0.358 |
| -0.893 | 15.313 | -0.384 | 7.508 | 0.352 |
| -0.993 | 15.645 | -0.358 | 7.480 | 0.348 |
| -1.093 | 15.971 | -0.331 | 7.446 | 0.343 |
| -1.095 | 15.975 | -0.331 | 7.446 | 0.343 |
| -2.000 | 18.750 | -0.087 | 7.009 | 0.319 |
| -2.096 | 19.033 | -0.061 | 6.953 | 0.318 |
| -2.096 | 19.033 | -0.061 | 6.953 | 0.318 |
| -2.698 | 20.533 | -0.025 | 6.591 | 0.298 |
| -3.298 | 22.065 | 0.009 | 6.237 | 0.282 |
| -3.900 | 23.679 | 0.039 | 5.922 | 0.267 |
| -4.500 | 25.389 | 0.064 | 5.666 | 0.254 |
| -4.500 | 25.389 | 0.064 | 5.666 | 0.254 |
| -4.950 | 25.512 | 0.068 | 5.517 | 0.237 |
| -5.400 | 25.690 | 0.070 | 5.404 | 0.221 |
| -5.400 | 25.690 | 0.070 | 5.404 | 0.221 |
| -5.800 | 27.708 | 0.073 | 5.334 | 0.215 |
| -6.200 | 29.774 | 0.073 | 5.288 | 0.208 |
| -6.200 | 29.774 | 0.073 | 5.288 | 0.208 |
| -6.550 | 30.003 | 0.073 | 5.267 | 0.196 |
| -6.900 | 30.261 | 0.071 | 5.262 | 0.183 |
| -6.900 | 30.261 | 0.071 | 5.262 | 0.183 |
| -7.800 | 35.818 | 0.068 | 5.307 | 0.177 |
| -8.700 | 41.451 | 0.065 | 5.413 | 0.171 |
| -8.700 | 41.451 | 0.065 | 5.413 | 0.171 |
| -9.100 | 41.871 | 0.057 | 5.472 | 0.154 |
| -9.500 | 42.316 | 0.047 | 5.537 | 0.138 |
| -9.500 | 42.316 | 0.047 | 5.537 | 0.138 |
| -10.100 | 46.132 | 0.042 | 5.639 | 0.133 |
| -10.700 | 49.960 | 0.037 | 5.744 | 0.127 |
| -10.700 | 49.960 | 0.037 | 5.744 | 0.127 |
| -10.900 | 51.207 | 0.021 | 5.779 | 0.124 |
| -11.100 | 52.463 | 0.005 | 5.813 | 0.120 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -11.100 | 52.463 | 0.005 | 5.813 | 0.120 |
| -11.950 | 57.903 | -0.005 | 5.954 | 0.112 |
| -12.950 | 64.311 | -0.020 | 6.101 | 0.101 |
| -13.550 | 68.157 | -0.031 | 6.177 | 0.095 |
| -14.400 | 73.606 | -0.047 | 6.268 | 0.085 |
| -15.400 | 80.018 | -0.070 | 6.347 | 0.074 |
| -16.000 | 83.867 | -0.086 | 6.381 | 0.067 |
| -16.000 | 83.867 | -0.086 | 6.381 | 0.067 |
| -16.550 | 87.923 | -0.199 | 6.403 | 0.055 |
| -17.050 | 91.690 | -0.312 | 6.415 | 0.043 |
| -17.600 | 95.927 | -0.446 | 6.422 | 0.030 |
| -18.100 | 99.866 | -0.577 | 6.421 | 0.017 |
| -18.100 | 113.823 | -2.000 | 6.421 | 0.017 |
| -19.901 | 132.144 | -2.000 | 6.374 | 0.012 |
| -21.801 | 151.400 | -2.000 | 6.259 | 0.007 |
| -23.602 | 169.602 | -2.000 | 6.106 | 0.004 |
| -25.502 | 188.768 | -2.000 | 5.909 | 0.000 |

### 3.49 Results for Vertical 49 (X = -2.16 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.098 | 10.705 | -0.098 | 10.704 | 0.435 |
| -0.198 | 12.168 | -0.178 | 10.759 | 0.409 |
| -0.298 | 12.990 | -0.257 | 10.193 | 0.392 |
| -0.398 | 13.372 | -0.334 | 9.203 | 0.380 |
| -0.498 | 13.737 | -0.410 | 8.204 | 0.371 |
| -0.563 | 13.966 | -0.458 | 7.554 | 0.366 |
| -0.598 | 14.090 | -0.450 | 7.545 | 0.363 |
| -0.698 | 14.434 | -0.425 | 7.514 | 0.357 |
| -0.798 | 14.771 | -0.400 | 7.479 | 0.351 |
| -0.898 | 15.102 | -0.374 | 7.439 | 0.346 |
| -0.998 | 15.426 | -0.349 | 7.395 | 0.341 |
| -1.097 | 15.741 | -0.323 | 7.348 | 0.337 |
| -1.098 | 15.744 | -0.323 | 7.348 | 0.337 |
| -2.000 | 18.472 | -0.087 | 6.811 | 0.313 |
| -2.096 | 18.754 | -0.061 | 6.747 | 0.312 |
| -2.096 | 18.755 | -0.061 | 6.747 | 0.312 |
| -2.698 | 20.222 | -0.025 | 6.344 | 0.292 |
| -3.298 | 21.735 | 0.007 | 5.963 | 0.276 |
| -3.900 | 23.339 | 0.036 | 5.630 | 0.262 |
| -4.500 | 25.043 | 0.061 | 5.363 | 0.249 |
| -4.500 | 25.043 | 0.061 | 5.363 | 0.249 |
| -4.950 | 25.161 | 0.065 | 5.208 | 0.232 |
| -5.400 | 25.334 | 0.067 | 5.091 | 0.217 |
| -5.400 | 25.334 | 0.067 | 5.091 | 0.217 |
| -5.800 | 27.346 | 0.070 | 5.016 | 0.211 |
| -6.200 | 29.406 | 0.071 | 4.967 | 0.204 |
| -6.200 | 29.406 | 0.071 | 4.967 | 0.204 |
| -6.550 | 29.632 | 0.070 | 4.942 | 0.192 |
| -6.900 | 29.885 | 0.068 | 4.934 | 0.179 |
| -6.900 | 29.885 | 0.068 | 4.934 | 0.179 |
| -7.800 | 35.433 | 0.066 | 4.972 | 0.174 |
| -8.700 | 41.059 | 0.063 | 5.073 | 0.168 |
| -8.700 | 41.059 | 0.063 | 5.073 | 0.168 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -9.100 | 41.474 | 0.055 | 5.132 | 0.152 |
| -9.500 | 41.914 | 0.046 | 5.196 | 0.135 |
| -9.500 | 41.915 | 0.046 | 5.196 | 0.135 |
| -10.100 | 45.728 | 0.041 | 5.299 | 0.131 |
| -10.700 | 49.555 | 0.035 | 5.406 | 0.126 |
| -10.700 | 49.555 | 0.035 | 5.406 | 0.126 |
| -10.900 | 50.799 | 0.021 | 5.442 | 0.122 |
| -11.100 | 52.050 | 0.005 | 5.478 | 0.119 |
| -11.100 | 52.050 | 0.005 | 5.478 | 0.119 |
| -11.950 | 57.492 | -0.005 | 5.625 | 0.110 |
| -12.950 | 63.905 | -0.020 | 5.783 | 0.100 |
| -13.550 | 67.755 | -0.030 | 5.867 | 0.094 |
| -14.400 | 73.211 | -0.046 | 5.969 | 0.084 |
| -15.400 | 79.632 | -0.068 | 6.064 | 0.073 |
| -16.000 | 83.486 | -0.083 | 6.107 | 0.066 |
| -16.000 | 83.486 | -0.083 | 6.107 | 0.066 |
| -16.550 | 87.523 | -0.194 | 6.138 | 0.054 |
| -17.050 | 91.271 | -0.304 | 6.159 | 0.043 |
| -17.600 | 95.485 | -0.434 | 6.175 | 0.030 |
| -18.100 | 99.401 | -0.563 | 6.182 | 0.017 |
| -18.100 | 113.501 | -2.000 | 6.182 | 0.017 |
| -19.901 | 131.851 | -2.000 | 6.164 | 0.012 |
| -21.801 | 151.137 | -2.000 | 6.078 | 0.007 |
| -23.602 | 169.365 | -2.000 | 5.949 | 0.004 |
| -25.502 | 188.555 | -2.000 | 5.776 | 0.000 |

### 3.50 Results for Vertical 50 (X = -1.57 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.110 | 10.645 | -0.110 | 10.644 | 0.421 |
| -0.210 | 12.046 | -0.191 | 10.631 | 0.395 |
| -0.310 | 12.536 | -0.270 | 9.723 | 0.379 |
| -0.410 | 12.890 | -0.348 | 8.693 | 0.367 |
| -0.510 | 13.222 | -0.426 | 7.649 | 0.358 |
| -0.536 | 13.304 | -0.445 | 7.378 | 0.356 |
| -0.610 | 13.538 | -0.428 | 7.321 | 0.351 |
| -0.710 | 13.846 | -0.405 | 7.238 | 0.344 |
| -0.810 | 14.151 | -0.381 | 7.154 | 0.338 |
| -0.910 | 14.454 | -0.358 | 7.071 | 0.333 |
| -1.010 | 14.758 | -0.334 | 6.990 | 0.328 |
| -1.103 | 15.041 | -0.311 | 6.917 | 0.324 |
| -1.110 | 15.061 | -0.310 | 6.912 | 0.324 |
| -2.000 | 17.735 | -0.091 | 6.223 | 0.301 |
| -2.096 | 18.020 | -0.067 | 6.147 | 0.300 |
| -2.096 | 18.020 | -0.067 | 6.147 | 0.300 |
| -2.698 | 19.454 | -0.033 | 5.691 | 0.281 |
| -3.298 | 20.963 | -0.002 | 5.290 | 0.266 |
| -3.900 | 22.581 | 0.026 | 4.961 | 0.252 |
| -4.500 | 24.305 | 0.050 | 4.707 | 0.240 |
| -4.500 | 24.305 | 0.050 | 4.707 | 0.240 |
| -4.950 | 24.434 | 0.054 | 4.563 | 0.225 |
| -5.400 | 24.616 | 0.056 | 4.456 | 0.210 |
| -5.400 | 24.617 | 0.056 | 4.456 | 0.210 |
| -5.800 | 26.631 | 0.059 | 4.389 | 0.204 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -6.200 | 28.690 | 0.061 | 4.345 | 0.198 |
| -6.200 | 28.690 | 0.061 | 4.345 | 0.198 |
| -6.550 | 28.917 | 0.060 | 4.325 | 0.186 |
| -6.900 | 29.169 | 0.059 | 4.319 | 0.174 |
| -6.900 | 29.169 | 0.059 | 4.319 | 0.174 |
| -7.800 | 34.718 | 0.057 | 4.362 | 0.169 |
| -8.700 | 40.341 | 0.054 | 4.466 | 0.164 |
| -8.700 | 40.341 | 0.054 | 4.466 | 0.164 |
| -9.100 | 40.749 | 0.047 | 4.526 | 0.148 |
| -9.500 | 41.183 | 0.038 | 4.593 | 0.132 |
| -9.500 | 41.183 | 0.038 | 4.593 | 0.132 |
| -10.100 | 44.995 | 0.034 | 4.700 | 0.127 |
| -10.700 | 48.822 | 0.029 | 4.813 | 0.123 |
| -10.700 | 48.822 | 0.029 | 4.813 | 0.123 |
| -10.900 | 50.056 | 0.015 | 4.851 | 0.119 |
| -11.100 | 51.298 | 0.001 | 4.889 | 0.116 |
| -11.100 | 51.298 | 0.001 | 4.889 | 0.116 |
| -11.950 | 56.743 | -0.009 | 5.048 | 0.108 |
| -12.950 | 63.163 | -0.022 | 5.225 | 0.098 |
| -13.550 | 67.019 | -0.032 | 5.321 | 0.092 |
| -14.400 | 72.484 | -0.047 | 5.444 | 0.083 |
| -15.400 | 78.917 | -0.068 | 5.565 | 0.071 |
| -16.000 | 82.780 | -0.082 | 5.624 | 0.065 |
| -16.000 | 82.780 | -0.082 | 5.624 | 0.065 |
| -16.550 | 86.772 | -0.187 | 5.671 | 0.053 |
| -17.050 | 90.476 | -0.290 | 5.706 | 0.042 |
| -17.600 | 94.638 | -0.414 | 5.737 | 0.029 |
| -18.100 | 98.503 | -0.536 | 5.759 | 0.016 |
| -18.100 | 112.868 | -2.000 | 5.759 | 0.016 |
| -19.901 | 131.270 | -2.000 | 5.791 | 0.011 |
| -21.801 | 150.608 | -2.000 | 5.756 | 0.007 |
| -23.602 | 168.882 | -2.000 | 5.671 | 0.003 |
| -25.502 | 188.115 | -2.000 | 5.540 | 0.000 |

### 3.51 Results for Vertical 51 (X = -1.38 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.114 | 10.629 | -0.114 | 10.628 | 0.415 |
| -0.214 | 12.053 | -0.195 | 10.636 | 0.390 |
| -0.314 | 12.427 | -0.275 | 9.611 | 0.373 |
| -0.414 | 12.699 | -0.353 | 8.495 | 0.362 |
| -0.514 | 12.962 | -0.431 | 7.376 | 0.353 |
| -0.527 | 12.997 | -0.441 | 7.231 | 0.352 |
| -0.614 | 13.235 | -0.422 | 7.122 | 0.346 |
| -0.714 | 13.520 | -0.399 | 7.010 | 0.339 |
| -0.814 | 13.816 | -0.376 | 6.911 | 0.333 |
| -0.914 | 14.120 | -0.353 | 6.821 | 0.328 |
| -1.014 | 14.428 | -0.330 | 6.738 | 0.324 |
| -1.105 | 14.712 | -0.309 | 6.666 | 0.320 |
| -1.114 | 14.739 | -0.307 | 6.659 | 0.319 |
| -2.000 | 17.442 | -0.094 | 5.962 | 0.297 |
| -2.096 | 17.730 | -0.071 | 5.884 | 0.296 |
| -2.097 | 17.730 | -0.071 | 5.884 | 0.296 |
| -2.698 | 19.163 | -0.037 | 5.422 | 0.278 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.298 | 20.684 | -0.007 | 5.029 | 0.263 |
| -3.900 | 22.318 | 0.021 | 4.713 | 0.250 |
| -4.500 | 24.058 | 0.045 | 4.475 | 0.238 |
| -4.500 | 24.058 | 0.045 | 4.475 | 0.238 |
| -4.950 | 24.198 | 0.049 | 4.341 | 0.223 |
| -5.400 | 24.388 | 0.051 | 4.242 | 0.208 |
| -5.400 | 24.388 | 0.051 | 4.242 | 0.208 |
| -5.800 | 26.406 | 0.055 | 4.181 | 0.202 |
| -6.200 | 28.467 | 0.056 | 4.143 | 0.197 |
| -6.200 | 28.467 | 0.056 | 4.143 | 0.197 |
| -6.550 | 28.697 | 0.056 | 4.127 | 0.185 |
| -6.900 | 28.951 | 0.055 | 4.125 | 0.173 |
| -6.900 | 28.951 | 0.055 | 4.125 | 0.173 |
| -7.800 | 34.504 | 0.053 | 4.173 | 0.168 |
| -8.700 | 40.130 | 0.050 | 4.282 | 0.163 |
| -8.700 | 40.130 | 0.050 | 4.282 | 0.163 |
| -9.100 | 40.536 | 0.043 | 4.343 | 0.147 |
| -9.500 | 40.968 | 0.035 | 4.411 | 0.131 |
| -9.500 | 40.968 | 0.035 | 4.411 | 0.131 |
| -10.100 | 44.781 | 0.031 | 4.520 | 0.127 |
| -10.700 | 48.607 | 0.026 | 4.635 | 0.122 |
| -10.700 | 48.607 | 0.026 | 4.635 | 0.122 |
| -10.900 | 49.838 | 0.013 | 4.674 | 0.118 |
| -11.100 | 51.077 | -0.001 | 4.713 | 0.115 |
| -11.100 | 51.077 | -0.001 | 4.713 | 0.115 |
| -11.950 | 56.523 | -0.011 | 4.876 | 0.107 |
| -12.950 | 62.944 | -0.024 | 5.059 | 0.097 |
| -13.550 | 66.801 | -0.033 | 5.159 | 0.091 |
| -14.400 | 72.269 | -0.048 | 5.288 | 0.082 |
| -15.400 | 78.705 | -0.068 | 5.416 | 0.071 |
| -16.000 | 82.569 | -0.082 | 5.481 | 0.064 |
| -16.000 | 82.569 | -0.082 | 5.481 | 0.064 |
| -16.550 | 86.545 | -0.185 | 5.532 | 0.053 |
| -17.050 | 90.234 | -0.287 | 5.571 | 0.041 |
| -17.600 | 94.377 | -0.408 | 5.607 | 0.028 |
| -18.100 | 98.223 | -0.527 | 5.633 | 0.016 |
| -18.100 | 112.673 | -2.000 | 5.633 | 0.016 |
| -19.901 | 131.090 | -2.000 | 5.681 | 0.011 |
| -21.801 | 150.444 | -2.000 | 5.661 | 0.007 |
| -23.602 | 168.732 | -2.000 | 5.590 | 0.003 |
| -25.502 | 187.979 | -2.000 | 5.472 | 0.000 |

### 3.52 Results for Vertical 52 (X = -1.26 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.123 | 10.690 | -0.123 | 10.689 | 0.412 |
| -0.223 | 11.929 | -0.204 | 10.511 | 0.386 |
| -0.323 | 12.105 | -0.284 | 9.285 | 0.370 |
| -0.423 | 12.340 | -0.363 | 8.127 | 0.359 |
| -0.522 | 12.595 | -0.441 | 7.011 | 0.350 |
| -0.523 | 12.598 | -0.440 | 7.010 | 0.350 |
| -0.623 | 12.878 | -0.419 | 6.884 | 0.343 |
| -0.723 | 13.175 | -0.397 | 6.778 | 0.337 |
| -0.823 | 13.486 | -0.374 | 6.687 | 0.331 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.923 | 13.804 | -0.352 | 6.606 | 0.326 |
| -1.023 | 14.126 | -0.329 | 6.532 | 0.321 |
| -1.110 | 14.405 | -0.309 | 6.469 | 0.317 |
| -1.123 | 14.448 | -0.306 | 6.460 | 0.317 |
| -2.000 | 17.162 | -0.100 | 5.773 | 0.296 |
| -2.097 | 17.452 | -0.076 | 5.695 | 0.294 |
| -2.097 | 17.452 | -0.076 | 5.695 | 0.294 |
| -2.698 | 18.890 | -0.044 | 5.233 | 0.277 |
| -3.298 | 20.422 | -0.013 | 4.848 | 0.262 |
| -3.900 | 22.068 | 0.014 | 4.544 | 0.249 |
| -4.500 | 23.819 | 0.038 | 4.317 | 0.237 |
| -4.500 | 23.819 | 0.038 | 4.317 | 0.237 |
| -4.950 | 23.966 | 0.042 | 4.191 | 0.222 |
| -5.400 | 24.162 | 0.045 | 4.099 | 0.207 |
| -5.400 | 24.162 | 0.045 | 4.099 | 0.207 |
| -5.800 | 26.183 | 0.049 | 4.043 | 0.202 |
| -6.200 | 28.244 | 0.051 | 4.009 | 0.196 |
| -6.200 | 28.244 | 0.051 | 4.009 | 0.196 |
| -6.550 | 28.475 | 0.051 | 3.996 | 0.184 |
| -6.900 | 28.731 | 0.049 | 3.996 | 0.172 |
| -6.900 | 28.731 | 0.049 | 3.996 | 0.172 |
| -7.800 | 34.287 | 0.048 | 4.050 | 0.168 |
| -8.700 | 39.914 | 0.045 | 4.161 | 0.162 |
| -8.700 | 39.914 | 0.045 | 4.161 | 0.162 |
| -9.100 | 40.319 | 0.039 | 4.224 | 0.147 |
| -9.500 | 40.749 | 0.031 | 4.292 | 0.131 |
| -9.500 | 40.749 | 0.031 | 4.292 | 0.131 |
| -10.100 | 44.562 | 0.026 | 4.403 | 0.126 |
| -10.700 | 48.389 | 0.022 | 4.519 | 0.121 |
| -10.700 | 48.389 | 0.022 | 4.519 | 0.121 |
| -10.900 | 49.617 | 0.009 | 4.559 | 0.118 |
| -11.100 | 50.852 | -0.005 | 4.598 | 0.115 |
| -11.100 | 50.852 | -0.005 | 4.598 | 0.115 |
| -11.950 | 56.298 | -0.014 | 4.764 | 0.107 |
| -12.950 | 62.720 | -0.027 | 4.950 | 0.097 |
| -13.550 | 66.577 | -0.036 | 5.053 | 0.091 |
| -14.400 | 72.045 | -0.051 | 5.185 | 0.082 |
| -15.400 | 78.482 | -0.071 | 5.318 | 0.071 |
| -16.000 | 82.347 | -0.084 | 5.385 | 0.064 |
| -16.000 | 82.347 | -0.084 | 5.385 | 0.064 |
| -16.550 | 86.308 | -0.185 | 5.439 | 0.052 |
| -17.050 | 89.983 | -0.285 | 5.481 | 0.041 |
| -17.600 | 94.109 | -0.404 | 5.520 | 0.028 |
| -18.100 | 97.939 | -0.522 | 5.549 | 0.016 |
| -18.100 | 112.441 | -2.000 | 5.549 | 0.016 |
| -19.901 | 130.868 | -2.000 | 5.605 | 0.011 |
| -21.801 | 150.231 | -2.000 | 5.595 | 0.007 |
| -23.602 | 168.528 | -2.000 | 5.532 | 0.003 |
| -25.502 | 187.783 | -2.000 | 5.421 | 0.000 |

### 3.53 Results for Vertical 53 (X = -1.23 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.121 | 10.487 | -0.121 | 10.486 | 0.411 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.221 | 11.752 | -0.203 | 10.331 | 0.385 |
| -0.321 | 12.014 | -0.283 | 9.188 | 0.369 |
| -0.421 | 12.273 | -0.362 | 8.051 | 0.358 |
| -0.520 | 12.539 | -0.440 | 6.935 | 0.349 |
| -0.521 | 12.541 | -0.440 | 6.935 | 0.349 |
| -0.621 | 12.827 | -0.418 | 6.815 | 0.342 |
| -0.721 | 13.131 | -0.396 | 6.714 | 0.336 |
| -0.821 | 13.447 | -0.374 | 6.628 | 0.330 |
| -0.921 | 13.771 | -0.352 | 6.551 | 0.325 |
| -1.021 | 14.097 | -0.329 | 6.480 | 0.320 |
| -1.109 | 14.383 | -0.309 | 6.419 | 0.317 |
| -1.121 | 14.422 | -0.306 | 6.410 | 0.316 |
| -2.000 | 17.151 | -0.100 | 5.724 | 0.295 |
| -2.097 | 17.442 | -0.077 | 5.645 | 0.294 |
| -2.097 | 17.442 | -0.077 | 5.645 | 0.294 |
| -2.698 | 18.880 | -0.044 | 5.184 | 0.276 |
| -3.298 | 20.416 | -0.014 | 4.802 | 0.261 |
| -3.900 | 22.066 | 0.014 | 4.502 | 0.248 |
| -4.500 | 23.820 | 0.038 | 4.279 | 0.237 |
| -4.500 | 23.820 | 0.038 | 4.279 | 0.237 |
| -4.950 | 23.970 | 0.042 | 4.155 | 0.222 |
| -5.400 | 24.168 | 0.044 | 4.065 | 0.207 |
| -5.400 | 24.168 | 0.044 | 4.065 | 0.207 |
| -5.800 | 26.189 | 0.048 | 4.011 | 0.201 |
| -6.200 | 28.251 | 0.051 | 3.978 | 0.196 |
| -6.200 | 28.251 | 0.051 | 3.978 | 0.196 |
| -6.550 | 28.483 | 0.050 | 3.966 | 0.184 |
| -6.900 | 28.739 | 0.049 | 3.967 | 0.172 |
| -6.900 | 28.739 | 0.049 | 3.967 | 0.172 |
| -7.800 | 34.297 | 0.047 | 4.021 | 0.168 |
| -8.700 | 39.925 | 0.045 | 4.134 | 0.162 |
| -8.700 | 39.925 | 0.045 | 4.134 | 0.162 |
| -9.100 | 40.330 | 0.038 | 4.197 | 0.146 |
| -9.500 | 40.759 | 0.030 | 4.266 | 0.130 |
| -9.500 | 40.759 | 0.030 | 4.266 | 0.130 |
| -10.100 | 44.572 | 0.026 | 4.377 | 0.126 |
| -10.700 | 48.399 | 0.022 | 4.494 | 0.121 |
| -10.700 | 48.399 | 0.022 | 4.494 | 0.121 |
| -10.900 | 49.627 | 0.009 | 4.533 | 0.118 |
| -11.100 | 50.862 | -0.005 | 4.573 | 0.115 |
| -11.100 | 50.862 | -0.005 | 4.573 | 0.115 |
| -11.950 | 56.308 | -0.014 | 4.740 | 0.107 |
| -12.950 | 62.730 | -0.027 | 4.926 | 0.097 |
| -13.550 | 66.588 | -0.036 | 5.030 | 0.091 |
| -14.400 | 72.056 | -0.050 | 5.163 | 0.082 |
| -15.400 | 78.494 | -0.070 | 5.297 | 0.071 |
| -16.000 | 82.359 | -0.084 | 5.365 | 0.064 |
| -16.000 | 82.359 | -0.084 | 5.365 | 0.064 |
| -16.550 | 86.318 | -0.185 | 5.420 | 0.052 |
| -17.050 | 89.991 | -0.284 | 5.462 | 0.041 |
| -17.600 | 94.115 | -0.403 | 5.502 | 0.028 |
| -18.100 | 97.942 | -0.520 | 5.531 | 0.016 |
| -18.100 | 112.459 | -2.000 | 5.531 | 0.016 |
| -19.901 | 130.888 | -2.000 | 5.591 | 0.011 |
| -21.801 | 150.254 | -2.000 | 5.583 | 0.007 |
| -23.602 | 168.553 | -2.000 | 5.522 | 0.003 |
| -25.502 | 187.810 | -2.000 | 5.413 | 0.000 |

### 3.54 Results for Vertical 54 (X = -0.91 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.098 | 8.617 | -0.098 | 8.616 | 0.396 |
| -0.198 | 10.246 | -0.183 | 8.793 | 0.371 |
| -0.298 | 10.813 | -0.266 | 7.928 | 0.357 |
| -0.398 | 11.250 | -0.347 | 6.946 | 0.346 |
| -0.498 | 11.691 | -0.428 | 5.978 | 0.338 |
| -0.505 | 11.724 | -0.434 | 5.906 | 0.338 |
| -0.598 | 12.132 | -0.415 | 5.923 | 0.332 |
| -0.698 | 12.566 | -0.395 | 5.938 | 0.326 |
| -0.798 | 12.985 | -0.374 | 5.943 | 0.321 |
| -0.898 | 13.386 | -0.353 | 5.933 | 0.316 |
| -0.998 | 13.766 | -0.331 | 5.906 | 0.312 |
| -1.097 | 14.125 | -0.310 | 5.863 | 0.308 |
| -1.098 | 14.127 | -0.309 | 5.863 | 0.308 |
| -2.000 | 16.982 | -0.104 | 5.149 | 0.288 |
| -2.097 | 17.277 | -0.081 | 5.070 | 0.287 |
| -2.097 | 17.277 | -0.081 | 5.070 | 0.287 |
| -2.698 | 18.746 | -0.049 | 4.632 | 0.270 |
| -3.298 | 20.332 | -0.019 | 4.298 | 0.257 |
| -3.900 | 22.035 | 0.008 | 4.049 | 0.244 |
| -4.500 | 23.832 | 0.032 | 3.872 | 0.233 |
| -4.500 | 23.832 | 0.032 | 3.872 | 0.233 |
| -4.950 | 24.010 | 0.036 | 3.777 | 0.219 |
| -5.400 | 24.231 | 0.039 | 3.712 | 0.204 |
| -5.400 | 24.231 | 0.039 | 3.712 | 0.204 |
| -5.800 | 26.264 | 0.044 | 3.676 | 0.199 |
| -6.200 | 28.334 | 0.047 | 3.658 | 0.194 |
| -6.200 | 28.334 | 0.047 | 3.658 | 0.194 |
| -6.550 | 28.575 | 0.047 | 3.657 | 0.182 |
| -6.900 | 28.839 | 0.045 | 3.667 | 0.170 |
| -6.900 | 28.839 | 0.045 | 3.667 | 0.170 |
| -7.800 | 34.412 | 0.044 | 3.739 | 0.166 |
| -8.700 | 40.048 | 0.041 | 3.863 | 0.161 |
| -8.700 | 40.048 | 0.041 | 3.863 | 0.161 |
| -9.100 | 40.452 | 0.036 | 3.930 | 0.145 |
| -9.500 | 40.881 | 0.028 | 4.002 | 0.129 |
| -9.500 | 40.881 | 0.028 | 4.002 | 0.129 |
| -10.100 | 44.696 | 0.024 | 4.118 | 0.125 |
| -10.700 | 48.525 | 0.020 | 4.240 | 0.120 |
| -10.700 | 48.525 | 0.020 | 4.240 | 0.120 |
| -10.900 | 49.748 | 0.007 | 4.281 | 0.117 |
| -11.100 | 50.978 | -0.006 | 4.322 | 0.113 |
| -11.100 | 50.979 | -0.006 | 4.322 | 0.113 |
| -11.950 | 56.428 | -0.014 | 4.496 | 0.106 |
| -12.950 | 62.853 | -0.027 | 4.692 | 0.096 |
| -13.550 | 66.713 | -0.035 | 4.802 | 0.090 |
| -14.400 | 72.185 | -0.050 | 4.945 | 0.081 |
| -15.400 | 78.628 | -0.069 | 5.091 | 0.070 |
| -16.000 | 82.497 | -0.082 | 5.167 | 0.063 |
| -16.000 | 82.497 | -0.082 | 5.167 | 0.063 |
| -16.550 | 86.433 | -0.180 | 5.229 | 0.052 |
| -17.050 | 90.083 | -0.276 | 5.278 | 0.041 |
| -17.600 | 94.180 | -0.392 | 5.325 | 0.028 |
| -18.100 | 97.982 | -0.505 | 5.362 | 0.015 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -18.100 | 112.644 | -2.000 | 5.362 | 0.015 |
| -19.901 | 131.099 | -2.000 | 5.446 | 0.011 |
| -21.801 | 150.491 | -2.000 | 5.463 | 0.007 |
| -23.602 | 168.813 | -2.000 | 5.424 | 0.003 |
| -25.502 | 188.093 | -2.000 | 5.338 | 0.000 |

### 3.55 Results for Vertical 55 (X = -0.83 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.088 | 10.848 | -0.088 | 10.847 | 0.392 |
| -0.188 | 9.823 | -0.172 | 8.383 | 0.368 |
| -0.288 | 10.538 | -0.255 | 7.658 | 0.353 |
| -0.388 | 11.065 | -0.337 | 6.761 | 0.343 |
| -0.488 | 11.559 | -0.418 | 5.841 | 0.335 |
| -0.502 | 11.627 | -0.430 | 5.711 | 0.334 |
| -0.588 | 12.036 | -0.413 | 5.754 | 0.329 |
| -0.688 | 12.498 | -0.393 | 5.794 | 0.323 |
| -0.788 | 12.937 | -0.372 | 5.816 | 0.318 |
| -0.888 | 13.350 | -0.351 | 5.816 | 0.313 |
| -0.988 | 13.737 | -0.330 | 5.793 | 0.309 |
| -1.088 | 14.100 | -0.308 | 5.751 | 0.305 |
| -1.092 | 14.115 | -0.307 | 5.748 | 0.305 |
| -2.000 | 16.982 | -0.102 | 5.007 | 0.286 |
| -2.097 | 17.280 | -0.080 | 4.928 | 0.285 |
| -2.097 | 17.280 | -0.080 | 4.928 | 0.285 |
| -2.698 | 18.761 | -0.048 | 4.501 | 0.269 |
| -3.298 | 20.365 | -0.018 | 4.183 | 0.255 |
| -3.900 | 22.084 | 0.009 | 3.950 | 0.243 |
| -4.500 | 23.894 | 0.034 | 3.785 | 0.232 |
| -4.500 | 23.894 | 0.034 | 3.785 | 0.232 |
| -4.950 | 24.079 | 0.038 | 3.698 | 0.218 |
| -5.400 | 24.307 | 0.040 | 3.640 | 0.204 |
| -5.400 | 24.307 | 0.040 | 3.640 | 0.204 |
| -5.800 | 26.345 | 0.045 | 3.608 | 0.198 |
| -6.200 | 28.418 | 0.048 | 3.594 | 0.193 |
| -6.200 | 28.418 | 0.048 | 3.594 | 0.193 |
| -6.550 | 28.662 | 0.048 | 3.596 | 0.181 |
| -6.900 | 28.928 | 0.047 | 3.608 | 0.170 |
| -6.900 | 28.928 | 0.047 | 3.608 | 0.170 |
| -7.800 | 34.505 | 0.045 | 3.685 | 0.166 |
| -8.700 | 40.144 | 0.043 | 3.812 | 0.160 |
| -8.700 | 40.144 | 0.043 | 3.812 | 0.160 |
| -9.100 | 40.549 | 0.037 | 3.880 | 0.145 |
| -9.500 | 40.978 | 0.029 | 3.954 | 0.129 |
| -9.500 | 40.978 | 0.029 | 3.954 | 0.129 |
| -10.100 | 44.794 | 0.026 | 4.071 | 0.125 |
| -10.700 | 48.624 | 0.021 | 4.194 | 0.120 |
| -10.700 | 48.624 | 0.021 | 4.194 | 0.120 |
| -10.900 | 49.847 | 0.009 | 4.235 | 0.117 |
| -11.100 | 51.077 | -0.004 | 4.277 | 0.113 |
| -11.100 | 51.077 | -0.004 | 4.277 | 0.113 |
| -11.950 | 56.527 | -0.013 | 4.452 | 0.106 |
| -12.950 | 62.954 | -0.025 | 4.650 | 0.096 |
| -13.550 | 66.815 | -0.034 | 4.761 | 0.090 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -14.400 | 72.288 | -0.048 | 4.906 | 0.081 |
| -15.400 | 78.733 | -0.067 | 5.056 | 0.070 |
| -16.000 | 82.603 | -0.080 | 5.133 | 0.063 |
| -16.000 | 82.603 | -0.080 | 5.133 | 0.063 |
| -16.550 | 86.537 | -0.177 | 5.196 | 0.052 |
| -17.050 | 90.185 | -0.274 | 5.247 | 0.041 |
| -17.600 | 94.280 | -0.389 | 5.296 | 0.028 |
| -18.100 | 98.080 | -0.502 | 5.334 | 0.015 |
| -18.100 | 112.775 | -2.000 | 5.334 | 0.015 |
| -19.901 | 131.235 | -2.000 | 5.424 | 0.011 |
| -21.801 | 150.633 | -2.000 | 5.446 | 0.007 |
| -23.602 | 168.960 | -2.000 | 5.413 | 0.003 |
| -25.502 | 188.244 | -2.000 | 5.331 | 0.000 |

### 3.56 Results for Vertical 56 (X = -0.83 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.088 | 9.820 | -0.088 | 9.819 | 0.392 |
| -0.188 | 9.833 | -0.173 | 8.385 | 0.368 |
| -0.288 | 10.541 | -0.256 | 7.653 | 0.353 |
| -0.388 | 11.067 | -0.338 | 6.755 | 0.343 |
| -0.488 | 11.561 | -0.419 | 5.836 | 0.335 |
| -0.502 | 11.629 | -0.431 | 5.706 | 0.334 |
| -0.588 | 12.039 | -0.414 | 5.750 | 0.329 |
| -0.688 | 12.501 | -0.394 | 5.790 | 0.323 |
| -0.788 | 12.941 | -0.373 | 5.812 | 0.318 |
| -0.888 | 13.353 | -0.352 | 5.812 | 0.313 |
| -0.988 | 13.740 | -0.331 | 5.789 | 0.309 |
| -1.088 | 14.103 | -0.309 | 5.747 | 0.305 |
| -1.092 | 14.118 | -0.308 | 5.745 | 0.305 |
| -2.000 | 16.984 | -0.103 | 5.003 | 0.286 |
| -2.097 | 17.281 | -0.080 | 4.924 | 0.285 |
| -2.097 | 17.281 | -0.080 | 4.924 | 0.285 |
| -2.698 | 18.763 | -0.048 | 4.497 | 0.269 |
| -3.298 | 20.367 | -0.019 | 4.180 | 0.255 |
| -3.900 | 22.085 | 0.009 | 3.947 | 0.243 |
| -4.500 | 23.896 | 0.033 | 3.782 | 0.232 |
| -4.500 | 23.896 | 0.033 | 3.782 | 0.232 |
| -4.950 | 24.081 | 0.037 | 3.695 | 0.218 |
| -5.400 | 24.309 | 0.040 | 3.636 | 0.204 |
| -5.400 | 24.309 | 0.040 | 3.636 | 0.204 |
| -5.800 | 26.347 | 0.044 | 3.605 | 0.198 |
| -6.200 | 28.420 | 0.047 | 3.591 | 0.193 |
| -6.200 | 28.420 | 0.047 | 3.591 | 0.193 |
| -6.550 | 28.664 | 0.047 | 3.593 | 0.181 |
| -6.900 | 28.929 | 0.046 | 3.605 | 0.170 |
| -6.900 | 28.929 | 0.046 | 3.605 | 0.170 |
| -7.800 | 34.507 | 0.045 | 3.682 | 0.166 |
| -8.700 | 40.146 | 0.042 | 3.809 | 0.160 |
| -8.700 | 40.146 | 0.042 | 3.809 | 0.160 |
| -9.100 | 40.550 | 0.037 | 3.877 | 0.145 |
| -9.500 | 40.979 | 0.029 | 3.951 | 0.129 |
| -9.500 | 40.979 | 0.029 | 3.951 | 0.129 |
| -10.100 | 44.795 | 0.025 | 4.068 | 0.125 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -10.700 | 48.625 | 0.021 | 4.191 | 0.120 |
| -10.700 | 48.625 | 0.021 | 4.191 | 0.120 |
| -10.900 | 49.847 | 0.008 | 4.232 | 0.117 |
| -11.100 | 51.078 | -0.005 | 4.274 | 0.113 |
| -11.100 | 51.078 | -0.005 | 4.274 | 0.113 |
| -11.950 | 56.528 | -0.013 | 4.449 | 0.106 |
| -12.950 | 62.954 | -0.025 | 4.647 | 0.096 |
| -13.550 | 66.815 | -0.034 | 4.759 | 0.090 |
| -14.400 | 72.289 | -0.048 | 4.904 | 0.081 |
| -15.400 | 78.734 | -0.067 | 5.053 | 0.070 |
| -16.000 | 82.603 | -0.080 | 5.131 | 0.063 |
| -16.000 | 82.603 | -0.080 | 5.131 | 0.063 |
| -16.550 | 86.536 | -0.178 | 5.194 | 0.052 |
| -17.050 | 90.184 | -0.274 | 5.245 | 0.041 |
| -17.600 | 94.278 | -0.389 | 5.294 | 0.028 |
| -18.100 | 98.077 | -0.502 | 5.332 | 0.015 |
| -18.100 | 112.772 | -2.000 | 5.332 | 0.015 |
| -19.901 | 131.232 | -2.000 | 5.421 | 0.011 |
| -21.801 | 150.630 | -2.000 | 5.444 | 0.007 |
| -23.602 | 168.957 | -2.000 | 5.410 | 0.003 |
| -25.502 | 188.242 | -2.000 | 5.329 | 0.000 |

### 3.57 Results for Vertical 57 (X = -0.78 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.081 | 9.020 | -0.081 | 9.019 | 0.390 |
| -0.181 | 9.893 | -0.166 | 8.438 | 0.366 |
| -0.281 | 10.508 | -0.250 | 7.613 | 0.351 |
| -0.381 | 11.018 | -0.332 | 6.697 | 0.341 |
| -0.481 | 11.520 | -0.413 | 5.783 | 0.333 |
| -0.500 | 11.613 | -0.429 | 5.611 | 0.332 |
| -0.581 | 12.011 | -0.413 | 5.661 | 0.327 |
| -0.681 | 12.484 | -0.393 | 5.711 | 0.321 |
| -0.781 | 12.932 | -0.372 | 5.740 | 0.316 |
| -0.881 | 13.349 | -0.351 | 5.743 | 0.312 |
| -0.981 | 13.736 | -0.330 | 5.720 | 0.307 |
| -1.081 | 14.097 | -0.309 | 5.675 | 0.304 |
| -1.089 | 14.125 | -0.307 | 5.670 | 0.303 |
| -2.000 | 16.989 | -0.102 | 4.905 | 0.284 |
| -2.097 | 17.288 | -0.079 | 4.826 | 0.284 |
| -2.097 | 17.288 | -0.079 | 4.826 | 0.284 |
| -2.698 | 18.780 | -0.048 | 4.409 | 0.268 |
| -3.298 | 20.396 | -0.018 | 4.102 | 0.254 |
| -3.900 | 22.125 | 0.009 | 3.880 | 0.243 |
| -4.500 | 23.944 | 0.034 | 3.724 | 0.232 |
| -4.500 | 23.944 | 0.034 | 3.724 | 0.232 |
| -4.950 | 24.135 | 0.038 | 3.642 | 0.218 |
| -5.400 | 24.367 | 0.040 | 3.588 | 0.203 |
| -5.400 | 24.367 | 0.040 | 3.588 | 0.203 |
| -5.800 | 26.408 | 0.045 | 3.559 | 0.198 |
| -6.200 | 28.483 | 0.048 | 3.549 | 0.193 |
| -6.200 | 28.483 | 0.048 | 3.549 | 0.193 |
| -6.550 | 28.729 | 0.048 | 3.552 | 0.181 |
| -6.900 | 28.996 | 0.047 | 3.566 | 0.170 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -6.900 | 28.996 | 0.047 | 3.566 | 0.170 |
| -7.800 | 34.576 | 0.045 | 3.646 | 0.165 |
| -8.700 | 40.217 | 0.043 | 3.775 | 0.160 |
| -8.700 | 40.217 | 0.043 | 3.775 | 0.160 |
| -9.100 | 40.622 | 0.037 | 3.844 | 0.145 |
| -9.500 | 41.051 | 0.030 | 3.918 | 0.129 |
| -9.500 | 41.051 | 0.030 | 3.918 | 0.129 |
| -10.100 | 44.868 | 0.026 | 4.036 | 0.124 |
| -10.700 | 48.697 | 0.021 | 4.160 | 0.120 |
| -10.700 | 48.698 | 0.021 | 4.160 | 0.120 |
| -10.900 | 49.920 | 0.009 | 4.201 | 0.116 |
| -11.100 | 51.150 | -0.004 | 4.243 | 0.113 |
| -11.100 | 51.150 | -0.004 | 4.243 | 0.113 |
| -11.950 | 56.601 | -0.012 | 4.420 | 0.105 |
| -12.950 | 63.028 | -0.024 | 4.619 | 0.096 |
| -13.550 | 66.889 | -0.033 | 4.731 | 0.090 |
| -14.400 | 72.364 | -0.047 | 4.878 | 0.081 |
| -15.400 | 78.810 | -0.066 | 5.029 | 0.070 |
| -16.000 | 82.680 | -0.079 | 5.108 | 0.063 |
| -16.000 | 82.680 | -0.079 | 5.108 | 0.063 |
| -16.550 | 86.612 | -0.176 | 5.172 | 0.052 |
| -17.050 | 90.258 | -0.272 | 5.224 | 0.041 |
| -17.600 | 94.350 | -0.387 | 5.274 | 0.028 |
| -18.100 | 98.147 | -0.500 | 5.313 | 0.015 |
| -18.100 | 112.864 | -2.000 | 5.313 | 0.015 |
| -19.901 | 131.328 | -2.000 | 5.406 | 0.011 |
| -21.801 | 150.729 | -2.000 | 5.432 | 0.007 |
| -23.602 | 169.060 | -2.000 | 5.402 | 0.003 |
| -25.502 | 188.348 | -2.000 | 5.323 | 0.000 |

### 3.58 Results for Vertical 58 (X = -0.74 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.088 | 8.594 | -0.088 | 8.593 | 0.388 |
| -0.188 | 9.850 | -0.174 | 8.391 | 0.365 |
| -0.288 | 10.398 | -0.257 | 7.498 | 0.350 |
| -0.388 | 10.880 | -0.340 | 6.552 | 0.340 |
| -0.488 | 11.374 | -0.421 | 5.629 | 0.332 |
| -0.498 | 11.423 | -0.429 | 5.537 | 0.332 |
| -0.588 | 11.868 | -0.412 | 5.595 | 0.326 |
| -0.688 | 12.346 | -0.392 | 5.648 | 0.320 |
| -0.788 | 12.795 | -0.372 | 5.676 | 0.315 |
| -0.888 | 13.209 | -0.351 | 5.674 | 0.311 |
| -0.988 | 13.591 | -0.330 | 5.644 | 0.307 |
| -1.088 | 13.948 | -0.309 | 5.592 | 0.303 |
| -1.092 | 13.963 | -0.308 | 5.589 | 0.303 |
| -2.000 | 16.811 | -0.106 | 4.804 | 0.284 |
| -2.097 | 17.112 | -0.083 | 4.726 | 0.283 |
| -2.097 | 17.113 | -0.083 | 4.726 | 0.283 |
| -2.698 | 18.614 | -0.052 | 4.317 | 0.267 |
| -3.298 | 20.241 | -0.022 | 4.021 | 0.254 |
| -3.900 | 21.980 | 0.005 | 3.807 | 0.242 |
| -4.500 | 23.806 | 0.030 | 3.659 | 0.232 |
| -4.500 | 23.806 | 0.030 | 3.659 | 0.232 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -4.950 | 24.000 | 0.034 | 3.582 | 0.217 |
| -5.400 | 24.235 | 0.036 | 3.531 | 0.203 |
| -5.400 | 24.235 | 0.036 | 3.531 | 0.203 |
| -5.800 | 26.277 | 0.041 | 3.506 | 0.198 |
| -6.200 | 28.353 | 0.045 | 3.497 | 0.193 |
| -6.200 | 28.353 | 0.045 | 3.497 | 0.193 |
| -6.550 | 28.599 | 0.045 | 3.502 | 0.181 |
| -6.900 | 28.867 | 0.044 | 3.518 | 0.170 |
| -6.900 | 28.867 | 0.044 | 3.518 | 0.170 |
| -7.800 | 34.450 | 0.042 | 3.601 | 0.165 |
| -8.700 | 40.092 | 0.040 | 3.731 | 0.160 |
| -8.700 | 40.092 | 0.040 | 3.731 | 0.160 |
| -9.100 | 40.496 | 0.034 | 3.801 | 0.144 |
| -9.500 | 40.924 | 0.027 | 3.875 | 0.129 |
| -9.500 | 40.924 | 0.027 | 3.875 | 0.129 |
| -10.100 | 44.741 | 0.023 | 3.994 | 0.124 |
| -10.700 | 48.571 | 0.019 | 4.118 | 0.120 |
| -10.700 | 48.571 | 0.019 | 4.118 | 0.120 |
| -10.900 | 49.792 | 0.007 | 4.160 | 0.116 |
| -11.100 | 51.020 | -0.006 | 4.202 | 0.113 |
| -11.100 | 51.020 | -0.006 | 4.202 | 0.113 |
| -11.950 | 56.471 | -0.015 | 4.380 | 0.105 |
| -12.950 | 62.898 | -0.027 | 4.580 | 0.096 |
| -13.550 | 66.759 | -0.035 | 4.693 | 0.090 |
| -14.400 | 72.233 | -0.049 | 4.841 | 0.081 |
| -15.400 | 78.679 | -0.068 | 4.993 | 0.070 |
| -16.000 | 82.548 | -0.081 | 5.073 | 0.063 |
| -16.000 | 82.549 | -0.081 | 5.073 | 0.063 |
| -16.550 | 86.473 | -0.177 | 5.138 | 0.052 |
| -17.050 | 90.112 | -0.272 | 5.190 | 0.040 |
| -17.600 | 94.196 | -0.386 | 5.241 | 0.028 |
| -18.100 | 97.985 | -0.498 | 5.281 | 0.015 |
| -18.100 | 112.719 | -2.000 | 5.281 | 0.015 |
| -19.901 | 131.186 | -2.000 | 5.377 | 0.011 |
| -21.801 | 150.590 | -2.000 | 5.406 | 0.007 |
| -23.602 | 168.924 | -2.000 | 5.379 | 0.003 |
| -25.502 | 188.214 | -2.000 | 5.303 | 0.000 |

### 3.59 Results for Vertical 59 (X = -0.66 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.102 | 8.119 | -0.102 | 8.118 | 0.386 |
| -0.202 | 9.948 | -0.188 | 8.487 | 0.363 |
| -0.302 | 10.238 | -0.272 | 7.335 | 0.348 |
| -0.402 | 10.654 | -0.354 | 6.322 | 0.338 |
| -0.494 | 11.091 | -0.430 | 5.445 | 0.331 |
| -0.502 | 11.128 | -0.429 | 5.449 | 0.330 |
| -0.602 | 11.624 | -0.410 | 5.511 | 0.324 |
| -0.702 | 12.100 | -0.390 | 5.557 | 0.319 |
| -0.802 | 12.537 | -0.370 | 5.570 | 0.314 |
| -0.902 | 12.934 | -0.350 | 5.549 | 0.309 |
| -1.002 | 13.300 | -0.329 | 5.498 | 0.305 |
| -1.099 | 13.633 | -0.309 | 5.429 | 0.301 |
| -1.102 | 13.642 | -0.308 | 5.427 | 0.301 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.000 | 16.447 | -0.112 | 4.601 | 0.283 |
| -2.097 | 16.753 | -0.090 | 4.524 | 0.282 |
| -2.097 | 16.753 | -0.090 | 4.524 | 0.282 |
| -2.698 | 18.278 | -0.059 | 4.134 | 0.267 |
| -3.298 | 19.929 | -0.029 | 3.860 | 0.254 |
| -3.900 | 21.687 | -0.002 | 3.665 | 0.242 |
| -4.500 | 23.526 | 0.022 | 3.531 | 0.231 |
| -4.500 | 23.527 | 0.022 | 3.531 | 0.231 |
| -4.950 | 23.730 | 0.026 | 3.464 | 0.217 |
| -5.400 | 23.972 | 0.029 | 3.420 | 0.203 |
| -5.400 | 23.972 | 0.029 | 3.420 | 0.203 |
| -5.800 | 26.016 | 0.034 | 3.401 | 0.198 |
| -6.200 | 28.092 | 0.038 | 3.397 | 0.192 |
| -6.200 | 28.092 | 0.038 | 3.397 | 0.192 |
| -6.550 | 28.341 | 0.038 | 3.405 | 0.181 |
| -6.900 | 28.611 | 0.037 | 3.424 | 0.169 |
| -6.900 | 28.611 | 0.037 | 3.424 | 0.169 |
| -7.800 | 34.197 | 0.036 | 3.512 | 0.165 |
| -8.700 | 39.841 | 0.034 | 3.646 | 0.160 |
| -8.700 | 39.841 | 0.034 | 3.646 | 0.160 |
| -9.100 | 40.245 | 0.028 | 3.717 | 0.144 |
| -9.500 | 40.671 | 0.021 | 3.793 | 0.128 |
| -9.500 | 40.671 | 0.021 | 3.793 | 0.128 |
| -10.100 | 44.488 | 0.018 | 3.913 | 0.124 |
| -10.700 | 48.318 | 0.013 | 4.038 | 0.120 |
| -10.700 | 48.318 | 0.013 | 4.038 | 0.120 |
| -10.900 | 49.536 | 0.002 | 4.080 | 0.116 |
| -11.100 | 50.762 | -0.011 | 4.123 | 0.113 |
| -11.100 | 50.762 | -0.011 | 4.123 | 0.113 |
| -11.950 | 56.212 | -0.019 | 4.302 | 0.105 |
| -12.950 | 62.638 | -0.031 | 4.505 | 0.096 |
| -13.550 | 66.499 | -0.039 | 4.619 | 0.090 |
| -14.400 | 71.972 | -0.053 | 4.769 | 0.081 |
| -15.400 | 78.417 | -0.071 | 4.924 | 0.070 |
| -16.000 | 82.286 | -0.084 | 5.005 | 0.063 |
| -16.000 | 82.286 | -0.084 | 5.005 | 0.063 |
| -16.550 | 86.197 | -0.179 | 5.072 | 0.051 |
| -17.050 | 89.822 | -0.272 | 5.126 | 0.040 |
| -17.600 | 93.890 | -0.384 | 5.179 | 0.027 |
| -18.100 | 97.663 | -0.494 | 5.220 | 0.015 |
| -18.100 | 112.432 | -2.000 | 5.220 | 0.015 |
| -19.901 | 130.905 | -2.000 | 5.321 | 0.011 |
| -21.801 | 150.315 | -2.000 | 5.357 | 0.007 |
| -23.602 | 168.653 | -2.000 | 5.334 | 0.003 |
| -25.502 | 187.949 | -2.000 | 5.263 | 0.000 |

### 3.60 Results for Vertical 60 (X = -0.54 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.132 | 8.029 | -0.132 | 8.028 | 0.383 |
| -0.232 | 9.565 | -0.218 | 8.101 | 0.360 |
| -0.332 | 9.828 | -0.302 | 6.920 | 0.346 |
| -0.432 | 10.246 | -0.385 | 5.905 | 0.336 |
| -0.489 | 10.546 | -0.432 | 5.395 | 0.331 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.532 | 10.774 | -0.424 | 5.431 | 0.328 |
| -0.632 | 11.261 | -0.406 | 5.479 | 0.322 |
| -0.732 | 11.686 | -0.387 | 5.470 | 0.316 |
| -0.832 | 12.061 | -0.368 | 5.415 | 0.311 |
| -0.932 | 12.402 | -0.348 | 5.330 | 0.306 |
| -1.032 | 12.721 | -0.328 | 5.226 | 0.302 |
| -1.114 | 12.975 | -0.312 | 5.133 | 0.299 |
| -1.132 | 13.029 | -0.308 | 5.113 | 0.298 |
| -2.000 | 15.733 | -0.125 | 4.241 | 0.281 |
| -2.097 | 16.051 | -0.103 | 4.170 | 0.281 |
| -2.097 | 16.051 | -0.103 | 4.170 | 0.281 |
| -2.698 | 17.623 | -0.073 | 3.819 | 0.266 |
| -3.298 | 19.317 | -0.044 | 3.584 | 0.253 |
| -3.900 | 21.108 | -0.017 | 3.422 | 0.242 |
| -4.500 | 22.971 | 0.008 | 3.314 | 0.231 |
| -4.500 | 22.971 | 0.008 | 3.314 | 0.231 |
| -4.950 | 23.189 | 0.012 | 3.262 | 0.217 |
| -5.400 | 23.442 | 0.015 | 3.232 | 0.203 |
| -5.400 | 23.442 | 0.015 | 3.232 | 0.203 |
| -5.800 | 25.490 | 0.021 | 3.221 | 0.198 |
| -6.200 | 27.567 | 0.025 | 3.225 | 0.193 |
| -6.200 | 27.567 | 0.025 | 3.225 | 0.193 |
| -6.550 | 27.819 | 0.026 | 3.239 | 0.181 |
| -6.900 | 28.091 | 0.025 | 3.262 | 0.170 |
| -6.900 | 28.091 | 0.025 | 3.262 | 0.170 |
| -7.800 | 33.685 | 0.024 | 3.360 | 0.165 |
| -8.700 | 39.333 | 0.022 | 3.500 | 0.160 |
| -8.700 | 39.333 | 0.022 | 3.500 | 0.160 |
| -9.100 | 39.734 | 0.017 | 3.573 | 0.144 |
| -9.500 | 40.157 | 0.010 | 3.650 | 0.128 |
| -9.500 | 40.157 | 0.010 | 3.650 | 0.128 |
| -10.100 | 43.974 | 0.007 | 3.773 | 0.124 |
| -10.700 | 47.804 | 0.003 | 3.900 | 0.120 |
| -10.700 | 47.804 | 0.003 | 3.900 | 0.120 |
| -10.900 | 49.017 | -0.008 | 3.943 | 0.116 |
| -11.100 | 50.237 | -0.020 | 3.986 | 0.113 |
| -11.100 | 50.237 | -0.020 | 3.986 | 0.113 |
| -11.950 | 55.686 | -0.028 | 4.169 | 0.105 |
| -12.950 | 62.110 | -0.039 | 4.375 | 0.095 |
| -13.550 | 65.970 | -0.048 | 4.491 | 0.089 |
| -14.400 | 71.442 | -0.061 | 4.644 | 0.080 |
| -15.400 | 77.884 | -0.079 | 4.804 | 0.069 |
| -16.000 | 81.752 | -0.091 | 4.888 | 0.063 |
| -16.000 | 81.752 | -0.091 | 4.888 | 0.063 |
| -16.550 | 85.636 | -0.182 | 4.957 | 0.051 |
| -17.050 | 89.235 | -0.273 | 5.014 | 0.040 |
| -17.600 | 93.272 | -0.382 | 5.069 | 0.027 |
| -18.100 | 97.016 | -0.489 | 5.113 | 0.015 |
| -18.100 | 111.842 | -2.000 | 5.113 | 0.015 |
| -19.901 | 130.323 | -2.000 | 5.223 | 0.011 |
| -21.801 | 149.743 | -2.000 | 5.267 | 0.007 |
| -23.602 | 168.090 | -2.000 | 5.253 | 0.003 |
| -25.502 | 187.394 | -2.000 | 5.190 | 0.000 |

### 3.61 Results for Vertical 61 (X = -0.36 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.158 | 7.960 | -0.158 | 7.959 | 0.379 |
| -0.258 | 9.391 | -0.244 | 7.927 | 0.355 |
| -0.358 | 10.011 | -0.328 | 7.106 | 0.341 |
| -0.458 | 10.426 | -0.411 | 6.092 | 0.330 |
| -0.481 | 10.501 | -0.429 | 5.844 | 0.328 |
| -0.558 | 10.727 | -0.415 | 5.726 | 0.323 |
| -0.658 | 10.978 | -0.397 | 5.536 | 0.316 |
| -0.758 | 11.211 | -0.379 | 5.330 | 0.310 |
| -0.858 | 11.444 | -0.361 | 5.124 | 0.304 |
| -0.958 | 11.684 | -0.342 | 4.928 | 0.300 |
| -1.058 | 11.937 | -0.323 | 4.745 | 0.296 |
| -1.127 | 12.121 | -0.310 | 4.628 | 0.293 |
| -1.158 | 12.204 | -0.304 | 4.579 | 0.292 |
| -2.000 | 14.899 | -0.136 | 3.710 | 0.278 |
| -2.097 | 15.238 | -0.116 | 3.651 | 0.277 |
| -2.097 | 15.238 | -0.116 | 3.651 | 0.277 |
| -2.698 | 16.899 | -0.087 | 3.378 | 0.264 |
| -3.298 | 18.665 | -0.058 | 3.208 | 0.252 |
| -3.900 | 20.510 | -0.031 | 3.098 | 0.241 |
| -4.500 | 22.412 | -0.006 | 3.029 | 0.231 |
| -4.500 | 22.412 | -0.006 | 3.029 | 0.231 |
| -4.950 | 22.652 | -0.002 | 3.001 | 0.217 |
| -5.400 | 22.923 | 0.001 | 2.989 | 0.203 |
| -5.400 | 22.923 | 0.001 | 2.989 | 0.203 |
| -5.800 | 24.978 | 0.007 | 2.993 | 0.198 |
| -6.200 | 27.059 | 0.013 | 3.008 | 0.192 |
| -6.200 | 27.059 | 0.013 | 3.008 | 0.192 |
| -6.550 | 27.318 | 0.013 | 3.031 | 0.181 |
| -6.900 | 27.594 | 0.013 | 3.061 | 0.169 |
| -6.900 | 27.595 | 0.013 | 3.061 | 0.169 |
| -7.800 | 33.200 | 0.012 | 3.173 | 0.165 |
| -8.700 | 38.854 | 0.010 | 3.323 | 0.160 |
| -8.700 | 38.854 | 0.010 | 3.323 | 0.160 |
| -9.100 | 39.253 | 0.006 | 3.398 | 0.144 |
| -9.500 | 39.674 | -0.001 | 3.478 | 0.128 |
| -9.500 | 39.674 | -0.001 | 3.478 | 0.128 |
| -10.100 | 43.492 | -0.004 | 3.605 | 0.124 |
| -10.700 | 47.322 | -0.008 | 3.735 | 0.119 |
| -10.700 | 47.322 | -0.008 | 3.735 | 0.119 |
| -10.900 | 48.529 | -0.018 | 3.779 | 0.116 |
| -11.100 | 49.744 | -0.029 | 3.823 | 0.113 |
| -11.100 | 49.744 | -0.029 | 3.823 | 0.113 |
| -11.950 | 55.192 | -0.037 | 4.009 | 0.105 |
| -12.950 | 61.615 | -0.047 | 4.220 | 0.095 |
| -13.550 | 65.474 | -0.055 | 4.340 | 0.089 |
| -14.400 | 70.945 | -0.068 | 4.498 | 0.080 |
| -15.400 | 77.386 | -0.085 | 4.663 | 0.069 |
| -16.000 | 81.253 | -0.097 | 4.751 | 0.062 |
| -16.000 | 81.253 | -0.097 | 4.751 | 0.062 |
| -16.550 | 85.107 | -0.185 | 4.824 | 0.051 |
| -17.050 | 88.678 | -0.272 | 4.883 | 0.040 |
| -17.600 | 92.682 | -0.377 | 4.942 | 0.027 |
| -18.100 | 96.394 | -0.481 | 4.989 | 0.015 |
| -18.100 | 111.298 | -2.000 | 4.989 | 0.015 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -19.901 | 129.792 | -2.000 | 5.112 | 0.011 |
| -21.801 | 149.224 | -2.000 | 5.169 | 0.007 |
| -23.602 | 167.583 | -2.000 | 5.166 | 0.003 |
| -25.502 | 186.898 | -2.000 | 5.114 | 0.000 |

### 3.62 Results for Vertical 62 (X = 0.04 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.275 | 6.551 | -0.275 | 6.550 | 0.376 |
| -0.375 | 7.256 | -0.361 | 5.797 | 0.355 |
| -0.462 | 7.453 | -0.434 | 4.733 | 0.344 |
| -0.475 | 7.469 | -0.432 | 4.689 | 0.343 |
| -0.575 | 7.601 | -0.417 | 4.356 | 0.334 |
| -0.675 | 7.805 | -0.401 | 4.095 | 0.327 |
| -0.775 | 8.072 | -0.385 | 3.900 | 0.321 |
| -0.875 | 8.382 | -0.369 | 3.752 | 0.316 |
| -0.975 | 8.723 | -0.352 | 3.638 | 0.312 |
| -1.075 | 9.085 | -0.335 | 3.549 | 0.309 |
| -1.175 | 9.462 | -0.317 | 3.481 | 0.306 |
| -1.186 | 9.503 | -0.315 | 3.474 | 0.305 |
| -1.275 | 9.849 | -0.299 | 3.427 | 0.303 |
| -2.000 | 12.750 | -0.153 | 3.275 | 0.293 |
| -2.097 | 13.133 | -0.131 | 3.270 | 0.293 |
| -2.097 | 13.133 | -0.131 | 3.270 | 0.293 |
| -2.698 | 15.040 | -0.100 | 3.266 | 0.279 |
| -3.298 | 16.960 | -0.068 | 3.281 | 0.267 |
| -3.900 | 18.899 | -0.037 | 3.305 | 0.255 |
| -4.500 | 20.854 | -0.008 | 3.335 | 0.244 |
| -4.500 | 20.854 | -0.008 | 3.335 | 0.244 |
| -4.950 | 21.141 | -0.002 | 3.364 | 0.229 |
| -5.400 | 21.449 | 0.002 | 3.399 | 0.214 |
| -5.400 | 21.449 | 0.002 | 3.399 | 0.214 |
| -5.800 | 23.506 | 0.011 | 3.437 | 0.209 |
| -6.200 | 25.580 | 0.020 | 3.481 | 0.203 |
| -6.200 | 25.580 | 0.020 | 3.481 | 0.203 |
| -6.550 | 25.851 | 0.022 | 3.524 | 0.191 |
| -6.900 | 26.137 | 0.022 | 3.573 | 0.178 |
| -6.900 | 26.137 | 0.022 | 3.573 | 0.178 |
| -7.800 | 31.771 | 0.022 | 3.719 | 0.173 |
| -8.700 | 37.441 | 0.021 | 3.892 | 0.167 |
| -8.700 | 37.441 | 0.021 | 3.892 | 0.167 |
| -9.100 | 37.837 | 0.017 | 3.975 | 0.151 |
| -9.500 | 38.255 | 0.012 | 4.062 | 0.134 |
| -9.500 | 38.255 | 0.012 | 4.062 | 0.134 |
| -10.100 | 42.077 | 0.009 | 4.197 | 0.129 |
| -10.700 | 45.910 | 0.006 | 4.335 | 0.124 |
| -10.700 | 45.910 | 0.006 | 4.335 | 0.124 |
| -10.900 | 47.111 | -0.004 | 4.381 | 0.120 |
| -11.100 | 48.318 | -0.014 | 4.427 | 0.117 |
| -11.100 | 48.318 | -0.014 | 4.427 | 0.117 |
| -11.950 | 53.769 | -0.021 | 4.623 | 0.108 |
| -12.950 | 60.197 | -0.031 | 4.845 | 0.098 |
| -13.550 | 64.059 | -0.038 | 4.971 | 0.092 |
| -14.400 | 69.535 | -0.051 | 5.139 | 0.082 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -15.400 | 75.985 | -0.068 | 5.317 | 0.070 |
| -16.000 | 79.859 | -0.079 | 5.413 | 0.063 |
| -16.000 | 79.859 | -0.079 | 5.413 | 0.063 |
| -16.550 | 83.714 | -0.167 | 5.493 | 0.052 |
| -17.050 | 87.288 | -0.254 | 5.560 | 0.040 |
| -17.600 | 91.299 | -0.359 | 5.627 | 0.027 |
| -18.100 | 95.020 | -0.462 | 5.681 | 0.015 |
| -18.100 | 110.105 | -2.000 | 5.681 | 0.015 |
| -19.901 | 128.625 | -2.000 | 5.830 | 0.011 |
| -21.801 | 148.086 | -2.000 | 5.915 | 0.007 |
| -23.602 | 166.470 | -2.000 | 5.936 | 0.003 |
| -25.502 | 185.811 | -2.000 | 5.909 | 0.000 |

### 3.63 Results for Vertical 63 (X = 0.19 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.318 | 2.656 | -0.318 | 2.655 | 0.373 |
| -0.418 | 3.834 | -0.410 | 2.306 | 0.359 |
| -0.456 | 4.195 | -0.445 | 2.094 | 0.356 |
| -0.518 | 4.700 | -0.438 | 2.279 | 0.351 |
| -0.618 | 5.409 | -0.427 | 2.481 | 0.345 |
| -0.718 | 6.050 | -0.414 | 2.628 | 0.340 |
| -0.818 | 6.642 | -0.400 | 2.738 | 0.335 |
| -0.918 | 7.197 | -0.385 | 2.821 | 0.331 |
| -1.018 | 7.724 | -0.369 | 2.885 | 0.327 |
| -1.118 | 8.229 | -0.352 | 2.936 | 0.324 |
| -1.207 | 8.668 | -0.337 | 2.975 | 0.322 |
| -1.218 | 8.718 | -0.335 | 2.979 | 0.321 |
| -1.318 | 9.193 | -0.316 | 3.016 | 0.319 |
| -2.000 | 12.196 | -0.173 | 3.198 | 0.310 |
| -2.097 | 12.593 | -0.150 | 3.219 | 0.309 |
| -2.097 | 12.593 | -0.150 | 3.219 | 0.309 |
| -2.698 | 14.596 | -0.117 | 3.331 | 0.294 |
| -3.298 | 16.564 | -0.083 | 3.419 | 0.281 |
| -3.900 | 18.524 | -0.049 | 3.493 | 0.268 |
| -4.500 | 20.484 | -0.016 | 3.560 | 0.256 |
| -4.500 | 20.484 | -0.016 | 3.560 | 0.256 |
| -4.950 | 20.787 | -0.010 | 3.610 | 0.240 |
| -5.400 | 21.106 | -0.006 | 3.663 | 0.224 |
| -5.400 | 21.106 | -0.006 | 3.663 | 0.224 |
| -5.800 | 23.155 | 0.006 | 3.713 | 0.218 |
| -6.200 | 25.219 | 0.017 | 3.767 | 0.211 |
| -6.200 | 25.219 | 0.017 | 3.767 | 0.211 |
| -6.550 | 25.493 | 0.019 | 3.819 | 0.198 |
| -6.900 | 25.781 | 0.020 | 3.874 | 0.185 |
| -6.900 | 25.781 | 0.020 | 3.874 | 0.185 |
| -7.800 | 31.424 | 0.020 | 4.033 | 0.179 |
| -8.700 | 37.099 | 0.019 | 4.215 | 0.173 |
| -8.700 | 37.099 | 0.019 | 4.215 | 0.173 |
| -9.100 | 37.492 | 0.017 | 4.301 | 0.155 |
| -9.500 | 37.907 | 0.012 | 4.391 | 0.138 |
| -9.500 | 37.907 | 0.012 | 4.391 | 0.138 |
| -10.100 | 41.730 | 0.009 | 4.529 | 0.133 |
| -10.700 | 45.563 | 0.006 | 4.670 | 0.127 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -10.700 | 45.563 | 0.006 | 4.670 | 0.127 |
| -10.900 | 46.759 | -0.003 | 4.717 | 0.124 |
| -11.100 | 47.962 | -0.013 | 4.764 | 0.120 |
| -11.100 | 47.962 | -0.013 | 4.764 | 0.120 |
| -11.950 | 53.414 | -0.019 | 4.963 | 0.111 |
| -12.950 | 59.841 | -0.029 | 5.188 | 0.100 |
| -13.550 | 63.703 | -0.036 | 5.317 | 0.094 |
| -14.400 | 69.180 | -0.048 | 5.488 | 0.084 |
| -15.400 | 75.631 | -0.065 | 5.671 | 0.072 |
| -16.000 | 79.506 | -0.076 | 5.769 | 0.064 |
| -16.000 | 79.506 | -0.076 | 5.769 | 0.064 |
| -16.550 | 83.353 | -0.163 | 5.852 | 0.053 |
| -17.050 | 86.921 | -0.249 | 5.922 | 0.041 |
| -17.600 | 90.925 | -0.353 | 5.991 | 0.028 |
| -18.100 | 94.640 | -0.456 | 6.048 | 0.015 |
| -18.100 | 109.791 | -2.000 | 6.048 | 0.015 |
| -19.901 | 128.320 | -2.000 | 6.206 | 0.011 |
| -21.801 | 147.790 | -2.000 | 6.300 | 0.007 |
| -23.602 | 166.183 | -2.000 | 6.331 | 0.003 |
| -25.502 | 185.533 | -2.000 | 6.312 | 0.000 |

### 3.64 Results for Vertical 64 (X = 0.22 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.326 | 0.479 | -0.326 | 0.478 | 0.369 |
| -0.426 | 2.914 | -0.422 | 1.355 | 0.360 |
| -0.454 | 3.321 | -0.448 | 1.331 | 0.358 |
| -0.526 | 4.135 | -0.442 | 1.763 | 0.354 |
| -0.626 | 5.010 | -0.431 | 2.124 | 0.349 |
| -0.726 | 5.744 | -0.419 | 2.359 | 0.343 |
| -0.826 | 6.398 | -0.405 | 2.527 | 0.339 |
| -0.926 | 6.997 | -0.390 | 2.652 | 0.335 |
| -1.026 | 7.557 | -0.375 | 2.748 | 0.331 |
| -1.126 | 8.088 | -0.358 | 2.825 | 0.328 |
| -1.211 | 8.523 | -0.343 | 2.879 | 0.326 |
| -1.226 | 8.596 | -0.340 | 2.887 | 0.325 |
| -1.326 | 9.086 | -0.321 | 2.941 | 0.323 |
| -2.000 | 12.100 | -0.179 | 3.183 | 0.314 |
| -2.097 | 12.500 | -0.156 | 3.209 | 0.313 |
| -2.097 | 12.500 | -0.156 | 3.209 | 0.313 |
| -2.698 | 14.521 | -0.122 | 3.344 | 0.298 |
| -3.298 | 16.497 | -0.087 | 3.447 | 0.284 |
| -3.900 | 18.461 | -0.052 | 3.531 | 0.271 |
| -4.500 | 20.421 | -0.019 | 3.605 | 0.259 |
| -4.500 | 20.421 | -0.019 | 3.605 | 0.259 |
| -4.950 | 20.727 | -0.013 | 3.659 | 0.242 |
| -5.400 | 21.047 | -0.008 | 3.715 | 0.226 |
| -5.400 | 21.047 | -0.008 | 3.715 | 0.226 |
| -5.800 | 23.095 | 0.004 | 3.768 | 0.220 |
| -6.200 | 25.155 | 0.016 | 3.825 | 0.213 |
| -6.200 | 25.155 | 0.016 | 3.825 | 0.213 |
| -6.550 | 25.430 | 0.018 | 3.877 | 0.200 |
| -6.900 | 25.718 | 0.019 | 3.934 | 0.187 |
| -6.900 | 25.718 | 0.019 | 3.934 | 0.187 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -7.800 | 31.363 | 0.019 | 4.096 | 0.181 |
| -8.700 | 37.039 | 0.018 | 4.279 | 0.174 |
| -8.700 | 37.039 | 0.018 | 4.279 | 0.174 |
| -9.100 | 37.432 | 0.016 | 4.366 | 0.157 |
| -9.500 | 37.845 | 0.011 | 4.456 | 0.139 |
| -9.500 | 37.845 | 0.011 | 4.456 | 0.139 |
| -10.100 | 41.668 | 0.009 | 4.595 | 0.134 |
| -10.700 | 45.501 | 0.006 | 4.736 | 0.128 |
| -10.700 | 45.501 | 0.006 | 4.736 | 0.128 |
| -10.900 | 46.697 | -0.003 | 4.784 | 0.124 |
| -11.100 | 47.898 | -0.013 | 4.831 | 0.121 |
| -11.100 | 47.898 | -0.013 | 4.831 | 0.121 |
| -11.950 | 53.349 | -0.020 | 5.030 | 0.112 |
| -12.950 | 59.777 | -0.029 | 5.257 | 0.101 |
| -13.550 | 63.639 | -0.036 | 5.386 | 0.094 |
| -14.400 | 69.116 | -0.048 | 5.558 | 0.084 |
| -15.400 | 75.567 | -0.065 | 5.741 | 0.072 |
| -16.000 | 79.441 | -0.076 | 5.840 | 0.065 |
| -16.000 | 79.441 | -0.076 | 5.840 | 0.065 |
| -16.550 | 83.286 | -0.162 | 5.924 | 0.053 |
| -17.050 | 86.851 | -0.248 | 5.993 | 0.041 |
| -17.600 | 90.852 | -0.352 | 6.063 | 0.028 |
| -18.100 | 94.565 | -0.454 | 6.121 | 0.015 |
| -18.100 | 109.729 | -2.000 | 6.121 | 0.015 |
| -19.901 | 128.259 | -2.000 | 6.281 | 0.011 |
| -21.801 | 147.732 | -2.000 | 6.377 | 0.007 |
| -23.602 | 166.126 | -2.000 | 6.409 | 0.003 |
| -25.502 | 185.478 | -2.000 | 6.392 | 0.000 |

### 3.65 Results for Vertical 65 (X = 0.47 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.630 | 3.158 | -0.443 | 3.157 | 0.598 |
| -1.730 | 3.757 | -0.430 | 3.258 | 0.574 |
| -1.830 | 4.331 | -0.416 | 3.349 | 0.560 |
| -1.864 | 4.517 | -0.411 | 3.378 | 0.556 |
| -1.930 | 4.880 | -0.401 | 3.432 | 0.549 |
| -2.000 | 5.251 | -0.389 | 3.486 | 0.543 |
| -2.030 | 5.407 | -0.384 | 3.508 | 0.540 |
| -2.097 | 5.749 | -0.371 | 3.555 | 0.535 |
| -2.097 | 5.749 | -0.371 | 3.555 | 0.535 |
| -2.130 | 5.878 | -0.370 | 3.577 | 0.532 |
| -2.230 | 6.266 | -0.365 | 3.641 | 0.522 |
| -2.330 | 6.647 | -0.361 | 3.700 | 0.513 |
| -2.430 | 7.022 | -0.356 | 3.754 | 0.504 |
| -2.530 | 7.391 | -0.350 | 3.806 | 0.496 |
| -2.630 | 7.755 | -0.345 | 3.853 | 0.488 |
| -3.299 | 10.083 | -0.305 | 4.110 | 0.443 |
| -3.900 | 12.069 | -0.264 | 4.280 | 0.411 |
| -4.500 | 13.993 | -0.220 | 4.417 | 0.383 |
| -4.500 | 13.993 | -0.220 | 4.417 | 0.383 |
| -4.950 | 14.310 | -0.211 | 4.508 | 0.350 |
| -5.400 | 14.634 | -0.204 | 4.594 | 0.318 |
| -5.400 | 14.634 | -0.204 | 4.594 | 0.318 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -5.800 | 16.604 | -0.182 | 4.669 | 0.305 |
| -6.200 | 18.568 | -0.158 | 4.744 | 0.293 |
| -6.200 | 18.568 | -0.158 | 4.744 | 0.293 |
| -6.550 | 18.826 | -0.153 | 4.811 | 0.272 |
| -6.900 | 19.095 | -0.149 | 4.879 | 0.250 |
| -6.900 | 19.095 | -0.149 | 4.879 | 0.250 |
| -7.800 | 24.738 | -0.146 | 5.064 | 0.236 |
| -8.700 | 30.400 | -0.144 | 5.264 | 0.222 |
| -8.700 | 30.400 | -0.144 | 5.264 | 0.222 |
| -9.100 | 30.745 | -0.141 | 5.356 | 0.198 |
| -9.500 | 31.108 | -0.140 | 5.451 | 0.174 |
| -9.500 | 31.109 | -0.140 | 5.451 | 0.174 |
| -10.100 | 34.914 | -0.140 | 5.595 | 0.165 |
| -10.700 | 38.727 | -0.141 | 5.742 | 0.156 |
| -10.700 | 38.727 | -0.141 | 5.742 | 0.156 |
| -10.900 | 39.859 | -0.143 | 5.791 | 0.151 |
| -11.100 | 40.997 | -0.146 | 5.839 | 0.147 |
| -11.100 | 40.997 | -0.146 | 5.839 | 0.147 |
| -11.950 | 46.413 | -0.149 | 6.045 | 0.134 |
| -12.950 | 52.794 | -0.153 | 6.278 | 0.118 |
| -13.550 | 56.627 | -0.157 | 6.411 | 0.109 |
| -14.400 | 62.060 | -0.164 | 6.589 | 0.096 |
| -15.400 | 68.455 | -0.174 | 6.779 | 0.081 |
| -16.000 | 72.294 | -0.181 | 6.883 | 0.072 |
| -16.000 | 72.294 | -0.181 | 6.883 | 0.072 |
| -16.550 | 75.865 | -0.239 | 6.971 | 0.059 |
| -17.050 | 79.168 | -0.298 | 7.044 | 0.046 |
| -17.600 | 82.866 | -0.370 | 7.119 | 0.032 |
| -18.100 | 86.289 | -0.443 | 7.180 | 0.018 |
| -18.100 | 101.568 | -2.000 | 7.180 | 0.018 |
| -19.901 | 120.114 | -2.000 | 7.356 | 0.013 |
| -21.801 | 139.603 | -2.000 | 7.468 | 0.008 |
| -23.602 | 158.013 | -2.000 | 7.515 | 0.004 |
| -25.502 | 177.380 | -2.000 | 7.513 | 0.000 |

### 3.66 Results for Vertical 66 (X = 0.75 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.846 | 2.414 | -0.430 | 2.413 | 0.618 |
| -1.945 | 3.055 | -0.421 | 2.528 | 0.597 |
| -1.971 | 3.216 | -0.418 | 2.557 | 0.593 |
| -2.000 | 3.393 | -0.415 | 2.588 | 0.589 |
| -2.045 | 3.669 | -0.409 | 2.635 | 0.584 |
| -2.097 | 3.976 | -0.403 | 2.687 | 0.579 |
| -2.097 | 3.976 | -0.403 | 2.687 | 0.579 |
| -2.145 | 4.187 | -0.401 | 2.734 | 0.573 |
| -2.245 | 4.615 | -0.398 | 2.826 | 0.560 |
| -2.345 | 5.034 | -0.394 | 2.912 | 0.549 |
| -2.445 | 5.444 | -0.390 | 2.992 | 0.539 |
| -2.545 | 5.847 | -0.386 | 3.067 | 0.529 |
| -2.645 | 6.243 | -0.382 | 3.137 | 0.520 |
| -2.745 | 6.632 | -0.377 | 3.203 | 0.511 |
| -2.845 | 7.016 | -0.372 | 3.265 | 0.503 |
| -3.299 | 8.689 | -0.347 | 3.508 | 0.470 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.900 | 10.790 | -0.310 | 3.758 | 0.434 |
| -4.500 | 12.795 | -0.268 | 3.956 | 0.404 |
| -4.500 | 12.795 | -0.268 | 3.956 | 0.404 |
| -4.950 | 13.150 | -0.260 | 4.084 | 0.368 |
| -5.400 | 13.504 | -0.253 | 4.200 | 0.333 |
| -5.400 | 13.504 | -0.253 | 4.200 | 0.333 |
| -5.800 | 15.493 | -0.230 | 4.297 | 0.319 |
| -6.200 | 17.466 | -0.206 | 4.391 | 0.306 |
| -6.200 | 17.466 | -0.206 | 4.391 | 0.306 |
| -6.550 | 17.735 | -0.200 | 4.471 | 0.283 |
| -6.900 | 18.013 | -0.195 | 4.552 | 0.260 |
| -6.900 | 18.013 | -0.195 | 4.552 | 0.260 |
| -7.800 | 23.677 | -0.192 | 4.761 | 0.243 |
| -8.700 | 29.349 | -0.189 | 4.978 | 0.228 |
| -8.700 | 29.349 | -0.189 | 4.978 | 0.228 |
| -9.100 | 29.688 | -0.186 | 5.076 | 0.204 |
| -9.500 | 30.045 | -0.183 | 5.176 | 0.179 |
| -9.500 | 30.045 | -0.183 | 5.176 | 0.179 |
| -10.100 | 33.851 | -0.183 | 5.327 | 0.169 |
| -10.700 | 37.662 | -0.183 | 5.478 | 0.159 |
| -10.700 | 37.662 | -0.183 | 5.478 | 0.159 |
| -10.900 | 38.779 | -0.184 | 5.529 | 0.154 |
| -11.100 | 39.900 | -0.185 | 5.579 | 0.149 |
| -11.100 | 39.900 | -0.185 | 5.579 | 0.149 |
| -11.950 | 45.310 | -0.186 | 5.790 | 0.136 |
| -12.950 | 51.683 | -0.189 | 6.030 | 0.120 |
| -13.550 | 55.509 | -0.192 | 6.167 | 0.110 |
| -14.400 | 60.931 | -0.197 | 6.351 | 0.097 |
| -15.400 | 67.312 | -0.205 | 6.549 | 0.082 |
| -16.000 | 71.142 | -0.211 | 6.657 | 0.072 |
| -16.000 | 71.142 | -0.211 | 6.657 | 0.072 |
| -16.550 | 74.618 | -0.259 | 6.749 | 0.059 |
| -17.050 | 77.829 | -0.308 | 6.827 | 0.046 |
| -17.600 | 81.421 | -0.369 | 6.906 | 0.032 |
| -18.100 | 84.741 | -0.430 | 6.972 | 0.018 |
| -18.100 | 100.142 | -2.000 | 6.972 | 0.018 |
| -18.600 | 105.303 | -2.000 | 7.032 | 0.017 |
| -19.101 | 110.468 | -2.000 | 7.086 | 0.015 |
| -20.101 | 120.761 | -2.000 | 7.179 | 0.012 |
| -21.101 | 131.032 | -2.000 | 7.252 | 0.010 |
| -21.801 | 138.210 | -2.000 | 7.292 | 0.008 |
| -23.602 | 156.636 | -2.000 | 7.354 | 0.004 |
| -25.502 | 176.018 | -2.000 | 7.368 | 0.000 |

### 3.67 Results for Vertical 67 (X = 0.82 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.898 | 2.278 | -0.430 | 2.277 | 0.624 |
| -1.998 | 2.921 | -0.421 | 2.392 | 0.603 |
| -1.998 | 2.924 | -0.421 | 2.393 | 0.603 |
| -2.000 | 2.937 | -0.421 | 2.395 | 0.603 |
| -2.097 | 3.539 | -0.410 | 2.499 | 0.591 |
| -2.097 | 3.539 | -0.410 | 2.499 | 0.591 |
| -2.098 | 3.543 | -0.410 | 2.500 | 0.591 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.198 | 3.983 | -0.407 | 2.600 | 0.577 |
| -2.298 | 4.414 | -0.404 | 2.693 | 0.565 |
| -2.398 | 4.836 | -0.401 | 2.780 | 0.553 |
| -2.498 | 5.250 | -0.397 | 2.862 | 0.543 |
| -2.598 | 5.656 | -0.393 | 2.938 | 0.533 |
| -2.698 | 6.055 | -0.389 | 3.010 | 0.523 |
| -2.798 | 6.448 | -0.384 | 3.078 | 0.515 |
| -2.898 | 6.834 | -0.379 | 3.143 | 0.506 |
| -3.299 | 8.332 | -0.358 | 3.368 | 0.477 |
| -3.900 | 10.460 | -0.322 | 3.636 | 0.440 |
| -4.500 | 12.486 | -0.281 | 3.847 | 0.409 |
| -4.500 | 12.486 | -0.281 | 3.847 | 0.409 |
| -4.950 | 12.851 | -0.273 | 3.983 | 0.373 |
| -5.400 | 13.213 | -0.266 | 4.105 | 0.336 |
| -5.400 | 13.213 | -0.266 | 4.105 | 0.336 |
| -5.800 | 15.207 | -0.243 | 4.208 | 0.322 |
| -6.200 | 17.185 | -0.219 | 4.306 | 0.309 |
| -6.200 | 17.185 | -0.219 | 4.306 | 0.309 |
| -6.550 | 17.457 | -0.213 | 4.390 | 0.286 |
| -6.900 | 17.737 | -0.208 | 4.473 | 0.262 |
| -6.900 | 17.737 | -0.208 | 4.474 | 0.262 |
| -7.800 | 23.406 | -0.205 | 4.689 | 0.245 |
| -8.700 | 29.081 | -0.202 | 4.909 | 0.230 |
| -8.700 | 29.081 | -0.202 | 4.909 | 0.230 |
| -9.100 | 29.419 | -0.198 | 5.009 | 0.205 |
| -9.500 | 29.774 | -0.196 | 5.110 | 0.180 |
| -9.500 | 29.774 | -0.196 | 5.110 | 0.180 |
| -10.100 | 33.580 | -0.195 | 5.262 | 0.170 |
| -10.700 | 37.391 | -0.195 | 5.415 | 0.160 |
| -10.700 | 37.391 | -0.195 | 5.415 | 0.160 |
| -10.900 | 38.505 | -0.195 | 5.466 | 0.155 |
| -11.100 | 39.623 | -0.196 | 5.517 | 0.150 |
| -11.100 | 39.623 | -0.196 | 5.517 | 0.150 |
| -11.950 | 45.032 | -0.197 | 5.729 | 0.136 |
| -12.950 | 51.403 | -0.200 | 5.971 | 0.120 |
| -13.550 | 55.227 | -0.202 | 6.109 | 0.111 |
| -14.400 | 60.647 | -0.207 | 6.294 | 0.097 |
| -15.400 | 67.025 | -0.215 | 6.493 | 0.082 |
| -16.000 | 70.853 | -0.220 | 6.603 | 0.072 |
| -16.000 | 70.853 | -0.220 | 6.603 | 0.072 |
| -16.550 | 74.308 | -0.266 | 6.696 | 0.059 |
| -17.050 | 77.499 | -0.313 | 6.774 | 0.046 |
| -17.600 | 81.067 | -0.371 | 6.854 | 0.032 |
| -18.100 | 84.364 | -0.430 | 6.921 | 0.018 |
| -18.100 | 99.766 | -2.000 | 6.921 | 0.018 |
| -18.600 | 104.927 | -2.000 | 6.982 | 0.016 |
| -19.101 | 110.094 | -2.000 | 7.038 | 0.015 |
| -20.101 | 120.388 | -2.000 | 7.133 | 0.012 |
| -21.101 | 130.662 | -2.000 | 7.208 | 0.010 |
| -21.801 | 137.841 | -2.000 | 7.249 | 0.008 |
| -23.602 | 156.270 | -2.000 | 7.315 | 0.004 |
| -25.502 | 175.657 | -2.000 | 7.332 | 0.000 |

### 3.68 Results for Vertical 68 (X = 1.95 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.665 | 0.370 | -0.430 | 0.369 | 0.460 |
| -1.765 | 1.032 | -0.428 | 0.434 | 0.452 |
| -1.865 | 1.680 | -0.424 | 0.503 | 0.447 |
| -1.881 | 1.783 | -0.423 | 0.514 | 0.447 |
| -1.965 | 2.312 | -0.418 | 0.574 | 0.445 |
| -2.000 | 2.529 | -0.415 | 0.599 | 0.444 |
| -2.065 | 2.929 | -0.410 | 0.647 | 0.442 |
| -2.098 | 3.126 | -0.407 | 0.671 | 0.442 |
| -2.098 | 3.126 | -0.407 | 0.671 | 0.442 |
| -2.165 | 3.411 | -0.406 | 0.722 | 0.439 |
| -2.265 | 3.832 | -0.403 | 0.798 | 0.435 |
| -2.365 | 4.251 | -0.401 | 0.874 | 0.430 |
| -2.465 | 4.668 | -0.398 | 0.950 | 0.426 |
| -2.565 | 5.082 | -0.395 | 1.027 | 0.422 |
| -2.665 | 5.493 | -0.391 | 1.102 | 0.418 |
| -3.299 | 8.029 | -0.365 | 1.559 | 0.393 |
| -3.900 | 10.320 | -0.333 | 1.940 | 0.371 |
| -4.500 | 12.512 | -0.297 | 2.270 | 0.351 |
| -4.500 | 12.512 | -0.297 | 2.270 | 0.351 |
| -4.950 | 12.969 | -0.290 | 2.489 | 0.325 |
| -5.400 | 13.414 | -0.283 | 2.688 | 0.298 |
| -5.400 | 13.414 | -0.283 | 2.688 | 0.298 |
| -5.800 | 15.488 | -0.263 | 2.851 | 0.287 |
| -6.200 | 17.539 | -0.240 | 3.004 | 0.277 |
| -6.200 | 17.539 | -0.240 | 3.004 | 0.277 |
| -6.550 | 17.857 | -0.235 | 3.131 | 0.258 |
| -6.900 | 18.178 | -0.231 | 3.252 | 0.238 |
| -6.900 | 18.178 | -0.231 | 3.252 | 0.238 |
| -7.800 | 23.927 | -0.228 | 3.548 | 0.225 |
| -8.700 | 29.661 | -0.225 | 3.826 | 0.213 |
| -8.700 | 29.661 | -0.225 | 3.826 | 0.213 |
| -9.100 | 30.019 | -0.221 | 3.946 | 0.190 |
| -9.500 | 30.391 | -0.218 | 4.065 | 0.167 |
| -9.500 | 30.391 | -0.218 | 4.065 | 0.167 |
| -10.100 | 34.218 | -0.218 | 4.240 | 0.158 |
| -10.700 | 38.046 | -0.217 | 4.412 | 0.150 |
| -10.700 | 38.046 | -0.217 | 4.412 | 0.150 |
| -10.900 | 39.162 | -0.217 | 4.469 | 0.145 |
| -11.100 | 40.282 | -0.218 | 4.525 | 0.140 |
| -11.100 | 40.282 | -0.218 | 4.525 | 0.140 |
| -11.950 | 45.708 | -0.219 | 4.760 | 0.128 |
| -12.950 | 52.094 | -0.221 | 5.024 | 0.113 |
| -13.550 | 55.927 | -0.223 | 5.176 | 0.105 |
| -14.400 | 61.359 | -0.227 | 5.381 | 0.092 |
| -15.400 | 67.751 | -0.234 | 5.605 | 0.077 |
| -16.000 | 71.588 | -0.239 | 5.729 | 0.069 |
| -16.000 | 71.588 | -0.239 | 5.729 | 0.069 |
| -16.550 | 75.014 | -0.280 | 5.837 | 0.056 |
| -17.050 | 78.176 | -0.323 | 5.930 | 0.043 |
| -17.600 | 81.709 | -0.376 | 6.025 | 0.029 |
| -18.100 | 84.972 | -0.430 | 6.107 | 0.016 |
| -18.100 | 100.373 | -2.000 | 6.107 | 0.016 |
| -19.901 | 118.993 | -2.000 | 6.356 | 0.012 |
| -21.801 | 138.563 | -2.000 | 6.549 | 0.007 |
| -23.602 | 157.049 | -2.000 | 6.672 | 0.004 |
| -25.502 | 176.494 | -2.000 | 6.746 | 0.000 |

### 3.69 Results for Vertical 69 (X = 2.06 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.629 | 0.298 | -0.430 | 0.297 | 0.445 |
| -1.729 | 0.953 | -0.428 | 0.353 | 0.438 |
| -1.829 | 1.595 | -0.424 | 0.413 | 0.434 |
| -1.863 | 1.812 | -0.423 | 0.435 | 0.433 |
| -1.929 | 2.223 | -0.419 | 0.477 | 0.432 |
| -2.000 | 2.659 | -0.414 | 0.523 | 0.430 |
| -2.029 | 2.836 | -0.411 | 0.542 | 0.430 |
| -2.098 | 3.248 | -0.405 | 0.589 | 0.429 |
| -2.098 | 3.248 | -0.405 | 0.589 | 0.429 |
| -2.129 | 3.378 | -0.405 | 0.611 | 0.427 |
| -2.229 | 3.794 | -0.402 | 0.680 | 0.424 |
| -2.329 | 4.208 | -0.400 | 0.751 | 0.420 |
| -2.429 | 4.620 | -0.397 | 0.823 | 0.416 |
| -2.529 | 5.031 | -0.394 | 0.895 | 0.412 |
| -2.629 | 5.439 | -0.390 | 0.967 | 0.409 |
| -3.299 | 8.107 | -0.363 | 1.433 | 0.384 |
| -3.900 | 10.396 | -0.331 | 1.811 | 0.364 |
| -4.500 | 12.592 | -0.296 | 2.142 | 0.344 |
| -4.500 | 12.592 | -0.296 | 2.142 | 0.344 |
| -4.950 | 13.052 | -0.289 | 2.363 | 0.319 |
| -5.400 | 13.500 | -0.282 | 2.565 | 0.293 |
| -5.400 | 13.500 | -0.282 | 2.565 | 0.293 |
| -5.800 | 15.579 | -0.261 | 2.732 | 0.283 |
| -6.200 | 17.635 | -0.239 | 2.887 | 0.273 |
| -6.200 | 17.635 | -0.239 | 2.887 | 0.273 |
| -6.550 | 17.957 | -0.234 | 3.017 | 0.254 |
| -6.900 | 18.280 | -0.230 | 3.141 | 0.235 |
| -6.900 | 18.280 | -0.230 | 3.141 | 0.235 |
| -7.800 | 24.035 | -0.227 | 3.441 | 0.223 |
| -8.700 | 29.774 | -0.224 | 3.724 | 0.211 |
| -8.700 | 29.774 | -0.224 | 3.724 | 0.211 |
| -9.100 | 30.135 | -0.220 | 3.846 | 0.188 |
| -9.500 | 30.508 | -0.218 | 3.966 | 0.166 |
| -9.500 | 30.508 | -0.218 | 3.966 | 0.166 |
| -10.100 | 34.338 | -0.217 | 4.144 | 0.157 |
| -10.700 | 38.167 | -0.217 | 4.317 | 0.148 |
| -10.700 | 38.167 | -0.217 | 4.317 | 0.148 |
| -10.900 | 39.284 | -0.217 | 4.374 | 0.144 |
| -11.100 | 40.404 | -0.217 | 4.431 | 0.139 |
| -11.100 | 40.404 | -0.217 | 4.431 | 0.139 |
| -11.950 | 45.832 | -0.218 | 4.667 | 0.127 |
| -12.950 | 52.221 | -0.220 | 4.934 | 0.113 |
| -13.550 | 56.055 | -0.222 | 5.087 | 0.104 |
| -14.400 | 61.489 | -0.227 | 5.293 | 0.092 |
| -15.400 | 67.883 | -0.233 | 5.519 | 0.077 |
| -16.000 | 71.721 | -0.239 | 5.645 | 0.068 |
| -16.000 | 71.721 | -0.239 | 5.645 | 0.068 |
| -16.550 | 75.149 | -0.280 | 5.754 | 0.055 |
| -17.050 | 78.314 | -0.323 | 5.848 | 0.043 |
| -17.600 | 81.849 | -0.376 | 5.945 | 0.029 |
| -18.100 | 85.113 | -0.430 | 6.027 | 0.016 |
| -18.100 | 100.515 | -2.000 | 6.027 | 0.016 |
| -19.901 | 119.139 | -2.000 | 6.282 | 0.012 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -21.801 | 138.714 | -2.000 | 6.480 | 0.007 |
| -23.602 | 157.206 | -2.000 | 6.608 | 0.004 |
| -25.502 | 176.657 | -2.000 | 6.688 | 0.000 |

### 3.70 Results for Vertical 70 (X = 3.80 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.063 | 0.102 | -0.430 | 0.101 | 0.408 |
| -2.081 | 0.212 | -0.430 | 0.104 | 0.406 |
| -2.098 | 0.322 | -0.430 | 0.107 | 0.405 |
| -2.098 | 0.322 | -0.430 | 0.107 | 0.405 |
| -2.163 | 0.571 | -0.430 | 0.118 | 0.401 |
| -2.263 | 0.954 | -0.429 | 0.137 | 0.397 |
| -2.363 | 1.337 | -0.428 | 0.157 | 0.392 |
| -2.463 | 1.718 | -0.427 | 0.179 | 0.389 |
| -2.563 | 2.099 | -0.426 | 0.203 | 0.385 |
| -2.663 | 2.479 | -0.425 | 0.228 | 0.381 |
| -2.763 | 2.859 | -0.423 | 0.254 | 0.378 |
| -2.863 | 3.238 | -0.421 | 0.282 | 0.374 |
| -2.963 | 3.616 | -0.419 | 0.311 | 0.371 |
| -3.063 | 3.993 | -0.417 | 0.341 | 0.368 |
| -3.299 | 4.880 | -0.411 | 0.416 | 0.360 |
| -3.900 | 7.117 | -0.391 | 0.629 | 0.342 |
| -4.500 | 9.316 | -0.366 | 0.859 | 0.326 |
| -4.500 | 9.316 | -0.366 | 0.859 | 0.326 |
| -4.950 | 9.750 | -0.361 | 1.037 | 0.303 |
| -5.400 | 10.189 | -0.356 | 1.215 | 0.280 |
| -5.400 | 10.189 | -0.356 | 1.215 | 0.280 |
| -5.800 | 12.299 | -0.339 | 1.371 | 0.271 |
| -6.200 | 14.387 | -0.321 | 1.525 | 0.262 |
| -6.200 | 14.387 | -0.321 | 1.525 | 0.262 |
| -6.550 | 14.718 | -0.316 | 1.657 | 0.244 |
| -6.900 | 15.051 | -0.313 | 1.786 | 0.226 |
| -6.900 | 15.051 | -0.313 | 1.786 | 0.226 |
| -7.800 | 20.827 | -0.310 | 2.108 | 0.215 |
| -8.700 | 26.586 | -0.307 | 2.414 | 0.203 |
| -8.700 | 26.586 | -0.307 | 2.414 | 0.203 |
| -9.100 | 26.949 | -0.302 | 2.546 | 0.182 |
| -9.500 | 27.321 | -0.298 | 2.675 | 0.160 |
| -9.500 | 27.322 | -0.298 | 2.675 | 0.160 |
| -10.100 | 31.157 | -0.297 | 2.866 | 0.151 |
| -10.700 | 34.990 | -0.296 | 3.051 | 0.143 |
| -10.700 | 34.990 | -0.296 | 3.051 | 0.143 |
| -10.900 | 36.091 | -0.295 | 3.112 | 0.139 |
| -11.100 | 37.195 | -0.293 | 3.172 | 0.134 |
| -11.100 | 37.195 | -0.293 | 3.172 | 0.134 |
| -11.950 | 42.621 | -0.292 | 3.422 | 0.122 |
| -12.950 | 49.004 | -0.293 | 3.705 | 0.108 |
| -13.550 | 52.833 | -0.293 | 3.868 | 0.100 |
| -14.400 | 58.257 | -0.295 | 4.090 | 0.088 |
| -15.400 | 64.639 | -0.299 | 4.336 | 0.074 |
| -16.000 | 68.469 | -0.302 | 4.476 | 0.065 |
| -16.000 | 68.469 | -0.302 | 4.476 | 0.065 |
| -16.550 | 71.761 | -0.328 | 4.598 | 0.052 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -17.050 | 74.794 | -0.356 | 4.705 | 0.040 |
| -17.600 | 78.175 | -0.392 | 4.817 | 0.027 |
| -18.100 | 81.290 | -0.430 | 4.914 | 0.014 |
| -18.100 | 96.692 | -2.000 | 4.914 | 0.014 |
| -18.600 | 101.884 | -2.000 | 5.007 | 0.013 |
| -19.101 | 107.082 | -2.000 | 5.095 | 0.012 |
| -20.101 | 117.442 | -2.000 | 5.257 | 0.010 |
| -21.101 | 127.784 | -2.000 | 5.400 | 0.008 |
| -21.801 | 135.012 | -2.000 | 5.490 | 0.007 |
| -23.602 | 153.571 | -2.000 | 5.684 | 0.003 |
| -25.502 | 173.093 | -2.000 | 5.834 | 0.000 |

### 3.71 Results for Vertical 71 (X = 10.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.063 | 0.004 | -0.430 | 0.003 | 0.297 |
| -2.082 | 0.117 | -0.430 | 0.003 | 0.297 |
| -2.100 | 0.231 | -0.430 | 0.003 | 0.297 |
| -2.100 | 0.231 | -0.430 | 0.003 | 0.297 |
| -2.163 | 0.463 | -0.430 | 0.004 | 0.295 |
| -2.263 | 0.829 | -0.429 | 0.004 | 0.292 |
| -2.363 | 1.194 | -0.429 | 0.005 | 0.289 |
| -2.463 | 1.557 | -0.428 | 0.006 | 0.287 |
| -2.563 | 1.918 | -0.427 | 0.007 | 0.284 |
| -2.663 | 2.278 | -0.426 | 0.008 | 0.281 |
| -2.763 | 2.636 | -0.425 | 0.009 | 0.279 |
| -2.863 | 2.993 | -0.424 | 0.011 | 0.276 |
| -2.963 | 3.348 | -0.422 | 0.012 | 0.274 |
| -3.063 | 3.701 | -0.420 | 0.014 | 0.272 |
| -3.300 | 4.535 | -0.416 | 0.018 | 0.266 |
| -3.900 | 6.614 | -0.400 | 0.034 | 0.253 |
| -4.500 | 8.660 | -0.381 | 0.057 | 0.240 |
| -4.500 | 8.660 | -0.381 | 0.057 | 0.240 |
| -4.950 | 8.951 | -0.377 | 0.080 | 0.224 |
| -5.400 | 9.251 | -0.373 | 0.107 | 0.208 |
| -5.400 | 9.251 | -0.373 | 0.107 | 0.208 |
| -5.800 | 11.271 | -0.360 | 0.136 | 0.201 |
| -6.200 | 13.279 | -0.346 | 0.169 | 0.195 |
| -6.200 | 13.279 | -0.346 | 0.169 | 0.195 |
| -6.550 | 13.519 | -0.342 | 0.201 | 0.183 |
| -6.900 | 13.766 | -0.339 | 0.236 | 0.170 |
| -6.900 | 13.766 | -0.339 | 0.236 | 0.170 |
| -7.800 | 19.329 | -0.337 | 0.339 | 0.164 |
| -8.700 | 24.906 | -0.334 | 0.460 | 0.157 |
| -8.700 | 24.906 | -0.334 | 0.460 | 0.157 |
| -9.100 | 25.202 | -0.330 | 0.519 | 0.140 |
| -9.500 | 25.511 | -0.327 | 0.581 | 0.123 |
| -9.500 | 25.511 | -0.327 | 0.581 | 0.123 |
| -10.100 | 29.253 | -0.326 | 0.678 | 0.118 |
| -10.700 | 33.002 | -0.326 | 0.780 | 0.112 |
| -10.700 | 33.002 | -0.326 | 0.780 | 0.112 |
| -10.900 | 34.077 | -0.324 | 0.815 | 0.109 |
| -11.100 | 35.155 | -0.322 | 0.851 | 0.105 |
| -11.100 | 35.155 | -0.322 | 0.851 | 0.105 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -11.950 | 40.482 | -0.321 | 1.006 | 0.097 |
| -12.950 | 46.763 | -0.321 | 1.196 | 0.087 |
| -13.550 | 50.538 | -0.322 | 1.312 | 0.081 |
| -14.400 | 55.896 | -0.323 | 1.478 | 0.072 |
| -15.400 | 62.213 | -0.326 | 1.675 | 0.060 |
| -16.000 | 66.010 | -0.328 | 1.793 | 0.054 |
| -16.000 | 66.010 | -0.328 | 1.793 | 0.054 |
| -16.550 | 69.226 | -0.348 | 1.900 | 0.043 |
| -17.050 | 72.187 | -0.370 | 1.996 | 0.032 |
| -17.600 | 75.489 | -0.399 | 2.102 | 0.021 |
| -18.100 | 78.531 | -0.430 | 2.196 | 0.010 |
| -18.100 | 93.933 | -2.000 | 2.196 | 0.010 |
| -18.600 | 99.123 | -2.000 | 2.289 | 0.009 |
| -19.101 | 104.322 | -2.000 | 2.380 | 0.008 |
| -20.101 | 114.695 | -2.000 | 2.558 | 0.007 |
| -21.101 | 125.060 | -2.000 | 2.729 | 0.006 |
| -21.801 | 132.311 | -2.000 | 2.843 | 0.005 |
| -23.602 | 150.947 | -2.000 | 3.117 | 0.002 |
| -25.502 | 170.574 | -2.000 | 3.374 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -40.00 | 0.00 | -2.47 | 0.184 |
| 2 | -33.57 | 0.00 | -2.47 | 0.198 |
| 3 | -31.71 | 0.00 | -2.50 | 0.216 |
| 4 | -31.08 | 0.00 | -2.51 | 0.230 |
| 5 | -30.81 | 0.00 | -2.51 | 0.234 |
| 6 | -27.41 | 0.00 | -2.52 | 0.388 |
| 7 | -26.62 | 0.00 | -2.52 | 0.489 |
| 8 | -24.01 | 0.00 | -2.52 | 0.768 |
| 9 | -22.80 | 0.00 | -2.54 | 0.906 |
| 10 | -21.77 | 0.00 | -2.54 | 0.996 |
| 11 | -21.02 | 0.00 | -2.49 | 1.014 |
| 12 | -19.80 | 0.00 | -2.48 | 1.091 |
| 13 | -19.55 | 0.00 | -2.47 | 1.106 |
| 14 | -19.19 | 0.00 | -2.46 | 1.119 |
| 15 | -16.58 | 0.00 | -2.38 | 1.207 |
| 16 | -15.34 | 0.00 | -2.60 | 1.439 |
| 17 | -15.00 | 0.00 | -2.65 | 1.480 |
| 18 | -14.73 | 0.00 | -3.33 | 1.465 |
| 19 | -14.19 | 0.00 | -3.70 | 1.464 |
| 20 | -13.33 | 0.00 | -3.60 | 1.436 |
| 21 | -12.52 | 0.00 | -3.51 | 1.427 |
| 22 | -12.18 | 0.00 | -3.47 | 1.430 |
| 23 | -11.65 | 0.00 | -3.40 | 1.307 |
| 24 | -11.56 | 0.00 | -2.09 | 1.080 |
| 25 | -11.55 | 0.00 | -1.95 | 0.993 |
| 26 | -10.59 | 0.00 | -1.53 | 0.841 |
| 27 | -10.03 | 0.00 | -1.32 | 0.776 |
| 28 | -9.46 | 0.00 | -1.05 | 0.711 |
| 29 | -9.46 | 0.00 | -1.05 | 0.710 |
| 30 | -9.40 | 0.00 | -1.02 | 0.707 |
| 31 | -8.37 | 0.00 | -0.55 | 0.614 |
| 32 | -8.23 | 0.00 | -0.49 | 0.601 |
| 33 | -7.45 | 0.00 | -0.15 | 0.540 |
| 34 | -7.37 | 0.00 | -0.11 | 0.533 |
| 35 | -7.36 | 0.00 | -0.11 | 0.533 |
| 36 | -7.13 | 0.00 | -0.13 | 0.527 |
| 37 | -7.09 | 0.00 | -0.13 | 0.526 |
| 38 | -6.73 | 0.00 | -0.14 | 0.519 |
| 39 | -6.68 | 0.00 | -0.14 | 0.517 |
| 40 | -6.57 | 0.00 | -0.13 | 0.514 |
| 41 | -6.09 | 0.00 | -0.12 | 0.504 |
| 42 | -5.77 | 0.00 | -0.11 | 0.497 |
| 43 | -5.48 | 0.00 | -0.10 | 0.492 |
| 44 | -4.54 | 0.00 | -0.08 | 0.475 |
| 45 | -3.98 | 0.00 | -0.07 | 0.466 |
| 46 | -3.47 | 0.00 | -0.08 | 0.458 |
| 47 | -3.07 | 0.00 | -0.09 | 0.452 |
| 48 | -2.48 | 0.00 | -0.09 | 0.441 |
| 49 | -2.16 | 0.00 | -0.10 | 0.435 |
| 50 | -1.57 | 0.00 | -0.11 | 0.421 |
| 51 | -1.38 | 0.00 | -0.11 | 0.415 |
| 52 | -1.26 | 0.00 | -0.12 | 0.412 |
| 53 | -1.23 | 0.00 | -0.12 | 0.411 |

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 54 | -0.91 | 0.00 | -0.10 | 0.396 |
| 55 | -0.83 | 0.00 | -0.09 | 0.392 |
| 56 | -0.83 | 0.00 | -0.09 | 0.392 |
| 57 | -0.78 | 0.00 | -0.08 | 0.390 |
| 58 | -0.74 | 0.00 | -0.09 | 0.388 |
| 59 | -0.66 | 0.00 | -0.10 | 0.386 |
| 60 | -0.54 | 0.00 | -0.13 | 0.383 |
| 61 | -0.36 | 0.00 | -0.16 | 0.379 |
| 62 | 0.04 | 0.00 | -0.28 | 0.376 |
| 63 | 0.19 | 0.00 | -0.32 | 0.373 |
| 64 | 0.22 | 0.00 | -0.33 | 0.369 |
| 65 | 0.47 | 0.00 | -1.63 | 0.598 |
| 66 | 0.75 | 0.00 | -1.85 | 0.618 |
| 67 | 0.82 | 0.00 | -1.90 | 0.624 |
| 68 | 1.95 | 0.00 | -1.67 | 0.460 |
| 69 | 2.06 | 0.00 | -1.63 | 0.445 |
| 70 | 3.80 | 0.00 | -2.06 | 0.408 |
| 71 | 10.00 | 0.00 | -2.06 | 0.297 |

### 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 540 | 0.025 | 13.789 | 0.158 |
| | 5040 | 0.136 | 73.960 | 0.048 |
| 2 | 540 | 0.031 | 15.458 | 0.167 |
| | 5040 | 0.149 | 75.291 | 0.049 |
| 3 | 540 | 0.034 | 15.834 | 0.182 |
| | 5040 | 0.155 | 71.950 | 0.061 |
| 4 | 540 | 0.036 | 15.633 | 0.194 |
| | 5040 | 0.162 | 70.389 | 0.068 |
| 5 | 540 | 0.037 | 15.715 | 0.197 |
| | 5040 | 0.165 | 70.412 | 0.069 |
| 6 | 540 | 0.081 | 20.925 | 0.307 |
| | 5040 | 0.289 | 74.421 | 0.099 |
| 7 | 540 | 0.129 | 26.421 | 0.360 |
| | 5040 | 0.377 | 77.072 | 0.112 |
| 8 | 540 | 0.241 | 31.389 | 0.527 |
| | 5040 | 0.622 | 81.027 | 0.146 |
| 9 | 540 | 0.284 | 31.354 | 0.622 |
| | 5040 | 0.735 | 81.072 | 0.172 |
| 10 | 540 | 0.309 | 30.996 | 0.687 |
| | 5040 | 0.804 | 80.778 | 0.191 |
| 11 | 540 | 0.310 | 30.621 | 0.703 |
| | 5040 | 0.815 | 80.419 | 0.199 |
| 12 | 540 | 0.329 | 30.157 | 0.762 |
| | 5040 | 0.874 | 80.094 | 0.217 |
| 13 | 540 | 0.332 | 30.063 | 0.773 |
| | 5040 | 0.885 | 80.016 | 0.221 |
| 14 | 540 | 0.335 | 29.939 | 0.784 |
| | 5040 | 0.894 | 79.891 | 0.225 |
| 15 | 540 | 0.356 | 29.466 | 0.851 |
| | 5040 | 0.956 | 79.226 | 0.251 |
| 16 | 540 | 0.426 | 29.580 | 1.013 |
| | 5040 | 1.147 | 79.710 | 0.292 |
| 17 | 540 | 0.443 | 29.929 | 1.037 |
| | 5040 | 1.182 | 79.862 | 0.298 |
| 18 | 540 | 0.402 | 27.479 | 1.062 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 5040 | 1.177 | 80.345 | 0.288 |
| 19 | 540 | 0.394 | 26.925 | 1.070 |
| | 5040 | 1.187 | 81.049 | 0.277 |
| 20 | 540 | 0.379 | 26.413 | 1.057 |
| | 5040 | 1.150 | 80.087 | 0.286 |
| 21 | 540 | 0.366 | 25.632 | 1.062 |
| | 5040 | 1.129 | 79.094 | 0.298 |
| 22 | 540 | 0.366 | 25.605 | 1.064 |
| | 5040 | 1.129 | 78.914 | 0.302 |
| 23 | 540 | 0.336 | 25.721 | 0.971 |
| | 5040 | 1.032 | 78.962 | 0.275 |
| 24 | 540 | 0.331 | 30.644 | 0.749 |
| | 5040 | 0.846 | 78.360 | 0.234 |
| 25 | 540 | 0.275 | 27.716 | 0.718 |
| | 5040 | 0.783 | 78.823 | 0.210 |
| 26 | 540 | 0.206 | 24.464 | 0.636 |
| | 5040 | 0.636 | 75.601 | 0.205 |
| 27 | 540 | 0.186 | 23.981 | 0.590 |
| | 5040 | 0.580 | 74.675 | 0.197 |
| 28 | 540 | 0.168 | 23.621 | 0.543 |
| | 5040 | 0.525 | 73.797 | 0.186 |
| 29 | 540 | 0.168 | 23.731 | 0.541 |
| | 5040 | 0.524 | 73.853 | 0.186 |
| 30 | 540 | 0.167 | 23.557 | 0.541 |
| | 5040 | 0.520 | 73.490 | 0.187 |
| 31 | 540 | 0.142 | 23.132 | 0.472 |
| | 5040 | 0.442 | 72.092 | 0.171 |
| 32 | 540 | 0.136 | 22.600 | 0.465 |
| | 5040 | 0.432 | 71.835 | 0.169 |
| 33 | 540 | 0.115 | 21.311 | 0.425 |
| | 5040 | 0.382 | 70.785 | 0.158 |
| 34 | 540 | 0.111 | 20.802 | 0.422 |
| | 5040 | 0.377 | 70.625 | 0.157 |
| 35 | 540 | 0.111 | 20.795 | 0.422 |
| | 5040 | 0.376 | 70.617 | 0.157 |
| 36 | 540 | 0.111 | 21.063 | 0.416 |
| | 5040 | 0.373 | 70.713 | 0.154 |
| 37 | 540 | 0.112 | 21.192 | 0.415 |
| | 5040 | 0.372 | 70.762 | 0.154 |
| 38 | 540 | 0.113 | 21.805 | 0.406 |
| | 5040 | 0.368 | 70.968 | 0.151 |
| 39 | 540 | 0.113 | 21.828 | 0.404 |
| | 5040 | 0.367 | 70.978 | 0.150 |
| 40 | 540 | 0.113 | 21.962 | 0.401 |
| | 5040 | 0.365 | 71.025 | 0.149 |
| 41 | 540 | 0.113 | 22.511 | 0.391 |
| | 5040 | 0.359 | 71.218 | 0.145 |
| 42 | 540 | 0.113 | 22.668 | 0.385 |
| | 5040 | 0.355 | 71.280 | 0.143 |
| 43 | 540 | 0.112 | 22.754 | 0.380 |
| | 5040 | 0.351 | 71.310 | 0.141 |
| 44 | 540 | 0.109 | 22.958 | 0.366 |
| | 5040 | 0.339 | 71.407 | 0.136 |
| 45 | 540 | 0.107 | 23.028 | 0.358 |
| | 5040 | 0.333 | 71.440 | 0.133 |
| 46 | 540 | 0.106 | 23.083 | 0.352 |
| | 5040 | 0.327 | 71.501 | 0.131 |
| 47 | 540 | 0.104 | 23.135 | 0.347 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 5040 | 0.323 | 71.547 | 0.129 |
| 48 | 540 | 0.102 | 23.233 | 0.338 |
| | 5040 | 0.316 | 71.658 | 0.125 |
| 49 | 540 | 0.101 | 23.316 | 0.333 |
| | 5040 | 0.312 | 71.721 | 0.123 |
| 50 | 540 | 0.099 | 23.449 | 0.322 |
| | 5040 | 0.302 | 71.810 | 0.119 |
| 51 | 540 | 0.097 | 23.457 | 0.318 |
| | 5040 | 0.298 | 71.796 | 0.117 |
| 52 | 540 | 0.097 | 23.415 | 0.316 |
| | 5040 | 0.296 | 71.804 | 0.116 |
| 53 | 540 | 0.096 | 23.377 | 0.315 |
| | 5040 | 0.295 | 71.781 | 0.116 |
| 54 | 540 | 0.090 | 22.853 | 0.305 |
| | 5040 | 0.283 | 71.498 | 0.113 |
| 55 | 540 | 0.089 | 22.796 | 0.303 |
| | 5040 | 0.280 | 71.457 | 0.112 |
| 56 | 540 | 0.089 | 22.761 | 0.303 |
| | 5040 | 0.280 | 71.429 | 0.112 |
| 57 | 540 | 0.089 | 22.707 | 0.301 |
| | 5040 | 0.278 | 71.380 | 0.112 |
| 58 | 540 | 0.088 | 22.688 | 0.300 |
| | 5040 | 0.277 | 71.385 | 0.111 |
| 59 | 540 | 0.088 | 22.714 | 0.299 |
| | 5040 | 0.276 | 71.422 | 0.110 |
| 60 | 540 | 0.088 | 22.860 | 0.296 |
| | 5040 | 0.274 | 71.555 | 0.109 |
| 61 | 540 | 0.088 | 23.237 | 0.291 |
| | 5040 | 0.272 | 71.742 | 0.107 |
| 62 | 540 | 0.080 | 21.188 | 0.297 |
| | 5040 | 0.258 | 68.566 | 0.118 |
| 63 | 540 | 0.067 | 17.862 | 0.307 |
| | 5040 | 0.248 | 66.335 | 0.126 |
| 64 | 540 | 0.060 | 16.326 | 0.309 |
| | 5040 | 0.242 | 65.575 | 0.127 |
| 65 | 540 | 0.119 | 19.869 | 0.479 |
| | 5040 | 0.433 | 72.409 | 0.165 |
| 66 | 540 | 0.133 | 21.543 | 0.485 |
| | 5040 | 0.459 | 74.275 | 0.159 |
| 67 | 540 | 0.139 | 22.322 | 0.485 |
| | 5040 | 0.467 | 74.803 | 0.157 |
| 68 | 540 | 0.061 | 13.350 | 0.398 |
| | 5040 | 0.320 | 69.601 | 0.140 |
| 69 | 540 | 0.056 | 12.510 | 0.389 |
| | 5040 | 0.307 | 68.921 | 0.138 |
| 70 | 540 | 0.057 | 14.056 | 0.351 |
| | 5040 | 0.289 | 70.887 | 0.119 |
| 71 | 540 | 0.027 | 9.069 | 0.270 |
| | 5040 | 0.200 | 67.432 | 0.097 |

## 5 Warnings and errors

List of non-fatal warnings and errors generated during calculation.

1 Non-uniform load [2]: Co-ordinate (6) lies below surface

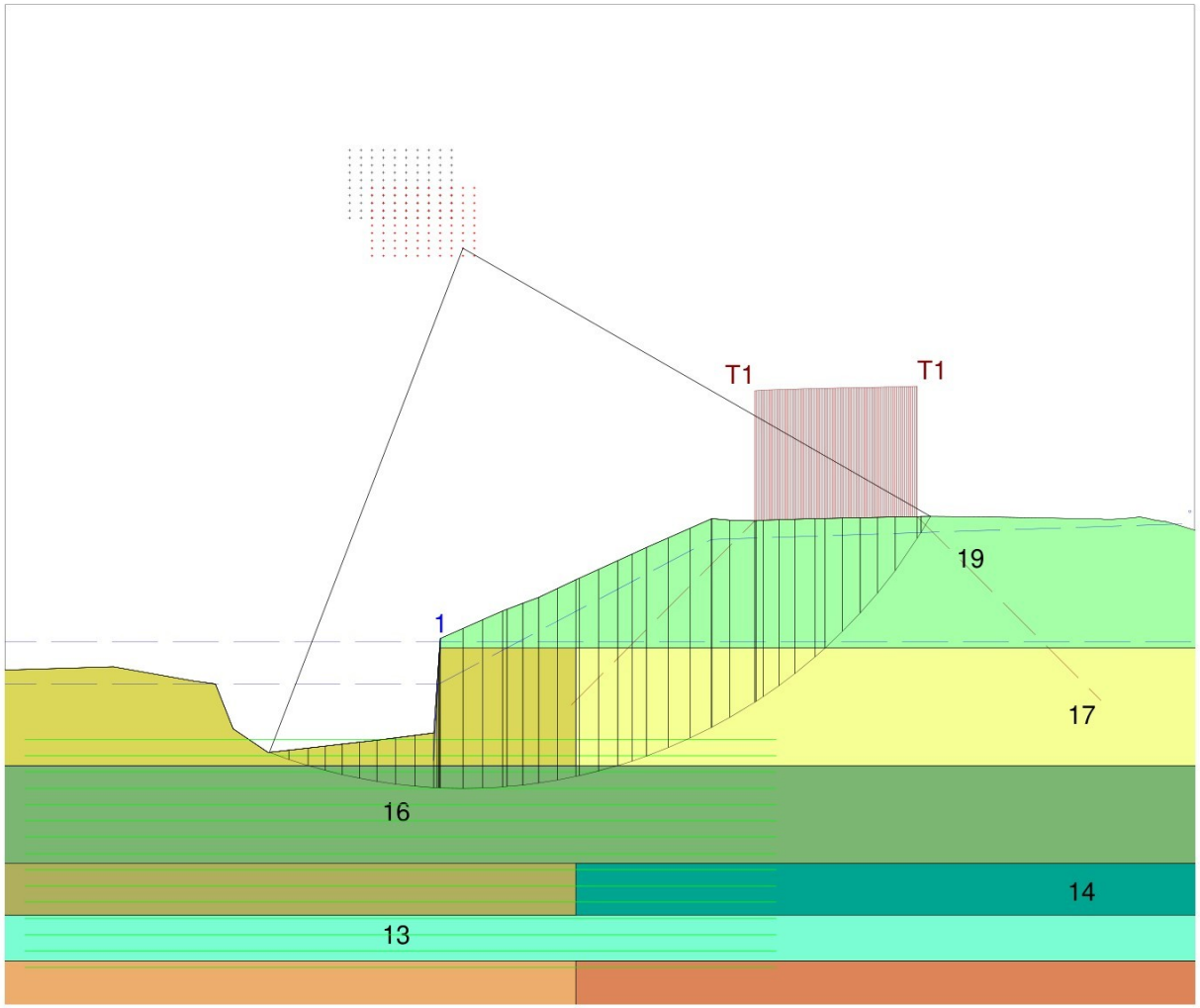
2 Non-uniform load [3]: Co-ordinate (1) lies below surface

3 Non-uniform load [4]: Co-ordinate (1) lies below surface

4 Non-uniform load [5]: Co-ordinate (4) lies below surface

## End of Report

# Critical Circle Bishop




Layers

- 19. Dijksmateriaal
- 18. Klei Hum Dk naast
- 17. Klei Hum DK
- 16. Hollandveen
- 15. Klei silt DKnaast
- 14. Klei silt DK
- 13. Hollandveen
- 12. Klei CA naast
- 11. Klei CA
- 10. Hollandveen
- 9. Klei CA naast
- 8. Klei hum CA naast
- 7. Klei CA naast
- 6. Klei hum CA naast
- 5. Klei CA
- 4. Klei hum CA
- 3. Klei CA
- 2. Klei hum CA
- 1. Zand CA

Xm : -11.20 [m]
Ym : 4.05 [m]

Radius : 8.30 [m]
Safety : 0.56

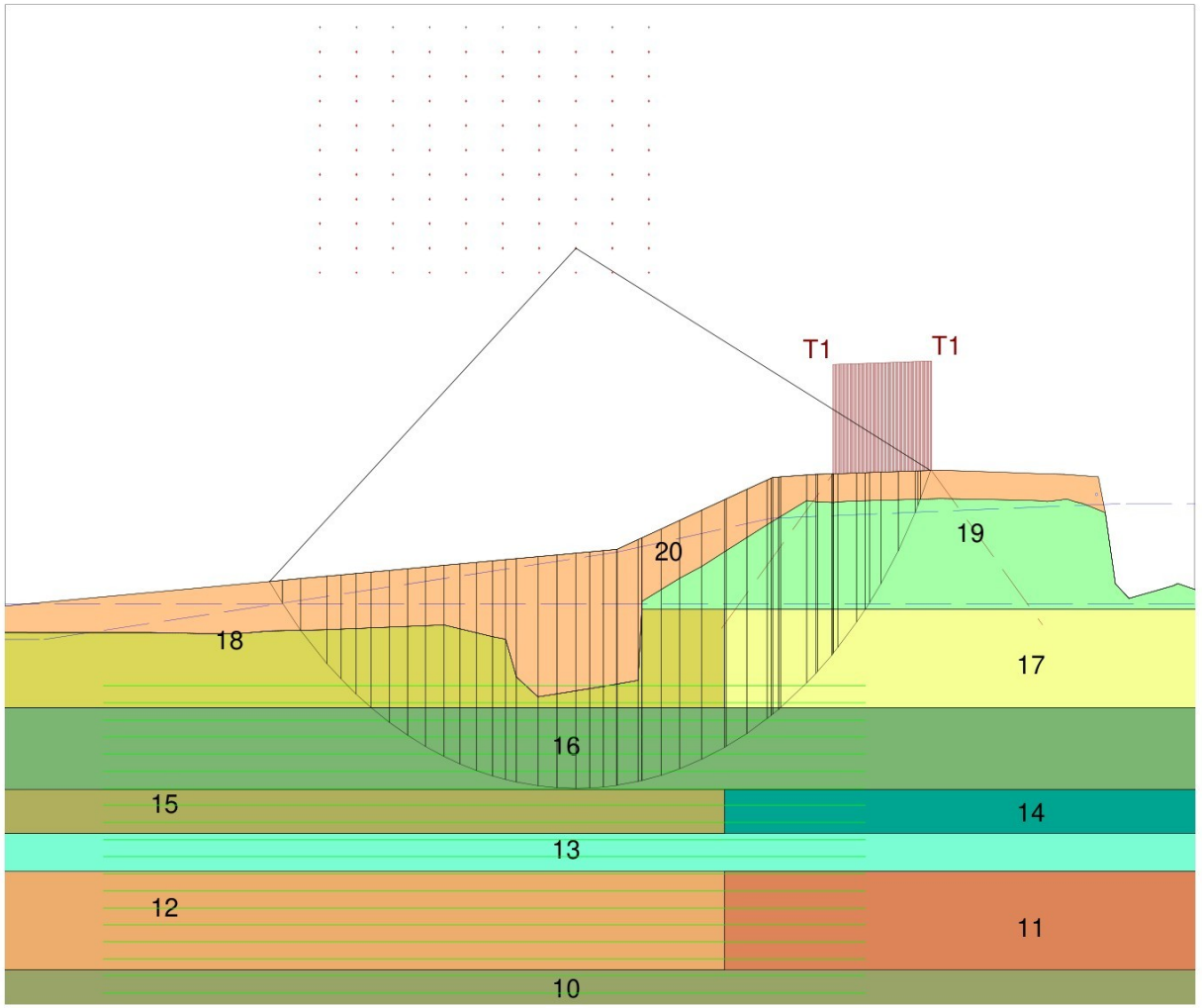
N468
profiel 13.650
huidige STBI

waalpartners civil engineering
Zuidweg 75
2671MP Naaldwijk
Phone
Fax 0174 627791

date 2/13/2025
dfw. -
ctr. -
form. A3
Annex -

D-Geo Stability 18.2 : 13.650_hui_stbi.sti

# Critical Circle Bishop




Layers

- 20. nieuw profiel
- 19. Dijksmateriaal
- 18. Klei Hum Dk naast
- 17. Klei Hum DK
- 16. Hollandveen
- 15. Klei silt DKnaast
- 14. Klei silt DK
- 13. Hollandveen
- 12. Klei CA naast
- 11. Klei CA
- 10. Hollandveen
- 9. Klei CA naast
- 8. Klei hum CA naast
- 7. Klei CA naast
- 6. Klei hum CA naast
- 5. Klei CA
- 4. Klei hum CA
- 3. Klei CA
- 2. Klei hum CA
- 1. Zand CA

Xm : -13.23 [m]
Ym : 4.51 [m]

Radius : 9.88 [m]
Safety : 1.37

waalpartners civil engineering
Zuidweg 75
2671MP Naaldwijk
Phone
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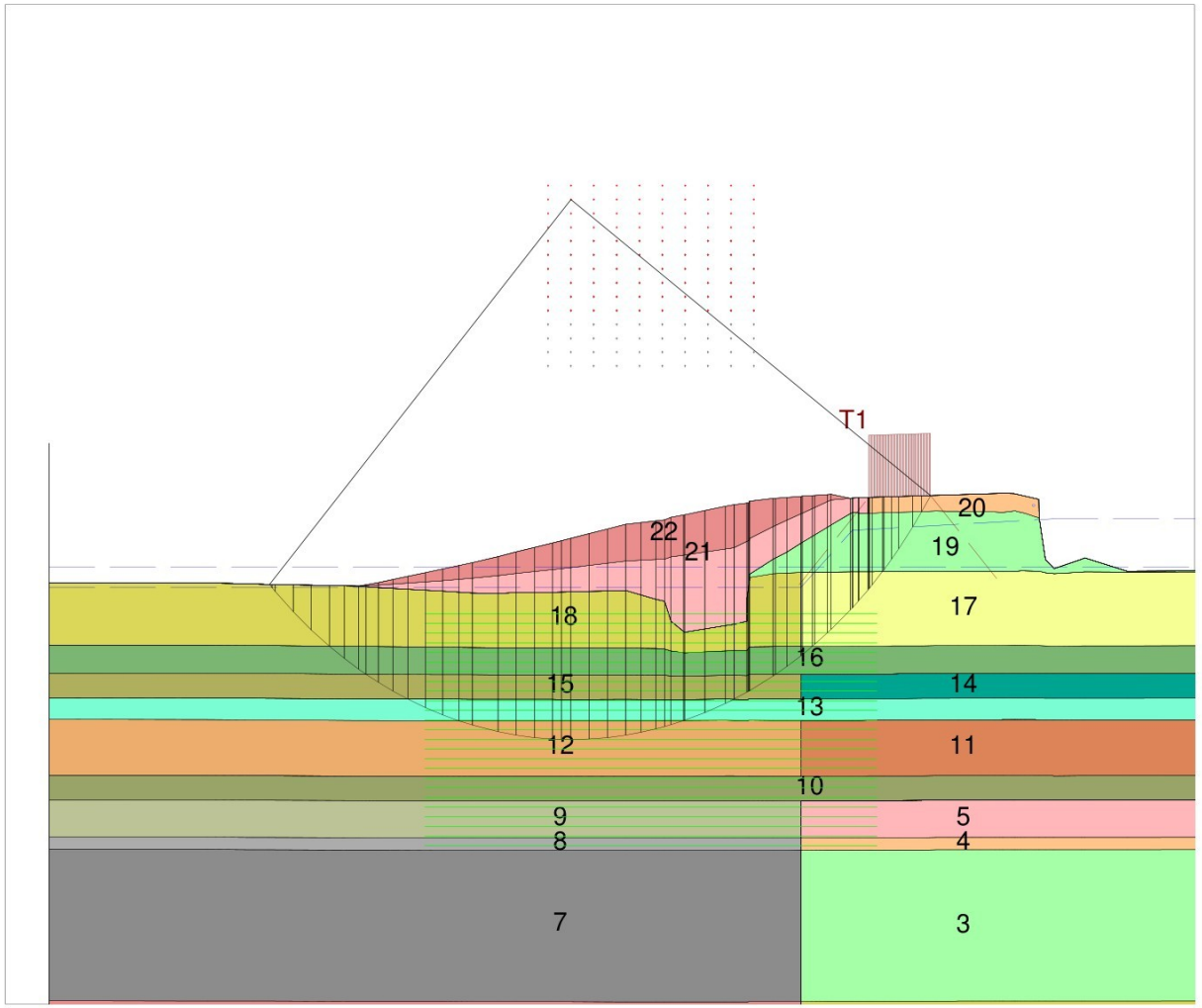
N468
profiel 13.650

Ontwerp STBI

| | | | |
|---|---|---|---|
| date | 2/13/2025 | drw. | - |
| | - | ctr. | |
| | Annex - | form. | A3 |

D-Geo Stability 18.2 : 13.650_eind_stbi koe -1.0 15.sti

# Critical Circle Bishop




Layers

- 22. nieuw profiel
- 21. nieuw profiel
- 20. nieuw profiel
- 19. Dijksmateriaal
- 18. Klei Hum Dk naast
- 17. Klei Hum DK
- 16. Hollandveen
- 15. Klei silt DKnaast
- 14. Klei silt DK
- 13. Hollandveen
- 12. Klei CA naast
- 11. Klei CA
- 10. Hollandveen
- 9. Klei CA naast
- 8. Klei hum CA naast
- 7. Klei CA naast
- 6. Klei hum CA naast
- 5. Klei CA
- 4. Klei hum CA
- 3. Klei CA
- 2. Klei hum CA
- 1. Zand CA

Xm : -18.80 [m]
Ym : 9.90 [m]

Radius : 17.46 [m]
Safety : 1.21

N468
profiel 13.650

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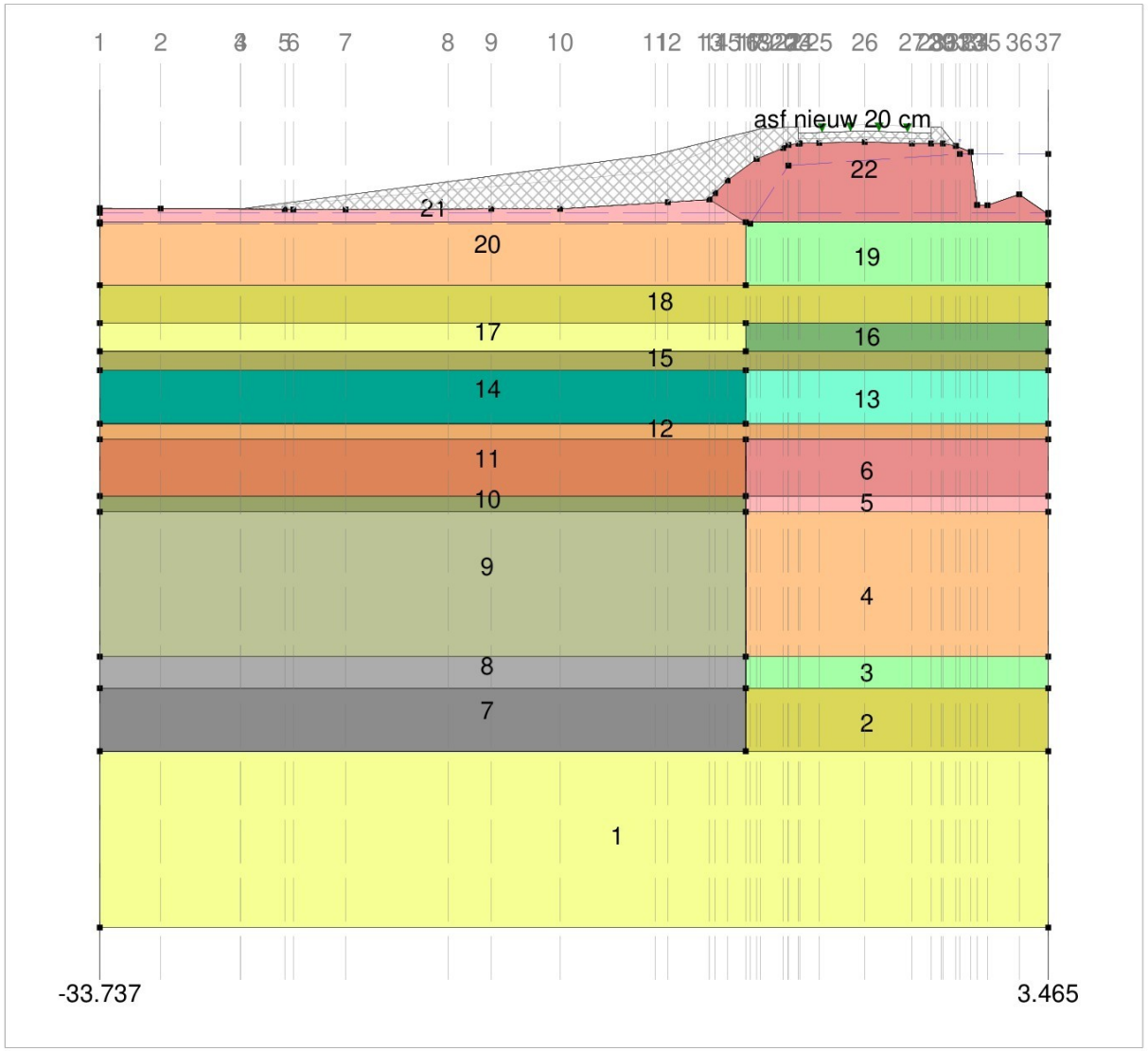
Fax 0174 627791

date 2/13/2025
dfw. -
ctr. -
form. A3
Annex -

D-Geo Stability 18.2 : 13.650_eind_stbi koe -1.0 10at540.sti

Bijlage 5.2 SBDMW08

# Input View





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Email -


N468 steunberm
profiel 14.17
zetting koe

| | | | |
|---|---|---|---|
| Annex - | - | 2/5/2025 | - |
| form. | ctr. | date | drw. |

D-Settlement 23.2 : SB DW8 KM14.17 Zetting eindkoe.sli

# Report for D-Settlement 23.2

Settlement Calculations
Developed by Deltares




| | |
|---|---|
| Company: | Waalpartners civil engineering |
| Date of report: | 2/5/2025 |
| Time of report: | 3:39:25 PM |
| Report with version: | 23.2.1.41771 |
| Date of calculation: | 1/13/2025 |
| Time of calculation: | 4:10:59 PM |
| Calculated with version: | 23.2.1.41771 |
| File name: | SB DW8 KM14.17 Zetting eindkoe |
| Project identification: | N468 steunberm<br>profiel 10.350<br>huidige STBI |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 22 - X - | -33.737 | -31.348 | -26.473 | -26.140 | -24.093 |
| 22 - Y - | -2.154 | -2.168 | -2.180 | -2.191 | -2.194 |
| 22 - X - | -18.379 | -15.677 | -11.460 | -9.825 | -9.598 |
| 22 - Y - | -2.175 | -2.172 | -1.960 | -1.874 | -1.679 |
| 22 - X - | -9.112 | -7.974 | -6.932 | -6.730 | -6.337 |
| 22 - Y - | -1.273 | -0.588 | -0.237 | -0.147 | -0.101 |
| 22 - X - | -6.291 | -5.511 | -3.737 | -1.879 | -1.137 |
| 22 - Y - | -0.093 | -0.077 | -0.050 | -0.093 | -0.097 |
| 22 - X - | -0.673 | -0.163 | 0.418 | 0.671 | 1.069 |
| 22 - Y - | -0.101 | -0.170 | -0.369 | -2.050 | -2.059 |
| 22 - X - | 2.325 | 3.465 | | | |
| 22 - Y - | -1.710 | -2.345 | | | |
| 21 - X - | -33.737 | -31.348 | -26.473 | -26.140 | -24.093 |
| 21 - Y - | -2.154 | -2.168 | -2.180 | -2.191 | -2.194 |
| 21 - X - | -18.379 | -15.677 | -11.460 | -9.825 | -8.400 |
| 21 - Y - | -2.175 | -2.172 | -1.960 | -1.874 | -2.600 |
| 21 - X - | 3.465 | | | | |
| 21 - Y - | -2.600 | | | | |
| 20 - X - | -33.737 | -8.400 | 3.465 | | |
| 20 - Y - | -2.600 | -2.600 | -2.600 | | |
| 19 - X - | -33.737 | -8.400 | -8.400 | 3.465 | |
| 19 - Y - | -4.600 | -4.600 | -2.600 | -2.600 | |
| 18 - X - | -33.737 | -8.400 | 3.465 | | |
| 18 - Y - | -4.600 | -4.600 | -4.600 | | |
| 17 - X - | -33.737 | -8.400 | 3.465 | | |
| 17 - Y - | -5.800 | -5.800 | -5.800 | | |
| 16 - X - | -33.737 | -8.400 | -8.400 | 3.465 | |
| 16 - Y - | -6.700 | -6.700 | -5.800 | -5.800 | |
| 15 - X - | -33.737 | -8.400 | 3.465 | | |
| 15 - Y - | -6.700 | -6.700 | -6.700 | | |
| 14 - X - | -33.737 | -8.400 | 3.465 | | |
| 14 - Y - | -7.300 | -7.300 | -7.300 | | |
| 13 - X - | -33.737 | -8.400 | -8.400 | 3.465 | |
| 13 - Y - | -9.000 | -9.000 | -7.300 | -7.300 | |
| 12 - X - | -33.737 | -8.400 | 3.465 | | |
| 12 - Y - | -9.000 | -9.000 | -9.000 | | |
| 11 - X - | -33.737 | -8.400 | 3.465 | | |
| 11 - Y - | -9.500 | -9.500 | -9.500 | | |
| 10 - X - | -33.737 | -8.400 | -8.400 | 3.465 | |
| 10 - Y - | -11.300 | -11.300 | -9.500 | -9.500 | |
| 9 - X - | -33.737 | -8.400 | -8.400 | -8.400 | 3.465 |
| 9 - Y - | -11.800 | -11.800 | -11.300 | -9.500 | -9.500 |
| 8 - X - | -33.737 | -8.400 | -8.400 | -8.400 | -8.400 |
| 8 - Y - | -16.400 | -16.400 | -11.800 | -11.300 | -9.500 |
| 8 - X - | 3.465 | | | | |
| 8 - Y - | -9.500 | | | | |
| 7 - X - | -33.737 | -8.400 | -8.400 | -8.400 | -8.400 |
| 7 - Y - | -17.400 | -17.400 | -16.400 | -11.800 | -11.300 |
| 7 - X - | -8.400 | 3.465 | | | |
| 7 - Y - | -9.500 | -9.500 | | | |
| 6 - X - | -33.737 | -8.400 | -8.400 | -8.400 | -8.400 |
| 6 - Y - | -19.400 | -19.400 | -17.400 | -16.400 | -11.800 |
| 6 - X - | -8.400 | -8.400 | 3.465 | | |
| 6 - Y - | -11.300 | -9.500 | -9.500 | | |

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 5 - X - | -33.737 | -8.400 | -8.400 | -8.400 | -8.400 |
| 5 - Y - | -19.400 | -19.400 | -17.400 | -16.400 | -11.800 |
| 5 - X - | -8.400 | 3.465 | | | |
| 5 - Y - | -11.300 | -11.300 | | | |
| 4 - X - | -33.737 | -8.400 | -8.400 | -8.400 | -8.400 |
| 4 - Y - | -19.400 | -19.400 | -17.400 | -16.400 | -11.800 |
| 4 - X - | 3.465 | | | | |
| 4 - Y - | -11.800 | | | | |
| 3 - X - | -33.737 | -8.400 | -8.400 | -8.400 | 3.465 |
| 3 - Y - | -19.400 | -19.400 | -17.400 | -16.400 | -16.400 |
| 2 - X - | -33.737 | -8.400 | -8.400 | 3.465 | |
| 2 - Y - | -19.400 | -19.400 | -17.400 | -17.400 | |
| 1 - X - | -33.737 | -8.400 | 3.465 | | |
| 1 - Y - | -19.400 | -19.400 | -19.400 | | |
| 0 - X - | -33.737 | 3.465 | | | |
| 0 - Y - | -25.000 | -25.000 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -33.737 | -8.230 | -6.730 | 0.000 | 3.465 |
| 1 - Y - | -2.650 | -2.650 | -0.800 | -0.430 | -0.430 |
| 2 - X - | -33.737 | 3.465 | | | |
| 2 - Y - | -2.300 | -2.300 | | | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | |
| - Loads: | None |
| End of consolidation: | 10000.00 [days] |
| No maintain profile | |
| Pc (initial): | Variable parallel to the initial effective stress |
| Pc (per step): | Automatic increased to the final effective stresses |
| Creep rate reference time: | 1.000 [days] |
| No imaginary surface | |
| With submerging | |
| (only for non uniform loads) | |
| - Iteration stop criterium : | 0.10 [m] |
| Load column width | |
| - Non-Uniform Loads : | 1.00 [m] |
| - Trapeziform Loads : | 1.00 [m] |

## 2.4 Soil Profiles

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 22 | Dijksmateriaal | 1 | 1 |
| 21 | Klei Hum Dk naast | 1 | 1 |
| 20 | Klei Hum Dk naast | 1 | 1 |
| 19 | Klei Hum DK | 1 | 1 |
| 18 | Hollandveen | 1 | 1 |
| 17 | Klei Hum Dk naast | 1 | 1 |
| 16 | Klei Hum DK | 1 | 1 |
| 15 | Hollandveen | 1 | 1 |

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 14 | Klei silt DKnaast | 1 | 1 |
| 13 | Klei silt DK | 1 | 1 |
| 12 | Hollandveen | 1 | 1 |
| 11 | Klei CA naast | 1 | 1 |
| 10 | Klei hum CA naast | 1 | 1 |
| 9 | Klei CA naast | 1 | 1 |
| 8 | Klei hum CA naast | 1 | 1 |
| 7 | Klei CA naast | 1 | 2 |
| 6 | Klei CA | 1 | 1 |
| 5 | Klei hum CA | 1 | 1 |
| 4 | Klei CA | 1 | 1 |
| 3 | Klei hum CA | 1 | 1 |
| 2 | Klei CA | 1 | 2 |
| 1 | Zand CA | 2 | 2 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 22 | No | 16.00 | 16.00 |
| 21 | No | 13.50 | 13.50 |
| 20 | No | 13.50 | 13.50 |
| 19 | No | 13.50 | 13.50 |
| 18 | No | 10.50 | 10.50 |
| 17 | No | 13.50 | 13.50 |
| 16 | No | 13.50 | 13.50 |
| 15 | No | 10.50 | 10.50 |
| 14 | No | 15.10 | 15.10 |
| 13 | No | 15.10 | 15.10 |
| 12 | No | 10.50 | 10.50 |
| 11 | No | 15.90 | 15.90 |
| 10 | No | 15.10 | 15.10 |
| 9 | No | 15.90 | 15.90 |
| 8 | No | 15.10 | 15.10 |
| 7 | No | 15.90 | 15.90 |
| 6 | No | 15.90 | 15.90 |
| 5 | No | 15.10 | 15.10 |
| 4 | No | 15.90 | 15.90 |
| 3 | No | 15.10 | 15.10 |
| 2 | No | 15.90 | 15.90 |
| 1 | Yes | 18.00 | 20.00 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] |
|---|---|---|
| 22 | Vert. cons. | 1.00E-08 |
| 21 | Vert. cons. | 2.07E-08 |
| 20 | Vert. cons. | 2.07E-08 |
| 19 | Vert. cons. | 2.07E-08 |
| 18 | Vert. cons. | 2.37E-08 |
| 17 | Vert. cons. | 2.07E-08 |
| 16 | Vert. cons. | 2.07E-08 |
| 15 | Vert. cons. | 2.37E-08 |
| 14 | Vert. cons. | 2.54E-08 |
| 13 | Vert. cons. | 2.54E-08 |
| 12 | Vert. cons. | 2.37E-08 |
| 11 | Vert. cons. | 6.02E-07 |
| 10 | Vert. cons. | 9.27E-08 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] |
|---|---|---|
| 9 | Vert. cons. | 6.02E-07 |
| 8 | Vert. cons. | 9.27E-08 |
| 7 | Vert. cons. | 6.02E-07 |
| 6 | Vert. cons. | 6.02E-07 |
| 5 | Vert. cons. | 9.27E-08 |
| 4 | Vert. cons. | 6.02E-07 |
| 3 | Vert. cons. | 9.27E-08 |
| 2 | Vert. cons. | 6.02E-07 |
| 1 | Vert. cons. | - |

| Layer number | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|
| 22 | - | - | - |
| 21 | - | - | - |
| 20 | - | - | - |
| 19 | - | - | - |
| 18 | - | - | - |
| 17 | - | - | - |
| 16 | - | - | - |
| 15 | - | - | - |
| 14 | - | - | - |
| 13 | - | - | - |
| 12 | - | - | - |
| 11 | - | - | - |
| 10 | - | - | - |
| 9 | - | - | - |
| 8 | - | - | - |
| 7 | - | - | - |
| 6 | - | - | - |
| 5 | - | - | - |
| 4 | - | - | - |
| 3 | - | - | - |
| 2 | - | - | - |
| 1 | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 22 | - | 1.50 | - |
| 21 | - | 1.50 | - |
| 20 | - | 1.50 | - |
| 19 | - | 1.50 | - |
| 18 | - | 1.80 | - |
| 17 | - | 1.50 | - |
| 16 | - | 1.50 | - |
| 15 | - | 1.80 | - |
| 14 | - | 1.50 | - |
| 13 | - | 1.50 | - |
| 12 | - | 1.80 | - |
| 11 | - | 1.50 | - |
| 10 | - | 1.50 | - |
| 9 | - | 1.50 | - |
| 8 | - | 1.50 | - |
| 7 | - | 1.50 | - |
| 6 | - | 1.50 | - |
| 5 | - | 1.50 | - |
| 4 | - | 1.50 | - |
| 3 | - | 1.50 | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 2 | - | 1.50 | - |
| 1 | - | 1.39 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 22 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 21 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 20 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 19 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 18 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 17 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 16 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 15 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 14 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 13 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 12 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 11 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 10 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 9 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 8 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 7 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 6 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 5 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 4 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 3 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 2 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 1 | 0.0100000 | 0.1062000 | 0.0033000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time [days] | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 1 | 0 | 16.00 | 16.00 |
| 2 | 0 | 16.00 | 16.00 |
| 3 | 300 | 19.00 | 19.00 |
| 4 | 300 | 25.00 | 25.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -28.20 | -11.95 | -7.84 | -6.74 | -6.34 | -6.34 |
| 1 - Y - | -2.18 | -1.00 | 0.37 | 0.42 | 0.43 | 0.04 |
| 1 - X - | -3.74 | -1.14 | -1.14 | -0.74 | -0.16 | |
| 1 - Y - | 0.10 | 0.04 | 0.43 | 0.42 | -0.17 | |
| 2 - X - | -28.21 | -11.95 | -7.84 | -6.74 | -6.34 | -6.34 |
| 2 - Y - | -2.18 | -0.45 | 0.37 | 0.42 | 0.43 | 0.04 |
| 2 - X - | -3.74 | -1.14 | -1.14 | -0.74 | -0.16 | |
| 2 - Y - | 0.10 | 0.04 | 0.43 | 0.42 | -0.17 | |
| 3 - X - | -6.34 | -6.34 | -3.74 | -1.14 | -1.14 | |
| 3 - Y - | 0.04 | 0.23 | 0.30 | 0.23 | 0.04 | |
| 4 - X - | -6.34 | -6.34 | -3.74 | -1.14 | -1.14 | |
| 4 - Y - | 0.23 | 0.43 | 0.50 | 0.43 | 0.23 | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -33.737 | -31.348 | -28.211 | -28.209 | -26.473 |
| 6 - 10 | -26.140 | -24.093 | -20.080 | -18.379 | -15.677 |
| 11 - 15 | -11.946 | -11.460 | -9.825 | -9.598 | -9.112 |

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 16 - 20 | -8.400 | -8.230 | -7.974 | -7.837 | -6.932 |
| 21 - 25 | -6.737 | -6.730 | -6.337 | -6.291 | -5.511 |
| 26 - 30 | -3.737 | -1.879 | -1.137 | -0.737 | -0.673 |
| 31 - 35 | -0.163 | 0.000 | 0.418 | 0.671 | 1.069 |
| 36 - 37 | 2.325 | 3.465 | | | |

# 3 Results per Vertical

## 3.1 Results for Vertical 1 (X = -33.74 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.154 | 0.001 | -2.154 | 0.000 | 0.206 |
| -2.254 | 1.347 | -2.254 | 0.000 | 0.203 |
| -2.300 | 1.965 | -2.299 | 0.000 | 0.202 |
| -2.354 | 2.689 | -2.353 | 0.000 | 0.200 |
| -2.377 | 2.997 | -2.376 | 0.000 | 0.200 |
| -2.454 | 4.026 | -2.452 | 0.000 | 0.198 |
| -2.554 | 4.599 | -2.550 | -0.760 | 0.195 |
| -2.600 | 4.759 | -2.595 | -1.211 | 0.195 |
| -2.600 | 4.759 | -2.595 | -1.211 | 0.195 |
| -2.650 | 4.933 | -2.644 | -1.702 | 0.194 |
| -2.654 | 4.947 | -2.644 | -1.702 | 0.194 |
| -2.754 | 5.293 | -2.641 | -1.702 | 0.193 |
| -2.854 | 5.638 | -2.639 | -1.701 | 0.192 |
| -2.954 | 5.982 | -2.636 | -1.701 | 0.191 |
| -3.054 | 6.324 | -2.634 | -1.701 | 0.191 |
| -3.154 | 6.666 | -2.631 | -1.701 | 0.190 |
| -3.600 | 8.178 | -2.617 | -1.698 | 0.186 |
| -4.600 | 11.515 | -2.579 | -1.679 | 0.177 |
| -4.600 | 11.515 | -2.579 | -1.679 | 0.177 |
| -5.200 | 11.819 | -2.565 | -1.655 | 0.167 |
| -5.800 | 12.159 | -2.554 | -1.618 | 0.157 |
| -5.800 | 12.159 | -2.554 | -1.618 | 0.157 |
| -6.250 | 13.732 | -2.541 | -1.581 | 0.153 |
| -6.700 | 15.315 | -2.529 | -1.537 | 0.149 |
| -6.700 | 15.315 | -2.529 | -1.537 | 0.149 |
| -7.000 | 15.513 | -2.525 | -1.504 | 0.144 |
| -7.300 | 15.726 | -2.521 | -1.467 | 0.138 |
| -7.300 | 15.726 | -2.521 | -1.467 | 0.138 |
| -8.150 | 20.235 | -2.510 | -1.347 | 0.130 |
| -9.000 | 24.832 | -2.506 | -1.206 | 0.121 |
| -9.000 | 24.832 | -2.506 | -1.206 | 0.121 |
| -9.250 | 25.058 | -2.507 | -1.161 | 0.113 |
| -9.500 | 25.298 | -2.509 | -1.115 | 0.106 |
| -9.500 | 25.299 | -2.509 | -1.115 | 0.106 |
| -10.400 | 30.963 | -2.510 | -0.941 | 0.102 |
| -11.300 | 36.642 | -2.512 | -0.757 | 0.097 |
| -11.300 | 36.642 | -2.512 | -0.757 | 0.097 |
| -11.550 | 38.056 | -2.516 | -0.705 | 0.094 |
| -11.800 | 39.475 | -2.520 | -0.652 | 0.090 |
| -11.800 | 39.475 | -2.520 | -0.652 | 0.090 |
| -12.500 | 43.907 | -2.522 | -0.504 | 0.085 |
| -13.500 | 50.248 | -2.526 | -0.291 | 0.077 |
| -14.100 | 54.059 | -2.529 | -0.164 | 0.072 |
| -14.800 | 58.508 | -2.533 | -0.018 | 0.066 |
| -15.800 | 64.873 | -2.541 | 0.185 | 0.056 |
| -16.400 | 68.697 | -2.546 | 0.303 | 0.050 |
| -16.400 | 68.697 | -2.546 | 0.303 | 0.050 |
| -16.900 | 71.795 | -2.582 | 0.399 | 0.041 |
| -17.400 | 74.933 | -2.623 | 0.493 | 0.031 |
| -17.400 | 74.933 | -2.623 | 0.493 | 0.031 |
| -18.400 | 79.608 | -2.461 | 0.672 | 0.019 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -19.400 | 84.290 | -2.300 | 0.840 | 0.006 |
| -19.400 | 84.290 | -2.300 | 0.840 | 0.006 |
| -20.800 | 98.773 | -2.300 | 1.057 | 0.005 |
| -22.200 | 113.232 | -2.300 | 1.250 | 0.003 |
| -23.600 | 127.668 | -2.300 | 1.420 | 0.002 |
| -25.000 | 142.083 | -2.300 | 1.569 | 0.000 |

### 3.2 Results for Vertical 2 (X = -31.35 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.168 | 0.001 | -2.168 | 0.000 | 0.218 |
| -2.268 | 1.347 | -2.268 | 0.000 | 0.215 |
| -2.300 | 1.777 | -2.300 | 0.000 | 0.214 |
| -2.368 | 2.689 | -2.367 | 0.000 | 0.213 |
| -2.384 | 2.904 | -2.383 | 0.000 | 0.212 |
| -2.468 | 3.990 | -2.466 | -0.036 | 0.210 |
| -2.568 | 4.341 | -2.564 | -1.017 | 0.208 |
| -2.600 | 4.453 | -2.595 | -1.331 | 0.207 |
| -2.600 | 4.453 | -2.595 | -1.331 | 0.207 |
| -2.650 | 4.627 | -2.644 | -1.821 | 0.207 |
| -2.668 | 4.689 | -2.644 | -1.821 | 0.207 |
| -2.768 | 5.036 | -2.641 | -1.821 | 0.206 |
| -2.868 | 5.382 | -2.639 | -1.820 | 0.205 |
| -2.968 | 5.726 | -2.636 | -1.819 | 0.205 |
| -3.068 | 6.070 | -2.634 | -1.818 | 0.204 |
| -3.168 | 6.413 | -2.631 | -1.817 | 0.203 |
| -3.600 | 7.886 | -2.617 | -1.805 | 0.200 |
| -4.600 | 11.271 | -2.579 | -1.734 | 0.192 |
| -4.600 | 11.271 | -2.579 | -1.734 | 0.192 |
| -5.200 | 11.625 | -2.565 | -1.656 | 0.182 |
| -5.800 | 12.026 | -2.553 | -1.554 | 0.173 |
| -5.800 | 12.026 | -2.553 | -1.554 | 0.173 |
| -6.250 | 13.644 | -2.540 | -1.463 | 0.169 |
| -6.700 | 15.274 | -2.526 | -1.363 | 0.164 |
| -6.700 | 15.274 | -2.526 | -1.363 | 0.164 |
| -7.000 | 15.507 | -2.522 | -1.292 | 0.158 |
| -7.300 | 15.753 | -2.518 | -1.218 | 0.152 |
| -7.300 | 15.753 | -2.518 | -1.218 | 0.152 |
| -8.150 | 20.349 | -2.506 | -0.997 | 0.144 |
| -9.000 | 25.024 | -2.500 | -0.764 | 0.133 |
| -9.000 | 25.024 | -2.500 | -0.764 | 0.133 |
| -9.250 | 25.273 | -2.501 | -0.695 | 0.125 |
| -9.500 | 25.537 | -2.503 | -0.625 | 0.117 |
| -9.500 | 25.537 | -2.503 | -0.625 | 0.117 |
| -10.400 | 31.278 | -2.504 | -0.374 | 0.112 |
| -11.300 | 37.022 | -2.506 | -0.126 | 0.107 |
| -11.300 | 37.022 | -2.506 | -0.126 | 0.107 |
| -11.550 | 38.453 | -2.510 | -0.058 | 0.103 |
| -11.800 | 39.889 | -2.514 | 0.009 | 0.099 |
| -11.800 | 39.889 | -2.514 | 0.009 | 0.099 |
| -12.500 | 44.358 | -2.517 | 0.194 | 0.093 |
| -13.500 | 50.743 | -2.521 | 0.448 | 0.084 |
| -14.100 | 54.574 | -2.524 | 0.594 | 0.078 |
| -14.800 | 59.043 | -2.528 | 0.758 | 0.071 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -15.800 | 65.429 | -2.536 | 0.978 | 0.061 |
| -16.400 | 69.262 | -2.541 | 1.103 | 0.054 |
| -16.400 | 69.262 | -2.541 | 1.103 | 0.054 |
| -16.900 | 72.380 | -2.580 | 1.202 | 0.044 |
| -17.400 | 75.537 | -2.622 | 1.297 | 0.034 |
| -17.400 | 75.537 | -2.622 | 1.297 | 0.034 |
| -18.400 | 80.216 | -2.460 | 1.475 | 0.021 |
| -19.400 | 84.897 | -2.300 | 1.636 | 0.008 |
| -19.400 | 84.897 | -2.300 | 1.636 | 0.008 |
| -20.800 | 99.363 | -2.300 | 1.836 | 0.006 |
| -22.200 | 113.798 | -2.300 | 2.005 | 0.004 |
| -23.600 | 128.207 | -2.300 | 2.148 | 0.002 |
| -25.000 | 142.590 | -2.300 | 2.265 | 0.000 |

### 3.3 Results for Vertical 3 (X = -28.21 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.176 | 0.105 | -2.176 | 0.104 | 0.276 |
| -2.276 | 1.747 | -2.275 | 0.402 | 0.270 |
| -2.300 | 2.080 | -2.299 | 0.408 | 0.268 |
| -2.376 | 3.105 | -2.374 | 0.420 | 0.265 |
| -2.388 | 3.268 | -2.386 | 0.422 | 0.264 |
| -2.476 | 3.867 | -2.472 | -0.151 | 0.261 |
| -2.576 | 4.223 | -2.570 | -1.122 | 0.258 |
| -2.600 | 4.310 | -2.594 | -1.358 | 0.258 |
| -2.600 | 4.310 | -2.594 | -1.358 | 0.258 |
| -2.650 | 4.488 | -2.643 | -1.843 | 0.257 |
| -2.676 | 4.579 | -2.642 | -1.839 | 0.257 |
| -2.776 | 4.937 | -2.639 | -1.824 | 0.256 |
| -2.876 | 5.297 | -2.636 | -1.804 | 0.255 |
| -2.976 | 5.660 | -2.633 | -1.781 | 0.254 |
| -3.076 | 6.024 | -2.630 | -1.754 | 0.253 |
| -3.176 | 6.391 | -2.627 | -1.724 | 0.253 |
| -3.600 | 7.953 | -2.611 | -1.573 | 0.249 |
| -4.600 | 11.608 | -2.565 | -1.158 | 0.238 |
| -4.600 | 11.608 | -2.565 | -1.158 | 0.238 |
| -5.200 | 12.108 | -2.548 | -0.905 | 0.225 |
| -5.800 | 12.629 | -2.534 | -0.659 | 0.211 |
| -5.800 | 12.629 | -2.534 | -0.659 | 0.211 |
| -6.250 | 14.311 | -2.518 | -0.479 | 0.205 |
| -6.700 | 15.993 | -2.502 | -0.305 | 0.198 |
| -6.700 | 15.993 | -2.502 | -0.305 | 0.198 |
| -7.000 | 16.262 | -2.497 | -0.191 | 0.190 |
| -7.300 | 16.541 | -2.493 | -0.079 | 0.181 |
| -7.300 | 16.541 | -2.493 | -0.079 | 0.181 |
| -8.150 | 21.215 | -2.480 | 0.226 | 0.170 |
| -9.000 | 25.962 | -2.476 | 0.515 | 0.156 |
| -9.000 | 25.962 | -2.476 | 0.515 | 0.156 |
| -9.250 | 26.229 | -2.477 | 0.597 | 0.146 |
| -9.500 | 26.511 | -2.480 | 0.678 | 0.137 |
| -9.500 | 26.511 | -2.480 | 0.678 | 0.137 |
| -10.400 | 32.282 | -2.481 | 0.956 | 0.130 |
| -11.300 | 38.042 | -2.483 | 1.216 | 0.122 |
| -11.300 | 38.042 | -2.483 | 1.216 | 0.122 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -11.550 | 39.485 | -2.489 | 1.285 | 0.117 |
| -11.800 | 40.932 | -2.494 | 1.353 | 0.113 |
| -11.800 | 40.932 | -2.494 | 1.353 | 0.113 |
| -12.500 | 45.402 | -2.497 | 1.534 | 0.106 |
| -13.500 | 51.780 | -2.502 | 1.773 | 0.095 |
| -14.100 | 55.603 | -2.506 | 1.905 | 0.088 |
| -14.800 | 60.060 | -2.511 | 2.048 | 0.080 |
| -15.800 | 66.423 | -2.520 | 2.233 | 0.068 |
| -16.400 | 70.240 | -2.526 | 2.334 | 0.061 |
| -16.400 | 70.240 | -2.526 | 2.334 | 0.061 |
| -16.900 | 73.392 | -2.570 | 2.411 | 0.050 |
| -17.400 | 76.586 | -2.619 | 2.484 | 0.039 |
| -17.400 | 76.586 | -2.619 | 2.484 | 0.039 |
| -18.400 | 81.233 | -2.458 | 2.613 | 0.024 |
| -19.400 | 85.880 | -2.300 | 2.723 | 0.009 |
| -19.400 | 85.880 | -2.300 | 2.723 | 0.009 |
| -20.800 | 100.270 | -2.300 | 2.847 | 0.007 |
| -22.200 | 114.628 | -2.300 | 2.939 | 0.004 |
| -23.600 | 128.958 | -2.300 | 3.003 | 0.002 |
| -25.000 | 143.264 | -2.300 | 3.043 | 0.000 |

### 3.4 Results for Vertical 4 (X = -28.21 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.176 | 0.116 | -2.176 | 0.115 | 0.276 |
| -2.276 | 1.759 | -2.275 | 0.414 | 0.270 |
| -2.300 | 2.089 | -2.299 | 0.418 | 0.268 |
| -2.376 | 3.111 | -2.374 | 0.427 | 0.265 |
| -2.388 | 3.274 | -2.386 | 0.428 | 0.264 |
| -2.476 | 3.870 | -2.472 | -0.147 | 0.261 |
| -2.576 | 4.226 | -2.570 | -1.120 | 0.258 |
| -2.600 | 4.312 | -2.594 | -1.355 | 0.258 |
| -2.600 | 4.312 | -2.594 | -1.356 | 0.258 |
| -2.650 | 4.490 | -2.643 | -1.840 | 0.257 |
| -2.676 | 4.581 | -2.642 | -1.837 | 0.257 |
| -2.776 | 4.939 | -2.639 | -1.822 | 0.256 |
| -2.876 | 5.299 | -2.636 | -1.803 | 0.255 |
| -2.976 | 5.661 | -2.633 | -1.780 | 0.254 |
| -3.076 | 6.025 | -2.630 | -1.753 | 0.254 |
| -3.176 | 6.392 | -2.627 | -1.723 | 0.253 |
| -3.600 | 7.954 | -2.611 | -1.572 | 0.249 |
| -4.600 | 11.609 | -2.565 | -1.157 | 0.238 |
| -4.600 | 11.609 | -2.565 | -1.157 | 0.238 |
| -5.200 | 12.109 | -2.548 | -0.904 | 0.225 |
| -5.800 | 12.629 | -2.534 | -0.658 | 0.211 |
| -5.800 | 12.629 | -2.534 | -0.658 | 0.211 |
| -6.250 | 14.312 | -2.518 | -0.478 | 0.205 |
| -6.700 | 15.994 | -2.502 | -0.304 | 0.198 |
| -6.700 | 15.994 | -2.502 | -0.304 | 0.198 |
| -7.000 | 16.262 | -2.497 | -0.190 | 0.190 |
| -7.300 | 16.542 | -2.493 | -0.078 | 0.181 |
| -7.300 | 16.542 | -2.493 | -0.078 | 0.181 |
| -8.150 | 21.216 | -2.480 | 0.227 | 0.170 |
| -9.000 | 25.963 | -2.476 | 0.516 | 0.156 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -9.000 | 25.963 | -2.476 | 0.516 | 0.156 |
| -9.250 | 26.229 | -2.477 | 0.598 | 0.147 |
| -9.500 | 26.512 | -2.480 | 0.679 | 0.137 |
| -9.500 | 26.512 | -2.480 | 0.679 | 0.137 |
| -10.400 | 32.283 | -2.481 | 0.957 | 0.130 |
| -11.300 | 38.043 | -2.483 | 1.217 | 0.122 |
| -11.300 | 38.043 | -2.483 | 1.217 | 0.122 |
| -11.550 | 39.486 | -2.489 | 1.286 | 0.117 |
| -11.800 | 40.933 | -2.494 | 1.353 | 0.113 |
| -11.800 | 40.933 | -2.494 | 1.353 | 0.113 |
| -12.500 | 45.403 | -2.497 | 1.535 | 0.106 |
| -13.500 | 51.781 | -2.502 | 1.773 | 0.095 |
| -14.100 | 55.603 | -2.506 | 1.905 | 0.088 |
| -14.800 | 60.060 | -2.511 | 2.049 | 0.080 |
| -15.800 | 66.424 | -2.520 | 2.234 | 0.068 |
| -16.400 | 70.240 | -2.526 | 2.334 | 0.061 |
| -16.400 | 70.241 | -2.526 | 2.334 | 0.061 |
| -16.900 | 73.393 | -2.570 | 2.412 | 0.050 |
| -17.400 | 76.587 | -2.619 | 2.484 | 0.039 |
| -17.400 | 76.587 | -2.619 | 2.484 | 0.039 |
| -18.400 | 81.234 | -2.458 | 2.614 | 0.024 |
| -19.400 | 85.880 | -2.300 | 2.724 | 0.009 |
| -19.400 | 85.881 | -2.300 | 2.724 | 0.009 |
| -20.800 | 100.270 | -2.300 | 2.847 | 0.007 |
| -22.200 | 114.628 | -2.300 | 2.939 | 0.004 |
| -23.600 | 128.958 | -2.300 | 3.003 | 0.002 |
| -25.000 | 143.264 | -2.300 | 3.043 | 0.000 |

### 3.5 Results for Vertical 5 (X = -26.47 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.180 | 2.848 | -2.180 | 2.847 | 0.385 |
| -2.280 | 4.241 | -2.278 | 2.911 | 0.363 |
| -2.300 | 4.511 | -2.297 | 2.916 | 0.360 |
| -2.380 | 5.268 | -2.375 | 2.616 | 0.350 |
| -2.390 | 5.305 | -2.385 | 2.520 | 0.349 |
| -2.480 | 5.638 | -2.472 | 1.669 | 0.340 |
| -2.580 | 6.008 | -2.568 | 0.726 | 0.334 |
| -2.600 | 6.081 | -2.587 | 0.537 | 0.333 |
| -2.600 | 6.081 | -2.587 | 0.537 | 0.333 |
| -2.650 | 6.263 | -2.635 | 0.064 | 0.330 |
| -2.680 | 6.371 | -2.634 | 0.074 | 0.329 |
| -2.780 | 6.726 | -2.630 | 0.102 | 0.325 |
| -2.880 | 7.073 | -2.625 | 0.123 | 0.321 |
| -2.980 | 7.414 | -2.621 | 0.140 | 0.318 |
| -3.080 | 7.750 | -2.616 | 0.153 | 0.314 |
| -3.180 | 8.083 | -2.611 | 0.164 | 0.311 |
| -3.600 | 9.464 | -2.589 | 0.210 | 0.299 |
| -4.600 | 12.734 | -2.530 | 0.367 | 0.277 |
| -4.600 | 12.734 | -2.530 | 0.367 | 0.277 |
| -5.200 | 13.073 | -2.510 | 0.491 | 0.255 |
| -5.800 | 13.468 | -2.494 | 0.630 | 0.234 |
| -5.800 | 13.468 | -2.494 | 0.630 | 0.234 |
| -6.250 | 15.072 | -2.477 | 0.740 | 0.226 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -6.700 | 16.691 | -2.461 | 0.854 | 0.217 |
| -6.700 | 16.691 | -2.461 | 0.854 | 0.217 |
| -7.000 | 16.925 | -2.456 | 0.931 | 0.207 |
| -7.300 | 17.176 | -2.453 | 1.009 | 0.196 |
| -7.300 | 17.176 | -2.453 | 1.009 | 0.196 |
| -8.150 | 21.812 | -2.444 | 1.231 | 0.183 |
| -9.000 | 26.562 | -2.448 | 1.449 | 0.167 |
| -9.000 | 26.562 | -2.448 | 1.449 | 0.167 |
| -9.250 | 26.826 | -2.451 | 1.512 | 0.157 |
| -9.500 | 27.107 | -2.455 | 1.575 | 0.146 |
| -9.500 | 27.107 | -2.455 | 1.575 | 0.146 |
| -10.400 | 32.822 | -2.457 | 1.792 | 0.137 |
| -11.300 | 38.532 | -2.460 | 1.996 | 0.128 |
| -11.300 | 38.532 | -2.460 | 1.996 | 0.128 |
| -11.550 | 39.974 | -2.466 | 2.050 | 0.123 |
| -11.800 | 41.421 | -2.474 | 2.103 | 0.119 |
| -11.800 | 41.421 | -2.474 | 2.103 | 0.119 |
| -12.500 | 45.857 | -2.477 | 2.243 | 0.111 |
| -13.500 | 52.188 | -2.483 | 2.425 | 0.099 |
| -14.100 | 55.984 | -2.487 | 2.524 | 0.092 |
| -14.800 | 60.410 | -2.493 | 2.628 | 0.083 |
| -15.800 | 66.732 | -2.504 | 2.758 | 0.071 |
| -16.400 | 70.525 | -2.511 | 2.826 | 0.063 |
| -16.400 | 70.525 | -2.511 | 2.826 | 0.063 |
| -16.900 | 73.706 | -2.561 | 2.877 | 0.052 |
| -17.400 | 76.933 | -2.615 | 2.922 | 0.041 |
| -17.400 | 76.933 | -2.615 | 2.922 | 0.041 |
| -18.400 | 81.543 | -2.457 | 2.998 | 0.025 |
| -19.400 | 86.155 | -2.300 | 3.056 | 0.010 |
| -19.400 | 86.156 | -2.300 | 3.056 | 0.010 |
| -20.800 | 100.475 | -2.300 | 3.110 | 0.007 |
| -22.200 | 114.765 | -2.300 | 3.134 | 0.005 |
| -23.600 | 129.031 | -2.300 | 3.134 | 0.002 |
| -25.000 | 143.277 | -2.300 | 3.114 | 0.000 |

### 3.6 Results for Vertical 6 (X = -26.14 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.191 | 3.990 | -2.191 | 3.989 | 0.410 |
| -2.291 | 5.308 | -2.288 | 3.986 | 0.385 |
| -2.300 | 5.426 | -2.297 | 3.984 | 0.383 |
| -2.391 | 6.019 | -2.385 | 3.380 | 0.370 |
| -2.396 | 6.033 | -2.389 | 3.334 | 0.369 |
| -2.491 | 6.320 | -2.481 | 2.371 | 0.359 |
| -2.591 | 6.614 | -2.576 | 1.358 | 0.351 |
| -2.600 | 6.641 | -2.585 | 1.266 | 0.350 |
| -2.600 | 6.641 | -2.585 | 1.266 | 0.350 |
| -2.650 | 6.787 | -2.633 | 0.760 | 0.347 |
| -2.691 | 6.907 | -2.631 | 0.748 | 0.345 |
| -2.791 | 7.204 | -2.626 | 0.722 | 0.340 |
| -2.891 | 7.504 | -2.621 | 0.701 | 0.336 |
| -2.991 | 7.808 | -2.616 | 0.684 | 0.331 |
| -3.091 | 8.115 | -2.611 | 0.672 | 0.327 |
| -3.191 | 8.424 | -2.606 | 0.663 | 0.324 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.600 | 9.702 | -2.583 | 0.652 | 0.310 |
| -4.600 | 12.865 | -2.522 | 0.727 | 0.285 |
| -4.600 | 12.865 | -2.522 | 0.727 | 0.285 |
| -5.200 | 13.161 | -2.501 | 0.815 | 0.261 |
| -5.800 | 13.523 | -2.485 | 0.923 | 0.239 |
| -5.800 | 13.523 | -2.485 | 0.923 | 0.239 |
| -6.250 | 15.107 | -2.468 | 1.014 | 0.230 |
| -6.700 | 16.710 | -2.452 | 1.110 | 0.221 |
| -6.700 | 16.710 | -2.452 | 1.110 | 0.221 |
| -7.000 | 16.935 | -2.447 | 1.177 | 0.210 |
| -7.300 | 17.179 | -2.444 | 1.246 | 0.199 |
| -7.300 | 17.179 | -2.444 | 1.246 | 0.199 |
| -8.150 | 21.803 | -2.437 | 1.444 | 0.185 |
| -9.000 | 26.551 | -2.442 | 1.643 | 0.169 |
| -9.000 | 26.551 | -2.442 | 1.643 | 0.169 |
| -9.250 | 26.813 | -2.445 | 1.701 | 0.158 |
| -9.500 | 27.093 | -2.450 | 1.758 | 0.147 |
| -9.500 | 27.093 | -2.450 | 1.758 | 0.147 |
| -10.400 | 32.793 | -2.452 | 1.959 | 0.139 |
| -11.300 | 38.489 | -2.455 | 2.148 | 0.129 |
| -11.300 | 38.489 | -2.455 | 2.148 | 0.129 |
| -11.550 | 39.930 | -2.462 | 2.198 | 0.125 |
| -11.800 | 41.376 | -2.469 | 2.247 | 0.120 |
| -11.800 | 41.376 | -2.469 | 2.247 | 0.120 |
| -12.500 | 45.803 | -2.473 | 2.377 | 0.112 |
| -13.500 | 52.121 | -2.479 | 2.545 | 0.100 |
| -14.100 | 55.910 | -2.484 | 2.635 | 0.092 |
| -14.800 | 60.329 | -2.490 | 2.730 | 0.084 |
| -15.800 | 66.640 | -2.500 | 2.847 | 0.071 |
| -16.400 | 70.427 | -2.508 | 2.907 | 0.063 |
| -16.400 | 70.427 | -2.508 | 2.907 | 0.063 |
| -16.900 | 73.613 | -2.559 | 2.951 | 0.052 |
| -17.400 | 76.845 | -2.614 | 2.990 | 0.041 |
| -17.400 | 76.845 | -2.614 | 2.990 | 0.041 |
| -18.400 | 81.447 | -2.456 | 3.054 | 0.026 |
| -19.400 | 86.051 | -2.300 | 3.100 | 0.010 |
| -19.400 | 86.051 | -2.300 | 3.100 | 0.010 |
| -20.800 | 100.354 | -2.300 | 3.138 | 0.007 |
| -22.200 | 114.630 | -2.300 | 3.148 | 0.005 |
| -23.600 | 128.883 | -2.300 | 3.134 | 0.002 |
| -25.000 | 143.116 | -2.300 | 3.101 | 0.000 |

### 3.7 Results for Vertical 7 (X = -24.09 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.194 | 7.074 | -2.194 | 7.073 | 0.526 |
| -2.294 | 7.785 | -2.289 | 6.486 | 0.494 |
| -2.300 | 7.800 | -2.294 | 6.424 | 0.493 |
| -2.394 | 8.055 | -2.383 | 5.465 | 0.474 |
| -2.397 | 8.064 | -2.386 | 5.435 | 0.474 |
| -2.494 | 8.349 | -2.476 | 4.472 | 0.460 |
| -2.594 | 8.648 | -2.570 | 3.487 | 0.448 |
| -2.600 | 8.666 | -2.575 | 3.428 | 0.448 |
| -2.600 | 8.666 | -2.575 | 3.428 | 0.448 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.650 | 8.816 | -2.622 | 2.937 | 0.443 |
| -2.694 | 8.948 | -2.619 | 2.937 | 0.440 |
| -2.794 | 9.248 | -2.612 | 2.936 | 0.432 |
| -2.894 | 9.547 | -2.605 | 2.936 | 0.425 |
| -2.994 | 9.844 | -2.597 | 2.935 | 0.418 |
| -3.094 | 10.139 | -2.590 | 2.934 | 0.411 |
| -3.194 | 10.433 | -2.582 | 2.932 | 0.405 |
| -3.600 | 11.609 | -2.551 | 2.919 | 0.382 |
| -4.600 | 14.459 | -2.469 | 2.880 | 0.341 |
| -4.600 | 14.459 | -2.469 | 2.880 | 0.341 |
| -5.200 | 14.604 | -2.443 | 2.868 | 0.306 |
| -5.800 | 14.830 | -2.424 | 2.871 | 0.274 |
| -5.800 | 14.830 | -2.424 | 2.871 | 0.274 |
| -6.250 | 16.315 | -2.404 | 2.884 | 0.261 |
| -6.700 | 17.834 | -2.388 | 2.905 | 0.249 |
| -6.700 | 17.834 | -2.388 | 2.905 | 0.249 |
| -7.000 | 18.012 | -2.383 | 2.923 | 0.235 |
| -7.300 | 18.215 | -2.381 | 2.944 | 0.221 |
| -7.300 | 18.215 | -2.381 | 2.944 | 0.221 |
| -8.150 | 22.781 | -2.380 | 3.015 | 0.203 |
| -9.000 | 27.527 | -2.397 | 3.098 | 0.185 |
| -9.000 | 27.527 | -2.397 | 3.098 | 0.185 |
| -9.250 | 27.782 | -2.403 | 3.123 | 0.172 |
| -9.500 | 28.057 | -2.411 | 3.149 | 0.159 |
| -9.500 | 28.057 | -2.411 | 3.149 | 0.159 |
| -10.400 | 33.654 | -2.414 | 3.240 | 0.148 |
| -11.300 | 39.255 | -2.417 | 3.324 | 0.137 |
| -11.300 | 39.256 | -2.417 | 3.324 | 0.137 |
| -11.550 | 40.690 | -2.426 | 3.346 | 0.132 |
| -11.800 | 42.132 | -2.436 | 3.367 | 0.127 |
| -11.800 | 42.132 | -2.436 | 3.367 | 0.127 |
| -12.500 | 46.492 | -2.441 | 3.421 | 0.118 |
| -13.500 | 52.720 | -2.449 | 3.483 | 0.105 |
| -14.100 | 56.458 | -2.454 | 3.512 | 0.097 |
| -14.800 | 60.820 | -2.462 | 3.536 | 0.088 |
| -15.800 | 67.055 | -2.475 | 3.556 | 0.075 |
| -16.400 | 70.799 | -2.483 | 3.559 | 0.067 |
| -16.400 | 70.799 | -2.483 | 3.559 | 0.067 |
| -16.900 | 74.029 | -2.543 | 3.557 | 0.055 |
| -17.400 | 77.311 | -2.609 | 3.551 | 0.043 |
| -17.400 | 77.311 | -2.609 | 3.551 | 0.043 |
| -18.400 | 81.852 | -2.453 | 3.528 | 0.027 |
| -19.400 | 86.400 | -2.300 | 3.490 | 0.011 |
| -19.400 | 86.401 | -2.300 | 3.490 | 0.011 |
| -20.800 | 100.594 | -2.300 | 3.418 | 0.008 |
| -22.200 | 114.769 | -2.300 | 3.327 | 0.005 |
| -23.600 | 128.928 | -2.300 | 3.220 | 0.002 |
| -25.000 | 143.076 | -2.300 | 3.102 | 0.000 |

### 3.8 Results for Vertical 8 (X = -20.08 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.181 | 12.064 | -2.181 | 12.063 | 0.724 |
| -2.281 | 12.154 | -2.267 | 10.936 | 0.686 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.300 | 12.198 | -2.284 | 10.745 | 0.680 |
| -2.381 | 12.382 | -2.353 | 9.952 | 0.660 |
| -2.390 | 12.405 | -2.361 | 9.857 | 0.658 |
| -2.481 | 12.612 | -2.439 | 8.972 | 0.640 |
| -2.581 | 12.842 | -2.524 | 7.994 | 0.625 |
| -2.600 | 12.886 | -2.541 | 7.805 | 0.622 |
| -2.600 | 12.886 | -2.541 | 7.804 | 0.622 |
| -2.650 | 13.002 | -2.584 | 7.316 | 0.615 |
| -2.681 | 13.073 | -2.579 | 7.317 | 0.612 |
| -2.781 | 13.305 | -2.565 | 7.321 | 0.600 |
| -2.881 | 13.537 | -2.551 | 7.325 | 0.589 |
| -2.981 | 13.770 | -2.536 | 7.329 | 0.579 |
| -3.081 | 14.003 | -2.522 | 7.334 | 0.569 |
| -3.181 | 14.236 | -2.508 | 7.339 | 0.559 |
| -3.600 | 15.215 | -2.447 | 7.362 | 0.524 |
| -4.600 | 17.592 | -2.307 | 7.421 | 0.460 |
| -4.600 | 17.592 | -2.307 | 7.421 | 0.460 |
| -5.200 | 17.626 | -2.266 | 7.452 | 0.406 |
| -5.800 | 17.775 | -2.236 | 7.475 | 0.357 |
| -5.800 | 17.775 | -2.236 | 7.475 | 0.357 |
| -6.250 | 19.185 | -2.210 | 7.486 | 0.337 |
| -6.700 | 20.646 | -2.189 | 7.490 | 0.318 |
| -6.700 | 20.646 | -2.189 | 7.490 | 0.318 |
| -7.000 | 20.803 | -2.184 | 7.489 | 0.297 |
| -7.300 | 20.994 | -2.183 | 7.484 | 0.277 |
| -7.300 | 20.994 | -2.183 | 7.484 | 0.277 |
| -8.150 | 25.618 | -2.199 | 7.454 | 0.251 |
| -9.000 | 30.521 | -2.246 | 7.396 | 0.226 |
| -9.000 | 30.521 | -2.246 | 7.396 | 0.226 |
| -9.250 | 30.798 | -2.259 | 7.374 | 0.209 |
| -9.500 | 31.101 | -2.275 | 7.350 | 0.192 |
| -9.500 | 31.101 | -2.275 | 7.350 | 0.192 |
| -10.400 | 36.526 | -2.279 | 7.247 | 0.175 |
| -11.300 | 41.944 | -2.286 | 7.119 | 0.160 |
| -11.300 | 41.944 | -2.286 | 7.119 | 0.160 |
| -11.550 | 43.385 | -2.302 | 7.080 | 0.153 |
| -11.800 | 44.837 | -2.320 | 7.039 | 0.147 |
| -11.800 | 44.838 | -2.320 | 7.039 | 0.147 |
| -12.500 | 49.051 | -2.327 | 6.917 | 0.135 |
| -13.500 | 55.077 | -2.340 | 6.725 | 0.119 |
| -14.100 | 58.698 | -2.349 | 6.602 | 0.110 |
| -14.800 | 62.931 | -2.361 | 6.453 | 0.099 |
| -15.800 | 68.997 | -2.381 | 6.232 | 0.084 |
| -16.400 | 72.649 | -2.395 | 6.096 | 0.075 |
| -16.400 | 72.649 | -2.395 | 6.096 | 0.075 |
| -16.900 | 76.083 | -2.487 | 5.981 | 0.063 |
| -17.400 | 79.600 | -2.588 | 5.866 | 0.050 |
| -17.400 | 79.600 | -2.588 | 5.866 | 0.050 |
| -18.400 | 84.031 | -2.443 | 5.633 | 0.032 |
| -19.400 | 88.490 | -2.300 | 5.400 | 0.014 |
| -19.400 | 88.490 | -2.300 | 5.400 | 0.014 |
| -20.800 | 102.433 | -2.300 | 5.077 | 0.009 |
| -22.200 | 116.383 | -2.300 | 4.760 | 0.006 |
| -23.600 | 130.341 | -2.300 | 4.453 | 0.003 |
| -25.000 | 144.310 | -2.300 | 4.156 | 0.000 |

### 3.9 Results for Vertical 9 (X = -18.38 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.175 | 14.131 | -2.175 | 14.130 | 0.801 |
| -2.275 | 14.327 | -2.257 | 13.153 | 0.761 |
| -2.300 | 14.375 | -2.277 | 12.908 | 0.753 |
| -2.375 | 14.517 | -2.338 | 12.175 | 0.733 |
| -2.388 | 14.540 | -2.349 | 12.053 | 0.730 |
| -2.475 | 14.704 | -2.420 | 11.196 | 0.712 |
| -2.575 | 14.891 | -2.501 | 10.217 | 0.695 |
| -2.600 | 14.938 | -2.521 | 9.972 | 0.691 |
| -2.600 | 14.938 | -2.521 | 9.972 | 0.691 |
| -2.650 | 15.032 | -2.562 | 9.482 | 0.684 |
| -2.675 | 15.079 | -2.557 | 9.482 | 0.680 |
| -2.775 | 15.267 | -2.539 | 9.482 | 0.667 |
| -2.875 | 15.458 | -2.521 | 9.482 | 0.655 |
| -2.975 | 15.650 | -2.503 | 9.484 | 0.643 |
| -3.075 | 15.843 | -2.485 | 9.486 | 0.632 |
| -3.175 | 16.039 | -2.467 | 9.489 | 0.621 |
| -3.600 | 16.888 | -2.391 | 9.512 | 0.581 |
| -4.600 | 18.994 | -2.222 | 9.583 | 0.508 |
| -4.600 | 18.994 | -2.222 | 9.583 | 0.508 |
| -5.200 | 18.959 | -2.173 | 9.616 | 0.448 |
| -5.800 | 19.060 | -2.139 | 9.633 | 0.391 |
| -5.800 | 19.060 | -2.139 | 9.633 | 0.391 |
| -6.250 | 20.432 | -2.110 | 9.633 | 0.368 |
| -6.700 | 21.865 | -2.088 | 9.621 | 0.347 |
| -6.700 | 21.865 | -2.088 | 9.621 | 0.347 |
| -7.000 | 22.011 | -2.083 | 9.605 | 0.324 |
| -7.300 | 22.195 | -2.083 | 9.584 | 0.300 |
| -7.300 | 22.195 | -2.083 | 9.584 | 0.300 |
| -8.150 | 26.855 | -2.109 | 9.493 | 0.271 |
| -9.000 | 31.845 | -2.173 | 9.359 | 0.243 |
| -9.000 | 31.845 | -2.173 | 9.359 | 0.243 |
| -9.250 | 32.133 | -2.190 | 9.312 | 0.225 |
| -9.500 | 32.452 | -2.210 | 9.262 | 0.206 |
| -9.500 | 32.452 | -2.210 | 9.262 | 0.206 |
| -10.400 | 37.786 | -2.216 | 9.057 | 0.187 |
| -11.300 | 43.110 | -2.224 | 8.821 | 0.169 |
| -11.300 | 43.110 | -2.224 | 8.821 | 0.169 |
| -11.550 | 44.554 | -2.243 | 8.750 | 0.162 |
| -11.800 | 46.011 | -2.264 | 8.679 | 0.155 |
| -11.800 | 46.011 | -2.264 | 8.678 | 0.155 |
| -12.500 | 50.153 | -2.273 | 8.469 | 0.142 |
| -13.500 | 56.080 | -2.289 | 8.155 | 0.125 |
| -14.100 | 59.646 | -2.300 | 7.960 | 0.115 |
| -14.800 | 63.819 | -2.314 | 7.730 | 0.103 |
| -15.800 | 69.809 | -2.337 | 7.399 | 0.088 |
| -16.400 | 73.421 | -2.353 | 7.201 | 0.078 |
| -16.400 | 73.421 | -2.353 | 7.201 | 0.078 |
| -16.900 | 76.956 | -2.461 | 7.036 | 0.066 |
| -17.400 | 80.586 | -2.578 | 6.873 | 0.053 |
| -17.400 | 80.586 | -2.578 | 6.873 | 0.053 |
| -18.400 | 84.975 | -2.437 | 6.551 | 0.034 |
| -19.400 | 89.403 | -2.300 | 6.236 | 0.015 |
| -19.400 | 89.403 | -2.300 | 6.236 | 0.015 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -20.800 | 103.243 | -2.300 | 5.811 | 0.010 |
| -22.200 | 117.103 | -2.300 | 5.405 | 0.006 |
| -23.600 | 130.984 | -2.300 | 5.019 | 0.003 |
| -25.000 | 144.884 | -2.300 | 4.654 | 0.000 |

### 3.10 Results for Vertical 10 (X = -15.68 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.172 | 17.808 | -2.172 | 17.807 | 0.908 |
| -2.272 | 17.925 | -2.246 | 16.834 | 0.866 |
| -2.300 | 17.958 | -2.266 | 16.562 | 0.857 |
| -2.372 | 18.042 | -2.319 | 15.864 | 0.836 |
| -2.386 | 18.059 | -2.329 | 15.729 | 0.833 |
| -2.472 | 18.164 | -2.392 | 14.898 | 0.813 |
| -2.572 | 18.291 | -2.466 | 13.934 | 0.793 |
| -2.600 | 18.327 | -2.486 | 13.664 | 0.788 |
| -2.600 | 18.327 | -2.486 | 13.664 | 0.788 |
| -2.650 | 18.392 | -2.523 | 13.182 | 0.780 |
| -2.672 | 18.421 | -2.518 | 13.186 | 0.777 |
| -2.772 | 18.555 | -2.492 | 13.202 | 0.762 |
| -2.872 | 18.689 | -2.467 | 13.217 | 0.748 |
| -2.972 | 18.825 | -2.441 | 13.231 | 0.734 |
| -3.072 | 18.961 | -2.416 | 13.242 | 0.721 |
| -3.172 | 19.098 | -2.392 | 13.252 | 0.708 |
| -3.600 | 19.697 | -2.289 | 13.280 | 0.660 |
| -4.600 | 21.252 | -2.070 | 13.291 | 0.574 |
| -4.600 | 21.252 | -2.070 | 13.291 | 0.574 |
| -5.200 | 21.038 | -2.009 | 13.262 | 0.502 |
| -5.800 | 20.994 | -1.969 | 13.198 | 0.435 |
| -5.800 | 20.994 | -1.969 | 13.198 | 0.435 |
| -6.250 | 22.260 | -1.936 | 13.125 | 0.407 |
| -6.700 | 23.606 | -1.914 | 13.030 | 0.383 |
| -6.700 | 23.606 | -1.914 | 13.030 | 0.383 |
| -7.000 | 23.702 | -1.910 | 12.954 | 0.355 |
| -7.300 | 23.844 | -1.912 | 12.868 | 0.329 |
| -7.300 | 23.845 | -1.912 | 12.868 | 0.329 |
| -8.150 | 28.497 | -1.958 | 12.580 | 0.295 |
| -9.000 | 33.580 | -2.053 | 12.233 | 0.263 |
| -9.000 | 33.580 | -2.053 | 12.233 | 0.263 |
| -9.250 | 33.872 | -2.076 | 12.122 | 0.242 |
| -9.500 | 34.201 | -2.104 | 12.008 | 0.222 |
| -9.500 | 34.201 | -2.104 | 12.008 | 0.222 |
| -10.400 | 39.328 | -2.112 | 11.576 | 0.199 |
| -11.300 | 44.457 | -2.123 | 11.121 | 0.179 |
| -11.300 | 44.457 | -2.123 | 11.121 | 0.179 |
| -11.550 | 45.900 | -2.148 | 10.992 | 0.172 |
| -11.800 | 47.360 | -2.175 | 10.862 | 0.164 |
| -11.800 | 47.360 | -2.175 | 10.862 | 0.164 |
| -12.500 | 51.372 | -2.187 | 10.499 | 0.150 |
| -13.500 | 57.136 | -2.206 | 9.981 | 0.131 |
| -14.100 | 60.617 | -2.220 | 9.674 | 0.120 |
| -14.800 | 64.703 | -2.238 | 9.322 | 0.108 |
| -15.800 | 70.589 | -2.267 | 8.833 | 0.092 |
| -16.400 | 74.150 | -2.286 | 8.548 | 0.082 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -16.400 | 74.151 | -2.286 | 8.548 | 0.082 |
| -16.900 | 77.857 | -2.418 | 8.316 | 0.069 |
| -17.400 | 81.685 | -2.562 | 8.088 | 0.056 |
| -17.400 | 81.685 | -2.562 | 8.088 | 0.056 |
| -18.400 | 86.033 | -2.429 | 7.649 | 0.036 |
| -19.400 | 90.437 | -2.300 | 7.230 | 0.016 |
| -19.400 | 90.437 | -2.300 | 7.230 | 0.016 |
| -20.800 | 104.150 | -2.300 | 6.677 | 0.011 |
| -22.200 | 117.901 | -2.300 | 6.162 | 0.006 |
| -23.600 | 131.688 | -2.300 | 5.683 | 0.003 |
| -25.000 | 145.509 | -2.300 | 5.238 | 0.000 |

### 3.11 Results for Vertical 11 (X = -11.95 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.984 | 22.609 | -1.984 | 22.608 | 0.925 |
| -2.084 | 22.686 | -2.056 | 21.619 | 0.880 |
| -2.184 | 22.772 | -2.125 | 20.650 | 0.848 |
| -2.284 | 22.898 | -2.195 | 19.725 | 0.822 |
| -2.292 | 22.909 | -2.200 | 19.654 | 0.820 |
| -2.300 | 22.920 | -2.206 | 19.584 | 0.818 |
| -2.384 | 23.041 | -2.265 | 18.818 | 0.800 |
| -2.484 | 23.188 | -2.334 | 17.913 | 0.781 |
| -2.584 | 23.336 | -2.404 | 17.006 | 0.764 |
| -2.600 | 23.360 | -2.415 | 16.865 | 0.762 |
| -2.600 | 23.360 | -2.415 | 16.864 | 0.762 |
| -2.650 | 23.434 | -2.450 | 16.410 | 0.754 |
| -2.684 | 23.486 | -2.440 | 16.435 | 0.749 |
| -2.784 | 23.636 | -2.410 | 16.506 | 0.736 |
| -2.884 | 23.786 | -2.381 | 16.574 | 0.722 |
| -2.984 | 23.934 | -2.352 | 16.637 | 0.709 |
| -3.600 | 24.749 | -2.181 | 16.856 | 0.639 |
| -4.600 | 25.716 | -1.939 | 16.509 | 0.551 |
| -4.600 | 25.716 | -1.939 | 16.509 | 0.551 |
| -5.200 | 25.024 | -1.876 | 16.025 | 0.477 |
| -5.800 | 24.494 | -1.838 | 15.451 | 0.410 |
| -5.800 | 24.494 | -1.838 | 15.451 | 0.410 |
| -6.250 | 25.451 | -1.813 | 14.996 | 0.383 |
| -6.700 | 26.533 | -1.801 | 14.536 | 0.359 |
| -6.700 | 26.533 | -1.801 | 14.536 | 0.359 |
| -7.000 | 26.446 | -1.802 | 14.230 | 0.333 |
| -7.300 | 26.426 | -1.809 | 13.929 | 0.308 |
| -7.300 | 26.426 | -1.809 | 13.929 | 0.308 |
| -8.150 | 30.844 | -1.886 | 13.099 | 0.276 |
| -9.000 | 35.861 | -2.019 | 12.317 | 0.246 |
| -9.000 | 35.861 | -2.019 | 12.317 | 0.246 |
| -9.250 | 36.112 | -2.049 | 12.095 | 0.227 |
| -9.500 | 36.407 | -2.084 | 11.878 | 0.207 |
| -9.500 | 36.407 | -2.084 | 11.878 | 0.207 |
| -10.400 | 41.233 | -2.093 | 11.130 | 0.186 |
| -11.300 | 46.132 | -2.106 | 10.429 | 0.167 |
| -11.300 | 46.132 | -2.106 | 10.429 | 0.167 |
| -11.550 | 47.547 | -2.134 | 10.243 | 0.160 |
| -11.800 | 48.983 | -2.164 | 10.059 | 0.154 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -11.800 | 48.983 | -2.164 | 10.059 | 0.154 |
| -12.500 | 52.873 | -2.177 | 9.563 | 0.140 |
| -13.500 | 58.500 | -2.198 | 8.893 | 0.123 |
| -14.100 | 61.915 | -2.212 | 8.513 | 0.113 |
| -14.800 | 65.936 | -2.231 | 8.087 | 0.102 |
| -15.800 | 71.745 | -2.261 | 7.512 | 0.087 |
| -16.400 | 75.268 | -2.281 | 7.183 | 0.079 |
| -16.400 | 75.268 | -2.281 | 7.183 | 0.079 |
| -16.900 | 78.966 | -2.415 | 6.919 | 0.066 |
| -17.400 | 82.787 | -2.561 | 6.663 | 0.053 |
| -17.400 | 82.787 | -2.561 | 6.663 | 0.053 |
| -18.400 | 87.089 | -2.429 | 6.174 | 0.034 |
| -19.400 | 91.452 | -2.300 | 5.713 | 0.015 |
| -19.400 | 91.453 | -2.300 | 5.713 | 0.015 |
| -20.800 | 105.119 | -2.300 | 5.113 | 0.010 |
| -22.200 | 118.832 | -2.300 | 4.561 | 0.006 |
| -23.600 | 132.589 | -2.300 | 4.052 | 0.003 |
| -25.000 | 146.384 | -2.300 | 3.581 | 0.000 |

### 3.12 Results for Vertical 12 (X = -11.46 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.960 | 24.370 | -1.960 | 24.369 | 0.924 |
| -2.060 | 24.559 | -2.030 | 23.501 | 0.879 |
| -2.160 | 24.627 | -2.099 | 22.526 | 0.846 |
| -2.260 | 24.679 | -2.167 | 21.539 | 0.819 |
| -2.280 | 24.688 | -2.181 | 21.341 | 0.814 |
| -2.300 | 24.699 | -2.194 | 21.144 | 0.810 |
| -2.360 | 24.732 | -2.235 | 20.555 | 0.796 |
| -2.460 | 24.802 | -2.304 | 19.586 | 0.777 |
| -2.560 | 24.891 | -2.372 | 18.631 | 0.759 |
| -2.600 | 24.930 | -2.400 | 18.253 | 0.753 |
| -2.600 | 24.930 | -2.400 | 18.253 | 0.753 |
| -2.650 | 24.982 | -2.434 | 17.781 | 0.745 |
| -2.660 | 24.992 | -2.431 | 17.785 | 0.744 |
| -2.760 | 25.100 | -2.401 | 17.825 | 0.730 |
| -2.860 | 25.209 | -2.370 | 17.863 | 0.716 |
| -2.960 | 25.315 | -2.340 | 17.894 | 0.703 |
| -3.600 | 25.811 | -2.158 | 17.821 | 0.628 |
| -4.600 | 26.209 | -1.914 | 16.918 | 0.539 |
| -4.600 | 26.209 | -1.914 | 16.918 | 0.539 |
| -5.200 | 25.284 | -1.852 | 16.190 | 0.466 |
| -5.800 | 24.604 | -1.816 | 15.445 | 0.400 |
| -5.800 | 24.604 | -1.816 | 15.445 | 0.400 |
| -6.250 | 25.498 | -1.794 | 14.900 | 0.375 |
| -6.700 | 26.544 | -1.785 | 14.374 | 0.351 |
| -6.700 | 26.544 | -1.785 | 14.374 | 0.351 |
| -7.000 | 26.436 | -1.787 | 14.035 | 0.326 |
| -7.300 | 26.401 | -1.796 | 13.706 | 0.302 |
| -7.300 | 26.401 | -1.796 | 13.706 | 0.302 |
| -8.150 | 30.826 | -1.878 | 12.827 | 0.271 |
| -9.000 | 35.881 | -2.018 | 12.020 | 0.242 |
| -9.000 | 35.881 | -2.018 | 12.020 | 0.242 |
| -9.250 | 36.139 | -2.049 | 11.794 | 0.223 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -9.500 | 36.441 | -2.085 | 11.574 | 0.203 |
| -9.500 | 36.441 | -2.085 | 11.574 | 0.203 |
| -10.400 | 41.264 | -2.095 | 10.820 | 0.183 |
| -11.300 | 46.166 | -2.107 | 10.121 | 0.165 |
| -11.300 | 46.166 | -2.107 | 10.121 | 0.165 |
| -11.550 | 47.586 | -2.136 | 9.935 | 0.158 |
| -11.800 | 49.026 | -2.166 | 9.753 | 0.152 |
| -11.800 | 49.026 | -2.166 | 9.753 | 0.152 |
| -12.500 | 52.921 | -2.179 | 9.260 | 0.139 |
| -13.500 | 58.556 | -2.200 | 8.598 | 0.122 |
| -14.100 | 61.976 | -2.215 | 8.222 | 0.112 |
| -14.800 | 66.002 | -2.233 | 7.802 | 0.102 |
| -15.800 | 71.819 | -2.263 | 7.234 | 0.087 |
| -16.400 | 75.345 | -2.283 | 6.910 | 0.078 |
| -16.400 | 75.345 | -2.283 | 6.910 | 0.078 |
| -16.900 | 79.041 | -2.417 | 6.649 | 0.066 |
| -17.400 | 82.857 | -2.562 | 6.396 | 0.053 |
| -17.400 | 82.857 | -2.562 | 6.396 | 0.053 |
| -18.400 | 87.163 | -2.429 | 5.914 | 0.034 |
| -19.400 | 91.528 | -2.300 | 5.459 | 0.015 |
| -19.400 | 91.528 | -2.300 | 5.459 | 0.015 |
| -20.800 | 105.202 | -2.300 | 4.867 | 0.010 |
| -22.200 | 118.922 | -2.300 | 4.321 | 0.006 |
| -23.600 | 132.684 | -2.300 | 3.817 | 0.003 |
| -25.000 | 146.484 | -2.300 | 3.351 | 0.000 |

### 3.13 Results for Vertical 13 (X = -9.82 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.874 | 32.431 | -1.874 | 32.430 | 0.896 |
| -1.974 | 33.705 | -1.933 | 32.762 | 0.847 |
| -2.074 | 33.583 | -1.991 | 31.701 | 0.811 |
| -2.174 | 32.717 | -2.049 | 29.893 | 0.782 |
| -2.237 | 32.178 | -2.086 | 28.756 | 0.765 |
| -2.274 | 31.876 | -2.108 | 28.101 | 0.756 |
| -2.300 | 31.671 | -2.124 | 27.647 | 0.750 |
| -2.374 | 31.123 | -2.169 | 26.386 | 0.734 |
| -2.474 | 30.464 | -2.231 | 24.750 | 0.715 |
| -2.574 | 29.888 | -2.294 | 23.186 | 0.697 |
| -2.600 | 29.750 | -2.310 | 22.790 | 0.693 |
| -2.600 | 29.750 | -2.310 | 22.790 | 0.693 |
| -2.650 | 29.499 | -2.343 | 22.038 | 0.686 |
| -2.674 | 29.383 | -2.334 | 21.917 | 0.682 |
| -2.774 | 28.939 | -2.300 | 21.442 | 0.668 |
| -2.874 | 28.545 | -2.266 | 21.007 | 0.654 |
| -3.600 | 26.701 | -2.050 | 18.602 | 0.571 |
| -4.600 | 25.943 | -1.820 | 16.410 | 0.490 |
| -4.600 | 25.943 | -1.820 | 16.410 | 0.490 |
| -5.200 | 24.834 | -1.765 | 15.426 | 0.427 |
| -5.800 | 24.139 | -1.737 | 14.596 | 0.372 |
| -5.800 | 24.139 | -1.737 | 14.596 | 0.372 |
| -6.250 | 25.116 | -1.723 | 14.048 | 0.350 |
| -6.700 | 26.272 | -1.723 | 13.549 | 0.330 |
| -6.700 | 26.272 | -1.723 | 13.549 | 0.330 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -7.000 | 26.223 | -1.728 | 13.238 | 0.309 |
| -7.300 | 26.248 | -1.740 | 12.942 | 0.288 |
| -7.300 | 26.248 | -1.740 | 12.942 | 0.288 |
| -8.150 | 30.911 | -1.836 | 12.170 | 0.261 |
| -9.000 | 36.222 | -1.990 | 11.473 | 0.234 |
| -9.000 | 36.222 | -1.990 | 11.473 | 0.234 |
| -9.250 | 36.539 | -2.024 | 11.279 | 0.216 |
| -9.500 | 36.899 | -2.062 | 11.090 | 0.198 |
| -9.500 | 36.899 | -2.062 | 11.090 | 0.198 |
| -10.400 | 41.834 | -2.073 | 10.442 | 0.180 |
| -11.300 | 46.838 | -2.086 | 9.837 | 0.163 |
| -11.300 | 46.838 | -2.086 | 9.837 | 0.163 |
| -11.550 | 48.298 | -2.116 | 9.676 | 0.156 |
| -11.800 | 49.778 | -2.149 | 9.518 | 0.150 |
| -11.800 | 49.778 | -2.149 | 9.518 | 0.150 |
| -12.500 | 53.742 | -2.162 | 9.087 | 0.138 |
| -13.500 | 59.467 | -2.184 | 8.505 | 0.121 |
| -14.100 | 62.937 | -2.199 | 8.172 | 0.112 |
| -14.800 | 67.017 | -2.219 | 7.798 | 0.101 |
| -15.800 | 72.904 | -2.250 | 7.290 | 0.087 |
| -16.400 | 76.471 | -2.271 | 6.998 | 0.078 |
| -16.400 | 76.471 | -2.271 | 6.998 | 0.078 |
| -16.900 | 80.238 | -2.409 | 6.763 | 0.066 |
| -17.400 | 84.127 | -2.559 | 6.534 | 0.053 |
| -17.400 | 84.127 | -2.559 | 6.534 | 0.053 |
| -18.400 | 88.490 | -2.428 | 6.095 | 0.034 |
| -19.400 | 92.909 | -2.300 | 5.679 | 0.015 |
| -19.400 | 92.909 | -2.300 | 5.679 | 0.015 |
| -20.800 | 106.630 | -2.300 | 5.134 | 0.010 |
| -22.200 | 120.391 | -2.300 | 4.629 | 0.006 |
| -23.600 | 134.188 | -2.300 | 4.160 | 0.003 |
| -25.000 | 148.018 | -2.300 | 3.724 | 0.000 |

### 3.14 Results for Vertical 14 (X = -9.60 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.679 | 27.554 | -1.679 | 27.553 | 0.802 |
| -1.779 | 29.599 | -1.701 | 28.766 | 0.767 |
| -1.834 | 30.113 | -1.712 | 28.828 | 0.753 |
| -1.879 | 30.374 | -1.721 | 28.724 | 0.743 |
| -1.979 | 30.261 | -1.742 | 27.782 | 0.723 |
| -1.990 | 30.229 | -1.745 | 27.660 | 0.721 |
| -1.990 | 30.229 | -1.745 | 27.660 | 0.721 |
| -2.079 | 30.367 | -1.803 | 26.899 | 0.701 |
| -2.179 | 30.268 | -1.868 | 25.791 | 0.681 |
| -2.279 | 30.181 | -1.933 | 24.695 | 0.664 |
| -2.295 | 30.169 | -1.944 | 24.523 | 0.661 |
| -2.300 | 30.165 | -1.947 | 24.467 | 0.660 |
| -2.379 | 30.094 | -1.999 | 23.595 | 0.648 |
| -2.479 | 29.969 | -2.065 | 22.452 | 0.633 |
| -2.579 | 29.812 | -2.132 | 21.270 | 0.620 |
| -2.600 | 29.776 | -2.146 | 21.018 | 0.618 |
| -2.600 | 29.776 | -2.146 | 21.018 | 0.618 |
| -2.650 | 29.689 | -2.180 | 20.415 | 0.612 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.679 | 29.637 | -2.171 | 20.348 | 0.609 |
| -3.600 | 28.330 | -1.909 | 18.210 | 0.522 |
| -4.600 | 28.118 | -1.694 | 16.417 | 0.456 |
| -4.600 | 28.118 | -1.694 | 16.417 | 0.456 |
| -5.200 | 27.189 | -1.644 | 15.562 | 0.403 |
| -5.800 | 26.638 | -1.621 | 14.824 | 0.357 |
| -5.800 | 26.638 | -1.621 | 14.824 | 0.357 |
| -6.250 | 27.741 | -1.615 | 14.329 | 0.338 |
| -6.700 | 29.021 | -1.622 | 13.873 | 0.321 |
| -6.700 | 29.021 | -1.622 | 13.873 | 0.321 |
| -7.000 | 29.031 | -1.631 | 13.587 | 0.302 |
| -7.300 | 29.114 | -1.647 | 13.313 | 0.283 |
| -7.300 | 29.114 | -1.647 | 13.313 | 0.283 |
| -8.150 | 34.021 | -1.762 | 12.592 | 0.259 |
| -9.000 | 39.603 | -1.940 | 11.935 | 0.233 |
| -9.000 | 39.603 | -1.940 | 11.935 | 0.233 |
| -9.250 | 39.974 | -1.979 | 11.751 | 0.216 |
| -9.500 | 40.392 | -2.022 | 11.571 | 0.198 |
| -9.500 | 40.392 | -2.022 | 11.571 | 0.198 |
| -10.400 | 45.368 | -2.034 | 10.952 | 0.180 |
| -11.300 | 50.409 | -2.048 | 10.370 | 0.164 |
| -11.300 | 50.409 | -2.048 | 10.370 | 0.164 |
| -11.550 | 51.903 | -2.081 | 10.215 | 0.158 |
| -11.800 | 53.417 | -2.117 | 10.062 | 0.151 |
| -11.800 | 53.417 | -2.117 | 10.062 | 0.151 |
| -12.500 | 57.407 | -2.131 | 9.646 | 0.139 |
| -13.500 | 63.167 | -2.155 | 9.081 | 0.122 |
| -14.100 | 66.656 | -2.171 | 8.757 | 0.113 |
| -14.800 | 70.759 | -2.192 | 8.392 | 0.102 |
| -15.800 | 76.680 | -2.225 | 7.896 | 0.087 |
| -16.400 | 80.266 | -2.248 | 7.611 | 0.079 |
| -16.400 | 80.266 | -2.248 | 7.611 | 0.079 |
| -16.900 | 84.124 | -2.395 | 7.381 | 0.067 |
| -17.400 | 88.106 | -2.554 | 7.156 | 0.053 |
| -17.400 | 88.106 | -2.554 | 7.156 | 0.053 |
| -18.400 | 92.503 | -2.425 | 6.726 | 0.034 |
| -19.400 | 96.957 | -2.300 | 6.318 | 0.015 |
| -19.400 | 96.957 | -2.300 | 6.318 | 0.015 |
| -20.800 | 110.687 | -2.300 | 5.782 | 0.010 |
| -22.200 | 124.455 | -2.300 | 5.284 | 0.006 |
| -23.600 | 138.259 | -2.300 | 4.822 | 0.003 |
| -25.000 | 152.095 | -2.300 | 4.392 | 0.000 |

### 3.15 Results for Vertical 15 (X = -9.11 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.273 | 21.085 | -1.273 | 21.084 | 0.686 |
| -1.373 | 23.280 | -1.319 | 22.214 | 0.654 |
| -1.473 | 25.312 | -1.360 | 23.218 | 0.631 |
| -1.573 | 26.467 | -1.399 | 23.370 | 0.613 |
| -1.673 | 27.441 | -1.437 | 23.352 | 0.598 |
| -1.755 | 28.064 | -1.468 | 23.168 | 0.587 |
| -1.773 | 28.177 | -1.475 | 23.105 | 0.584 |
| -1.873 | 28.688 | -1.512 | 22.633 | 0.573 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.973 | 29.104 | -1.549 | 22.064 | 0.563 |
| -2.073 | 29.591 | -1.587 | 21.562 | 0.554 |
| -2.173 | 30.230 | -1.625 | 21.210 | 0.547 |
| -2.237 | 30.325 | -1.649 | 20.668 | 0.542 |
| -2.237 | 30.325 | -1.649 | 20.668 | 0.542 |
| -2.273 | 30.298 | -1.674 | 20.258 | 0.539 |
| -2.300 | 30.287 | -1.694 | 19.958 | 0.536 |
| -2.419 | 30.315 | -1.779 | 18.711 | 0.525 |
| -2.600 | 30.501 | -1.911 | 16.935 | 0.511 |
| -2.600 | 30.501 | -1.911 | 16.935 | 0.511 |
| -2.650 | 30.566 | -1.948 | 16.456 | 0.508 |
| -3.600 | 31.694 | -1.718 | 16.331 | 0.452 |
| -4.600 | 32.827 | -1.533 | 15.587 | 0.407 |
| -4.600 | 32.826 | -1.533 | 15.587 | 0.407 |
| -5.200 | 32.339 | -1.492 | 15.087 | 0.368 |
| -5.800 | 32.117 | -1.477 | 14.598 | 0.333 |
| -5.800 | 32.117 | -1.477 | 14.598 | 0.333 |
| -6.250 | 33.465 | -1.481 | 14.245 | 0.318 |
| -6.700 | 34.970 | -1.500 | 13.903 | 0.304 |
| -6.700 | 34.970 | -1.500 | 13.903 | 0.304 |
| -7.000 | 35.090 | -1.514 | 13.682 | 0.288 |
| -7.300 | 35.279 | -1.534 | 13.465 | 0.272 |
| -7.300 | 35.279 | -1.534 | 13.465 | 0.272 |
| -8.150 | 40.571 | -1.676 | 12.875 | 0.251 |
| -9.000 | 46.539 | -1.883 | 12.315 | 0.227 |
| -9.000 | 46.539 | -1.883 | 12.315 | 0.227 |
| -9.250 | 46.991 | -1.927 | 12.156 | 0.211 |
| -9.500 | 47.492 | -1.977 | 11.999 | 0.194 |
| -9.500 | 47.492 | -1.977 | 11.999 | 0.194 |
| -10.400 | 52.553 | -1.990 | 11.449 | 0.178 |
| -11.300 | 57.666 | -2.006 | 10.924 | 0.162 |
| -11.300 | 57.666 | -2.006 | 10.924 | 0.162 |
| -11.550 | 59.208 | -2.043 | 10.783 | 0.156 |
| -11.800 | 60.770 | -2.082 | 10.643 | 0.150 |
| -11.800 | 60.770 | -2.082 | 10.643 | 0.150 |
| -12.500 | 64.807 | -2.098 | 10.260 | 0.138 |
| -13.500 | 70.628 | -2.124 | 9.736 | 0.122 |
| -14.100 | 74.152 | -2.141 | 9.433 | 0.113 |
| -14.800 | 78.293 | -2.164 | 9.091 | 0.102 |
| -15.800 | 84.266 | -2.199 | 8.623 | 0.087 |
| -16.400 | 87.881 | -2.223 | 8.354 | 0.078 |
| -16.400 | 87.881 | -2.223 | 8.354 | 0.078 |
| -16.900 | 91.843 | -2.379 | 8.135 | 0.066 |
| -17.400 | 95.931 | -2.548 | 7.922 | 0.053 |
| -17.400 | 95.931 | -2.548 | 7.922 | 0.053 |
| -18.400 | 100.375 | -2.422 | 7.511 | 0.034 |
| -19.400 | 104.875 | -2.300 | 7.120 | 0.015 |
| -19.400 | 104.875 | -2.300 | 7.120 | 0.015 |
| -20.800 | 118.626 | -2.300 | 6.606 | 0.010 |
| -22.200 | 132.413 | -2.300 | 6.126 | 0.006 |
| -23.600 | 146.232 | -2.300 | 5.680 | 0.003 |
| -25.000 | 160.081 | -2.300 | 5.263 | 0.000 |

### 3.16 Results for Vertical 16 (X = -8.40 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.844 | 18.036 | -0.844 | 18.035 | 0.595 |
| -0.944 | 20.854 | -0.905 | 19.645 | 0.564 |
| -1.044 | 22.673 | -0.961 | 20.292 | 0.542 |
| -1.144 | 23.566 | -1.015 | 20.033 | 0.525 |
| -1.244 | 24.341 | -1.069 | 19.664 | 0.511 |
| -1.344 | 25.119 | -1.122 | 19.305 | 0.499 |
| -1.444 | 25.873 | -1.174 | 18.928 | 0.488 |
| -1.544 | 26.587 | -1.225 | 18.515 | 0.479 |
| -1.644 | 27.272 | -1.277 | 18.078 | 0.471 |
| -1.722 | 27.811 | -1.317 | 17.746 | 0.466 |
| -1.744 | 27.969 | -1.328 | 17.656 | 0.464 |
| -1.844 | 28.717 | -1.379 | 17.288 | 0.458 |
| -2.300 | 32.637 | -1.603 | 16.186 | 0.438 |
| -2.600 | 32.915 | -1.750 | 13.162 | 0.430 |
| -2.600 | 32.915 | -1.750 | 13.162 | 0.430 |
| -2.650 | 32.993 | -1.789 | 12.677 | 0.428 |
| -3.600 | 35.076 | -1.594 | 13.168 | 0.395 |
| -4.600 | 37.553 | -1.437 | 13.491 | 0.365 |
| -4.600 | 37.553 | -1.437 | 13.491 | 0.365 |
| -5.200 | 37.627 | -1.404 | 13.480 | 0.336 |
| -5.800 | 37.839 | -1.395 | 13.366 | 0.309 |
| -5.800 | 37.839 | -1.395 | 13.366 | 0.309 |
| -6.250 | 39.480 | -1.406 | 13.235 | 0.297 |
| -6.700 | 41.238 | -1.432 | 13.077 | 0.286 |
| -6.700 | 41.238 | -1.432 | 13.077 | 0.286 |
| -7.000 | 41.492 | -1.449 | 12.961 | 0.272 |
| -7.300 | 41.804 | -1.472 | 12.838 | 0.258 |
| -7.300 | 41.804 | -1.472 | 12.838 | 0.258 |
| -8.150 | 47.464 | -1.629 | 12.462 | 0.239 |
| -9.000 | 53.756 | -1.852 | 12.064 | 0.218 |
| -9.000 | 53.756 | -1.852 | 12.064 | 0.218 |
| -9.250 | 54.279 | -1.900 | 11.945 | 0.202 |
| -9.500 | 54.854 | -1.954 | 11.825 | 0.187 |
| -9.500 | 54.854 | -1.954 | 11.825 | 0.187 |
| -10.400 | 60.039 | -1.968 | 11.391 | 0.172 |
| -11.300 | 65.254 | -1.985 | 10.959 | 0.158 |
| -11.300 | 65.254 | -1.985 | 10.959 | 0.158 |
| -11.550 | 66.838 | -2.023 | 10.840 | 0.152 |
| -11.800 | 68.442 | -2.064 | 10.722 | 0.146 |
| -11.800 | 68.442 | -2.064 | 10.722 | 0.146 |
| -12.500 | 72.542 | -2.081 | 10.394 | 0.135 |
| -13.500 | 78.442 | -2.108 | 9.937 | 0.119 |
| -14.100 | 82.008 | -2.126 | 9.670 | 0.110 |
| -14.800 | 86.194 | -2.150 | 9.365 | 0.100 |
| -15.800 | 92.226 | -2.187 | 8.944 | 0.085 |
| -16.400 | 95.874 | -2.211 | 8.699 | 0.076 |
| -16.400 | 95.874 | -2.211 | 8.699 | 0.076 |
| -16.900 | 99.901 | -2.372 | 8.500 | 0.064 |
| -17.400 | 104.052 | -2.546 | 8.305 | 0.051 |
| -17.400 | 104.052 | -2.546 | 8.305 | 0.051 |
| -18.400 | 108.541 | -2.421 | 7.927 | 0.033 |
| -19.400 | 113.084 | -2.300 | 7.566 | 0.015 |
| -19.400 | 113.084 | -2.300 | 7.566 | 0.015 |
| -20.800 | 126.871 | -2.300 | 7.086 | 0.010 |
| -22.200 | 140.687 | -2.300 | 6.637 | 0.006 |
| -23.600 | 154.532 | -2.300 | 6.216 | 0.003 |
| -25.000 | 168.404 | -2.300 | 5.821 | 0.000 |

### 3.17 Results for Vertical 17 (X = -8.23 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.742 | 16.953 | -0.742 | 16.952 | 0.576 |
| -0.842 | 19.192 | -0.806 | 17.946 | 0.546 |
| -0.942 | 19.900 | -0.868 | 17.430 | 0.525 |
| -1.042 | 19.709 | -0.929 | 16.014 | 0.509 |
| -1.142 | 19.718 | -0.992 | 14.789 | 0.497 |
| -1.242 | 20.959 | -1.054 | 14.802 | 0.487 |
| -1.342 | 22.741 | -1.114 | 15.376 | 0.478 |
| -1.442 | 24.377 | -1.172 | 15.829 | 0.470 |
| -1.542 | 25.781 | -1.227 | 16.069 | 0.462 |
| -1.642 | 27.002 | -1.281 | 16.142 | 0.456 |
| -1.671 | 27.330 | -1.297 | 16.140 | 0.454 |
| -1.742 | 28.103 | -1.334 | 16.106 | 0.450 |
| -2.300 | 33.614 | -1.614 | 15.417 | 0.427 |
| -2.600 | 33.938 | -1.762 | 12.433 | 0.420 |
| -2.600 | 33.938 | -1.762 | 12.433 | 0.420 |
| -2.650 | 34.019 | -1.801 | 11.951 | 0.418 |
| -3.600 | 36.143 | -1.605 | 12.486 | 0.387 |
| -4.600 | 38.745 | -1.447 | 12.947 | 0.359 |
| -4.600 | 38.745 | -1.447 | 12.947 | 0.359 |
| -5.200 | 38.900 | -1.413 | 13.023 | 0.331 |
| -5.800 | 39.180 | -1.403 | 12.984 | 0.305 |
| -5.800 | 39.180 | -1.403 | 12.984 | 0.305 |
| -6.250 | 40.859 | -1.414 | 12.901 | 0.293 |
| -6.700 | 42.648 | -1.439 | 12.784 | 0.282 |
| -6.700 | 42.649 | -1.439 | 12.784 | 0.282 |
| -7.000 | 42.923 | -1.455 | 12.691 | 0.269 |
| -7.300 | 43.254 | -1.478 | 12.589 | 0.255 |
| -7.300 | 43.254 | -1.478 | 12.589 | 0.255 |
| -8.150 | 48.952 | -1.634 | 12.265 | 0.236 |
| -9.000 | 55.266 | -1.856 | 11.906 | 0.215 |
| -9.000 | 55.266 | -1.856 | 11.906 | 0.215 |
| -9.250 | 55.796 | -1.903 | 11.796 | 0.200 |
| -9.500 | 56.377 | -1.956 | 11.685 | 0.185 |
| -9.500 | 56.377 | -1.956 | 11.685 | 0.185 |
| -10.400 | 61.591 | -1.970 | 11.280 | 0.170 |
| -11.300 | 66.829 | -1.987 | 10.871 | 0.157 |
| -11.300 | 66.829 | -1.987 | 10.871 | 0.157 |
| -11.550 | 68.417 | -2.026 | 10.758 | 0.151 |
| -11.800 | 70.025 | -2.066 | 10.645 | 0.144 |
| -11.800 | 70.025 | -2.066 | 10.645 | 0.144 |
| -12.500 | 74.138 | -2.083 | 10.331 | 0.133 |
| -13.500 | 80.054 | -2.110 | 9.891 | 0.118 |
| -14.100 | 83.628 | -2.128 | 9.632 | 0.109 |
| -14.800 | 87.823 | -2.152 | 9.337 | 0.099 |
| -15.800 | 93.865 | -2.188 | 8.928 | 0.085 |
| -16.400 | 97.519 | -2.213 | 8.689 | 0.076 |
| -16.400 | 97.519 | -2.213 | 8.689 | 0.076 |
| -16.900 | 101.545 | -2.373 | 8.495 | 0.064 |
| -17.400 | 105.693 | -2.546 | 8.305 | 0.051 |
| -17.400 | 105.693 | -2.546 | 8.305 | 0.051 |
| -18.400 | 110.189 | -2.421 | 7.935 | 0.033 |
| -19.400 | 114.737 | -2.300 | 7.581 | 0.014 |
| -19.400 | 114.737 | -2.300 | 7.581 | 0.014 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -20.800 | 128.533 | -2.300 | 7.111 | 0.010 |
| -22.200 | 142.357 | -2.300 | 6.670 | 0.006 |
| -23.600 | 156.209 | -2.300 | 6.255 | 0.003 |
| -25.000 | 170.086 | -2.300 | 5.866 | 0.000 |

### 3.18 Results for Vertical 18 (X = -7.97 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.588 | 16.304 | -0.588 | 16.303 | 0.557 |
| -0.688 | 18.712 | -0.654 | 17.442 | 0.527 |
| -0.788 | 19.255 | -0.718 | 16.738 | 0.507 |
| -0.888 | 19.473 | -0.783 | 15.708 | 0.492 |
| -0.988 | 19.919 | -0.847 | 14.907 | 0.479 |
| -1.088 | 20.695 | -0.910 | 14.441 | 0.469 |
| -1.188 | 21.573 | -0.973 | 14.086 | 0.461 |
| -1.288 | 22.552 | -1.034 | 13.842 | 0.453 |
| -1.388 | 23.692 | -1.095 | 13.769 | 0.446 |
| -1.488 | 24.957 | -1.154 | 13.836 | 0.441 |
| -1.588 | 26.269 | -1.211 | 13.964 | 0.435 |
| -1.594 | 26.348 | -1.215 | 13.972 | 0.435 |
| -2.300 | 31.662 | -1.599 | 11.142 | 0.413 |
| -2.334 | 31.719 | -1.617 | 10.812 | 0.413 |
| -2.600 | 32.210 | -1.493 | 10.875 | 0.409 |
| -2.600 | 32.210 | -1.493 | 10.875 | 0.409 |
| -3.600 | 34.647 | -1.302 | 11.494 | 0.379 |
| -4.600 | 37.501 | -1.156 | 12.098 | 0.353 |
| -4.600 | 37.501 | -1.156 | 12.098 | 0.353 |
| -5.200 | 37.783 | -1.124 | 12.280 | 0.327 |
| -5.800 | 38.170 | -1.115 | 12.339 | 0.302 |
| -5.800 | 38.170 | -1.115 | 12.339 | 0.302 |
| -6.250 | 39.913 | -1.125 | 12.320 | 0.291 |
| -6.700 | 41.753 | -1.150 | 12.259 | 0.280 |
| -6.700 | 41.753 | -1.150 | 12.259 | 0.280 |
| -7.000 | 42.056 | -1.166 | 12.200 | 0.267 |
| -7.300 | 42.410 | -1.188 | 12.129 | 0.253 |
| -7.300 | 42.410 | -1.188 | 12.129 | 0.253 |
| -8.150 | 48.133 | -1.338 | 11.878 | 0.235 |
| -9.000 | 54.440 | -1.554 | 11.576 | 0.214 |
| -9.000 | 54.440 | -1.554 | 11.576 | 0.214 |
| -9.250 | 54.971 | -1.600 | 11.481 | 0.199 |
| -9.500 | 55.552 | -1.652 | 11.383 | 0.184 |
| -9.500 | 55.552 | -1.652 | 11.383 | 0.184 |
| -10.400 | 60.805 | -1.665 | 11.021 | 0.169 |
| -11.300 | 66.073 | -1.682 | 10.647 | 0.156 |
| -11.300 | 66.073 | -1.682 | 10.647 | 0.156 |
| -11.550 | 67.662 | -1.719 | 10.542 | 0.150 |
| -11.800 | 69.269 | -1.759 | 10.437 | 0.144 |
| -11.800 | 69.269 | -1.759 | 10.437 | 0.144 |
| -12.500 | 73.399 | -1.776 | 10.145 | 0.133 |
| -13.500 | 79.336 | -1.802 | 9.730 | 0.118 |
| -14.100 | 82.921 | -1.820 | 9.486 | 0.109 |
| -14.800 | 87.126 | -1.843 | 9.205 | 0.098 |
| -15.800 | 93.180 | -1.879 | 8.814 | 0.084 |
| -16.400 | 96.839 | -1.903 | 8.585 | 0.075 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -16.400 | 96.839 | -1.903 | 8.585 | 0.075 |
| -16.900 | 100.846 | -2.061 | 8.399 | 0.063 |
| -17.400 | 104.974 | -2.230 | 8.215 | 0.050 |
| -17.400 | 104.974 | -2.230 | 8.215 | 0.050 |
| -18.400 | 111.027 | -2.263 | 7.859 | 0.032 |
| -19.400 | 117.138 | -2.300 | 7.517 | 0.014 |
| -19.400 | 117.138 | -2.300 | 7.517 | 0.014 |
| -20.800 | 130.948 | -2.300 | 7.061 | 0.010 |
| -22.200 | 144.784 | -2.300 | 6.631 | 0.006 |
| -23.600 | 158.646 | -2.300 | 6.227 | 0.003 |
| -25.000 | 172.532 | -2.300 | 5.847 | 0.000 |

### 3.19 Results for Vertical 19 (X = -7.84 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.542 | 13.785 | -0.542 | 13.784 | 0.548 |
| -0.642 | 15.233 | -0.614 | 13.904 | 0.519 |
| -0.742 | 15.577 | -0.686 | 12.929 | 0.501 |
| -0.842 | 16.891 | -0.756 | 12.936 | 0.487 |
| -0.942 | 18.475 | -0.824 | 13.234 | 0.476 |
| -1.042 | 19.855 | -0.889 | 13.350 | 0.466 |
| -1.142 | 21.099 | -0.953 | 13.347 | 0.458 |
| -1.242 | 22.271 | -1.016 | 13.287 | 0.451 |
| -1.342 | 23.434 | -1.077 | 13.232 | 0.444 |
| -1.442 | 24.635 | -1.137 | 13.229 | 0.438 |
| -1.542 | 25.878 | -1.195 | 13.280 | 0.433 |
| -1.571 | 26.244 | -1.212 | 13.302 | 0.432 |
| -2.165 | 30.024 | -1.542 | 10.160 | 0.414 |
| -2.300 | 30.307 | -1.481 | 10.214 | 0.412 |
| -2.600 | 30.962 | -1.346 | 10.330 | 0.408 |
| -2.600 | 30.962 | -1.346 | 10.330 | 0.408 |
| -3.600 | 33.502 | -1.162 | 10.986 | 0.378 |
| -4.600 | 36.443 | -1.019 | 11.641 | 0.353 |
| -4.600 | 36.443 | -1.019 | 11.641 | 0.353 |
| -5.200 | 36.775 | -0.988 | 11.867 | 0.327 |
| -5.800 | 37.201 | -0.978 | 11.970 | 0.302 |
| -5.800 | 37.201 | -0.978 | 11.970 | 0.302 |
| -6.250 | 38.962 | -0.988 | 11.981 | 0.291 |
| -6.700 | 40.813 | -1.010 | 11.948 | 0.280 |
| -6.700 | 40.813 | -1.010 | 11.948 | 0.280 |
| -7.000 | 41.125 | -1.025 | 11.905 | 0.267 |
| -7.300 | 41.484 | -1.047 | 11.849 | 0.253 |
| -7.300 | 41.485 | -1.047 | 11.849 | 0.253 |
| -8.150 | 47.188 | -1.192 | 11.635 | 0.235 |
| -9.000 | 53.453 | -1.400 | 11.363 | 0.214 |
| -9.000 | 53.453 | -1.400 | 11.363 | 0.214 |
| -9.250 | 53.978 | -1.444 | 11.275 | 0.199 |
| -9.500 | 54.550 | -1.494 | 11.185 | 0.184 |
| -9.500 | 54.550 | -1.494 | 11.185 | 0.184 |
| -10.400 | 59.821 | -1.508 | 10.844 | 0.169 |
| -11.300 | 65.105 | -1.524 | 10.489 | 0.156 |
| -11.300 | 65.105 | -1.524 | 10.489 | 0.156 |
| -11.550 | 66.689 | -1.561 | 10.389 | 0.150 |
| -11.800 | 68.292 | -1.599 | 10.289 | 0.144 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -11.800 | 68.292 | -1.599 | 10.289 | 0.144 |
| -12.500 | 72.430 | -1.615 | 10.007 | 0.133 |
| -13.500 | 78.375 | -1.641 | 9.607 | 0.117 |
| -14.100 | 81.963 | -1.659 | 9.370 | 0.108 |
| -14.800 | 86.172 | -1.681 | 9.097 | 0.098 |
| -15.800 | 92.230 | -1.717 | 8.716 | 0.084 |
| -16.400 | 95.890 | -1.740 | 8.493 | 0.075 |
| -16.400 | 95.890 | -1.740 | 8.493 | 0.075 |
| -16.900 | 99.875 | -1.895 | 8.310 | 0.063 |
| -17.400 | 103.979 | -2.062 | 8.131 | 0.050 |
| -17.400 | 103.979 | -2.062 | 8.131 | 0.050 |
| -18.400 | 110.862 | -2.179 | 7.782 | 0.032 |
| -19.400 | 117.805 | -2.300 | 7.446 | 0.014 |
| -19.400 | 117.805 | -2.300 | 7.446 | 0.014 |
| -20.800 | 131.623 | -2.300 | 6.997 | 0.010 |
| -22.200 | 145.466 | -2.300 | 6.574 | 0.006 |
| -23.600 | 159.333 | -2.300 | 6.176 | 0.003 |
| -25.000 | 173.224 | -2.300 | 5.801 | 0.000 |

### 3.20 Results for Vertical 20 (X = -6.93 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.237 | 10.255 | -0.237 | 10.254 | 0.517 |
| -0.337 | 12.847 | -0.317 | 11.448 | 0.491 |
| -0.437 | 14.752 | -0.392 | 11.990 | 0.474 |
| -0.537 | 16.075 | -0.466 | 11.972 | 0.461 |
| -0.637 | 17.349 | -0.538 | 11.924 | 0.450 |
| -0.737 | 17.989 | -0.608 | 11.259 | 0.441 |
| -0.837 | 18.225 | -0.676 | 10.202 | 0.434 |
| -0.937 | 18.444 | -0.744 | 9.133 | 0.427 |
| -1.037 | 18.655 | -0.812 | 8.059 | 0.423 |
| -1.049 | 18.681 | -0.821 | 7.929 | 0.422 |
| -1.137 | 18.869 | -0.792 | 7.851 | 0.419 |
| -1.237 | 19.093 | -0.760 | 7.770 | 0.415 |
| -1.419 | 19.530 | -0.702 | 7.657 | 0.409 |
| -2.300 | 22.218 | -0.417 | 7.684 | 0.393 |
| -2.600 | 23.252 | -0.319 | 7.824 | 0.390 |
| -2.600 | 23.252 | -0.319 | 7.824 | 0.390 |
| -3.600 | 26.221 | -0.180 | 8.464 | 0.366 |
| -4.600 | 29.501 | -0.067 | 9.165 | 0.344 |
| -4.600 | 29.501 | -0.067 | 9.165 | 0.344 |
| -5.200 | 30.003 | -0.041 | 9.509 | 0.321 |
| -5.800 | 30.587 | -0.032 | 9.766 | 0.297 |
| -5.800 | 30.588 | -0.032 | 9.766 | 0.297 |
| -6.250 | 32.433 | -0.037 | 9.901 | 0.287 |
| -6.700 | 34.339 | -0.053 | 9.989 | 0.276 |
| -6.700 | 34.339 | -0.053 | 9.989 | 0.276 |
| -7.000 | 34.693 | -0.064 | 10.025 | 0.263 |
| -7.300 | 35.080 | -0.081 | 10.044 | 0.250 |
| -7.300 | 35.080 | -0.081 | 10.044 | 0.250 |
| -8.150 | 40.686 | -0.196 | 10.023 | 0.232 |
| -9.000 | 46.744 | -0.366 | 9.917 | 0.211 |
| -9.000 | 46.744 | -0.366 | 9.917 | 0.211 |
| -9.250 | 47.237 | -0.403 | 9.874 | 0.197 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -9.500 | 47.769 | -0.444 | 9.826 | 0.182 |
| -9.500 | 47.769 | -0.444 | 9.826 | 0.182 |
| -10.400 | 53.157 | -0.456 | 9.623 | 0.167 |
| -11.300 | 58.535 | -0.469 | 9.385 | 0.154 |
| -11.300 | 58.535 | -0.469 | 9.385 | 0.154 |
| -11.550 | 60.099 | -0.501 | 9.314 | 0.148 |
| -11.800 | 61.679 | -0.535 | 9.242 | 0.142 |
| -11.800 | 61.679 | -0.535 | 9.242 | 0.142 |
| -12.500 | 65.871 | -0.549 | 9.034 | 0.131 |
| -13.500 | 71.878 | -0.572 | 8.727 | 0.116 |
| -14.100 | 75.497 | -0.587 | 8.540 | 0.107 |
| -14.800 | 79.735 | -0.607 | 8.320 | 0.096 |
| -15.800 | 85.824 | -0.639 | 8.007 | 0.082 |
| -16.400 | 89.498 | -0.660 | 7.821 | 0.073 |
| -16.400 | 89.498 | -0.660 | 7.821 | 0.073 |
| -16.900 | 93.362 | -0.800 | 7.667 | 0.061 |
| -17.400 | 97.335 | -0.951 | 7.515 | 0.048 |
| -17.400 | 97.335 | -0.951 | 7.515 | 0.048 |
| -18.400 | 109.709 | -1.622 | 7.215 | 0.030 |
| -19.400 | 122.160 | -2.300 | 6.923 | 0.013 |
| -19.400 | 122.160 | -2.300 | 6.923 | 0.013 |
| -20.800 | 136.032 | -2.300 | 6.529 | 0.009 |
| -22.200 | 149.921 | -2.300 | 6.152 | 0.006 |
| -23.600 | 163.828 | -2.300 | 5.793 | 0.003 |
| -25.000 | 177.753 | -2.300 | 5.452 | 0.000 |

### 3.21 Results for Vertical 21 (X = -6.74 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.150 | 12.207 | -0.150 | 12.206 | 0.507 |
| -0.250 | 11.387 | -0.229 | 9.990 | 0.481 |
| -0.350 | 12.623 | -0.309 | 9.829 | 0.465 |
| -0.450 | 13.280 | -0.387 | 9.102 | 0.453 |
| -0.550 | 13.517 | -0.463 | 7.970 | 0.444 |
| -0.650 | 14.245 | -0.538 | 7.341 | 0.437 |
| -0.750 | 15.016 | -0.612 | 6.770 | 0.431 |
| -0.809 | 15.418 | -0.655 | 6.392 | 0.428 |
| -0.850 | 15.679 | -0.643 | 6.509 | 0.426 |
| -0.950 | 16.236 | -0.615 | 6.722 | 0.422 |
| -1.050 | 16.713 | -0.587 | 6.860 | 0.418 |
| -1.150 | 17.135 | -0.557 | 6.949 | 0.415 |
| -1.375 | 17.973 | -0.491 | 7.047 | 0.407 |
| -2.300 | 21.174 | -0.208 | 7.298 | 0.390 |
| -2.600 | 22.244 | -0.114 | 7.437 | 0.388 |
| -2.600 | 22.244 | -0.114 | 7.437 | 0.388 |
| -3.600 | 25.220 | 0.021 | 8.042 | 0.363 |
| -4.600 | 28.488 | 0.132 | 8.708 | 0.342 |
| -4.600 | 28.488 | 0.132 | 8.708 | 0.342 |
| -5.200 | 28.986 | 0.158 | 9.049 | 0.318 |
| -5.800 | 29.570 | 0.167 | 9.312 | 0.295 |
| -5.800 | 29.570 | 0.167 | 9.312 | 0.295 |
| -6.250 | 31.410 | 0.164 | 9.457 | 0.285 |
| -6.700 | 33.309 | 0.150 | 9.558 | 0.275 |
| -6.700 | 33.309 | 0.150 | 9.558 | 0.275 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -7.000 | 33.662 | 0.139 | 9.603 | 0.262 |
| -7.300 | 34.048 | 0.124 | 9.632 | 0.248 |
| -7.300 | 34.048 | 0.124 | 9.632 | 0.248 |
| -8.150 | 39.615 | 0.016 | 9.640 | 0.230 |
| -9.000 | 45.614 | -0.145 | 9.562 | 0.210 |
| -9.000 | 45.614 | -0.145 | 9.562 | 0.210 |
| -9.250 | 46.098 | -0.180 | 9.527 | 0.195 |
| -9.500 | 46.619 | -0.220 | 9.486 | 0.180 |
| -9.500 | 46.619 | -0.220 | 9.486 | 0.180 |
| -10.400 | 52.028 | -0.231 | 9.309 | 0.166 |
| -11.300 | 57.423 | -0.244 | 9.094 | 0.153 |
| -11.300 | 57.423 | -0.244 | 9.094 | 0.153 |
| -11.550 | 58.982 | -0.275 | 9.029 | 0.147 |
| -11.800 | 60.556 | -0.307 | 8.963 | 0.141 |
| -11.800 | 60.556 | -0.307 | 8.963 | 0.141 |
| -12.500 | 64.758 | -0.321 | 8.771 | 0.130 |
| -13.500 | 70.778 | -0.343 | 8.483 | 0.115 |
| -14.100 | 74.403 | -0.358 | 8.307 | 0.106 |
| -14.800 | 78.647 | -0.377 | 8.098 | 0.096 |
| -15.800 | 84.741 | -0.408 | 7.800 | 0.081 |
| -16.400 | 88.419 | -0.428 | 7.622 | 0.072 |
| -16.400 | 88.419 | -0.428 | 7.622 | 0.072 |
| -16.900 | 92.253 | -0.565 | 7.475 | 0.060 |
| -17.400 | 96.193 | -0.712 | 7.328 | 0.048 |
| -17.400 | 96.193 | -0.712 | 7.328 | 0.048 |
| -18.400 | 109.748 | -1.502 | 7.040 | 0.030 |
| -19.400 | 123.385 | -2.300 | 6.758 | 0.013 |
| -19.400 | 123.385 | -2.300 | 6.758 | 0.013 |
| -20.800 | 137.268 | -2.300 | 6.375 | 0.009 |
| -22.200 | 151.168 | -2.300 | 6.009 | 0.006 |
| -23.600 | 165.084 | -2.300 | 5.659 | 0.003 |
| -25.000 | 179.017 | -2.300 | 5.326 | 0.000 |

### 3.22 Results for Vertical 22 (X = -6.73 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.147 | 9.325 | -0.147 | 9.324 | 0.505 |
| -0.247 | 10.864 | -0.229 | 9.437 | 0.481 |
| -0.347 | 12.594 | -0.309 | 9.765 | 0.465 |
| -0.447 | 13.289 | -0.387 | 9.078 | 0.453 |
| -0.547 | 13.499 | -0.463 | 7.919 | 0.444 |
| -0.647 | 14.185 | -0.539 | 7.249 | 0.437 |
| -0.747 | 14.943 | -0.612 | 6.664 | 0.431 |
| -0.800 | 15.309 | -0.651 | 6.323 | 0.429 |
| -0.847 | 15.608 | -0.638 | 6.457 | 0.427 |
| -0.947 | 16.171 | -0.610 | 6.676 | 0.423 |
| -1.047 | 16.654 | -0.582 | 6.820 | 0.419 |
| -1.147 | 17.082 | -0.552 | 6.914 | 0.415 |
| -1.373 | 17.935 | -0.486 | 7.022 | 0.407 |
| -2.300 | 21.150 | -0.202 | 7.281 | 0.390 |
| -2.600 | 22.221 | -0.108 | 7.420 | 0.388 |
| -2.600 | 22.221 | -0.108 | 7.420 | 0.388 |
| -3.600 | 25.194 | 0.027 | 8.024 | 0.363 |
| -4.600 | 28.459 | 0.138 | 8.689 | 0.342 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -4.600 | 28.459 | 0.138 | 8.689 | 0.342 |
| -5.200 | 28.956 | 0.164 | 9.029 | 0.318 |
| -5.800 | 29.539 | 0.174 | 9.293 | 0.295 |
| -5.800 | 29.539 | 0.174 | 9.293 | 0.295 |
| -6.250 | 31.378 | 0.170 | 9.437 | 0.285 |
| -6.700 | 33.277 | 0.156 | 9.539 | 0.274 |
| -6.700 | 33.277 | 0.156 | 9.539 | 0.274 |
| -7.000 | 33.629 | 0.146 | 9.584 | 0.262 |
| -7.300 | 34.015 | 0.131 | 9.614 | 0.248 |
| -7.300 | 34.015 | 0.131 | 9.614 | 0.248 |
| -8.150 | 39.579 | 0.023 | 9.623 | 0.230 |
| -9.000 | 45.574 | -0.138 | 9.546 | 0.210 |
| -9.000 | 45.574 | -0.138 | 9.546 | 0.210 |
| -9.250 | 46.057 | -0.173 | 9.511 | 0.195 |
| -9.500 | 46.577 | -0.212 | 9.470 | 0.180 |
| -9.500 | 46.577 | -0.212 | 9.470 | 0.180 |
| -10.400 | 51.986 | -0.223 | 9.294 | 0.166 |
| -11.300 | 57.383 | -0.236 | 9.080 | 0.152 |
| -11.300 | 57.383 | -0.236 | 9.080 | 0.152 |
| -11.550 | 58.941 | -0.267 | 9.015 | 0.147 |
| -11.800 | 60.515 | -0.299 | 8.949 | 0.141 |
| -11.800 | 60.515 | -0.299 | 8.949 | 0.141 |
| -12.500 | 64.717 | -0.313 | 8.758 | 0.130 |
| -13.500 | 70.737 | -0.335 | 8.471 | 0.115 |
| -14.100 | 74.362 | -0.350 | 8.295 | 0.106 |
| -14.800 | 78.606 | -0.369 | 8.087 | 0.095 |
| -15.800 | 84.701 | -0.400 | 7.789 | 0.081 |
| -16.400 | 88.378 | -0.420 | 7.611 | 0.072 |
| -16.400 | 88.378 | -0.420 | 7.611 | 0.072 |
| -16.900 | 92.210 | -0.556 | 7.464 | 0.060 |
| -17.400 | 96.149 | -0.703 | 7.318 | 0.048 |
| -17.400 | 96.149 | -0.703 | 7.318 | 0.048 |
| -18.400 | 109.747 | -1.498 | 7.030 | 0.030 |
| -19.400 | 123.425 | -2.300 | 6.748 | 0.013 |
| -19.400 | 123.425 | -2.300 | 6.748 | 0.013 |
| -20.800 | 137.309 | -2.300 | 6.366 | 0.009 |
| -22.200 | 151.209 | -2.300 | 6.000 | 0.006 |
| -23.600 | 165.126 | -2.300 | 5.651 | 0.003 |
| -25.000 | 179.059 | -2.300 | 5.318 | 0.000 |

### 3.23 Results for Vertical 23 (X = -6.34 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.101 | 9.789 | -0.101 | 9.788 | 0.492 |
| -0.201 | 11.399 | -0.183 | 9.975 | 0.467 |
| -0.301 | 12.723 | -0.263 | 9.896 | 0.451 |
| -0.401 | 14.008 | -0.341 | 9.797 | 0.439 |
| -0.501 | 14.400 | -0.417 | 8.820 | 0.430 |
| -0.601 | 14.684 | -0.493 | 7.748 | 0.422 |
| -0.701 | 14.999 | -0.567 | 6.714 | 0.417 |
| -0.778 | 15.275 | -0.624 | 5.949 | 0.413 |
| -0.801 | 15.361 | -0.618 | 5.952 | 0.412 |
| -0.901 | 15.765 | -0.592 | 5.996 | 0.408 |
| -1.001 | 16.197 | -0.565 | 6.071 | 0.405 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.101 | 16.640 | -0.538 | 6.163 | 0.401 |
| -1.351 | 17.733 | -0.468 | 6.394 | 0.394 |
| -2.300 | 21.418 | -0.189 | 6.943 | 0.379 |
| -2.600 | 22.509 | -0.097 | 7.080 | 0.376 |
| -2.600 | 22.509 | -0.097 | 7.080 | 0.376 |
| -3.600 | 25.428 | 0.034 | 7.593 | 0.353 |
| -4.600 | 28.627 | 0.142 | 8.161 | 0.332 |
| -4.600 | 28.627 | 0.142 | 8.161 | 0.332 |
| -5.200 | 29.100 | 0.167 | 8.470 | 0.310 |
| -5.800 | 29.677 | 0.177 | 8.725 | 0.288 |
| -5.800 | 29.677 | 0.177 | 8.725 | 0.288 |
| -6.250 | 31.520 | 0.173 | 8.876 | 0.279 |
| -6.700 | 33.427 | 0.160 | 8.990 | 0.269 |
| -6.700 | 33.427 | 0.160 | 8.990 | 0.269 |
| -7.000 | 33.789 | 0.150 | 9.047 | 0.256 |
| -7.300 | 34.184 | 0.135 | 9.090 | 0.244 |
| -7.300 | 34.184 | 0.135 | 9.090 | 0.244 |
| -8.150 | 39.764 | 0.030 | 9.143 | 0.226 |
| -9.000 | 45.766 | -0.126 | 9.112 | 0.206 |
| -9.000 | 45.766 | -0.126 | 9.112 | 0.206 |
| -9.250 | 46.255 | -0.161 | 9.090 | 0.192 |
| -9.500 | 46.780 | -0.200 | 9.064 | 0.178 |
| -9.500 | 46.780 | -0.200 | 9.064 | 0.178 |
| -10.400 | 52.235 | -0.210 | 8.934 | 0.164 |
| -11.300 | 57.672 | -0.223 | 8.764 | 0.151 |
| -11.300 | 57.672 | -0.223 | 8.763 | 0.151 |
| -11.550 | 59.237 | -0.253 | 8.711 | 0.145 |
| -11.800 | 60.815 | -0.285 | 8.656 | 0.139 |
| -11.800 | 60.816 | -0.285 | 8.656 | 0.139 |
| -12.500 | 65.045 | -0.298 | 8.494 | 0.128 |
| -13.500 | 71.101 | -0.320 | 8.246 | 0.114 |
| -14.100 | 74.744 | -0.334 | 8.091 | 0.105 |
| -14.800 | 79.009 | -0.353 | 7.906 | 0.095 |
| -15.800 | 85.129 | -0.384 | 7.639 | 0.080 |
| -16.400 | 88.820 | -0.404 | 7.477 | 0.072 |
| -16.400 | 88.820 | -0.404 | 7.477 | 0.072 |
| -16.900 | 92.646 | -0.538 | 7.343 | 0.060 |
| -17.400 | 96.576 | -0.683 | 7.209 | 0.047 |
| -17.400 | 96.576 | -0.683 | 7.209 | 0.047 |
| -18.400 | 110.296 | -1.488 | 6.943 | 0.030 |
| -19.400 | 124.095 | -2.300 | 6.682 | 0.012 |
| -19.400 | 124.095 | -2.300 | 6.682 | 0.012 |
| -20.800 | 138.004 | -2.300 | 6.325 | 0.009 |
| -22.200 | 151.925 | -2.300 | 5.980 | 0.005 |
| -23.600 | 165.860 | -2.300 | 5.649 | 0.003 |
| -25.000 | 179.810 | -2.300 | 5.333 | 0.000 |

### 3.24 Results for Vertical 24 (X = -6.29 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.093 | 7.924 | -0.093 | 7.923 | 0.489 |
| -0.193 | 9.636 | -0.178 | 8.181 | 0.465 |
| -0.293 | 12.122 | -0.260 | 9.244 | 0.450 |
| -0.393 | 13.796 | -0.339 | 9.526 | 0.439 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.493 | 14.414 | -0.416 | 8.773 | 0.429 |
| -0.593 | 14.773 | -0.491 | 7.776 | 0.422 |
| -0.693 | 15.119 | -0.565 | 6.773 | 0.416 |
| -0.776 | 15.420 | -0.626 | 5.960 | 0.412 |
| -0.793 | 15.485 | -0.622 | 5.963 | 0.411 |
| -0.893 | 15.880 | -0.595 | 5.999 | 0.407 |
| -0.993 | 16.299 | -0.569 | 6.062 | 0.404 |
| -1.093 | 16.731 | -0.541 | 6.143 | 0.400 |
| -1.347 | 17.824 | -0.471 | 6.361 | 0.393 |
| -2.300 | 21.519 | -0.190 | 6.911 | 0.378 |
| -2.600 | 22.608 | -0.098 | 7.046 | 0.375 |
| -2.600 | 22.609 | -0.098 | 7.046 | 0.375 |
| -3.600 | 25.514 | 0.034 | 7.547 | 0.352 |
| -4.600 | 28.699 | 0.142 | 8.101 | 0.331 |
| -4.600 | 28.699 | 0.142 | 8.101 | 0.331 |
| -5.200 | 29.167 | 0.167 | 8.405 | 0.309 |
| -5.800 | 29.741 | 0.176 | 8.658 | 0.287 |
| -5.800 | 29.741 | 0.176 | 8.658 | 0.287 |
| -6.250 | 31.583 | 0.173 | 8.807 | 0.278 |
| -6.700 | 33.489 | 0.160 | 8.922 | 0.268 |
| -6.700 | 33.489 | 0.160 | 8.922 | 0.268 |
| -7.000 | 33.851 | 0.150 | 8.980 | 0.256 |
| -7.300 | 34.246 | 0.135 | 9.024 | 0.243 |
| -7.300 | 34.246 | 0.135 | 9.024 | 0.243 |
| -8.150 | 39.826 | 0.031 | 9.081 | 0.226 |
| -9.000 | 45.827 | -0.125 | 9.055 | 0.206 |
| -9.000 | 45.827 | -0.125 | 9.055 | 0.206 |
| -9.250 | 46.316 | -0.160 | 9.034 | 0.192 |
| -9.500 | 46.842 | -0.198 | 9.009 | 0.177 |
| -9.500 | 46.842 | -0.198 | 9.009 | 0.177 |
| -10.400 | 52.301 | -0.209 | 8.885 | 0.164 |
| -11.300 | 57.743 | -0.222 | 8.719 | 0.150 |
| -11.300 | 57.743 | -0.222 | 8.719 | 0.150 |
| -11.550 | 59.308 | -0.252 | 8.667 | 0.145 |
| -11.800 | 60.887 | -0.283 | 8.614 | 0.139 |
| -11.800 | 60.887 | -0.283 | 8.614 | 0.139 |
| -12.500 | 65.120 | -0.296 | 8.455 | 0.128 |
| -13.500 | 71.179 | -0.318 | 8.212 | 0.113 |
| -14.100 | 74.825 | -0.333 | 8.059 | 0.105 |
| -14.800 | 79.092 | -0.352 | 7.877 | 0.095 |
| -15.800 | 85.215 | -0.382 | 7.613 | 0.080 |
| -16.400 | 88.907 | -0.402 | 7.453 | 0.072 |
| -16.400 | 88.907 | -0.402 | 7.453 | 0.072 |
| -16.900 | 92.732 | -0.536 | 7.321 | 0.060 |
| -17.400 | 96.660 | -0.680 | 7.188 | 0.047 |
| -17.400 | 96.660 | -0.680 | 7.188 | 0.047 |
| -18.400 | 110.395 | -1.486 | 6.925 | 0.030 |
| -19.400 | 124.207 | -2.300 | 6.666 | 0.012 |
| -19.400 | 124.207 | -2.300 | 6.666 | 0.012 |
| -20.800 | 138.119 | -2.300 | 6.312 | 0.009 |
| -22.200 | 152.043 | -2.300 | 5.970 | 0.005 |
| -23.600 | 165.980 | -2.300 | 5.641 | 0.003 |
| -25.000 | 179.931 | -2.300 | 5.326 | 0.000 |

### 3.25 Results for Vertical 25 (X = -5.51 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.077 | 10.869 | -0.077 | 10.868 | 0.479 |
| -0.177 | 12.321 | -0.158 | 10.905 | 0.453 |
| -0.277 | 13.670 | -0.237 | 10.857 | 0.436 |
| -0.377 | 14.981 | -0.315 | 10.789 | 0.424 |
| -0.477 | 15.331 | -0.391 | 9.775 | 0.414 |
| -0.577 | 15.617 | -0.466 | 8.708 | 0.406 |
| -0.677 | 15.899 | -0.540 | 7.642 | 0.399 |
| -0.733 | 16.058 | -0.582 | 7.048 | 0.396 |
| -0.777 | 16.185 | -0.570 | 7.014 | 0.394 |
| -0.877 | 16.479 | -0.544 | 6.946 | 0.390 |
| -0.977 | 16.781 | -0.518 | 6.887 | 0.386 |
| -1.077 | 17.092 | -0.491 | 6.839 | 0.382 |
| -1.339 | 17.940 | -0.421 | 6.758 | 0.374 |
| -2.300 | 21.287 | -0.154 | 6.771 | 0.358 |
| -2.600 | 22.346 | -0.068 | 6.813 | 0.355 |
| -2.600 | 22.346 | -0.068 | 6.813 | 0.355 |
| -3.600 | 25.050 | 0.053 | 7.015 | 0.333 |
| -4.600 | 28.058 | 0.151 | 7.298 | 0.314 |
| -4.600 | 28.058 | 0.151 | 7.298 | 0.314 |
| -5.200 | 28.432 | 0.174 | 7.482 | 0.294 |
| -5.800 | 28.943 | 0.182 | 7.656 | 0.274 |
| -5.800 | 28.943 | 0.182 | 7.656 | 0.274 |
| -6.250 | 30.759 | 0.178 | 7.772 | 0.265 |
| -6.700 | 32.650 | 0.164 | 7.871 | 0.256 |
| -6.700 | 32.650 | 0.164 | 7.871 | 0.256 |
| -7.000 | 33.006 | 0.155 | 7.927 | 0.245 |
| -7.300 | 33.399 | 0.141 | 7.975 | 0.233 |
| -7.300 | 33.399 | 0.141 | 7.975 | 0.233 |
| -8.150 | 38.961 | 0.041 | 8.065 | 0.218 |
| -9.000 | 44.940 | -0.107 | 8.094 | 0.199 |
| -9.000 | 44.940 | -0.107 | 8.094 | 0.199 |
| -9.250 | 45.431 | -0.140 | 8.092 | 0.185 |
| -9.500 | 45.958 | -0.176 | 8.086 | 0.171 |
| -9.500 | 45.958 | -0.176 | 8.086 | 0.171 |
| -10.400 | 51.484 | -0.186 | 8.033 | 0.159 |
| -11.300 | 56.993 | -0.199 | 7.940 | 0.147 |
| -11.300 | 56.993 | -0.199 | 7.940 | 0.147 |
| -11.550 | 58.564 | -0.227 | 7.908 | 0.141 |
| -11.800 | 60.150 | -0.257 | 7.874 | 0.135 |
| -11.800 | 60.150 | -0.257 | 7.874 | 0.135 |
| -12.500 | 64.431 | -0.270 | 7.769 | 0.125 |
| -13.500 | 70.553 | -0.291 | 7.597 | 0.111 |
| -14.100 | 74.234 | -0.305 | 7.485 | 0.103 |
| -14.800 | 78.538 | -0.323 | 7.347 | 0.093 |
| -15.800 | 84.709 | -0.352 | 7.142 | 0.079 |
| -16.400 | 88.426 | -0.372 | 7.015 | 0.070 |
| -16.400 | 88.426 | -0.372 | 7.015 | 0.070 |
| -16.900 | 92.231 | -0.501 | 6.907 | 0.059 |
| -17.400 | 96.135 | -0.640 | 6.799 | 0.046 |
| -17.400 | 96.135 | -0.640 | 6.799 | 0.046 |
| -18.400 | 110.111 | -1.466 | 6.581 | 0.029 |
| -19.400 | 124.160 | -2.300 | 6.363 | 0.012 |
| -19.400 | 124.160 | -2.300 | 6.363 | 0.012 |
| -20.800 | 138.122 | -2.300 | 6.059 | 0.008 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -22.200 | 152.091 | -2.300 | 5.762 | 0.005 |
| -23.600 | 166.066 | -2.300 | 5.471 | 0.003 |
| -25.000 | 180.051 | -2.300 | 5.190 | 0.000 |

### 3.26 Results for Vertical 26 (X = -3.74 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.050 | 11.015 | -0.050 | 11.014 | 0.453 |
| -0.150 | 12.569 | -0.132 | 11.144 | 0.427 |
| -0.250 | 13.962 | -0.212 | 11.131 | 0.411 |
| -0.350 | 14.888 | -0.291 | 10.669 | 0.398 |
| -0.450 | 15.264 | -0.368 | 9.669 | 0.388 |
| -0.550 | 15.630 | -0.444 | 8.668 | 0.379 |
| -0.635 | 15.938 | -0.509 | 7.812 | 0.374 |
| -0.650 | 15.991 | -0.505 | 7.809 | 0.373 |
| -0.750 | 16.347 | -0.481 | 7.786 | 0.368 |
| -0.850 | 16.699 | -0.456 | 7.762 | 0.362 |
| -0.950 | 17.047 | -0.431 | 7.735 | 0.358 |
| -1.050 | 17.391 | -0.406 | 7.706 | 0.353 |
| -1.325 | 18.314 | -0.336 | 7.613 | 0.343 |
| -2.300 | 21.415 | -0.084 | 7.154 | 0.323 |
| -2.600 | 22.348 | -0.006 | 6.994 | 0.320 |
| -2.600 | 22.348 | -0.006 | 6.994 | 0.320 |
| -3.600 | 24.494 | 0.101 | 6.502 | 0.296 |
| -4.600 | 27.024 | 0.184 | 6.157 | 0.278 |
| -4.600 | 27.024 | 0.184 | 6.157 | 0.278 |
| -5.200 | 27.136 | 0.202 | 6.032 | 0.260 |
| -5.800 | 27.432 | 0.207 | 5.962 | 0.243 |
| -5.800 | 27.432 | 0.207 | 5.962 | 0.243 |
| -6.250 | 29.127 | 0.201 | 5.937 | 0.236 |
| -6.700 | 30.920 | 0.187 | 5.932 | 0.229 |
| -6.700 | 30.920 | 0.187 | 5.932 | 0.229 |
| -7.000 | 31.222 | 0.178 | 5.936 | 0.220 |
| -7.300 | 31.567 | 0.165 | 5.945 | 0.210 |
| -7.300 | 31.567 | 0.165 | 5.945 | 0.210 |
| -8.150 | 36.994 | 0.074 | 5.985 | 0.197 |
| -9.000 | 42.854 | -0.060 | 6.033 | 0.181 |
| -9.000 | 42.854 | -0.060 | 6.033 | 0.181 |
| -9.250 | 43.329 | -0.090 | 6.046 | 0.169 |
| -9.500 | 43.839 | -0.123 | 6.058 | 0.157 |
| -9.500 | 43.839 | -0.123 | 6.059 | 0.157 |
| -10.400 | 49.443 | -0.132 | 6.093 | 0.146 |
| -11.300 | 55.049 | -0.143 | 6.109 | 0.136 |
| -11.300 | 55.049 | -0.143 | 6.109 | 0.136 |
| -11.550 | 56.627 | -0.169 | 6.109 | 0.131 |
| -11.800 | 58.217 | -0.196 | 6.108 | 0.126 |
| -11.800 | 58.217 | -0.196 | 6.108 | 0.126 |
| -12.500 | 62.581 | -0.208 | 6.097 | 0.117 |
| -13.500 | 68.820 | -0.227 | 6.060 | 0.104 |
| -14.100 | 72.568 | -0.240 | 6.026 | 0.097 |
| -14.800 | 76.946 | -0.256 | 5.978 | 0.088 |
| -15.800 | 83.216 | -0.283 | 5.894 | 0.075 |
| -16.400 | 86.988 | -0.301 | 5.836 | 0.067 |
| -16.400 | 86.988 | -0.301 | 5.836 | 0.067 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -16.900 | 90.750 | -0.421 | 5.784 | 0.055 |
| -17.400 | 94.602 | -0.549 | 5.729 | 0.043 |
| -17.400 | 94.602 | -0.549 | 5.729 | 0.043 |
| -18.400 | 109.126 | -1.421 | 5.611 | 0.027 |
| -19.400 | 123.714 | -2.300 | 5.485 | 0.011 |
| -19.400 | 123.714 | -2.300 | 5.485 | 0.011 |
| -20.800 | 137.792 | -2.300 | 5.297 | 0.008 |
| -22.200 | 151.862 | -2.300 | 5.101 | 0.005 |
| -23.600 | 165.927 | -2.300 | 4.900 | 0.002 |
| -25.000 | 179.991 | -2.300 | 4.698 | 0.000 |

### 3.27 Results for Vertical 27 (X = -1.88 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.093 | 11.054 | -0.093 | 11.053 | 0.420 |
| -0.193 | 12.468 | -0.177 | 11.029 | 0.394 |
| -0.293 | 13.112 | -0.259 | 10.249 | 0.377 |
| -0.393 | 13.460 | -0.340 | 9.184 | 0.365 |
| -0.493 | 13.792 | -0.420 | 8.109 | 0.356 |
| -0.533 | 13.923 | -0.452 | 7.675 | 0.353 |
| -0.593 | 14.118 | -0.440 | 7.618 | 0.348 |
| -0.693 | 14.444 | -0.420 | 7.524 | 0.342 |
| -0.793 | 14.768 | -0.399 | 7.430 | 0.336 |
| -0.893 | 15.091 | -0.379 | 7.338 | 0.330 |
| -0.993 | 15.412 | -0.358 | 7.244 | 0.325 |
| -1.093 | 15.728 | -0.337 | 7.149 | 0.320 |
| -1.347 | 16.513 | -0.282 | 6.897 | 0.310 |
| -2.300 | 19.400 | -0.074 | 5.922 | 0.290 |
| -2.600 | 20.332 | -0.008 | 5.647 | 0.287 |
| -2.600 | 20.332 | -0.008 | 5.647 | 0.287 |
| -3.600 | 22.377 | 0.084 | 4.902 | 0.265 |
| -4.600 | 24.869 | 0.156 | 4.412 | 0.249 |
| -4.600 | 24.869 | 0.156 | 4.412 | 0.249 |
| -5.200 | 24.934 | 0.172 | 4.222 | 0.233 |
| -5.800 | 25.171 | 0.177 | 4.096 | 0.218 |
| -5.800 | 25.171 | 0.177 | 4.096 | 0.218 |
| -6.250 | 26.808 | 0.174 | 4.037 | 0.213 |
| -6.700 | 28.534 | 0.164 | 4.003 | 0.207 |
| -6.700 | 28.534 | 0.164 | 4.003 | 0.207 |
| -7.000 | 28.799 | 0.157 | 3.993 | 0.199 |
| -7.300 | 29.105 | 0.146 | 3.991 | 0.190 |
| -7.300 | 29.105 | 0.146 | 3.991 | 0.190 |
| -8.150 | 34.341 | 0.074 | 4.021 | 0.179 |
| -9.000 | 39.967 | -0.035 | 4.085 | 0.165 |
| -9.000 | 39.967 | -0.035 | 4.085 | 0.165 |
| -9.250 | 40.399 | -0.059 | 4.108 | 0.154 |
| -9.500 | 40.864 | -0.086 | 4.132 | 0.143 |
| -9.500 | 40.864 | -0.086 | 4.132 | 0.143 |
| -10.400 | 46.509 | -0.094 | 4.223 | 0.135 |
| -11.300 | 52.172 | -0.103 | 4.313 | 0.126 |
| -11.300 | 52.172 | -0.103 | 4.313 | 0.126 |
| -11.550 | 53.732 | -0.125 | 4.336 | 0.121 |
| -11.800 | 55.305 | -0.148 | 4.359 | 0.117 |
| -11.800 | 55.305 | -0.148 | 4.359 | 0.117 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -12.500 | 59.721 | -0.158 | 4.417 | 0.109 |
| -13.500 | 66.037 | -0.174 | 4.484 | 0.098 |
| -14.100 | 69.831 | -0.185 | 4.514 | 0.091 |
| -14.800 | 74.262 | -0.200 | 4.540 | 0.082 |
| -15.800 | 80.602 | -0.223 | 4.561 | 0.070 |
| -16.400 | 84.413 | -0.239 | 4.564 | 0.063 |
| -16.400 | 84.413 | -0.239 | 4.564 | 0.063 |
| -16.900 | 88.082 | -0.343 | 4.562 | 0.052 |
| -17.400 | 91.830 | -0.456 | 4.555 | 0.040 |
| -17.400 | 91.830 | -0.456 | 4.555 | 0.040 |
| -18.400 | 106.904 | -1.375 | 4.530 | 0.025 |
| -19.400 | 122.032 | -2.300 | 4.491 | 0.010 |
| -19.400 | 122.032 | -2.300 | 4.491 | 0.010 |
| -20.800 | 136.223 | -2.300 | 4.416 | 0.007 |
| -22.200 | 150.395 | -2.300 | 4.322 | 0.004 |
| -23.600 | 164.552 | -2.300 | 4.213 | 0.002 |
| -25.000 | 178.697 | -2.300 | 4.092 | 0.000 |

### 3.28 Results for Vertical 28 (X = -1.14 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.097 | 9.739 | -0.097 | 9.738 | 0.394 |
| -0.197 | 11.209 | -0.183 | 9.744 | 0.369 |
| -0.297 | 11.655 | -0.268 | 8.739 | 0.353 |
| -0.397 | 12.039 | -0.352 | 7.683 | 0.342 |
| -0.493 | 12.357 | -0.431 | 6.630 | 0.334 |
| -0.497 | 12.371 | -0.430 | 6.624 | 0.334 |
| -0.597 | 12.671 | -0.413 | 6.474 | 0.327 |
| -0.697 | 12.956 | -0.396 | 6.310 | 0.320 |
| -0.797 | 13.237 | -0.378 | 6.143 | 0.315 |
| -0.897 | 13.518 | -0.361 | 5.979 | 0.310 |
| -0.997 | 13.802 | -0.343 | 5.820 | 0.305 |
| -1.097 | 14.092 | -0.325 | 5.669 | 0.301 |
| -1.349 | 14.849 | -0.278 | 5.322 | 0.293 |
| -2.300 | 18.019 | -0.095 | 4.402 | 0.277 |
| -2.600 | 19.081 | -0.034 | 4.204 | 0.275 |
| -2.600 | 19.081 | -0.034 | 4.204 | 0.275 |
| -3.600 | 21.447 | 0.052 | 3.730 | 0.256 |
| -4.600 | 24.152 | 0.124 | 3.447 | 0.241 |
| -4.600 | 24.152 | 0.124 | 3.447 | 0.241 |
| -5.200 | 24.296 | 0.141 | 3.345 | 0.226 |
| -5.800 | 24.582 | 0.148 | 3.286 | 0.212 |
| -5.800 | 24.582 | 0.148 | 3.286 | 0.212 |
| -6.250 | 26.227 | 0.148 | 3.266 | 0.207 |
| -6.700 | 27.948 | 0.141 | 3.263 | 0.201 |
| -6.700 | 27.948 | 0.141 | 3.263 | 0.201 |
| -7.000 | 28.214 | 0.136 | 3.271 | 0.193 |
| -7.300 | 28.517 | 0.128 | 3.284 | 0.185 |
| -7.300 | 28.517 | 0.128 | 3.284 | 0.185 |
| -8.150 | 33.684 | 0.066 | 3.349 | 0.174 |
| -9.000 | 39.205 | -0.029 | 3.442 | 0.160 |
| -9.000 | 39.205 | -0.029 | 3.442 | 0.160 |
| -9.250 | 39.618 | -0.050 | 3.473 | 0.150 |
| -9.500 | 40.062 | -0.075 | 3.504 | 0.139 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -9.500 | 40.062 | -0.075 | 3.504 | 0.139 |
| -10.400 | 45.728 | -0.082 | 3.623 | 0.131 |
| -11.300 | 51.410 | -0.090 | 3.740 | 0.123 |
| -11.300 | 51.410 | -0.090 | 3.740 | 0.123 |
| -11.550 | 52.959 | -0.110 | 3.771 | 0.119 |
| -11.800 | 54.521 | -0.131 | 3.802 | 0.114 |
| -11.800 | 54.521 | -0.131 | 3.802 | 0.114 |
| -12.500 | 58.952 | -0.140 | 3.883 | 0.106 |
| -13.500 | 65.291 | -0.155 | 3.984 | 0.095 |
| -14.100 | 69.098 | -0.166 | 4.036 | 0.089 |
| -14.800 | 73.543 | -0.179 | 4.087 | 0.081 |
| -15.800 | 79.903 | -0.201 | 4.142 | 0.069 |
| -16.400 | 83.725 | -0.216 | 4.166 | 0.062 |
| -16.400 | 83.725 | -0.216 | 4.166 | 0.062 |
| -16.900 | 87.347 | -0.314 | 4.181 | 0.051 |
| -17.400 | 91.043 | -0.420 | 4.191 | 0.039 |
| -17.400 | 91.043 | -0.420 | 4.191 | 0.039 |
| -18.400 | 106.330 | -1.357 | 4.198 | 0.024 |
| -19.400 | 121.667 | -2.300 | 4.190 | 0.009 |
| -19.400 | 121.667 | -2.300 | 4.190 | 0.009 |
| -20.800 | 135.899 | -2.300 | 4.156 | 0.007 |
| -22.200 | 150.108 | -2.300 | 4.099 | 0.004 |
| -23.600 | 164.299 | -2.300 | 4.024 | 0.002 |
| -25.000 | 178.476 | -2.300 | 3.935 | 0.000 |

### 3.29 Results for Vertical 29 (X = -0.74 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.100 | 8.384 | -0.100 | 8.383 | 0.371 |
| -0.200 | 9.122 | -0.189 | 7.630 | 0.347 |
| -0.300 | 9.374 | -0.277 | 6.400 | 0.334 |
| -0.400 | 9.804 | -0.364 | 5.357 | 0.324 |
| -0.471 | 10.101 | -0.425 | 4.626 | 0.319 |
| -0.500 | 10.223 | -0.421 | 4.603 | 0.317 |
| -0.600 | 10.611 | -0.407 | 4.509 | 0.311 |
| -0.700 | 10.978 | -0.393 | 4.398 | 0.306 |
| -0.800 | 11.336 | -0.378 | 4.282 | 0.302 |
| -0.900 | 11.695 | -0.363 | 4.168 | 0.298 |
| -1.000 | 12.057 | -0.348 | 4.061 | 0.294 |
| -1.100 | 12.426 | -0.332 | 3.963 | 0.291 |
| -1.350 | 13.372 | -0.292 | 3.759 | 0.285 |
| -2.300 | 17.144 | -0.122 | 3.313 | 0.273 |
| -2.600 | 18.337 | -0.063 | 3.228 | 0.272 |
| -2.600 | 18.337 | -0.063 | 3.228 | 0.272 |
| -3.600 | 20.984 | 0.022 | 3.028 | 0.254 |
| -4.600 | 23.834 | 0.096 | 2.913 | 0.240 |
| -4.600 | 23.834 | 0.096 | 2.913 | 0.240 |
| -5.200 | 24.031 | 0.115 | 2.880 | 0.225 |
| -5.800 | 24.350 | 0.124 | 2.871 | 0.211 |
| -5.800 | 24.350 | 0.124 | 2.871 | 0.211 |
| -6.250 | 25.998 | 0.126 | 2.880 | 0.205 |
| -6.700 | 27.713 | 0.123 | 2.902 | 0.199 |
| -6.700 | 27.713 | 0.123 | 2.902 | 0.199 |
| -7.000 | 27.981 | 0.119 | 2.923 | 0.191 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -7.300 | 28.282 | 0.112 | 2.948 | 0.183 |
| -7.300 | 28.282 | 0.112 | 2.948 | 0.183 |
| -8.150 | 33.402 | 0.057 | 3.039 | 0.172 |
| -9.000 | 38.854 | -0.028 | 3.152 | 0.159 |
| -9.000 | 38.854 | -0.028 | 3.152 | 0.159 |
| -9.250 | 39.254 | -0.048 | 3.187 | 0.148 |
| -9.500 | 39.685 | -0.071 | 3.224 | 0.138 |
| -9.500 | 39.685 | -0.071 | 3.224 | 0.138 |
| -10.400 | 45.362 | -0.077 | 3.358 | 0.130 |
| -11.300 | 51.054 | -0.085 | 3.491 | 0.122 |
| -11.300 | 51.055 | -0.085 | 3.491 | 0.122 |
| -11.550 | 52.597 | -0.104 | 3.526 | 0.118 |
| -11.800 | 54.151 | -0.124 | 3.561 | 0.113 |
| -11.800 | 54.151 | -0.124 | 3.561 | 0.113 |
| -12.500 | 58.589 | -0.132 | 3.654 | 0.106 |
| -13.500 | 64.937 | -0.146 | 3.772 | 0.095 |
| -14.100 | 68.749 | -0.156 | 3.834 | 0.088 |
| -14.800 | 73.201 | -0.169 | 3.897 | 0.080 |
| -15.800 | 79.569 | -0.190 | 3.970 | 0.068 |
| -16.400 | 83.395 | -0.204 | 4.004 | 0.061 |
| -16.400 | 83.395 | -0.204 | 4.004 | 0.061 |
| -16.900 | 86.987 | -0.298 | 4.027 | 0.050 |
| -17.400 | 90.652 | -0.400 | 4.045 | 0.039 |
| -17.400 | 90.652 | -0.400 | 4.045 | 0.039 |
| -18.400 | 106.051 | -1.347 | 4.069 | 0.024 |
| -19.400 | 121.498 | -2.300 | 4.076 | 0.009 |
| -19.400 | 121.498 | -2.300 | 4.076 | 0.009 |
| -20.800 | 135.751 | -2.300 | 4.063 | 0.007 |
| -22.200 | 149.979 | -2.300 | 4.025 | 0.004 |
| -23.600 | 164.188 | -2.300 | 3.968 | 0.002 |
| -25.000 | 178.381 | -2.300 | 3.896 | 0.000 |

### 3.30 Results for Vertical 30 (X = -0.67 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.101 | 5.649 | -0.101 | 5.648 | 0.363 |
| -0.201 | 7.565 | -0.193 | 6.046 | 0.342 |
| -0.301 | 8.328 | -0.282 | 5.311 | 0.330 |
| -0.401 | 9.001 | -0.371 | 4.499 | 0.321 |
| -0.467 | 9.389 | -0.428 | 3.913 | 0.317 |
| -0.501 | 9.574 | -0.424 | 3.931 | 0.315 |
| -0.601 | 10.068 | -0.411 | 3.936 | 0.309 |
| -0.701 | 10.511 | -0.397 | 3.894 | 0.305 |
| -0.801 | 10.926 | -0.383 | 3.828 | 0.300 |
| -0.901 | 11.328 | -0.368 | 3.754 | 0.297 |
| -1.001 | 11.727 | -0.353 | 3.679 | 0.293 |
| -1.101 | 12.125 | -0.338 | 3.608 | 0.290 |
| -1.351 | 13.130 | -0.299 | 3.456 | 0.284 |
| -2.300 | 17.028 | -0.131 | 3.124 | 0.273 |
| -2.600 | 18.243 | -0.072 | 3.061 | 0.272 |
| -2.600 | 18.243 | -0.072 | 3.061 | 0.272 |
| -3.600 | 20.936 | 0.015 | 2.911 | 0.254 |
| -4.600 | 23.805 | 0.089 | 2.825 | 0.240 |
| -4.600 | 23.805 | 0.089 | 2.825 | 0.240 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -5.200 | 24.010 | 0.109 | 2.803 | 0.225 |
| -5.800 | 24.333 | 0.118 | 2.803 | 0.211 |
| -5.800 | 24.333 | 0.118 | 2.803 | 0.211 |
| -6.250 | 25.979 | 0.121 | 2.818 | 0.205 |
| -6.700 | 27.692 | 0.118 | 2.843 | 0.199 |
| -6.700 | 27.692 | 0.118 | 2.843 | 0.199 |
| -7.000 | 27.958 | 0.114 | 2.866 | 0.191 |
| -7.300 | 28.259 | 0.108 | 2.893 | 0.183 |
| -7.300 | 28.259 | 0.108 | 2.893 | 0.183 |
| -8.150 | 33.368 | 0.055 | 2.989 | 0.172 |
| -9.000 | 38.805 | -0.029 | 3.105 | 0.158 |
| -9.000 | 38.805 | -0.029 | 3.105 | 0.158 |
| -9.250 | 39.203 | -0.048 | 3.142 | 0.148 |
| -9.500 | 39.631 | -0.071 | 3.179 | 0.138 |
| -9.500 | 39.631 | -0.071 | 3.179 | 0.138 |
| -10.400 | 45.310 | -0.077 | 3.316 | 0.130 |
| -11.300 | 51.003 | -0.085 | 3.451 | 0.122 |
| -11.300 | 51.003 | -0.085 | 3.451 | 0.122 |
| -11.550 | 52.544 | -0.103 | 3.487 | 0.117 |
| -11.800 | 54.096 | -0.123 | 3.523 | 0.113 |
| -11.800 | 54.096 | -0.123 | 3.523 | 0.113 |
| -12.500 | 58.536 | -0.131 | 3.617 | 0.105 |
| -13.500 | 64.885 | -0.146 | 3.738 | 0.095 |
| -14.100 | 68.698 | -0.155 | 3.802 | 0.088 |
| -14.800 | 73.150 | -0.168 | 3.866 | 0.080 |
| -15.800 | 79.519 | -0.189 | 3.942 | 0.068 |
| -16.400 | 83.345 | -0.203 | 3.977 | 0.061 |
| -16.400 | 83.346 | -0.203 | 3.977 | 0.061 |
| -16.900 | 86.932 | -0.296 | 4.002 | 0.050 |
| -17.400 | 90.589 | -0.397 | 4.022 | 0.039 |
| -17.400 | 90.589 | -0.397 | 4.022 | 0.039 |
| -18.400 | 106.006 | -1.345 | 4.048 | 0.024 |
| -19.400 | 121.471 | -2.300 | 4.058 | 0.009 |
| -19.400 | 121.471 | -2.300 | 4.058 | 0.009 |
| -20.800 | 135.726 | -2.300 | 4.047 | 0.007 |
| -22.200 | 149.958 | -2.300 | 4.013 | 0.004 |
| -23.600 | 164.170 | -2.300 | 3.959 | 0.002 |
| -25.000 | 178.365 | -2.300 | 3.888 | 0.000 |

### 3.31 Results for Vertical 31 (X = -0.16 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.170 | 1.866 | -0.170 | 1.865 | 0.313 |
| -0.270 | 2.584 | -0.267 | 1.014 | 0.301 |
| -0.370 | 3.247 | -0.362 | 0.122 | 0.296 |
| -0.439 | 3.725 | -0.427 | -0.464 | 0.294 |
| -0.470 | 3.946 | -0.425 | -0.417 | 0.294 |
| -0.570 | 4.671 | -0.419 | -0.244 | 0.292 |
| -0.670 | 5.404 | -0.411 | -0.057 | 0.290 |
| -0.770 | 6.130 | -0.403 | 0.132 | 0.288 |
| -0.870 | 6.840 | -0.394 | 0.311 | 0.287 |
| -0.970 | 7.529 | -0.384 | 0.478 | 0.285 |
| -1.070 | 8.197 | -0.373 | 0.630 | 0.284 |
| -1.170 | 8.842 | -0.362 | 0.767 | 0.283 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.385 | 10.162 | -0.336 | 1.017 | 0.280 |
| -2.300 | 15.058 | -0.193 | 1.644 | 0.275 |
| -2.600 | 16.481 | -0.137 | 1.763 | 0.274 |
| -2.600 | 16.481 | -0.137 | 1.763 | 0.274 |
| -3.600 | 19.581 | -0.051 | 2.016 | 0.257 |
| -4.600 | 22.637 | 0.029 | 2.163 | 0.243 |
| -4.600 | 22.637 | 0.029 | 2.163 | 0.243 |
| -5.200 | 22.909 | 0.050 | 2.235 | 0.227 |
| -5.800 | 23.269 | 0.063 | 2.306 | 0.212 |
| -5.800 | 23.269 | 0.063 | 2.306 | 0.212 |
| -6.250 | 24.909 | 0.071 | 2.362 | 0.206 |
| -6.700 | 26.602 | 0.074 | 2.422 | 0.200 |
| -6.700 | 26.602 | 0.074 | 2.422 | 0.200 |
| -7.000 | 26.865 | 0.072 | 2.464 | 0.191 |
| -7.300 | 27.157 | 0.068 | 2.508 | 0.183 |
| -7.300 | 27.157 | 0.068 | 2.508 | 0.183 |
| -8.150 | 32.172 | 0.029 | 2.642 | 0.172 |
| -9.000 | 37.475 | -0.039 | 2.786 | 0.158 |
| -9.000 | 37.475 | -0.039 | 2.786 | 0.158 |
| -9.250 | 37.849 | -0.055 | 2.829 | 0.148 |
| -9.500 | 38.251 | -0.074 | 2.873 | 0.137 |
| -9.500 | 38.251 | -0.074 | 2.873 | 0.137 |
| -10.400 | 43.943 | -0.079 | 3.031 | 0.130 |
| -11.300 | 49.646 | -0.086 | 3.185 | 0.122 |
| -11.300 | 49.646 | -0.086 | 3.185 | 0.122 |
| -11.550 | 51.172 | -0.102 | 3.227 | 0.117 |
| -11.800 | 52.707 | -0.120 | 3.267 | 0.112 |
| -11.800 | 52.707 | -0.120 | 3.267 | 0.112 |
| -12.500 | 57.152 | -0.128 | 3.376 | 0.105 |
| -13.500 | 63.508 | -0.140 | 3.517 | 0.094 |
| -14.100 | 67.325 | -0.149 | 3.593 | 0.088 |
| -14.800 | 71.781 | -0.161 | 3.672 | 0.080 |
| -15.800 | 78.154 | -0.180 | 3.767 | 0.068 |
| -16.400 | 81.982 | -0.193 | 3.815 | 0.061 |
| -16.400 | 81.982 | -0.193 | 3.815 | 0.061 |
| -16.900 | 85.512 | -0.280 | 3.849 | 0.050 |
| -17.400 | 89.110 | -0.374 | 3.879 | 0.039 |
| -17.400 | 89.111 | -0.374 | 3.879 | 0.039 |
| -18.400 | 104.663 | -1.334 | 3.924 | 0.024 |
| -19.400 | 120.262 | -2.300 | 3.953 | 0.009 |
| -19.400 | 120.262 | -2.300 | 3.953 | 0.009 |
| -20.800 | 134.542 | -2.300 | 3.967 | 0.007 |
| -22.200 | 148.797 | -2.300 | 3.956 | 0.004 |
| -23.600 | 163.030 | -2.300 | 3.923 | 0.002 |
| -25.000 | 177.246 | -2.300 | 3.873 | 0.000 |

### 3.32 Results for Vertical 32 (X = 0.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.226 | 0.068 | -0.226 | 0.067 | 0.296 |
| -0.326 | 0.965 | -0.325 | -0.623 | 0.294 |
| -0.426 | 1.913 | -0.421 | -1.243 | 0.294 |
| -0.430 | 1.952 | -0.425 | -1.269 | 0.294 |
| -0.526 | 2.810 | -0.421 | -0.959 | 0.294 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.626 | 3.659 | -0.415 | -0.672 | 0.293 |
| -0.726 | 4.470 | -0.408 | -0.413 | 0.292 |
| -0.826 | 5.250 | -0.400 | -0.175 | 0.291 |
| -0.926 | 6.002 | -0.392 | 0.043 | 0.290 |
| -1.026 | 6.726 | -0.382 | 0.242 | 0.289 |
| -1.126 | 7.425 | -0.372 | 0.425 | 0.288 |
| -1.226 | 8.100 | -0.360 | 0.591 | 0.287 |
| -1.413 | 9.302 | -0.337 | 0.864 | 0.286 |
| -2.300 | 14.226 | -0.196 | 1.683 | 0.281 |
| -2.600 | 15.677 | -0.137 | 1.851 | 0.280 |
| -2.600 | 15.677 | -0.137 | 1.851 | 0.280 |
| -3.600 | 18.853 | -0.047 | 2.221 | 0.263 |
| -4.600 | 21.932 | 0.037 | 2.438 | 0.248 |
| -4.600 | 21.932 | 0.037 | 2.438 | 0.248 |
| -5.200 | 22.215 | 0.061 | 2.539 | 0.232 |
| -5.800 | 22.582 | 0.075 | 2.632 | 0.216 |
| -5.800 | 22.582 | 0.075 | 2.632 | 0.216 |
| -6.250 | 24.217 | 0.085 | 2.702 | 0.210 |
| -6.700 | 25.903 | 0.090 | 2.772 | 0.203 |
| -6.700 | 25.903 | 0.090 | 2.772 | 0.203 |
| -7.000 | 26.165 | 0.089 | 2.821 | 0.195 |
| -7.300 | 26.457 | 0.085 | 2.870 | 0.186 |
| -7.300 | 26.457 | 0.085 | 2.870 | 0.186 |
| -8.150 | 31.456 | 0.049 | 3.016 | 0.174 |
| -9.000 | 36.746 | -0.016 | 3.169 | 0.160 |
| -9.000 | 36.746 | -0.016 | 3.169 | 0.160 |
| -9.250 | 37.119 | -0.032 | 3.215 | 0.150 |
| -9.500 | 37.522 | -0.051 | 3.261 | 0.139 |
| -9.500 | 37.522 | -0.051 | 3.261 | 0.139 |
| -10.400 | 43.220 | -0.056 | 3.426 | 0.132 |
| -11.300 | 48.931 | -0.063 | 3.586 | 0.123 |
| -11.300 | 48.931 | -0.063 | 3.586 | 0.123 |
| -11.550 | 50.461 | -0.080 | 3.629 | 0.119 |
| -11.800 | 52.002 | -0.098 | 3.671 | 0.114 |
| -11.800 | 52.002 | -0.098 | 3.671 | 0.114 |
| -12.500 | 56.453 | -0.106 | 3.784 | 0.106 |
| -13.500 | 62.818 | -0.119 | 3.931 | 0.095 |
| -14.100 | 66.641 | -0.128 | 4.011 | 0.089 |
| -14.800 | 71.106 | -0.140 | 4.094 | 0.081 |
| -15.800 | 77.491 | -0.160 | 4.195 | 0.069 |
| -16.400 | 81.329 | -0.173 | 4.247 | 0.061 |
| -16.400 | 81.329 | -0.173 | 4.247 | 0.061 |
| -16.900 | 84.897 | -0.264 | 4.284 | 0.050 |
| -17.400 | 88.537 | -0.362 | 4.316 | 0.039 |
| -17.400 | 88.537 | -0.362 | 4.316 | 0.039 |
| -18.400 | 104.153 | -1.327 | 4.368 | 0.024 |
| -19.400 | 119.818 | -2.300 | 4.402 | 0.009 |
| -19.400 | 119.818 | -2.300 | 4.402 | 0.009 |
| -20.800 | 134.106 | -2.300 | 4.424 | 0.007 |
| -22.200 | 148.368 | -2.300 | 4.420 | 0.004 |
| -23.600 | 162.608 | -2.300 | 4.394 | 0.002 |
| -25.000 | 176.830 | -2.300 | 4.350 | 0.000 |

### 3.33 Results for Vertical 33 (X = 0.42 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.369 | 0.040 | -0.369 | 0.039 | 0.317 |
| -0.430 | 0.441 | -0.430 | -0.530 | 0.318 |
| -0.469 | 0.702 | -0.429 | -0.505 | 0.318 |
| -0.569 | 1.386 | -0.426 | -0.416 | 0.318 |
| -0.669 | 2.089 | -0.423 | -0.297 | 0.318 |
| -0.769 | 2.804 | -0.418 | -0.156 | 0.318 |
| -0.869 | 3.522 | -0.412 | 0.000 | 0.318 |
| -0.969 | 4.236 | -0.406 | 0.164 | 0.317 |
| -1.069 | 4.942 | -0.397 | 0.330 | 0.317 |
| -1.169 | 5.636 | -0.388 | 0.495 | 0.316 |
| -1.269 | 6.316 | -0.378 | 0.657 | 0.315 |
| -1.369 | 6.980 | -0.367 | 0.813 | 0.314 |
| -1.484 | 7.727 | -0.352 | 0.986 | 0.313 |
| -2.300 | 12.424 | -0.219 | 1.946 | 0.308 |
| -2.600 | 13.928 | -0.157 | 2.199 | 0.307 |
| -2.600 | 13.928 | -0.157 | 2.199 | 0.307 |
| -3.600 | 17.254 | -0.059 | 2.797 | 0.288 |
| -4.600 | 20.388 | 0.036 | 3.169 | 0.270 |
| -4.600 | 20.388 | 0.036 | 3.169 | 0.270 |
| -5.200 | 20.703 | 0.063 | 3.338 | 0.252 |
| -5.800 | 21.092 | 0.081 | 3.484 | 0.234 |
| -5.800 | 21.092 | 0.081 | 3.484 | 0.234 |
| -6.250 | 22.722 | 0.094 | 3.586 | 0.226 |
| -6.700 | 24.399 | 0.102 | 3.683 | 0.219 |
| -6.700 | 24.399 | 0.102 | 3.683 | 0.219 |
| -7.000 | 24.664 | 0.103 | 3.747 | 0.209 |
| -7.300 | 24.958 | 0.100 | 3.810 | 0.200 |
| -7.300 | 24.958 | 0.100 | 3.810 | 0.200 |
| -8.150 | 29.942 | 0.069 | 3.987 | 0.187 |
| -9.000 | 35.220 | 0.007 | 4.163 | 0.172 |
| -9.000 | 35.220 | 0.007 | 4.163 | 0.172 |
| -9.250 | 35.595 | -0.008 | 4.215 | 0.160 |
| -9.500 | 36.000 | -0.027 | 4.267 | 0.149 |
| -9.500 | 36.000 | -0.027 | 4.267 | 0.149 |
| -10.400 | 41.716 | -0.032 | 4.449 | 0.140 |
| -11.300 | 47.443 | -0.039 | 4.624 | 0.131 |
| -11.300 | 47.443 | -0.039 | 4.624 | 0.131 |
| -11.550 | 48.983 | -0.057 | 4.670 | 0.126 |
| -11.800 | 50.534 | -0.075 | 4.716 | 0.121 |
| -11.800 | 50.534 | -0.075 | 4.716 | 0.121 |
| -12.500 | 54.999 | -0.083 | 4.840 | 0.113 |
| -13.500 | 61.386 | -0.097 | 5.002 | 0.101 |
| -14.100 | 65.223 | -0.107 | 5.089 | 0.094 |
| -14.800 | 69.704 | -0.120 | 5.183 | 0.085 |
| -15.800 | 76.117 | -0.141 | 5.299 | 0.072 |
| -16.400 | 79.972 | -0.155 | 5.359 | 0.064 |
| -16.400 | 79.972 | -0.155 | 5.359 | 0.064 |
| -16.900 | 83.609 | -0.252 | 5.404 | 0.053 |
| -17.400 | 87.323 | -0.357 | 5.444 | 0.041 |
| -17.400 | 87.324 | -0.357 | 5.444 | 0.041 |
| -18.400 | 102.976 | -1.325 | 5.509 | 0.026 |
| -19.400 | 118.683 | -2.300 | 5.558 | 0.010 |
| -19.400 | 118.683 | -2.300 | 5.558 | 0.010 |
| -20.800 | 132.990 | -2.300 | 5.599 | 0.007 |
| -22.200 | 147.270 | -2.300 | 5.613 | 0.005 |
| -23.600 | 161.526 | -2.300 | 5.603 | 0.002 |
| -25.000 | 175.764 | -2.300 | 5.575 | 0.000 |

### 3.34 Results for Vertical 34 (X = 0.67 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.050 | 1.736 | -0.430 | 1.735 | 0.510 |
| -2.150 | 2.404 | -0.424 | 1.841 | 0.491 |
| -2.250 | 3.051 | -0.417 | 1.943 | 0.480 |
| -2.300 | 3.367 | -0.412 | 1.992 | 0.476 |
| -2.325 | 3.524 | -0.410 | 2.016 | 0.474 |
| -2.350 | 3.679 | -0.408 | 2.040 | 0.473 |
| -2.450 | 4.287 | -0.397 | 2.133 | 0.466 |
| -2.550 | 4.877 | -0.385 | 2.221 | 0.461 |
| -2.600 | 5.165 | -0.379 | 2.264 | 0.459 |
| -2.600 | 5.165 | -0.379 | 2.264 | 0.459 |
| -2.650 | 5.361 | -0.376 | 2.306 | 0.455 |
| -2.750 | 5.747 | -0.369 | 2.387 | 0.449 |
| -2.850 | 6.126 | -0.362 | 2.464 | 0.442 |
| -2.950 | 6.498 | -0.355 | 2.538 | 0.436 |
| -3.050 | 6.864 | -0.348 | 2.608 | 0.430 |
| -3.600 | 8.778 | -0.302 | 2.942 | 0.401 |
| -4.600 | 11.967 | -0.205 | 3.385 | 0.361 |
| -4.600 | 11.967 | -0.205 | 3.385 | 0.361 |
| -5.200 | 12.269 | -0.173 | 3.588 | 0.326 |
| -5.800 | 12.618 | -0.149 | 3.762 | 0.292 |
| -5.800 | 12.619 | -0.149 | 3.762 | 0.292 |
| -6.250 | 14.156 | -0.124 | 3.881 | 0.278 |
| -6.700 | 15.713 | -0.102 | 3.993 | 0.265 |
| -6.700 | 15.713 | -0.102 | 3.993 | 0.265 |
| -7.000 | 15.926 | -0.096 | 4.065 | 0.250 |
| -7.300 | 16.163 | -0.091 | 4.136 | 0.235 |
| -7.300 | 16.163 | -0.091 | 4.136 | 0.235 |
| -8.150 | 20.788 | -0.085 | 4.331 | 0.216 |
| -9.000 | 25.604 | -0.098 | 4.521 | 0.197 |
| -9.000 | 25.604 | -0.098 | 4.521 | 0.197 |
| -9.250 | 25.889 | -0.104 | 4.576 | 0.183 |
| -9.500 | 26.198 | -0.112 | 4.631 | 0.170 |
| -9.500 | 26.198 | -0.112 | 4.631 | 0.170 |
| -10.400 | 31.899 | -0.115 | 4.823 | 0.158 |
| -11.300 | 37.607 | -0.119 | 5.006 | 0.146 |
| -11.300 | 37.607 | -0.119 | 5.006 | 0.146 |
| -11.550 | 39.089 | -0.131 | 5.055 | 0.141 |
| -11.800 | 40.581 | -0.143 | 5.103 | 0.135 |
| -11.800 | 40.582 | -0.143 | 5.103 | 0.135 |
| -12.500 | 45.028 | -0.149 | 5.233 | 0.125 |
| -13.500 | 51.385 | -0.159 | 5.403 | 0.111 |
| -14.100 | 55.203 | -0.166 | 5.496 | 0.102 |
| -14.800 | 59.661 | -0.176 | 5.595 | 0.092 |
| -15.800 | 66.039 | -0.192 | 5.719 | 0.078 |
| -16.400 | 69.871 | -0.204 | 5.784 | 0.069 |
| -16.400 | 69.871 | -0.204 | 5.784 | 0.069 |
| -16.900 | 73.334 | -0.282 | 5.833 | 0.057 |
| -17.400 | 76.866 | -0.368 | 5.877 | 0.045 |
| -17.400 | 76.866 | -0.368 | 5.877 | 0.045 |
| -18.400 | 92.472 | -1.331 | 5.951 | 0.028 |
| -19.400 | 108.129 | -2.300 | 6.007 | 0.012 |
| -19.400 | 108.129 | -2.300 | 6.007 | 0.012 |
| -20.800 | 122.446 | -2.300 | 6.059 | 0.008 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -22.200 | 136.737 | -2.300 | 6.084 | 0.005 |
| -23.600 | 151.003 | -2.300 | 6.084 | 0.003 |
| -25.000 | 165.250 | -2.300 | 6.065 | 0.000 |

### 3.35 Results for Vertical 35 (X = 1.07 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.059 | 1.111 | -0.430 | 1.110 | 0.476 |
| -2.159 | 1.785 | -0.426 | 1.204 | 0.461 |
| -2.259 | 2.442 | -0.421 | 1.296 | 0.453 |
| -2.300 | 2.706 | -0.418 | 1.333 | 0.450 |
| -2.329 | 2.894 | -0.416 | 1.360 | 0.448 |
| -2.359 | 3.081 | -0.413 | 1.387 | 0.446 |
| -2.459 | 3.703 | -0.405 | 1.475 | 0.442 |
| -2.559 | 4.309 | -0.395 | 1.561 | 0.438 |
| -2.600 | 4.553 | -0.390 | 1.596 | 0.437 |
| -2.600 | 4.553 | -0.390 | 1.596 | 0.437 |
| -2.659 | 4.789 | -0.387 | 1.645 | 0.433 |
| -2.759 | 5.184 | -0.381 | 1.727 | 0.427 |
| -2.859 | 5.573 | -0.375 | 1.806 | 0.422 |
| -2.959 | 5.956 | -0.369 | 1.882 | 0.417 |
| -3.059 | 6.334 | -0.362 | 1.956 | 0.411 |
| -3.600 | 8.288 | -0.321 | 2.317 | 0.387 |
| -4.600 | 11.609 | -0.231 | 2.833 | 0.351 |
| -4.600 | 11.609 | -0.231 | 2.833 | 0.351 |
| -5.200 | 11.964 | -0.200 | 3.076 | 0.317 |
| -5.800 | 12.355 | -0.177 | 3.285 | 0.285 |
| -5.800 | 12.355 | -0.177 | 3.285 | 0.285 |
| -6.250 | 13.917 | -0.152 | 3.427 | 0.272 |
| -6.700 | 15.491 | -0.130 | 3.559 | 0.260 |
| -6.700 | 15.491 | -0.130 | 3.559 | 0.260 |
| -7.000 | 15.714 | -0.123 | 3.644 | 0.245 |
| -7.300 | 15.957 | -0.118 | 3.725 | 0.231 |
| -7.300 | 15.957 | -0.118 | 3.725 | 0.231 |
| -8.150 | 20.579 | -0.108 | 3.946 | 0.212 |
| -9.000 | 25.370 | -0.117 | 4.155 | 0.193 |
| -9.000 | 25.370 | -0.117 | 4.155 | 0.193 |
| -9.250 | 25.650 | -0.122 | 4.215 | 0.180 |
| -9.500 | 25.953 | -0.129 | 4.274 | 0.167 |
| -9.500 | 25.953 | -0.129 | 4.274 | 0.167 |
| -10.400 | 31.666 | -0.132 | 4.481 | 0.156 |
| -11.300 | 37.382 | -0.136 | 4.677 | 0.144 |
| -11.300 | 37.382 | -0.136 | 4.677 | 0.144 |
| -11.550 | 38.859 | -0.146 | 4.729 | 0.138 |
| -11.800 | 40.345 | -0.158 | 4.781 | 0.133 |
| -11.800 | 40.345 | -0.158 | 4.781 | 0.133 |
| -12.500 | 44.796 | -0.163 | 4.919 | 0.123 |
| -13.500 | 51.159 | -0.172 | 5.101 | 0.109 |
| -14.100 | 54.980 | -0.179 | 5.201 | 0.101 |
| -14.800 | 59.442 | -0.188 | 5.309 | 0.091 |
| -15.800 | 65.822 | -0.204 | 5.445 | 0.077 |
| -16.400 | 69.656 | -0.215 | 5.518 | 0.068 |
| -16.400 | 69.656 | -0.215 | 5.518 | 0.068 |
| -16.900 | 73.086 | -0.289 | 5.573 | 0.056 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -17.400 | 76.584 | -0.371 | 5.623 | 0.044 |
| -17.400 | 76.584 | -0.371 | 5.623 | 0.044 |
| -18.400 | 92.189 | -1.332 | 5.709 | 0.027 |
| -19.400 | 107.842 | -2.300 | 5.777 | 0.011 |
| -19.400 | 107.842 | -2.300 | 5.777 | 0.011 |
| -20.800 | 122.177 | -2.300 | 5.845 | 0.008 |
| -22.200 | 136.483 | -2.300 | 5.885 | 0.005 |
| -23.600 | 150.764 | -2.300 | 5.900 | 0.003 |
| -25.000 | 165.024 | -2.300 | 5.895 | 0.000 |

### 3.36 Results for Vertical 36 (X = 2.33 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.710 | 0.168 | -0.430 | 0.167 | 0.354 |
| -1.810 | 0.806 | -0.429 | 0.198 | 0.349 |
| -1.910 | 1.435 | -0.427 | 0.231 | 0.347 |
| -2.010 | 2.054 | -0.423 | 0.267 | 0.345 |
| -2.110 | 2.662 | -0.418 | 0.306 | 0.344 |
| -2.155 | 2.932 | -0.415 | 0.324 | 0.343 |
| -2.210 | 3.260 | -0.412 | 0.346 | 0.342 |
| -2.300 | 3.790 | -0.405 | 0.385 | 0.342 |
| -2.310 | 3.849 | -0.404 | 0.389 | 0.342 |
| -2.410 | 4.428 | -0.395 | 0.433 | 0.341 |
| -2.510 | 4.997 | -0.386 | 0.479 | 0.340 |
| -2.600 | 5.501 | -0.376 | 0.522 | 0.339 |
| -2.600 | 5.501 | -0.376 | 0.522 | 0.339 |
| -2.610 | 5.538 | -0.375 | 0.527 | 0.339 |
| -2.710 | 5.904 | -0.370 | 0.575 | 0.337 |
| -3.600 | 9.083 | -0.313 | 1.031 | 0.316 |
| -4.600 | 12.493 | -0.234 | 1.530 | 0.294 |
| -4.600 | 12.493 | -0.234 | 1.530 | 0.294 |
| -5.200 | 12.914 | -0.207 | 1.802 | 0.272 |
| -5.800 | 13.372 | -0.186 | 2.053 | 0.250 |
| -5.800 | 13.372 | -0.186 | 2.053 | 0.250 |
| -6.250 | 14.994 | -0.164 | 2.227 | 0.240 |
| -6.700 | 16.625 | -0.144 | 2.392 | 0.231 |
| -6.700 | 16.625 | -0.144 | 2.392 | 0.231 |
| -7.000 | 16.876 | -0.138 | 2.496 | 0.220 |
| -7.300 | 17.145 | -0.134 | 2.598 | 0.208 |
| -7.300 | 17.145 | -0.134 | 2.598 | 0.208 |
| -8.150 | 21.835 | -0.126 | 2.869 | 0.193 |
| -9.000 | 26.676 | -0.135 | 3.120 | 0.177 |
| -9.000 | 26.676 | -0.135 | 3.120 | 0.177 |
| -9.250 | 26.966 | -0.140 | 3.191 | 0.165 |
| -9.500 | 27.278 | -0.147 | 3.261 | 0.153 |
| -9.500 | 27.278 | -0.147 | 3.261 | 0.153 |
| -10.400 | 33.024 | -0.150 | 3.501 | 0.144 |
| -11.300 | 38.769 | -0.154 | 3.727 | 0.134 |
| -11.300 | 38.769 | -0.154 | 3.727 | 0.134 |
| -11.550 | 40.247 | -0.163 | 3.788 | 0.129 |
| -11.800 | 41.734 | -0.174 | 3.847 | 0.124 |
| -11.800 | 41.734 | -0.174 | 3.847 | 0.124 |
| -12.500 | 46.203 | -0.179 | 4.006 | 0.115 |
| -13.500 | 52.590 | -0.188 | 4.218 | 0.103 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -14.100 | 56.425 | -0.194 | 4.336 | 0.095 |
| -14.800 | 60.902 | -0.203 | 4.465 | 0.086 |
| -15.800 | 67.304 | -0.217 | 4.633 | 0.073 |
| -16.400 | 71.150 | -0.228 | 4.724 | 0.065 |
| -16.400 | 71.150 | -0.228 | 4.724 | 0.065 |
| -16.900 | 74.552 | -0.298 | 4.795 | 0.053 |
| -17.400 | 78.017 | -0.374 | 4.861 | 0.041 |
| -17.400 | 78.017 | -0.374 | 4.861 | 0.041 |
| -18.400 | 93.639 | -1.334 | 4.979 | 0.026 |
| -19.400 | 109.306 | -2.300 | 5.080 | 0.010 |
| -19.400 | 109.306 | -2.300 | 5.080 | 0.010 |
| -20.800 | 123.685 | -2.300 | 5.193 | 0.007 |
| -22.200 | 138.035 | -2.300 | 5.277 | 0.005 |
| -23.600 | 152.358 | -2.300 | 5.334 | 0.002 |
| -25.000 | 166.658 | -2.300 | 5.369 | 0.000 |

### 3.37 Results for Vertical 37 (X = 3.46 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.345 | 0.155 | -0.430 | 0.154 | 0.365 |
| -2.445 | 0.783 | -0.429 | 0.174 | 0.360 |
| -2.473 | 0.954 | -0.428 | 0.180 | 0.359 |
| -2.545 | 1.400 | -0.427 | 0.196 | 0.358 |
| -2.600 | 1.735 | -0.425 | 0.209 | 0.357 |
| -2.600 | 1.735 | -0.425 | 0.209 | 0.357 |
| -2.645 | 1.903 | -0.424 | 0.219 | 0.355 |
| -2.745 | 2.276 | -0.422 | 0.244 | 0.352 |
| -2.845 | 2.647 | -0.419 | 0.270 | 0.348 |
| -2.945 | 3.016 | -0.417 | 0.297 | 0.345 |
| -3.045 | 3.383 | -0.413 | 0.325 | 0.342 |
| -3.145 | 3.748 | -0.410 | 0.354 | 0.339 |
| -3.245 | 4.111 | -0.406 | 0.384 | 0.336 |
| -3.345 | 4.472 | -0.402 | 0.415 | 0.333 |
| -3.600 | 5.383 | -0.391 | 0.498 | 0.326 |
| -4.600 | 8.852 | -0.332 | 0.854 | 0.301 |
| -4.600 | 8.852 | -0.332 | 0.854 | 0.301 |
| -5.200 | 9.269 | -0.310 | 1.076 | 0.276 |
| -5.800 | 9.723 | -0.291 | 1.297 | 0.252 |
| -5.800 | 9.723 | -0.291 | 1.297 | 0.252 |
| -6.250 | 11.341 | -0.270 | 1.459 | 0.241 |
| -6.700 | 12.958 | -0.250 | 1.617 | 0.231 |
| -6.700 | 12.958 | -0.250 | 1.617 | 0.231 |
| -7.000 | 13.198 | -0.243 | 1.720 | 0.219 |
| -7.300 | 13.452 | -0.237 | 1.820 | 0.207 |
| -7.300 | 13.452 | -0.237 | 1.820 | 0.207 |
| -8.150 | 18.032 | -0.218 | 2.095 | 0.191 |
| -9.000 | 22.696 | -0.208 | 2.355 | 0.174 |
| -9.000 | 22.696 | -0.208 | 2.355 | 0.174 |
| -9.250 | 22.948 | -0.209 | 2.428 | 0.163 |
| -9.500 | 23.219 | -0.212 | 2.501 | 0.151 |
| -9.500 | 23.219 | -0.212 | 2.501 | 0.151 |
| -10.400 | 28.964 | -0.213 | 2.753 | 0.142 |
| -11.300 | 34.705 | -0.215 | 2.991 | 0.132 |
| -11.300 | 34.705 | -0.215 | 2.991 | 0.132 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -11.550 | 36.152 | -0.221 | 3.054 | 0.127 |
| -11.800 | 37.606 | -0.228 | 3.117 | 0.122 |
| -11.800 | 37.606 | -0.228 | 3.117 | 0.122 |
| -12.500 | 42.070 | -0.232 | 3.286 | 0.114 |
| -13.500 | 48.447 | -0.238 | 3.513 | 0.101 |
| -14.100 | 52.275 | -0.242 | 3.641 | 0.093 |
| -14.800 | 56.743 | -0.249 | 3.783 | 0.084 |
| -15.800 | 63.130 | -0.260 | 3.969 | 0.071 |
| -16.400 | 66.966 | -0.268 | 4.072 | 0.063 |
| -16.400 | 66.966 | -0.268 | 4.072 | 0.063 |
| -16.900 | 70.234 | -0.323 | 4.153 | 0.052 |
| -17.400 | 73.555 | -0.385 | 4.230 | 0.040 |
| -17.400 | 73.555 | -0.385 | 4.230 | 0.040 |
| -18.400 | 89.153 | -1.340 | 4.370 | 0.025 |
| -19.400 | 104.788 | -2.300 | 4.493 | 0.010 |
| -19.400 | 104.788 | -2.300 | 4.493 | 0.010 |
| -20.400 | 115.085 | -2.300 | 4.600 | 0.008 |
| -21.400 | 125.366 | -2.300 | 4.691 | 0.006 |
| -22.200 | 133.581 | -2.300 | 4.754 | 0.005 |
| -23.600 | 147.936 | -2.300 | 4.843 | 0.002 |
| -25.000 | 162.267 | -2.300 | 4.908 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -33.74 | 0.00 | -2.15 | 0.206 |
| 2 | -31.35 | 0.00 | -2.17 | 0.218 |
| 3 | -28.21 | 0.00 | -2.18 | 0.276 |
| 4 | -28.21 | 0.00 | -2.18 | 0.276 |
| 5 | -26.47 | 0.00 | -2.18 | 0.385 |
| 6 | -26.14 | 0.00 | -2.19 | 0.410 |
| 7 | -24.09 | 0.00 | -2.19 | 0.526 |
| 8 | -20.08 | 0.00 | -2.18 | 0.724 |
| 9 | -18.38 | 0.00 | -2.18 | 0.801 |
| 10 | -15.68 | 0.00 | -2.17 | 0.908 |
| 11 | -11.95 | 0.00 | -1.98 | 0.925 |
| 12 | -11.46 | 0.00 | -1.96 | 0.924 |
| 13 | -9.82 | 0.00 | -1.87 | 0.896 |
| 14 | -9.60 | 0.00 | -1.68 | 0.802 |
| 15 | -9.11 | 0.00 | -1.27 | 0.686 |
| 16 | -8.40 | 0.00 | -0.84 | 0.595 |
| 17 | -8.23 | 0.00 | -0.74 | 0.576 |
| 18 | -7.97 | 0.00 | -0.59 | 0.557 |
| 19 | -7.84 | 0.00 | -0.54 | 0.548 |
| 20 | -6.93 | 0.00 | -0.24 | 0.517 |
| 21 | -6.74 | 0.00 | -0.15 | 0.507 |
| 22 | -6.73 | 0.00 | -0.15 | 0.505 |
| 23 | -6.34 | 0.00 | -0.10 | 0.492 |
| 24 | -6.29 | 0.00 | -0.09 | 0.489 |
| 25 | -5.51 | 0.00 | -0.08 | 0.479 |
| 26 | -3.74 | 0.00 | -0.05 | 0.453 |
| 27 | -1.88 | 0.00 | -0.09 | 0.420 |
| 28 | -1.14 | 0.00 | -0.10 | 0.394 |
| 29 | -0.74 | 0.00 | -0.10 | 0.371 |
| 30 | -0.67 | 0.00 | -0.10 | 0.363 |
| 31 | -0.16 | 0.00 | -0.17 | 0.313 |
| 32 | 0.00 | 0.00 | -0.23 | 0.296 |
| 33 | 0.42 | 0.00 | -0.37 | 0.317 |
| 34 | 0.67 | 0.00 | -2.05 | 0.510 |
| 35 | 1.07 | 0.00 | -2.06 | 0.476 |
| 36 | 2.33 | 0.00 | -1.71 | 0.354 |
| 37 | 3.46 | 0.00 | -2.35 | 0.365 |

## 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 540 | 0.018 | 8.562 | 0.188 |
| | 5050 | 0.143 | 69.291 | 0.063 |
| 2 | 540 | 0.021 | 9.669 | 0.197 |
| | 5050 | 0.153 | 70.101 | 0.065 |
| 3 | 540 | 0.041 | 14.760 | 0.235 |
| | 5050 | 0.202 | 72.988 | 0.075 |
| 4 | 540 | 0.041 | 14.824 | 0.235 |
| | 5050 | 0.202 | 73.010 | 0.075 |
| 5 | 540 | 0.096 | 25.034 | 0.289 |
| | 5050 | 0.298 | 77.283 | 0.087 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 6 | 540 | 0.109 | 26.676 | 0.301 |
| | 5050 | 0.320 | 77.982 | 0.090 |
| 7 | 540 | 0.154 | 29.312 | 0.372 |
| | 5050 | 0.420 | 79.762 | 0.106 |
| 8 | 540 | 0.217 | 29.933 | 0.507 |
| | 5050 | 0.578 | 79.810 | 0.146 |
| 9 | 540 | 0.237 | 29.643 | 0.563 |
| | 5050 | 0.633 | 79.032 | 0.168 |
| 10 | 540 | 0.263 | 28.954 | 0.645 |
| | 5050 | 0.708 | 77.988 | 0.200 |
| 11 | 540 | 0.271 | 29.262 | 0.654 |
| | 5050 | 0.731 | 79.085 | 0.193 |
| 12 | 540 | 0.272 | 29.400 | 0.653 |
| | 5050 | 0.730 | 79.011 | 0.194 |
| 13 | 540 | 0.264 | 29.513 | 0.631 |
| | 5050 | 0.700 | 78.199 | 0.195 |
| 14 | 540 | 0.193 | 24.113 | 0.608 |
| | 5050 | 0.608 | 75.880 | 0.193 |
| 15 | 540 | 0.160 | 23.342 | 0.526 |
| | 5050 | 0.507 | 73.977 | 0.178 |
| 16 | 540 | 0.143 | 24.038 | 0.452 |
| | 5050 | 0.436 | 73.344 | 0.159 |
| 17 | 540 | 0.134 | 23.281 | 0.442 |
| | 5050 | 0.420 | 73.010 | 0.155 |
| 18 | 540 | 0.129 | 23.229 | 0.428 |
| | 5050 | 0.406 | 72.793 | 0.152 |
| 19 | 540 | 0.125 | 22.740 | 0.423 |
| | 5050 | 0.397 | 72.552 | 0.150 |
| 20 | 540 | 0.114 | 22.126 | 0.403 |
| | 5050 | 0.374 | 72.309 | 0.143 |
| 21 | 540 | 0.107 | 21.061 | 0.400 |
| | 5050 | 0.365 | 72.046 | 0.142 |
| 22 | 540 | 0.106 | 20.956 | 0.400 |
| | 5050 | 0.364 | 71.994 | 0.142 |
| 23 | 540 | 0.101 | 20.494 | 0.392 |
| | 5050 | 0.354 | 71.951 | 0.138 |
| 24 | 540 | 0.098 | 20.155 | 0.390 |
| | 5050 | 0.351 | 71.835 | 0.138 |
| 25 | 540 | 0.096 | 20.045 | 0.383 |
| | 5050 | 0.346 | 72.215 | 0.133 |
| 26 | 540 | 0.091 | 20.153 | 0.362 |
| | 5050 | 0.328 | 72.371 | 0.125 |
| 27 | 540 | 0.087 | 20.597 | 0.334 |
| | 5050 | 0.305 | 72.683 | 0.115 |
| 28 | 540 | 0.084 | 21.333 | 0.310 |
| | 5050 | 0.286 | 72.538 | 0.108 |
| 29 | 540 | 0.077 | 20.850 | 0.293 |
| | 5050 | 0.266 | 71.867 | 0.104 |
| 30 | 540 | 0.073 | 20.079 | 0.290 |
| | 5050 | 0.259 | 71.478 | 0.104 |
| 31 | 540 | 0.044 | 14.131 | 0.268 |
| | 5050 | 0.215 | 68.690 | 0.098 |
| 32 | 540 | 0.028 | 9.298 | 0.268 |
| | 5050 | 0.193 | 65.321 | 0.103 |
| 33 | 540 | 0.021 | 6.639 | 0.296 |
| | 5050 | 0.194 | 61.276 | 0.123 |
| 34 | 540 | 0.077 | 15.104 | 0.433 |
| | 5050 | 0.353 | 69.154 | 0.157 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 35 | 540 | 0.065 | 13.562 | 0.411 |
| | 5050 | 0.325 | 68.338 | 0.151 |
| 36 | 540 | 0.027 | 7.641 | 0.327 |
| | 5050 | 0.226 | 63.828 | 0.128 |
| 37 | 540 | 0.032 | 8.897 | 0.332 |
| | 5050 | 0.241 | 65.965 | 0.124 |

## 5 Warnings and errors

List of non-fatal warnings and errors generated during calculation.

1 Non-uniform load [1]: Co-ordinate (1) lies below surface

2 Non-uniform load [2]: Co-ordinate (1) lies below surface

## End of Report

# Critical Circle Bishop




Layers

- 26. Asfalt
- 25. menggranulaat
- 24. nieuw profiel
- 23. nieuw profiel
- 22. Dijksmateriaal
- 21. Klei Hum Dk naast
- 20. Klei Hum Dk naast
- 19. Klei Hum DK
- 18. Hollandveen
- 17. Klei Hum Dk naast
- 16. Klei Hum DK
- 15. Hollandveen
- 14. Klei silt DKnaast
- 13. Klei silt DK
- 12. Hollandveen
- 11. Klei CA naast
- 10. Klei hum CA naast
- 9. Klei CA naast
- 8. Klei hum CA naast
- 7. Klei CA naast
- 6. Klei CA
- 5. Klei hum CA
- 4. Klei CA
- 3. Klei hum CA
- 2. Klei CA
- 1. Zand CA

Xm : -16.64 [m]
Ym : 8.65 [m]

Radius : 15.80 [m]
Safety : 1.16

D-Geo Stability 18.2 : SB DW8 KM 14.17 STBI steunberm koe.sti


waalpartners civil engineering

Zuidweg 75
2671MP Naaldwijk

Phone
Fax 0174 627791


N468 steunberm
SB DW8 profiel 14.170
STBI eind

| | | | |
|---|---|---|---|
| Annex - | - | 2/5/2025 | - |
| form. | ctr. | date | drw. |
| A3 | | | |

# Critical Circle Bishop




Layers

- 26. Asfalt
- 25. menggranulaat
- 24. nieuw profiel
- 23. nieuw profiel
- 22. Dijksmateriaal
- 21. Klei Hum Dk naast
- 20. Klei Hum Dk naast
- 19. Klei Hum DK
- 18. Hollandveen
- 17. Klei Hum Dk naast
- 16. Klei Hum DK
- 15. Hollandveen
- 14. Klei silt DKnaast
- 13. Klei silt DK
- 12. Hollandveen
- 11. Klei CA naast
- 10. Klei hum CA naast
- 9. Klei CA naast
- 8. Klei hum CA naast
- 7. Klei CA naast
- 6. Klei CA
- 5. Klei hum CA
- 4. Klei CA
- 3. Klei hum CA
- 2. Klei CA
- 1. Zand CA

Xm : -16.80 [m]
Ym : 8.73 [m]

Radius : 15.88 [m]
Safety : 1.15

D-Geo Stability 18.2 : SB DW8 KM 14.17 STBI steunberm koe540.sti


waalpartners civil engineering

Zuidweg 75
2671MP Naaldwijk

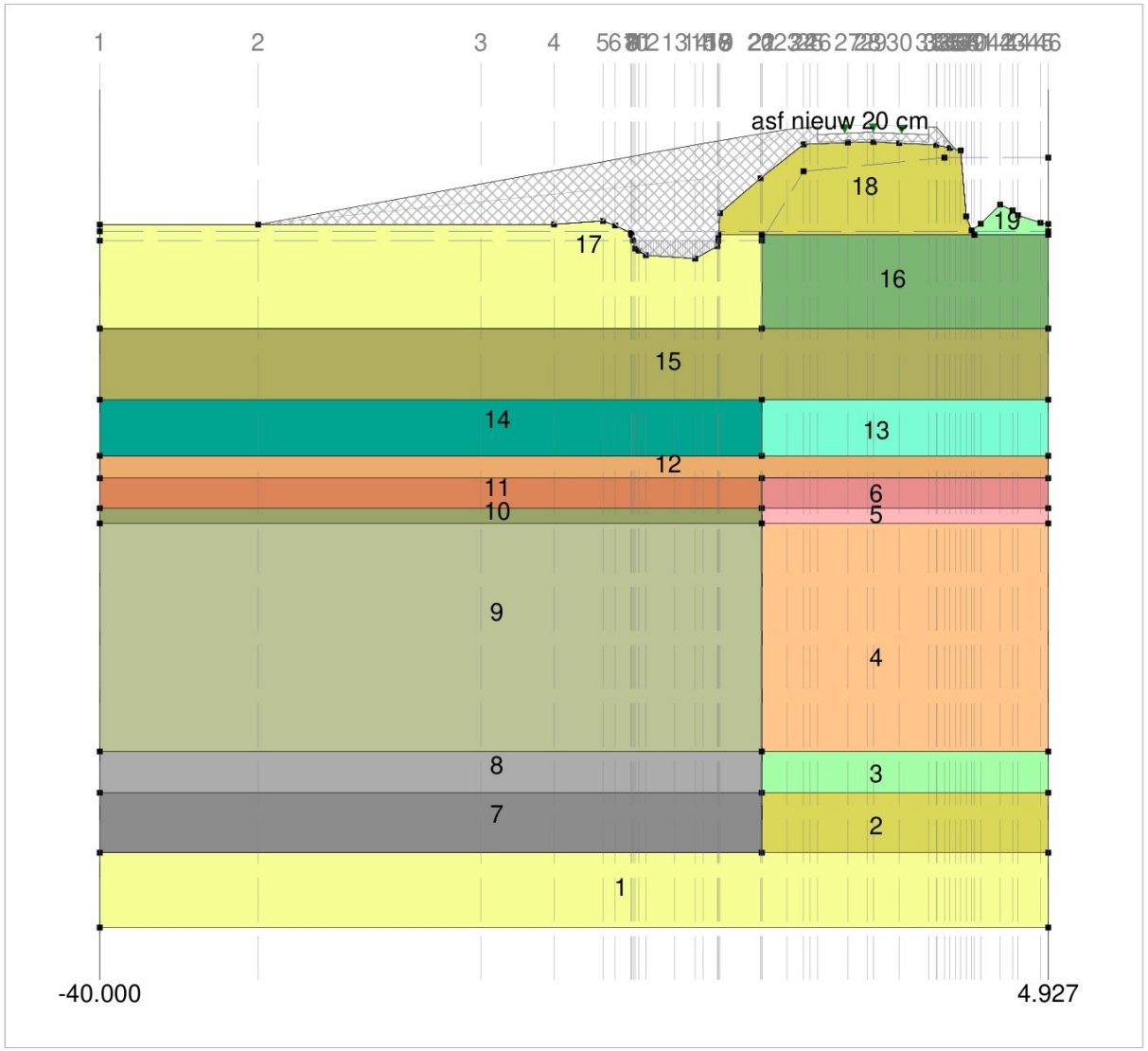
Phone
Fax 0174 627791


N468 steunberm
SB DW8 profiel 14.170
STBI eind

| | | | |
|---|---|---|---|
| date | 2/5/2025 | drw. | - |
| | - | ctr. | |
| Annex | - | form. | A3 |

Bijlage 5.2 SBDMW10

# Input View




N468 steunberm
profiel 14.32
zetting koe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Email -


| | | | |
|---|---|---|---|
| date | 2/5/2025 | drw. | - |
| ctr. | - | form. | A3 |
| Annex | - | | |

D-Settlement 23.2 : 14.320 SB DW10 Zetting eind steunberm koe.sli

# Report for D-Settlement 23.2

Settlement Calculations
Developed by Deltares




| | |
|---|---|
| Company: | Waalpartners civil engineering |
| Date of report: | 2/5/2025 |
| Time of report: | 3:43:33 PM |
| Report with version: | 23.2.1.41771 |
| Date of calculation: | 1/13/2025 |
| Time of calculation: | 4:18:32 PM |
| Calculated with version: | 23.2.1.41771 |
| File name: | 14.320 SB DW10 Zetting eind steunberm koe |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 19 - X - | -40.000 | -32.489 | -18.478 | -16.163 | -15.581 |
| 19 - Y - | -2.225 | -2.222 | -2.215 | -2.127 | -2.243 |
| 19 - X - | -14.842 | -14.816 | -14.744 | -14.641 | -14.468 |
| 19 - Y - | -2.447 | -2.500 | -2.650 | -2.859 | -2.914 |
| 19 - X - | -14.135 | -11.803 | -10.732 | -10.715 | -10.698 |
| 19 - Y - | -3.039 | -3.124 | -2.796 | -2.650 | -2.500 |
| 19 - X - | -10.629 | -8.696 | -6.658 | -4.570 | -3.350 |
| 19 - Y - | -1.912 | -0.983 | -0.079 | -0.027 | -0.012 |
| 19 - X - | -2.128 | -0.379 | 0.261 | 0.773 | 1.038 |
| 19 - Y - | -0.046 | -0.092 | -0.172 | -0.241 | -2.004 |
| 19 - X - | 1.295 | 1.720 | 2.642 | 3.236 | 3.495 |
| 19 - Y - | -2.375 | -2.197 | -1.686 | -1.840 | -1.971 |
| 19 - X - | 4.556 | 4.927 | | | |
| 19 - Y - | -2.175 | -2.201 | | | |
| 18 - X - | -40.000 | -32.489 | -18.478 | -16.163 | -15.581 |
| 18 - Y - | -2.225 | -2.222 | -2.215 | -2.127 | -2.243 |
| 18 - X - | -14.842 | -14.816 | -14.744 | -14.641 | -14.468 |
| 18 - Y - | -2.447 | -2.500 | -2.650 | -2.859 | -2.914 |
| 18 - X - | -14.135 | -11.803 | -10.732 | -10.715 | -10.698 |
| 18 - Y - | -3.039 | -3.124 | -2.796 | -2.650 | -2.500 |
| 18 - X - | -10.629 | -8.696 | -6.658 | -4.570 | -3.350 |
| 18 - Y - | -1.912 | -0.983 | -0.079 | -0.027 | -0.012 |
| 18 - X - | -2.128 | -0.379 | 0.261 | 0.773 | 1.038 |
| 18 - Y - | -0.046 | -0.092 | -0.172 | -0.241 | -2.004 |
| 18 - X - | 1.295 | 1.422 | 4.927 | | |
| 18 - Y - | -2.375 | -2.500 | -2.500 | | |
| 17 - X - | -40.000 | -32.489 | -18.478 | -16.163 | -15.581 |
| 17 - Y - | -2.225 | -2.222 | -2.215 | -2.127 | -2.243 |
| 17 - X - | -14.842 | -14.816 | -14.744 | -14.641 | -14.468 |
| 17 - Y - | -2.447 | -2.500 | -2.650 | -2.859 | -2.914 |
| 17 - X - | -14.135 | -11.803 | -10.732 | -10.715 | -10.698 |
| 17 - Y - | -3.039 | -3.124 | -2.796 | -2.650 | -2.500 |
| 17 - X - | -8.644 | 1.422 | 4.927 | | |
| 17 - Y - | -2.500 | -2.500 | -2.500 | | |
| 16 - X - | -40.000 | -8.644 | -8.644 | 1.422 | 4.927 |
| 16 - Y - | -5.000 | -5.000 | -2.500 | -2.500 | -2.500 |
| 15 - X - | -40.000 | -8.644 | 4.927 | | |
| 15 - Y - | -5.000 | -5.000 | -5.000 | | |
| 14 - X - | -40.000 | -8.644 | 4.927 | | |
| 14 - Y - | -6.900 | -6.900 | -6.900 | | |
| 13 - X - | -40.000 | -8.644 | -8.644 | 4.927 | |
| 13 - Y - | -8.400 | -8.400 | -6.900 | -6.900 | |
| 12 - X - | -40.000 | -8.644 | 4.927 | | |
| 12 - Y - | -8.400 | -8.400 | -8.400 | | |
| 11 - X - | -40.000 | -8.644 | 4.927 | | |
| 11 - Y - | -9.000 | -9.000 | -9.000 | | |
| 10 - X - | -40.000 | -8.644 | -8.644 | 4.927 | |
| 10 - Y - | -9.800 | -9.800 | -9.000 | -9.000 | |
| 9 - X - | -40.000 | -8.644 | -8.644 | -8.644 | 4.927 |
| 9 - Y - | -10.200 | -10.200 | -9.800 | -9.000 | -9.000 |
| 8 - X - | -40.000 | -8.644 | -8.644 | -8.644 | -8.644 |
| 8 - Y - | -16.300 | -16.300 | -10.200 | -9.800 | -9.000 |
| 8 - X - | 4.927 | | | | |
| 8 - Y - | -9.000 | | | | |

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 7 - X - | -40.000 | -8.644 | -8.644 | -8.644 | -8.644 |
| 7 - Y - | -17.400 | -17.400 | -16.300 | -10.200 | -9.800 |
| 7 - X - | -8.644 | 4.927 | | | |
| 7 - Y - | -9.000 | -9.000 | | | |
| 6 - X - | -40.000 | -8.644 | -8.644 | -8.644 | -8.644 |
| 6 - Y - | -19.000 | -19.000 | -17.400 | -16.300 | -10.200 |
| 6 - X - | -8.644 | -8.644 | 4.927 | | |
| 6 - Y - | -9.800 | -9.000 | -9.000 | | |
| 5 - X - | -40.000 | -8.644 | -8.644 | -8.644 | -8.644 |
| 5 - Y - | -19.000 | -19.000 | -17.400 | -16.300 | -10.200 |
| 5 - X - | -8.644 | 4.927 | | | |
| 5 - Y - | -9.800 | -9.800 | | | |
| 4 - X - | -40.000 | -8.644 | -8.644 | -8.644 | -8.644 |
| 4 - Y - | -19.000 | -19.000 | -17.400 | -16.300 | -10.200 |
| 4 - X - | 4.927 | | | | |
| 4 - Y - | -10.200 | | | | |
| 3 - X - | -40.000 | -8.644 | -8.644 | -8.644 | 4.927 |
| 3 - Y - | -19.000 | -19.000 | -17.400 | -16.300 | -16.300 |
| 2 - X - | -40.000 | -8.644 | -8.644 | 4.927 | |
| 2 - Y - | -19.000 | -19.000 | -17.400 | -17.400 | |
| 1 - X - | -40.000 | -8.644 | 4.927 | | |
| 1 - Y - | -19.000 | -19.000 | -19.000 | | |
| 0 - X - | -40.000 | 4.927 | | | |
| 0 - Y - | -21.000 | -21.000 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -40.000 | -8.640 | -6.658 | 0.000 | 4.927 |
| 1 - Y - | -2.650 | -2.650 | -0.800 | -0.430 | -0.430 |
| 2 - X - | -40.000 | 4.927 | | | |
| 2 - Y - | -2.400 | -2.400 | | | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | |
| - Loads: | None |
| End of consolidation: | 10000.00 [days] |
| No maintain profile | |
| Pc (initial): | Variable parallel to the initial effective stress |
| Pc (per step): | Automatic increased to the final effective stresses |
| Creep rate reference time: | 1.000 [days] |
| No imaginary surface | |
| With submerging | |
| (only for non uniform loads) | |
| - Iteration stop criterium : | 0.10 [m] |
| Load column width | |
| - Non-Uniform Loads : | 1.00 [m] |
| - Trapeziform Loads : | 1.00 [m] |

## 2.4 Soil Profiles

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 19 | Klei Hum DK naast | 1 | 1 |
| 18 | Dijksmateriaal | 1 | 1 |
| 17 | Klei Hum DK naast | 1 | 1 |
| 16 | Klei Hum DK | 1 | 1 |
| 15 | Hollandveen | 1 | 1 |
| 14 | klei Silt DKnaast | 1 | 1 |
| 13 | klei Silt DK | 1 | 1 |
| 12 | Hollandveen | 1 | 1 |
| 11 | Klei CA naast | 1 | 1 |
| 10 | Klei Hum CA naast | 1 | 1 |
| 9 | Klei CA naast | 1 | 1 |
| 8 | Klei Hum CA naast | 1 | 1 |
| 7 | Klei CA naast | 1 | 2 |
| 6 | Klei CA | 1 | 1 |
| 5 | Klei Hum CA | 1 | 1 |
| 4 | Klei CA | 1 | 1 |
| 3 | Klei Hum CA | 1 | 1 |
| 2 | Klei CA | 1 | 2 |
| 1 | Zand CA | 2 | 2 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 19 | No | 13.50 | 13.50 |
| 18 | No | 16.00 | 16.00 |
| 17 | No | 13.50 | 13.50 |
| 16 | No | 13.50 | 13.50 |
| 15 | No | 10.50 | 10.50 |
| 14 | No | 15.10 | 15.10 |
| 13 | No | 15.10 | 15.10 |
| 12 | No | 10.50 | 10.50 |
| 11 | No | 15.90 | 15.90 |
| 10 | No | 15.10 | 15.10 |
| 9 | No | 15.90 | 15.90 |
| 8 | No | 15.10 | 15.10 |
| 7 | No | 15.90 | 15.90 |
| 6 | No | 15.90 | 15.90 |
| 5 | No | 15.10 | 15.10 |
| 4 | No | 15.90 | 15.90 |
| 3 | No | 15.10 | 15.10 |
| 2 | No | 15.90 | 15.90 |
| 1 | Yes | 18.00 | 20.00 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] |
|---|---|---|
| 19 | Vert. cons. | 2.07E-08 |
| 18 | Vert. cons. | 1.00E-08 |
| 17 | Vert. cons. | 2.07E-08 |
| 16 | Vert. cons. | 2.07E-08 |
| 15 | Vert. cons. | 2.37E-08 |
| 14 | Vert. cons. | 2.54E-08 |
| 13 | Vert. cons. | 2.54E-08 |
| 12 | Vert. cons. | 2.37E-08 |
| 11 | Vert. cons. | 6.02E-07 |
| 10 | Vert. cons. | 9.27E-08 |
| 9 | Vert. cons. | 6.02E-07 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] |
|---|---|---|
| 8 | Vert. cons. | 9.27E-08 |
| 7 | Vert. cons. | 6.02E-07 |
| 6 | Vert. cons. | 6.02E-07 |
| 5 | Vert. cons. | 9.27E-08 |
| 4 | Vert. cons. | 6.02E-07 |
| 3 | Vert. cons. | 9.27E-08 |
| 2 | Vert. cons. | 6.02E-07 |
| 1 | Vert. cons. | - |

| Layer number | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|
| 19 | - | - | - |
| 18 | - | - | - |
| 17 | - | - | - |
| 16 | - | - | - |
| 15 | - | - | - |
| 14 | - | - | - |
| 13 | - | - | - |
| 12 | - | - | - |
| 11 | - | - | - |
| 10 | - | - | - |
| 9 | - | - | - |
| 8 | - | - | - |
| 7 | - | - | - |
| 6 | - | - | - |
| 5 | - | - | - |
| 4 | - | - | - |
| 3 | - | - | - |
| 2 | - | - | - |
| 1 | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 19 | - | 1.50 | - |
| 18 | - | 1.50 | - |
| 17 | - | 1.50 | - |
| 16 | - | 1.50 | - |
| 15 | - | 1.80 | - |
| 14 | - | 1.50 | - |
| 13 | - | 1.50 | - |
| 12 | - | 1.80 | - |
| 11 | - | 1.50 | - |
| 10 | - | 1.50 | - |
| 9 | - | 1.50 | - |
| 8 | - | 1.50 | - |
| 7 | - | 1.50 | - |
| 6 | - | 1.50 | - |
| 5 | - | 1.50 | - |
| 4 | - | 1.50 | - |
| 3 | - | 1.50 | - |
| 2 | - | 1.50 | - |
| 1 | - | 1.39 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 19 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 18 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 17 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 16 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 15 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 14 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 13 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 12 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 11 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 10 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 9 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 8 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 7 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 6 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 5 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 4 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 3 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 2 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 1 | 0.0100000 | 0.1062000 | 0.0033000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time | Unit weight | |
|---|---|---|---|
| | [days] | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 1 | -1 | 14.00 | 14.00 |
| 2 | 1 | 16.00 | 16.00 |
| 3 | 1 | 16.00 | 16.00 |
| 4 | 300 | 19.00 | 19.00 |
| 5 | 300 | 25.00 | 25.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -14.74 | -10.71 | | | | |
| 1 - Y - | -2.65 | -2.65 | | | | |
| 2 - X - | -32.49 | -11.41 | -7.45 | -6.35 | -5.99 | -5.99 |
| 2 - Y - | -2.22 | -1.00 | 0.32 | 0.38 | 0.39 | -0.01 |
| 2 - X - | -3.64 | -0.74 | -0.74 | -0.35 | 0.53 | |
| 2 - Y - | 0.05 | -0.01 | 0.39 | 0.38 | -0.21 | |
| 3 - X - | -32.49 | -11.41 | -7.45 | -6.35 | -5.99 | -5.99 |
| 3 - Y - | -2.22 | -0.05 | 0.32 | 0.38 | 0.39 | -0.01 |
| 3 - X - | -3.64 | -0.74 | -0.74 | -0.35 | 0.53 | |
| 3 - Y - | 0.05 | -0.01 | 0.39 | 0.38 | -0.21 | |
| 4 - X - | -5.99 | -5.99 | -3.64 | -0.74 | -0.74 | |
| 4 - Y - | -0.01 | 0.18 | 0.25 | 0.18 | -0.01 | |
| 5 - X - | -5.99 | -5.99 | -3.64 | -0.74 | -0.74 | |
| 5 - Y - | 0.18 | 0.39 | 0.45 | 0.39 | 0.18 | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -40.000 | -32.489 | -21.950 | -18.478 | -16.163 |
| 6 - 10 | -15.581 | -14.842 | -14.816 | -14.744 | -14.641 |
| 11 - 15 | -14.468 | -14.135 | -12.770 | -11.803 | -11.410 |
| 16 - 20 | -10.732 | -10.715 | -10.698 | -10.629 | -8.696 |
| 21 - 25 | -8.644 | -8.640 | -7.450 | -6.658 | -6.350 |
| 26 - 30 | -5.990 | -4.570 | -3.640 | -3.350 | -2.128 |
| 31 - 35 | -0.738 | -0.379 | -0.350 | 0.000 | 0.261 |
| 36 - 40 | 0.524 | 0.773 | 1.038 | 1.295 | 1.422 |
| 41 - 45 | 1.720 | 2.642 | 3.236 | 3.495 | 4.556 |

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 46 | 4.927 | | | | |

# 3 Results per Vertical

## 3.1 Results for Vertical 1 (X = -40.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.225 | 0.001 | -2.225 | 0.000 | 0.188 |
| -2.325 | 1.347 | -2.325 | 0.000 | 0.185 |
| -2.400 | 2.355 | -2.399 | 0.000 | 0.183 |
| -2.425 | 2.690 | -2.424 | 0.000 | 0.183 |
| -2.525 | 3.694 | -2.523 | -0.333 | 0.180 |
| -2.625 | 4.046 | -2.621 | -1.314 | 0.178 |
| -2.650 | 4.134 | -2.645 | -1.559 | 0.178 |
| -2.725 | 4.396 | -2.644 | -1.559 | 0.178 |
| -2.825 | 4.745 | -2.642 | -1.559 | 0.177 |
| -2.925 | 5.092 | -2.640 | -1.559 | 0.176 |
| -3.025 | 5.438 | -2.637 | -1.559 | 0.175 |
| -3.125 | 5.784 | -2.635 | -1.559 | 0.174 |
| -3.225 | 6.127 | -2.632 | -1.559 | 0.173 |
| -3.612 | 7.450 | -2.621 | -1.558 | 0.170 |
| -4.300 | 9.763 | -2.598 | -1.553 | 0.163 |
| -5.000 | 12.087 | -2.571 | -1.544 | 0.157 |
| -5.000 | 12.087 | -2.571 | -1.544 | 0.157 |
| -5.950 | 12.574 | -2.551 | -1.518 | 0.140 |
| -6.900 | 13.153 | -2.538 | -1.473 | 0.124 |
| -6.900 | 13.153 | -2.538 | -1.473 | 0.124 |
| -7.650 | 17.068 | -2.528 | -1.422 | 0.118 |
| -8.400 | 21.028 | -2.521 | -1.358 | 0.110 |
| -8.400 | 21.028 | -2.521 | -1.358 | 0.110 |
| -8.700 | 21.262 | -2.520 | -1.328 | 0.102 |
| -9.000 | 21.514 | -2.522 | -1.297 | 0.094 |
| -9.000 | 21.514 | -2.522 | -1.297 | 0.094 |
| -9.400 | 23.997 | -2.522 | -1.252 | 0.093 |
| -9.800 | 26.485 | -2.522 | -1.203 | 0.092 |
| -9.800 | 26.485 | -2.522 | -1.203 | 0.092 |
| -10.000 | 27.581 | -2.524 | -1.178 | 0.089 |
| -10.200 | 28.680 | -2.525 | -1.152 | 0.087 |
| -10.200 | 28.680 | -2.525 | -1.152 | 0.087 |
| -10.850 | 32.738 | -2.526 | -1.062 | 0.084 |
| -11.850 | 38.998 | -2.528 | -0.911 | 0.078 |
| -12.850 | 45.280 | -2.531 | -0.748 | 0.071 |
| -13.250 | 47.799 | -2.532 | -0.681 | 0.068 |
| -13.900 | 51.898 | -2.535 | -0.568 | 0.063 |
| -14.900 | 58.219 | -2.541 | -0.392 | 0.055 |
| -15.900 | 64.558 | -2.548 | -0.213 | 0.046 |
| -16.300 | 67.098 | -2.551 | -0.141 | 0.042 |
| -16.300 | 67.098 | -2.551 | -0.141 | 0.042 |
| -16.850 | 70.471 | -2.588 | -0.043 | 0.032 |
| -17.400 | 73.892 | -2.630 | 0.055 | 0.021 |
| -17.400 | 73.892 | -2.630 | 0.055 | 0.021 |
| -18.200 | 77.771 | -2.514 | 0.195 | 0.012 |
| -19.000 | 81.660 | -2.400 | 0.333 | 0.002 |
| -19.000 | 81.660 | -2.400 | 0.333 | 0.002 |
| -20.000 | 92.019 | -2.400 | 0.501 | 0.001 |
| -21.000 | 102.373 | -2.400 | 0.663 | 0.000 |

### 3.2 Results for Vertical 2 (X = -32.49 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.222 | 0.411 | -2.222 | 0.410 | 0.263 |
| -2.322 | 1.756 | -2.321 | 0.411 | 0.255 |
| -2.400 | 2.801 | -2.399 | 0.412 | 0.251 |
| -2.422 | 3.096 | -2.420 | 0.412 | 0.250 |
| -2.522 | 3.516 | -2.519 | -0.501 | 0.247 |
| -2.622 | 3.871 | -2.617 | -1.475 | 0.245 |
| -2.650 | 3.971 | -2.644 | -1.747 | 0.244 |
| -2.722 | 4.228 | -2.642 | -1.739 | 0.244 |
| -2.822 | 4.587 | -2.640 | -1.724 | 0.243 |
| -2.922 | 4.949 | -2.637 | -1.704 | 0.242 |
| -3.022 | 5.313 | -2.634 | -1.681 | 0.241 |
| -3.122 | 5.679 | -2.631 | -1.654 | 0.240 |
| -3.222 | 6.047 | -2.628 | -1.625 | 0.239 |
| -3.611 | 7.481 | -2.614 | -1.492 | 0.236 |
| -4.300 | 10.001 | -2.585 | -1.228 | 0.228 |
| -5.000 | 12.519 | -2.550 | -0.953 | 0.220 |
| -5.000 | 12.519 | -2.550 | -0.953 | 0.220 |
| -5.950 | 13.290 | -2.525 | -0.587 | 0.198 |
| -6.900 | 14.137 | -2.509 | -0.238 | 0.173 |
| -6.900 | 14.137 | -2.509 | -0.238 | 0.173 |
| -7.650 | 18.239 | -2.495 | 0.027 | 0.164 |
| -8.400 | 22.376 | -2.487 | 0.281 | 0.153 |
| -8.400 | 22.376 | -2.487 | 0.281 | 0.153 |
| -8.700 | 22.681 | -2.487 | 0.380 | 0.142 |
| -9.000 | 23.004 | -2.488 | 0.478 | 0.130 |
| -9.000 | 23.004 | -2.488 | 0.478 | 0.130 |
| -9.400 | 25.571 | -2.489 | 0.605 | 0.128 |
| -9.800 | 28.137 | -2.489 | 0.730 | 0.125 |
| -9.800 | 28.137 | -2.489 | 0.730 | 0.125 |
| -10.000 | 29.275 | -2.491 | 0.792 | 0.122 |
| -10.200 | 30.415 | -2.493 | 0.852 | 0.118 |
| -10.200 | 30.415 | -2.493 | 0.852 | 0.118 |
| -10.850 | 34.579 | -2.494 | 1.045 | 0.113 |
| -11.850 | 40.980 | -2.497 | 1.328 | 0.103 |
| -12.850 | 47.377 | -2.501 | 1.593 | 0.093 |
| -13.250 | 49.934 | -2.503 | 1.694 | 0.088 |
| -13.900 | 54.090 | -2.507 | 1.853 | 0.081 |
| -14.900 | 60.482 | -2.514 | 2.082 | 0.069 |
| -15.900 | 66.875 | -2.523 | 2.293 | 0.057 |
| -16.300 | 69.433 | -2.527 | 2.373 | 0.052 |
| -16.300 | 69.433 | -2.527 | 2.373 | 0.052 |
| -16.850 | 72.907 | -2.574 | 2.478 | 0.040 |
| -17.400 | 76.430 | -2.626 | 2.577 | 0.028 |
| -17.400 | 76.430 | -2.626 | 2.577 | 0.028 |
| -18.200 | 80.326 | -2.512 | 2.713 | 0.016 |
| -19.000 | 84.224 | -2.400 | 2.837 | 0.004 |
| -19.000 | 84.224 | -2.400 | 2.837 | 0.004 |
| -20.000 | 94.558 | -2.400 | 2.978 | 0.002 |
| -21.000 | 104.876 | -2.400 | 3.102 | 0.000 |

### 3.3 Results for Vertical 3 (X = -21.95 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.217 | 14.166 | -2.217 | 14.165 | 0.819 |
| -2.317 | 14.356 | -2.298 | 13.185 | 0.779 |
| -2.400 | 14.512 | -2.366 | 12.370 | 0.756 |
| -2.417 | 14.544 | -2.380 | 12.207 | 0.751 |
| -2.517 | 14.732 | -2.461 | 11.229 | 0.730 |
| -2.617 | 14.920 | -2.542 | 10.250 | 0.713 |
| -2.650 | 14.983 | -2.569 | 9.924 | 0.708 |
| -2.717 | 15.109 | -2.557 | 9.924 | 0.698 |
| -2.817 | 15.299 | -2.539 | 9.925 | 0.685 |
| -2.917 | 15.491 | -2.521 | 9.926 | 0.672 |
| -3.017 | 15.684 | -2.503 | 9.928 | 0.659 |
| -3.117 | 15.878 | -2.485 | 9.930 | 0.648 |
| -3.217 | 16.074 | -2.467 | 9.933 | 0.636 |
| -3.608 | 16.854 | -2.397 | 9.950 | 0.597 |
| -4.300 | 18.278 | -2.279 | 9.983 | 0.540 |
| -5.000 | 19.799 | -2.168 | 10.008 | 0.495 |
| -5.000 | 19.799 | -2.168 | 10.008 | 0.495 |
| -5.950 | 19.854 | -2.105 | 10.021 | 0.405 |
| -6.900 | 20.309 | -2.085 | 10.010 | 0.322 |
| -6.900 | 20.309 | -2.085 | 10.010 | 0.322 |
| -7.650 | 24.403 | -2.099 | 9.987 | 0.294 |
| -8.400 | 28.761 | -2.142 | 9.950 | 0.267 |
| -8.400 | 28.761 | -2.142 | 9.950 | 0.267 |
| -8.700 | 29.114 | -2.158 | 9.932 | 0.243 |
| -9.000 | 29.514 | -2.179 | 9.911 | 0.219 |
| -9.000 | 29.514 | -2.179 | 9.911 | 0.219 |
| -9.400 | 31.947 | -2.181 | 9.880 | 0.210 |
| -9.800 | 34.380 | -2.184 | 9.845 | 0.200 |
| -9.800 | 34.380 | -2.184 | 9.845 | 0.200 |
| -10.000 | 35.529 | -2.195 | 9.826 | 0.194 |
| -10.200 | 36.685 | -2.207 | 9.805 | 0.188 |
| -10.200 | 36.685 | -2.207 | 9.805 | 0.188 |
| -10.850 | 40.638 | -2.212 | 9.732 | 0.173 |
| -11.850 | 46.721 | -2.224 | 9.596 | 0.153 |
| -12.850 | 52.809 | -2.239 | 9.433 | 0.133 |
| -13.250 | 55.245 | -2.246 | 9.362 | 0.126 |
| -13.900 | 59.209 | -2.258 | 9.238 | 0.114 |
| -14.900 | 65.320 | -2.280 | 9.030 | 0.097 |
| -15.900 | 71.451 | -2.307 | 8.807 | 0.080 |
| -16.300 | 73.911 | -2.318 | 8.714 | 0.073 |
| -16.300 | 73.911 | -2.318 | 8.714 | 0.073 |
| -16.850 | 77.952 | -2.447 | 8.583 | 0.058 |
| -17.400 | 82.115 | -2.588 | 8.449 | 0.043 |
| -17.400 | 82.115 | -2.588 | 8.449 | 0.043 |
| -18.200 | 85.860 | -2.493 | 8.251 | 0.025 |
| -19.000 | 89.622 | -2.400 | 8.050 | 0.008 |
| -19.000 | 89.622 | -2.400 | 8.050 | 0.008 |
| -20.000 | 99.559 | -2.400 | 7.795 | 0.004 |
| -21.000 | 109.495 | -2.400 | 7.540 | 0.000 |

### 3.4 Results for Vertical 4 (X = -18.48 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.215 | 18.610 | -2.215 | 18.609 | 0.962 |
| -2.315 | 18.712 | -2.287 | 17.639 | 0.918 |
| -2.400 | 18.799 | -2.348 | 16.814 | 0.892 |
| -2.415 | 18.814 | -2.358 | 16.669 | 0.888 |
| -2.515 | 18.917 | -2.431 | 15.696 | 0.864 |
| -2.615 | 19.023 | -2.503 | 14.721 | 0.845 |
| -2.650 | 19.060 | -2.528 | 14.380 | 0.839 |
| -2.715 | 19.130 | -2.511 | 14.382 | 0.828 |
| -2.815 | 19.240 | -2.484 | 14.385 | 0.812 |
| -2.915 | 19.351 | -2.458 | 14.386 | 0.796 |
| -3.015 | 19.464 | -2.432 | 14.386 | 0.781 |
| -3.115 | 19.579 | -2.406 | 14.384 | 0.767 |
| -3.215 | 19.694 | -2.381 | 14.381 | 0.754 |
| -3.607 | 20.163 | -2.283 | 14.354 | 0.706 |
| -4.300 | 21.082 | -2.124 | 14.277 | 0.637 |
| -5.000 | 22.201 | -1.982 | 14.195 | 0.583 |
| -5.000 | 22.201 | -1.982 | 14.195 | 0.583 |
| -5.950 | 22.060 | -1.906 | 14.114 | 0.475 |
| -6.900 | 22.515 | -1.888 | 14.050 | 0.375 |
| -6.900 | 22.515 | -1.888 | 14.050 | 0.375 |
| -7.650 | 26.767 | -1.921 | 13.986 | 0.341 |
| -8.400 | 31.368 | -1.992 | 13.892 | 0.308 |
| -8.400 | 31.368 | -1.992 | 13.892 | 0.308 |
| -8.700 | 31.784 | -2.017 | 13.843 | 0.281 |
| -9.000 | 32.254 | -2.048 | 13.789 | 0.252 |
| -9.000 | 32.254 | -2.048 | 13.789 | 0.252 |
| -9.400 | 34.651 | -2.051 | 13.705 | 0.240 |
| -9.800 | 37.039 | -2.055 | 13.611 | 0.228 |
| -9.800 | 37.040 | -2.055 | 13.611 | 0.228 |
| -10.000 | 38.200 | -2.070 | 13.559 | 0.220 |
| -10.200 | 39.368 | -2.086 | 13.505 | 0.213 |
| -10.200 | 39.368 | -2.086 | 13.505 | 0.213 |
| -10.850 | 43.226 | -2.094 | 13.312 | 0.195 |
| -11.850 | 49.140 | -2.110 | 12.971 | 0.170 |
| -12.850 | 55.046 | -2.130 | 12.588 | 0.148 |
| -13.250 | 57.410 | -2.139 | 12.426 | 0.139 |
| -13.900 | 61.257 | -2.155 | 12.155 | 0.126 |
| -14.900 | 67.198 | -2.183 | 11.727 | 0.106 |
| -15.900 | 73.177 | -2.217 | 11.291 | 0.087 |
| -16.300 | 75.581 | -2.231 | 11.116 | 0.080 |
| -16.300 | 75.581 | -2.231 | 11.116 | 0.080 |
| -16.850 | 79.838 | -2.393 | 10.876 | 0.064 |
| -17.400 | 84.256 | -2.572 | 10.638 | 0.047 |
| -17.400 | 84.256 | -2.572 | 10.638 | 0.047 |
| -18.200 | 87.927 | -2.485 | 10.295 | 0.029 |
| -19.000 | 91.627 | -2.400 | 9.958 | 0.010 |
| -19.000 | 91.627 | -2.400 | 9.958 | 0.010 |
| -20.000 | 101.400 | -2.400 | 9.547 | 0.005 |
| -21.000 | 111.185 | -2.400 | 9.149 | 0.000 |

### 3.5 Results for Vertical 5 (X = -16.16 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.127 | 21.472 | -2.127 | 21.471 | 0.998 |
| -2.227 | 21.780 | -2.195 | 20.743 | 0.954 |
| -2.327 | 21.787 | -2.263 | 19.718 | 0.922 |
| -2.400 | 21.770 | -2.312 | 18.946 | 0.903 |
| -2.427 | 21.761 | -2.331 | 18.657 | 0.896 |
| -2.527 | 21.722 | -2.399 | 17.574 | 0.875 |
| -2.627 | 21.687 | -2.469 | 16.489 | 0.857 |
| -2.650 | 21.682 | -2.485 | 16.241 | 0.853 |
| -2.727 | 21.678 | -2.462 | 16.179 | 0.841 |
| -2.827 | 21.704 | -2.433 | 16.123 | 0.826 |
| -2.927 | 21.758 | -2.404 | 16.092 | 0.811 |
| -3.027 | 21.829 | -2.375 | 16.073 | 0.797 |
| -3.127 | 21.908 | -2.347 | 16.058 | 0.784 |
| -3.563 | 22.270 | -2.230 | 15.956 | 0.731 |
| -4.300 | 23.168 | -2.050 | 15.847 | 0.658 |
| -5.000 | 24.487 | -1.902 | 15.943 | 0.604 |
| -5.000 | 24.487 | -1.902 | 15.943 | 0.604 |
| -5.950 | 24.662 | -1.825 | 16.102 | 0.493 |
| -6.900 | 25.266 | -1.812 | 16.101 | 0.388 |
| -6.900 | 25.267 | -1.812 | 16.101 | 0.388 |
| -7.650 | 29.581 | -1.858 | 15.967 | 0.351 |
| -8.400 | 34.201 | -1.946 | 15.730 | 0.317 |
| -8.400 | 34.201 | -1.946 | 15.730 | 0.317 |
| -8.700 | 34.587 | -1.976 | 15.612 | 0.287 |
| -9.000 | 35.027 | -2.013 | 15.483 | 0.257 |
| -9.000 | 35.027 | -2.013 | 15.483 | 0.257 |
| -9.400 | 37.312 | -2.017 | 15.295 | 0.244 |
| -9.800 | 39.585 | -2.021 | 15.093 | 0.231 |
| -9.800 | 39.585 | -2.021 | 15.093 | 0.231 |
| -10.000 | 40.704 | -2.038 | 14.988 | 0.223 |
| -10.200 | 41.830 | -2.056 | 14.879 | 0.216 |
| -10.200 | 41.831 | -2.056 | 14.879 | 0.216 |
| -10.850 | 45.504 | -2.065 | 14.513 | 0.197 |
| -11.850 | 51.153 | -2.082 | 13.921 | 0.171 |
| -12.850 | 56.825 | -2.103 | 13.314 | 0.148 |
| -13.250 | 59.105 | -2.113 | 13.071 | 0.139 |
| -13.900 | 62.827 | -2.130 | 12.678 | 0.125 |
| -14.900 | 68.601 | -2.160 | 12.082 | 0.106 |
| -15.900 | 74.440 | -2.195 | 11.503 | 0.087 |
| -16.300 | 76.796 | -2.211 | 11.277 | 0.080 |
| -16.300 | 76.796 | -2.211 | 11.277 | 0.080 |
| -16.850 | 81.059 | -2.381 | 10.972 | 0.064 |
| -17.400 | 85.500 | -2.568 | 10.673 | 0.048 |
| -17.400 | 85.500 | -2.568 | 10.673 | 0.048 |
| -18.200 | 89.103 | -2.483 | 10.251 | 0.029 |
| -19.000 | 92.746 | -2.400 | 9.844 | 0.010 |
| -19.000 | 92.746 | -2.400 | 9.844 | 0.010 |
| -20.000 | 102.436 | -2.400 | 9.356 | 0.005 |
| -21.000 | 112.149 | -2.400 | 8.891 | 0.000 |

### 3.6 Results for Vertical 6 (X = -15.58 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.243 | 22.540 | -2.243 | 22.539 | 1.082 |
| -2.343 | 22.996 | -2.305 | 22.023 | 1.037 |
| -2.400 | 23.016 | -2.340 | 21.489 | 1.017 |
| -2.443 | 23.024 | -2.366 | 21.079 | 1.004 |
| -2.543 | 23.038 | -2.428 | 20.112 | 0.978 |
| -2.643 | 23.024 | -2.492 | 19.109 | 0.956 |
| -2.650 | 23.022 | -2.496 | 19.037 | 0.955 |
| -2.743 | 22.968 | -2.463 | 18.968 | 0.937 |
| -2.843 | 22.872 | -2.428 | 18.848 | 0.919 |
| -2.943 | 22.751 | -2.393 | 18.693 | 0.901 |
| -3.043 | 22.619 | -2.360 | 18.521 | 0.884 |
| -3.143 | 22.494 | -2.327 | 18.346 | 0.868 |
| -3.243 | 22.389 | -2.295 | 18.181 | 0.853 |
| -3.622 | 22.291 | -2.181 | 17.777 | 0.801 |
| -4.300 | 23.106 | -1.996 | 17.778 | 0.725 |
| -5.000 | 24.441 | -1.830 | 18.025 | 0.662 |
| -5.000 | 24.441 | -1.830 | 18.025 | 0.662 |
| -5.950 | 24.544 | -1.743 | 18.203 | 0.535 |
| -6.900 | 25.010 | -1.727 | 18.114 | 0.417 |
| -6.900 | 25.010 | -1.727 | 18.114 | 0.417 |
| -7.650 | 29.234 | -1.775 | 17.883 | 0.376 |
| -8.400 | 33.805 | -1.871 | 17.547 | 0.338 |
| -8.400 | 33.805 | -1.871 | 17.547 | 0.338 |
| -8.700 | 34.172 | -1.904 | 17.390 | 0.306 |
| -9.000 | 34.599 | -1.944 | 17.224 | 0.273 |
| -9.000 | 34.599 | -1.944 | 17.224 | 0.273 |
| -9.400 | 36.833 | -1.948 | 16.990 | 0.258 |
| -9.800 | 39.060 | -1.952 | 16.744 | 0.244 |
| -9.800 | 39.060 | -1.952 | 16.744 | 0.244 |
| -10.000 | 40.170 | -1.971 | 16.617 | 0.236 |
| -10.200 | 41.291 | -1.991 | 16.489 | 0.227 |
| -10.200 | 41.291 | -1.991 | 16.489 | 0.227 |
| -10.850 | 44.905 | -2.001 | 16.064 | 0.207 |
| -11.850 | 50.484 | -2.019 | 15.396 | 0.179 |
| -12.850 | 56.109 | -2.042 | 14.729 | 0.154 |
| -13.250 | 58.376 | -2.053 | 14.465 | 0.145 |
| -13.900 | 62.082 | -2.072 | 14.042 | 0.131 |
| -14.900 | 67.846 | -2.105 | 13.409 | 0.110 |
| -15.900 | 73.689 | -2.144 | 12.801 | 0.090 |
| -16.300 | 76.050 | -2.161 | 12.565 | 0.083 |
| -16.300 | 76.050 | -2.161 | 12.565 | 0.083 |
| -16.850 | 80.483 | -2.350 | 12.247 | 0.067 |
| -17.400 | 85.118 | -2.559 | 11.937 | 0.050 |
| -17.400 | 85.118 | -2.559 | 11.937 | 0.050 |
| -18.200 | 88.749 | -2.478 | 11.501 | 0.030 |
| -19.000 | 92.427 | -2.400 | 11.082 | 0.011 |
| -19.000 | 92.427 | -2.400 | 11.082 | 0.011 |
| -20.000 | 102.102 | -2.400 | 10.581 | 0.005 |
| -21.000 | 111.804 | -2.400 | 10.106 | 0.000 |

### 3.7 Results for Vertical 7 (X = -14.84 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.447 | 18.479 | -2.447 | 18.478 | 1.252 |
| -2.547 | 21.094 | -2.510 | 20.110 | 1.209 |
| -2.647 | 22.214 | -2.569 | 20.278 | 1.178 |
| -2.650 | 22.248 | -2.571 | 20.285 | 1.177 |
| -2.747 | 21.836 | -2.532 | 19.899 | 1.151 |
| -2.847 | 21.537 | -2.493 | 19.592 | 1.125 |
| -2.947 | 21.957 | -2.455 | 19.978 | 1.102 |
| -3.047 | 22.130 | -2.417 | 20.119 | 1.079 |
| -3.147 | 22.407 | -2.379 | 20.347 | 1.058 |
| -3.247 | 22.679 | -2.341 | 20.567 | 1.038 |
| -3.347 | 22.919 | -2.304 | 20.755 | 1.018 |
| -3.447 | 23.129 | -2.267 | 20.913 | 0.999 |
| -3.724 | 23.589 | -2.166 | 21.232 | 0.952 |
| -4.400 | 24.394 | -1.938 | 21.615 | 0.854 |
| -5.000 | 25.055 | -1.761 | 21.729 | 0.785 |
| -5.000 | 25.055 | -1.761 | 21.729 | 0.785 |
| -5.950 | 24.586 | -1.651 | 21.642 | 0.623 |
| -6.900 | 24.613 | -1.625 | 21.282 | 0.474 |
| -6.900 | 24.613 | -1.625 | 21.282 | 0.474 |
| -7.650 | 28.565 | -1.669 | 20.855 | 0.424 |
| -8.400 | 32.955 | -1.767 | 20.348 | 0.379 |
| -8.400 | 32.955 | -1.767 | 20.348 | 0.379 |
| -8.700 | 33.268 | -1.802 | 20.131 | 0.342 |
| -9.000 | 33.658 | -1.845 | 19.908 | 0.305 |
| -9.000 | 33.658 | -1.845 | 19.908 | 0.305 |
| -9.400 | 35.814 | -1.849 | 19.604 | 0.287 |
| -9.800 | 37.973 | -1.854 | 19.296 | 0.271 |
| -9.800 | 37.973 | -1.854 | 19.296 | 0.271 |
| -10.000 | 39.068 | -1.875 | 19.141 | 0.261 |
| -10.200 | 40.178 | -1.896 | 18.986 | 0.252 |
| -10.200 | 40.178 | -1.896 | 18.986 | 0.252 |
| -10.850 | 43.712 | -1.907 | 18.483 | 0.229 |
| -11.850 | 49.204 | -1.928 | 17.720 | 0.197 |
| -12.850 | 54.777 | -1.954 | 16.982 | 0.169 |
| -13.250 | 57.031 | -1.966 | 16.695 | 0.159 |
| -13.900 | 60.725 | -1.988 | 16.240 | 0.143 |
| -14.900 | 66.488 | -2.026 | 15.568 | 0.120 |
| -15.900 | 72.349 | -2.070 | 14.929 | 0.099 |
| -16.300 | 74.722 | -2.089 | 14.683 | 0.090 |
| -16.300 | 74.722 | -2.089 | 14.683 | 0.090 |
| -16.850 | 79.407 | -2.305 | 14.353 | 0.074 |
| -17.400 | 84.335 | -2.545 | 14.032 | 0.055 |
| -17.400 | 84.335 | -2.545 | 14.032 | 0.055 |
| -18.200 | 88.018 | -2.471 | 13.583 | 0.034 |
| -19.000 | 91.753 | -2.400 | 13.153 | 0.012 |
| -19.000 | 91.753 | -2.400 | 13.153 | 0.012 |
| -20.000 | 101.417 | -2.400 | 12.642 | 0.006 |
| -21.000 | 111.109 | -2.400 | 12.157 | 0.000 |

### 3.8 Results for Vertical 8 (X = -14.82 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.500 | 21.817 | -2.500 | 21.816 | 1.299 |
| -2.600 | 24.602 | -2.553 | 23.718 | 1.253 |
| -2.650 | 23.618 | -2.578 | 22.298 | 1.236 |
| -2.700 | 22.450 | -2.555 | 21.168 | 1.220 |
| -2.800 | 21.178 | -2.514 | 19.927 | 1.191 |
| -2.900 | 21.915 | -2.474 | 20.627 | 1.164 |
| -3.000 | 21.995 | -2.434 | 20.703 | 1.139 |
| -3.100 | 22.231 | -2.394 | 20.907 | 1.115 |
| -3.200 | 22.503 | -2.355 | 21.143 | 1.092 |
| -3.300 | 22.734 | -2.315 | 21.339 | 1.071 |
| -3.400 | 22.932 | -2.276 | 21.503 | 1.050 |
| -3.500 | 23.102 | -2.238 | 21.639 | 1.030 |
| -3.750 | 23.441 | -2.144 | 21.889 | 0.985 |
| -4.400 | 24.093 | -1.916 | 22.220 | 0.886 |
| -5.000 | 24.677 | -1.733 | 22.318 | 0.813 |
| -5.000 | 24.677 | -1.733 | 22.318 | 0.813 |
| -5.950 | 24.155 | -1.620 | 22.216 | 0.644 |
| -6.900 | 24.158 | -1.593 | 21.843 | 0.488 |
| -6.900 | 24.158 | -1.593 | 21.843 | 0.488 |
| -7.650 | 28.107 | -1.639 | 21.408 | 0.436 |
| -8.400 | 32.513 | -1.739 | 20.894 | 0.390 |
| -8.400 | 32.513 | -1.739 | 20.894 | 0.390 |
| -8.700 | 32.831 | -1.774 | 20.674 | 0.352 |
| -9.000 | 33.229 | -1.818 | 20.449 | 0.314 |
| -9.000 | 33.229 | -1.818 | 20.449 | 0.314 |
| -9.400 | 35.383 | -1.823 | 20.143 | 0.295 |
| -9.800 | 37.541 | -1.828 | 19.833 | 0.278 |
| -9.800 | 37.541 | -1.828 | 19.833 | 0.278 |
| -10.000 | 38.641 | -1.849 | 19.677 | 0.268 |
| -10.200 | 39.755 | -1.872 | 19.521 | 0.259 |
| -10.200 | 39.755 | -1.872 | 19.521 | 0.259 |
| -10.850 | 43.290 | -1.883 | 19.015 | 0.234 |
| -11.850 | 48.784 | -1.904 | 18.249 | 0.202 |
| -12.850 | 54.362 | -1.931 | 17.509 | 0.173 |
| -13.250 | 56.619 | -1.943 | 17.221 | 0.163 |
| -13.900 | 60.318 | -1.966 | 16.765 | 0.146 |
| -14.900 | 66.091 | -2.005 | 16.091 | 0.123 |
| -15.900 | 71.966 | -2.050 | 15.452 | 0.101 |
| -16.300 | 74.345 | -2.071 | 15.205 | 0.092 |
| -16.300 | 74.345 | -2.071 | 15.205 | 0.092 |
| -16.850 | 79.098 | -2.293 | 14.875 | 0.076 |
| -17.400 | 84.106 | -2.541 | 14.554 | 0.057 |
| -17.400 | 84.106 | -2.541 | 14.554 | 0.057 |
| -18.200 | 87.806 | -2.469 | 14.105 | 0.035 |
| -19.000 | 91.559 | -2.400 | 13.675 | 0.013 |
| -19.000 | 91.559 | -2.400 | 13.675 | 0.013 |
| -20.000 | 101.222 | -2.400 | 13.163 | 0.006 |
| -21.000 | 110.914 | -2.400 | 12.678 | 0.000 |

### 3.9 Results for Vertical 9 (X = -14.74 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.650 | 21.558 | -2.650 | 21.557 | 1.467 |
| -2.750 | 25.449 | -2.597 | 25.393 | 1.411 |
| -2.850 | 24.121 | -2.540 | 24.261 | 1.366 |
| -2.950 | 22.507 | -2.489 | 22.819 | 1.327 |
| -3.050 | 22.614 | -2.441 | 22.956 | 1.292 |
| -3.150 | 22.778 | -2.394 | 23.155 | 1.261 |
| -3.250 | 22.856 | -2.348 | 23.274 | 1.231 |
| -3.350 | 22.934 | -2.302 | 23.388 | 1.204 |
| -3.450 | 22.999 | -2.257 | 23.487 | 1.178 |
| -3.550 | 23.052 | -2.212 | 23.570 | 1.154 |
| -3.650 | 23.096 | -2.169 | 23.640 | 1.131 |
| -3.825 | 23.163 | -2.094 | 23.741 | 1.094 |
| -4.400 | 23.371 | -1.869 | 23.932 | 0.990 |
| -5.000 | 23.694 | -1.665 | 23.984 | 0.905 |
| -5.000 | 23.694 | -1.665 | 23.984 | 0.905 |
| -5.950 | 22.995 | -1.540 | 23.835 | 0.710 |
| -6.900 | 22.909 | -1.509 | 23.427 | 0.532 |
| -6.900 | 22.909 | -1.509 | 23.427 | 0.532 |
| -7.650 | 26.832 | -1.554 | 22.969 | 0.473 |
| -8.400 | 31.257 | -1.659 | 22.436 | 0.421 |
| -8.400 | 31.257 | -1.659 | 22.436 | 0.421 |
| -8.700 | 31.587 | -1.696 | 22.210 | 0.380 |
| -9.000 | 32.002 | -1.743 | 21.979 | 0.339 |
| -9.000 | 32.002 | -1.743 | 21.979 | 0.339 |
| -9.400 | 34.151 | -1.748 | 21.666 | 0.318 |
| -9.800 | 36.305 | -1.753 | 21.350 | 0.299 |
| -9.800 | 36.306 | -1.753 | 21.350 | 0.299 |
| -10.000 | 37.417 | -1.776 | 21.191 | 0.288 |
| -10.200 | 38.544 | -1.800 | 21.032 | 0.278 |
| -10.200 | 38.544 | -1.800 | 21.032 | 0.278 |
| -10.850 | 42.078 | -1.812 | 20.519 | 0.252 |
| -11.850 | 47.579 | -1.835 | 19.745 | 0.216 |
| -12.850 | 53.172 | -1.864 | 18.998 | 0.185 |
| -13.250 | 55.436 | -1.877 | 18.708 | 0.174 |
| -13.900 | 59.151 | -1.901 | 18.250 | 0.156 |
| -14.900 | 64.954 | -1.944 | 17.573 | 0.131 |
| -15.900 | 70.866 | -1.994 | 16.930 | 0.108 |
| -16.300 | 73.261 | -2.016 | 16.683 | 0.099 |
| -16.300 | 73.261 | -2.016 | 16.683 | 0.099 |
| -16.850 | 78.213 | -2.259 | 16.352 | 0.081 |
| -17.400 | 83.453 | -2.530 | 16.031 | 0.061 |
| -17.400 | 83.453 | -2.530 | 16.031 | 0.061 |
| -18.200 | 87.203 | -2.463 | 15.580 | 0.038 |
| -19.000 | 91.010 | -2.400 | 15.149 | 0.015 |
| -19.000 | 91.010 | -2.400 | 15.149 | 0.015 |
| -20.000 | 100.672 | -2.400 | 14.637 | 0.007 |
| -21.000 | 110.363 | -2.400 | 14.151 | 0.000 |

### 3.10 Results for Vertical 10 (X = -14.64 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.859 | 27.870 | -2.650 | 27.239 | 1.448 |
| -2.959 | 26.612 | -2.584 | 26.267 | 1.403 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.059 | 25.143 | -2.524 | 25.097 | 1.362 |
| -3.159 | 24.327 | -2.468 | 24.477 | 1.326 |
| -3.259 | 24.053 | -2.416 | 24.327 | 1.292 |
| -3.359 | 23.894 | -2.365 | 24.274 | 1.262 |
| -3.459 | 23.769 | -2.316 | 24.243 | 1.233 |
| -3.559 | 23.672 | -2.268 | 24.229 | 1.206 |
| -3.659 | 23.601 | -2.221 | 24.229 | 1.181 |
| -3.759 | 23.546 | -2.175 | 24.237 | 1.157 |
| -3.859 | 23.504 | -2.130 | 24.248 | 1.135 |
| -3.929 | 23.480 | -2.099 | 24.256 | 1.119 |
| -4.500 | 23.408 | -1.868 | 24.289 | 1.013 |
| -5.000 | 23.525 | -1.692 | 24.265 | 0.938 |
| -5.000 | 23.525 | -1.692 | 24.265 | 0.938 |
| -5.950 | 22.665 | -1.559 | 24.047 | 0.731 |
| -6.900 | 22.465 | -1.523 | 23.587 | 0.542 |
| -6.900 | 22.465 | -1.523 | 23.587 | 0.542 |
| -7.650 | 26.288 | -1.563 | 23.095 | 0.480 |
| -8.400 | 30.617 | -1.661 | 22.535 | 0.427 |
| -8.400 | 30.617 | -1.661 | 22.535 | 0.427 |
| -8.700 | 30.920 | -1.697 | 22.299 | 0.385 |
| -9.000 | 31.311 | -1.741 | 22.060 | 0.343 |
| -9.000 | 31.311 | -1.741 | 22.060 | 0.343 |
| -9.400 | 33.448 | -1.746 | 21.737 | 0.321 |
| -9.800 | 35.590 | -1.751 | 21.412 | 0.302 |
| -9.800 | 35.590 | -1.751 | 21.412 | 0.302 |
| -10.000 | 36.693 | -1.774 | 21.249 | 0.291 |
| -10.200 | 37.811 | -1.797 | 21.087 | 0.280 |
| -10.200 | 37.811 | -1.797 | 21.087 | 0.280 |
| -10.850 | 41.332 | -1.809 | 20.563 | 0.253 |
| -11.850 | 46.817 | -1.832 | 19.776 | 0.217 |
| -12.850 | 52.398 | -1.861 | 19.021 | 0.186 |
| -13.250 | 54.659 | -1.874 | 18.729 | 0.175 |
| -13.900 | 58.369 | -1.898 | 18.266 | 0.157 |
| -14.900 | 64.167 | -1.941 | 17.585 | 0.132 |
| -15.900 | 70.075 | -1.991 | 16.939 | 0.108 |
| -16.300 | 72.470 | -2.013 | 16.691 | 0.099 |
| -16.300 | 72.470 | -2.013 | 16.691 | 0.099 |
| -16.850 | 77.430 | -2.257 | 16.359 | 0.082 |
| -17.400 | 82.682 | -2.530 | 16.036 | 0.062 |
| -17.400 | 82.682 | -2.530 | 16.036 | 0.062 |
| -18.200 | 86.433 | -2.463 | 15.584 | 0.038 |
| -19.000 | 90.243 | -2.400 | 15.153 | 0.015 |
| -19.000 | 90.243 | -2.400 | 15.153 | 0.015 |
| -20.000 | 99.904 | -2.400 | 14.639 | 0.007 |
| -21.000 | 109.594 | -2.400 | 14.153 | 0.000 |

### 3.11 Results for Vertical 11 (X = -14.47 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.914 | 27.638 | -2.650 | 26.575 | 1.428 |
| -3.014 | 28.216 | -2.581 | 27.333 | 1.388 |
| -3.114 | 27.620 | -2.516 | 27.083 | 1.351 |
| -3.214 | 26.698 | -2.454 | 26.483 | 1.317 |
| -3.314 | 25.911 | -2.397 | 25.960 | 1.285 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.414 | 25.366 | -2.342 | 25.621 | 1.255 |
| -3.514 | 24.996 | -2.289 | 25.416 | 1.228 |
| -3.614 | 24.729 | -2.239 | 25.286 | 1.201 |
| -3.714 | 24.522 | -2.190 | 25.196 | 1.177 |
| -3.814 | 24.352 | -2.142 | 25.127 | 1.153 |
| -3.914 | 24.210 | -2.096 | 25.071 | 1.131 |
| -3.957 | 24.156 | -2.076 | 25.050 | 1.122 |
| -4.500 | 23.737 | -1.849 | 24.866 | 1.019 |
| -5.000 | 23.679 | -1.668 | 24.741 | 0.943 |
| -5.000 | 23.679 | -1.668 | 24.741 | 0.943 |
| -5.950 | 22.641 | -1.534 | 24.402 | 0.733 |
| -6.900 | 22.329 | -1.498 | 23.849 | 0.542 |
| -6.900 | 22.329 | -1.498 | 23.849 | 0.542 |
| -7.650 | 26.100 | -1.540 | 23.298 | 0.480 |
| -8.400 | 30.405 | -1.641 | 22.692 | 0.427 |
| -8.400 | 30.405 | -1.641 | 22.692 | 0.427 |
| -8.700 | 30.698 | -1.678 | 22.441 | 0.384 |
| -9.000 | 31.083 | -1.724 | 22.187 | 0.342 |
| -9.000 | 31.083 | -1.724 | 22.187 | 0.342 |
| -9.400 | 33.201 | -1.728 | 21.847 | 0.320 |
| -9.800 | 35.328 | -1.734 | 21.508 | 0.301 |
| -9.800 | 35.328 | -1.734 | 21.508 | 0.301 |
| -10.000 | 36.427 | -1.757 | 21.339 | 0.290 |
| -10.200 | 37.543 | -1.781 | 21.170 | 0.280 |
| -10.200 | 37.543 | -1.781 | 21.170 | 0.280 |
| -10.850 | 41.046 | -1.793 | 20.629 | 0.253 |
| -11.850 | 46.513 | -1.816 | 19.823 | 0.217 |
| -12.850 | 52.084 | -1.846 | 19.054 | 0.186 |
| -13.250 | 54.342 | -1.859 | 18.757 | 0.174 |
| -13.900 | 58.050 | -1.884 | 18.289 | 0.157 |
| -14.900 | 63.848 | -1.927 | 17.600 | 0.132 |
| -15.900 | 69.760 | -1.978 | 16.950 | 0.108 |
| -16.300 | 72.157 | -2.000 | 16.700 | 0.099 |
| -16.300 | 72.157 | -2.000 | 16.700 | 0.099 |
| -16.850 | 77.160 | -2.249 | 16.366 | 0.082 |
| -17.400 | 82.463 | -2.527 | 16.042 | 0.062 |
| -17.400 | 82.463 | -2.527 | 16.042 | 0.062 |
| -18.200 | 86.224 | -2.462 | 15.589 | 0.038 |
| -19.000 | 90.044 | -2.400 | 15.155 | 0.015 |
| -19.000 | 90.044 | -2.400 | 15.155 | 0.015 |
| -20.000 | 99.704 | -2.400 | 14.641 | 0.007 |
| -21.000 | 109.393 | -2.400 | 14.154 | 0.000 |

### 3.12 Results for Vertical 12 (X = -14.13 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.039 | 27.577 | -2.650 | 26.071 | 1.422 |
| -3.139 | 27.820 | -2.584 | 26.549 | 1.385 |
| -3.239 | 27.878 | -2.520 | 26.875 | 1.351 |
| -3.339 | 27.733 | -2.458 | 26.999 | 1.319 |
| -3.439 | 27.451 | -2.398 | 26.979 | 1.289 |
| -3.539 | 27.111 | -2.340 | 26.882 | 1.261 |
| -3.639 | 26.760 | -2.284 | 26.753 | 1.234 |
| -3.739 | 26.424 | -2.230 | 26.618 | 1.208 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.839 | 26.116 | -2.178 | 26.487 | 1.184 |
| -3.939 | 25.839 | -2.128 | 26.368 | 1.161 |
| -4.019 | 25.639 | -2.088 | 26.280 | 1.143 |
| -4.039 | 25.594 | -2.079 | 26.260 | 1.139 |
| -5.000 | 24.420 | -1.680 | 25.623 | 0.970 |
| -5.000 | 24.420 | -1.680 | 25.623 | 0.970 |
| -5.950 | 22.996 | -1.537 | 25.061 | 0.749 |
| -6.900 | 22.409 | -1.496 | 24.323 | 0.549 |
| -6.900 | 22.409 | -1.496 | 24.323 | 0.549 |
| -7.650 | 26.003 | -1.534 | 23.657 | 0.484 |
| -8.400 | 30.165 | -1.632 | 22.960 | 0.430 |
| -8.400 | 30.165 | -1.632 | 22.960 | 0.430 |
| -8.700 | 30.417 | -1.668 | 22.679 | 0.386 |
| -9.000 | 30.764 | -1.713 | 22.399 | 0.343 |
| -9.000 | 30.764 | -1.713 | 22.399 | 0.343 |
| -9.400 | 32.845 | -1.718 | 22.028 | 0.321 |
| -9.800 | 34.941 | -1.723 | 21.662 | 0.301 |
| -9.800 | 34.941 | -1.723 | 21.662 | 0.301 |
| -10.000 | 36.025 | -1.746 | 21.481 | 0.291 |
| -10.200 | 37.128 | -1.770 | 21.301 | 0.280 |
| -10.200 | 37.128 | -1.770 | 21.301 | 0.280 |
| -10.850 | 40.596 | -1.782 | 20.730 | 0.253 |
| -11.850 | 46.024 | -1.805 | 19.889 | 0.217 |
| -12.850 | 51.569 | -1.835 | 19.096 | 0.186 |
| -13.250 | 53.820 | -1.849 | 18.792 | 0.174 |
| -13.900 | 57.519 | -1.873 | 18.314 | 0.157 |
| -14.900 | 63.307 | -1.917 | 17.614 | 0.132 |
| -15.900 | 69.216 | -1.968 | 16.956 | 0.109 |
| -16.300 | 71.613 | -1.991 | 16.704 | 0.100 |
| -16.300 | 71.613 | -1.991 | 16.704 | 0.100 |
| -16.850 | 76.645 | -2.243 | 16.367 | 0.082 |
| -17.400 | 81.985 | -2.525 | 16.041 | 0.062 |
| -17.400 | 81.985 | -2.525 | 16.041 | 0.062 |
| -18.200 | 85.753 | -2.461 | 15.585 | 0.038 |
| -19.000 | 89.581 | -2.400 | 15.150 | 0.015 |
| -19.000 | 89.581 | -2.400 | 15.150 | 0.015 |
| -20.000 | 99.238 | -2.400 | 14.634 | 0.007 |
| -21.000 | 108.926 | -2.400 | 14.146 | 0.000 |

### 3.13 Results for Vertical 13 (X = -12.77 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.089 | 29.549 | -2.650 | 27.725 | 1.424 |
| -3.189 | 29.388 | -2.582 | 27.819 | 1.389 |
| -3.289 | 29.236 | -2.518 | 27.924 | 1.356 |
| -3.389 | 29.104 | -2.455 | 28.032 | 1.325 |
| -3.489 | 28.972 | -2.395 | 28.126 | 1.296 |
| -3.589 | 28.844 | -2.336 | 28.212 | 1.268 |
| -3.689 | 28.723 | -2.278 | 28.294 | 1.242 |
| -3.789 | 28.609 | -2.222 | 28.372 | 1.217 |
| -3.889 | 28.497 | -2.167 | 28.442 | 1.193 |
| -3.989 | 28.383 | -2.114 | 28.500 | 1.171 |
| -4.044 | 28.317 | -2.084 | 28.526 | 1.158 |
| -4.089 | 28.263 | -2.061 | 28.543 | 1.149 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -5.000 | 26.947 | -1.651 | 28.144 | 0.984 |
| -5.000 | 26.947 | -1.651 | 28.144 | 0.984 |
| -5.950 | 24.524 | -1.496 | 26.865 | 0.752 |
| -6.900 | 23.115 | -1.454 | 25.439 | 0.544 |
| -6.900 | 23.115 | -1.454 | 25.439 | 0.544 |
| -7.650 | 26.272 | -1.493 | 24.374 | 0.478 |
| -8.400 | 30.146 | -1.595 | 23.391 | 0.423 |
| -8.400 | 30.146 | -1.595 | 23.391 | 0.423 |
| -8.700 | 30.309 | -1.632 | 23.021 | 0.380 |
| -9.000 | 30.583 | -1.678 | 22.664 | 0.337 |
| -9.000 | 30.583 | -1.678 | 22.664 | 0.337 |
| -9.400 | 32.568 | -1.683 | 22.206 | 0.315 |
| -9.800 | 34.585 | -1.689 | 21.768 | 0.295 |
| -9.800 | 34.585 | -1.689 | 21.768 | 0.295 |
| -10.000 | 35.641 | -1.712 | 21.556 | 0.284 |
| -10.200 | 36.719 | -1.737 | 21.349 | 0.274 |
| -10.200 | 36.719 | -1.737 | 21.349 | 0.274 |
| -10.850 | 40.108 | -1.749 | 20.704 | 0.247 |
| -11.850 | 45.457 | -1.774 | 19.788 | 0.212 |
| -12.850 | 50.961 | -1.804 | 18.952 | 0.182 |
| -13.250 | 53.203 | -1.818 | 18.636 | 0.171 |
| -13.900 | 56.894 | -1.844 | 18.145 | 0.154 |
| -14.900 | 62.684 | -1.889 | 17.435 | 0.130 |
| -15.900 | 68.605 | -1.942 | 16.775 | 0.107 |
| -16.300 | 71.010 | -1.966 | 16.523 | 0.099 |
| -16.300 | 71.010 | -1.966 | 16.523 | 0.099 |
| -16.850 | 76.134 | -2.227 | 16.188 | 0.081 |
| -17.400 | 81.584 | -2.520 | 15.865 | 0.062 |
| -17.400 | 81.584 | -2.520 | 15.865 | 0.062 |
| -18.200 | 85.379 | -2.458 | 15.414 | 0.038 |
| -19.000 | 89.238 | -2.400 | 14.986 | 0.015 |
| -19.000 | 89.238 | -2.400 | 14.986 | 0.015 |
| -20.000 | 98.903 | -2.400 | 14.478 | 0.007 |
| -21.000 | 108.600 | -2.400 | 13.999 | 0.000 |

### 3.14 Results for Vertical 14 (X = -11.80 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.124 | 31.581 | -2.650 | 29.746 | 1.409 |
| -3.224 | 31.683 | -2.575 | 30.195 | 1.373 |
| -3.324 | 31.751 | -2.503 | 30.596 | 1.339 |
| -3.424 | 31.659 | -2.433 | 30.837 | 1.307 |
| -3.524 | 31.425 | -2.365 | 30.931 | 1.277 |
| -3.624 | 31.102 | -2.299 | 30.924 | 1.249 |
| -3.724 | 30.733 | -2.235 | 30.851 | 1.221 |
| -3.824 | 30.340 | -2.173 | 30.734 | 1.195 |
| -3.924 | 29.939 | -2.113 | 30.587 | 1.170 |
| -4.024 | 29.537 | -2.056 | 30.417 | 1.147 |
| -4.062 | 29.385 | -2.034 | 30.349 | 1.138 |
| -4.124 | 29.140 | -2.000 | 30.232 | 1.124 |
| -5.000 | 26.292 | -1.593 | 28.399 | 0.961 |
| -5.000 | 26.292 | -1.593 | 28.399 | 0.961 |
| -5.950 | 23.391 | -1.442 | 26.540 | 0.730 |
| -6.900 | 21.910 | -1.405 | 24.935 | 0.527 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -6.900 | 21.910 | -1.405 | 24.935 | 0.527 |
| -7.650 | 25.126 | -1.452 | 23.827 | 0.463 |
| -8.400 | 29.102 | -1.563 | 22.838 | 0.410 |
| -8.400 | 29.102 | -1.563 | 22.838 | 0.410 |
| -8.700 | 29.296 | -1.602 | 22.470 | 0.368 |
| -9.000 | 29.603 | -1.651 | 22.118 | 0.326 |
| -9.000 | 29.603 | -1.651 | 22.118 | 0.326 |
| -9.400 | 31.603 | -1.656 | 21.668 | 0.305 |
| -9.800 | 33.637 | -1.662 | 21.241 | 0.287 |
| -9.800 | 33.637 | -1.662 | 21.241 | 0.287 |
| -10.000 | 34.710 | -1.686 | 21.035 | 0.276 |
| -10.200 | 35.806 | -1.712 | 20.834 | 0.266 |
| -10.200 | 35.806 | -1.712 | 20.834 | 0.266 |
| -10.850 | 39.224 | -1.725 | 20.210 | 0.241 |
| -11.850 | 44.622 | -1.750 | 19.328 | 0.207 |
| -12.850 | 50.173 | -1.781 | 18.526 | 0.178 |
| -13.250 | 52.434 | -1.796 | 18.224 | 0.167 |
| -13.900 | 56.155 | -1.822 | 17.754 | 0.151 |
| -14.900 | 61.990 | -1.869 | 17.076 | 0.128 |
| -15.900 | 67.956 | -1.923 | 16.444 | 0.106 |
| -16.300 | 70.379 | -1.948 | 16.203 | 0.097 |
| -16.300 | 70.379 | -1.948 | 16.203 | 0.097 |
| -16.850 | 75.586 | -2.216 | 15.883 | 0.080 |
| -17.400 | 81.125 | -2.517 | 15.573 | 0.061 |
| -17.400 | 81.125 | -2.517 | 15.573 | 0.061 |
| -18.200 | 84.956 | -2.456 | 15.142 | 0.038 |
| -19.000 | 88.850 | -2.400 | 14.731 | 0.014 |
| -19.000 | 88.851 | -2.400 | 14.731 | 0.014 |
| -20.000 | 98.537 | -2.400 | 14.243 | 0.007 |
| -21.000 | 108.252 | -2.400 | 13.783 | 0.000 |

### 3.15 Results for Vertical 15 (X = -11.41 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.004 | 32.776 | -2.650 | 31.512 | 1.405 |
| -3.104 | 32.825 | -2.572 | 31.831 | 1.365 |
| -3.204 | 32.561 | -2.497 | 31.941 | 1.328 |
| -3.304 | 32.162 | -2.425 | 31.899 | 1.294 |
| -3.404 | 31.681 | -2.355 | 31.751 | 1.262 |
| -3.504 | 31.173 | -2.288 | 31.549 | 1.231 |
| -3.604 | 30.657 | -2.223 | 31.313 | 1.203 |
| -3.704 | 30.143 | -2.161 | 31.053 | 1.175 |
| -3.804 | 29.635 | -2.101 | 30.777 | 1.150 |
| -3.904 | 29.142 | -2.044 | 30.494 | 1.125 |
| -4.002 | 28.677 | -1.989 | 30.213 | 1.102 |
| -4.004 | 28.669 | -1.988 | 30.208 | 1.102 |
| -5.000 | 25.307 | -1.540 | 27.704 | 0.919 |
| -5.000 | 25.307 | -1.540 | 27.704 | 0.919 |
| -5.950 | 22.638 | -1.401 | 25.878 | 0.700 |
| -6.900 | 21.376 | -1.372 | 24.366 | 0.510 |
| -6.900 | 21.376 | -1.372 | 24.366 | 0.510 |
| -7.650 | 24.772 | -1.428 | 23.326 | 0.450 |
| -8.400 | 28.922 | -1.549 | 22.394 | 0.400 |
| -8.400 | 28.922 | -1.549 | 22.394 | 0.400 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -8.700 | 29.166 | -1.590 | 22.047 | 0.359 |
| -9.000 | 29.520 | -1.642 | 21.713 | 0.319 |
| -9.000 | 29.520 | -1.642 | 21.713 | 0.319 |
| -9.400 | 31.550 | -1.647 | 21.287 | 0.299 |
| -9.800 | 33.611 | -1.653 | 20.880 | 0.281 |
| -9.800 | 33.611 | -1.653 | 20.880 | 0.281 |
| -10.000 | 34.703 | -1.678 | 20.684 | 0.271 |
| -10.200 | 35.818 | -1.705 | 20.492 | 0.261 |
| -10.200 | 35.818 | -1.705 | 20.492 | 0.261 |
| -10.850 | 39.272 | -1.718 | 19.895 | 0.236 |
| -11.850 | 44.715 | -1.744 | 19.050 | 0.204 |
| -12.850 | 50.305 | -1.776 | 18.278 | 0.176 |
| -13.250 | 52.580 | -1.791 | 17.987 | 0.165 |
| -13.900 | 56.322 | -1.817 | 17.533 | 0.149 |
| -14.900 | 62.186 | -1.864 | 16.876 | 0.126 |
| -15.900 | 68.176 | -1.919 | 16.263 | 0.105 |
| -16.300 | 70.608 | -1.944 | 16.030 | 0.096 |
| -16.300 | 70.608 | -1.944 | 16.030 | 0.096 |
| -16.850 | 75.841 | -2.214 | 15.718 | 0.079 |
| -17.400 | 81.404 | -2.516 | 15.417 | 0.060 |
| -17.400 | 81.404 | -2.516 | 15.417 | 0.060 |
| -18.200 | 85.249 | -2.456 | 14.996 | 0.037 |
| -19.000 | 89.157 | -2.400 | 14.595 | 0.014 |
| -19.000 | 89.157 | -2.400 | 14.595 | 0.014 |
| -20.000 | 98.855 | -2.400 | 14.120 | 0.007 |
| -21.000 | 108.581 | -2.400 | 13.670 | 0.000 |

### 3.16 Results for Vertical 16 (X = -10.73 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.796 | 33.637 | -2.650 | 33.280 | 1.411 |
| -2.896 | 31.456 | -2.572 | 31.317 | 1.361 |
| -2.996 | 30.282 | -2.500 | 30.480 | 1.319 |
| -3.096 | 29.441 | -2.432 | 29.942 | 1.281 |
| -3.196 | 28.723 | -2.367 | 29.495 | 1.246 |
| -3.296 | 28.056 | -2.306 | 29.070 | 1.213 |
| -3.396 | 27.434 | -2.247 | 28.662 | 1.182 |
| -3.496 | 26.871 | -2.190 | 28.284 | 1.154 |
| -3.596 | 26.376 | -2.137 | 27.945 | 1.127 |
| -3.696 | 25.948 | -2.085 | 27.647 | 1.102 |
| -3.796 | 25.578 | -2.035 | 27.385 | 1.078 |
| -3.898 | 25.252 | -1.986 | 27.147 | 1.055 |
| -4.400 | 24.134 | -1.770 | 26.223 | 0.957 |
| -5.000 | 23.434 | -1.557 | 25.333 | 0.867 |
| -5.000 | 23.434 | -1.557 | 25.333 | 0.867 |
| -5.950 | 21.680 | -1.436 | 24.084 | 0.668 |
| -6.900 | 20.966 | -1.414 | 22.952 | 0.494 |
| -6.900 | 20.966 | -1.414 | 22.952 | 0.494 |
| -7.650 | 24.663 | -1.474 | 22.131 | 0.438 |
| -8.400 | 29.028 | -1.596 | 21.367 | 0.391 |
| -8.400 | 29.028 | -1.596 | 21.367 | 0.391 |
| -8.700 | 29.338 | -1.638 | 21.076 | 0.352 |
| -9.000 | 29.744 | -1.688 | 20.794 | 0.314 |
| -9.000 | 29.744 | -1.688 | 20.794 | 0.314 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -9.400 | 31.846 | -1.693 | 20.430 | 0.294 |
| -9.800 | 33.969 | -1.699 | 20.079 | 0.277 |
| -9.800 | 33.969 | -1.699 | 20.079 | 0.277 |
| -10.000 | 35.085 | -1.724 | 19.908 | 0.267 |
| -10.200 | 36.220 | -1.750 | 19.740 | 0.258 |
| -10.200 | 36.220 | -1.750 | 19.740 | 0.258 |
| -10.850 | 39.751 | -1.763 | 19.214 | 0.234 |
| -11.850 | 45.285 | -1.787 | 18.457 | 0.202 |
| -12.850 | 50.942 | -1.818 | 17.756 | 0.174 |
| -13.250 | 53.238 | -1.833 | 17.489 | 0.164 |
| -13.900 | 57.010 | -1.858 | 17.072 | 0.148 |
| -14.900 | 62.907 | -1.903 | 16.463 | 0.125 |
| -15.900 | 68.918 | -1.956 | 15.892 | 0.103 |
| -16.300 | 71.354 | -1.979 | 15.674 | 0.095 |
| -16.300 | 71.354 | -1.979 | 15.674 | 0.095 |
| -16.850 | 76.483 | -2.236 | 15.381 | 0.078 |
| -17.400 | 81.913 | -2.523 | 15.098 | 0.059 |
| -17.400 | 81.913 | -2.523 | 15.098 | 0.059 |
| -18.200 | 85.749 | -2.460 | 14.701 | 0.036 |
| -19.000 | 89.643 | -2.400 | 14.322 | 0.014 |
| -19.000 | 89.644 | -2.400 | 14.322 | 0.014 |
| -20.000 | 99.367 | -2.400 | 13.870 | 0.006 |
| -21.000 | 109.115 | -2.400 | 13.442 | 0.000 |

### 3.17 Results for Vertical 17 (X = -10.71 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.650 | 25.272 | -2.650 | 25.271 | 1.433 |
| -2.750 | 29.385 | -2.588 | 29.515 | 1.375 |
| -2.850 | 23.773 | -2.528 | 24.197 | 1.328 |
| -2.950 | 26.918 | -2.473 | 27.246 | 1.288 |
| -3.050 | 28.557 | -2.413 | 28.956 | 1.252 |
| -3.150 | 28.401 | -2.352 | 28.999 | 1.219 |
| -3.250 | 27.991 | -2.293 | 28.790 | 1.188 |
| -3.350 | 27.511 | -2.236 | 28.498 | 1.159 |
| -3.450 | 27.030 | -2.182 | 28.182 | 1.132 |
| -3.550 | 26.582 | -2.129 | 27.876 | 1.106 |
| -3.650 | 26.181 | -2.079 | 27.594 | 1.082 |
| -3.825 | 25.597 | -1.995 | 27.167 | 1.043 |
| -4.400 | 24.388 | -1.752 | 26.127 | 0.935 |
| -5.000 | 23.777 | -1.545 | 25.260 | 0.847 |
| -5.000 | 23.777 | -1.545 | 25.260 | 0.847 |
| -5.950 | 22.086 | -1.429 | 24.030 | 0.656 |
| -6.900 | 21.413 | -1.409 | 22.911 | 0.488 |
| -6.900 | 21.413 | -1.409 | 22.911 | 0.488 |
| -7.650 | 25.151 | -1.472 | 22.096 | 0.434 |
| -8.400 | 29.555 | -1.598 | 21.337 | 0.388 |
| -8.400 | 29.555 | -1.598 | 21.337 | 0.388 |
| -8.700 | 29.875 | -1.640 | 21.049 | 0.350 |
| -9.000 | 30.291 | -1.692 | 20.768 | 0.311 |
| -9.000 | 30.291 | -1.692 | 20.768 | 0.311 |
| -9.400 | 32.395 | -1.697 | 20.405 | 0.293 |
| -9.800 | 34.521 | -1.703 | 20.056 | 0.276 |
| -9.800 | 34.521 | -1.703 | 20.056 | 0.276 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -10.000 | 35.640 | -1.728 | 19.886 | 0.266 |
| -10.200 | 36.778 | -1.754 | 19.719 | 0.257 |
| -10.200 | 36.778 | -1.754 | 19.719 | 0.257 |
| -10.850 | 40.311 | -1.767 | 19.194 | 0.233 |
| -11.850 | 45.849 | -1.792 | 18.440 | 0.201 |
| -12.850 | 51.508 | -1.823 | 17.741 | 0.174 |
| -13.250 | 53.805 | -1.837 | 17.476 | 0.163 |
| -13.900 | 57.577 | -1.862 | 17.059 | 0.147 |
| -14.900 | 63.474 | -1.907 | 16.452 | 0.125 |
| -15.900 | 69.485 | -1.960 | 15.882 | 0.103 |
| -16.300 | 71.921 | -1.983 | 15.664 | 0.095 |
| -16.300 | 71.921 | -1.983 | 15.664 | 0.095 |
| -16.850 | 77.037 | -2.239 | 15.372 | 0.078 |
| -17.400 | 82.451 | -2.524 | 15.089 | 0.059 |
| -17.400 | 82.451 | -2.524 | 15.089 | 0.059 |
| -18.200 | 86.284 | -2.460 | 14.693 | 0.036 |
| -19.000 | 90.174 | -2.400 | 14.314 | 0.014 |
| -19.000 | 90.175 | -2.400 | 14.314 | 0.014 |
| -20.000 | 99.898 | -2.400 | 13.863 | 0.006 |
| -21.000 | 109.647 | -2.400 | 13.436 | 0.000 |

### 3.18 Results for Vertical 18 (X = -10.70 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.500 | 23.576 | -2.500 | 23.575 | 1.270 |
| -2.600 | 29.489 | -2.547 | 28.658 | 1.223 |
| -2.650 | 25.267 | -2.570 | 24.027 | 1.206 |
| -2.700 | 23.864 | -2.546 | 22.670 | 1.190 |
| -2.800 | 24.862 | -2.500 | 23.713 | 1.160 |
| -2.900 | 23.147 | -2.456 | 22.084 | 1.132 |
| -3.000 | 26.775 | -2.410 | 25.519 | 1.106 |
| -3.100 | 27.936 | -2.360 | 26.693 | 1.081 |
| -3.200 | 28.028 | -2.309 | 26.876 | 1.056 |
| -3.300 | 27.825 | -2.260 | 26.775 | 1.033 |
| -3.400 | 27.516 | -2.212 | 26.562 | 1.010 |
| -3.500 | 27.184 | -2.165 | 26.311 | 0.989 |
| -3.750 | 26.450 | -2.055 | 25.707 | 0.940 |
| -4.400 | 25.370 | -1.806 | 24.559 | 0.836 |
| -5.000 | 24.975 | -1.620 | 23.715 | 0.761 |
| -5.000 | 24.975 | -1.620 | 23.715 | 0.761 |
| -5.950 | 23.412 | -1.513 | 22.505 | 0.594 |
| -6.900 | 22.789 | -1.498 | 21.398 | 0.448 |
| -6.900 | 22.789 | -1.498 | 21.398 | 0.448 |
| -7.650 | 26.530 | -1.560 | 20.590 | 0.400 |
| -8.400 | 30.895 | -1.681 | 19.836 | 0.357 |
| -8.400 | 30.895 | -1.681 | 19.836 | 0.357 |
| -8.700 | 31.197 | -1.722 | 19.549 | 0.323 |
| -9.000 | 31.590 | -1.771 | 19.270 | 0.288 |
| -9.000 | 31.590 | -1.771 | 19.270 | 0.288 |
| -9.400 | 33.693 | -1.776 | 18.909 | 0.271 |
| -9.800 | 35.817 | -1.781 | 18.562 | 0.256 |
| -9.800 | 35.817 | -1.781 | 18.562 | 0.256 |
| -10.000 | 36.922 | -1.804 | 18.392 | 0.247 |
| -10.200 | 38.044 | -1.829 | 18.226 | 0.238 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -10.200 | 38.044 | -1.829 | 18.226 | 0.238 |
| -10.850 | 41.571 | -1.841 | 17.704 | 0.216 |
| -11.850 | 47.095 | -1.864 | 16.952 | 0.187 |
| -12.850 | 52.734 | -1.893 | 16.255 | 0.162 |
| -13.250 | 55.021 | -1.906 | 15.990 | 0.152 |
| -13.900 | 58.775 | -1.929 | 15.575 | 0.138 |
| -14.900 | 64.639 | -1.971 | 14.969 | 0.116 |
| -15.900 | 70.609 | -2.019 | 14.400 | 0.096 |
| -16.300 | 73.027 | -2.040 | 14.182 | 0.088 |
| -16.300 | 73.027 | -2.040 | 14.182 | 0.088 |
| -16.850 | 77.935 | -2.275 | 13.891 | 0.072 |
| -17.400 | 83.106 | -2.535 | 13.609 | 0.054 |
| -17.400 | 83.106 | -2.535 | 13.609 | 0.054 |
| -18.200 | 86.886 | -2.466 | 13.213 | 0.033 |
| -19.000 | 90.720 | -2.400 | 12.835 | 0.012 |
| -19.000 | 90.720 | -2.400 | 12.835 | 0.012 |
| -20.000 | 100.445 | -2.400 | 12.385 | 0.006 |
| -21.000 | 110.194 | -2.400 | 11.958 | 0.000 |

### 3.19 Results for Vertical 19 (X = -10.63 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.912 | 20.697 | -1.912 | 20.696 | 0.849 |
| -2.012 | 30.562 | -1.946 | 29.610 | 0.815 |
| -2.112 | 31.209 | -1.966 | 29.443 | 0.790 |
| -2.206 | 31.779 | -1.983 | 29.264 | 0.771 |
| -2.212 | 31.772 | -1.984 | 29.208 | 0.770 |
| -2.312 | 28.969 | -2.006 | 25.570 | 0.753 |
| -2.400 | 26.322 | -2.033 | 22.111 | 0.742 |
| -2.412 | 26.079 | -2.038 | 21.751 | 0.740 |
| -2.500 | 24.799 | -2.071 | 19.596 | 0.731 |
| -2.500 | 24.799 | -2.071 | 19.595 | 0.731 |
| -2.512 | 24.682 | -2.080 | 19.348 | 0.729 |
| -2.612 | 24.055 | -2.154 | 17.629 | 0.717 |
| -2.650 | 24.271 | -2.182 | 17.428 | 0.713 |
| -2.712 | 24.347 | -2.166 | 17.430 | 0.706 |
| -2.812 | 24.330 | -2.141 | 17.284 | 0.695 |
| -2.912 | 24.238 | -2.117 | 17.057 | 0.685 |
| -3.750 | 28.843 | -1.915 | 20.129 | 0.605 |
| -4.400 | 29.112 | -1.775 | 19.252 | 0.552 |
| -5.000 | 29.632 | -1.671 | 18.501 | 0.511 |
| -5.000 | 29.632 | -1.671 | 18.501 | 0.511 |
| -5.950 | 28.721 | -1.622 | 17.372 | 0.416 |
| -6.900 | 28.505 | -1.642 | 16.315 | 0.331 |
| -6.900 | 28.505 | -1.642 | 16.315 | 0.331 |
| -7.650 | 32.597 | -1.737 | 15.534 | 0.302 |
| -8.400 | 37.221 | -1.882 | 14.801 | 0.273 |
| -8.400 | 37.221 | -1.882 | 14.801 | 0.273 |
| -8.700 | 37.565 | -1.926 | 14.521 | 0.248 |
| -9.000 | 37.978 | -1.976 | 14.248 | 0.222 |
| -9.000 | 37.979 | -1.976 | 14.248 | 0.222 |
| -9.400 | 40.090 | -1.981 | 13.896 | 0.211 |
| -9.800 | 42.219 | -1.986 | 13.554 | 0.201 |
| -9.800 | 42.219 | -1.986 | 13.554 | 0.201 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -10.000 | 43.310 | -2.007 | 13.388 | 0.194 |
| -10.200 | 44.414 | -2.030 | 13.225 | 0.188 |
| -10.200 | 44.414 | -2.030 | 13.225 | 0.188 |
| -10.850 | 47.937 | -2.040 | 12.711 | 0.172 |
| -11.850 | 53.439 | -2.060 | 11.970 | 0.151 |
| -12.850 | 59.037 | -2.083 | 11.282 | 0.132 |
| -13.250 | 61.302 | -2.094 | 11.020 | 0.125 |
| -13.900 | 65.012 | -2.113 | 10.609 | 0.113 |
| -14.900 | 70.792 | -2.145 | 10.009 | 0.096 |
| -15.900 | 76.656 | -2.182 | 9.445 | 0.080 |
| -16.300 | 79.025 | -2.198 | 9.229 | 0.074 |
| -16.300 | 79.025 | -2.198 | 9.229 | 0.074 |
| -16.850 | 83.358 | -2.374 | 8.940 | 0.060 |
| -17.400 | 87.866 | -2.566 | 8.659 | 0.044 |
| -17.400 | 87.866 | -2.566 | 8.659 | 0.044 |
| -18.200 | 91.504 | -2.482 | 8.267 | 0.027 |
| -19.000 | 95.183 | -2.400 | 7.891 | 0.009 |
| -19.000 | 95.183 | -2.400 | 7.891 | 0.009 |
| -20.000 | 104.911 | -2.400 | 7.443 | 0.004 |
| -21.000 | 114.663 | -2.400 | 7.019 | 0.000 |

### 3.20 Results for Vertical 20 (X = -8.70 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.983 | 22.009 | -0.983 | 22.008 | 0.625 |
| -1.083 | 21.915 | -1.038 | 20.761 | 0.593 |
| -1.183 | 22.446 | -1.093 | 20.133 | 0.572 |
| -1.283 | 23.247 | -1.147 | 19.780 | 0.555 |
| -1.383 | 24.139 | -1.201 | 19.526 | 0.540 |
| -1.483 | 25.126 | -1.254 | 19.376 | 0.528 |
| -1.583 | 26.130 | -1.305 | 19.254 | 0.518 |
| -1.683 | 27.114 | -1.356 | 19.121 | 0.509 |
| -1.742 | 27.674 | -1.385 | 19.030 | 0.504 |
| -1.783 | 28.063 | -1.406 | 18.960 | 0.501 |
| -1.883 | 28.979 | -1.455 | 18.774 | 0.493 |
| -1.983 | 29.878 | -1.504 | 18.575 | 0.487 |
| -2.400 | 32.267 | -1.704 | 16.422 | 0.467 |
| -2.500 | 32.299 | -1.752 | 15.364 | 0.464 |
| -2.500 | 32.299 | -1.752 | 15.363 | 0.464 |
| -2.650 | 32.432 | -1.867 | 13.813 | 0.456 |
| -3.150 | 33.060 | -1.760 | 13.650 | 0.434 |
| -3.750 | 33.946 | -1.649 | 13.403 | 0.411 |
| -4.400 | 35.247 | -1.553 | 13.225 | 0.390 |
| -5.000 | 36.848 | -1.487 | 13.219 | 0.373 |
| -5.000 | 36.848 | -1.487 | 13.219 | 0.373 |
| -5.950 | 37.501 | -1.467 | 13.325 | 0.326 |
| -6.900 | 38.714 | -1.511 | 13.369 | 0.279 |
| -6.900 | 38.715 | -1.511 | 13.369 | 0.279 |
| -7.650 | 43.920 | -1.639 | 13.313 | 0.260 |
| -8.400 | 49.546 | -1.818 | 13.185 | 0.240 |
| -8.400 | 49.546 | -1.818 | 13.185 | 0.240 |
| -8.700 | 50.210 | -1.871 | 13.116 | 0.220 |
| -9.000 | 50.937 | -1.931 | 13.039 | 0.200 |
| -9.000 | 50.937 | -1.931 | 13.039 | 0.200 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -9.400 | 53.321 | -1.937 | 12.924 | 0.192 |
| -9.800 | 55.697 | -1.943 | 12.799 | 0.185 |
| -9.800 | 55.697 | -1.943 | 12.799 | 0.185 |
| -10.000 | 56.933 | -1.968 | 12.733 | 0.179 |
| -10.200 | 58.177 | -1.993 | 12.665 | 0.174 |
| -10.200 | 58.177 | -1.993 | 12.665 | 0.174 |
| -10.850 | 62.025 | -2.006 | 12.431 | 0.162 |
| -11.850 | 67.943 | -2.028 | 12.048 | 0.144 |
| -12.850 | 73.880 | -2.054 | 11.647 | 0.126 |
| -13.250 | 76.263 | -2.066 | 11.485 | 0.120 |
| -13.900 | 80.149 | -2.086 | 11.221 | 0.109 |
| -14.900 | 86.163 | -2.121 | 10.817 | 0.093 |
| -15.900 | 92.229 | -2.160 | 10.418 | 0.077 |
| -16.300 | 94.670 | -2.177 | 10.262 | 0.070 |
| -16.300 | 94.670 | -2.177 | 10.262 | 0.070 |
| -16.850 | 99.176 | -2.362 | 10.048 | 0.056 |
| -17.400 | 103.840 | -2.563 | 9.838 | 0.041 |
| -17.400 | 103.840 | -2.563 | 9.838 | 0.041 |
| -18.200 | 107.591 | -2.480 | 9.539 | 0.025 |
| -19.000 | 111.374 | -2.400 | 9.247 | 0.008 |
| -19.000 | 111.374 | -2.400 | 9.247 | 0.008 |
| -20.000 | 121.199 | -2.400 | 8.893 | 0.004 |
| -21.000 | 131.038 | -2.400 | 8.551 | 0.000 |

### 3.21 Results for Vertical 21 (X = -8.64 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.960 | 24.845 | -0.960 | 24.844 | 0.616 |
| -1.060 | 17.427 | -1.017 | 16.253 | 0.585 |
| -1.160 | 16.402 | -1.083 | 13.960 | 0.566 |
| -1.260 | 17.692 | -1.149 | 13.979 | 0.551 |
| -1.360 | 21.634 | -1.211 | 16.695 | 0.539 |
| -1.460 | 23.824 | -1.268 | 17.710 | 0.528 |
| -1.560 | 25.384 | -1.321 | 18.124 | 0.518 |
| -1.660 | 26.680 | -1.373 | 18.291 | 0.509 |
| -1.730 | 27.497 | -1.409 | 18.325 | 0.503 |
| -1.760 | 27.829 | -1.424 | 18.324 | 0.501 |
| -1.860 | 28.881 | -1.474 | 18.272 | 0.493 |
| -1.960 | 29.874 | -1.522 | 18.167 | 0.487 |
| -2.400 | 32.629 | -1.732 | 16.141 | 0.466 |
| -2.500 | 32.665 | -1.779 | 15.093 | 0.463 |
| -2.500 | 32.665 | -1.779 | 15.092 | 0.463 |
| -2.650 | 32.802 | -1.894 | 13.550 | 0.455 |
| -3.150 | 33.438 | -1.785 | 13.410 | 0.433 |
| -3.750 | 34.341 | -1.672 | 13.202 | 0.410 |
| -4.400 | 35.642 | -1.574 | 13.051 | 0.389 |
| -5.000 | 37.229 | -1.505 | 13.055 | 0.372 |
| -5.000 | 37.229 | -1.505 | 13.055 | 0.372 |
| -5.950 | 37.871 | -1.483 | 13.175 | 0.325 |
| -6.900 | 39.080 | -1.525 | 13.235 | 0.278 |
| -6.900 | 39.081 | -1.525 | 13.235 | 0.278 |
| -7.650 | 44.272 | -1.650 | 13.194 | 0.259 |
| -8.400 | 49.879 | -1.826 | 13.078 | 0.239 |
| -8.400 | 49.879 | -1.826 | 13.078 | 0.239 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -8.700 | 50.540 | -1.878 | 13.014 | 0.220 |
| -9.000 | 51.264 | -1.937 | 12.942 | 0.200 |
| -9.000 | 51.264 | -1.937 | 12.942 | 0.200 |
| -9.400 | 53.654 | -1.943 | 12.833 | 0.192 |
| -9.800 | 56.035 | -1.949 | 12.713 | 0.184 |
| -9.800 | 56.035 | -1.949 | 12.713 | 0.184 |
| -10.000 | 57.271 | -1.973 | 12.650 | 0.179 |
| -10.200 | 58.515 | -1.999 | 12.584 | 0.173 |
| -10.200 | 58.515 | -1.999 | 12.584 | 0.173 |
| -10.850 | 62.369 | -2.011 | 12.358 | 0.161 |
| -11.850 | 68.296 | -2.033 | 11.984 | 0.143 |
| -12.850 | 74.239 | -2.059 | 11.592 | 0.126 |
| -13.250 | 76.624 | -2.070 | 11.433 | 0.119 |
| -13.900 | 80.512 | -2.090 | 11.173 | 0.109 |
| -14.900 | 86.530 | -2.125 | 10.775 | 0.092 |
| -15.900 | 92.598 | -2.164 | 10.381 | 0.076 |
| -16.300 | 95.040 | -2.181 | 10.226 | 0.070 |
| -16.300 | 95.040 | -2.181 | 10.226 | 0.070 |
| -16.850 | 99.533 | -2.365 | 10.015 | 0.056 |
| -17.400 | 104.184 | -2.564 | 9.807 | 0.041 |
| -17.400 | 104.184 | -2.564 | 9.807 | 0.041 |
| -18.200 | 107.935 | -2.481 | 9.510 | 0.024 |
| -19.000 | 111.717 | -2.400 | 9.221 | 0.008 |
| -19.000 | 111.717 | -2.400 | 9.221 | 0.008 |
| -20.000 | 121.545 | -2.400 | 8.870 | 0.004 |
| -21.000 | 131.386 | -2.400 | 8.531 | 0.000 |

### 3.22 Results for Vertical 22 (X = -8.64 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.958 | 18.017 | -0.958 | 18.016 | 0.615 |
| -1.058 | 17.399 | -1.022 | 16.155 | 0.585 |
| -1.158 | 16.535 | -1.088 | 14.024 | 0.566 |
| -1.258 | 17.617 | -1.154 | 13.836 | 0.552 |
| -1.358 | 21.498 | -1.216 | 16.490 | 0.539 |
| -1.458 | 23.764 | -1.273 | 17.579 | 0.528 |
| -1.558 | 25.365 | -1.327 | 18.033 | 0.518 |
| -1.658 | 26.685 | -1.379 | 18.225 | 0.509 |
| -1.729 | 27.523 | -1.415 | 18.270 | 0.503 |
| -1.758 | 27.848 | -1.429 | 18.273 | 0.501 |
| -1.858 | 28.911 | -1.479 | 18.231 | 0.494 |
| -1.958 | 29.910 | -1.528 | 18.134 | 0.487 |
| -2.400 | 32.686 | -1.737 | 16.116 | 0.466 |
| -2.500 | 32.721 | -1.785 | 15.068 | 0.463 |
| -2.500 | 32.721 | -1.785 | 15.068 | 0.463 |
| -2.650 | 32.858 | -1.899 | 13.526 | 0.455 |
| -3.150 | 33.491 | -1.790 | 13.388 | 0.433 |
| -3.750 | 34.393 | -1.677 | 13.184 | 0.411 |
| -4.400 | 35.690 | -1.577 | 13.034 | 0.389 |
| -5.000 | 37.273 | -1.508 | 13.039 | 0.372 |
| -5.000 | 37.273 | -1.508 | 13.039 | 0.372 |
| -5.950 | 37.912 | -1.486 | 13.160 | 0.325 |
| -6.900 | 39.119 | -1.528 | 13.222 | 0.278 |
| -6.900 | 39.119 | -1.528 | 13.222 | 0.278 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -7.650 | 44.307 | -1.652 | 13.181 | 0.259 |
| -8.400 | 49.909 | -1.827 | 13.067 | 0.239 |
| -8.400 | 49.909 | -1.827 | 13.067 | 0.239 |
| -8.700 | 50.569 | -1.879 | 13.003 | 0.220 |
| -9.000 | 51.292 | -1.938 | 12.931 | 0.200 |
| -9.000 | 51.292 | -1.938 | 12.931 | 0.200 |
| -9.400 | 53.682 | -1.944 | 12.823 | 0.192 |
| -9.800 | 56.063 | -1.950 | 12.703 | 0.184 |
| -9.800 | 56.063 | -1.950 | 12.703 | 0.184 |
| -10.000 | 57.299 | -1.974 | 12.640 | 0.179 |
| -10.200 | 58.543 | -2.000 | 12.575 | 0.173 |
| -10.200 | 58.543 | -2.000 | 12.575 | 0.173 |
| -10.850 | 62.397 | -2.012 | 12.349 | 0.161 |
| -11.850 | 68.324 | -2.034 | 11.976 | 0.143 |
| -12.850 | 74.267 | -2.060 | 11.584 | 0.126 |
| -13.250 | 76.653 | -2.071 | 11.425 | 0.119 |
| -13.900 | 80.541 | -2.091 | 11.166 | 0.109 |
| -14.900 | 86.559 | -2.126 | 10.768 | 0.092 |
| -15.900 | 92.626 | -2.165 | 10.375 | 0.076 |
| -16.300 | 95.068 | -2.181 | 10.220 | 0.070 |
| -16.300 | 95.068 | -2.181 | 10.220 | 0.070 |
| -16.850 | 99.560 | -2.365 | 10.009 | 0.056 |
| -17.400 | 104.207 | -2.564 | 9.801 | 0.041 |
| -17.400 | 104.207 | -2.564 | 9.801 | 0.041 |
| -18.200 | 107.958 | -2.481 | 9.505 | 0.024 |
| -19.000 | 111.739 | -2.400 | 9.216 | 0.008 |
| -19.000 | 111.740 | -2.400 | 9.216 | 0.008 |
| -20.000 | 121.568 | -2.400 | 8.865 | 0.004 |
| -21.000 | 131.409 | -2.400 | 8.526 | 0.000 |

### 3.23 Results for Vertical 23 (X = -7.45 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.430 | 11.289 | -0.430 | 11.288 | 0.533 |
| -0.530 | 13.120 | -0.508 | 11.737 | 0.507 |
| -0.630 | 14.158 | -0.584 | 11.412 | 0.490 |
| -0.730 | 14.742 | -0.659 | 10.644 | 0.477 |
| -0.830 | 15.446 | -0.733 | 10.003 | 0.467 |
| -0.930 | 16.889 | -0.805 | 10.116 | 0.459 |
| -1.030 | 18.696 | -0.876 | 10.614 | 0.452 |
| -1.130 | 20.437 | -0.943 | 11.072 | 0.445 |
| -1.230 | 21.346 | -1.009 | 10.718 | 0.440 |
| -1.330 | 21.835 | -1.073 | 9.960 | 0.435 |
| -1.430 | 22.235 | -1.136 | 9.119 | 0.431 |
| -1.465 | 22.359 | -1.158 | 8.812 | 0.429 |
| -1.539 | 22.604 | -1.205 | 8.140 | 0.427 |
| -2.400 | 25.105 | -0.890 | 8.401 | 0.411 |
| -2.500 | 25.419 | -0.854 | 8.451 | 0.410 |
| -2.500 | 25.419 | -0.854 | 8.451 | 0.410 |
| -3.150 | 27.215 | -0.752 | 8.847 | 0.390 |
| -3.750 | 28.975 | -0.669 | 9.209 | 0.374 |
| -4.400 | 30.969 | -0.593 | 9.546 | 0.359 |
| -5.000 | 32.935 | -0.538 | 9.824 | 0.345 |
| -5.000 | 32.935 | -0.538 | 9.824 | 0.345 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -5.950 | 33.844 | -0.519 | 10.225 | 0.305 |
| -6.900 | 35.203 | -0.552 | 10.553 | 0.263 |
| -6.900 | 35.203 | -0.552 | 10.553 | 0.263 |
| -7.650 | 40.378 | -0.653 | 10.734 | 0.247 |
| -8.400 | 45.909 | -0.798 | 10.842 | 0.228 |
| -8.400 | 45.909 | -0.798 | 10.842 | 0.228 |
| -8.700 | 46.576 | -0.841 | 10.865 | 0.210 |
| -9.000 | 47.297 | -0.891 | 10.877 | 0.191 |
| -9.000 | 47.297 | -0.891 | 10.877 | 0.191 |
| -9.400 | 49.793 | -0.896 | 10.878 | 0.184 |
| -9.800 | 52.276 | -0.901 | 10.862 | 0.177 |
| -9.800 | 52.276 | -0.901 | 10.862 | 0.177 |
| -10.000 | 53.532 | -0.922 | 10.849 | 0.172 |
| -10.200 | 54.794 | -0.945 | 10.832 | 0.167 |
| -10.200 | 54.794 | -0.945 | 10.832 | 0.167 |
| -10.850 | 58.793 | -0.955 | 10.757 | 0.156 |
| -11.850 | 64.914 | -0.975 | 10.589 | 0.139 |
| -12.850 | 71.018 | -0.998 | 10.374 | 0.122 |
| -13.250 | 73.460 | -1.008 | 10.279 | 0.116 |
| -13.900 | 77.431 | -1.026 | 10.115 | 0.105 |
| -14.900 | 83.556 | -1.057 | 9.849 | 0.089 |
| -15.900 | 89.709 | -1.092 | 9.570 | 0.074 |
| -16.300 | 92.180 | -1.108 | 9.456 | 0.067 |
| -16.300 | 92.181 | -1.108 | 9.456 | 0.067 |
| -16.850 | 96.570 | -1.275 | 9.299 | 0.053 |
| -17.400 | 101.098 | -1.456 | 9.141 | 0.038 |
| -17.400 | 101.099 | -1.456 | 9.141 | 0.038 |
| -18.200 | 110.342 | -1.926 | 8.912 | 0.023 |
| -19.000 | 119.629 | -2.400 | 8.683 | 0.007 |
| -19.000 | 119.629 | -2.400 | 8.683 | 0.007 |
| -20.000 | 129.529 | -2.400 | 8.400 | 0.003 |
| -21.000 | 139.434 | -2.400 | 8.122 | 0.000 |

### 3.24 Results for Vertical 24 (X = -6.66 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.079 | 6.912 | -0.079 | 6.911 | 0.488 |
| -0.179 | 9.233 | -0.166 | 7.763 | 0.465 |
| -0.279 | 11.362 | -0.249 | 8.456 | 0.451 |
| -0.379 | 12.875 | -0.330 | 8.560 | 0.440 |
| -0.479 | 13.915 | -0.408 | 8.211 | 0.431 |
| -0.579 | 14.378 | -0.485 | 7.302 | 0.424 |
| -0.679 | 14.799 | -0.560 | 6.362 | 0.418 |
| -0.779 | 15.185 | -0.635 | 5.395 | 0.414 |
| -0.800 | 15.263 | -0.651 | 5.189 | 0.413 |
| -0.879 | 15.550 | -0.631 | 5.184 | 0.410 |
| -0.979 | 15.907 | -0.605 | 5.175 | 0.407 |
| -1.079 | 16.267 | -0.579 | 5.171 | 0.404 |
| -1.290 | 17.069 | -0.523 | 5.218 | 0.399 |
| -1.800 | 19.252 | -0.382 | 5.629 | 0.391 |
| -2.400 | 21.850 | -0.206 | 6.240 | 0.385 |
| -2.500 | 22.268 | -0.175 | 6.336 | 0.385 |
| -2.500 | 22.268 | -0.175 | 6.336 | 0.385 |
| -3.150 | 24.405 | -0.089 | 6.920 | 0.369 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.750 | 26.381 | -0.017 | 7.393 | 0.355 |
| -4.400 | 28.556 | 0.051 | 7.835 | 0.342 |
| -5.000 | 30.631 | 0.102 | 8.189 | 0.329 |
| -5.000 | 30.631 | 0.102 | 8.189 | 0.329 |
| -5.950 | 31.596 | 0.122 | 8.669 | 0.293 |
| -6.900 | 32.936 | 0.096 | 9.061 | 0.253 |
| -6.900 | 32.936 | 0.096 | 9.061 | 0.253 |
| -7.650 | 38.012 | 0.011 | 9.304 | 0.238 |
| -8.400 | 43.414 | -0.115 | 9.484 | 0.220 |
| -8.400 | 43.414 | -0.115 | 9.484 | 0.220 |
| -8.700 | 44.058 | -0.152 | 9.538 | 0.203 |
| -9.000 | 44.752 | -0.196 | 9.583 | 0.185 |
| -9.000 | 44.753 | -0.196 | 9.583 | 0.185 |
| -9.400 | 47.288 | -0.201 | 9.629 | 0.178 |
| -9.800 | 49.811 | -0.205 | 9.658 | 0.172 |
| -9.800 | 49.811 | -0.205 | 9.658 | 0.172 |
| -10.000 | 51.068 | -0.224 | 9.668 | 0.167 |
| -10.200 | 52.332 | -0.244 | 9.674 | 0.162 |
| -10.200 | 52.332 | -0.244 | 9.674 | 0.162 |
| -10.850 | 56.395 | -0.254 | 9.671 | 0.151 |
| -11.850 | 62.612 | -0.271 | 9.611 | 0.135 |
| -12.850 | 68.802 | -0.292 | 9.496 | 0.119 |
| -13.250 | 71.275 | -0.302 | 9.438 | 0.113 |
| -13.900 | 75.294 | -0.318 | 9.332 | 0.103 |
| -14.900 | 81.482 | -0.347 | 9.147 | 0.087 |
| -15.900 | 87.688 | -0.380 | 8.941 | 0.072 |
| -16.300 | 90.177 | -0.394 | 8.854 | 0.065 |
| -16.300 | 90.177 | -0.394 | 8.854 | 0.065 |
| -16.850 | 94.494 | -0.550 | 8.733 | 0.052 |
| -17.400 | 98.939 | -0.720 | 8.608 | 0.037 |
| -17.400 | 98.939 | -0.720 | 8.608 | 0.037 |
| -18.200 | 111.837 | -1.557 | 8.423 | 0.021 |
| -19.000 | 124.786 | -2.400 | 8.236 | 0.006 |
| -19.000 | 124.786 | -2.400 | 8.236 | 0.006 |
| -20.000 | 134.735 | -2.400 | 8.000 | 0.003 |
| -21.000 | 144.684 | -2.400 | 7.764 | 0.000 |

### 3.25 Results for Vertical 25 (X = -6.35 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.071 | 7.227 | -0.071 | 7.226 | 0.475 |
| -0.171 | 8.907 | -0.158 | 7.434 | 0.452 |
| -0.271 | 10.452 | -0.243 | 7.530 | 0.438 |
| -0.371 | 11.814 | -0.326 | 7.463 | 0.428 |
| -0.471 | 12.734 | -0.406 | 6.972 | 0.420 |
| -0.571 | 13.254 | -0.485 | 6.098 | 0.414 |
| -0.671 | 13.831 | -0.563 | 5.294 | 0.408 |
| -0.771 | 14.403 | -0.640 | 4.493 | 0.405 |
| -0.783 | 14.467 | -0.649 | 4.399 | 0.404 |
| -0.871 | 14.943 | -0.627 | 4.535 | 0.401 |
| -0.971 | 15.448 | -0.603 | 4.661 | 0.399 |
| -1.071 | 15.924 | -0.578 | 4.763 | 0.396 |
| -1.286 | 16.882 | -0.523 | 4.933 | 0.391 |
| -1.800 | 19.094 | -0.384 | 5.322 | 0.383 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.400 | 21.647 | -0.213 | 5.845 | 0.377 |
| -2.500 | 22.063 | -0.183 | 5.933 | 0.377 |
| -2.500 | 22.063 | -0.183 | 5.933 | 0.377 |
| -3.150 | 24.181 | -0.099 | 6.479 | 0.362 |
| -3.750 | 26.152 | -0.028 | 6.934 | 0.349 |
| -4.400 | 28.325 | 0.040 | 7.366 | 0.335 |
| -5.000 | 30.398 | 0.090 | 7.715 | 0.323 |
| -5.000 | 30.398 | 0.090 | 7.715 | 0.323 |
| -5.950 | 31.348 | 0.111 | 8.192 | 0.287 |
| -6.900 | 32.665 | 0.086 | 8.587 | 0.249 |
| -6.900 | 32.666 | 0.086 | 8.587 | 0.249 |
| -7.650 | 37.705 | 0.005 | 8.837 | 0.234 |
| -8.400 | 43.065 | -0.114 | 9.031 | 0.217 |
| -8.400 | 43.065 | -0.114 | 9.031 | 0.217 |
| -8.700 | 43.701 | -0.151 | 9.093 | 0.200 |
| -9.000 | 44.387 | -0.193 | 9.146 | 0.182 |
| -9.000 | 44.387 | -0.193 | 9.146 | 0.182 |
| -9.400 | 46.932 | -0.197 | 9.203 | 0.176 |
| -9.800 | 49.466 | -0.202 | 9.245 | 0.170 |
| -9.800 | 49.466 | -0.202 | 9.245 | 0.170 |
| -10.000 | 50.724 | -0.220 | 9.261 | 0.165 |
| -10.200 | 51.988 | -0.239 | 9.274 | 0.160 |
| -10.200 | 51.988 | -0.239 | 9.274 | 0.160 |
| -10.850 | 56.071 | -0.248 | 9.293 | 0.150 |
| -11.850 | 62.318 | -0.265 | 9.267 | 0.134 |
| -12.850 | 68.539 | -0.286 | 9.186 | 0.118 |
| -13.250 | 71.023 | -0.295 | 9.141 | 0.112 |
| -13.900 | 75.059 | -0.311 | 9.056 | 0.102 |
| -14.900 | 81.272 | -0.339 | 8.900 | 0.086 |
| -15.900 | 87.499 | -0.372 | 8.721 | 0.071 |
| -16.300 | 89.996 | -0.386 | 8.645 | 0.065 |
| -16.300 | 89.996 | -0.386 | 8.645 | 0.065 |
| -16.850 | 94.295 | -0.538 | 8.537 | 0.051 |
| -17.400 | 98.718 | -0.704 | 8.425 | 0.036 |
| -17.400 | 98.718 | -0.704 | 8.425 | 0.036 |
| -18.200 | 111.710 | -1.549 | 8.257 | 0.021 |
| -19.000 | 124.752 | -2.400 | 8.086 | 0.006 |
| -19.000 | 124.752 | -2.400 | 8.086 | 0.006 |
| -20.000 | 134.720 | -2.400 | 7.868 | 0.003 |
| -21.000 | 144.686 | -2.400 | 7.649 | 0.000 |

### 3.26 Results for Vertical 26 (X = -5.99 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.062 | 8.332 | -0.062 | 8.331 | 0.468 |
| -0.162 | 9.827 | -0.148 | 8.367 | 0.445 |
| -0.262 | 11.255 | -0.232 | 8.356 | 0.430 |
| -0.362 | 12.646 | -0.314 | 8.326 | 0.419 |
| -0.462 | 13.525 | -0.393 | 7.802 | 0.411 |
| -0.562 | 13.890 | -0.472 | 6.777 | 0.404 |
| -0.662 | 14.262 | -0.549 | 5.769 | 0.398 |
| -0.762 | 14.650 | -0.626 | 4.784 | 0.394 |
| -0.763 | 14.652 | -0.627 | 4.779 | 0.394 |
| -0.862 | 15.056 | -0.603 | 4.796 | 0.391 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.962 | 15.473 | -0.580 | 4.827 | 0.388 |
| -1.062 | 15.896 | -0.555 | 4.868 | 0.385 |
| -1.281 | 16.821 | -0.501 | 4.972 | 0.380 |
| -1.800 | 18.983 | -0.366 | 5.246 | 0.372 |
| -2.400 | 21.453 | -0.201 | 5.625 | 0.367 |
| -2.500 | 21.860 | -0.172 | 5.693 | 0.366 |
| -2.500 | 21.860 | -0.172 | 5.693 | 0.366 |
| -3.150 | 23.911 | -0.091 | 6.140 | 0.352 |
| -3.750 | 25.851 | -0.023 | 6.535 | 0.339 |
| -4.400 | 28.009 | 0.041 | 6.926 | 0.326 |
| -5.000 | 30.074 | 0.090 | 7.250 | 0.315 |
| -5.000 | 30.074 | 0.090 | 7.250 | 0.315 |
| -5.950 | 31.002 | 0.110 | 7.700 | 0.280 |
| -6.900 | 32.294 | 0.086 | 8.081 | 0.244 |
| -6.900 | 32.295 | 0.086 | 8.081 | 0.244 |
| -7.650 | 37.304 | 0.008 | 8.331 | 0.229 |
| -8.400 | 42.633 | -0.108 | 8.533 | 0.212 |
| -8.400 | 42.633 | -0.108 | 8.533 | 0.212 |
| -8.700 | 43.262 | -0.143 | 8.600 | 0.196 |
| -9.000 | 43.942 | -0.184 | 8.659 | 0.179 |
| -9.000 | 43.942 | -0.184 | 8.659 | 0.179 |
| -9.400 | 46.495 | -0.188 | 8.726 | 0.173 |
| -9.800 | 49.039 | -0.193 | 8.780 | 0.167 |
| -9.800 | 49.039 | -0.193 | 8.780 | 0.167 |
| -10.000 | 50.298 | -0.211 | 8.802 | 0.162 |
| -10.200 | 51.563 | -0.229 | 8.821 | 0.157 |
| -10.200 | 51.563 | -0.229 | 8.821 | 0.157 |
| -10.850 | 55.666 | -0.238 | 8.862 | 0.147 |
| -11.850 | 61.946 | -0.255 | 8.872 | 0.132 |
| -12.850 | 68.199 | -0.275 | 8.827 | 0.117 |
| -13.250 | 70.696 | -0.284 | 8.796 | 0.110 |
| -13.900 | 74.752 | -0.300 | 8.733 | 0.101 |
| -14.900 | 80.994 | -0.327 | 8.610 | 0.085 |
| -15.900 | 87.247 | -0.359 | 8.462 | 0.070 |
| -16.300 | 89.754 | -0.373 | 8.397 | 0.064 |
| -16.300 | 89.754 | -0.373 | 8.397 | 0.064 |
| -16.850 | 94.041 | -0.523 | 8.304 | 0.051 |
| -17.400 | 98.450 | -0.686 | 8.206 | 0.036 |
| -17.400 | 98.450 | -0.686 | 8.206 | 0.036 |
| -18.200 | 111.555 | -1.540 | 8.059 | 0.021 |
| -19.000 | 124.708 | -2.400 | 7.906 | 0.006 |
| -19.000 | 124.708 | -2.400 | 7.906 | 0.006 |
| -20.000 | 134.698 | -2.400 | 7.709 | 0.003 |
| -21.000 | 144.684 | -2.400 | 7.509 | 0.000 |

### 3.27 Results for Vertical 27 (X = -4.57 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.027 | 9.616 | -0.027 | 9.615 | 0.448 |
| -0.127 | 11.091 | -0.112 | 9.641 | 0.423 |
| -0.227 | 12.503 | -0.194 | 9.622 | 0.407 |
| -0.327 | 13.898 | -0.276 | 9.603 | 0.395 |
| -0.427 | 14.592 | -0.355 | 8.898 | 0.386 |
| -0.527 | 14.978 | -0.433 | 7.899 | 0.378 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.627 | 15.356 | -0.511 | 6.898 | 0.372 |
| -0.684 | 15.567 | -0.555 | 6.325 | 0.370 |
| -0.727 | 15.726 | -0.545 | 6.315 | 0.368 |
| -0.827 | 16.089 | -0.521 | 6.287 | 0.363 |
| -0.927 | 16.447 | -0.498 | 6.256 | 0.360 |
| -1.027 | 16.800 | -0.474 | 6.222 | 0.356 |
| -1.264 | 17.623 | -0.417 | 6.140 | 0.349 |
| -1.800 | 19.474 | -0.285 | 5.969 | 0.338 |
| -2.400 | 21.574 | -0.133 | 5.845 | 0.332 |
| -2.500 | 21.927 | -0.107 | 5.833 | 0.331 |
| -2.500 | 21.927 | -0.107 | 5.833 | 0.331 |
| -3.150 | 23.584 | -0.035 | 5.797 | 0.316 |
| -3.750 | 25.245 | 0.024 | 5.825 | 0.304 |
| -4.400 | 27.183 | 0.078 | 5.898 | 0.293 |
| -5.000 | 29.102 | 0.119 | 5.995 | 0.282 |
| -5.000 | 29.102 | 0.119 | 5.995 | 0.282 |
| -5.950 | 29.812 | 0.133 | 6.183 | 0.253 |
| -6.900 | 30.928 | 0.109 | 6.398 | 0.221 |
| -6.900 | 30.928 | 0.109 | 6.398 | 0.221 |
| -7.650 | 35.802 | 0.036 | 6.572 | 0.209 |
| -8.400 | 41.005 | -0.072 | 6.740 | 0.194 |
| -8.400 | 41.005 | -0.072 | 6.740 | 0.194 |
| -8.700 | 41.602 | -0.104 | 6.804 | 0.179 |
| -9.000 | 42.249 | -0.142 | 6.865 | 0.164 |
| -9.000 | 42.249 | -0.142 | 6.865 | 0.164 |
| -9.400 | 44.806 | -0.146 | 6.942 | 0.159 |
| -9.800 | 47.362 | -0.150 | 7.013 | 0.154 |
| -9.800 | 47.362 | -0.150 | 7.013 | 0.154 |
| -10.000 | 48.618 | -0.166 | 7.047 | 0.150 |
| -10.200 | 49.880 | -0.183 | 7.078 | 0.146 |
| -10.200 | 49.880 | -0.183 | 7.078 | 0.146 |
| -10.850 | 54.024 | -0.192 | 7.169 | 0.137 |
| -11.850 | 60.387 | -0.207 | 7.273 | 0.124 |
| -12.850 | 66.735 | -0.226 | 7.334 | 0.110 |
| -13.250 | 69.271 | -0.234 | 7.348 | 0.104 |
| -13.900 | 73.392 | -0.249 | 7.357 | 0.095 |
| -14.900 | 79.730 | -0.275 | 7.344 | 0.081 |
| -15.900 | 86.074 | -0.304 | 7.302 | 0.067 |
| -16.300 | 88.615 | -0.317 | 7.279 | 0.061 |
| -16.300 | 88.615 | -0.317 | 7.279 | 0.061 |
| -16.850 | 92.869 | -0.458 | 7.240 | 0.048 |
| -17.400 | 97.236 | -0.611 | 7.196 | 0.034 |
| -17.400 | 97.236 | -0.611 | 7.196 | 0.034 |
| -18.200 | 110.784 | -1.503 | 7.121 | 0.020 |
| -19.000 | 124.375 | -2.400 | 7.037 | 0.005 |
| -19.000 | 124.375 | -2.400 | 7.037 | 0.005 |
| -20.000 | 134.448 | -2.400 | 6.921 | 0.003 |
| -21.000 | 144.511 | -2.400 | 6.794 | 0.000 |

### 3.28 Results for Vertical 28 (X = -3.64 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.016 | 9.674 | -0.016 | 9.673 | 0.434 |
| -0.116 | 11.152 | -0.101 | 9.699 | 0.409 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.216 | 12.568 | -0.184 | 9.681 | 0.394 |
| -0.316 | 13.975 | -0.265 | 9.670 | 0.382 |
| -0.416 | 14.392 | -0.345 | 8.684 | 0.372 |
| -0.516 | 14.796 | -0.424 | 7.696 | 0.365 |
| -0.616 | 15.191 | -0.502 | 6.704 | 0.359 |
| -0.632 | 15.257 | -0.515 | 6.538 | 0.358 |
| -0.716 | 15.581 | -0.497 | 6.527 | 0.354 |
| -0.816 | 15.965 | -0.474 | 6.512 | 0.350 |
| -0.916 | 16.343 | -0.452 | 6.494 | 0.345 |
| -1.016 | 16.718 | -0.429 | 6.474 | 0.342 |
| -1.258 | 17.606 | -0.372 | 6.417 | 0.334 |
| -1.800 | 19.527 | -0.243 | 6.253 | 0.322 |
| -2.400 | 21.592 | -0.096 | 6.041 | 0.315 |
| -2.500 | 21.934 | -0.072 | 6.005 | 0.314 |
| -2.500 | 21.934 | -0.072 | 6.005 | 0.314 |
| -3.150 | 23.443 | -0.003 | 5.788 | 0.298 |
| -3.750 | 24.951 | 0.052 | 5.625 | 0.286 |
| -4.400 | 26.735 | 0.102 | 5.503 | 0.274 |
| -5.000 | 28.532 | 0.139 | 5.440 | 0.264 |
| -5.000 | 28.532 | 0.139 | 5.440 | 0.264 |
| -5.950 | 29.066 | 0.150 | 5.430 | 0.236 |
| -6.900 | 30.039 | 0.127 | 5.506 | 0.207 |
| -6.900 | 30.039 | 0.127 | 5.506 | 0.207 |
| -7.650 | 34.808 | 0.056 | 5.606 | 0.196 |
| -8.400 | 39.912 | -0.046 | 5.727 | 0.183 |
| -8.400 | 39.912 | -0.046 | 5.727 | 0.183 |
| -8.700 | 40.480 | -0.077 | 5.779 | 0.169 |
| -9.000 | 41.098 | -0.113 | 5.831 | 0.155 |
| -9.000 | 41.098 | -0.113 | 5.831 | 0.155 |
| -9.400 | 43.645 | -0.117 | 5.901 | 0.150 |
| -9.800 | 46.195 | -0.121 | 5.970 | 0.146 |
| -9.800 | 46.195 | -0.121 | 5.970 | 0.146 |
| -10.000 | 47.442 | -0.136 | 6.004 | 0.142 |
| -10.200 | 48.696 | -0.153 | 6.037 | 0.138 |
| -10.200 | 48.696 | -0.153 | 6.037 | 0.138 |
| -10.850 | 52.846 | -0.161 | 6.139 | 0.130 |
| -11.850 | 59.232 | -0.175 | 6.276 | 0.118 |
| -12.850 | 65.616 | -0.193 | 6.382 | 0.105 |
| -13.250 | 68.169 | -0.201 | 6.416 | 0.100 |
| -13.900 | 72.318 | -0.215 | 6.460 | 0.092 |
| -14.900 | 78.702 | -0.239 | 6.503 | 0.078 |
| -15.900 | 85.092 | -0.268 | 6.518 | 0.065 |
| -16.300 | 87.651 | -0.280 | 6.517 | 0.059 |
| -16.300 | 87.651 | -0.280 | 6.517 | 0.059 |
| -16.850 | 91.880 | -0.415 | 6.509 | 0.046 |
| -17.400 | 96.215 | -0.562 | 6.495 | 0.033 |
| -17.400 | 96.216 | -0.562 | 6.495 | 0.033 |
| -18.200 | 110.048 | -1.478 | 6.463 | 0.019 |
| -19.000 | 123.922 | -2.400 | 6.420 | 0.005 |
| -19.000 | 123.922 | -2.400 | 6.420 | 0.005 |
| -20.000 | 134.045 | -2.400 | 6.352 | 0.002 |
| -21.000 | 144.154 | -2.400 | 6.271 | 0.000 |

### 3.29 Results for Vertical 29 (X = -3.35 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.012 | 9.604 | -0.012 | 9.603 | 0.430 |
| -0.112 | 11.169 | -0.097 | 9.715 | 0.405 |
| -0.212 | 12.591 | -0.180 | 9.701 | 0.389 |
| -0.312 | 13.911 | -0.262 | 9.602 | 0.378 |
| -0.412 | 14.327 | -0.342 | 8.613 | 0.368 |
| -0.512 | 14.731 | -0.421 | 7.623 | 0.361 |
| -0.612 | 15.129 | -0.500 | 6.631 | 0.355 |
| -0.616 | 15.145 | -0.503 | 6.589 | 0.354 |
| -0.712 | 15.520 | -0.482 | 6.576 | 0.350 |
| -0.812 | 15.907 | -0.460 | 6.561 | 0.345 |
| -0.912 | 16.289 | -0.438 | 6.543 | 0.341 |
| -1.012 | 16.666 | -0.415 | 6.523 | 0.337 |
| -1.256 | 17.568 | -0.359 | 6.465 | 0.329 |
| -1.800 | 19.503 | -0.230 | 6.294 | 0.317 |
| -2.400 | 21.563 | -0.086 | 6.057 | 0.309 |
| -2.500 | 21.902 | -0.062 | 6.016 | 0.309 |
| -2.500 | 21.902 | -0.062 | 6.016 | 0.309 |
| -3.150 | 23.377 | 0.006 | 5.753 | 0.293 |
| -3.750 | 24.850 | 0.060 | 5.544 | 0.281 |
| -4.400 | 26.596 | 0.109 | 5.373 | 0.269 |
| -5.000 | 28.362 | 0.144 | 5.269 | 0.259 |
| -5.000 | 28.362 | 0.144 | 5.269 | 0.259 |
| -5.950 | 28.849 | 0.156 | 5.207 | 0.232 |
| -6.900 | 29.783 | 0.132 | 5.245 | 0.203 |
| -6.900 | 29.783 | 0.132 | 5.245 | 0.203 |
| -7.650 | 34.521 | 0.062 | 5.325 | 0.193 |
| -8.400 | 39.595 | -0.039 | 5.432 | 0.179 |
| -8.400 | 39.595 | -0.039 | 5.432 | 0.179 |
| -8.700 | 40.153 | -0.069 | 5.480 | 0.166 |
| -9.000 | 40.762 | -0.105 | 5.529 | 0.152 |
| -9.000 | 40.762 | -0.105 | 5.529 | 0.152 |
| -9.400 | 43.305 | -0.108 | 5.596 | 0.148 |
| -9.800 | 45.853 | -0.112 | 5.664 | 0.144 |
| -9.800 | 45.853 | -0.112 | 5.664 | 0.144 |
| -10.000 | 47.097 | -0.127 | 5.698 | 0.140 |
| -10.200 | 48.348 | -0.143 | 5.731 | 0.136 |
| -10.200 | 48.349 | -0.143 | 5.731 | 0.136 |
| -10.850 | 52.498 | -0.151 | 5.835 | 0.128 |
| -11.850 | 58.888 | -0.165 | 5.979 | 0.116 |
| -12.850 | 65.281 | -0.183 | 6.096 | 0.104 |
| -13.250 | 67.838 | -0.191 | 6.135 | 0.099 |
| -13.900 | 71.994 | -0.204 | 6.189 | 0.090 |
| -14.900 | 78.390 | -0.229 | 6.247 | 0.077 |
| -15.900 | 84.792 | -0.257 | 6.278 | 0.064 |
| -16.300 | 87.356 | -0.269 | 6.283 | 0.059 |
| -16.300 | 87.356 | -0.269 | 6.283 | 0.059 |
| -16.850 | 91.575 | -0.402 | 6.284 | 0.046 |
| -17.400 | 95.900 | -0.547 | 6.278 | 0.032 |
| -17.400 | 95.900 | -0.547 | 6.278 | 0.032 |
| -18.200 | 109.820 | -1.471 | 6.258 | 0.018 |
| -19.000 | 123.780 | -2.400 | 6.227 | 0.005 |
| -19.000 | 123.781 | -2.400 | 6.227 | 0.005 |
| -20.000 | 133.918 | -2.400 | 6.173 | 0.002 |
| -21.000 | 144.042 | -2.400 | 6.106 | 0.000 |

### 3.30 Results for Vertical 30 (X = -2.13 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.046 | 9.747 | -0.046 | 9.746 | 0.413 |
| -0.146 | 11.326 | -0.132 | 9.868 | 0.388 |
| -0.246 | 12.744 | -0.215 | 9.846 | 0.372 |
| -0.346 | 13.165 | -0.297 | 8.841 | 0.360 |
| -0.446 | 13.567 | -0.379 | 7.827 | 0.351 |
| -0.546 | 13.960 | -0.459 | 6.810 | 0.344 |
| -0.548 | 13.968 | -0.461 | 6.787 | 0.343 |
| -0.646 | 14.346 | -0.442 | 6.749 | 0.338 |
| -0.746 | 14.728 | -0.422 | 6.707 | 0.332 |
| -0.846 | 15.103 | -0.402 | 6.662 | 0.327 |
| -0.946 | 15.473 | -0.381 | 6.615 | 0.323 |
| -1.046 | 15.838 | -0.360 | 6.564 | 0.319 |
| -1.273 | 16.649 | -0.312 | 6.441 | 0.311 |
| -1.800 | 18.463 | -0.198 | 6.111 | 0.297 |
| -2.400 | 20.466 | -0.066 | 5.697 | 0.289 |
| -2.500 | 20.799 | -0.044 | 5.628 | 0.288 |
| -2.500 | 20.799 | -0.044 | 5.628 | 0.288 |
| -3.150 | 22.163 | 0.018 | 5.197 | 0.272 |
| -3.750 | 23.550 | 0.067 | 4.854 | 0.260 |
| -4.400 | 25.217 | 0.111 | 4.559 | 0.249 |
| -5.000 | 26.917 | 0.143 | 4.359 | 0.240 |
| -5.000 | 26.917 | 0.143 | 4.359 | 0.240 |
| -5.950 | 27.287 | 0.154 | 4.173 | 0.214 |
| -6.900 | 28.098 | 0.133 | 4.119 | 0.189 |
| -6.900 | 28.098 | 0.133 | 4.119 | 0.189 |
| -7.650 | 32.702 | 0.071 | 4.145 | 0.179 |
| -8.400 | 37.625 | -0.019 | 4.216 | 0.167 |
| -8.400 | 37.625 | -0.019 | 4.216 | 0.167 |
| -8.700 | 38.140 | -0.046 | 4.253 | 0.154 |
| -9.000 | 38.702 | -0.077 | 4.294 | 0.141 |
| -9.000 | 38.702 | -0.077 | 4.294 | 0.141 |
| -9.400 | 41.232 | -0.081 | 4.354 | 0.138 |
| -9.800 | 43.770 | -0.084 | 4.418 | 0.134 |
| -9.800 | 43.770 | -0.084 | 4.418 | 0.134 |
| -10.000 | 44.997 | -0.098 | 4.450 | 0.131 |
| -10.200 | 46.233 | -0.112 | 4.484 | 0.127 |
| -10.200 | 46.233 | -0.112 | 4.484 | 0.127 |
| -10.850 | 50.379 | -0.119 | 4.594 | 0.120 |
| -11.850 | 56.777 | -0.132 | 4.762 | 0.110 |
| -12.850 | 63.189 | -0.148 | 4.918 | 0.098 |
| -13.250 | 65.757 | -0.155 | 4.975 | 0.094 |
| -13.900 | 69.933 | -0.168 | 5.060 | 0.086 |
| -14.900 | 76.363 | -0.190 | 5.172 | 0.074 |
| -15.900 | 82.801 | -0.216 | 5.260 | 0.061 |
| -16.300 | 85.379 | -0.227 | 5.288 | 0.056 |
| -16.300 | 85.379 | -0.227 | 5.288 | 0.056 |
| -16.850 | 89.531 | -0.350 | 5.322 | 0.044 |
| -17.400 | 93.781 | -0.483 | 5.348 | 0.030 |
| -17.400 | 93.782 | -0.483 | 5.348 | 0.030 |
| -18.200 | 108.060 | -1.439 | 5.375 | 0.017 |
| -19.000 | 122.377 | -2.400 | 5.389 | 0.004 |
| -19.000 | 122.377 | -2.400 | 5.389 | 0.004 |
| -20.000 | 132.571 | -2.400 | 5.391 | 0.002 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -21.000 | 142.749 | -2.400 | 5.376 | 0.000 |

### 3.31 Results for Vertical 31 (X = -0.74 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.083 | 8.660 | -0.083 | 8.659 | 0.377 |
| -0.183 | 10.191 | -0.171 | 8.706 | 0.353 |
| -0.283 | 10.699 | -0.257 | 7.745 | 0.338 |
| -0.383 | 11.118 | -0.343 | 6.705 | 0.327 |
| -0.471 | 11.463 | -0.418 | 5.765 | 0.320 |
| -0.483 | 11.507 | -0.417 | 5.755 | 0.320 |
| -0.583 | 11.879 | -0.401 | 5.659 | 0.313 |
| -0.683 | 12.240 | -0.386 | 5.553 | 0.307 |
| -0.783 | 12.591 | -0.370 | 5.442 | 0.302 |
| -0.883 | 12.935 | -0.353 | 5.326 | 0.297 |
| -0.983 | 13.276 | -0.337 | 5.208 | 0.293 |
| -1.083 | 13.614 | -0.320 | 5.091 | 0.289 |
| -1.291 | 14.318 | -0.285 | 4.852 | 0.283 |
| -1.800 | 16.073 | -0.195 | 4.341 | 0.272 |
| -2.400 | 18.229 | -0.083 | 3.880 | 0.266 |
| -2.500 | 18.595 | -0.064 | 3.816 | 0.265 |
| -2.500 | 18.595 | -0.064 | 3.816 | 0.265 |
| -3.150 | 20.116 | -0.009 | 3.470 | 0.252 |
| -3.750 | 21.656 | 0.036 | 3.238 | 0.241 |
| -4.400 | 23.457 | 0.078 | 3.057 | 0.232 |
| -5.000 | 25.241 | 0.110 | 2.944 | 0.223 |
| -5.000 | 25.241 | 0.110 | 2.944 | 0.223 |
| -5.950 | 25.673 | 0.124 | 2.854 | 0.200 |
| -6.900 | 26.465 | 0.110 | 2.855 | 0.176 |
| -6.900 | 26.465 | 0.110 | 2.855 | 0.176 |
| -7.650 | 30.951 | 0.063 | 2.906 | 0.167 |
| -8.400 | 35.705 | -0.008 | 2.992 | 0.156 |
| -8.400 | 35.705 | -0.008 | 2.992 | 0.156 |
| -8.700 | 36.172 | -0.030 | 3.035 | 0.144 |
| -9.000 | 36.682 | -0.056 | 3.080 | 0.132 |
| -9.000 | 36.682 | -0.056 | 3.080 | 0.132 |
| -9.400 | 39.212 | -0.058 | 3.146 | 0.129 |
| -9.800 | 41.749 | -0.061 | 3.216 | 0.126 |
| -9.800 | 41.749 | -0.061 | 3.216 | 0.126 |
| -10.000 | 42.957 | -0.073 | 3.253 | 0.123 |
| -10.200 | 44.172 | -0.085 | 3.290 | 0.119 |
| -10.200 | 44.173 | -0.085 | 3.290 | 0.119 |
| -10.850 | 48.319 | -0.091 | 3.413 | 0.114 |
| -11.850 | 54.721 | -0.102 | 3.607 | 0.104 |
| -12.850 | 61.143 | -0.115 | 3.795 | 0.093 |
| -13.250 | 63.716 | -0.122 | 3.868 | 0.089 |
| -13.900 | 67.901 | -0.133 | 3.980 | 0.082 |
| -14.900 | 74.349 | -0.152 | 4.138 | 0.070 |
| -15.900 | 80.808 | -0.175 | 4.276 | 0.058 |
| -16.300 | 83.394 | -0.185 | 4.325 | 0.054 |
| -16.300 | 83.394 | -0.185 | 4.325 | 0.054 |
| -16.850 | 87.439 | -0.294 | 4.387 | 0.042 |
| -17.400 | 91.574 | -0.413 | 4.443 | 0.029 |
| -17.400 | 91.574 | -0.413 | 4.443 | 0.029 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -18.200 | 106.244 | -1.404 | 4.513 | 0.016 |
| -19.000 | 120.950 | -2.400 | 4.570 | 0.004 |
| -19.000 | 120.950 | -2.400 | 4.570 | 0.004 |
| -20.000 | 131.198 | -2.400 | 4.624 | 0.002 |
| -21.000 | 141.428 | -2.400 | 4.660 | 0.000 |

### 3.32 Results for Vertical 32 (X = -0.38 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.092 | 7.644 | -0.092 | 7.643 | 0.360 |
| -0.192 | 8.447 | -0.182 | 6.943 | 0.337 |
| -0.292 | 9.235 | -0.271 | 6.239 | 0.324 |
| -0.392 | 9.804 | -0.359 | 5.330 | 0.314 |
| -0.451 | 10.080 | -0.410 | 4.736 | 0.310 |
| -0.492 | 10.255 | -0.405 | 4.710 | 0.307 |
| -0.592 | 10.642 | -0.391 | 4.611 | 0.301 |
| -0.692 | 11.001 | -0.378 | 4.487 | 0.296 |
| -0.792 | 11.351 | -0.363 | 4.355 | 0.292 |
| -0.892 | 11.699 | -0.349 | 4.225 | 0.287 |
| -0.992 | 12.050 | -0.334 | 4.101 | 0.284 |
| -1.092 | 12.407 | -0.320 | 3.986 | 0.280 |
| -1.296 | 13.154 | -0.288 | 3.776 | 0.275 |
| -1.800 | 15.082 | -0.206 | 3.390 | 0.266 |
| -2.400 | 17.453 | -0.100 | 3.088 | 0.262 |
| -2.500 | 17.850 | -0.081 | 3.049 | 0.261 |
| -2.500 | 17.850 | -0.081 | 3.049 | 0.261 |
| -3.150 | 19.522 | -0.028 | 2.842 | 0.249 |
| -3.750 | 21.161 | 0.017 | 2.708 | 0.239 |
| -4.400 | 23.033 | 0.060 | 2.607 | 0.229 |
| -5.000 | 24.858 | 0.094 | 2.549 | 0.221 |
| -5.000 | 24.858 | 0.094 | 2.549 | 0.221 |
| -5.950 | 25.329 | 0.110 | 2.520 | 0.198 |
| -6.900 | 26.128 | 0.099 | 2.558 | 0.174 |
| -6.900 | 26.129 | 0.099 | 2.558 | 0.174 |
| -7.650 | 30.582 | 0.057 | 2.628 | 0.165 |
| -8.400 | 35.286 | -0.008 | 2.727 | 0.154 |
| -8.400 | 35.286 | -0.008 | 2.727 | 0.154 |
| -8.700 | 35.741 | -0.028 | 2.774 | 0.143 |
| -9.000 | 36.237 | -0.052 | 2.823 | 0.131 |
| -9.000 | 36.237 | -0.052 | 2.823 | 0.131 |
| -9.400 | 38.769 | -0.055 | 2.893 | 0.128 |
| -9.800 | 41.308 | -0.057 | 2.967 | 0.125 |
| -9.800 | 41.308 | -0.057 | 2.967 | 0.125 |
| -10.000 | 42.510 | -0.068 | 3.005 | 0.121 |
| -10.200 | 43.720 | -0.079 | 3.043 | 0.118 |
| -10.200 | 43.720 | -0.079 | 3.043 | 0.118 |
| -10.850 | 47.868 | -0.085 | 3.172 | 0.112 |
| -11.850 | 54.271 | -0.095 | 3.373 | 0.103 |
| -12.850 | 60.693 | -0.108 | 3.569 | 0.093 |
| -13.250 | 63.267 | -0.114 | 3.645 | 0.088 |
| -13.900 | 67.453 | -0.125 | 3.763 | 0.081 |
| -14.900 | 73.903 | -0.144 | 3.930 | 0.070 |
| -15.900 | 80.362 | -0.165 | 4.079 | 0.058 |
| -16.300 | 82.949 | -0.175 | 4.133 | 0.053 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -16.300 | 82.950 | -0.175 | 4.133 | 0.053 |
| -16.850 | 86.962 | -0.280 | 4.201 | 0.041 |
| -17.400 | 91.061 | -0.395 | 4.263 | 0.028 |
| -17.400 | 91.061 | -0.395 | 4.263 | 0.028 |
| -18.200 | 105.830 | -1.395 | 4.342 | 0.016 |
| -19.000 | 120.633 | -2.400 | 4.409 | 0.004 |
| -19.000 | 120.633 | -2.400 | 4.409 | 0.004 |
| -20.000 | 130.894 | -2.400 | 4.475 | 0.002 |
| -21.000 | 141.135 | -2.400 | 4.523 | 0.000 |

### 3.33 Results for Vertical 33 (X = -0.35 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.096 | 6.732 | -0.096 | 6.731 | 0.358 |
| -0.196 | 8.451 | -0.186 | 6.941 | 0.336 |
| -0.296 | 9.064 | -0.275 | 6.062 | 0.323 |
| -0.396 | 9.609 | -0.363 | 5.126 | 0.313 |
| -0.449 | 9.861 | -0.410 | 4.585 | 0.309 |
| -0.496 | 10.060 | -0.404 | 4.557 | 0.306 |
| -0.596 | 10.456 | -0.391 | 4.463 | 0.301 |
| -0.696 | 10.823 | -0.377 | 4.344 | 0.295 |
| -0.796 | 11.180 | -0.364 | 4.218 | 0.291 |
| -0.896 | 11.536 | -0.349 | 4.093 | 0.287 |
| -0.996 | 11.894 | -0.335 | 3.975 | 0.283 |
| -1.096 | 12.258 | -0.320 | 3.864 | 0.280 |
| -1.298 | 13.010 | -0.290 | 3.666 | 0.274 |
| -1.800 | 14.958 | -0.209 | 3.300 | 0.266 |
| -2.400 | 17.353 | -0.103 | 3.017 | 0.261 |
| -2.500 | 17.752 | -0.084 | 2.980 | 0.261 |
| -2.500 | 17.752 | -0.084 | 2.980 | 0.261 |
| -3.150 | 19.439 | -0.031 | 2.787 | 0.248 |
| -3.750 | 21.086 | 0.014 | 2.661 | 0.239 |
| -4.400 | 22.964 | 0.057 | 2.568 | 0.229 |
| -5.000 | 24.792 | 0.091 | 2.515 | 0.221 |
| -5.000 | 24.792 | 0.091 | 2.515 | 0.221 |
| -5.950 | 25.265 | 0.107 | 2.491 | 0.198 |
| -6.900 | 26.065 | 0.097 | 2.532 | 0.174 |
| -6.900 | 26.065 | 0.097 | 2.532 | 0.174 |
| -7.650 | 30.514 | 0.056 | 2.604 | 0.165 |
| -8.400 | 35.212 | -0.008 | 2.704 | 0.154 |
| -8.400 | 35.212 | -0.008 | 2.704 | 0.154 |
| -8.700 | 35.664 | -0.028 | 2.751 | 0.143 |
| -9.000 | 36.159 | -0.052 | 2.801 | 0.131 |
| -9.000 | 36.159 | -0.052 | 2.801 | 0.131 |
| -9.400 | 38.691 | -0.055 | 2.871 | 0.128 |
| -9.800 | 41.230 | -0.058 | 2.945 | 0.125 |
| -9.800 | 41.230 | -0.058 | 2.945 | 0.125 |
| -10.000 | 42.432 | -0.068 | 2.983 | 0.121 |
| -10.200 | 43.641 | -0.079 | 3.022 | 0.118 |
| -10.200 | 43.641 | -0.079 | 3.022 | 0.118 |
| -10.850 | 47.789 | -0.085 | 3.151 | 0.112 |
| -11.850 | 54.191 | -0.095 | 3.352 | 0.103 |
| -12.850 | 60.614 | -0.108 | 3.549 | 0.093 |
| -13.250 | 63.187 | -0.114 | 3.625 | 0.088 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -13.900 | 67.374 | -0.125 | 3.744 | 0.081 |
| -14.900 | 73.823 | -0.143 | 3.912 | 0.070 |
| -15.900 | 80.283 | -0.165 | 4.061 | 0.058 |
| -16.300 | 82.869 | -0.174 | 4.115 | 0.053 |
| -16.300 | 82.870 | -0.174 | 4.115 | 0.053 |
| -16.850 | 86.878 | -0.279 | 4.184 | 0.041 |
| -17.400 | 90.973 | -0.393 | 4.247 | 0.028 |
| -17.400 | 90.973 | -0.393 | 4.247 | 0.028 |
| -18.200 | 105.749 | -1.394 | 4.327 | 0.016 |
| -19.000 | 120.560 | -2.400 | 4.394 | 0.004 |
| -19.000 | 120.560 | -2.400 | 4.394 | 0.004 |
| -20.000 | 130.821 | -2.400 | 4.461 | 0.002 |
| -21.000 | 141.064 | -2.400 | 4.510 | 0.000 |

### 3.34 Results for Vertical 34 (X = 0.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.139 | 4.592 | -0.139 | 4.591 | 0.333 |
| -0.239 | 5.538 | -0.233 | 3.998 | 0.314 |
| -0.339 | 6.145 | -0.325 | 3.081 | 0.304 |
| -0.430 | 6.659 | -0.408 | 2.223 | 0.298 |
| -0.439 | 6.711 | -0.407 | 2.225 | 0.298 |
| -0.539 | 7.251 | -0.398 | 2.238 | 0.293 |
| -0.639 | 7.776 | -0.388 | 2.241 | 0.289 |
| -0.739 | 8.290 | -0.378 | 2.239 | 0.285 |
| -0.839 | 8.796 | -0.367 | 2.233 | 0.281 |
| -0.939 | 9.296 | -0.355 | 2.225 | 0.279 |
| -1.039 | 9.789 | -0.343 | 2.216 | 0.276 |
| -1.139 | 10.279 | -0.331 | 2.208 | 0.274 |
| -1.320 | 11.151 | -0.308 | 2.194 | 0.270 |
| -1.900 | 13.881 | -0.223 | 2.164 | 0.263 |
| -2.400 | 16.136 | -0.139 | 2.149 | 0.261 |
| -2.500 | 16.576 | -0.121 | 2.146 | 0.261 |
| -2.500 | 16.576 | -0.121 | 2.146 | 0.261 |
| -3.150 | 18.449 | -0.069 | 2.132 | 0.249 |
| -3.750 | 20.205 | -0.023 | 2.121 | 0.239 |
| -4.400 | 22.156 | 0.022 | 2.118 | 0.230 |
| -5.000 | 24.018 | 0.059 | 2.126 | 0.221 |
| -5.000 | 24.018 | 0.059 | 2.126 | 0.221 |
| -5.950 | 24.524 | 0.079 | 2.168 | 0.197 |
| -6.900 | 25.320 | 0.073 | 2.251 | 0.173 |
| -6.900 | 25.320 | 0.073 | 2.251 | 0.173 |
| -7.650 | 29.717 | 0.039 | 2.345 | 0.164 |
| -8.400 | 34.341 | -0.016 | 2.461 | 0.153 |
| -8.400 | 34.341 | -0.016 | 2.461 | 0.153 |
| -8.700 | 34.774 | -0.034 | 2.512 | 0.142 |
| -9.000 | 35.247 | -0.055 | 2.566 | 0.130 |
| -9.000 | 35.247 | -0.055 | 2.566 | 0.130 |
| -9.400 | 37.782 | -0.057 | 2.641 | 0.127 |
| -9.800 | 40.322 | -0.060 | 2.719 | 0.124 |
| -9.800 | 40.322 | -0.060 | 2.719 | 0.124 |
| -10.000 | 41.516 | -0.069 | 2.759 | 0.121 |
| -10.200 | 42.717 | -0.080 | 2.799 | 0.117 |
| -10.200 | 42.717 | -0.080 | 2.799 | 0.117 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -10.850 | 46.865 | -0.085 | 2.933 | 0.112 |
| -11.850 | 53.267 | -0.094 | 3.142 | 0.102 |
| -12.850 | 59.688 | -0.106 | 3.347 | 0.092 |
| -13.250 | 62.260 | -0.112 | 3.426 | 0.088 |
| -13.900 | 66.445 | -0.122 | 3.549 | 0.081 |
| -14.900 | 72.892 | -0.139 | 3.727 | 0.069 |
| -15.900 | 79.349 | -0.160 | 3.885 | 0.058 |
| -16.300 | 81.935 | -0.169 | 3.943 | 0.053 |
| -16.300 | 81.935 | -0.169 | 3.943 | 0.053 |
| -16.850 | 85.897 | -0.268 | 4.018 | 0.041 |
| -17.400 | 89.942 | -0.376 | 4.086 | 0.028 |
| -17.400 | 89.942 | -0.376 | 4.086 | 0.028 |
| -18.200 | 104.810 | -1.386 | 4.175 | 0.016 |
| -19.000 | 119.712 | -2.400 | 4.251 | 0.004 |
| -19.000 | 119.712 | -2.400 | 4.251 | 0.004 |
| -20.000 | 129.984 | -2.400 | 4.329 | 0.002 |
| -21.000 | 140.238 | -2.400 | 4.389 | 0.000 |

### 3.35 Results for Vertical 35 (X = 0.26 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.172 | 2.061 | -0.172 | 2.060 | 0.306 |
| -0.272 | 2.932 | -0.269 | 1.365 | 0.293 |
| -0.372 | 3.671 | -0.364 | 0.551 | 0.287 |
| -0.430 | 4.095 | -0.418 | 0.081 | 0.285 |
| -0.472 | 4.397 | -0.416 | 0.149 | 0.284 |
| -0.572 | 5.100 | -0.409 | 0.300 | 0.281 |
| -0.672 | 5.783 | -0.401 | 0.438 | 0.279 |
| -0.772 | 6.448 | -0.393 | 0.565 | 0.277 |
| -0.872 | 7.095 | -0.384 | 0.681 | 0.275 |
| -0.972 | 7.725 | -0.375 | 0.786 | 0.273 |
| -1.072 | 8.338 | -0.364 | 0.880 | 0.271 |
| -1.172 | 8.935 | -0.354 | 0.964 | 0.270 |
| -1.336 | 9.884 | -0.334 | 1.085 | 0.268 |
| -1.900 | 12.913 | -0.258 | 1.375 | 0.263 |
| -2.400 | 15.369 | -0.176 | 1.534 | 0.261 |
| -2.500 | 15.839 | -0.159 | 1.559 | 0.261 |
| -2.500 | 15.839 | -0.159 | 1.559 | 0.261 |
| -3.150 | 17.855 | -0.107 | 1.683 | 0.250 |
| -3.750 | 19.692 | -0.061 | 1.761 | 0.240 |
| -4.400 | 21.696 | -0.014 | 1.826 | 0.231 |
| -5.000 | 23.584 | 0.025 | 1.881 | 0.222 |
| -5.000 | 23.584 | 0.025 | 1.881 | 0.222 |
| -5.950 | 24.116 | 0.047 | 1.974 | 0.198 |
| -6.900 | 24.914 | 0.045 | 2.090 | 0.173 |
| -6.900 | 24.914 | 0.045 | 2.090 | 0.173 |
| -7.650 | 29.279 | 0.016 | 2.201 | 0.164 |
| -8.400 | 33.855 | -0.033 | 2.329 | 0.153 |
| -8.400 | 33.855 | -0.033 | 2.329 | 0.153 |
| -8.700 | 34.277 | -0.049 | 2.384 | 0.142 |
| -9.000 | 34.737 | -0.069 | 2.441 | 0.130 |
| -9.000 | 34.737 | -0.069 | 2.441 | 0.130 |
| -9.400 | 37.273 | -0.071 | 2.520 | 0.127 |
| -9.800 | 39.815 | -0.073 | 2.601 | 0.124 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -9.800 | 39.815 | -0.073 | 2.601 | 0.124 |
| -10.000 | 41.005 | -0.082 | 2.643 | 0.121 |
| -10.200 | 42.201 | -0.092 | 2.685 | 0.117 |
| -10.200 | 42.201 | -0.092 | 2.685 | 0.117 |
| -10.850 | 46.350 | -0.097 | 2.823 | 0.112 |
| -11.850 | 52.752 | -0.106 | 3.037 | 0.102 |
| -12.850 | 59.172 | -0.117 | 3.247 | 0.092 |
| -13.250 | 61.744 | -0.123 | 3.328 | 0.088 |
| -13.900 | 65.928 | -0.132 | 3.456 | 0.081 |
| -14.900 | 72.374 | -0.149 | 3.639 | 0.069 |
| -15.900 | 78.830 | -0.168 | 3.804 | 0.057 |
| -16.300 | 81.416 | -0.177 | 3.865 | 0.053 |
| -16.300 | 81.416 | -0.177 | 3.865 | 0.053 |
| -16.850 | 85.348 | -0.273 | 3.944 | 0.041 |
| -17.400 | 89.362 | -0.378 | 4.016 | 0.028 |
| -17.400 | 89.362 | -0.378 | 4.016 | 0.028 |
| -18.200 | 104.229 | -1.387 | 4.110 | 0.016 |
| -19.000 | 119.128 | -2.400 | 4.192 | 0.004 |
| -19.000 | 119.128 | -2.400 | 4.192 | 0.004 |
| -20.000 | 129.408 | -2.400 | 4.278 | 0.002 |
| -21.000 | 139.670 | -2.400 | 4.346 | 0.000 |

### 3.36 Results for Vertical 36 (X = 0.52 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.207 | 0.572 | -0.207 | 0.571 | 0.279 |
| -0.307 | 1.234 | -0.306 | -0.351 | 0.274 |
| -0.407 | 1.973 | -0.403 | -1.182 | 0.273 |
| -0.430 | 2.146 | -0.424 | -1.361 | 0.273 |
| -0.507 | 2.750 | -0.421 | -1.202 | 0.272 |
| -0.607 | 3.533 | -0.416 | -0.986 | 0.272 |
| -0.707 | 4.306 | -0.410 | -0.773 | 0.271 |
| -0.807 | 5.059 | -0.403 | -0.571 | 0.271 |
| -0.907 | 5.791 | -0.395 | -0.383 | 0.270 |
| -1.007 | 6.500 | -0.387 | -0.210 | 0.269 |
| -1.107 | 7.188 | -0.377 | -0.051 | 0.268 |
| -1.207 | 7.854 | -0.368 | 0.094 | 0.268 |
| -1.354 | 8.794 | -0.352 | 0.283 | 0.267 |
| -1.900 | 12.002 | -0.281 | 0.807 | 0.264 |
| -2.400 | 14.618 | -0.200 | 1.117 | 0.263 |
| -2.500 | 15.112 | -0.182 | 1.167 | 0.262 |
| -2.500 | 15.112 | -0.182 | 1.167 | 0.262 |
| -3.150 | 17.252 | -0.130 | 1.418 | 0.251 |
| -3.750 | 19.161 | -0.083 | 1.579 | 0.242 |
| -4.400 | 21.212 | -0.034 | 1.710 | 0.232 |
| -5.000 | 23.124 | 0.007 | 1.810 | 0.224 |
| -5.000 | 23.124 | 0.007 | 1.810 | 0.224 |
| -5.950 | 23.684 | 0.031 | 1.955 | 0.199 |
| -6.900 | 24.489 | 0.031 | 2.104 | 0.174 |
| -6.900 | 24.490 | 0.031 | 2.104 | 0.174 |
| -7.650 | 28.835 | 0.006 | 2.233 | 0.165 |
| -8.400 | 33.382 | -0.038 | 2.373 | 0.153 |
| -8.400 | 33.382 | -0.038 | 2.373 | 0.153 |
| -8.700 | 33.796 | -0.053 | 2.432 | 0.142 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -9.000 | 34.249 | -0.072 | 2.492 | 0.130 |
| -9.000 | 34.249 | -0.072 | 2.492 | 0.130 |
| -9.400 | 36.789 | -0.074 | 2.575 | 0.127 |
| -9.800 | 39.333 | -0.076 | 2.660 | 0.124 |
| -9.800 | 39.333 | -0.076 | 2.660 | 0.124 |
| -10.000 | 40.521 | -0.085 | 2.703 | 0.121 |
| -10.200 | 41.715 | -0.094 | 2.746 | 0.118 |
| -10.200 | 41.715 | -0.094 | 2.746 | 0.118 |
| -10.850 | 45.867 | -0.099 | 2.889 | 0.112 |
| -11.850 | 52.271 | -0.108 | 3.109 | 0.102 |
| -12.850 | 58.694 | -0.119 | 3.324 | 0.092 |
| -13.250 | 61.268 | -0.124 | 3.407 | 0.088 |
| -13.900 | 65.454 | -0.133 | 3.538 | 0.081 |
| -14.900 | 71.904 | -0.150 | 3.727 | 0.069 |
| -15.900 | 78.364 | -0.169 | 3.899 | 0.057 |
| -16.300 | 80.952 | -0.178 | 3.962 | 0.053 |
| -16.300 | 80.952 | -0.178 | 3.962 | 0.053 |
| -16.850 | 84.883 | -0.274 | 4.044 | 0.041 |
| -17.400 | 88.897 | -0.378 | 4.120 | 0.028 |
| -17.400 | 88.897 | -0.378 | 4.120 | 0.028 |
| -18.200 | 103.769 | -1.387 | 4.221 | 0.016 |
| -19.000 | 118.674 | -2.400 | 4.308 | 0.004 |
| -19.000 | 118.674 | -2.400 | 4.308 | 0.004 |
| -20.000 | 128.961 | -2.400 | 4.401 | 0.002 |
| -21.000 | 139.230 | -2.400 | 4.476 | 0.000 |

### 3.37 Results for Vertical 37 (X = 0.77 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.241 | 0.009 | -0.241 | 0.008 | 0.263 |
| -0.341 | 0.654 | -0.340 | -0.937 | 0.264 |
| -0.430 | 1.267 | -0.427 | -1.726 | 0.264 |
| -0.441 | 1.345 | -0.427 | -1.713 | 0.264 |
| -0.541 | 2.071 | -0.423 | -1.569 | 0.265 |
| -0.641 | 2.812 | -0.418 | -1.402 | 0.266 |
| -0.741 | 3.556 | -0.413 | -1.224 | 0.266 |
| -0.841 | 4.294 | -0.406 | -1.044 | 0.266 |
| -0.941 | 5.021 | -0.399 | -0.867 | 0.266 |
| -1.041 | 5.734 | -0.392 | -0.695 | 0.266 |
| -1.141 | 6.432 | -0.383 | -0.531 | 0.265 |
| -1.241 | 7.113 | -0.373 | -0.376 | 0.265 |
| -1.371 | 7.971 | -0.360 | -0.189 | 0.265 |
| -1.900 | 11.208 | -0.293 | 0.427 | 0.263 |
| -2.400 | 13.928 | -0.213 | 0.835 | 0.263 |
| -2.500 | 14.439 | -0.195 | 0.902 | 0.263 |
| -2.500 | 14.439 | -0.195 | 0.902 | 0.263 |
| -3.150 | 16.671 | -0.143 | 1.250 | 0.252 |
| -3.750 | 18.640 | -0.095 | 1.478 | 0.243 |
| -4.400 | 20.732 | -0.045 | 1.665 | 0.234 |
| -5.000 | 22.668 | -0.002 | 1.805 | 0.225 |
| -5.000 | 22.668 | -0.002 | 1.805 | 0.225 |
| -5.950 | 23.256 | 0.024 | 1.995 | 0.200 |
| -6.900 | 24.074 | 0.026 | 2.174 | 0.175 |
| -6.900 | 24.074 | 0.026 | 2.174 | 0.175 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -7.650 | 28.409 | 0.004 | 2.320 | 0.165 |
| -8.400 | 32.940 | -0.038 | 2.472 | 0.154 |
| -8.400 | 32.940 | -0.038 | 2.472 | 0.154 |
| -8.700 | 33.352 | -0.052 | 2.534 | 0.143 |
| -9.000 | 33.802 | -0.070 | 2.598 | 0.131 |
| -9.000 | 33.802 | -0.070 | 2.598 | 0.131 |
| -9.400 | 36.344 | -0.072 | 2.685 | 0.128 |
| -9.800 | 38.892 | -0.074 | 2.773 | 0.125 |
| -9.800 | 38.892 | -0.074 | 2.773 | 0.125 |
| -10.000 | 40.079 | -0.083 | 2.818 | 0.121 |
| -10.200 | 41.273 | -0.092 | 2.862 | 0.118 |
| -10.200 | 41.273 | -0.092 | 2.862 | 0.118 |
| -10.850 | 45.427 | -0.097 | 3.009 | 0.112 |
| -11.850 | 51.836 | -0.105 | 3.234 | 0.103 |
| -12.850 | 58.263 | -0.117 | 3.454 | 0.092 |
| -13.250 | 60.838 | -0.122 | 3.539 | 0.088 |
| -13.900 | 65.027 | -0.131 | 3.673 | 0.081 |
| -14.900 | 71.482 | -0.148 | 3.867 | 0.069 |
| -15.900 | 77.949 | -0.167 | 4.045 | 0.057 |
| -16.300 | 80.540 | -0.176 | 4.110 | 0.053 |
| -16.300 | 80.540 | -0.176 | 4.110 | 0.053 |
| -16.850 | 84.481 | -0.272 | 4.196 | 0.041 |
| -17.400 | 88.506 | -0.377 | 4.275 | 0.028 |
| -17.400 | 88.506 | -0.377 | 4.275 | 0.028 |
| -18.200 | 103.385 | -1.386 | 4.380 | 0.016 |
| -19.000 | 118.299 | -2.400 | 4.473 | 0.004 |
| -19.000 | 118.299 | -2.400 | 4.473 | 0.004 |
| -20.000 | 128.593 | -2.400 | 4.573 | 0.002 |
| -21.000 | 138.869 | -2.400 | 4.655 | 0.000 |

### 3.38 Results for Vertical 38 (X = 1.04 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.004 | 1.773 | -0.430 | 1.772 | 0.489 |
| -2.104 | 2.432 | -0.424 | 1.868 | 0.470 |
| -2.204 | 3.072 | -0.417 | 1.959 | 0.459 |
| -2.252 | 3.371 | -0.413 | 2.001 | 0.455 |
| -2.304 | 3.691 | -0.409 | 2.045 | 0.451 |
| -2.400 | 4.269 | -0.399 | 2.123 | 0.445 |
| -2.404 | 4.293 | -0.398 | 2.126 | 0.445 |
| -2.500 | 4.853 | -0.387 | 2.201 | 0.440 |
| -2.500 | 4.853 | -0.387 | 2.201 | 0.440 |
| -2.504 | 4.869 | -0.387 | 2.204 | 0.440 |
| -2.604 | 5.255 | -0.381 | 2.277 | 0.432 |
| -2.704 | 5.634 | -0.375 | 2.347 | 0.425 |
| -2.804 | 6.006 | -0.369 | 2.413 | 0.418 |
| -2.904 | 6.372 | -0.362 | 2.476 | 0.412 |
| -3.004 | 6.732 | -0.355 | 2.536 | 0.406 |
| -3.750 | 9.266 | -0.296 | 2.902 | 0.368 |
| -4.400 | 11.323 | -0.237 | 3.139 | 0.342 |
| -5.000 | 13.155 | -0.180 | 3.316 | 0.322 |
| -5.000 | 13.155 | -0.180 | 3.316 | 0.322 |
| -5.950 | 13.619 | -0.136 | 3.550 | 0.273 |
| -6.900 | 14.269 | -0.114 | 3.760 | 0.226 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -6.900 | 14.269 | -0.114 | 3.760 | 0.226 |
| -7.650 | 18.303 | -0.104 | 3.922 | 0.210 |
| -8.400 | 22.464 | -0.107 | 4.086 | 0.193 |
| -8.400 | 22.464 | -0.107 | 4.086 | 0.193 |
| -8.700 | 22.781 | -0.111 | 4.153 | 0.178 |
| -9.000 | 23.130 | -0.119 | 4.220 | 0.162 |
| -9.000 | 23.130 | -0.119 | 4.220 | 0.162 |
| -9.400 | 25.668 | -0.120 | 4.311 | 0.157 |
| -9.800 | 28.209 | -0.121 | 4.403 | 0.152 |
| -9.800 | 28.209 | -0.121 | 4.403 | 0.152 |
| -10.000 | 29.363 | -0.126 | 4.449 | 0.148 |
| -10.200 | 30.522 | -0.131 | 4.495 | 0.144 |
| -10.200 | 30.523 | -0.131 | 4.495 | 0.144 |
| -10.850 | 34.665 | -0.134 | 4.646 | 0.135 |
| -11.850 | 41.053 | -0.140 | 4.876 | 0.122 |
| -12.850 | 47.459 | -0.149 | 5.101 | 0.108 |
| -13.250 | 50.025 | -0.153 | 5.188 | 0.103 |
| -13.900 | 54.201 | -0.161 | 5.325 | 0.094 |
| -14.900 | 60.636 | -0.175 | 5.525 | 0.079 |
| -15.900 | 67.084 | -0.192 | 5.707 | 0.065 |
| -16.300 | 69.667 | -0.200 | 5.775 | 0.059 |
| -16.300 | 69.667 | -0.200 | 5.775 | 0.059 |
| -16.850 | 73.513 | -0.286 | 5.864 | 0.046 |
| -17.400 | 77.443 | -0.381 | 5.947 | 0.032 |
| -17.400 | 77.444 | -0.381 | 5.947 | 0.032 |
| -18.200 | 92.309 | -1.388 | 6.057 | 0.018 |
| -19.000 | 107.211 | -2.400 | 6.156 | 0.005 |
| -19.000 | 107.211 | -2.400 | 6.156 | 0.005 |
| -20.000 | 117.512 | -2.400 | 6.262 | 0.002 |
| -21.000 | 127.795 | -2.400 | 6.350 | 0.000 |

### 3.39 Results for Vertical 39 (X = 1.29 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.375 | 1.647 | -0.430 | 1.646 | 0.532 |
| -2.400 | 1.809 | -0.429 | 1.666 | 0.525 |
| -2.438 | 2.052 | -0.427 | 1.697 | 0.517 |
| -2.475 | 2.293 | -0.425 | 1.727 | 0.512 |
| -2.500 | 2.452 | -0.423 | 1.747 | 0.509 |
| -2.500 | 2.452 | -0.423 | 1.747 | 0.509 |
| -2.575 | 2.763 | -0.420 | 1.806 | 0.498 |
| -2.675 | 3.171 | -0.417 | 1.881 | 0.485 |
| -2.775 | 3.572 | -0.413 | 1.953 | 0.474 |
| -2.875 | 3.965 | -0.408 | 2.022 | 0.463 |
| -2.975 | 4.352 | -0.403 | 2.088 | 0.454 |
| -3.075 | 4.732 | -0.398 | 2.152 | 0.446 |
| -3.175 | 5.106 | -0.392 | 2.213 | 0.438 |
| -3.275 | 5.474 | -0.386 | 2.271 | 0.430 |
| -3.375 | 5.837 | -0.380 | 2.327 | 0.423 |
| -3.750 | 7.152 | -0.353 | 2.519 | 0.400 |
| -4.400 | 9.300 | -0.300 | 2.792 | 0.368 |
| -5.000 | 11.184 | -0.245 | 2.999 | 0.345 |
| -5.000 | 11.184 | -0.245 | 2.999 | 0.345 |
| -5.950 | 11.681 | -0.201 | 3.270 | 0.288 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -6.900 | 12.327 | -0.176 | 3.507 | 0.234 |
| -6.900 | 12.327 | -0.176 | 3.507 | 0.234 |
| -7.650 | 16.303 | -0.159 | 3.685 | 0.216 |
| -8.400 | 20.369 | -0.151 | 3.860 | 0.198 |
| -8.400 | 20.369 | -0.151 | 3.860 | 0.198 |
| -8.700 | 20.659 | -0.152 | 3.931 | 0.182 |
| -9.000 | 20.978 | -0.156 | 4.001 | 0.166 |
| -9.000 | 20.978 | -0.156 | 4.001 | 0.166 |
| -9.400 | 23.516 | -0.156 | 4.096 | 0.161 |
| -9.800 | 26.057 | -0.157 | 4.191 | 0.155 |
| -9.800 | 26.057 | -0.157 | 4.191 | 0.155 |
| -10.000 | 27.199 | -0.161 | 4.238 | 0.151 |
| -10.200 | 28.346 | -0.165 | 4.286 | 0.147 |
| -10.200 | 28.346 | -0.165 | 4.286 | 0.147 |
| -10.850 | 32.485 | -0.167 | 4.440 | 0.138 |
| -11.850 | 38.866 | -0.172 | 4.676 | 0.124 |
| -12.850 | 45.262 | -0.179 | 4.905 | 0.109 |
| -13.250 | 47.824 | -0.183 | 4.994 | 0.104 |
| -13.900 | 51.992 | -0.189 | 5.134 | 0.094 |
| -14.900 | 58.413 | -0.202 | 5.338 | 0.080 |
| -15.900 | 64.846 | -0.217 | 5.526 | 0.065 |
| -16.300 | 67.422 | -0.224 | 5.596 | 0.059 |
| -16.300 | 67.422 | -0.224 | 5.596 | 0.059 |
| -16.850 | 71.181 | -0.300 | 5.687 | 0.046 |
| -17.400 | 75.016 | -0.386 | 5.773 | 0.032 |
| -17.400 | 75.016 | -0.386 | 5.773 | 0.032 |
| -18.200 | 89.865 | -1.391 | 5.888 | 0.018 |
| -19.000 | 104.747 | -2.400 | 5.991 | 0.005 |
| -19.000 | 104.747 | -2.400 | 5.991 | 0.005 |
| -20.000 | 115.055 | -2.400 | 6.104 | 0.002 |
| -21.000 | 125.344 | -2.400 | 6.199 | 0.000 |

### 3.40 Results for Vertical 40 (X = 1.42 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.322 | 1.410 | -0.430 | 1.409 | 0.549 |
| -2.400 | 1.747 | -0.428 | 1.474 | 0.525 |
| -2.411 | 1.793 | -0.428 | 1.483 | 0.523 |
| -2.422 | 1.840 | -0.428 | 1.491 | 0.520 |
| -2.500 | 2.172 | -0.426 | 1.554 | 0.505 |
| -2.500 | 2.172 | -0.426 | 1.554 | 0.505 |
| -2.522 | 2.263 | -0.425 | 1.571 | 0.502 |
| -2.622 | 2.679 | -0.422 | 1.648 | 0.488 |
| -2.722 | 3.088 | -0.419 | 1.722 | 0.476 |
| -2.822 | 3.489 | -0.415 | 1.794 | 0.465 |
| -2.922 | 3.884 | -0.410 | 1.862 | 0.456 |
| -3.022 | 4.272 | -0.406 | 1.929 | 0.447 |
| -3.122 | 4.654 | -0.400 | 1.992 | 0.439 |
| -3.222 | 5.030 | -0.395 | 2.054 | 0.431 |
| -3.322 | 5.400 | -0.389 | 2.113 | 0.424 |
| -3.750 | 6.928 | -0.360 | 2.343 | 0.398 |
| -4.400 | 9.105 | -0.308 | 2.630 | 0.367 |
| -5.000 | 11.011 | -0.255 | 2.849 | 0.343 |
| -5.000 | 11.011 | -0.255 | 2.849 | 0.343 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -5.950 | 11.527 | -0.211 | 3.137 | 0.287 |
| -6.900 | 12.185 | -0.186 | 3.385 | 0.233 |
| -6.900 | 12.185 | -0.186 | 3.385 | 0.233 |
| -7.650 | 16.160 | -0.168 | 3.570 | 0.215 |
| -8.400 | 20.218 | -0.158 | 3.751 | 0.197 |
| -8.400 | 20.218 | -0.158 | 3.751 | 0.197 |
| -8.700 | 20.505 | -0.159 | 3.823 | 0.182 |
| -9.000 | 20.822 | -0.163 | 3.895 | 0.165 |
| -9.000 | 20.822 | -0.163 | 3.895 | 0.165 |
| -9.400 | 23.362 | -0.163 | 3.992 | 0.160 |
| -9.800 | 25.903 | -0.164 | 4.088 | 0.155 |
| -9.800 | 25.904 | -0.164 | 4.088 | 0.155 |
| -10.000 | 27.044 | -0.167 | 4.136 | 0.150 |
| -10.200 | 28.190 | -0.171 | 4.185 | 0.146 |
| -10.200 | 28.190 | -0.171 | 4.185 | 0.146 |
| -10.850 | 32.330 | -0.173 | 4.341 | 0.137 |
| -11.850 | 38.711 | -0.178 | 4.579 | 0.123 |
| -12.850 | 45.106 | -0.185 | 4.810 | 0.109 |
| -13.250 | 47.668 | -0.188 | 4.900 | 0.103 |
| -13.900 | 51.835 | -0.195 | 5.041 | 0.094 |
| -14.900 | 58.255 | -0.207 | 5.247 | 0.080 |
| -15.900 | 64.686 | -0.221 | 5.437 | 0.065 |
| -16.300 | 67.262 | -0.228 | 5.508 | 0.059 |
| -16.300 | 67.262 | -0.228 | 5.508 | 0.059 |
| -16.850 | 71.005 | -0.303 | 5.601 | 0.046 |
| -17.400 | 74.823 | -0.387 | 5.689 | 0.032 |
| -17.400 | 74.823 | -0.387 | 5.689 | 0.032 |
| -18.200 | 89.670 | -1.391 | 5.806 | 0.018 |
| -19.000 | 104.550 | -2.400 | 5.911 | 0.005 |
| -19.000 | 104.550 | -2.400 | 5.911 | 0.005 |
| -20.000 | 114.860 | -2.400 | 6.027 | 0.002 |
| -21.000 | 125.152 | -2.400 | 6.125 | 0.000 |

### 3.41 Results for Vertical 41 (X = 1.72 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.197 | 0.945 | -0.430 | 0.944 | 0.511 |
| -2.297 | 1.376 | -0.429 | 1.021 | 0.487 |
| -2.349 | 1.596 | -0.428 | 1.061 | 0.479 |
| -2.397 | 1.802 | -0.427 | 1.097 | 0.472 |
| -2.400 | 1.815 | -0.427 | 1.100 | 0.471 |
| -2.497 | 2.223 | -0.424 | 1.172 | 0.460 |
| -2.500 | 2.235 | -0.424 | 1.174 | 0.460 |
| -2.500 | 2.235 | -0.424 | 1.174 | 0.460 |
| -2.597 | 2.637 | -0.421 | 1.245 | 0.450 |
| -2.697 | 3.045 | -0.418 | 1.317 | 0.441 |
| -2.797 | 3.447 | -0.414 | 1.387 | 0.433 |
| -2.897 | 3.844 | -0.410 | 1.456 | 0.426 |
| -2.997 | 4.235 | -0.406 | 1.522 | 0.419 |
| -3.097 | 4.620 | -0.401 | 1.587 | 0.412 |
| -3.197 | 5.001 | -0.395 | 1.650 | 0.406 |
| -3.750 | 7.017 | -0.361 | 1.966 | 0.377 |
| -4.400 | 9.233 | -0.311 | 2.276 | 0.350 |
| -5.000 | 11.178 | -0.259 | 2.516 | 0.329 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -5.000 | 11.178 | -0.259 | 2.516 | 0.329 |
| -5.950 | 11.738 | -0.216 | 2.835 | 0.277 |
| -6.900 | 12.425 | -0.192 | 3.109 | 0.227 |
| -6.900 | 12.426 | -0.192 | 3.109 | 0.227 |
| -7.650 | 16.418 | -0.174 | 3.309 | 0.210 |
| -8.400 | 20.488 | -0.164 | 3.501 | 0.193 |
| -8.400 | 20.488 | -0.164 | 3.501 | 0.193 |
| -8.700 | 20.778 | -0.165 | 3.577 | 0.177 |
| -9.000 | 21.097 | -0.168 | 3.653 | 0.162 |
| -9.000 | 21.097 | -0.168 | 3.653 | 0.162 |
| -9.400 | 23.640 | -0.169 | 3.753 | 0.157 |
| -9.800 | 26.185 | -0.170 | 3.853 | 0.152 |
| -9.800 | 26.185 | -0.170 | 3.853 | 0.152 |
| -10.000 | 27.327 | -0.173 | 3.903 | 0.147 |
| -10.200 | 28.472 | -0.177 | 3.953 | 0.143 |
| -10.200 | 28.472 | -0.177 | 3.953 | 0.143 |
| -10.850 | 32.616 | -0.179 | 4.113 | 0.135 |
| -11.850 | 39.001 | -0.184 | 4.356 | 0.121 |
| -12.850 | 45.398 | -0.190 | 4.592 | 0.107 |
| -13.250 | 47.961 | -0.194 | 4.684 | 0.102 |
| -13.900 | 52.129 | -0.200 | 4.828 | 0.093 |
| -14.900 | 58.551 | -0.211 | 5.039 | 0.078 |
| -15.900 | 64.984 | -0.226 | 5.234 | 0.064 |
| -16.300 | 67.560 | -0.232 | 5.307 | 0.058 |
| -16.300 | 67.560 | -0.232 | 5.307 | 0.058 |
| -16.850 | 71.290 | -0.306 | 5.403 | 0.045 |
| -17.400 | 75.094 | -0.388 | 5.494 | 0.031 |
| -17.400 | 75.094 | -0.388 | 5.494 | 0.031 |
| -18.200 | 89.942 | -1.392 | 5.616 | 0.018 |
| -19.000 | 104.822 | -2.400 | 5.726 | 0.005 |
| -19.000 | 104.822 | -2.400 | 5.726 | 0.005 |
| -20.000 | 115.138 | -2.400 | 5.848 | 0.002 |
| -21.000 | 125.437 | -2.400 | 5.953 | 0.000 |

### 3.42 Results for Vertical 42 (X = 2.64 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.686 | 0.172 | -0.430 | 0.171 | 0.404 |
| -1.786 | 0.568 | -0.430 | 0.203 | 0.394 |
| -1.886 | 0.963 | -0.429 | 0.238 | 0.387 |
| -1.986 | 1.357 | -0.428 | 0.275 | 0.382 |
| -2.086 | 1.750 | -0.426 | 0.314 | 0.377 |
| -2.093 | 1.777 | -0.426 | 0.317 | 0.376 |
| -2.186 | 2.140 | -0.424 | 0.355 | 0.372 |
| -2.286 | 2.528 | -0.421 | 0.399 | 0.368 |
| -2.386 | 2.915 | -0.419 | 0.443 | 0.364 |
| -2.400 | 2.968 | -0.418 | 0.450 | 0.363 |
| -2.486 | 3.299 | -0.415 | 0.489 | 0.360 |
| -2.500 | 3.352 | -0.415 | 0.496 | 0.359 |
| -2.500 | 3.352 | -0.415 | 0.496 | 0.359 |
| -2.586 | 3.680 | -0.412 | 0.536 | 0.356 |
| -2.686 | 4.060 | -0.408 | 0.584 | 0.352 |
| -3.250 | 6.153 | -0.381 | 0.864 | 0.333 |
| -3.750 | 7.940 | -0.350 | 1.111 | 0.318 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -4.400 | 10.178 | -0.303 | 1.413 | 0.300 |
| -5.000 | 12.176 | -0.255 | 1.669 | 0.286 |
| -5.000 | 12.176 | -0.255 | 1.669 | 0.286 |
| -5.950 | 12.811 | -0.216 | 2.030 | 0.246 |
| -6.900 | 13.563 | -0.193 | 2.348 | 0.207 |
| -6.900 | 13.564 | -0.193 | 2.348 | 0.207 |
| -7.650 | 17.610 | -0.178 | 2.577 | 0.193 |
| -8.400 | 21.729 | -0.171 | 2.795 | 0.178 |
| -8.400 | 21.729 | -0.171 | 2.795 | 0.178 |
| -8.700 | 22.034 | -0.172 | 2.879 | 0.164 |
| -9.000 | 22.365 | -0.176 | 2.963 | 0.150 |
| -9.000 | 22.365 | -0.176 | 2.963 | 0.150 |
| -9.400 | 24.918 | -0.177 | 3.072 | 0.146 |
| -9.800 | 27.470 | -0.177 | 3.180 | 0.142 |
| -9.800 | 27.471 | -0.177 | 3.180 | 0.142 |
| -10.000 | 28.616 | -0.181 | 3.234 | 0.138 |
| -10.200 | 29.765 | -0.185 | 3.287 | 0.134 |
| -10.200 | 29.766 | -0.185 | 3.287 | 0.134 |
| -10.850 | 33.918 | -0.187 | 3.458 | 0.126 |
| -11.850 | 40.314 | -0.191 | 3.713 | 0.114 |
| -12.850 | 46.720 | -0.198 | 3.960 | 0.102 |
| -13.250 | 49.286 | -0.201 | 4.056 | 0.097 |
| -13.900 | 53.459 | -0.207 | 4.207 | 0.088 |
| -14.900 | 59.888 | -0.218 | 4.430 | 0.075 |
| -15.900 | 66.328 | -0.232 | 4.637 | 0.061 |
| -16.300 | 68.908 | -0.239 | 4.716 | 0.056 |
| -16.300 | 68.908 | -0.239 | 4.716 | 0.056 |
| -16.850 | 72.622 | -0.310 | 4.820 | 0.043 |
| -17.400 | 76.409 | -0.389 | 4.919 | 0.030 |
| -17.400 | 76.410 | -0.389 | 4.919 | 0.030 |
| -18.200 | 91.264 | -1.392 | 5.053 | 0.017 |
| -19.000 | 106.149 | -2.400 | 5.177 | 0.004 |
| -19.000 | 106.149 | -2.400 | 5.177 | 0.004 |
| -20.000 | 116.483 | -2.400 | 5.316 | 0.002 |
| -21.000 | 126.800 | -2.400 | 5.439 | 0.000 |

### 3.43 Results for Vertical 43 (X = 3.24 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.840 | 0.120 | -0.430 | 0.119 | 0.377 |
| -1.940 | 0.507 | -0.430 | 0.141 | 0.368 |
| -2.040 | 0.892 | -0.429 | 0.164 | 0.362 |
| -2.140 | 1.275 | -0.428 | 0.190 | 0.358 |
| -2.170 | 1.390 | -0.427 | 0.197 | 0.356 |
| -2.240 | 1.657 | -0.426 | 0.217 | 0.354 |
| -2.340 | 2.036 | -0.424 | 0.245 | 0.350 |
| -2.400 | 2.263 | -0.423 | 0.263 | 0.347 |
| -2.440 | 2.414 | -0.422 | 0.276 | 0.346 |
| -2.500 | 2.639 | -0.421 | 0.294 | 0.344 |
| -2.500 | 2.639 | -0.421 | 0.294 | 0.344 |
| -2.540 | 2.789 | -0.420 | 0.307 | 0.342 |
| -2.640 | 3.163 | -0.417 | 0.340 | 0.339 |
| -2.740 | 3.534 | -0.414 | 0.375 | 0.336 |
| -2.840 | 3.904 | -0.410 | 0.410 | 0.332 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.750 | 7.176 | -0.365 | 0.764 | 0.306 |
| -4.400 | 9.419 | -0.322 | 1.028 | 0.290 |
| -5.000 | 11.434 | -0.278 | 1.265 | 0.276 |
| -5.000 | 11.434 | -0.278 | 1.265 | 0.276 |
| -5.950 | 12.080 | -0.241 | 1.616 | 0.239 |
| -6.900 | 12.840 | -0.219 | 1.937 | 0.201 |
| -6.900 | 12.840 | -0.219 | 1.937 | 0.201 |
| -7.650 | 16.878 | -0.202 | 2.173 | 0.188 |
| -8.400 | 20.975 | -0.192 | 2.397 | 0.174 |
| -8.400 | 20.975 | -0.192 | 2.397 | 0.174 |
| -8.700 | 21.273 | -0.193 | 2.484 | 0.160 |
| -9.000 | 21.596 | -0.196 | 2.570 | 0.147 |
| -9.000 | 21.596 | -0.196 | 2.570 | 0.147 |
| -9.400 | 24.150 | -0.196 | 2.682 | 0.143 |
| -9.800 | 26.704 | -0.197 | 2.793 | 0.139 |
| -9.800 | 26.704 | -0.197 | 2.793 | 0.139 |
| -10.000 | 27.845 | -0.200 | 2.848 | 0.135 |
| -10.200 | 28.990 | -0.203 | 2.902 | 0.131 |
| -10.200 | 28.990 | -0.203 | 2.902 | 0.131 |
| -10.850 | 33.143 | -0.205 | 3.076 | 0.124 |
| -11.850 | 39.537 | -0.209 | 3.336 | 0.112 |
| -12.850 | 45.940 | -0.215 | 3.587 | 0.100 |
| -13.250 | 48.504 | -0.217 | 3.685 | 0.095 |
| -13.900 | 52.674 | -0.223 | 3.839 | 0.087 |
| -14.900 | 59.098 | -0.233 | 4.066 | 0.074 |
| -15.900 | 65.533 | -0.246 | 4.280 | 0.060 |
| -16.300 | 68.111 | -0.252 | 4.361 | 0.055 |
| -16.300 | 68.111 | -0.252 | 4.361 | 0.055 |
| -16.850 | 71.778 | -0.318 | 4.469 | 0.042 |
| -17.400 | 75.515 | -0.392 | 4.571 | 0.029 |
| -17.400 | 75.515 | -0.392 | 4.571 | 0.029 |
| -18.200 | 90.363 | -1.394 | 4.712 | 0.016 |
| -19.000 | 105.242 | -2.400 | 4.843 | 0.004 |
| -19.000 | 105.242 | -2.400 | 4.843 | 0.004 |
| -20.000 | 115.585 | -2.400 | 4.991 | 0.002 |
| -21.000 | 125.911 | -2.400 | 5.124 | 0.000 |

### 3.44 Results for Vertical 44 (X = 3.50 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.971 | 0.117 | -0.430 | 0.116 | 0.370 |
| -2.071 | 0.502 | -0.430 | 0.136 | 0.361 |
| -2.171 | 0.885 | -0.429 | 0.157 | 0.355 |
| -2.236 | 1.131 | -0.428 | 0.171 | 0.352 |
| -2.271 | 1.266 | -0.428 | 0.180 | 0.351 |
| -2.371 | 1.645 | -0.426 | 0.204 | 0.347 |
| -2.400 | 1.754 | -0.426 | 0.211 | 0.346 |
| -2.471 | 2.022 | -0.425 | 0.230 | 0.343 |
| -2.500 | 2.130 | -0.424 | 0.237 | 0.342 |
| -2.500 | 2.130 | -0.424 | 0.237 | 0.342 |
| -2.571 | 2.396 | -0.422 | 0.257 | 0.339 |
| -2.671 | 2.769 | -0.420 | 0.285 | 0.336 |
| -2.771 | 3.140 | -0.417 | 0.315 | 0.332 |
| -2.871 | 3.509 | -0.414 | 0.346 | 0.329 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.971 | 3.875 | -0.410 | 0.378 | 0.326 |
| -3.750 | 6.666 | -0.374 | 0.651 | 0.304 |
| -4.400 | 8.913 | -0.334 | 0.895 | 0.288 |
| -5.000 | 10.933 | -0.291 | 1.120 | 0.274 |
| -5.000 | 10.933 | -0.291 | 1.120 | 0.274 |
| -5.950 | 11.578 | -0.255 | 1.460 | 0.237 |
| -6.900 | 12.335 | -0.233 | 1.778 | 0.200 |
| -6.900 | 12.335 | -0.233 | 1.778 | 0.200 |
| -7.650 | 16.365 | -0.215 | 2.013 | 0.186 |
| -8.400 | 20.446 | -0.204 | 2.238 | 0.172 |
| -8.400 | 20.446 | -0.204 | 2.238 | 0.172 |
| -8.700 | 20.738 | -0.204 | 2.325 | 0.159 |
| -9.000 | 21.055 | -0.206 | 2.411 | 0.146 |
| -9.000 | 21.055 | -0.206 | 2.411 | 0.146 |
| -9.400 | 23.609 | -0.206 | 2.524 | 0.142 |
| -9.800 | 26.163 | -0.207 | 2.635 | 0.138 |
| -9.800 | 26.163 | -0.207 | 2.635 | 0.138 |
| -10.000 | 27.301 | -0.210 | 2.690 | 0.134 |
| -10.200 | 28.443 | -0.212 | 2.745 | 0.130 |
| -10.200 | 28.443 | -0.212 | 2.745 | 0.130 |
| -10.850 | 32.595 | -0.214 | 2.920 | 0.123 |
| -11.850 | 38.987 | -0.218 | 3.181 | 0.112 |
| -12.850 | 45.388 | -0.223 | 3.433 | 0.099 |
| -13.250 | 47.951 | -0.226 | 3.531 | 0.094 |
| -13.900 | 52.118 | -0.231 | 3.686 | 0.086 |
| -14.900 | 58.539 | -0.241 | 3.915 | 0.073 |
| -15.900 | 64.970 | -0.253 | 4.130 | 0.060 |
| -16.300 | 67.546 | -0.259 | 4.212 | 0.054 |
| -16.300 | 67.546 | -0.259 | 4.212 | 0.054 |
| -16.850 | 71.188 | -0.322 | 4.321 | 0.042 |
| -17.400 | 74.897 | -0.393 | 4.426 | 0.029 |
| -17.400 | 74.898 | -0.393 | 4.426 | 0.029 |
| -18.200 | 89.742 | -1.394 | 4.569 | 0.016 |
| -19.000 | 104.615 | -2.400 | 4.702 | 0.004 |
| -19.000 | 104.615 | -2.400 | 4.702 | 0.004 |
| -20.000 | 114.962 | -2.400 | 4.854 | 0.002 |
| -21.000 | 125.292 | -2.400 | 4.990 | 0.000 |

### 3.45 Results for Vertical 45 (X = 4.56 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.175 | 0.068 | -0.430 | 0.067 | 0.336 |
| -2.275 | 0.445 | -0.430 | 0.078 | 0.329 |
| -2.337 | 0.679 | -0.429 | 0.085 | 0.327 |
| -2.375 | 0.819 | -0.429 | 0.090 | 0.325 |
| -2.400 | 0.913 | -0.429 | 0.093 | 0.324 |
| -2.475 | 1.192 | -0.428 | 0.102 | 0.321 |
| -2.500 | 1.284 | -0.428 | 0.106 | 0.320 |
| -2.500 | 1.284 | -0.428 | 0.106 | 0.320 |
| -2.575 | 1.562 | -0.427 | 0.116 | 0.318 |
| -2.675 | 1.929 | -0.425 | 0.131 | 0.315 |
| -2.775 | 2.295 | -0.423 | 0.147 | 0.312 |
| -2.875 | 2.658 | -0.421 | 0.163 | 0.309 |
| -2.975 | 3.020 | -0.418 | 0.181 | 0.306 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.075 | 3.379 | -0.416 | 0.199 | 0.303 |
| -3.175 | 3.737 | -0.412 | 0.218 | 0.300 |
| -3.750 | 5.759 | -0.389 | 0.344 | 0.285 |
| -4.400 | 7.985 | -0.355 | 0.511 | 0.270 |
| -5.000 | 9.998 | -0.317 | 0.680 | 0.258 |
| -5.000 | 9.998 | -0.317 | 0.680 | 0.258 |
| -5.950 | 10.616 | -0.285 | 0.959 | 0.224 |
| -6.900 | 11.351 | -0.264 | 1.241 | 0.190 |
| -6.900 | 11.351 | -0.264 | 1.241 | 0.190 |
| -7.650 | 15.357 | -0.246 | 1.461 | 0.178 |
| -8.400 | 19.404 | -0.232 | 1.675 | 0.165 |
| -8.400 | 19.404 | -0.232 | 1.675 | 0.165 |
| -8.700 | 19.684 | -0.231 | 1.760 | 0.152 |
| -9.000 | 19.986 | -0.232 | 1.844 | 0.139 |
| -9.000 | 19.986 | -0.232 | 1.844 | 0.139 |
| -9.400 | 22.536 | -0.232 | 1.954 | 0.136 |
| -9.800 | 25.086 | -0.232 | 2.064 | 0.132 |
| -9.800 | 25.086 | -0.232 | 2.064 | 0.132 |
| -10.000 | 26.217 | -0.234 | 2.118 | 0.129 |
| -10.200 | 27.351 | -0.237 | 2.172 | 0.125 |
| -10.200 | 27.352 | -0.237 | 2.172 | 0.125 |
| -10.850 | 31.497 | -0.238 | 2.345 | 0.118 |
| -11.850 | 37.881 | -0.241 | 2.604 | 0.107 |
| -12.850 | 44.271 | -0.246 | 2.855 | 0.096 |
| -13.250 | 46.830 | -0.248 | 2.953 | 0.091 |
| -13.900 | 50.991 | -0.252 | 3.109 | 0.083 |
| -14.900 | 57.400 | -0.261 | 3.341 | 0.071 |
| -15.900 | 63.821 | -0.272 | 3.560 | 0.058 |
| -16.300 | 66.392 | -0.277 | 3.644 | 0.053 |
| -16.300 | 66.393 | -0.277 | 3.644 | 0.053 |
| -16.850 | 69.971 | -0.333 | 3.757 | 0.040 |
| -17.400 | 73.612 | -0.396 | 3.865 | 0.028 |
| -17.400 | 73.612 | -0.396 | 3.865 | 0.028 |
| -18.200 | 88.447 | -1.396 | 4.015 | 0.016 |
| -19.000 | 103.309 | -2.400 | 4.157 | 0.004 |
| -19.000 | 103.310 | -2.400 | 4.157 | 0.004 |
| -20.000 | 113.667 | -2.400 | 4.320 | 0.002 |
| -21.000 | 124.010 | -2.400 | 4.469 | 0.000 |

### 3.46 Results for Vertical 46 (X = 4.93 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.201 | 0.055 | -0.430 | 0.054 | 0.326 |
| -2.301 | 0.429 | -0.430 | 0.062 | 0.320 |
| -2.350 | 0.614 | -0.430 | 0.067 | 0.318 |
| -2.400 | 0.798 | -0.429 | 0.072 | 0.316 |
| -2.401 | 0.802 | -0.429 | 0.072 | 0.316 |
| -2.500 | 1.168 | -0.428 | 0.082 | 0.313 |
| -2.500 | 1.168 | -0.428 | 0.082 | 0.313 |
| -2.501 | 1.172 | -0.428 | 0.082 | 0.313 |
| -2.601 | 1.540 | -0.427 | 0.093 | 0.309 |
| -2.701 | 1.905 | -0.425 | 0.105 | 0.306 |
| -2.801 | 2.269 | -0.424 | 0.118 | 0.303 |
| -2.901 | 2.630 | -0.421 | 0.132 | 0.300 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.001 | 2.989 | -0.419 | 0.146 | 0.297 |
| -3.101 | 3.346 | -0.416 | 0.161 | 0.295 |
| -3.201 | 3.701 | -0.413 | 0.177 | 0.292 |
| -3.750 | 5.621 | -0.392 | 0.279 | 0.278 |
| -4.400 | 7.837 | -0.359 | 0.423 | 0.264 |
| -5.000 | 9.842 | -0.322 | 0.573 | 0.252 |
| -5.000 | 9.842 | -0.322 | 0.573 | 0.252 |
| -5.950 | 10.446 | -0.291 | 0.828 | 0.219 |
| -6.900 | 11.167 | -0.270 | 1.093 | 0.186 |
| -6.900 | 11.167 | -0.270 | 1.093 | 0.186 |
| -7.650 | 15.166 | -0.252 | 1.303 | 0.174 |
| -8.400 | 19.203 | -0.238 | 1.511 | 0.162 |
| -8.400 | 19.203 | -0.238 | 1.511 | 0.162 |
| -8.700 | 19.479 | -0.237 | 1.593 | 0.149 |
| -9.000 | 19.778 | -0.238 | 1.675 | 0.137 |
| -9.000 | 19.778 | -0.238 | 1.675 | 0.137 |
| -9.400 | 22.325 | -0.238 | 1.783 | 0.134 |
| -9.800 | 24.872 | -0.238 | 1.890 | 0.130 |
| -9.800 | 24.873 | -0.238 | 1.890 | 0.130 |
| -10.000 | 26.002 | -0.240 | 1.944 | 0.127 |
| -10.200 | 27.134 | -0.242 | 1.997 | 0.123 |
| -10.200 | 27.134 | -0.242 | 1.997 | 0.123 |
| -10.850 | 31.277 | -0.243 | 2.167 | 0.117 |
| -11.850 | 37.655 | -0.246 | 2.424 | 0.106 |
| -12.850 | 44.041 | -0.251 | 2.673 | 0.095 |
| -13.250 | 46.599 | -0.253 | 2.771 | 0.090 |
| -13.900 | 50.757 | -0.257 | 2.926 | 0.082 |
| -14.900 | 57.163 | -0.265 | 3.156 | 0.070 |
| -15.900 | 63.581 | -0.276 | 3.376 | 0.057 |
| -16.300 | 66.151 | -0.281 | 3.461 | 0.052 |
| -16.300 | 66.151 | -0.281 | 3.461 | 0.052 |
| -16.850 | 69.714 | -0.336 | 3.574 | 0.040 |
| -17.400 | 73.340 | -0.397 | 3.683 | 0.027 |
| -17.400 | 73.340 | -0.397 | 3.683 | 0.027 |
| -18.200 | 88.172 | -1.397 | 3.835 | 0.015 |
| -19.000 | 103.032 | -2.400 | 3.978 | 0.004 |
| -19.000 | 103.032 | -2.400 | 3.978 | 0.004 |
| -20.000 | 113.393 | -2.400 | 4.144 | 0.002 |
| -21.000 | 123.739 | -2.400 | 4.296 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -40.00 | 0.00 | -2.23 | 0.188 |
| 2 | -32.49 | 0.00 | -2.22 | 0.263 |
| 3 | -21.95 | 0.00 | -2.22 | 0.819 |
| 4 | -18.48 | 0.00 | -2.21 | 0.962 |
| 5 | -16.16 | 0.00 | -2.13 | 0.998 |
| 6 | -15.58 | 0.00 | -2.24 | 1.082 |
| 7 | -14.84 | 0.00 | -2.45 | 1.252 |
| 8 | -14.82 | 0.00 | -2.50 | 1.299 |
| 9 | -14.74 | 0.00 | -2.65 | 1.467 |
| 10 | -14.64 | 0.00 | -2.86 | 1.448 |
| 11 | -14.47 | 0.00 | -2.91 | 1.428 |
| 12 | -14.13 | 0.00 | -3.04 | 1.422 |
| 13 | -12.77 | 0.00 | -3.09 | 1.424 |
| 14 | -11.80 | 0.00 | -3.12 | 1.409 |
| 15 | -11.41 | 0.00 | -3.00 | 1.405 |
| 16 | -10.73 | 0.00 | -2.80 | 1.411 |
| 17 | -10.71 | 0.00 | -2.65 | 1.433 |
| 18 | -10.70 | 0.00 | -2.50 | 1.270 |
| 19 | -10.63 | 0.00 | -1.91 | 0.849 |
| 20 | -8.70 | 0.00 | -0.98 | 0.625 |
| 21 | -8.64 | 0.00 | -0.96 | 0.616 |
| 22 | -8.64 | 0.00 | -0.96 | 0.615 |
| 23 | -7.45 | 0.00 | -0.43 | 0.533 |
| 24 | -6.66 | 0.00 | -0.08 | 0.488 |
| 25 | -6.35 | 0.00 | -0.07 | 0.475 |
| 26 | -5.99 | 0.00 | -0.06 | 0.468 |
| 27 | -4.57 | 0.00 | -0.03 | 0.448 |
| 28 | -3.64 | 0.00 | -0.02 | 0.434 |
| 29 | -3.35 | 0.00 | -0.01 | 0.430 |
| 30 | -2.13 | 0.00 | -0.05 | 0.413 |
| 31 | -0.74 | 0.00 | -0.08 | 0.377 |
| 32 | -0.38 | 0.00 | -0.09 | 0.360 |
| 33 | -0.35 | 0.00 | -0.10 | 0.358 |
| 34 | 0.00 | 0.00 | -0.14 | 0.333 |
| 35 | 0.26 | 0.00 | -0.17 | 0.306 |
| 36 | 0.52 | 0.00 | -0.21 | 0.279 |
| 37 | 0.77 | 0.00 | -0.24 | 0.263 |
| 38 | 1.04 | 0.00 | -2.00 | 0.489 |
| 39 | 1.29 | 0.00 | -2.38 | 0.532 |
| 40 | 1.42 | 0.00 | -2.32 | 0.549 |
| 41 | 1.72 | 0.00 | -2.20 | 0.511 |
| 42 | 2.64 | 0.00 | -1.69 | 0.404 |
| 43 | 3.24 | 0.00 | -1.84 | 0.377 |
| 44 | 3.50 | 0.00 | -1.97 | 0.370 |
| 45 | 4.56 | 0.00 | -2.18 | 0.336 |
| 46 | 4.93 | 0.00 | -2.20 | 0.326 |

## 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 540 | 0.014 | 7.550 | 0.174 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 5050 | 0.129 | 68.689 | 0.059 |
| 2 | 540 | 0.040 | 15.179 | 0.223 |
| | 5050 | 0.192 | 72.947 | 0.071 |
| 3 | 540 | 0.247 | 30.127 | 0.572 |
| | 5050 | 0.647 | 78.945 | 0.172 |
| 4 | 540 | 0.283 | 29.459 | 0.678 |
| | 5050 | 0.753 | 78.329 | 0.208 |
| 5 | 540 | 0.296 | 29.646 | 0.702 |
| | 5050 | 0.788 | 78.898 | 0.211 |
| 6 | 540 | 0.310 | 28.655 | 0.772 |
| | 5050 | 0.844 | 77.969 | 0.238 |
| 7 | 540 | 0.348 | 27.782 | 0.904 |
| | 5050 | 0.978 | 78.091 | 0.274 |
| 8 | 540 | 0.358 | 27.536 | 0.941 |
| | 5050 | 1.014 | 78.056 | 0.285 |
| 9 | 540 | 0.419 | 28.552 | 1.048 |
| | 5050 | 1.151 | 78.450 | 0.316 |
| 10 | 540 | 0.391 | 26.985 | 1.058 |
| | 5050 | 1.128 | 77.905 | 0.320 |
| 11 | 540 | 0.372 | 26.069 | 1.056 |
| | 5050 | 1.105 | 77.367 | 0.323 |
| 12 | 540 | 0.369 | 25.913 | 1.054 |
| | 5050 | 1.098 | 77.203 | 0.324 |
| 13 | 540 | 0.369 | 25.905 | 1.055 |
| | 5050 | 1.097 | 77.056 | 0.327 |
| 14 | 540 | 0.358 | 25.405 | 1.051 |
| | 5050 | 1.075 | 76.296 | 0.334 |
| 15 | 540 | 0.360 | 25.600 | 1.045 |
| | 5050 | 1.069 | 76.122 | 0.335 |
| 16 | 540 | 0.374 | 26.516 | 1.037 |
| | 5050 | 1.080 | 76.518 | 0.331 |
| 17 | 540 | 0.414 | 28.896 | 1.019 |
| | 5050 | 1.107 | 77.240 | 0.326 |
| 18 | 540 | 0.351 | 27.672 | 0.918 |
| | 5050 | 0.975 | 76.807 | 0.294 |
| 19 | 540 | 0.202 | 23.784 | 0.647 |
| | 5050 | 0.650 | 76.617 | 0.199 |
| 20 | 540 | 0.153 | 24.436 | 0.472 |
| | 5050 | 0.464 | 74.130 | 0.162 |
| 21 | 540 | 0.147 | 23.904 | 0.469 |
| | 5050 | 0.456 | 73.953 | 0.161 |
| 22 | 540 | 0.147 | 23.944 | 0.468 |
| | 5050 | 0.455 | 73.940 | 0.160 |
| 23 | 540 | 0.120 | 22.468 | 0.413 |
| | 5050 | 0.387 | 72.647 | 0.146 |
| 24 | 540 | 0.104 | 21.250 | 0.384 |
| | 5050 | 0.351 | 71.991 | 0.137 |
| 25 | 540 | 0.097 | 20.385 | 0.378 |
| | 5050 | 0.340 | 71.708 | 0.134 |
| 26 | 540 | 0.094 | 20.166 | 0.374 |
| | 5050 | 0.337 | 71.851 | 0.132 |
| 27 | 540 | 0.088 | 19.604 | 0.360 |
| | 5050 | 0.323 | 72.074 | 0.125 |
| 28 | 540 | 0.085 | 19.495 | 0.350 |
| | 5050 | 0.313 | 72.056 | 0.121 |
| 29 | 540 | 0.084 | 19.466 | 0.346 |
| | 5050 | 0.310 | 72.053 | 0.120 |
| 30 | 540 | 0.081 | 19.625 | 0.332 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 5050 | 0.298 | 72.251 | 0.115 |
| 31 | 540 | 0.078 | 20.709 | 0.299 |
| | 5050 | 0.272 | 72.261 | 0.105 |
| 32 | 540 | 0.075 | 20.835 | 0.285 |
| | 5050 | 0.258 | 71.856 | 0.101 |
| 33 | 540 | 0.074 | 20.762 | 0.284 |
| | 5050 | 0.257 | 71.796 | 0.101 |
| 34 | 540 | 0.063 | 18.952 | 0.270 |
| | 5050 | 0.236 | 70.806 | 0.097 |
| 35 | 540 | 0.047 | 15.303 | 0.259 |
| | 5050 | 0.212 | 69.149 | 0.094 |
| 36 | 540 | 0.028 | 10.060 | 0.251 |
| | 5050 | 0.185 | 66.453 | 0.094 |
| 37 | 540 | 0.018 | 6.871 | 0.245 |
| | 5050 | 0.169 | 64.114 | 0.094 |
| 38 | 540 | 0.075 | 15.430 | 0.413 |
| | 5050 | 0.339 | 69.381 | 0.150 |
| 39 | 540 | 0.099 | 18.535 | 0.433 |
| | 5050 | 0.382 | 71.772 | 0.150 |
| 40 | 540 | 0.119 | 21.591 | 0.431 |
| | 5050 | 0.400 | 72.905 | 0.149 |
| 41 | 540 | 0.100 | 19.607 | 0.411 |
| | 5050 | 0.367 | 71.856 | 0.144 |
| 42 | 540 | 0.049 | 12.169 | 0.355 |
| | 5050 | 0.274 | 67.683 | 0.131 |
| 43 | 540 | 0.041 | 10.878 | 0.336 |
| | 5050 | 0.252 | 66.891 | 0.125 |
| 44 | 540 | 0.040 | 10.764 | 0.330 |
| | 5050 | 0.247 | 66.881 | 0.122 |
| 45 | 540 | 0.031 | 9.336 | 0.305 |
| | 5050 | 0.222 | 66.042 | 0.114 |
| 46 | 540 | 0.029 | 8.866 | 0.297 |
| | 5050 | 0.214 | 65.766 | 0.112 |

## 5 Warnings and errors

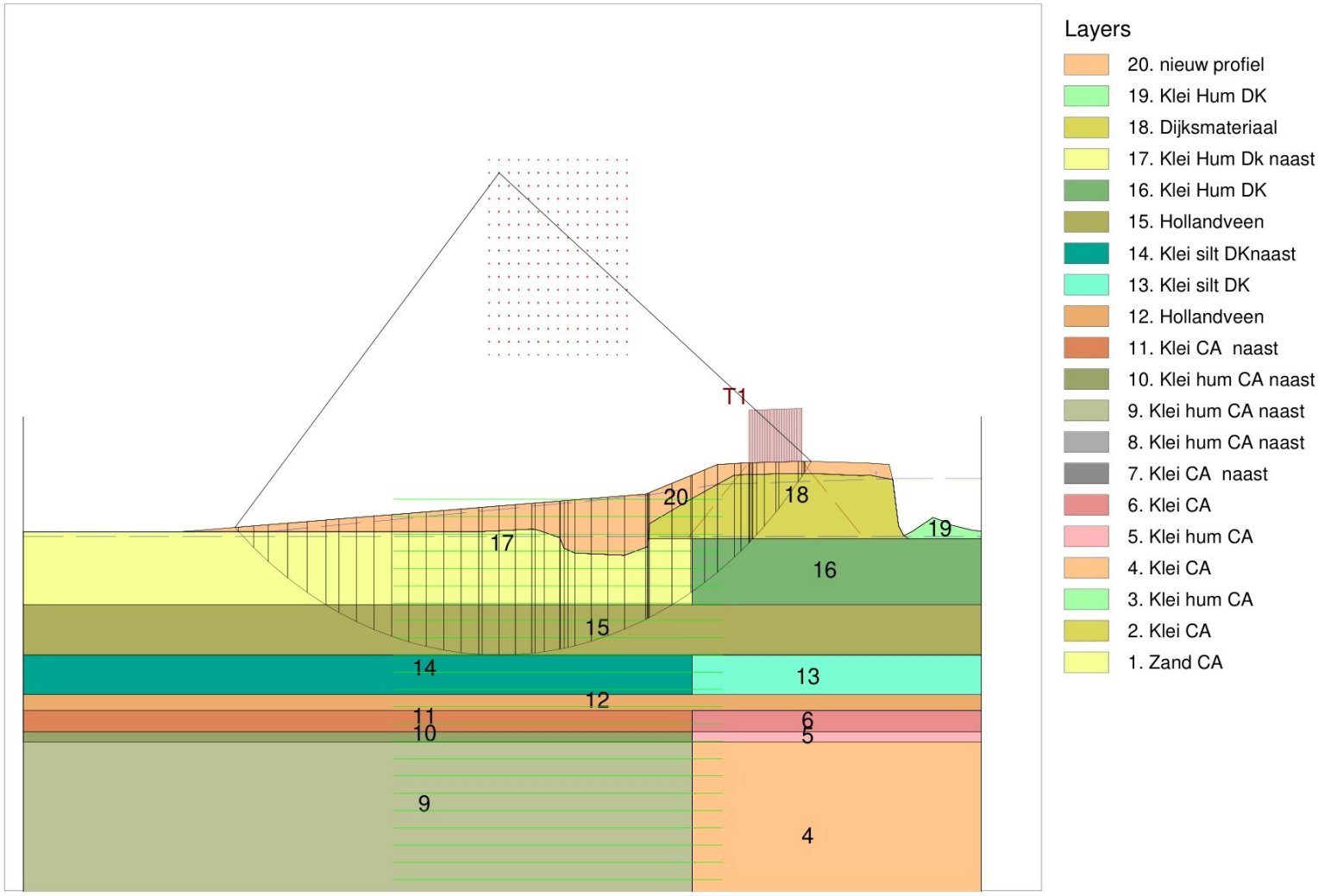
List of non-fatal warnings and errors generated during calculation.

1 Non-uniform load [2]: Co-ordinate (11) lies below surface

2 Non-uniform load [3]: Co-ordinate (11) lies below surface

## End of Report

# Critical Circle Bishop




Xm : -17.69 [m]
Ym : 11.38 [m]

Radius : 18.28 [m]
Safety : 1.47

D-Geo Stability 18.2 : 14.320 SB DW10 STBI_steunberm koe.sti

waalpartners civil engineering

Zuidweg 75
2671MP Naaldwijk

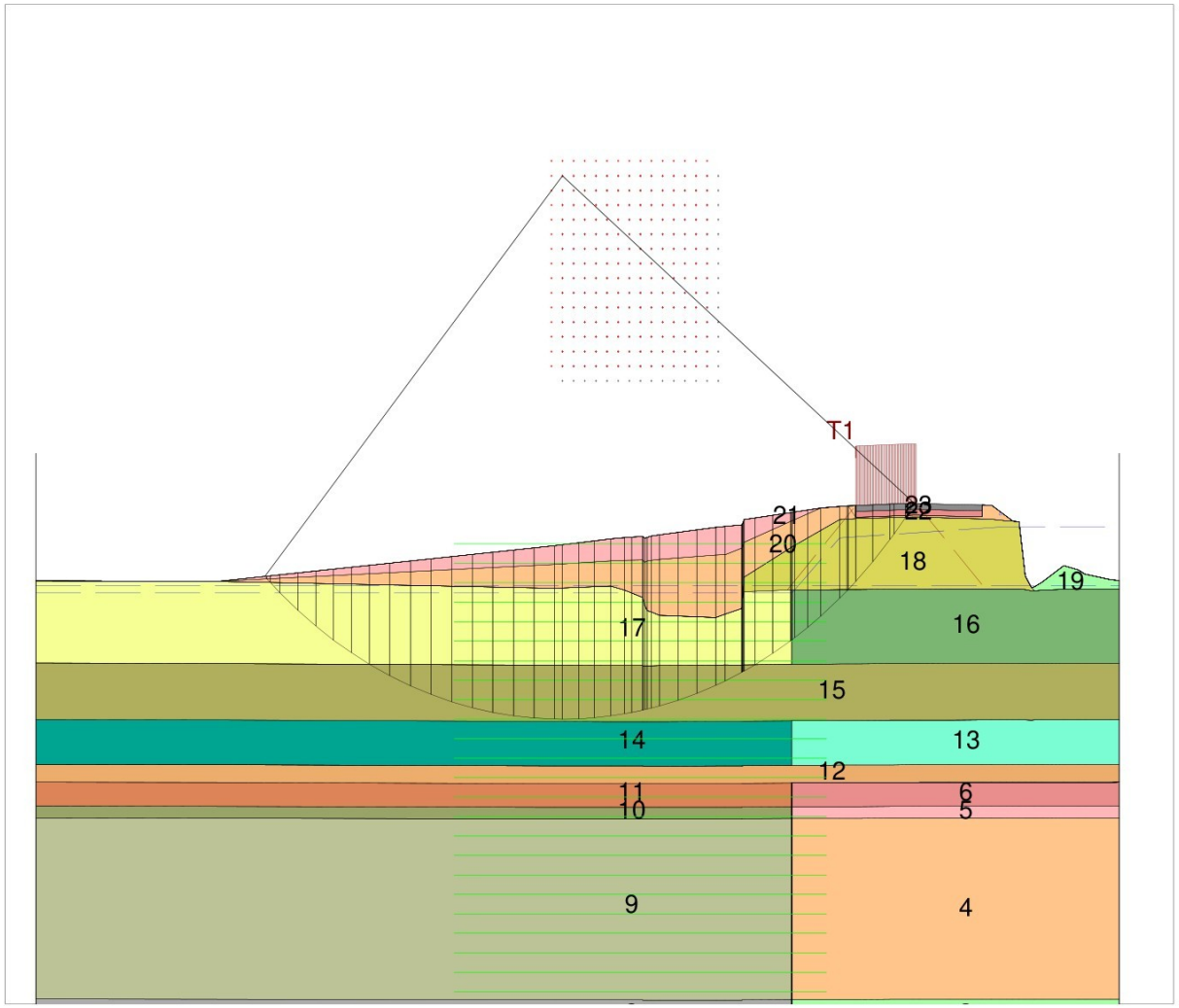
Phone 0174 627791
Fax

N468 steunberm
SB DW10 profiel 14.320
STBI eind

| | |
|---|---|
| date | 2/5/2025 |
| drw. | - |
| ctr. | - |
| form. | A3 |

Annex -

# Critical Circle Bishop




Layers

- 23. Asfalt
- 22. menggranulaat
- 21. nieuw profiel
- 20. nieuw profiel
- 19. Klei Hum Dk naast
- 18. Dijksmateriaal
- 17. Klei Hum Dk naast
- 16. Klei Hum DK
- 15. Hollandveen
- 14. Klei silt DKnaast
- 13. Klei silt DK
- 12. Hollandveen
- 11. Klei CA naast
- 10. Klei hum CA naast
- 9. Klei CA naast
- 8. Klei hum CA naast
- 7. Klei CA naast
- 6. Klei CA
- 5. Klei hum CA
- 4. Klei CA
- 3. Klei hum CA
- 2. Klei CA
- 1. Zand CA

Xm : -18.15 [m]
Ym : 11.38 [m]

Radius : 18.28 [m]
Safety : 1.20

N468 steunberm
SB DW10 profiel 14.320
STBI 540

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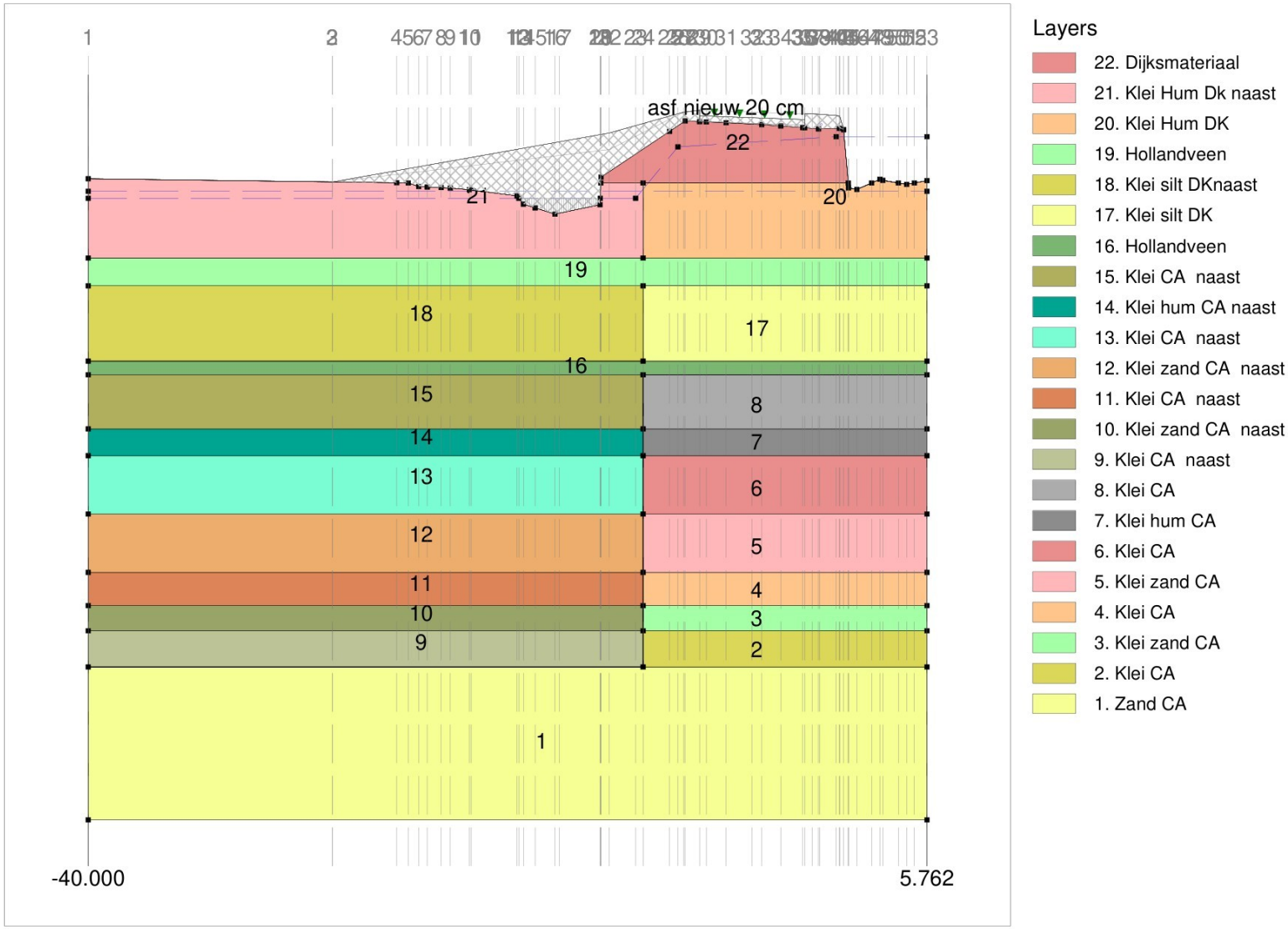
date 2/5/2025
dfw. -
ctr. -
form. A3
Annex -

D-Geo Stability 18.2 : 14.320 SB DW10 STBI_steunberm koe540.sti

Bijlage 5.2 SBDMW11

# Input View




D-Settlement 23.2 : 14.430 SB DW11 Zetting eind koe.sli

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Email -


N468 steunberm
profiel 14.43
huidige STBI

| | |
|---|---|
| date | 2/5/2025 |
| drw. | - |
| ctr. | - |
| form. | A3 |
| Annex | - |

# Report for D-Settlement 23.2

Settlement Calculations
Developed by Deltares




| | |
|---|---|
| Company: | Waalpartners civil engineering |
| Date of report: | 2/5/2025 |
| Time of report: | 3:50:43 PM |
| Report with version: | 23.2.1.41771 |
| Date of calculation: | 1/13/2025 |
| Time of calculation: | 4:26:40 PM |
| Calculated with version: | 23.2.1.41771 |
| File name: | 14.430 SB DW11 Zetting eind koe |
| Project identification: | N468 steunberm<br>profiel 10.350<br>huidige STBI |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 22 - X - | -40.000 | -23.164 | -22.534 | -21.967 | -21.507 |
| 22 - Y - | -1.944 | -2.094 | -2.100 | -2.223 | -2.240 |
| 22 - X - | -20.748 | -20.241 | -19.206 | -16.611 | -16.500 |
| 22 - Y - | -2.263 | -2.279 | -2.337 | -2.566 | -2.650 |
| 22 - X - | -16.250 | -15.609 | -14.533 | -12.086 | -12.070 |
| 22 - Y - | -2.859 | -2.992 | -3.218 | -2.880 | -2.650 |
| 22 - X - | -12.036 | -12.022 | -8.286 | -7.427 | -6.640 |
| 22 - Y - | -2.100 | -1.888 | -0.237 | 0.134 | 0.107 |
| 22 - X - | -6.280 | -5.202 | -3.253 | -2.223 | -1.017 |
| 22 - Y - | 0.095 | 0.063 | -0.001 | -0.048 | -0.108 |
| 22 - X - | -0.924 | -0.152 | 0.976 | 1.215 | 1.463 |
| 22 - Y - | -0.113 | -0.156 | -0.133 | -0.182 | -2.100 |
| 22 - X - | 1.485 | 1.936 | 2.729 | 3.181 | 3.346 |
| 22 - Y - | -2.273 | -2.328 | -2.100 | -1.970 | -2.005 |
| 22 - X - | 4.198 | 4.646 | 5.066 | 5.762 | |
| 22 - Y - | -2.100 | -2.150 | -2.100 | -2.017 | |
| 21 - X - | -40.000 | -23.164 | -22.534 | -21.967 | -21.507 |
| 21 - Y - | -1.944 | -2.094 | -2.100 | -2.223 | -2.240 |
| 21 - X - | -20.748 | -20.241 | -19.206 | -16.611 | -16.500 |
| 21 - Y - | -2.263 | -2.279 | -2.337 | -2.566 | -2.650 |
| 21 - X - | -16.250 | -15.609 | -14.533 | -12.086 | -12.070 |
| 21 - Y - | -2.859 | -2.992 | -3.218 | -2.880 | -2.650 |
| 21 - X - | -12.036 | -9.725 | 1.463 | 1.485 | 1.936 |
| 21 - Y - | -2.100 | -2.100 | -2.100 | -2.273 | -2.328 |
| 21 - X - | 2.729 | 3.181 | 3.346 | 4.198 | 4.646 |
| 21 - Y - | -2.100 | -1.970 | -2.005 | -2.100 | -2.150 |
| 21 - X - | 5.066 | 5.762 | | | |
| 21 - Y - | -2.100 | -2.017 | | | |
| 20 - X - | -40.000 | -9.725 | -9.725 | 1.463 | 1.485 |
| 20 - Y - | -4.800 | -4.800 | -2.100 | -2.100 | -2.273 |
| 20 - X - | 1.936 | 2.729 | 3.181 | 3.346 | 4.198 |
| 20 - Y - | -2.328 | -2.100 | -1.970 | -2.005 | -2.100 |
| 20 - X - | 4.646 | 5.066 | 5.762 | | |
| 20 - Y - | -2.150 | -2.100 | -2.017 | | |
| 19 - X - | -40.000 | -9.725 | 5.762 | | |
| 19 - Y - | -4.800 | -4.800 | -4.800 | | |
| 18 - X - | -40.000 | -9.725 | 5.762 | | |
| 18 - Y - | -5.800 | -5.800 | -5.800 | | |
| 17 - X - | -40.000 | -9.725 | -9.725 | 5.762 | |
| 17 - Y - | -8.500 | -8.500 | -5.800 | -5.800 | |
| 16 - X - | -40.000 | -9.725 | 5.762 | | |
| 16 - Y - | -8.500 | -8.500 | -8.500 | | |
| 15 - X - | -40.000 | -9.725 | 5.762 | | |
| 15 - Y - | -9.000 | -9.000 | -9.000 | | |
| 14 - X - | -40.000 | -9.725 | -9.725 | 5.762 | |
| 14 - Y - | -10.940 | -10.940 | -9.000 | -9.000 | |
| 13 - X - | -40.000 | -9.725 | -9.725 | -9.725 | 5.762 |
| 13 - Y - | -11.900 | -11.900 | -10.940 | -9.000 | -9.000 |
| 12 - X - | -40.000 | -9.725 | -9.725 | -9.725 | -9.725 |
| 12 - Y - | -14.000 | -14.000 | -11.900 | -10.940 | -9.000 |
| 12 - X - | 5.762 | | | | |
| 12 - Y - | -9.000 | | | | |
| 11 - X - | -40.000 | -9.725 | -9.725 | -9.725 | -9.725 |
| 11 - Y - | -16.100 | -16.100 | -14.000 | -11.900 | -10.940 |

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 11 - X - | -9.725 | 5.762 | | | |
| 11 - Y - | -9.000 | -9.000 | | | |
| 10 - X - | -40.000 | -9.725 | -9.725 | -9.725 | -9.725 |
| 10 - Y - | -17.300 | -17.300 | -16.100 | -14.000 | -11.900 |
| 10 - X - | -9.725 | -9.725 | 5.762 | | |
| 10 - Y - | -10.940 | -9.000 | -9.000 | | |
| 9 - X - | -40.000 | -9.725 | -9.725 | -9.725 | -9.725 |
| 9 - Y - | -18.200 | -18.200 | -17.300 | -16.100 | -14.000 |
| 9 - X - | -9.725 | -9.725 | -9.725 | 5.762 | |
| 9 - Y - | -11.900 | -10.940 | -9.000 | -9.000 | |
| 8 - X - | -40.000 | -9.725 | -9.725 | -9.725 | -9.725 |
| 8 - Y - | -19.500 | -19.500 | -18.200 | -17.300 | -16.100 |
| 8 - X - | -9.725 | -9.725 | -9.725 | -9.725 | 5.762 |
| 8 - Y - | -14.000 | -11.900 | -10.940 | -9.000 | -9.000 |
| 7 - X - | -40.000 | -9.725 | -9.725 | -9.725 | -9.725 |
| 7 - Y - | -19.500 | -19.500 | -18.200 | -17.300 | -16.100 |
| 7 - X - | -9.725 | -9.725 | -9.725 | 5.762 | |
| 7 - Y - | -14.000 | -11.900 | -10.940 | -10.940 | |
| 6 - X - | -40.000 | -9.725 | -9.725 | -9.725 | -9.725 |
| 6 - Y - | -19.500 | -19.500 | -18.200 | -17.300 | -16.100 |
| 6 - X - | -9.725 | -9.725 | 5.762 | | |
| 6 - Y - | -14.000 | -11.900 | -11.900 | | |
| 5 - X - | -40.000 | -9.725 | -9.725 | -9.725 | -9.725 |
| 5 - Y - | -19.500 | -19.500 | -18.200 | -17.300 | -16.100 |
| 5 - X - | -9.725 | 5.762 | | | |
| 5 - Y - | -14.000 | -14.000 | | | |
| 4 - X - | -40.000 | -9.725 | -9.725 | -9.725 | -9.725 |
| 4 - Y - | -19.500 | -19.500 | -18.200 | -17.300 | -16.100 |
| 4 - X - | 5.762 | | | | |
| 4 - Y - | -16.100 | | | | |
| 3 - X - | -40.000 | -9.725 | -9.725 | -9.725 | 5.762 |
| 3 - Y - | -19.500 | -19.500 | -18.200 | -17.300 | -17.300 |
| 2 - X - | -40.000 | -9.725 | -9.725 | 5.762 | |
| 2 - Y - | -19.500 | -19.500 | -18.200 | -18.200 | |
| 1 - X - | -40.000 | -9.725 | 5.762 | | |
| 1 - Y - | -19.500 | -19.500 | -19.500 | | |
| 0 - X - | -40.000 | 5.762 | | | |
| 0 - Y - | -25.000 | -25.000 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -40.000 | -10.133 | -7.835 | 0.807 | 5.762 |
| 1 - Y - | -2.650 | -2.650 | -0.800 | -0.430 | -0.430 |
| 2 - X - | -40.000 | 5.762 | | | |
| 2 - Y - | -2.400 | -2.400 | | | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | |
| - Loads: | None |
| End of consolidation: | 10000.00 [days] |
| No maintain profile | |
| Pc (initial): | Variable parallel to the initial effective stress |

| | |
|---|---|
| Pc (per step): | Automatic increased to the final effective stresses |
| Creep rate reference time: | 1.000 [days] |
| No imaginary surface | |
| With submerging | |
| (only for non uniform loads) | |
| - Iteration stop criterium : | 0.10 [m] |
| Load column width | |
| - Non-Uniform Loads : | 1.00 [m] |
| - Trapeziform Loads : | 1.00 [m] |

## 2.4 Soil Profiles

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 22 | Dijksmateriaal | 1 | 1 |
| 21 | Klei Hum Dk naast | 1 | 1 |
| 20 | Klei Hum DK | 1 | 1 |
| 19 | Hollandveen | 1 | 1 |
| 18 | Klei silt DKnaast | 1 | 1 |
| 17 | Klei silt DK | 1 | 1 |
| 16 | Hollandveen | 1 | 1 |
| 15 | Klei CA naast | 1 | 1 |
| 14 | Klei hum CA naast | 1 | 1 |
| 13 | Klei CA naast | 1 | 1 |
| 12 | Klei zand CA naast | 1 | 1 |
| 11 | Klei CA naast | 1 | 1 |
| 10 | Klei zand CA naast | 1 | 1 |
| 9 | Klei CA naast | 1 | 2 |
| 8 | Klei CA | 1 | 1 |
| 7 | Klei hum CA | 1 | 1 |
| 6 | Klei CA | 1 | 1 |
| 5 | Klei zand CA | 1 | 1 |
| 4 | Klei CA | 1 | 1 |
| 3 | Klei zand CA | 1 | 1 |
| 2 | Klei CA | 1 | 2 |
| 1 | Zand CA | 2 | 2 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 22 | No | 16.00 | 16.00 |
| 21 | No | 13.50 | 13.50 |
| 20 | No | 13.50 | 13.50 |
| 19 | No | 10.50 | 10.50 |
| 18 | No | 15.10 | 15.10 |
| 17 | No | 15.10 | 15.10 |
| 16 | No | 10.50 | 10.50 |
| 15 | No | 15.90 | 15.90 |
| 14 | No | 15.10 | 15.10 |
| 13 | No | 15.90 | 15.90 |
| 12 | No | 17.00 | 17.00 |
| 11 | No | 15.90 | 15.90 |
| 10 | No | 17.00 | 17.00 |
| 9 | No | 15.90 | 15.90 |
| 8 | No | 15.90 | 15.90 |
| 7 | No | 15.10 | 15.10 |
| 6 | No | 15.90 | 15.90 |
| 5 | No | 17.00 | 17.00 |
| 4 | No | 15.90 | 15.90 |

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 3 | No | 17.00 | 17.00 |
| 2 | No | 15.90 | 15.90 |
| 1 | Yes | 18.00 | 20.00 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] |
|---|---|---|
| 22 | Vert. cons. | 1.00E-08 |
| 21 | Vert. cons. | 2.07E-08 |
| 20 | Vert. cons. | 2.07E-08 |
| 19 | Vert. cons. | 2.37E-08 |
| 18 | Vert. cons. | 2.54E-08 |
| 17 | Vert. cons. | 2.54E-08 |
| 16 | Vert. cons. | 2.37E-08 |
| 15 | Vert. cons. | 6.02E-07 |
| 14 | Vert. cons. | 9.27E-08 |
| 13 | Vert. cons. | 6.02E-07 |
| 12 | Vert. cons. | 1.00E-07 |
| 11 | Vert. cons. | 6.02E-07 |
| 10 | Vert. cons. | 1.00E-07 |
| 9 | Vert. cons. | 6.02E-07 |
| 8 | Vert. cons. | 6.02E-07 |
| 7 | Vert. cons. | 9.27E-08 |
| 6 | Vert. cons. | 6.02E-07 |
| 5 | Vert. cons. | 1.00E-07 |
| 4 | Vert. cons. | 6.02E-07 |
| 3 | Vert. cons. | 1.00E-07 |
| 2 | Vert. cons. | 6.02E-07 |
| 1 | Vert. cons. | - |

| Layer number | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|
| 22 | - | - | - |
| 21 | - | - | - |
| 20 | - | - | - |
| 19 | - | - | - |
| 18 | - | - | - |
| 17 | - | - | - |
| 16 | - | - | - |
| 15 | - | - | - |
| 14 | - | - | - |
| 13 | - | - | - |
| 12 | - | - | - |
| 11 | - | - | - |
| 10 | - | - | - |
| 9 | - | - | - |
| 8 | - | - | - |
| 7 | - | - | - |
| 6 | - | - | - |
| 5 | - | - | - |
| 4 | - | - | - |
| 3 | - | - | - |
| 2 | - | - | - |
| 1 | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 22 | - | 1.50 | - |
| 21 | - | 1.50 | - |
| 20 | - | 1.50 | - |
| 19 | - | 1.80 | - |
| 18 | - | 1.50 | - |
| 17 | - | 1.50 | - |
| 16 | - | 1.80 | - |
| 15 | - | 1.50 | - |
| 14 | - | 1.50 | - |
| 13 | - | 1.50 | - |
| 12 | - | 1.39 | - |
| 11 | - | 1.50 | - |
| 10 | - | 1.39 | - |
| 9 | - | 1.50 | - |
| 8 | - | 1.50 | - |
| 7 | - | 1.50 | - |
| 6 | - | 1.50 | - |
| 5 | - | 1.39 | - |
| 4 | - | 1.50 | - |
| 3 | - | 1.39 | - |
| 2 | - | 1.50 | - |
| 1 | - | 1.39 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 22 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 21 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 20 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 19 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 18 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 17 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 16 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 15 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 14 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 13 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 12 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 11 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 10 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 9 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 8 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 7 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 6 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 5 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 4 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 3 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 2 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 1 | 0.0100000 | 0.1062000 | 0.0033000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time [days] | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 1 | -1 | 14.00 | 14.00 |
| 2 | 1 | 16.00 | 16.00 |
| 3 | 1 | 16.00 | 16.00 |
| 4 | 300 | 19.00 | 19.00 |

| Load number | Time [days] | Unit weight Unsaturated [kN/m³] | Unit weight Saturated [kN/m³] |
|---|---|---|---|
| 5 | 300 | 25.00 | 25.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -16.50 | -12.07 | | | | |
| 1 - Y - | -2.65 | -2.65 | | | | |
| 2 - X - | -26.66 | -11.56 | -7.50 | -6.64 | -6.64 | -3.78 |
| 2 - Y - | -2.06 | -0.90 | 0.45 | 0.52 | 0.12 | 0.05 |
| 2 - X - | -0.92 | -0.92 | -0.50 | -0.10 | 1.00 | 1.22 |
| 2 - Y - | -0.02 | 0.38 | 0.38 | 0.37 | 0.32 | -0.18 |
| 3 - X - | -26.66 | -11.56 | -7.50 | -6.64 | -6.64 | -3.78 |
| 3 - Y - | -2.06 | -0.30 | 0.45 | 0.52 | 0.12 | 0.05 |
| 3 - X - | -0.92 | -0.92 | -0.50 | -0.10 | 1.00 | 1.22 |
| 3 - Y - | -0.02 | 0.38 | 0.38 | 0.37 | 0.32 | -0.18 |
| 4 - X - | -6.64 | -6.64 | -3.78 | -0.92 | -0.92 | |
| 4 - Y - | 0.12 | 0.32 | 0.25 | 0.18 | -0.02 | |
| 5 - X - | -6.64 | -6.64 | -3.78 | -0.92 | -0.92 | |
| 5 - Y - | 0.32 | 0.52 | 0.45 | 0.38 | 0.18 | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -40.000 | -26.668 | -26.666 | -23.164 | -22.534 |
| 6 - 10 | -21.967 | -21.507 | -20.748 | -20.241 | -19.206 |
| 11 - 15 | -19.110 | -16.611 | -16.500 | -16.250 | -15.609 |
| 16 - 20 | -14.533 | -14.280 | -12.086 | -12.070 | -12.036 |
| 21 - 25 | -12.022 | -11.564 | -10.133 | -9.725 | -8.286 |
| 26 - 30 | -7.835 | -7.503 | -7.427 | -6.640 | -6.280 |
| 31 - 35 | -5.202 | -3.782 | -3.253 | -2.223 | -1.017 |
| 36 - 40 | -0.924 | -0.503 | -0.152 | -0.103 | 0.807 |
| 41 - 45 | 0.976 | 0.997 | 1.215 | 1.463 | 1.485 |
| 46 - 50 | 1.936 | 2.729 | 3.181 | 3.346 | 4.198 |
| 51 - 53 | 4.646 | 5.066 | 5.762 | | |

# 3 Results per Vertical

## 3.1 Results for Vertical 1 (X = -40.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.944 | 0.001 | -1.944 | 0.000 | 0.175 |
| -2.044 | 1.347 | -2.044 | 0.000 | 0.172 |
| -2.144 | 2.687 | -2.143 | 0.000 | 0.170 |
| -2.244 | 4.022 | -2.241 | 0.000 | 0.167 |
| -2.344 | 5.351 | -2.339 | 0.000 | 0.164 |
| -2.400 | 6.092 | -2.393 | 0.000 | 0.163 |
| -2.444 | 6.674 | -2.436 | 0.000 | 0.162 |
| -2.544 | 7.682 | -2.533 | -0.309 | 0.159 |
| -2.644 | 8.015 | -2.629 | -1.290 | 0.157 |
| -2.650 | 8.035 | -2.635 | -1.349 | 0.157 |
| -2.744 | 8.346 | -2.631 | -1.349 | 0.156 |
| -2.844 | 8.676 | -2.627 | -1.349 | 0.154 |
| -2.944 | 9.005 | -2.623 | -1.349 | 0.153 |
| -3.372 | 10.401 | -2.605 | -1.349 | 0.147 |
| -4.100 | 12.742 | -2.569 | -1.348 | 0.138 |
| -4.800 | 14.969 | -2.533 | -1.346 | 0.131 |
| -4.800 | 14.969 | -2.533 | -1.346 | 0.131 |
| -5.300 | 15.175 | -2.518 | -1.344 | 0.120 |
| -5.800 | 15.410 | -2.507 | -1.340 | 0.111 |
| -5.800 | 15.410 | -2.507 | -1.340 | 0.111 |
| -6.450 | 18.632 | -2.484 | -1.333 | 0.105 |
| -7.150 | 22.113 | -2.460 | -1.322 | 0.099 |
| -7.800 | 25.375 | -2.441 | -1.309 | 0.093 |
| -8.500 | 28.942 | -2.425 | -1.289 | 0.086 |
| -8.500 | 28.942 | -2.425 | -1.289 | 0.086 |
| -8.750 | 29.105 | -2.423 | -1.281 | 0.079 |
| -9.000 | 29.285 | -2.423 | -1.272 | 0.072 |
| -9.000 | 29.285 | -2.423 | -1.272 | 0.072 |
| -9.970 | 35.238 | -2.423 | -1.231 | 0.070 |
| -10.940 | 41.206 | -2.424 | -1.179 | 0.066 |
| -10.940 | 41.206 | -2.424 | -1.179 | 0.066 |
| -11.420 | 43.829 | -2.430 | -1.149 | 0.060 |
| -11.900 | 46.473 | -2.437 | -1.117 | 0.054 |
| -11.900 | 46.473 | -2.437 | -1.117 | 0.054 |
| -12.450 | 49.878 | -2.439 | -1.076 | 0.051 |
| -12.950 | 52.979 | -2.440 | -1.037 | 0.048 |
| -13.500 | 56.396 | -2.442 | -0.990 | 0.045 |
| -14.000 | 59.509 | -2.445 | -0.946 | 0.042 |
| -14.000 | 59.509 | -2.445 | -0.946 | 0.042 |
| -14.550 | 63.742 | -2.468 | -0.894 | 0.040 |
| -15.050 | 67.617 | -2.491 | -0.845 | 0.039 |
| -15.600 | 71.908 | -2.520 | -0.789 | 0.037 |
| -16.100 | 75.838 | -2.548 | -0.737 | 0.034 |
| -16.100 | 75.838 | -2.548 | -0.737 | 0.034 |
| -16.700 | 79.605 | -2.553 | -0.672 | 0.029 |
| -17.300 | 83.380 | -2.559 | -0.606 | 0.023 |
| -17.300 | 83.380 | -2.559 | -0.606 | 0.023 |
| -17.750 | 87.023 | -2.595 | -0.556 | 0.021 |
| -18.200 | 90.692 | -2.634 | -0.504 | 0.019 |
| -18.200 | 90.692 | -2.634 | -0.504 | 0.019 |
| -18.850 | 93.575 | -2.517 | -0.430 | 0.012 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -19.500 | 96.467 | -2.400 | -0.355 | 0.005 |
| -19.500 | 96.467 | -2.400 | -0.355 | 0.005 |
| -20.850 | 110.383 | -2.400 | -0.199 | 0.003 |
| -22.250 | 124.812 | -2.400 | -0.039 | 0.002 |
| -23.600 | 138.721 | -2.400 | 0.110 | 0.001 |
| -25.000 | 153.138 | -2.400 | 0.259 | 0.000 |

### 3.2 Results for Vertical 2 (X = -26.67 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.063 | 0.125 | -2.063 | 0.124 | 0.253 |
| -2.163 | 1.808 | -2.162 | 0.463 | 0.246 |
| -2.263 | 3.166 | -2.261 | 0.486 | 0.240 |
| -2.363 | 4.507 | -2.359 | 0.497 | 0.236 |
| -2.400 | 5.004 | -2.395 | 0.501 | 0.235 |
| -2.463 | 5.674 | -2.456 | 0.342 | 0.232 |
| -2.563 | 6.024 | -2.552 | -0.624 | 0.230 |
| -2.650 | 6.330 | -2.636 | -1.464 | 0.228 |
| -2.663 | 6.375 | -2.636 | -1.461 | 0.228 |
| -2.763 | 6.728 | -2.632 | -1.438 | 0.226 |
| -2.863 | 7.084 | -2.628 | -1.410 | 0.225 |
| -2.963 | 7.442 | -2.623 | -1.378 | 0.224 |
| -3.063 | 7.802 | -2.619 | -1.343 | 0.222 |
| -3.431 | 9.136 | -2.601 | -1.193 | 0.217 |
| -4.100 | 11.545 | -2.564 | -0.886 | 0.209 |
| -4.800 | 14.033 | -2.520 | -0.551 | 0.199 |
| -4.800 | 14.033 | -2.520 | -0.551 | 0.199 |
| -5.300 | 14.442 | -2.502 | -0.312 | 0.186 |
| -5.800 | 14.877 | -2.487 | -0.074 | 0.173 |
| -5.800 | 14.877 | -2.487 | -0.074 | 0.173 |
| -6.450 | 18.319 | -2.456 | 0.231 | 0.165 |
| -7.150 | 22.018 | -2.423 | 0.550 | 0.156 |
| -7.800 | 25.469 | -2.395 | 0.836 | 0.146 |
| -8.500 | 29.230 | -2.370 | 1.132 | 0.136 |
| -8.500 | 29.230 | -2.370 | 1.132 | 0.136 |
| -8.750 | 29.473 | -2.367 | 1.234 | 0.127 |
| -9.000 | 29.734 | -2.365 | 1.333 | 0.118 |
| -9.000 | 29.734 | -2.365 | 1.333 | 0.118 |
| -9.970 | 36.020 | -2.366 | 1.702 | 0.112 |
| -10.940 | 42.283 | -2.367 | 2.039 | 0.104 |
| -10.940 | 42.283 | -2.367 | 2.039 | 0.104 |
| -11.420 | 45.046 | -2.373 | 2.193 | 0.096 |
| -11.900 | 47.825 | -2.382 | 2.339 | 0.087 |
| -11.900 | 47.825 | -2.382 | 2.339 | 0.087 |
| -12.450 | 51.355 | -2.384 | 2.496 | 0.082 |
| -12.950 | 54.559 | -2.386 | 2.629 | 0.077 |
| -13.500 | 58.077 | -2.389 | 2.766 | 0.071 |
| -14.000 | 61.270 | -2.392 | 2.881 | 0.066 |
| -14.000 | 61.270 | -2.392 | 2.881 | 0.066 |
| -14.550 | 65.633 | -2.421 | 2.997 | 0.063 |
| -15.050 | 69.623 | -2.451 | 3.094 | 0.060 |
| -15.600 | 74.037 | -2.487 | 3.192 | 0.056 |
| -16.100 | 78.076 | -2.524 | 3.272 | 0.053 |
| -16.100 | 78.076 | -2.524 | 3.272 | 0.053 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -16.700 | 81.882 | -2.530 | 3.359 | 0.045 |
| -17.300 | 85.684 | -2.537 | 3.436 | 0.037 |
| -17.300 | 85.684 | -2.537 | 3.436 | 0.037 |
| -17.750 | 89.417 | -2.582 | 3.487 | 0.033 |
| -18.200 | 93.175 | -2.630 | 3.533 | 0.029 |
| -18.200 | 93.176 | -2.630 | 3.533 | 0.029 |
| -18.850 | 96.062 | -2.515 | 3.590 | 0.020 |
| -19.500 | 98.946 | -2.400 | 3.638 | 0.010 |
| -19.500 | 98.946 | -2.400 | 3.638 | 0.010 |
| -20.850 | 112.780 | -2.400 | 3.710 | 0.007 |
| -22.250 | 127.091 | -2.400 | 3.750 | 0.005 |
| -23.600 | 140.862 | -2.400 | 3.762 | 0.002 |
| -25.000 | 155.119 | -2.400 | 3.750 | 0.000 |

### 3.3 Results for Vertical 3 (X = -26.67 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.063 | 0.137 | -2.063 | 0.136 | 0.253 |
| -2.163 | 1.822 | -2.162 | 0.477 | 0.246 |
| -2.263 | 3.174 | -2.261 | 0.493 | 0.241 |
| -2.363 | 4.512 | -2.359 | 0.502 | 0.236 |
| -2.400 | 5.008 | -2.395 | 0.505 | 0.235 |
| -2.463 | 5.677 | -2.456 | 0.345 | 0.233 |
| -2.563 | 6.027 | -2.552 | -0.622 | 0.230 |
| -2.650 | 6.332 | -2.636 | -1.462 | 0.228 |
| -2.663 | 6.377 | -2.636 | -1.459 | 0.228 |
| -2.763 | 6.730 | -2.632 | -1.436 | 0.226 |
| -2.863 | 7.085 | -2.628 | -1.408 | 0.225 |
| -2.963 | 7.443 | -2.623 | -1.376 | 0.224 |
| -3.063 | 7.803 | -2.619 | -1.341 | 0.222 |
| -3.431 | 9.137 | -2.601 | -1.191 | 0.217 |
| -4.100 | 11.546 | -2.564 | -0.884 | 0.209 |
| -4.800 | 14.034 | -2.520 | -0.550 | 0.199 |
| -4.800 | 14.034 | -2.520 | -0.550 | 0.199 |
| -5.300 | 14.442 | -2.502 | -0.310 | 0.186 |
| -5.800 | 14.877 | -2.487 | -0.072 | 0.173 |
| -5.800 | 14.877 | -2.487 | -0.072 | 0.173 |
| -6.450 | 18.320 | -2.456 | 0.233 | 0.165 |
| -7.150 | 22.019 | -2.423 | 0.552 | 0.156 |
| -7.800 | 25.470 | -2.395 | 0.838 | 0.146 |
| -8.500 | 29.230 | -2.370 | 1.133 | 0.136 |
| -8.500 | 29.230 | -2.370 | 1.133 | 0.136 |
| -8.750 | 29.473 | -2.367 | 1.235 | 0.127 |
| -9.000 | 29.735 | -2.365 | 1.335 | 0.118 |
| -9.000 | 29.735 | -2.365 | 1.335 | 0.118 |
| -9.970 | 36.021 | -2.366 | 1.703 | 0.112 |
| -10.940 | 42.283 | -2.367 | 2.040 | 0.104 |
| -10.940 | 42.283 | -2.367 | 2.040 | 0.104 |
| -11.420 | 45.047 | -2.373 | 2.194 | 0.096 |
| -11.900 | 47.826 | -2.382 | 2.340 | 0.087 |
| -11.900 | 47.826 | -2.382 | 2.340 | 0.087 |
| -12.450 | 51.356 | -2.384 | 2.497 | 0.082 |
| -12.950 | 54.559 | -2.386 | 2.630 | 0.077 |
| -13.500 | 58.077 | -2.389 | 2.767 | 0.071 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -14.000 | 61.271 | -2.392 | 2.882 | 0.066 |
| -14.000 | 61.271 | -2.392 | 2.882 | 0.066 |
| -14.550 | 65.634 | -2.421 | 2.998 | 0.063 |
| -15.050 | 69.623 | -2.451 | 3.095 | 0.060 |
| -15.600 | 74.038 | -2.487 | 3.193 | 0.056 |
| -16.100 | 78.077 | -2.524 | 3.273 | 0.053 |
| -16.100 | 78.077 | -2.524 | 3.273 | 0.053 |
| -16.700 | 81.882 | -2.530 | 3.360 | 0.045 |
| -17.300 | 85.684 | -2.537 | 3.437 | 0.037 |
| -17.300 | 85.684 | -2.537 | 3.437 | 0.037 |
| -17.750 | 89.417 | -2.582 | 3.488 | 0.033 |
| -18.200 | 93.176 | -2.630 | 3.533 | 0.029 |
| -18.200 | 93.176 | -2.630 | 3.533 | 0.029 |
| -18.850 | 96.062 | -2.515 | 3.591 | 0.020 |
| -19.500 | 98.946 | -2.400 | 3.639 | 0.010 |
| -19.500 | 98.946 | -2.400 | 3.639 | 0.010 |
| -20.850 | 112.780 | -2.400 | 3.710 | 0.007 |
| -22.250 | 127.091 | -2.400 | 3.751 | 0.005 |
| -23.600 | 140.862 | -2.400 | 3.762 | 0.002 |
| -25.000 | 155.119 | -2.400 | 3.751 | 0.000 |

### 3.4 Results for Vertical 4 (X = -23.16 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.094 | 7.087 | -2.094 | 7.086 | 0.474 |
| -2.194 | 8.396 | -2.188 | 7.109 | 0.442 |
| -2.294 | 9.667 | -2.280 | 7.101 | 0.422 |
| -2.394 | 10.024 | -2.372 | 6.187 | 0.406 |
| -2.400 | 10.040 | -2.378 | 6.127 | 0.406 |
| -2.494 | 10.284 | -2.464 | 5.182 | 0.394 |
| -2.594 | 10.543 | -2.555 | 4.178 | 0.384 |
| -2.650 | 10.691 | -2.606 | 3.620 | 0.380 |
| -2.694 | 10.809 | -2.602 | 3.615 | 0.377 |
| -2.794 | 11.083 | -2.592 | 3.610 | 0.370 |
| -2.894 | 11.364 | -2.583 | 3.613 | 0.363 |
| -2.994 | 11.649 | -2.574 | 3.621 | 0.356 |
| -3.094 | 11.937 | -2.564 | 3.633 | 0.350 |
| -3.447 | 12.959 | -2.530 | 3.686 | 0.331 |
| -4.100 | 14.823 | -2.466 | 3.776 | 0.300 |
| -4.800 | 16.799 | -2.396 | 3.850 | 0.274 |
| -4.800 | 16.799 | -2.396 | 3.850 | 0.274 |
| -5.300 | 16.940 | -2.370 | 3.899 | 0.245 |
| -5.800 | 17.145 | -2.350 | 3.951 | 0.217 |
| -5.800 | 17.145 | -2.350 | 3.951 | 0.217 |
| -6.450 | 20.312 | -2.314 | 4.027 | 0.202 |
| -7.150 | 23.780 | -2.280 | 4.119 | 0.187 |
| -7.800 | 27.078 | -2.255 | 4.211 | 0.174 |
| -8.500 | 30.735 | -2.239 | 4.313 | 0.159 |
| -8.500 | 30.735 | -2.239 | 4.313 | 0.159 |
| -8.750 | 30.941 | -2.238 | 4.349 | 0.148 |
| -9.000 | 31.171 | -2.240 | 4.385 | 0.136 |
| -9.000 | 31.171 | -2.240 | 4.385 | 0.136 |
| -9.970 | 37.241 | -2.241 | 4.516 | 0.127 |
| -10.940 | 43.302 | -2.244 | 4.626 | 0.117 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -10.940 | 43.302 | -2.244 | 4.626 | 0.117 |
| -11.420 | 46.024 | -2.257 | 4.671 | 0.107 |
| -11.900 | 48.769 | -2.273 | 4.710 | 0.098 |
| -11.900 | 48.769 | -2.273 | 4.710 | 0.098 |
| -12.450 | 52.192 | -2.276 | 4.745 | 0.091 |
| -12.950 | 55.300 | -2.279 | 4.769 | 0.086 |
| -13.500 | 58.716 | -2.283 | 4.786 | 0.079 |
| -14.000 | 61.817 | -2.288 | 4.794 | 0.073 |
| -14.000 | 61.817 | -2.288 | 4.794 | 0.073 |
| -14.550 | 66.201 | -2.331 | 4.795 | 0.070 |
| -15.050 | 70.220 | -2.374 | 4.788 | 0.066 |
| -15.600 | 74.681 | -2.427 | 4.774 | 0.062 |
| -16.100 | 78.774 | -2.479 | 4.755 | 0.058 |
| -16.100 | 78.774 | -2.479 | 4.755 | 0.058 |
| -16.700 | 82.486 | -2.488 | 4.725 | 0.050 |
| -17.300 | 86.199 | -2.497 | 4.689 | 0.041 |
| -17.300 | 86.199 | -2.497 | 4.689 | 0.041 |
| -17.750 | 90.006 | -2.559 | 4.657 | 0.037 |
| -18.200 | 93.850 | -2.624 | 4.623 | 0.033 |
| -18.200 | 93.850 | -2.624 | 4.623 | 0.033 |
| -18.850 | 96.653 | -2.512 | 4.568 | 0.022 |
| -19.500 | 99.458 | -2.400 | 4.508 | 0.011 |
| -19.500 | 99.458 | -2.400 | 4.508 | 0.011 |
| -20.850 | 113.077 | -2.400 | 4.370 | 0.008 |
| -22.250 | 127.185 | -2.400 | 4.213 | 0.005 |
| -23.600 | 140.780 | -2.400 | 4.053 | 0.002 |
| -25.000 | 154.872 | -2.400 | 3.882 | 0.000 |

### 3.5 Results for Vertical 5 (X = -22.53 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.100 | 8.283 | -2.100 | 8.282 | 0.515 |
| -2.200 | 10.057 | -2.192 | 8.783 | 0.481 |
| -2.300 | 11.045 | -2.283 | 8.509 | 0.459 |
| -2.400 | 11.303 | -2.374 | 7.512 | 0.442 |
| -2.500 | 11.540 | -2.463 | 6.499 | 0.428 |
| -2.600 | 11.773 | -2.553 | 5.483 | 0.417 |
| -2.650 | 11.891 | -2.598 | 4.978 | 0.413 |
| -2.700 | 12.011 | -2.593 | 4.964 | 0.408 |
| -2.800 | 12.257 | -2.582 | 4.945 | 0.400 |
| -2.900 | 12.511 | -2.571 | 4.933 | 0.392 |
| -3.000 | 12.769 | -2.561 | 4.927 | 0.385 |
| -3.100 | 13.029 | -2.550 | 4.923 | 0.377 |
| -3.450 | 13.941 | -2.512 | 4.917 | 0.354 |
| -4.100 | 15.618 | -2.441 | 4.895 | 0.319 |
| -4.800 | 17.436 | -2.365 | 4.869 | 0.289 |
| -4.800 | 17.436 | -2.365 | 4.869 | 0.289 |
| -5.300 | 17.500 | -2.338 | 4.858 | 0.256 |
| -5.800 | 17.643 | -2.317 | 4.856 | 0.225 |
| -5.800 | 17.643 | -2.317 | 4.856 | 0.225 |
| -6.450 | 20.741 | -2.280 | 4.870 | 0.209 |
| -7.150 | 24.154 | -2.246 | 4.904 | 0.193 |
| -7.800 | 27.416 | -2.222 | 4.946 | 0.178 |
| -8.500 | 31.050 | -2.208 | 5.000 | 0.163 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -8.500 | 31.050 | -2.208 | 5.000 | 0.163 |
| -8.750 | 31.246 | -2.208 | 5.019 | 0.151 |
| -9.000 | 31.468 | -2.210 | 5.039 | 0.139 |
| -9.000 | 31.468 | -2.210 | 5.039 | 0.139 |
| -9.970 | 37.482 | -2.212 | 5.108 | 0.129 |
| -10.940 | 43.489 | -2.215 | 5.159 | 0.118 |
| -10.940 | 43.489 | -2.215 | 5.159 | 0.118 |
| -11.420 | 46.198 | -2.229 | 5.175 | 0.109 |
| -11.900 | 48.931 | -2.247 | 5.185 | 0.099 |
| -11.900 | 48.931 | -2.247 | 5.185 | 0.099 |
| -12.450 | 52.325 | -2.251 | 5.188 | 0.093 |
| -12.950 | 55.407 | -2.254 | 5.183 | 0.087 |
| -13.500 | 58.795 | -2.259 | 5.169 | 0.080 |
| -14.000 | 61.872 | -2.263 | 5.150 | 0.074 |
| -14.000 | 61.872 | -2.263 | 5.150 | 0.074 |
| -14.550 | 66.258 | -2.310 | 5.121 | 0.071 |
| -15.050 | 70.282 | -2.356 | 5.089 | 0.067 |
| -15.600 | 74.752 | -2.413 | 5.048 | 0.063 |
| -16.100 | 78.857 | -2.469 | 5.005 | 0.059 |
| -16.100 | 78.857 | -2.469 | 5.005 | 0.059 |
| -16.700 | 82.546 | -2.478 | 4.947 | 0.050 |
| -17.300 | 86.238 | -2.488 | 4.884 | 0.041 |
| -17.300 | 86.238 | -2.488 | 4.884 | 0.041 |
| -17.750 | 90.064 | -2.553 | 4.834 | 0.038 |
| -18.200 | 93.929 | -2.622 | 4.781 | 0.033 |
| -18.200 | 93.929 | -2.622 | 4.781 | 0.033 |
| -18.850 | 96.712 | -2.511 | 4.701 | 0.023 |
| -19.500 | 99.501 | -2.400 | 4.618 | 0.012 |
| -19.500 | 99.501 | -2.400 | 4.618 | 0.012 |
| -20.850 | 113.074 | -2.400 | 4.435 | 0.008 |
| -22.250 | 127.140 | -2.400 | 4.238 | 0.005 |
| -23.600 | 140.699 | -2.400 | 4.044 | 0.002 |
| -25.000 | 154.759 | -2.400 | 3.842 | 0.000 |

### 3.6 Results for Vertical 6 (X = -21.97 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.223 | 10.319 | -2.223 | 10.318 | 0.559 |
| -2.323 | 10.625 | -2.314 | 9.368 | 0.523 |
| -2.400 | 10.839 | -2.383 | 8.619 | 0.505 |
| -2.423 | 10.901 | -2.403 | 8.394 | 0.500 |
| -2.523 | 11.160 | -2.493 | 7.407 | 0.482 |
| -2.623 | 11.407 | -2.582 | 6.409 | 0.468 |
| -2.650 | 11.472 | -2.606 | 6.138 | 0.465 |
| -2.723 | 11.645 | -2.598 | 6.120 | 0.456 |
| -2.823 | 11.878 | -2.587 | 6.091 | 0.446 |
| -2.923 | 12.107 | -2.576 | 6.057 | 0.435 |
| -3.023 | 12.333 | -2.565 | 6.022 | 0.425 |
| -3.123 | 12.557 | -2.554 | 5.986 | 0.416 |
| -3.223 | 12.782 | -2.543 | 5.950 | 0.407 |
| -3.511 | 13.435 | -2.511 | 5.854 | 0.384 |
| -4.200 | 15.044 | -2.434 | 5.677 | 0.339 |
| -4.800 | 16.510 | -2.369 | 5.571 | 0.309 |
| -4.800 | 16.510 | -2.369 | 5.571 | 0.309 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -5.300 | 16.517 | -2.340 | 5.507 | 0.271 |
| -5.800 | 16.614 | -2.319 | 5.461 | 0.236 |
| -5.800 | 16.614 | -2.319 | 5.461 | 0.236 |
| -6.450 | 19.659 | -2.282 | 5.426 | 0.217 |
| -7.150 | 23.019 | -2.247 | 5.413 | 0.199 |
| -7.800 | 26.237 | -2.222 | 5.416 | 0.184 |
| -8.500 | 29.823 | -2.207 | 5.428 | 0.168 |
| -8.500 | 29.823 | -2.207 | 5.428 | 0.168 |
| -8.750 | 30.003 | -2.207 | 5.434 | 0.155 |
| -9.000 | 30.210 | -2.209 | 5.439 | 0.142 |
| -9.000 | 30.210 | -2.209 | 5.439 | 0.142 |
| -9.970 | 36.171 | -2.210 | 5.453 | 0.131 |
| -10.940 | 42.124 | -2.213 | 5.448 | 0.120 |
| -10.940 | 42.124 | -2.213 | 5.448 | 0.120 |
| -11.420 | 44.804 | -2.228 | 5.437 | 0.110 |
| -11.900 | 47.510 | -2.245 | 5.420 | 0.100 |
| -11.900 | 47.510 | -2.245 | 5.420 | 0.100 |
| -12.450 | 50.873 | -2.249 | 5.392 | 0.094 |
| -12.950 | 53.928 | -2.252 | 5.360 | 0.088 |
| -13.500 | 57.285 | -2.257 | 5.317 | 0.081 |
| -14.000 | 60.336 | -2.261 | 5.271 | 0.075 |
| -14.000 | 60.336 | -2.261 | 5.271 | 0.075 |
| -14.550 | 64.694 | -2.308 | 5.215 | 0.071 |
| -15.050 | 68.695 | -2.355 | 5.158 | 0.068 |
| -15.600 | 73.141 | -2.411 | 5.090 | 0.064 |
| -16.100 | 77.225 | -2.468 | 5.025 | 0.060 |
| -16.100 | 77.225 | -2.468 | 5.025 | 0.060 |
| -16.700 | 80.888 | -2.477 | 4.941 | 0.051 |
| -17.300 | 84.555 | -2.487 | 4.854 | 0.042 |
| -17.300 | 84.555 | -2.487 | 4.854 | 0.042 |
| -17.750 | 88.365 | -2.553 | 4.786 | 0.038 |
| -18.200 | 92.216 | -2.622 | 4.716 | 0.034 |
| -18.200 | 92.216 | -2.622 | 4.716 | 0.034 |
| -18.850 | 94.977 | -2.511 | 4.613 | 0.023 |
| -19.500 | 97.743 | -2.400 | 4.508 | 0.012 |
| -19.500 | 97.743 | -2.400 | 4.508 | 0.012 |
| -20.850 | 111.273 | -2.400 | 4.285 | 0.008 |
| -22.250 | 125.301 | -2.400 | 4.050 | 0.005 |
| -23.600 | 138.828 | -2.400 | 3.825 | 0.002 |
| -25.000 | 152.859 | -2.400 | 3.595 | 0.000 |

### 3.7 Results for Vertical 7 (X = -21.51 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.240 | 11.152 | -2.240 | 11.151 | 0.593 |
| -2.340 | 11.454 | -2.328 | 10.221 | 0.556 |
| -2.400 | 11.628 | -2.380 | 9.659 | 0.540 |
| -2.440 | 11.745 | -2.415 | 9.287 | 0.531 |
| -2.540 | 12.027 | -2.502 | 8.346 | 0.512 |
| -2.640 | 12.282 | -2.589 | 7.380 | 0.497 |
| -2.650 | 12.306 | -2.598 | 7.282 | 0.496 |
| -2.740 | 12.513 | -2.586 | 7.273 | 0.484 |
| -2.840 | 12.727 | -2.573 | 7.247 | 0.472 |
| -2.940 | 12.933 | -2.560 | 7.212 | 0.461 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.040 | 13.136 | -2.547 | 7.173 | 0.450 |
| -3.140 | 13.337 | -2.534 | 7.134 | 0.440 |
| -3.240 | 13.539 | -2.521 | 7.094 | 0.430 |
| -3.520 | 14.112 | -2.484 | 6.991 | 0.405 |
| -4.200 | 15.561 | -2.398 | 6.783 | 0.357 |
| -4.800 | 16.916 | -2.324 | 6.644 | 0.324 |
| -4.800 | 16.916 | -2.324 | 6.644 | 0.324 |
| -5.300 | 16.868 | -2.293 | 6.553 | 0.283 |
| -5.800 | 16.923 | -2.270 | 6.483 | 0.244 |
| -5.800 | 16.923 | -2.270 | 6.483 | 0.244 |
| -6.450 | 19.917 | -2.230 | 6.418 | 0.224 |
| -7.150 | 23.239 | -2.193 | 6.375 | 0.205 |
| -7.800 | 26.433 | -2.169 | 6.351 | 0.189 |
| -8.500 | 30.009 | -2.155 | 6.334 | 0.172 |
| -8.500 | 30.009 | -2.155 | 6.334 | 0.172 |
| -8.750 | 30.186 | -2.156 | 6.329 | 0.159 |
| -9.000 | 30.390 | -2.159 | 6.323 | 0.146 |
| -9.000 | 30.390 | -2.159 | 6.323 | 0.146 |
| -9.970 | 36.312 | -2.160 | 6.293 | 0.134 |
| -10.940 | 42.224 | -2.164 | 6.243 | 0.122 |
| -10.940 | 42.224 | -2.164 | 6.243 | 0.122 |
| -11.420 | 44.902 | -2.180 | 6.209 | 0.112 |
| -11.900 | 47.608 | -2.200 | 6.169 | 0.102 |
| -11.900 | 47.608 | -2.200 | 6.169 | 0.102 |
| -12.450 | 50.949 | -2.204 | 6.115 | 0.095 |
| -12.950 | 53.984 | -2.208 | 6.059 | 0.089 |
| -13.500 | 57.320 | -2.213 | 5.991 | 0.082 |
| -14.000 | 60.353 | -2.218 | 5.923 | 0.076 |
| -14.000 | 60.353 | -2.218 | 5.923 | 0.076 |
| -14.550 | 64.738 | -2.270 | 5.843 | 0.073 |
| -15.050 | 68.769 | -2.322 | 5.766 | 0.069 |
| -15.600 | 73.254 | -2.385 | 5.677 | 0.065 |
| -16.100 | 77.381 | -2.448 | 5.592 | 0.061 |
| -16.100 | 77.381 | -2.448 | 5.592 | 0.061 |
| -16.700 | 81.031 | -2.458 | 5.487 | 0.052 |
| -17.300 | 84.687 | -2.469 | 5.379 | 0.042 |
| -17.300 | 84.687 | -2.469 | 5.379 | 0.042 |
| -17.750 | 88.553 | -2.542 | 5.297 | 0.039 |
| -18.200 | 92.465 | -2.619 | 5.213 | 0.034 |
| -18.200 | 92.465 | -2.619 | 5.213 | 0.034 |
| -18.850 | 95.220 | -2.509 | 5.091 | 0.023 |
| -19.500 | 97.983 | -2.400 | 4.968 | 0.012 |
| -19.500 | 97.983 | -2.400 | 4.968 | 0.012 |
| -20.850 | 111.479 | -2.400 | 4.711 | 0.008 |
| -22.250 | 125.476 | -2.400 | 4.447 | 0.005 |
| -23.600 | 138.977 | -2.400 | 4.197 | 0.002 |
| -25.000 | 152.984 | -2.400 | 3.944 | 0.000 |

### 3.8 Results for Vertical 8 (X = -20.75 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.263 | 12.189 | -2.263 | 12.188 | 0.642 |
| -2.363 | 12.443 | -2.348 | 11.237 | 0.604 |
| -2.400 | 12.524 | -2.380 | 10.874 | 0.594 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.463 | 12.657 | -2.433 | 10.252 | 0.579 |
| -2.563 | 12.865 | -2.517 | 9.261 | 0.559 |
| -2.650 | 13.050 | -2.591 | 8.404 | 0.545 |
| -2.663 | 13.078 | -2.589 | 8.404 | 0.544 |
| -2.763 | 13.303 | -2.574 | 8.410 | 0.530 |
| -2.863 | 13.534 | -2.558 | 8.423 | 0.517 |
| -2.963 | 13.769 | -2.543 | 8.438 | 0.504 |
| -3.063 | 14.001 | -2.528 | 8.452 | 0.493 |
| -3.163 | 14.229 | -2.512 | 8.462 | 0.481 |
| -3.263 | 14.452 | -2.497 | 8.467 | 0.471 |
| -3.531 | 15.030 | -2.456 | 8.458 | 0.444 |
| -4.200 | 16.409 | -2.355 | 8.353 | 0.390 |
| -4.800 | 17.666 | -2.270 | 8.231 | 0.352 |
| -4.800 | 17.666 | -2.270 | 8.231 | 0.352 |
| -5.300 | 17.570 | -2.234 | 8.134 | 0.305 |
| -5.800 | 17.584 | -2.208 | 8.050 | 0.262 |
| -5.800 | 17.584 | -2.208 | 8.050 | 0.262 |
| -6.450 | 20.514 | -2.163 | 7.962 | 0.239 |
| -7.150 | 23.782 | -2.124 | 7.889 | 0.217 |
| -7.800 | 26.940 | -2.098 | 7.833 | 0.199 |
| -8.500 | 30.490 | -2.086 | 7.776 | 0.181 |
| -8.500 | 30.490 | -2.086 | 7.776 | 0.181 |
| -8.750 | 30.658 | -2.086 | 7.755 | 0.167 |
| -9.000 | 30.856 | -2.090 | 7.733 | 0.153 |
| -9.000 | 30.856 | -2.090 | 7.733 | 0.153 |
| -9.970 | 36.713 | -2.092 | 7.632 | 0.139 |
| -10.940 | 42.555 | -2.096 | 7.505 | 0.126 |
| -10.940 | 42.555 | -2.096 | 7.505 | 0.126 |
| -11.420 | 45.220 | -2.116 | 7.432 | 0.116 |
| -11.900 | 47.917 | -2.139 | 7.352 | 0.106 |
| -11.900 | 47.917 | -2.139 | 7.352 | 0.106 |
| -12.450 | 51.217 | -2.143 | 7.253 | 0.098 |
| -12.950 | 54.216 | -2.148 | 7.157 | 0.092 |
| -13.500 | 57.515 | -2.154 | 7.046 | 0.085 |
| -14.000 | 60.515 | -2.160 | 6.940 | 0.079 |
| -14.000 | 60.515 | -2.160 | 6.940 | 0.079 |
| -14.550 | 64.928 | -2.218 | 6.820 | 0.075 |
| -15.050 | 68.993 | -2.278 | 6.707 | 0.071 |
| -15.600 | 73.525 | -2.349 | 6.581 | 0.067 |
| -16.100 | 77.704 | -2.421 | 6.464 | 0.063 |
| -16.100 | 77.704 | -2.421 | 6.464 | 0.063 |
| -16.700 | 81.330 | -2.432 | 6.323 | 0.053 |
| -17.300 | 84.965 | -2.445 | 6.181 | 0.044 |
| -17.300 | 84.965 | -2.445 | 6.181 | 0.044 |
| -17.750 | 88.900 | -2.527 | 6.074 | 0.040 |
| -18.200 | 92.889 | -2.615 | 5.967 | 0.035 |
| -18.200 | 92.889 | -2.615 | 5.967 | 0.035 |
| -18.850 | 95.631 | -2.507 | 5.813 | 0.024 |
| -19.500 | 98.383 | -2.400 | 5.661 | 0.013 |
| -19.500 | 98.383 | -2.400 | 5.661 | 0.013 |
| -20.450 | 107.839 | -2.400 | 5.441 | 0.010 |
| -21.450 | 117.797 | -2.400 | 5.214 | 0.007 |
| -22.250 | 125.767 | -2.400 | 5.036 | 0.005 |
| -23.600 | 139.226 | -2.400 | 4.746 | 0.003 |
| -25.000 | 153.196 | -2.400 | 4.457 | 0.000 |

### 3.9 Results for Vertical 9 (X = -20.24 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.279 | 13.069 | -2.279 | 13.068 | 0.677 |
| -2.379 | 13.388 | -2.362 | 12.205 | 0.638 |
| -2.400 | 13.431 | -2.379 | 12.001 | 0.631 |
| -2.479 | 13.597 | -2.444 | 11.237 | 0.611 |
| -2.579 | 13.804 | -2.527 | 10.266 | 0.591 |
| -2.650 | 13.945 | -2.585 | 9.571 | 0.579 |
| -2.679 | 14.002 | -2.580 | 9.570 | 0.575 |
| -2.779 | 14.190 | -2.563 | 9.561 | 0.560 |
| -2.879 | 14.372 | -2.546 | 9.543 | 0.546 |
| -2.979 | 14.552 | -2.528 | 9.522 | 0.532 |
| -3.079 | 14.731 | -2.511 | 9.500 | 0.520 |
| -3.179 | 14.912 | -2.494 | 9.479 | 0.508 |
| -3.279 | 15.096 | -2.477 | 9.460 | 0.496 |
| -3.539 | 15.586 | -2.433 | 9.419 | 0.469 |
| -4.200 | 16.869 | -2.325 | 9.324 | 0.412 |
| -4.800 | 18.079 | -2.233 | 9.222 | 0.371 |
| -4.800 | 18.079 | -2.233 | 9.222 | 0.371 |
| -5.300 | 17.968 | -2.194 | 9.134 | 0.321 |
| -5.800 | 17.973 | -2.166 | 9.054 | 0.274 |
| -5.800 | 17.973 | -2.166 | 9.054 | 0.274 |
| -6.450 | 20.882 | -2.119 | 8.966 | 0.249 |
| -7.150 | 24.132 | -2.077 | 8.887 | 0.226 |
| -7.800 | 27.277 | -2.051 | 8.819 | 0.207 |
| -8.500 | 30.818 | -2.040 | 8.740 | 0.187 |
| -8.500 | 30.818 | -2.040 | 8.740 | 0.187 |
| -8.750 | 30.982 | -2.041 | 8.709 | 0.173 |
| -9.000 | 31.176 | -2.046 | 8.676 | 0.158 |
| -9.000 | 31.176 | -2.046 | 8.676 | 0.158 |
| -9.970 | 36.990 | -2.048 | 8.529 | 0.143 |
| -10.940 | 42.780 | -2.052 | 8.349 | 0.130 |
| -10.940 | 42.781 | -2.052 | 8.349 | 0.130 |
| -11.420 | 45.435 | -2.073 | 8.248 | 0.119 |
| -11.900 | 48.124 | -2.099 | 8.141 | 0.108 |
| -11.900 | 48.124 | -2.099 | 8.140 | 0.108 |
| -12.450 | 51.395 | -2.104 | 8.010 | 0.101 |
| -12.950 | 54.368 | -2.109 | 7.886 | 0.094 |
| -13.500 | 57.640 | -2.115 | 7.745 | 0.087 |
| -14.000 | 60.618 | -2.121 | 7.613 | 0.081 |
| -14.000 | 60.618 | -2.121 | 7.613 | 0.081 |
| -14.550 | 65.047 | -2.185 | 7.465 | 0.077 |
| -15.050 | 69.133 | -2.249 | 7.328 | 0.073 |
| -15.600 | 73.696 | -2.326 | 7.177 | 0.069 |
| -16.100 | 77.907 | -2.403 | 7.038 | 0.064 |
| -16.100 | 77.907 | -2.403 | 7.038 | 0.064 |
| -16.700 | 81.517 | -2.416 | 6.873 | 0.055 |
| -17.300 | 85.137 | -2.429 | 6.707 | 0.045 |
| -17.300 | 85.137 | -2.429 | 6.707 | 0.045 |
| -17.750 | 89.117 | -2.518 | 6.584 | 0.041 |
| -18.200 | 93.156 | -2.613 | 6.462 | 0.036 |
| -18.200 | 93.156 | -2.613 | 6.462 | 0.036 |
| -18.850 | 95.888 | -2.506 | 6.288 | 0.025 |
| -19.500 | 98.633 | -2.400 | 6.116 | 0.013 |
| -19.500 | 98.634 | -2.400 | 6.116 | 0.013 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -20.450 | 108.062 | -2.400 | 5.870 | 0.010 |
| -21.450 | 117.995 | -2.400 | 5.619 | 0.007 |
| -22.250 | 125.947 | -2.400 | 5.424 | 0.006 |
| -23.600 | 139.379 | -2.400 | 5.108 | 0.003 |
| -25.000 | 153.324 | -2.400 | 4.795 | 0.000 |

### 3.10 Results for Vertical 10 (X = -19.21 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.337 | 14.928 | -2.337 | 14.927 | 0.759 |
| -2.400 | 15.196 | -2.386 | 14.483 | 0.730 |
| -2.437 | 14.585 | -2.415 | 13.454 | 0.717 |
| -2.537 | 14.431 | -2.493 | 12.158 | 0.690 |
| -2.637 | 14.838 | -2.573 | 11.420 | 0.669 |
| -2.650 | 14.884 | -2.583 | 11.317 | 0.667 |
| -2.737 | 15.153 | -2.565 | 11.443 | 0.651 |
| -2.837 | 15.398 | -2.544 | 11.525 | 0.634 |
| -2.937 | 15.606 | -2.523 | 11.569 | 0.618 |
| -3.037 | 15.792 | -2.502 | 11.591 | 0.603 |
| -3.137 | 15.967 | -2.481 | 11.599 | 0.588 |
| -3.237 | 16.134 | -2.461 | 11.600 | 0.575 |
| -3.337 | 16.298 | -2.440 | 11.596 | 0.561 |
| -3.568 | 16.673 | -2.393 | 11.575 | 0.533 |
| -4.200 | 17.712 | -2.270 | 11.485 | 0.469 |
| -4.800 | 18.781 | -2.162 | 11.388 | 0.421 |
| -4.800 | 18.781 | -2.162 | 11.388 | 0.421 |
| -5.300 | 18.641 | -2.117 | 11.319 | 0.362 |
| -5.800 | 18.643 | -2.084 | 11.265 | 0.306 |
| -5.800 | 18.643 | -2.084 | 11.265 | 0.306 |
| -6.450 | 21.533 | -2.030 | 11.207 | 0.276 |
| -7.150 | 24.759 | -1.984 | 11.140 | 0.249 |
| -7.800 | 27.875 | -1.955 | 11.057 | 0.227 |
| -8.500 | 31.380 | -1.944 | 10.938 | 0.205 |
| -8.500 | 31.380 | -1.944 | 10.938 | 0.205 |
| -8.750 | 31.530 | -1.946 | 10.887 | 0.188 |
| -9.000 | 31.712 | -1.951 | 10.832 | 0.172 |
| -9.000 | 31.712 | -1.951 | 10.832 | 0.172 |
| -9.970 | 37.422 | -1.954 | 10.582 | 0.154 |
| -10.940 | 43.094 | -1.959 | 10.282 | 0.139 |
| -10.940 | 43.094 | -1.959 | 10.282 | 0.139 |
| -11.420 | 45.721 | -1.984 | 10.121 | 0.127 |
| -11.900 | 48.387 | -2.014 | 9.953 | 0.116 |
| -11.900 | 48.387 | -2.014 | 9.953 | 0.116 |
| -12.450 | 51.593 | -2.019 | 9.755 | 0.108 |
| -12.950 | 54.510 | -2.025 | 9.572 | 0.100 |
| -13.500 | 57.724 | -2.032 | 9.367 | 0.093 |
| -14.000 | 60.653 | -2.040 | 9.181 | 0.086 |
| -14.000 | 60.653 | -2.040 | 9.181 | 0.086 |
| -14.550 | 65.118 | -2.113 | 8.975 | 0.082 |
| -15.050 | 69.249 | -2.187 | 8.790 | 0.078 |
| -15.600 | 73.876 | -2.276 | 8.588 | 0.073 |
| -16.100 | 78.160 | -2.366 | 8.406 | 0.068 |
| -16.100 | 78.160 | -2.366 | 8.406 | 0.068 |
| -16.700 | 81.736 | -2.380 | 8.191 | 0.058 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -17.300 | 85.329 | -2.396 | 7.981 | 0.048 |
| -17.300 | 85.329 | -2.396 | 7.981 | 0.048 |
| -17.750 | 89.407 | -2.498 | 7.826 | 0.044 |
| -18.200 | 93.556 | -2.607 | 7.674 | 0.039 |
| -18.200 | 93.556 | -2.607 | 7.674 | 0.039 |
| -18.850 | 96.272 | -2.503 | 7.458 | 0.027 |
| -19.500 | 99.006 | -2.400 | 7.249 | 0.014 |
| -19.500 | 99.006 | -2.400 | 7.249 | 0.014 |
| -20.450 | 108.382 | -2.400 | 6.953 | 0.011 |
| -21.450 | 118.266 | -2.400 | 6.656 | 0.008 |
| -22.250 | 126.183 | -2.400 | 6.427 | 0.006 |
| -23.600 | 139.562 | -2.400 | 6.061 | 0.003 |
| -25.000 | 153.461 | -2.400 | 5.704 | 0.000 |

### 3.11 Results for Vertical 11 (X = -19.11 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.345 | 14.828 | -2.345 | 14.827 | 0.769 |
| -2.400 | 15.303 | -2.388 | 14.689 | 0.743 |
| -2.445 | 15.498 | -2.422 | 14.375 | 0.727 |
| -2.545 | 15.579 | -2.499 | 13.335 | 0.699 |
| -2.645 | 15.598 | -2.576 | 12.227 | 0.677 |
| -2.650 | 15.600 | -2.580 | 12.177 | 0.676 |
| -2.745 | 15.661 | -2.559 | 12.094 | 0.659 |
| -2.845 | 15.753 | -2.537 | 12.033 | 0.641 |
| -2.945 | 15.864 | -2.515 | 11.986 | 0.625 |
| -3.045 | 15.985 | -2.494 | 11.949 | 0.609 |
| -3.145 | 16.114 | -2.472 | 11.917 | 0.594 |
| -3.245 | 16.250 | -2.451 | 11.891 | 0.580 |
| -3.345 | 16.391 | -2.430 | 11.868 | 0.567 |
| -3.573 | 16.726 | -2.384 | 11.823 | 0.539 |
| -4.200 | 17.720 | -2.259 | 11.714 | 0.474 |
| -4.800 | 18.773 | -2.149 | 11.614 | 0.425 |
| -4.800 | 18.773 | -2.149 | 11.614 | 0.425 |
| -5.300 | 18.633 | -2.104 | 11.547 | 0.365 |
| -5.800 | 18.638 | -2.071 | 11.497 | 0.309 |
| -5.800 | 18.638 | -2.071 | 11.497 | 0.309 |
| -6.450 | 21.532 | -2.017 | 11.444 | 0.279 |
| -7.150 | 24.760 | -1.970 | 11.379 | 0.251 |
| -7.800 | 27.878 | -1.942 | 11.295 | 0.229 |
| -8.500 | 31.385 | -1.931 | 11.171 | 0.207 |
| -8.500 | 31.385 | -1.931 | 11.171 | 0.207 |
| -8.750 | 31.535 | -1.933 | 11.118 | 0.190 |
| -9.000 | 31.716 | -1.939 | 11.061 | 0.173 |
| -9.000 | 31.716 | -1.939 | 11.061 | 0.173 |
| -9.970 | 37.416 | -1.942 | 10.800 | 0.156 |
| -10.940 | 43.076 | -1.947 | 10.488 | 0.140 |
| -10.940 | 43.076 | -1.947 | 10.488 | 0.140 |
| -11.420 | 45.701 | -1.973 | 10.321 | 0.128 |
| -11.900 | 48.367 | -2.003 | 10.147 | 0.117 |
| -11.900 | 48.367 | -2.003 | 10.147 | 0.117 |
| -12.450 | 51.566 | -2.009 | 9.943 | 0.109 |
| -12.950 | 54.479 | -2.014 | 9.754 | 0.101 |
| -13.500 | 57.688 | -2.022 | 9.543 | 0.093 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -14.000 | 60.612 | -2.029 | 9.352 | 0.087 |
| -14.000 | 60.613 | -2.029 | 9.352 | 0.087 |
| -14.550 | 65.084 | -2.104 | 9.141 | 0.082 |
| -15.050 | 69.223 | -2.179 | 8.951 | 0.078 |
| -15.600 | 73.860 | -2.270 | 8.744 | 0.073 |
| -16.100 | 78.155 | -2.361 | 8.559 | 0.069 |
| -16.100 | 78.155 | -2.361 | 8.559 | 0.069 |
| -16.700 | 81.729 | -2.376 | 8.340 | 0.058 |
| -17.300 | 85.320 | -2.392 | 8.125 | 0.048 |
| -17.300 | 85.320 | -2.392 | 8.125 | 0.048 |
| -17.750 | 89.412 | -2.495 | 7.967 | 0.044 |
| -18.200 | 93.576 | -2.606 | 7.812 | 0.039 |
| -18.200 | 93.576 | -2.606 | 7.812 | 0.039 |
| -18.850 | 96.292 | -2.503 | 7.594 | 0.027 |
| -19.500 | 99.025 | -2.400 | 7.381 | 0.014 |
| -19.500 | 99.026 | -2.400 | 7.381 | 0.014 |
| -20.450 | 108.397 | -2.400 | 7.081 | 0.011 |
| -21.450 | 118.277 | -2.400 | 6.779 | 0.008 |
| -22.250 | 126.190 | -2.400 | 6.548 | 0.006 |
| -23.600 | 139.565 | -2.400 | 6.177 | 0.003 |
| -25.000 | 153.460 | -2.400 | 5.817 | 0.000 |

### 3.12 Results for Vertical 12 (X = -16.61 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.566 | 18.178 | -2.566 | 18.177 | 1.037 |
| -2.650 | 18.392 | -2.620 | 17.553 | 0.999 |
| -2.666 | 18.328 | -2.614 | 17.486 | 0.993 |
| -2.766 | 17.147 | -2.581 | 16.262 | 0.959 |
| -2.866 | 16.761 | -2.550 | 15.784 | 0.929 |
| -2.966 | 17.419 | -2.520 | 16.323 | 0.902 |
| -3.066 | 17.725 | -2.489 | 16.533 | 0.877 |
| -3.166 | 17.869 | -2.459 | 16.582 | 0.853 |
| -3.266 | 18.055 | -2.429 | 16.664 | 0.831 |
| -3.366 | 18.288 | -2.399 | 16.785 | 0.810 |
| -3.466 | 18.527 | -2.369 | 16.914 | 0.790 |
| -3.566 | 18.752 | -2.339 | 17.029 | 0.771 |
| -3.683 | 18.994 | -2.305 | 17.143 | 0.750 |
| -4.200 | 19.956 | -2.157 | 17.518 | 0.670 |
| -4.800 | 21.057 | -1.998 | 17.852 | 0.595 |
| -4.800 | 21.057 | -1.998 | 17.852 | 0.595 |
| -5.300 | 21.003 | -1.933 | 18.029 | 0.502 |
| -5.800 | 20.992 | -1.885 | 18.101 | 0.414 |
| -5.800 | 20.992 | -1.885 | 18.101 | 0.414 |
| -6.450 | 23.620 | -1.806 | 18.043 | 0.367 |
| -7.150 | 26.459 | -1.740 | 17.824 | 0.325 |
| -7.800 | 29.189 | -1.701 | 17.512 | 0.292 |
| -8.500 | 32.311 | -1.687 | 17.097 | 0.261 |
| -8.500 | 32.311 | -1.687 | 17.097 | 0.261 |
| -8.750 | 32.339 | -1.689 | 16.936 | 0.239 |
| -9.000 | 32.412 | -1.697 | 16.769 | 0.217 |
| -9.000 | 32.412 | -1.697 | 16.769 | 0.217 |
| -9.970 | 37.642 | -1.701 | 16.095 | 0.191 |
| -10.940 | 42.888 | -1.708 | 15.406 | 0.169 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -10.940 | 42.888 | -1.708 | 15.406 | 0.169 |
| -11.420 | 45.405 | -1.742 | 15.068 | 0.155 |
| -11.900 | 47.991 | -1.782 | 14.735 | 0.142 |
| -11.900 | 47.991 | -1.782 | 14.735 | 0.142 |
| -12.450 | 51.021 | -1.790 | 14.362 | 0.131 |
| -12.950 | 53.795 | -1.797 | 14.032 | 0.122 |
| -13.500 | 56.870 | -1.807 | 13.679 | 0.113 |
| -14.000 | 59.687 | -1.817 | 13.368 | 0.105 |
| -14.000 | 59.687 | -1.817 | 13.368 | 0.105 |
| -14.550 | 64.268 | -1.916 | 13.037 | 0.100 |
| -15.050 | 68.545 | -2.017 | 12.746 | 0.095 |
| -15.600 | 73.378 | -2.139 | 12.437 | 0.089 |
| -16.100 | 77.890 | -2.262 | 12.166 | 0.083 |
| -16.100 | 77.890 | -2.262 | 12.166 | 0.083 |
| -16.700 | 81.412 | -2.282 | 11.852 | 0.071 |
| -17.300 | 84.964 | -2.303 | 11.552 | 0.059 |
| -17.300 | 84.964 | -2.303 | 11.552 | 0.059 |
| -17.750 | 89.337 | -2.442 | 11.334 | 0.054 |
| -18.200 | 93.816 | -2.591 | 11.123 | 0.048 |
| -18.200 | 93.816 | -2.591 | 11.123 | 0.048 |
| -18.850 | 96.523 | -2.495 | 10.829 | 0.034 |
| -19.500 | 99.258 | -2.400 | 10.547 | 0.020 |
| -19.500 | 99.258 | -2.400 | 10.547 | 0.020 |
| -20.450 | 108.533 | -2.400 | 10.157 | 0.015 |
| -21.450 | 118.324 | -2.400 | 9.771 | 0.011 |
| -22.250 | 126.174 | -2.400 | 9.480 | 0.008 |
| -23.600 | 139.455 | -2.400 | 9.020 | 0.004 |
| -25.000 | 153.268 | -2.400 | 8.582 | 0.000 |

### 3.13 Results for Vertical 13 (X = -16.50 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.650 | 18.942 | -2.650 | 18.941 | 1.131 |
| -2.750 | 19.694 | -2.610 | 19.508 | 1.077 |
| -2.850 | 19.369 | -2.570 | 19.195 | 1.036 |
| -2.950 | 18.834 | -2.533 | 18.674 | 0.999 |
| -3.050 | 18.226 | -2.497 | 18.060 | 0.967 |
| -3.150 | 18.044 | -2.463 | 17.825 | 0.937 |
| -3.250 | 18.200 | -2.429 | 17.900 | 0.910 |
| -3.350 | 18.437 | -2.396 | 18.052 | 0.885 |
| -3.450 | 18.650 | -2.363 | 18.185 | 0.861 |
| -3.550 | 18.826 | -2.331 | 18.283 | 0.839 |
| -3.650 | 18.977 | -2.298 | 18.356 | 0.818 |
| -3.725 | 19.082 | -2.274 | 18.402 | 0.803 |
| -4.300 | 19.922 | -2.098 | 18.724 | 0.705 |
| -4.800 | 20.720 | -1.958 | 18.973 | 0.637 |
| -4.800 | 20.720 | -1.958 | 18.973 | 0.637 |
| -5.300 | 20.599 | -1.889 | 19.131 | 0.536 |
| -5.800 | 20.534 | -1.839 | 19.182 | 0.439 |
| -5.800 | 20.534 | -1.839 | 19.182 | 0.439 |
| -6.450 | 23.089 | -1.756 | 19.096 | 0.387 |
| -7.150 | 25.863 | -1.688 | 18.847 | 0.342 |
| -7.800 | 28.549 | -1.647 | 18.509 | 0.307 |
| -8.500 | 31.640 | -1.633 | 18.071 | 0.275 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -8.500 | 31.640 | -1.633 | 18.071 | 0.275 |
| -8.750 | 31.661 | -1.636 | 17.902 | 0.251 |
| -9.000 | 31.729 | -1.644 | 17.728 | 0.228 |
| -9.000 | 31.729 | -1.644 | 17.728 | 0.228 |
| -9.970 | 36.934 | -1.648 | 17.030 | 0.200 |
| -10.940 | 42.161 | -1.655 | 16.322 | 0.177 |
| -10.940 | 42.161 | -1.655 | 16.322 | 0.177 |
| -11.420 | 44.687 | -1.691 | 15.977 | 0.163 |
| -11.900 | 47.286 | -1.733 | 15.638 | 0.149 |
| -11.900 | 47.286 | -1.733 | 15.638 | 0.149 |
| -12.450 | 50.312 | -1.741 | 15.258 | 0.138 |
| -12.950 | 53.084 | -1.749 | 14.923 | 0.129 |
| -13.500 | 56.158 | -1.760 | 14.565 | 0.119 |
| -14.000 | 58.976 | -1.770 | 14.250 | 0.110 |
| -14.000 | 58.976 | -1.770 | 14.250 | 0.110 |
| -14.550 | 63.604 | -1.875 | 13.915 | 0.105 |
| -15.050 | 67.932 | -1.981 | 13.620 | 0.100 |
| -15.600 | 72.828 | -2.110 | 13.308 | 0.094 |
| -16.100 | 77.406 | -2.239 | 13.034 | 0.088 |
| -16.100 | 77.406 | -2.239 | 13.034 | 0.088 |
| -16.700 | 80.936 | -2.260 | 12.718 | 0.075 |
| -17.300 | 84.497 | -2.283 | 12.414 | 0.063 |
| -17.300 | 84.497 | -2.283 | 12.414 | 0.063 |
| -17.750 | 88.946 | -2.430 | 12.195 | 0.058 |
| -18.200 | 93.510 | -2.588 | 11.982 | 0.051 |
| -18.200 | 93.510 | -2.588 | 11.982 | 0.051 |
| -18.850 | 96.231 | -2.493 | 11.686 | 0.036 |
| -19.500 | 98.980 | -2.400 | 11.402 | 0.021 |
| -19.500 | 98.980 | -2.400 | 11.402 | 0.021 |
| -20.450 | 108.253 | -2.400 | 11.009 | 0.017 |
| -21.450 | 118.040 | -2.400 | 10.621 | 0.012 |
| -22.250 | 125.889 | -2.400 | 10.328 | 0.009 |
| -23.600 | 139.167 | -2.400 | 9.866 | 0.004 |
| -25.000 | 152.977 | -2.400 | 9.425 | 0.000 |

### 3.14 Results for Vertical 14 (X = -16.25 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.859 | 20.774 | -2.650 | 20.119 | 1.105 |
| -2.959 | 21.339 | -2.605 | 20.630 | 1.063 |
| -3.059 | 21.261 | -2.561 | 20.634 | 1.027 |
| -3.159 | 21.022 | -2.519 | 20.465 | 0.994 |
| -3.259 | 20.731 | -2.479 | 20.229 | 0.963 |
| -3.359 | 20.447 | -2.440 | 19.982 | 0.935 |
| -3.459 | 20.215 | -2.402 | 19.767 | 0.909 |
| -3.559 | 20.055 | -2.366 | 19.606 | 0.884 |
| -3.659 | 19.970 | -2.330 | 19.502 | 0.861 |
| -3.759 | 19.947 | -2.296 | 19.445 | 0.839 |
| -3.829 | 19.960 | -2.272 | 19.428 | 0.824 |
| -3.859 | 19.971 | -2.262 | 19.425 | 0.818 |
| -4.800 | 20.958 | -1.970 | 19.695 | 0.666 |
| -4.800 | 20.958 | -1.970 | 19.695 | 0.666 |
| -5.300 | 20.708 | -1.897 | 19.788 | 0.556 |
| -5.800 | 20.532 | -1.845 | 19.778 | 0.452 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -5.800 | 20.532 | -1.845 | 19.778 | 0.452 |
| -6.450 | 22.940 | -1.757 | 19.615 | 0.396 |
| -7.150 | 25.575 | -1.685 | 19.289 | 0.349 |
| -7.800 | 28.150 | -1.641 | 18.889 | 0.313 |
| -8.500 | 31.140 | -1.623 | 18.394 | 0.279 |
| -8.500 | 31.140 | -1.623 | 18.394 | 0.279 |
| -8.750 | 31.134 | -1.625 | 18.208 | 0.255 |
| -9.000 | 31.177 | -1.633 | 18.018 | 0.231 |
| -9.000 | 31.177 | -1.633 | 18.018 | 0.231 |
| -9.970 | 36.317 | -1.637 | 17.266 | 0.202 |
| -10.940 | 41.497 | -1.644 | 16.518 | 0.179 |
| -10.940 | 41.497 | -1.644 | 16.518 | 0.179 |
| -11.420 | 44.004 | -1.680 | 16.157 | 0.164 |
| -11.900 | 46.587 | -1.722 | 15.803 | 0.150 |
| -11.900 | 46.587 | -1.722 | 15.803 | 0.150 |
| -12.450 | 49.597 | -1.730 | 15.410 | 0.139 |
| -12.950 | 52.357 | -1.738 | 15.063 | 0.129 |
| -13.500 | 55.419 | -1.749 | 14.694 | 0.120 |
| -14.000 | 58.228 | -1.759 | 14.370 | 0.111 |
| -14.000 | 58.228 | -1.759 | 14.370 | 0.111 |
| -14.550 | 62.855 | -1.865 | 14.027 | 0.106 |
| -15.050 | 67.186 | -1.972 | 13.726 | 0.100 |
| -15.600 | 72.089 | -2.103 | 13.407 | 0.094 |
| -16.100 | 76.677 | -2.234 | 13.127 | 0.088 |
| -16.100 | 76.677 | -2.234 | 13.127 | 0.088 |
| -16.700 | 80.203 | -2.255 | 12.805 | 0.076 |
| -17.300 | 83.761 | -2.278 | 12.496 | 0.064 |
| -17.300 | 83.761 | -2.278 | 12.496 | 0.064 |
| -17.750 | 88.226 | -2.427 | 12.272 | 0.058 |
| -18.200 | 92.807 | -2.587 | 12.056 | 0.052 |
| -18.200 | 92.807 | -2.587 | 12.056 | 0.052 |
| -18.850 | 95.527 | -2.493 | 11.755 | 0.037 |
| -19.500 | 98.277 | -2.400 | 11.467 | 0.022 |
| -19.500 | 98.277 | -2.400 | 11.467 | 0.022 |
| -20.450 | 107.543 | -2.400 | 11.069 | 0.017 |
| -21.450 | 117.326 | -2.400 | 10.675 | 0.012 |
| -22.250 | 125.170 | -2.400 | 10.379 | 0.009 |
| -23.600 | 138.442 | -2.400 | 9.911 | 0.004 |
| -25.000 | 152.247 | -2.400 | 9.465 | 0.000 |

### 3.15 Results for Vertical 15 (X = -15.61 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.992 | 22.263 | -2.650 | 20.968 | 1.091 |
| -3.092 | 22.749 | -2.603 | 21.336 | 1.055 |
| -3.192 | 22.871 | -2.557 | 21.527 | 1.024 |
| -3.292 | 22.967 | -2.513 | 21.697 | 0.994 |
| -3.392 | 23.021 | -2.469 | 21.823 | 0.966 |
| -3.492 | 23.027 | -2.426 | 21.898 | 0.940 |
| -3.592 | 22.992 | -2.384 | 21.927 | 0.915 |
| -3.692 | 22.934 | -2.343 | 21.926 | 0.892 |
| -3.792 | 22.866 | -2.303 | 21.906 | 0.870 |
| -3.892 | 22.801 | -2.264 | 21.880 | 0.848 |
| -3.896 | 22.799 | -2.262 | 21.879 | 0.847 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.992 | 22.746 | -2.225 | 21.853 | 0.828 |
| -4.800 | 22.712 | -1.947 | 21.701 | 0.692 |
| -4.800 | 22.712 | -1.947 | 21.701 | 0.692 |
| -5.300 | 22.061 | -1.866 | 21.561 | 0.574 |
| -5.800 | 21.545 | -1.809 | 21.330 | 0.462 |
| -5.800 | 21.545 | -1.809 | 21.330 | 0.462 |
| -6.450 | 23.560 | -1.716 | 20.908 | 0.403 |
| -7.150 | 25.868 | -1.640 | 20.345 | 0.353 |
| -7.800 | 28.215 | -1.595 | 19.767 | 0.315 |
| -8.500 | 31.028 | -1.578 | 19.118 | 0.281 |
| -8.500 | 31.028 | -1.578 | 19.118 | 0.281 |
| -8.750 | 30.971 | -1.581 | 18.885 | 0.256 |
| -9.000 | 30.970 | -1.589 | 18.653 | 0.232 |
| -9.000 | 30.970 | -1.589 | 18.653 | 0.232 |
| -9.970 | 35.957 | -1.593 | 17.769 | 0.202 |
| -10.940 | 41.031 | -1.600 | 16.928 | 0.179 |
| -10.940 | 41.031 | -1.600 | 16.928 | 0.179 |
| -11.420 | 43.511 | -1.638 | 16.530 | 0.164 |
| -11.900 | 46.077 | -1.682 | 16.146 | 0.150 |
| -11.900 | 46.077 | -1.682 | 16.146 | 0.150 |
| -12.450 | 49.056 | -1.690 | 15.722 | 0.139 |
| -12.950 | 51.792 | -1.699 | 15.352 | 0.130 |
| -13.500 | 54.833 | -1.710 | 14.960 | 0.120 |
| -14.000 | 57.625 | -1.721 | 14.619 | 0.112 |
| -14.000 | 57.626 | -1.721 | 14.619 | 0.112 |
| -14.550 | 62.276 | -1.830 | 14.258 | 0.106 |
| -15.050 | 66.635 | -1.942 | 13.943 | 0.101 |
| -15.600 | 71.578 | -2.078 | 13.610 | 0.095 |
| -16.100 | 76.210 | -2.215 | 13.320 | 0.089 |
| -16.100 | 76.210 | -2.215 | 13.320 | 0.089 |
| -16.700 | 79.732 | -2.237 | 12.985 | 0.076 |
| -17.300 | 83.287 | -2.261 | 12.665 | 0.064 |
| -17.300 | 83.287 | -2.261 | 12.665 | 0.064 |
| -17.750 | 87.808 | -2.417 | 12.434 | 0.059 |
| -18.200 | 92.452 | -2.584 | 12.211 | 0.052 |
| -18.200 | 92.452 | -2.584 | 12.211 | 0.052 |
| -18.850 | 95.175 | -2.491 | 11.900 | 0.037 |
| -19.500 | 97.929 | -2.400 | 11.604 | 0.022 |
| -19.500 | 97.929 | -2.400 | 11.604 | 0.022 |
| -20.450 | 107.183 | -2.400 | 11.194 | 0.017 |
| -21.450 | 116.954 | -2.400 | 10.791 | 0.012 |
| -22.250 | 124.791 | -2.400 | 10.486 | 0.009 |
| -23.600 | 138.051 | -2.400 | 10.007 | 0.004 |
| -25.000 | 151.845 | -2.400 | 9.551 | 0.000 |

### 3.16 Results for Vertical 16 (X = -14.53 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.218 | 28.421 | -2.650 | 25.825 | 1.086 |
| -3.318 | 28.725 | -2.590 | 26.338 | 1.055 |
| -3.418 | 27.614 | -2.534 | 25.586 | 1.025 |
| -3.518 | 26.969 | -2.481 | 25.203 | 0.997 |
| -3.618 | 26.550 | -2.430 | 24.992 | 0.971 |
| -3.718 | 26.266 | -2.381 | 24.881 | 0.946 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.818 | 26.069 | -2.334 | 24.829 | 0.922 |
| -3.918 | 25.923 | -2.288 | 24.810 | 0.899 |
| -4.009 | 25.814 | -2.247 | 24.804 | 0.879 |
| -4.018 | 25.804 | -2.243 | 24.804 | 0.877 |
| -4.118 | 25.700 | -2.199 | 24.799 | 0.855 |
| -4.218 | 25.601 | -2.156 | 24.788 | 0.835 |
| -4.800 | 25.026 | -1.929 | 24.507 | 0.731 |
| -4.800 | 25.026 | -1.929 | 24.507 | 0.731 |
| -5.300 | 23.801 | -1.838 | 24.009 | 0.600 |
| -5.800 | 22.731 | -1.773 | 23.382 | 0.476 |
| -5.800 | 22.731 | -1.773 | 23.382 | 0.476 |
| -6.450 | 24.104 | -1.671 | 22.495 | 0.411 |
| -7.150 | 25.899 | -1.590 | 21.537 | 0.358 |
| -7.800 | 27.910 | -1.543 | 20.686 | 0.318 |
| -8.500 | 30.475 | -1.525 | 19.825 | 0.281 |
| -8.500 | 30.475 | -1.525 | 19.825 | 0.281 |
| -8.750 | 30.353 | -1.528 | 19.532 | 0.256 |
| -9.000 | 30.295 | -1.537 | 19.247 | 0.232 |
| -9.000 | 30.295 | -1.537 | 19.247 | 0.232 |
| -9.970 | 35.106 | -1.541 | 18.208 | 0.202 |
| -10.940 | 40.072 | -1.549 | 17.270 | 0.178 |
| -10.940 | 40.072 | -1.549 | 17.270 | 0.178 |
| -11.420 | 42.530 | -1.588 | 16.838 | 0.164 |
| -11.900 | 45.083 | -1.635 | 16.426 | 0.150 |
| -11.900 | 45.083 | -1.635 | 16.426 | 0.150 |
| -12.450 | 48.035 | -1.643 | 15.976 | 0.139 |
| -12.950 | 50.753 | -1.652 | 15.587 | 0.130 |
| -13.500 | 53.779 | -1.663 | 15.178 | 0.120 |
| -14.000 | 56.561 | -1.675 | 14.824 | 0.112 |
| -14.000 | 56.561 | -1.675 | 14.824 | 0.112 |
| -14.550 | 61.247 | -1.789 | 14.451 | 0.107 |
| -15.050 | 65.646 | -1.906 | 14.126 | 0.102 |
| -15.600 | 70.644 | -2.049 | 13.784 | 0.096 |
| -16.100 | 75.334 | -2.193 | 13.486 | 0.090 |
| -16.100 | 75.334 | -2.193 | 13.486 | 0.090 |
| -16.700 | 78.858 | -2.216 | 13.144 | 0.077 |
| -17.300 | 82.417 | -2.242 | 12.816 | 0.065 |
| -17.300 | 82.417 | -2.242 | 12.816 | 0.065 |
| -17.750 | 87.009 | -2.405 | 12.580 | 0.059 |
| -18.200 | 91.732 | -2.581 | 12.352 | 0.053 |
| -18.200 | 91.732 | -2.581 | 12.352 | 0.053 |
| -18.850 | 94.465 | -2.490 | 12.036 | 0.038 |
| -19.500 | 97.229 | -2.400 | 11.733 | 0.022 |
| -19.500 | 97.229 | -2.400 | 11.733 | 0.022 |
| -20.450 | 106.475 | -2.400 | 11.315 | 0.017 |
| -21.450 | 116.237 | -2.400 | 10.904 | 0.013 |
| -22.250 | 124.067 | -2.400 | 10.594 | 0.009 |
| -23.600 | 137.318 | -2.400 | 10.105 | 0.004 |
| -25.000 | 151.103 | -2.400 | 9.640 | 0.000 |

### 3.17 Results for Vertical 17 (X = -14.28 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.183 | 26.336 | -2.650 | 24.245 | 1.093 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.283 | 26.496 | -2.595 | 24.516 | 1.061 |
| -3.383 | 26.724 | -2.542 | 24.865 | 1.030 |
| -3.483 | 26.860 | -2.490 | 25.130 | 1.002 |
| -3.583 | 26.855 | -2.439 | 25.265 | 0.975 |
| -3.683 | 26.770 | -2.390 | 25.323 | 0.950 |
| -3.783 | 26.659 | -2.341 | 25.349 | 0.925 |
| -3.883 | 26.543 | -2.294 | 25.361 | 0.902 |
| -3.983 | 26.429 | -2.247 | 25.364 | 0.879 |
| -3.992 | 26.419 | -2.244 | 25.364 | 0.878 |
| -4.083 | 26.316 | -2.202 | 25.358 | 0.858 |
| -4.183 | 26.201 | -2.158 | 25.341 | 0.838 |
| -4.800 | 25.457 | -1.913 | 24.952 | 0.727 |
| -4.800 | 25.457 | -1.913 | 24.952 | 0.727 |
| -5.300 | 24.129 | -1.820 | 24.361 | 0.596 |
| -5.800 | 22.969 | -1.756 | 23.650 | 0.473 |
| -5.800 | 22.969 | -1.756 | 23.650 | 0.473 |
| -6.450 | 24.255 | -1.654 | 22.675 | 0.408 |
| -7.150 | 25.993 | -1.574 | 21.652 | 0.355 |
| -7.800 | 27.977 | -1.528 | 20.760 | 0.315 |
| -8.500 | 30.533 | -1.513 | 19.871 | 0.279 |
| -8.500 | 30.533 | -1.513 | 19.871 | 0.279 |
| -8.750 | 30.408 | -1.516 | 19.571 | 0.255 |
| -9.000 | 30.349 | -1.525 | 19.279 | 0.230 |
| -9.000 | 30.349 | -1.525 | 19.279 | 0.230 |
| -9.970 | 35.145 | -1.530 | 18.226 | 0.201 |
| -10.940 | 40.105 | -1.538 | 17.280 | 0.177 |
| -10.940 | 40.105 | -1.538 | 17.280 | 0.177 |
| -11.420 | 42.567 | -1.578 | 16.847 | 0.163 |
| -11.900 | 45.126 | -1.625 | 16.434 | 0.149 |
| -11.900 | 45.126 | -1.625 | 16.434 | 0.149 |
| -12.450 | 48.079 | -1.633 | 15.984 | 0.138 |
| -12.950 | 50.798 | -1.643 | 15.594 | 0.129 |
| -13.500 | 53.825 | -1.654 | 15.186 | 0.120 |
| -14.000 | 56.609 | -1.666 | 14.832 | 0.112 |
| -14.000 | 56.609 | -1.666 | 14.832 | 0.112 |
| -14.550 | 61.306 | -1.781 | 14.459 | 0.107 |
| -15.050 | 65.718 | -1.899 | 14.135 | 0.102 |
| -15.600 | 70.729 | -2.044 | 13.794 | 0.095 |
| -16.100 | 75.434 | -2.189 | 13.496 | 0.089 |
| -16.100 | 75.434 | -2.189 | 13.496 | 0.089 |
| -16.700 | 78.960 | -2.212 | 13.154 | 0.077 |
| -17.300 | 82.522 | -2.238 | 12.827 | 0.065 |
| -17.300 | 82.522 | -2.238 | 12.827 | 0.065 |
| -17.750 | 87.128 | -2.403 | 12.592 | 0.059 |
| -18.200 | 91.867 | -2.580 | 12.364 | 0.053 |
| -18.200 | 91.867 | -2.580 | 12.364 | 0.053 |
| -18.850 | 94.603 | -2.489 | 12.047 | 0.038 |
| -19.500 | 97.370 | -2.400 | 11.745 | 0.022 |
| -19.500 | 97.370 | -2.400 | 11.745 | 0.022 |
| -20.450 | 106.616 | -2.400 | 11.327 | 0.017 |
| -21.450 | 116.378 | -2.400 | 10.916 | 0.013 |
| -22.250 | 124.208 | -2.400 | 10.605 | 0.009 |
| -23.600 | 137.458 | -2.400 | 10.116 | 0.004 |
| -25.000 | 151.243 | -2.400 | 9.651 | 0.000 |

### 3.18 Results for Vertical 18 (X = -12.09 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.880 | 27.778 | -2.650 | 27.246 | 1.117 |
| -2.980 | 26.368 | -2.590 | 26.061 | 1.071 |
| -3.080 | 24.921 | -2.534 | 24.831 | 1.031 |
| -3.180 | 24.085 | -2.483 | 24.133 | 0.995 |
| -3.280 | 23.786 | -2.433 | 23.919 | 0.962 |
| -3.380 | 23.607 | -2.386 | 23.809 | 0.931 |
| -3.480 | 23.426 | -2.339 | 23.691 | 0.903 |
| -3.580 | 23.228 | -2.294 | 23.549 | 0.876 |
| -3.680 | 23.022 | -2.251 | 23.390 | 0.851 |
| -3.780 | 22.819 | -2.208 | 23.222 | 0.828 |
| -3.840 | 22.700 | -2.184 | 23.120 | 0.814 |
| -3.880 | 22.624 | -2.167 | 23.052 | 0.806 |
| -4.800 | 21.590 | -1.843 | 21.728 | 0.647 |
| -4.800 | 21.590 | -1.843 | 21.728 | 0.647 |
| -5.300 | 20.655 | -1.767 | 21.164 | 0.535 |
| -5.800 | 19.993 | -1.716 | 20.644 | 0.431 |
| -5.800 | 19.993 | -1.716 | 20.644 | 0.431 |
| -6.450 | 22.020 | -1.637 | 20.002 | 0.377 |
| -7.150 | 24.462 | -1.578 | 19.341 | 0.332 |
| -7.800 | 27.003 | -1.549 | 18.752 | 0.298 |
| -8.500 | 30.065 | -1.549 | 18.146 | 0.267 |
| -8.500 | 30.065 | -1.549 | 18.146 | 0.267 |
| -8.750 | 30.077 | -1.555 | 17.937 | 0.244 |
| -9.000 | 30.144 | -1.567 | 17.732 | 0.222 |
| -9.000 | 30.144 | -1.567 | 17.732 | 0.222 |
| -9.970 | 35.289 | -1.572 | 16.968 | 0.196 |
| -10.940 | 40.519 | -1.580 | 16.255 | 0.174 |
| -10.940 | 40.519 | -1.580 | 16.255 | 0.174 |
| -11.420 | 43.095 | -1.620 | 15.919 | 0.161 |
| -11.900 | 45.754 | -1.667 | 15.594 | 0.147 |
| -11.900 | 45.754 | -1.667 | 15.594 | 0.147 |
| -12.450 | 48.806 | -1.676 | 15.234 | 0.137 |
| -12.950 | 51.604 | -1.685 | 14.918 | 0.128 |
| -13.500 | 54.707 | -1.696 | 14.582 | 0.118 |
| -14.000 | 57.551 | -1.707 | 14.286 | 0.110 |
| -14.000 | 57.551 | -1.707 | 14.286 | 0.110 |
| -14.550 | 62.274 | -1.819 | 13.970 | 0.105 |
| -15.050 | 66.694 | -1.933 | 13.693 | 0.100 |
| -15.600 | 71.699 | -2.072 | 13.398 | 0.094 |
| -16.100 | 76.383 | -2.211 | 13.137 | 0.088 |
| -16.100 | 76.383 | -2.211 | 13.137 | 0.088 |
| -16.700 | 79.942 | -2.233 | 12.835 | 0.076 |
| -17.300 | 83.530 | -2.258 | 12.544 | 0.064 |
| -17.300 | 83.530 | -2.258 | 12.544 | 0.064 |
| -17.750 | 88.087 | -2.415 | 12.332 | 0.058 |
| -18.200 | 92.765 | -2.584 | 12.126 | 0.052 |
| -18.200 | 92.765 | -2.584 | 12.126 | 0.052 |
| -18.850 | 95.513 | -2.491 | 11.837 | 0.037 |
| -19.500 | 98.290 | -2.400 | 11.560 | 0.022 |
| -19.500 | 98.290 | -2.400 | 11.560 | 0.022 |
| -20.450 | 107.568 | -2.400 | 11.172 | 0.017 |
| -21.450 | 117.359 | -2.400 | 10.787 | 0.012 |
| -22.250 | 125.207 | -2.400 | 10.494 | 0.009 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -23.600 | 138.483 | -2.400 | 10.030 | 0.004 |
| -25.000 | 152.288 | -2.400 | 9.584 | 0.000 |

### 3.19 Results for Vertical 19 (X = -12.07 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.650 | 18.034 | -2.650 | 18.033 | 1.137 |
| -2.750 | 26.147 | -2.602 | 26.034 | 1.083 |
| -2.850 | 19.204 | -2.554 | 19.338 | 1.039 |
| -2.950 | 23.088 | -2.511 | 23.009 | 1.002 |
| -3.050 | 24.130 | -2.463 | 24.064 | 0.968 |
| -3.150 | 23.625 | -2.415 | 23.652 | 0.937 |
| -3.250 | 23.421 | -2.368 | 23.501 | 0.908 |
| -3.350 | 23.349 | -2.323 | 23.466 | 0.881 |
| -3.450 | 23.266 | -2.279 | 23.418 | 0.856 |
| -3.550 | 23.149 | -2.236 | 23.331 | 0.832 |
| -3.650 | 23.007 | -2.194 | 23.215 | 0.810 |
| -3.725 | 22.893 | -2.164 | 23.114 | 0.794 |
| -4.300 | 22.139 | -1.950 | 22.276 | 0.688 |
| -4.800 | 21.852 | -1.792 | 21.648 | 0.617 |
| -4.800 | 21.852 | -1.792 | 21.648 | 0.617 |
| -5.300 | 20.967 | -1.720 | 21.100 | 0.513 |
| -5.800 | 20.344 | -1.671 | 20.591 | 0.417 |
| -5.800 | 20.344 | -1.671 | 20.591 | 0.417 |
| -6.450 | 22.439 | -1.599 | 19.959 | 0.367 |
| -7.150 | 24.953 | -1.546 | 19.306 | 0.325 |
| -7.800 | 27.562 | -1.523 | 18.723 | 0.292 |
| -8.500 | 30.702 | -1.530 | 18.122 | 0.262 |
| -8.500 | 30.702 | -1.530 | 18.122 | 0.262 |
| -8.750 | 30.732 | -1.538 | 17.914 | 0.240 |
| -9.000 | 30.816 | -1.551 | 17.710 | 0.218 |
| -9.000 | 30.816 | -1.551 | 17.710 | 0.218 |
| -9.970 | 35.969 | -1.556 | 16.951 | 0.193 |
| -10.940 | 41.206 | -1.565 | 16.241 | 0.172 |
| -10.940 | 41.206 | -1.565 | 16.241 | 0.172 |
| -11.420 | 43.799 | -1.607 | 15.907 | 0.159 |
| -11.900 | 46.473 | -1.656 | 15.583 | 0.146 |
| -11.900 | 46.473 | -1.656 | 15.583 | 0.146 |
| -12.450 | 49.529 | -1.664 | 15.224 | 0.135 |
| -12.950 | 52.330 | -1.673 | 14.909 | 0.127 |
| -13.500 | 55.437 | -1.685 | 14.573 | 0.117 |
| -14.000 | 58.284 | -1.696 | 14.278 | 0.110 |
| -14.000 | 58.284 | -1.696 | 14.278 | 0.110 |
| -14.550 | 63.025 | -1.810 | 13.964 | 0.104 |
| -15.050 | 67.462 | -1.926 | 13.687 | 0.099 |
| -15.600 | 72.485 | -2.066 | 13.392 | 0.093 |
| -16.100 | 77.185 | -2.207 | 13.132 | 0.088 |
| -16.100 | 77.186 | -2.207 | 13.132 | 0.088 |
| -16.700 | 80.748 | -2.229 | 12.830 | 0.075 |
| -17.300 | 84.339 | -2.254 | 12.539 | 0.063 |
| -17.300 | 84.339 | -2.254 | 12.539 | 0.063 |
| -17.750 | 88.911 | -2.413 | 12.328 | 0.058 |
| -18.200 | 93.604 | -2.583 | 12.122 | 0.052 |
| -18.200 | 93.604 | -2.583 | 12.122 | 0.052 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -18.850 | 96.356 | -2.491 | 11.834 | 0.037 |
| -19.500 | 99.135 | -2.400 | 11.556 | 0.022 |
| -19.500 | 99.135 | -2.400 | 11.556 | 0.022 |
| -20.450 | 108.414 | -2.400 | 11.170 | 0.017 |
| -21.450 | 118.205 | -2.400 | 10.785 | 0.012 |
| -22.250 | 126.054 | -2.400 | 10.492 | 0.009 |
| -23.600 | 139.330 | -2.400 | 10.028 | 0.004 |
| -25.000 | 153.135 | -2.400 | 9.582 | 0.000 |

### 3.20 Results for Vertical 20 (X = -12.04 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.100 | 18.514 | -2.100 | 18.513 | 0.793 |
| -2.200 | 26.415 | -2.171 | 25.353 | 0.749 |
| -2.300 | 26.788 | -2.235 | 24.724 | 0.715 |
| -2.400 | 26.536 | -2.300 | 23.470 | 0.688 |
| -2.500 | 20.902 | -2.369 | 16.789 | 0.666 |
| -2.600 | 19.212 | -2.443 | 13.998 | 0.649 |
| -2.650 | 18.786 | -2.482 | 13.011 | 0.642 |
| -2.700 | 18.479 | -2.470 | 12.632 | 0.636 |
| -2.800 | 18.757 | -2.448 | 12.743 | 0.623 |
| -2.900 | 19.047 | -2.425 | 12.869 | 0.611 |
| -3.000 | 22.056 | -2.401 | 15.558 | 0.598 |
| -3.100 | 23.519 | -2.374 | 16.816 | 0.585 |
| -3.450 | 24.584 | -2.279 | 17.374 | 0.541 |
| -4.100 | 24.977 | -2.112 | 16.886 | 0.471 |
| -4.800 | 25.307 | -1.957 | 16.081 | 0.412 |
| -4.800 | 25.307 | -1.957 | 16.081 | 0.412 |
| -5.300 | 24.678 | -1.907 | 15.567 | 0.351 |
| -5.800 | 24.229 | -1.874 | 15.082 | 0.295 |
| -5.800 | 24.229 | -1.874 | 15.082 | 0.295 |
| -6.450 | 26.599 | -1.826 | 14.472 | 0.265 |
| -7.150 | 29.357 | -1.796 | 13.835 | 0.238 |
| -7.800 | 32.142 | -1.790 | 13.265 | 0.215 |
| -8.500 | 35.409 | -1.809 | 12.674 | 0.194 |
| -8.500 | 35.409 | -1.809 | 12.674 | 0.194 |
| -8.750 | 35.454 | -1.818 | 12.470 | 0.177 |
| -9.000 | 35.543 | -1.831 | 12.268 | 0.161 |
| -9.000 | 35.543 | -1.831 | 12.268 | 0.161 |
| -9.970 | 40.702 | -1.836 | 11.518 | 0.144 |
| -10.940 | 45.934 | -1.843 | 10.816 | 0.130 |
| -10.940 | 45.934 | -1.843 | 10.816 | 0.130 |
| -11.420 | 48.453 | -1.877 | 10.484 | 0.119 |
| -11.900 | 51.035 | -1.916 | 10.163 | 0.109 |
| -11.900 | 51.035 | -1.916 | 10.163 | 0.109 |
| -12.450 | 54.076 | -1.923 | 9.807 | 0.101 |
| -12.950 | 56.860 | -1.930 | 9.493 | 0.095 |
| -13.500 | 59.944 | -1.939 | 9.160 | 0.088 |
| -14.000 | 62.766 | -1.948 | 8.866 | 0.082 |
| -14.000 | 62.766 | -1.948 | 8.866 | 0.082 |
| -14.550 | 67.242 | -2.035 | 8.553 | 0.079 |
| -15.050 | 71.398 | -2.122 | 8.278 | 0.075 |
| -15.600 | 76.069 | -2.226 | 7.984 | 0.071 |
| -16.100 | 80.406 | -2.329 | 7.725 | 0.066 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -16.100 | 80.406 | -2.329 | 7.725 | 0.066 |
| -16.700 | 83.909 | -2.346 | 7.425 | 0.056 |
| -17.300 | 87.436 | -2.364 | 7.134 | 0.047 |
| -17.300 | 87.436 | -2.364 | 7.134 | 0.047 |
| -17.750 | 91.583 | -2.479 | 6.924 | 0.043 |
| -18.200 | 95.810 | -2.602 | 6.718 | 0.038 |
| -18.200 | 95.810 | -2.602 | 6.718 | 0.038 |
| -18.850 | 98.472 | -2.500 | 6.431 | 0.026 |
| -19.500 | 101.158 | -2.400 | 6.154 | 0.014 |
| -19.500 | 101.158 | -2.400 | 6.154 | 0.014 |
| -20.850 | 114.351 | -2.400 | 5.612 | 0.010 |
| -22.250 | 128.078 | -2.400 | 5.092 | 0.006 |
| -23.600 | 141.355 | -2.400 | 4.629 | 0.003 |
| -25.000 | 155.161 | -2.400 | 4.183 | 0.000 |

### 3.21 Results for Vertical 21 (X = -12.02 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.888 | 16.982 | -1.888 | 16.981 | 0.719 |
| -1.988 | 26.680 | -1.930 | 25.646 | 0.687 |
| -1.994 | 26.795 | -1.932 | 25.706 | 0.685 |
| -2.088 | 21.243 | -1.968 | 19.217 | 0.664 |
| -2.100 | 21.174 | -1.974 | 19.020 | 0.662 |
| -2.100 | 21.174 | -1.974 | 19.019 | 0.662 |
| -2.188 | 20.811 | -2.041 | 17.678 | 0.643 |
| -2.288 | 20.519 | -2.116 | 16.271 | 0.624 |
| -2.388 | 21.248 | -2.192 | 15.889 | 0.608 |
| -2.400 | 23.272 | -2.201 | 17.781 | 0.606 |
| -2.488 | 23.744 | -2.265 | 17.301 | 0.593 |
| -2.588 | 22.160 | -2.339 | 14.624 | 0.580 |
| -2.650 | 21.625 | -2.386 | 13.402 | 0.573 |
| -2.688 | 21.384 | -2.377 | 13.109 | 0.569 |
| -2.788 | 21.011 | -2.353 | 12.592 | 0.559 |
| -2.888 | 21.717 | -2.330 | 13.128 | 0.549 |
| -3.450 | 27.096 | -2.190 | 17.393 | 0.494 |
| -4.100 | 27.669 | -2.026 | 17.050 | 0.436 |
| -4.800 | 28.076 | -1.874 | 16.288 | 0.385 |
| -4.800 | 28.076 | -1.874 | 16.288 | 0.385 |
| -5.300 | 27.478 | -1.825 | 15.789 | 0.332 |
| -5.800 | 27.061 | -1.794 | 15.313 | 0.283 |
| -5.800 | 27.061 | -1.794 | 15.313 | 0.283 |
| -6.450 | 29.501 | -1.752 | 14.712 | 0.257 |
| -7.150 | 32.350 | -1.731 | 14.082 | 0.232 |
| -7.800 | 35.233 | -1.734 | 13.517 | 0.212 |
| -8.500 | 38.622 | -1.765 | 12.931 | 0.191 |
| -8.500 | 38.622 | -1.765 | 12.931 | 0.191 |
| -8.750 | 38.697 | -1.777 | 12.727 | 0.175 |
| -9.000 | 38.815 | -1.793 | 12.527 | 0.159 |
| -9.000 | 38.815 | -1.793 | 12.527 | 0.159 |
| -9.970 | 43.986 | -1.799 | 11.781 | 0.144 |
| -10.940 | 49.229 | -1.807 | 11.081 | 0.130 |
| -10.940 | 49.230 | -1.807 | 11.081 | 0.130 |
| -11.420 | 51.782 | -1.844 | 10.751 | 0.120 |
| -11.900 | 54.398 | -1.886 | 10.431 | 0.109 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -11.900 | 54.398 | -1.886 | 10.431 | 0.109 |
| -12.450 | 57.445 | -1.894 | 10.075 | 0.102 |
| -12.950 | 60.235 | -1.901 | 9.763 | 0.095 |
| -13.500 | 63.325 | -1.911 | 9.430 | 0.089 |
| -14.000 | 66.153 | -1.920 | 9.137 | 0.083 |
| -14.000 | 66.153 | -1.920 | 9.137 | 0.083 |
| -14.550 | 70.674 | -2.011 | 8.825 | 0.079 |
| -15.050 | 74.873 | -2.102 | 8.550 | 0.076 |
| -15.600 | 79.590 | -2.211 | 8.257 | 0.071 |
| -16.100 | 83.970 | -2.319 | 7.998 | 0.067 |
| -16.100 | 83.970 | -2.319 | 7.998 | 0.067 |
| -16.700 | 87.480 | -2.336 | 7.698 | 0.057 |
| -17.300 | 91.014 | -2.355 | 7.409 | 0.048 |
| -17.300 | 91.014 | -2.355 | 7.409 | 0.048 |
| -17.750 | 95.198 | -2.474 | 7.198 | 0.043 |
| -18.200 | 99.463 | -2.601 | 6.993 | 0.039 |
| -18.200 | 99.463 | -2.601 | 6.993 | 0.039 |
| -18.850 | 102.133 | -2.500 | 6.706 | 0.026 |
| -19.500 | 104.825 | -2.400 | 6.429 | 0.014 |
| -19.500 | 104.825 | -2.400 | 6.429 | 0.014 |
| -20.850 | 118.019 | -2.400 | 5.888 | 0.010 |
| -22.250 | 131.746 | -2.400 | 5.368 | 0.006 |
| -23.600 | 145.024 | -2.400 | 4.905 | 0.003 |
| -25.000 | 158.830 | -2.400 | 4.460 | 0.000 |

### 3.22 Results for Vertical 22 (X = -11.56 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.686 | 21.140 | -1.686 | 21.139 | 0.653 |
| -1.786 | 23.003 | -1.726 | 21.993 | 0.621 |
| -1.886 | 24.041 | -1.763 | 22.042 | 0.599 |
| -1.893 | 24.113 | -1.766 | 22.043 | 0.598 |
| -1.986 | 24.986 | -1.800 | 22.010 | 0.582 |
| -2.086 | 25.776 | -1.835 | 21.831 | 0.567 |
| -2.100 | 25.877 | -1.841 | 21.792 | 0.565 |
| -2.100 | 25.877 | -1.841 | 21.792 | 0.565 |
| -2.186 | 26.499 | -1.901 | 21.507 | 0.550 |
| -2.286 | 26.395 | -1.971 | 20.345 | 0.535 |
| -2.386 | 26.022 | -2.042 | 18.909 | 0.521 |
| -2.400 | 25.967 | -2.052 | 18.701 | 0.519 |
| -2.486 | 25.647 | -2.113 | 17.465 | 0.508 |
| -2.586 | 25.305 | -2.185 | 16.046 | 0.498 |
| -2.650 | 25.113 | -2.232 | 15.155 | 0.492 |
| -2.686 | 25.016 | -2.223 | 15.020 | 0.488 |
| -3.450 | 24.706 | -2.038 | 13.640 | 0.430 |
| -4.100 | 26.843 | -1.900 | 14.541 | 0.390 |
| -4.800 | 28.535 | -1.769 | 14.788 | 0.353 |
| -4.800 | 28.535 | -1.769 | 14.788 | 0.353 |
| -5.300 | 28.454 | -1.727 | 14.704 | 0.311 |
| -5.800 | 28.414 | -1.701 | 14.523 | 0.272 |
| -5.800 | 28.414 | -1.701 | 14.523 | 0.272 |
| -6.450 | 31.281 | -1.671 | 14.209 | 0.250 |
| -7.150 | 34.507 | -1.661 | 13.812 | 0.229 |
| -7.800 | 37.691 | -1.675 | 13.415 | 0.210 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -8.500 | 41.370 | -1.719 | 12.973 | 0.191 |
| -8.500 | 41.370 | -1.719 | 12.973 | 0.191 |
| -8.750 | 41.522 | -1.733 | 12.814 | 0.176 |
| -9.000 | 41.715 | -1.752 | 12.655 | 0.160 |
| -9.000 | 41.715 | -1.752 | 12.655 | 0.160 |
| -9.970 | 47.043 | -1.759 | 12.041 | 0.145 |
| -10.940 | 52.406 | -1.768 | 11.441 | 0.132 |
| -10.940 | 52.406 | -1.768 | 11.441 | 0.132 |
| -11.420 | 55.034 | -1.808 | 11.151 | 0.122 |
| -11.900 | 57.722 | -1.853 | 10.866 | 0.111 |
| -11.900 | 57.722 | -1.853 | 10.866 | 0.111 |
| -12.450 | 60.814 | -1.862 | 10.547 | 0.104 |
| -12.950 | 63.641 | -1.870 | 10.263 | 0.097 |
| -13.500 | 66.767 | -1.880 | 9.959 | 0.091 |
| -14.000 | 69.625 | -1.889 | 9.688 | 0.084 |
| -14.000 | 69.625 | -1.889 | 9.688 | 0.084 |
| -14.550 | 74.216 | -1.985 | 9.398 | 0.081 |
| -15.050 | 78.476 | -2.081 | 9.141 | 0.077 |
| -15.600 | 83.260 | -2.195 | 8.865 | 0.073 |
| -16.100 | 87.699 | -2.307 | 8.621 | 0.068 |
| -16.100 | 87.700 | -2.307 | 8.621 | 0.068 |
| -16.700 | 91.233 | -2.325 | 8.337 | 0.058 |
| -17.300 | 94.789 | -2.344 | 8.061 | 0.048 |
| -17.300 | 94.789 | -2.344 | 8.061 | 0.048 |
| -17.750 | 99.027 | -2.468 | 7.859 | 0.044 |
| -18.200 | 103.346 | -2.599 | 7.663 | 0.039 |
| -18.200 | 103.346 | -2.599 | 7.663 | 0.039 |
| -18.850 | 106.037 | -2.499 | 7.387 | 0.027 |
| -19.500 | 108.748 | -2.400 | 7.120 | 0.015 |
| -19.500 | 108.748 | -2.400 | 7.120 | 0.015 |
| -20.850 | 121.961 | -2.400 | 6.596 | 0.010 |
| -22.250 | 135.704 | -2.400 | 6.091 | 0.006 |
| -23.600 | 148.993 | -2.400 | 5.639 | 0.003 |
| -25.000 | 162.809 | -2.400 | 5.203 | 0.000 |

### 3.23 Results for Vertical 23 (X = -10.13 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.053 | 15.689 | -1.053 | 15.688 | 0.518 |
| -1.153 | 17.861 | -1.115 | 16.638 | 0.488 |
| -1.253 | 19.170 | -1.173 | 16.755 | 0.468 |
| -1.353 | 20.303 | -1.230 | 16.714 | 0.453 |
| -1.453 | 21.237 | -1.285 | 16.490 | 0.440 |
| -1.553 | 22.027 | -1.339 | 16.131 | 0.429 |
| -1.577 | 22.202 | -1.351 | 16.039 | 0.427 |
| -1.653 | 22.793 | -1.392 | 15.757 | 0.420 |
| -1.753 | 23.656 | -1.444 | 15.489 | 0.412 |
| -1.853 | 24.640 | -1.495 | 15.351 | 0.405 |
| -1.953 | 25.704 | -1.545 | 15.305 | 0.399 |
| -2.053 | 26.800 | -1.594 | 15.302 | 0.393 |
| -2.100 | 27.315 | -1.617 | 15.306 | 0.391 |
| -2.100 | 27.315 | -1.617 | 15.306 | 0.391 |
| -2.400 | 30.032 | -1.843 | 14.694 | 0.369 |
| -2.650 | 30.265 | -2.032 | 12.155 | 0.355 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.450 | 30.927 | -1.854 | 11.613 | 0.320 |
| -4.100 | 31.765 | -1.731 | 11.236 | 0.298 |
| -4.800 | 33.273 | -1.623 | 11.178 | 0.278 |
| -4.800 | 33.273 | -1.623 | 11.178 | 0.278 |
| -5.300 | 33.442 | -1.589 | 11.284 | 0.255 |
| -5.800 | 33.794 | -1.571 | 11.423 | 0.233 |
| -5.800 | 33.794 | -1.571 | 11.423 | 0.233 |
| -6.450 | 37.302 | -1.555 | 11.583 | 0.220 |
| -7.150 | 41.224 | -1.562 | 11.686 | 0.206 |
| -7.800 | 45.020 | -1.592 | 11.709 | 0.192 |
| -8.500 | 49.314 | -1.654 | 11.664 | 0.177 |
| -8.500 | 49.314 | -1.654 | 11.664 | 0.177 |
| -8.750 | 49.648 | -1.673 | 11.632 | 0.164 |
| -9.000 | 50.020 | -1.697 | 11.593 | 0.151 |
| -9.000 | 50.020 | -1.697 | 11.593 | 0.151 |
| -9.970 | 55.806 | -1.704 | 11.383 | 0.139 |
| -10.940 | 61.537 | -1.714 | 11.105 | 0.128 |
| -10.940 | 61.538 | -1.714 | 11.105 | 0.128 |
| -11.420 | 64.361 | -1.759 | 10.949 | 0.118 |
| -11.900 | 67.230 | -1.810 | 10.785 | 0.108 |
| -11.900 | 67.230 | -1.810 | 10.785 | 0.108 |
| -12.450 | 70.465 | -1.819 | 10.588 | 0.101 |
| -12.950 | 73.407 | -1.828 | 10.403 | 0.095 |
| -13.500 | 76.648 | -1.839 | 10.196 | 0.089 |
| -14.000 | 79.600 | -1.849 | 10.005 | 0.083 |
| -14.000 | 79.601 | -1.849 | 10.005 | 0.083 |
| -14.550 | 84.343 | -1.952 | 9.793 | 0.079 |
| -15.050 | 88.732 | -2.053 | 9.600 | 0.075 |
| -15.600 | 93.649 | -2.174 | 9.388 | 0.071 |
| -16.100 | 98.202 | -2.292 | 9.196 | 0.067 |
| -16.100 | 98.202 | -2.292 | 9.196 | 0.067 |
| -16.700 | 101.805 | -2.310 | 8.968 | 0.057 |
| -17.300 | 105.425 | -2.331 | 8.743 | 0.047 |
| -17.300 | 105.425 | -2.331 | 8.743 | 0.047 |
| -17.750 | 109.756 | -2.460 | 8.577 | 0.043 |
| -18.200 | 114.164 | -2.597 | 8.412 | 0.038 |
| -18.200 | 114.164 | -2.597 | 8.412 | 0.038 |
| -18.850 | 116.909 | -2.498 | 8.179 | 0.026 |
| -19.500 | 119.673 | -2.400 | 7.950 | 0.014 |
| -19.500 | 119.673 | -2.400 | 7.950 | 0.014 |
| -20.850 | 132.957 | -2.400 | 7.493 | 0.010 |
| -22.250 | 146.760 | -2.400 | 7.045 | 0.006 |
| -23.600 | 160.096 | -2.400 | 6.637 | 0.003 |
| -25.000 | 173.952 | -2.400 | 6.239 | 0.000 |

### 3.24 Results for Vertical 24 (X = -9.72 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.873 | 13.183 | -0.873 | 13.182 | 0.488 |
| -0.973 | 15.234 | -0.942 | 13.938 | 0.460 |
| -1.073 | 16.534 | -1.008 | 13.972 | 0.441 |
| -1.173 | 17.743 | -1.072 | 13.936 | 0.427 |
| -1.273 | 18.825 | -1.134 | 13.790 | 0.415 |
| -1.373 | 19.870 | -1.194 | 13.622 | 0.406 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.473 | 20.962 | -1.253 | 13.517 | 0.397 |
| -1.486 | 21.114 | -1.261 | 13.508 | 0.396 |
| -1.573 | 22.098 | -1.311 | 13.470 | 0.390 |
| -1.673 | 23.242 | -1.367 | 13.446 | 0.384 |
| -1.773 | 24.375 | -1.421 | 13.426 | 0.378 |
| -1.873 | 25.496 | -1.474 | 13.407 | 0.373 |
| -2.100 | 27.166 | -1.591 | 12.528 | 0.364 |
| -2.100 | 27.166 | -1.591 | 12.528 | 0.364 |
| -2.322 | 27.509 | -1.762 | 10.370 | 0.352 |
| -2.400 | 27.637 | -1.745 | 10.380 | 0.348 |
| -2.950 | 28.556 | -1.628 | 10.413 | 0.325 |
| -3.450 | 29.375 | -1.532 | 10.335 | 0.307 |
| -4.100 | 30.555 | -1.421 | 10.197 | 0.288 |
| -4.800 | 32.199 | -1.321 | 10.206 | 0.270 |
| -4.800 | 32.199 | -1.321 | 10.206 | 0.270 |
| -5.300 | 32.388 | -1.290 | 10.319 | 0.248 |
| -5.800 | 32.760 | -1.273 | 10.473 | 0.227 |
| -5.800 | 32.760 | -1.273 | 10.473 | 0.227 |
| -6.450 | 36.315 | -1.259 | 10.676 | 0.215 |
| -7.150 | 40.300 | -1.265 | 10.847 | 0.202 |
| -7.800 | 44.155 | -1.294 | 10.941 | 0.189 |
| -8.500 | 48.504 | -1.353 | 10.973 | 0.174 |
| -8.500 | 48.504 | -1.353 | 10.973 | 0.174 |
| -8.750 | 48.859 | -1.371 | 10.968 | 0.162 |
| -9.000 | 49.249 | -1.394 | 10.955 | 0.149 |
| -9.000 | 49.249 | -1.394 | 10.955 | 0.149 |
| -9.970 | 55.134 | -1.401 | 10.840 | 0.138 |
| -10.940 | 60.949 | -1.411 | 10.642 | 0.127 |
| -10.940 | 60.949 | -1.411 | 10.642 | 0.127 |
| -11.420 | 63.796 | -1.455 | 10.521 | 0.117 |
| -11.900 | 66.685 | -1.504 | 10.389 | 0.107 |
| -11.900 | 66.685 | -1.504 | 10.389 | 0.107 |
| -12.450 | 69.953 | -1.512 | 10.225 | 0.100 |
| -12.950 | 72.923 | -1.521 | 10.068 | 0.094 |
| -13.500 | 76.191 | -1.531 | 9.889 | 0.088 |
| -14.000 | 79.165 | -1.542 | 9.720 | 0.082 |
| -14.000 | 79.165 | -1.542 | 9.720 | 0.082 |
| -14.550 | 83.904 | -1.642 | 9.531 | 0.078 |
| -15.050 | 88.286 | -1.740 | 9.357 | 0.074 |
| -15.600 | 93.190 | -1.857 | 9.164 | 0.070 |
| -16.100 | 97.728 | -1.972 | 8.989 | 0.066 |
| -16.100 | 97.728 | -1.972 | 8.989 | 0.066 |
| -16.700 | 101.345 | -1.990 | 8.778 | 0.056 |
| -17.300 | 104.976 | -2.010 | 8.569 | 0.046 |
| -17.300 | 104.976 | -2.010 | 8.569 | 0.046 |
| -17.750 | 109.286 | -2.136 | 8.413 | 0.042 |
| -18.200 | 113.670 | -2.269 | 8.259 | 0.038 |
| -18.200 | 113.670 | -2.269 | 8.259 | 0.038 |
| -18.850 | 118.036 | -2.334 | 8.039 | 0.026 |
| -19.500 | 122.422 | -2.400 | 7.823 | 0.014 |
| -19.500 | 122.422 | -2.400 | 7.823 | 0.014 |
| -20.850 | 135.730 | -2.400 | 7.388 | 0.010 |
| -22.250 | 149.553 | -2.400 | 6.958 | 0.006 |
| -23.600 | 162.905 | -2.400 | 6.565 | 0.003 |
| -25.000 | 176.774 | -2.400 | 6.180 | 0.000 |

### 3.25 Results for Vertical 25 (X = -8.29 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.237 | 7.922 | -0.237 | 7.921 | 0.407 |
| -0.337 | 10.173 | -0.320 | 8.740 | 0.383 |
| -0.437 | 11.629 | -0.400 | 8.793 | 0.368 |
| -0.537 | 13.016 | -0.477 | 8.801 | 0.357 |
| -0.637 | 14.293 | -0.553 | 8.719 | 0.348 |
| -0.737 | 15.471 | -0.626 | 8.557 | 0.341 |
| -0.837 | 16.620 | -0.698 | 8.382 | 0.334 |
| -0.937 | 17.289 | -0.768 | 7.742 | 0.329 |
| -1.037 | 17.585 | -0.837 | 6.743 | 0.325 |
| -1.137 | 17.938 | -0.906 | 5.807 | 0.322 |
| -1.163 | 18.036 | -0.923 | 5.569 | 0.321 |
| -1.169 | 18.056 | -0.922 | 5.573 | 0.321 |
| -1.237 | 18.319 | -0.900 | 5.628 | 0.319 |
| -2.100 | 21.418 | -0.614 | 6.191 | 0.307 |
| -2.100 | 21.418 | -0.614 | 6.191 | 0.307 |
| -2.400 | 22.229 | -0.567 | 6.348 | 0.298 |
| -2.950 | 23.771 | -0.486 | 6.663 | 0.285 |
| -3.450 | 25.220 | -0.415 | 6.958 | 0.273 |
| -4.100 | 27.146 | -0.331 | 7.308 | 0.260 |
| -4.800 | 29.299 | -0.253 | 7.642 | 0.246 |
| -4.800 | 29.299 | -0.253 | 7.642 | 0.246 |
| -5.300 | 29.635 | -0.228 | 7.868 | 0.229 |
| -5.800 | 30.078 | -0.213 | 8.090 | 0.212 |
| -5.800 | 30.078 | -0.213 | 8.090 | 0.212 |
| -6.450 | 33.698 | -0.201 | 8.369 | 0.202 |
| -7.150 | 37.743 | -0.204 | 8.641 | 0.190 |
| -7.800 | 41.652 | -0.228 | 8.855 | 0.179 |
| -8.500 | 46.051 | -0.277 | 9.034 | 0.166 |
| -8.500 | 46.051 | -0.277 | 9.034 | 0.166 |
| -8.750 | 46.436 | -0.293 | 9.084 | 0.154 |
| -9.000 | 46.854 | -0.313 | 9.127 | 0.142 |
| -9.000 | 46.854 | -0.313 | 9.127 | 0.142 |
| -9.970 | 52.957 | -0.319 | 9.229 | 0.133 |
| -10.940 | 58.981 | -0.328 | 9.238 | 0.122 |
| -10.940 | 58.981 | -0.328 | 9.238 | 0.122 |
| -11.420 | 61.885 | -0.367 | 9.213 | 0.113 |
| -11.900 | 64.822 | -0.411 | 9.172 | 0.103 |
| -11.900 | 64.822 | -0.411 | 9.172 | 0.103 |
| -12.450 | 68.187 | -0.418 | 9.106 | 0.097 |
| -12.950 | 71.239 | -0.426 | 9.033 | 0.091 |
| -13.500 | 74.589 | -0.436 | 8.939 | 0.085 |
| -14.000 | 77.633 | -0.445 | 8.843 | 0.079 |
| -14.000 | 77.633 | -0.445 | 8.843 | 0.079 |
| -14.550 | 82.367 | -0.536 | 8.728 | 0.075 |
| -15.050 | 86.733 | -0.626 | 8.617 | 0.072 |
| -15.600 | 91.608 | -0.733 | 8.488 | 0.067 |
| -16.100 | 96.109 | -0.838 | 8.367 | 0.063 |
| -16.100 | 96.109 | -0.838 | 8.367 | 0.063 |
| -16.700 | 99.777 | -0.855 | 8.217 | 0.054 |
| -17.300 | 103.452 | -0.873 | 8.063 | 0.044 |
| -17.300 | 103.452 | -0.873 | 8.063 | 0.044 |
| -17.750 | 107.707 | -0.989 | 7.946 | 0.040 |
| -18.200 | 112.028 | -1.112 | 7.829 | 0.035 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -18.200 | 112.028 | -1.112 | 7.829 | 0.035 |
| -18.850 | 122.115 | -1.755 | 7.658 | 0.024 |
| -19.500 | 132.230 | -2.400 | 7.487 | 0.013 |
| -19.500 | 132.230 | -2.400 | 7.487 | 0.013 |
| -20.850 | 145.625 | -2.400 | 7.134 | 0.009 |
| -22.250 | 159.524 | -2.400 | 6.775 | 0.006 |
| -23.600 | 172.937 | -2.400 | 6.441 | 0.003 |
| -25.000 | 186.861 | -2.400 | 6.107 | 0.000 |

### 3.26 Results for Vertical 26 (X = -7.83 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.042 | 6.272 | -0.042 | 6.271 | 0.386 |
| -0.142 | 8.593 | -0.129 | 7.124 | 0.364 |
| -0.242 | 10.094 | -0.212 | 7.187 | 0.350 |
| -0.342 | 11.509 | -0.293 | 7.187 | 0.340 |
| -0.442 | 12.829 | -0.372 | 7.113 | 0.332 |
| -0.542 | 13.935 | -0.450 | 6.844 | 0.326 |
| -0.642 | 14.248 | -0.525 | 5.798 | 0.321 |
| -0.742 | 14.602 | -0.599 | 4.803 | 0.317 |
| -0.800 | 14.821 | -0.642 | 4.246 | 0.315 |
| -0.842 | 14.986 | -0.631 | 4.259 | 0.314 |
| -0.942 | 15.386 | -0.604 | 4.301 | 0.312 |
| -1.042 | 15.794 | -0.577 | 4.357 | 0.309 |
| -1.071 | 15.914 | -0.569 | 4.375 | 0.309 |
| -1.600 | 18.155 | -0.418 | 4.823 | 0.301 |
| -2.100 | 20.214 | -0.266 | 5.286 | 0.297 |
| -2.100 | 20.214 | -0.266 | 5.286 | 0.297 |
| -2.400 | 21.154 | -0.223 | 5.536 | 0.289 |
| -2.950 | 22.853 | -0.147 | 5.953 | 0.277 |
| -3.450 | 24.393 | -0.081 | 6.298 | 0.266 |
| -4.100 | 26.405 | -0.001 | 6.694 | 0.254 |
| -4.800 | 28.624 | 0.075 | 7.066 | 0.241 |
| -4.800 | 28.624 | 0.075 | 7.066 | 0.241 |
| -5.300 | 28.980 | 0.099 | 7.308 | 0.224 |
| -5.800 | 29.427 | 0.113 | 7.537 | 0.208 |
| -5.800 | 29.427 | 0.113 | 7.537 | 0.208 |
| -6.450 | 33.037 | 0.127 | 7.818 | 0.198 |
| -7.150 | 37.061 | 0.125 | 8.093 | 0.187 |
| -7.800 | 40.948 | 0.104 | 8.313 | 0.176 |
| -8.500 | 45.321 | 0.058 | 8.505 | 0.163 |
| -8.500 | 45.321 | 0.058 | 8.505 | 0.163 |
| -8.750 | 45.703 | 0.043 | 8.562 | 0.152 |
| -9.000 | 46.117 | 0.025 | 8.612 | 0.140 |
| -9.000 | 46.117 | 0.025 | 8.612 | 0.140 |
| -9.970 | 52.250 | 0.019 | 8.747 | 0.131 |
| -10.940 | 58.310 | 0.010 | 8.794 | 0.121 |
| -10.940 | 58.310 | 0.010 | 8.794 | 0.121 |
| -11.420 | 61.219 | -0.027 | 8.789 | 0.112 |
| -11.900 | 64.159 | -0.069 | 8.768 | 0.102 |
| -11.900 | 64.159 | -0.069 | 8.768 | 0.102 |
| -12.450 | 67.546 | -0.077 | 8.725 | 0.096 |
| -12.950 | 70.616 | -0.084 | 8.672 | 0.090 |
| -13.500 | 73.987 | -0.093 | 8.599 | 0.083 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -14.000 | 77.048 | -0.103 | 8.522 | 0.078 |
| -14.000 | 77.048 | -0.103 | 8.522 | 0.078 |
| -14.550 | 81.774 | -0.191 | 8.427 | 0.074 |
| -15.050 | 86.131 | -0.278 | 8.333 | 0.071 |
| -15.600 | 90.993 | -0.382 | 8.222 | 0.066 |
| -16.100 | 95.480 | -0.483 | 8.117 | 0.062 |
| -16.100 | 95.480 | -0.483 | 8.117 | 0.062 |
| -16.700 | 99.161 | -0.500 | 7.984 | 0.053 |
| -17.300 | 102.849 | -0.517 | 7.847 | 0.043 |
| -17.300 | 102.849 | -0.517 | 7.847 | 0.043 |
| -17.750 | 107.085 | -0.630 | 7.742 | 0.039 |
| -18.200 | 111.384 | -0.750 | 7.636 | 0.035 |
| -18.200 | 111.384 | -0.750 | 7.636 | 0.035 |
| -18.850 | 123.264 | -1.573 | 7.480 | 0.023 |
| -19.500 | 135.173 | -2.400 | 7.323 | 0.012 |
| -19.500 | 135.173 | -2.400 | 7.323 | 0.012 |
| -20.850 | 148.596 | -2.400 | 6.996 | 0.009 |
| -22.250 | 162.519 | -2.400 | 6.662 | 0.005 |
| -23.600 | 175.953 | -2.400 | 6.346 | 0.003 |
| -25.000 | 189.895 | -2.400 | 6.030 | 0.000 |

### 3.27 Results for Vertical 27 (X = -7.50 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.101 | 5.287 | 0.101 | 5.286 | 0.367 |
| 0.001 | 7.469 | 0.012 | 5.976 | 0.346 |
| -0.099 | 9.011 | -0.074 | 6.054 | 0.334 |
| -0.199 | 10.434 | -0.158 | 6.035 | 0.325 |
| -0.299 | 11.781 | -0.240 | 5.962 | 0.318 |
| -0.399 | 13.175 | -0.319 | 5.954 | 0.312 |
| -0.499 | 14.627 | -0.397 | 6.025 | 0.308 |
| -0.599 | 15.387 | -0.473 | 5.423 | 0.304 |
| -0.699 | 15.867 | -0.547 | 4.555 | 0.300 |
| -0.786 | 16.273 | -0.611 | 3.797 | 0.298 |
| -0.799 | 16.333 | -0.607 | 3.811 | 0.298 |
| -0.899 | 16.789 | -0.580 | 3.914 | 0.296 |
| -0.999 | 17.238 | -0.552 | 4.013 | 0.294 |
| -1.500 | 19.395 | -0.408 | 4.490 | 0.288 |
| -2.100 | 21.840 | -0.222 | 5.046 | 0.284 |
| -2.100 | 21.840 | -0.222 | 5.046 | 0.284 |
| -2.400 | 22.781 | -0.179 | 5.303 | 0.277 |
| -2.950 | 24.485 | -0.102 | 5.730 | 0.266 |
| -3.450 | 26.028 | -0.036 | 6.077 | 0.256 |
| -4.100 | 28.047 | 0.044 | 6.476 | 0.245 |
| -4.800 | 30.277 | 0.118 | 6.849 | 0.233 |
| -4.800 | 30.277 | 0.118 | 6.849 | 0.233 |
| -5.300 | 30.637 | 0.142 | 7.090 | 0.217 |
| -5.800 | 31.087 | 0.155 | 7.316 | 0.201 |
| -5.800 | 31.087 | 0.155 | 7.316 | 0.201 |
| -6.450 | 34.707 | 0.166 | 7.590 | 0.192 |
| -7.150 | 38.749 | 0.161 | 7.858 | 0.182 |
| -7.800 | 42.661 | 0.138 | 8.076 | 0.171 |
| -8.500 | 47.071 | 0.088 | 8.270 | 0.159 |
| -8.500 | 47.071 | 0.088 | 8.270 | 0.159 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -8.750 | 47.463 | 0.072 | 8.329 | 0.148 |
| -9.000 | 47.889 | 0.053 | 8.382 | 0.137 |
| -9.000 | 47.889 | 0.053 | 8.382 | 0.137 |
| -9.970 | 54.039 | 0.046 | 8.532 | 0.128 |
| -10.940 | 60.123 | 0.038 | 8.600 | 0.118 |
| -10.940 | 60.123 | 0.038 | 8.600 | 0.118 |
| -11.420 | 63.053 | -0.001 | 8.606 | 0.109 |
| -11.900 | 66.017 | -0.044 | 8.597 | 0.100 |
| -11.900 | 66.017 | -0.044 | 8.597 | 0.100 |
| -12.450 | 69.420 | -0.052 | 8.568 | 0.094 |
| -12.950 | 72.506 | -0.059 | 8.528 | 0.088 |
| -13.500 | 75.893 | -0.069 | 8.469 | 0.082 |
| -14.000 | 78.969 | -0.078 | 8.404 | 0.076 |
| -14.000 | 78.969 | -0.078 | 8.404 | 0.076 |
| -14.550 | 83.725 | -0.168 | 8.323 | 0.073 |
| -15.050 | 88.109 | -0.256 | 8.241 | 0.070 |
| -15.600 | 93.000 | -0.362 | 8.143 | 0.065 |
| -16.100 | 97.513 | -0.465 | 8.048 | 0.061 |
| -16.100 | 97.513 | -0.465 | 8.048 | 0.061 |
| -16.700 | 101.209 | -0.482 | 7.928 | 0.052 |
| -17.300 | 104.913 | -0.499 | 7.802 | 0.043 |
| -17.300 | 104.913 | -0.499 | 7.802 | 0.043 |
| -17.750 | 109.172 | -0.614 | 7.706 | 0.039 |
| -18.200 | 113.495 | -0.735 | 7.607 | 0.034 |
| -18.200 | 113.496 | -0.735 | 7.607 | 0.034 |
| -18.850 | 125.460 | -1.566 | 7.463 | 0.023 |
| -19.500 | 137.453 | -2.400 | 7.316 | 0.012 |
| -19.500 | 137.453 | -2.400 | 7.316 | 0.012 |
| -20.850 | 150.896 | -2.400 | 7.009 | 0.009 |
| -22.250 | 164.838 | -2.400 | 6.691 | 0.005 |
| -23.600 | 178.287 | -2.400 | 6.391 | 0.003 |
| -25.000 | 192.243 | -2.400 | 6.087 | 0.000 |

### 3.28 Results for Vertical 28 (X = -7.43 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.134 | 5.539 | 0.134 | 5.538 | 0.362 |
| 0.034 | 6.920 | 0.045 | 5.423 | 0.342 |
| -0.066 | 8.149 | -0.043 | 5.175 | 0.331 |
| -0.166 | 10.047 | -0.128 | 5.620 | 0.323 |
| -0.266 | 11.658 | -0.210 | 5.804 | 0.316 |
| -0.366 | 13.140 | -0.290 | 5.881 | 0.310 |
| -0.466 | 14.600 | -0.368 | 5.957 | 0.305 |
| -0.566 | 15.672 | -0.444 | 5.666 | 0.301 |
| -0.666 | 16.149 | -0.519 | 4.794 | 0.298 |
| -0.766 | 16.617 | -0.592 | 3.924 | 0.295 |
| -0.783 | 16.693 | -0.604 | 3.779 | 0.295 |
| -0.866 | 17.075 | -0.581 | 3.868 | 0.293 |
| -0.983 | 17.600 | -0.549 | 3.988 | 0.291 |
| -1.500 | 19.816 | -0.398 | 4.479 | 0.285 |
| -2.100 | 22.237 | -0.211 | 5.021 | 0.281 |
| -2.100 | 22.237 | -0.211 | 5.021 | 0.281 |
| -2.400 | 23.172 | -0.168 | 5.273 | 0.275 |
| -2.950 | 24.870 | -0.091 | 5.694 | 0.264 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.450 | 26.409 | -0.025 | 6.038 | 0.254 |
| -4.100 | 28.426 | 0.054 | 6.433 | 0.243 |
| -4.800 | 30.656 | 0.128 | 6.803 | 0.231 |
| -4.800 | 30.656 | 0.128 | 6.803 | 0.231 |
| -5.300 | 31.016 | 0.152 | 7.043 | 0.216 |
| -5.800 | 31.465 | 0.165 | 7.267 | 0.200 |
| -5.800 | 31.466 | 0.165 | 7.267 | 0.200 |
| -6.450 | 35.088 | 0.175 | 7.538 | 0.191 |
| -7.150 | 39.134 | 0.170 | 7.804 | 0.181 |
| -7.800 | 43.051 | 0.145 | 8.020 | 0.170 |
| -8.500 | 47.470 | 0.095 | 8.214 | 0.158 |
| -8.500 | 47.470 | 0.095 | 8.214 | 0.158 |
| -8.750 | 47.865 | 0.079 | 8.273 | 0.147 |
| -9.000 | 48.293 | 0.059 | 8.326 | 0.136 |
| -9.000 | 48.293 | 0.059 | 8.326 | 0.136 |
| -9.970 | 54.446 | 0.053 | 8.479 | 0.127 |
| -10.940 | 60.534 | 0.044 | 8.551 | 0.118 |
| -10.940 | 60.534 | 0.044 | 8.551 | 0.118 |
| -11.420 | 63.469 | 0.005 | 8.560 | 0.109 |
| -11.900 | 66.438 | -0.038 | 8.553 | 0.100 |
| -11.900 | 66.438 | -0.038 | 8.553 | 0.100 |
| -12.450 | 69.845 | -0.046 | 8.527 | 0.094 |
| -12.950 | 72.934 | -0.054 | 8.489 | 0.088 |
| -13.500 | 76.325 | -0.063 | 8.433 | 0.082 |
| -14.000 | 79.403 | -0.072 | 8.371 | 0.076 |
| -14.000 | 79.403 | -0.072 | 8.371 | 0.076 |
| -14.550 | 84.166 | -0.163 | 8.293 | 0.073 |
| -15.050 | 88.556 | -0.251 | 8.213 | 0.069 |
| -15.600 | 93.454 | -0.357 | 8.118 | 0.065 |
| -16.100 | 97.972 | -0.461 | 8.025 | 0.061 |
| -16.100 | 97.972 | -0.461 | 8.025 | 0.061 |
| -16.700 | 101.672 | -0.477 | 7.908 | 0.052 |
| -17.300 | 105.379 | -0.495 | 7.785 | 0.043 |
| -17.300 | 105.379 | -0.495 | 7.785 | 0.043 |
| -17.750 | 109.644 | -0.610 | 7.691 | 0.039 |
| -18.200 | 113.972 | -0.731 | 7.594 | 0.034 |
| -18.200 | 113.972 | -0.731 | 7.594 | 0.034 |
| -18.850 | 125.956 | -1.564 | 7.452 | 0.023 |
| -19.500 | 137.968 | -2.400 | 7.308 | 0.012 |
| -19.500 | 137.968 | -2.400 | 7.308 | 0.012 |
| -20.850 | 151.416 | -2.400 | 7.005 | 0.009 |
| -22.250 | 165.362 | -2.400 | 6.691 | 0.005 |
| -23.600 | 178.814 | -2.400 | 6.394 | 0.003 |
| -25.000 | 192.773 | -2.400 | 6.094 | 0.000 |

### 3.29 Results for Vertical 29 (X = -6.64 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.107 | 7.399 | 0.107 | 7.398 | 0.366 |
| 0.007 | 8.900 | 0.021 | 7.432 | 0.343 |
| -0.093 | 10.330 | -0.064 | 7.417 | 0.329 |
| -0.193 | 11.740 | -0.146 | 7.402 | 0.319 |
| -0.293 | 13.134 | -0.226 | 7.390 | 0.311 |
| -0.393 | 14.508 | -0.304 | 7.378 | 0.305 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.493 | 15.864 | -0.381 | 7.365 | 0.299 |
| -0.593 | 16.272 | -0.455 | 6.421 | 0.294 |
| -0.693 | 16.623 | -0.529 | 5.430 | 0.290 |
| -0.749 | 16.818 | -0.570 | 4.877 | 0.289 |
| -0.793 | 16.973 | -0.558 | 4.874 | 0.288 |
| -0.893 | 17.322 | -0.531 | 4.870 | 0.285 |
| -0.997 | 17.686 | -0.503 | 4.870 | 0.283 |
| -1.500 | 19.480 | -0.362 | 4.935 | 0.275 |
| -2.100 | 21.640 | -0.184 | 5.120 | 0.271 |
| -2.100 | 21.640 | -0.184 | 5.120 | 0.271 |
| -2.400 | 22.469 | -0.144 | 5.240 | 0.264 |
| -2.950 | 24.036 | -0.072 | 5.483 | 0.253 |
| -3.450 | 25.505 | -0.010 | 5.711 | 0.244 |
| -4.100 | 27.470 | 0.063 | 6.000 | 0.233 |
| -4.800 | 29.669 | 0.132 | 6.289 | 0.222 |
| -4.800 | 29.669 | 0.132 | 6.289 | 0.222 |
| -5.300 | 29.997 | 0.154 | 6.482 | 0.208 |
| -5.800 | 30.412 | 0.166 | 6.665 | 0.193 |
| -5.800 | 30.412 | 0.166 | 6.665 | 0.193 |
| -6.450 | 33.994 | 0.175 | 6.888 | 0.184 |
| -7.150 | 37.993 | 0.169 | 7.110 | 0.175 |
| -7.800 | 41.867 | 0.146 | 7.296 | 0.165 |
| -8.500 | 46.242 | 0.097 | 7.470 | 0.153 |
| -8.500 | 46.242 | 0.097 | 7.470 | 0.153 |
| -8.750 | 46.624 | 0.082 | 7.525 | 0.142 |
| -9.000 | 47.041 | 0.063 | 7.576 | 0.132 |
| -9.000 | 47.041 | 0.063 | 7.576 | 0.132 |
| -9.970 | 53.194 | 0.057 | 7.735 | 0.124 |
| -10.940 | 59.302 | 0.048 | 7.831 | 0.115 |
| -10.940 | 59.302 | 0.048 | 7.831 | 0.115 |
| -11.420 | 62.237 | 0.011 | 7.857 | 0.106 |
| -11.900 | 65.208 | -0.030 | 7.868 | 0.097 |
| -11.900 | 65.208 | -0.030 | 7.868 | 0.097 |
| -12.450 | 68.637 | -0.038 | 7.867 | 0.091 |
| -12.950 | 71.746 | -0.045 | 7.852 | 0.086 |
| -13.500 | 75.161 | -0.054 | 7.822 | 0.080 |
| -14.000 | 78.262 | -0.063 | 7.785 | 0.074 |
| -14.000 | 78.262 | -0.063 | 7.785 | 0.074 |
| -14.550 | 83.021 | -0.150 | 7.733 | 0.071 |
| -15.050 | 87.404 | -0.236 | 7.677 | 0.068 |
| -15.600 | 92.292 | -0.338 | 7.608 | 0.064 |
| -16.100 | 96.798 | -0.437 | 7.538 | 0.060 |
| -16.100 | 96.798 | -0.437 | 7.538 | 0.060 |
| -16.700 | 100.521 | -0.454 | 7.448 | 0.051 |
| -17.300 | 104.249 | -0.471 | 7.351 | 0.042 |
| -17.300 | 104.249 | -0.471 | 7.351 | 0.042 |
| -17.750 | 108.498 | -0.582 | 7.275 | 0.038 |
| -18.200 | 112.806 | -0.699 | 7.197 | 0.034 |
| -18.200 | 112.806 | -0.699 | 7.197 | 0.034 |
| -18.850 | 124.974 | -1.548 | 7.079 | 0.022 |
| -19.500 | 137.169 | -2.400 | 6.959 | 0.012 |
| -19.500 | 137.169 | -2.400 | 6.959 | 0.012 |
| -20.850 | 150.665 | -2.400 | 6.701 | 0.008 |
| -22.250 | 164.654 | -2.400 | 6.429 | 0.005 |
| -23.600 | 178.143 | -2.400 | 6.166 | 0.003 |
| -25.000 | 192.135 | -2.400 | 5.897 | 0.000 |

### 3.30 Results for Vertical 30 (X = -6.28 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.095 | 8.859 | 0.095 | 8.858 | 0.370 |
| -0.005 | 10.284 | 0.011 | 8.840 | 0.346 |
| -0.105 | 11.553 | -0.071 | 8.683 | 0.331 |
| -0.205 | 12.822 | -0.152 | 8.544 | 0.319 |
| -0.305 | 14.096 | -0.230 | 8.428 | 0.311 |
| -0.405 | 15.371 | -0.307 | 8.330 | 0.303 |
| -0.505 | 16.435 | -0.383 | 8.037 | 0.297 |
| -0.605 | 16.723 | -0.456 | 6.980 | 0.292 |
| -0.705 | 17.012 | -0.530 | 5.932 | 0.288 |
| -0.733 | 17.095 | -0.550 | 5.636 | 0.287 |
| -0.805 | 17.307 | -0.531 | 5.594 | 0.285 |
| -0.905 | 17.607 | -0.504 | 5.543 | 0.283 |
| -1.002 | 17.904 | -0.477 | 5.500 | 0.280 |
| -1.600 | 19.820 | -0.309 | 5.362 | 0.270 |
| -2.100 | 21.499 | -0.164 | 5.376 | 0.266 |
| -2.100 | 21.499 | -0.164 | 5.376 | 0.266 |
| -2.400 | 22.263 | -0.124 | 5.423 | 0.260 |
| -2.950 | 23.742 | -0.054 | 5.557 | 0.249 |
| -3.450 | 25.154 | 0.006 | 5.709 | 0.239 |
| -4.100 | 27.070 | 0.077 | 5.923 | 0.229 |
| -4.800 | 29.236 | 0.143 | 6.151 | 0.218 |
| -4.800 | 29.236 | 0.143 | 6.151 | 0.218 |
| -5.300 | 29.538 | 0.163 | 6.309 | 0.203 |
| -5.800 | 29.931 | 0.175 | 6.462 | 0.189 |
| -5.800 | 29.931 | 0.175 | 6.462 | 0.189 |
| -6.450 | 33.490 | 0.182 | 6.652 | 0.181 |
| -7.150 | 37.468 | 0.175 | 6.845 | 0.172 |
| -7.800 | 41.324 | 0.151 | 7.009 | 0.162 |
| -8.500 | 45.682 | 0.102 | 7.166 | 0.150 |
| -8.500 | 45.682 | 0.102 | 7.166 | 0.150 |
| -8.750 | 46.060 | 0.087 | 7.217 | 0.140 |
| -9.000 | 46.471 | 0.068 | 7.264 | 0.130 |
| -9.000 | 46.471 | 0.068 | 7.264 | 0.130 |
| -9.970 | 52.614 | 0.062 | 7.415 | 0.122 |
| -10.940 | 58.722 | 0.054 | 7.514 | 0.113 |
| -10.940 | 58.722 | 0.054 | 7.514 | 0.113 |
| -11.420 | 61.657 | 0.017 | 7.543 | 0.105 |
| -11.900 | 64.628 | -0.024 | 7.560 | 0.096 |
| -11.900 | 64.628 | -0.024 | 7.560 | 0.096 |
| -12.450 | 68.063 | -0.031 | 7.566 | 0.090 |
| -12.950 | 71.180 | -0.038 | 7.558 | 0.085 |
| -13.500 | 74.603 | -0.047 | 7.538 | 0.079 |
| -14.000 | 77.712 | -0.056 | 7.509 | 0.074 |
| -14.000 | 77.712 | -0.056 | 7.509 | 0.074 |
| -14.550 | 82.470 | -0.142 | 7.468 | 0.070 |
| -15.050 | 86.852 | -0.226 | 7.422 | 0.067 |
| -15.600 | 91.739 | -0.327 | 7.363 | 0.063 |
| -16.100 | 96.243 | -0.426 | 7.303 | 0.059 |
| -16.100 | 96.243 | -0.426 | 7.303 | 0.059 |
| -16.700 | 99.976 | -0.441 | 7.223 | 0.050 |
| -17.300 | 103.713 | -0.459 | 7.138 | 0.041 |
| -17.300 | 103.714 | -0.459 | 7.138 | 0.041 |
| -17.750 | 107.957 | -0.568 | 7.070 | 0.037 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -18.200 | 112.261 | -0.684 | 6.999 | 0.033 |
| -18.200 | 112.261 | -0.684 | 6.999 | 0.033 |
| -18.850 | 124.514 | -1.541 | 6.893 | 0.022 |
| -19.500 | 136.793 | -2.400 | 6.782 | 0.011 |
| -19.500 | 136.793 | -2.400 | 6.782 | 0.011 |
| -20.850 | 150.309 | -2.400 | 6.545 | 0.008 |
| -22.250 | 164.318 | -2.400 | 6.291 | 0.005 |
| -23.600 | 177.824 | -2.400 | 6.044 | 0.003 |
| -25.000 | 191.831 | -2.400 | 5.790 | 0.000 |

### 3.31 Results for Vertical 31 (X = -5.20 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.063 | 9.116 | 0.063 | 9.115 | 0.370 |
| -0.037 | 10.722 | -0.020 | 9.284 | 0.345 |
| -0.137 | 12.074 | -0.102 | 9.219 | 0.330 |
| -0.237 | 13.432 | -0.181 | 9.180 | 0.319 |
| -0.337 | 14.782 | -0.259 | 9.151 | 0.309 |
| -0.437 | 16.117 | -0.334 | 9.125 | 0.302 |
| -0.537 | 16.456 | -0.408 | 8.117 | 0.295 |
| -0.637 | 16.783 | -0.482 | 7.107 | 0.290 |
| -0.687 | 16.946 | -0.518 | 6.598 | 0.288 |
| -0.737 | 17.105 | -0.505 | 6.582 | 0.286 |
| -0.837 | 17.422 | -0.477 | 6.549 | 0.282 |
| -0.937 | 17.737 | -0.450 | 6.515 | 0.279 |
| -1.018 | 17.990 | -0.427 | 6.485 | 0.277 |
| -1.600 | 19.776 | -0.264 | 6.276 | 0.264 |
| -2.100 | 21.314 | -0.120 | 6.125 | 0.259 |
| -2.100 | 21.314 | -0.120 | 6.125 | 0.259 |
| -2.400 | 21.971 | -0.082 | 6.055 | 0.251 |
| -2.950 | 23.254 | -0.014 | 5.969 | 0.238 |
| -3.450 | 24.506 | 0.042 | 5.931 | 0.228 |
| -4.100 | 26.247 | 0.108 | 5.923 | 0.217 |
| -4.800 | 28.263 | 0.169 | 5.951 | 0.206 |
| -4.800 | 28.263 | 0.169 | 5.951 | 0.206 |
| -5.300 | 28.462 | 0.188 | 5.986 | 0.193 |
| -5.800 | 28.760 | 0.197 | 6.030 | 0.179 |
| -5.800 | 28.760 | 0.197 | 6.030 | 0.179 |
| -6.450 | 32.222 | 0.202 | 6.099 | 0.171 |
| -7.150 | 36.108 | 0.193 | 6.181 | 0.162 |
| -7.800 | 39.890 | 0.167 | 6.263 | 0.153 |
| -8.500 | 44.176 | 0.118 | 6.350 | 0.142 |
| -8.500 | 44.176 | 0.118 | 6.350 | 0.142 |
| -8.750 | 44.530 | 0.103 | 6.381 | 0.133 |
| -9.000 | 44.918 | 0.085 | 6.411 | 0.123 |
| -9.000 | 44.918 | 0.085 | 6.411 | 0.123 |
| -9.970 | 51.008 | 0.079 | 6.516 | 0.116 |
| -10.940 | 57.094 | 0.071 | 6.598 | 0.108 |
| -10.940 | 57.094 | 0.071 | 6.598 | 0.108 |
| -11.420 | 60.014 | 0.036 | 6.628 | 0.100 |
| -11.900 | 62.974 | -0.004 | 6.651 | 0.092 |
| -11.900 | 62.974 | -0.004 | 6.651 | 0.092 |
| -12.450 | 66.418 | -0.011 | 6.669 | 0.086 |
| -12.950 | 69.546 | -0.018 | 6.676 | 0.081 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -13.500 | 72.986 | -0.026 | 6.675 | 0.076 |
| -14.000 | 76.112 | -0.035 | 6.666 | 0.071 |
| -14.000 | 76.113 | -0.035 | 6.666 | 0.071 |
| -14.550 | 80.863 | -0.117 | 6.648 | 0.068 |
| -15.050 | 85.237 | -0.198 | 6.625 | 0.065 |
| -15.600 | 90.112 | -0.295 | 6.592 | 0.061 |
| -16.100 | 94.605 | -0.390 | 6.556 | 0.057 |
| -16.100 | 94.605 | -0.390 | 6.556 | 0.057 |
| -16.700 | 98.363 | -0.405 | 6.506 | 0.048 |
| -17.300 | 102.125 | -0.422 | 6.450 | 0.040 |
| -17.300 | 102.125 | -0.422 | 6.450 | 0.040 |
| -17.750 | 106.354 | -0.528 | 6.403 | 0.036 |
| -18.200 | 110.640 | -0.640 | 6.354 | 0.032 |
| -18.200 | 110.640 | -0.640 | 6.354 | 0.032 |
| -18.850 | 123.143 | -1.518 | 6.278 | 0.021 |
| -19.500 | 135.672 | -2.400 | 6.197 | 0.011 |
| -19.500 | 135.672 | -2.400 | 6.197 | 0.011 |
| -20.850 | 149.249 | -2.400 | 6.016 | 0.008 |
| -22.250 | 163.314 | -2.400 | 5.817 | 0.005 |
| -23.600 | 176.869 | -2.400 | 5.617 | 0.002 |
| -25.000 | 190.922 | -2.400 | 5.406 | 0.000 |

### 3.32 Results for Vertical 32 (X = -3.78 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.016 | 9.282 | 0.016 | 9.281 | 0.368 |
| -0.084 | 10.789 | -0.067 | 9.355 | 0.343 |
| -0.184 | 12.205 | -0.148 | 9.356 | 0.328 |
| -0.284 | 13.595 | -0.227 | 9.353 | 0.316 |
| -0.384 | 14.861 | -0.304 | 9.244 | 0.307 |
| -0.484 | 15.232 | -0.379 | 8.256 | 0.299 |
| -0.584 | 15.595 | -0.454 | 7.268 | 0.293 |
| -0.626 | 15.749 | -0.486 | 6.845 | 0.291 |
| -0.684 | 15.954 | -0.471 | 6.842 | 0.288 |
| -0.784 | 16.309 | -0.445 | 6.835 | 0.284 |
| -0.884 | 16.661 | -0.418 | 6.828 | 0.280 |
| -0.984 | 17.010 | -0.391 | 6.819 | 0.276 |
| -1.042 | 17.211 | -0.376 | 6.813 | 0.274 |
| -1.600 | 19.079 | -0.223 | 6.726 | 0.260 |
| -2.100 | 20.682 | -0.083 | 6.607 | 0.253 |
| -2.100 | 20.682 | -0.083 | 6.607 | 0.253 |
| -2.400 | 21.334 | -0.045 | 6.523 | 0.244 |
| -2.950 | 22.556 | 0.020 | 6.356 | 0.230 |
| -3.450 | 23.714 | 0.074 | 6.202 | 0.218 |
| -4.100 | 25.307 | 0.137 | 6.013 | 0.206 |
| -4.800 | 27.156 | 0.194 | 5.835 | 0.195 |
| -4.800 | 27.156 | 0.194 | 5.835 | 0.195 |
| -5.300 | 27.227 | 0.211 | 5.728 | 0.181 |
| -5.800 | 27.404 | 0.219 | 5.639 | 0.167 |
| -5.800 | 27.404 | 0.219 | 5.639 | 0.167 |
| -6.450 | 30.728 | 0.222 | 5.550 | 0.160 |
| -7.150 | 34.480 | 0.211 | 5.487 | 0.152 |
| -7.800 | 38.147 | 0.185 | 5.455 | 0.143 |
| -8.500 | 42.321 | 0.137 | 5.443 | 0.133 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -8.500 | 42.321 | 0.137 | 5.443 | 0.133 |
| -8.750 | 42.638 | 0.122 | 5.443 | 0.124 |
| -9.000 | 42.990 | 0.105 | 5.446 | 0.114 |
| -9.000 | 42.990 | 0.105 | 5.446 | 0.114 |
| -9.970 | 48.991 | 0.099 | 5.470 | 0.108 |
| -10.940 | 55.022 | 0.091 | 5.507 | 0.102 |
| -10.940 | 55.022 | 0.091 | 5.507 | 0.102 |
| -11.420 | 57.910 | 0.059 | 5.526 | 0.094 |
| -11.900 | 60.841 | 0.021 | 5.544 | 0.086 |
| -11.900 | 60.841 | 0.021 | 5.544 | 0.086 |
| -12.450 | 64.281 | 0.015 | 5.563 | 0.081 |
| -12.950 | 67.412 | 0.008 | 5.577 | 0.077 |
| -13.500 | 70.859 | 0.000 | 5.588 | 0.072 |
| -14.000 | 73.995 | -0.008 | 5.594 | 0.067 |
| -14.000 | 73.995 | -0.008 | 5.594 | 0.067 |
| -14.550 | 78.721 | -0.086 | 5.596 | 0.064 |
| -15.050 | 83.072 | -0.163 | 5.593 | 0.061 |
| -15.600 | 87.921 | -0.254 | 5.585 | 0.058 |
| -16.100 | 92.389 | -0.344 | 5.573 | 0.054 |
| -16.100 | 92.389 | -0.344 | 5.573 | 0.054 |
| -16.700 | 96.170 | -0.358 | 5.554 | 0.046 |
| -17.300 | 99.956 | -0.374 | 5.528 | 0.038 |
| -17.300 | 99.956 | -0.374 | 5.528 | 0.038 |
| -17.750 | 104.157 | -0.475 | 5.505 | 0.034 |
| -18.200 | 108.413 | -0.581 | 5.480 | 0.030 |
| -18.200 | 108.413 | -0.581 | 5.480 | 0.030 |
| -18.850 | 121.240 | -1.489 | 5.438 | 0.020 |
| -19.500 | 134.091 | -2.400 | 5.390 | 0.010 |
| -19.500 | 134.091 | -2.400 | 5.390 | 0.010 |
| -20.850 | 147.739 | -2.400 | 5.278 | 0.007 |
| -22.250 | 161.873 | -2.400 | 5.144 | 0.005 |
| -23.600 | 175.489 | -2.400 | 5.003 | 0.002 |
| -25.000 | 189.600 | -2.400 | 4.848 | 0.000 |

### 3.33 Results for Vertical 33 (X = -3.25 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.001 | 9.300 | -0.001 | 9.299 | 0.367 |
| -0.101 | 10.921 | -0.084 | 9.487 | 0.342 |
| -0.201 | 12.338 | -0.165 | 9.493 | 0.326 |
| -0.301 | 13.734 | -0.244 | 9.496 | 0.315 |
| -0.401 | 14.601 | -0.321 | 8.990 | 0.305 |
| -0.501 | 14.975 | -0.396 | 8.004 | 0.298 |
| -0.601 | 15.339 | -0.471 | 7.015 | 0.292 |
| -0.604 | 15.349 | -0.473 | 6.987 | 0.292 |
| -0.701 | 15.697 | -0.448 | 6.977 | 0.287 |
| -0.801 | 16.050 | -0.422 | 6.965 | 0.282 |
| -0.901 | 16.399 | -0.396 | 6.951 | 0.278 |
| -1.001 | 16.745 | -0.370 | 6.936 | 0.274 |
| -1.050 | 16.915 | -0.357 | 6.928 | 0.273 |
| -1.600 | 18.752 | -0.208 | 6.819 | 0.258 |
| -2.100 | 20.361 | -0.071 | 6.684 | 0.250 |
| -2.100 | 20.361 | -0.071 | 6.684 | 0.250 |
| -2.400 | 21.008 | -0.034 | 6.589 | 0.241 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.950 | 22.216 | 0.031 | 6.398 | 0.226 |
| -3.450 | 23.354 | 0.084 | 6.215 | 0.215 |
| -4.100 | 24.912 | 0.146 | 5.978 | 0.202 |
| -4.800 | 26.719 | 0.201 | 5.744 | 0.191 |
| -4.800 | 26.719 | 0.201 | 5.744 | 0.191 |
| -5.300 | 26.755 | 0.217 | 5.596 | 0.177 |
| -5.800 | 26.897 | 0.225 | 5.469 | 0.163 |
| -5.800 | 26.897 | 0.225 | 5.469 | 0.163 |
| -6.450 | 30.180 | 0.228 | 5.335 | 0.156 |
| -7.150 | 33.890 | 0.217 | 5.229 | 0.148 |
| -7.800 | 37.521 | 0.191 | 5.163 | 0.140 |
| -8.500 | 41.656 | 0.143 | 5.121 | 0.129 |
| -8.500 | 41.656 | 0.143 | 5.121 | 0.129 |
| -8.750 | 41.961 | 0.129 | 5.112 | 0.121 |
| -9.000 | 42.301 | 0.111 | 5.106 | 0.111 |
| -9.000 | 42.301 | 0.111 | 5.106 | 0.111 |
| -9.970 | 48.273 | 0.106 | 5.105 | 0.106 |
| -10.940 | 54.285 | 0.099 | 5.125 | 0.099 |
| -10.940 | 54.285 | 0.099 | 5.125 | 0.099 |
| -11.420 | 57.160 | 0.066 | 5.140 | 0.092 |
| -11.900 | 60.079 | 0.030 | 5.155 | 0.084 |
| -11.900 | 60.079 | 0.030 | 5.155 | 0.084 |
| -12.450 | 63.516 | 0.024 | 5.173 | 0.079 |
| -12.950 | 66.646 | 0.017 | 5.188 | 0.075 |
| -13.500 | 70.093 | 0.009 | 5.202 | 0.070 |
| -14.000 | 73.231 | 0.001 | 5.212 | 0.065 |
| -14.000 | 73.231 | 0.001 | 5.212 | 0.065 |
| -14.550 | 77.945 | -0.075 | 5.219 | 0.063 |
| -15.050 | 82.285 | -0.150 | 5.222 | 0.060 |
| -15.600 | 87.122 | -0.239 | 5.222 | 0.057 |
| -16.100 | 91.577 | -0.327 | 5.217 | 0.053 |
| -16.100 | 91.578 | -0.327 | 5.217 | 0.053 |
| -16.700 | 95.365 | -0.341 | 5.206 | 0.045 |
| -17.300 | 99.157 | -0.356 | 5.191 | 0.037 |
| -17.300 | 99.157 | -0.357 | 5.191 | 0.037 |
| -17.750 | 103.346 | -0.455 | 5.175 | 0.034 |
| -18.200 | 107.588 | -0.559 | 5.157 | 0.030 |
| -18.200 | 107.588 | -0.559 | 5.157 | 0.030 |
| -18.850 | 120.534 | -1.478 | 5.127 | 0.020 |
| -19.500 | 133.504 | -2.400 | 5.091 | 0.010 |
| -19.500 | 133.504 | -2.400 | 5.091 | 0.010 |
| -20.850 | 147.175 | -2.400 | 5.001 | 0.007 |
| -22.250 | 161.333 | -2.400 | 4.891 | 0.005 |
| -23.600 | 174.971 | -2.400 | 4.770 | 0.002 |
| -25.000 | 189.103 | -2.400 | 4.636 | 0.000 |

### 3.34 Results for Vertical 34 (X = -2.22 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.048 | 9.857 | -0.048 | 9.856 | 0.364 |
| -0.148 | 11.304 | -0.130 | 9.877 | 0.339 |
| -0.248 | 12.645 | -0.211 | 9.810 | 0.323 |
| -0.348 | 13.559 | -0.289 | 9.335 | 0.311 |
| -0.448 | 13.927 | -0.366 | 8.328 | 0.302 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.548 | 14.285 | -0.443 | 7.319 | 0.295 |
| -0.560 | 14.327 | -0.452 | 7.200 | 0.294 |
| -0.648 | 14.636 | -0.430 | 7.172 | 0.289 |
| -0.748 | 14.982 | -0.406 | 7.138 | 0.283 |
| -0.848 | 15.324 | -0.381 | 7.101 | 0.278 |
| -0.948 | 15.661 | -0.356 | 7.064 | 0.274 |
| -1.048 | 15.997 | -0.331 | 7.027 | 0.270 |
| -1.074 | 16.084 | -0.325 | 7.017 | 0.269 |
| -1.600 | 17.820 | -0.190 | 6.824 | 0.253 |
| -2.100 | 19.436 | -0.058 | 6.633 | 0.244 |
| -2.100 | 19.436 | -0.058 | 6.633 | 0.244 |
| -2.400 | 20.069 | -0.023 | 6.507 | 0.235 |
| -2.950 | 21.245 | 0.039 | 6.255 | 0.219 |
| -3.450 | 22.347 | 0.089 | 6.011 | 0.207 |
| -4.100 | 23.854 | 0.148 | 5.695 | 0.194 |
| -4.800 | 25.604 | 0.201 | 5.378 | 0.183 |
| -4.800 | 25.604 | 0.201 | 5.378 | 0.183 |
| -5.300 | 25.594 | 0.216 | 5.176 | 0.169 |
| -5.800 | 25.690 | 0.224 | 5.000 | 0.156 |
| -5.800 | 25.690 | 0.224 | 5.000 | 0.156 |
| -6.450 | 28.915 | 0.226 | 4.809 | 0.149 |
| -7.150 | 32.562 | 0.216 | 4.649 | 0.141 |
| -7.800 | 36.132 | 0.192 | 4.541 | 0.133 |
| -8.500 | 40.198 | 0.147 | 4.462 | 0.123 |
| -8.500 | 40.198 | 0.147 | 4.462 | 0.123 |
| -8.750 | 40.481 | 0.134 | 4.441 | 0.115 |
| -9.000 | 40.799 | 0.118 | 4.425 | 0.106 |
| -9.000 | 40.799 | 0.118 | 4.425 | 0.106 |
| -9.970 | 46.731 | 0.112 | 4.390 | 0.101 |
| -10.940 | 52.716 | 0.106 | 4.391 | 0.095 |
| -10.940 | 52.716 | 0.106 | 4.391 | 0.095 |
| -11.420 | 55.565 | 0.076 | 4.400 | 0.088 |
| -11.900 | 58.458 | 0.041 | 4.412 | 0.080 |
| -11.900 | 58.458 | 0.041 | 4.412 | 0.080 |
| -12.450 | 61.890 | 0.035 | 4.430 | 0.076 |
| -12.950 | 65.017 | 0.029 | 4.447 | 0.072 |
| -13.500 | 68.465 | 0.022 | 4.466 | 0.067 |
| -14.000 | 71.605 | 0.014 | 4.482 | 0.063 |
| -14.000 | 71.605 | 0.014 | 4.482 | 0.063 |
| -14.550 | 76.287 | -0.058 | 4.499 | 0.060 |
| -15.050 | 80.597 | -0.129 | 4.512 | 0.058 |
| -15.600 | 85.398 | -0.213 | 4.524 | 0.055 |
| -16.100 | 89.821 | -0.296 | 4.532 | 0.051 |
| -16.100 | 89.821 | -0.296 | 4.532 | 0.051 |
| -16.700 | 93.617 | -0.310 | 4.537 | 0.043 |
| -17.300 | 97.419 | -0.324 | 4.538 | 0.036 |
| -17.300 | 97.419 | -0.324 | 4.538 | 0.036 |
| -17.750 | 101.573 | -0.418 | 4.536 | 0.032 |
| -18.200 | 105.779 | -0.517 | 4.532 | 0.029 |
| -18.200 | 105.779 | -0.517 | 4.532 | 0.029 |
| -18.850 | 118.952 | -1.457 | 4.521 | 0.019 |
| -19.500 | 132.148 | -2.400 | 4.505 | 0.009 |
| -19.500 | 132.149 | -2.400 | 4.505 | 0.009 |
| -20.850 | 145.862 | -2.400 | 4.457 | 0.007 |
| -22.250 | 160.064 | -2.400 | 4.388 | 0.004 |
| -23.600 | 173.741 | -2.400 | 4.306 | 0.002 |
| -25.000 | 187.911 | -2.400 | 4.208 | 0.000 |

### 3.35 Results for Vertical 35 (X = -1.02 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.108 | 8.692 | -0.108 | 8.691 | 0.351 |
| -0.208 | 9.675 | -0.193 | 8.220 | 0.327 |
| -0.308 | 10.959 | -0.276 | 8.069 | 0.313 |
| -0.408 | 11.651 | -0.357 | 7.347 | 0.302 |
| -0.508 | 12.183 | -0.437 | 6.476 | 0.294 |
| -0.508 | 12.183 | -0.437 | 6.475 | 0.294 |
| -0.608 | 12.648 | -0.417 | 6.524 | 0.287 |
| -0.708 | 13.083 | -0.396 | 6.548 | 0.281 |
| -0.808 | 13.499 | -0.374 | 6.557 | 0.275 |
| -0.908 | 13.903 | -0.352 | 6.558 | 0.270 |
| -1.008 | 14.295 | -0.330 | 6.550 | 0.265 |
| -1.104 | 14.661 | -0.308 | 6.536 | 0.261 |
| -1.108 | 14.676 | -0.307 | 6.535 | 0.261 |
| -2.100 | 18.074 | -0.071 | 6.105 | 0.236 |
| -2.100 | 18.074 | -0.071 | 6.105 | 0.236 |
| -2.400 | 18.669 | -0.038 | 5.918 | 0.226 |
| -2.950 | 19.782 | 0.019 | 5.561 | 0.210 |
| -3.450 | 20.846 | 0.067 | 5.248 | 0.198 |
| -4.100 | 22.331 | 0.122 | 4.878 | 0.185 |
| -4.800 | 24.079 | 0.172 | 4.536 | 0.174 |
| -4.800 | 24.079 | 0.172 | 4.536 | 0.174 |
| -5.300 | 24.066 | 0.188 | 4.330 | 0.161 |
| -5.800 | 24.157 | 0.196 | 4.153 | 0.148 |
| -5.800 | 24.157 | 0.196 | 4.153 | 0.148 |
| -6.450 | 27.361 | 0.201 | 3.964 | 0.142 |
| -7.150 | 30.971 | 0.194 | 3.808 | 0.134 |
| -7.800 | 34.491 | 0.175 | 3.702 | 0.127 |
| -8.500 | 38.484 | 0.138 | 3.623 | 0.118 |
| -8.500 | 38.484 | 0.138 | 3.623 | 0.118 |
| -8.750 | 38.749 | 0.127 | 3.603 | 0.109 |
| -9.000 | 39.045 | 0.113 | 3.586 | 0.101 |
| -9.000 | 39.045 | 0.113 | 3.586 | 0.101 |
| -9.970 | 44.969 | 0.108 | 3.551 | 0.096 |
| -10.940 | 50.946 | 0.102 | 3.554 | 0.091 |
| -10.940 | 50.946 | 0.102 | 3.554 | 0.091 |
| -11.420 | 53.764 | 0.075 | 3.565 | 0.084 |
| -11.900 | 56.626 | 0.044 | 3.581 | 0.076 |
| -11.900 | 56.626 | 0.044 | 3.581 | 0.076 |
| -12.450 | 60.056 | 0.039 | 3.604 | 0.072 |
| -12.950 | 63.183 | 0.033 | 3.627 | 0.068 |
| -13.500 | 66.631 | 0.026 | 3.654 | 0.064 |
| -14.000 | 69.772 | 0.020 | 3.679 | 0.060 |
| -14.000 | 69.772 | 0.020 | 3.679 | 0.060 |
| -14.550 | 74.403 | -0.046 | 3.707 | 0.058 |
| -15.050 | 78.664 | -0.111 | 3.731 | 0.055 |
| -15.600 | 83.409 | -0.188 | 3.756 | 0.052 |
| -16.100 | 87.776 | -0.265 | 3.776 | 0.049 |
| -16.100 | 87.776 | -0.265 | 3.776 | 0.049 |
| -16.700 | 91.578 | -0.277 | 3.798 | 0.042 |
| -17.300 | 95.386 | -0.290 | 3.817 | 0.034 |
| -17.300 | 95.386 | -0.290 | 3.817 | 0.034 |
| -17.750 | 99.483 | -0.377 | 3.828 | 0.031 |
| -18.200 | 103.629 | -0.468 | 3.837 | 0.027 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -18.200 | 103.629 | -0.468 | 3.837 | 0.027 |
| -18.850 | 117.061 | -1.433 | 3.846 | 0.018 |
| -19.500 | 130.517 | -2.400 | 3.851 | 0.008 |
| -19.500 | 130.517 | -2.400 | 3.851 | 0.008 |
| -20.850 | 144.275 | -2.400 | 3.846 | 0.006 |
| -22.250 | 158.521 | -2.400 | 3.821 | 0.004 |
| -23.600 | 172.241 | -2.400 | 3.781 | 0.002 |
| -25.000 | 186.452 | -2.400 | 3.723 | 0.000 |

### 3.36 Results for Vertical 36 (X = -0.92 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.113 | 9.153 | -0.113 | 9.152 | 0.351 |
| -0.213 | 10.707 | -0.197 | 9.264 | 0.327 |
| -0.313 | 11.453 | -0.279 | 8.586 | 0.312 |
| -0.413 | 11.842 | -0.360 | 7.566 | 0.300 |
| -0.504 | 12.193 | -0.432 | 6.640 | 0.293 |
| -0.513 | 12.228 | -0.430 | 6.638 | 0.292 |
| -0.613 | 12.620 | -0.410 | 6.613 | 0.285 |
| -0.713 | 13.015 | -0.389 | 6.596 | 0.279 |
| -0.813 | 13.409 | -0.367 | 6.580 | 0.274 |
| -0.913 | 13.798 | -0.346 | 6.564 | 0.268 |
| -1.013 | 14.180 | -0.323 | 6.544 | 0.264 |
| -1.107 | 14.530 | -0.302 | 6.521 | 0.260 |
| -1.113 | 14.554 | -0.301 | 6.519 | 0.259 |
| -2.100 | 17.912 | -0.069 | 6.040 | 0.235 |
| -2.100 | 17.912 | -0.069 | 6.040 | 0.235 |
| -2.400 | 18.503 | -0.037 | 5.845 | 0.225 |
| -2.950 | 19.613 | 0.020 | 5.479 | 0.209 |
| -3.450 | 20.680 | 0.067 | 5.163 | 0.197 |
| -4.100 | 22.172 | 0.122 | 4.793 | 0.184 |
| -4.800 | 23.928 | 0.171 | 4.456 | 0.173 |
| -4.800 | 23.928 | 0.171 | 4.456 | 0.173 |
| -5.300 | 23.920 | 0.187 | 4.253 | 0.160 |
| -5.800 | 24.015 | 0.195 | 4.079 | 0.148 |
| -5.800 | 24.015 | 0.195 | 4.079 | 0.148 |
| -6.450 | 27.222 | 0.199 | 3.894 | 0.141 |
| -7.150 | 30.834 | 0.193 | 3.742 | 0.134 |
| -7.800 | 34.353 | 0.175 | 3.638 | 0.126 |
| -8.500 | 38.343 | 0.138 | 3.561 | 0.117 |
| -8.500 | 38.343 | 0.138 | 3.561 | 0.117 |
| -8.750 | 38.608 | 0.127 | 3.541 | 0.109 |
| -9.000 | 38.904 | 0.113 | 3.525 | 0.100 |
| -9.000 | 38.904 | 0.113 | 3.525 | 0.100 |
| -9.970 | 44.829 | 0.108 | 3.493 | 0.096 |
| -10.940 | 50.807 | 0.102 | 3.497 | 0.090 |
| -10.940 | 50.807 | 0.102 | 3.497 | 0.090 |
| -11.420 | 53.623 | 0.075 | 3.509 | 0.083 |
| -11.900 | 56.483 | 0.045 | 3.525 | 0.076 |
| -11.900 | 56.483 | 0.045 | 3.525 | 0.076 |
| -12.450 | 59.913 | 0.039 | 3.548 | 0.072 |
| -12.950 | 63.041 | 0.034 | 3.572 | 0.068 |
| -13.500 | 66.489 | 0.027 | 3.600 | 0.064 |
| -14.000 | 69.630 | 0.020 | 3.626 | 0.060 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -14.000 | 69.631 | 0.020 | 3.626 | 0.060 |
| -14.550 | 74.258 | -0.045 | 3.654 | 0.057 |
| -15.050 | 78.516 | -0.109 | 3.679 | 0.055 |
| -15.600 | 83.256 | -0.186 | 3.705 | 0.052 |
| -16.100 | 87.620 | -0.262 | 3.727 | 0.049 |
| -16.100 | 87.620 | -0.262 | 3.727 | 0.049 |
| -16.700 | 91.422 | -0.274 | 3.750 | 0.041 |
| -17.300 | 95.231 | -0.288 | 3.769 | 0.034 |
| -17.300 | 95.231 | -0.288 | 3.769 | 0.034 |
| -17.750 | 99.324 | -0.374 | 3.782 | 0.031 |
| -18.200 | 103.465 | -0.465 | 3.792 | 0.027 |
| -18.200 | 103.466 | -0.465 | 3.792 | 0.027 |
| -18.850 | 116.918 | -1.431 | 3.803 | 0.018 |
| -19.500 | 130.393 | -2.400 | 3.809 | 0.008 |
| -19.500 | 130.394 | -2.400 | 3.809 | 0.008 |
| -20.850 | 144.154 | -2.400 | 3.807 | 0.006 |
| -22.250 | 158.404 | -2.400 | 3.785 | 0.004 |
| -23.600 | 172.127 | -2.400 | 3.748 | 0.002 |
| -25.000 | 186.341 | -2.400 | 3.693 | 0.000 |

### 3.37 Results for Vertical 37 (X = -0.50 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.136 | 8.302 | -0.136 | 8.301 | 0.345 |
| -0.236 | 9.938 | -0.222 | 8.479 | 0.321 |
| -0.336 | 10.586 | -0.305 | 7.691 | 0.307 |
| -0.436 | 11.172 | -0.387 | 6.856 | 0.296 |
| -0.486 | 11.436 | -0.427 | 6.417 | 0.292 |
| -0.536 | 11.686 | -0.418 | 6.450 | 0.288 |
| -0.636 | 12.142 | -0.398 | 6.478 | 0.281 |
| -0.736 | 12.559 | -0.378 | 6.473 | 0.274 |
| -0.836 | 12.953 | -0.358 | 6.448 | 0.269 |
| -0.936 | 13.329 | -0.337 | 6.409 | 0.263 |
| -1.036 | 13.694 | -0.316 | 6.362 | 0.258 |
| -1.118 | 13.986 | -0.298 | 6.319 | 0.255 |
| -1.136 | 14.050 | -0.295 | 6.309 | 0.254 |
| -2.100 | 17.209 | -0.079 | 5.619 | 0.230 |
| -2.100 | 17.209 | -0.079 | 5.619 | 0.230 |
| -2.400 | 17.780 | -0.048 | 5.389 | 0.220 |
| -2.950 | 18.886 | 0.006 | 4.995 | 0.205 |
| -3.450 | 19.970 | 0.052 | 4.680 | 0.193 |
| -4.100 | 21.499 | 0.105 | 4.331 | 0.181 |
| -4.800 | 23.295 | 0.154 | 4.025 | 0.170 |
| -4.800 | 23.295 | 0.154 | 4.025 | 0.170 |
| -5.300 | 23.310 | 0.169 | 3.844 | 0.158 |
| -5.800 | 23.422 | 0.177 | 3.692 | 0.146 |
| -5.800 | 23.423 | 0.177 | 3.692 | 0.146 |
| -6.450 | 26.640 | 0.183 | 3.531 | 0.139 |
| -7.150 | 30.252 | 0.180 | 3.400 | 0.132 |
| -7.800 | 33.761 | 0.164 | 3.312 | 0.125 |
| -8.500 | 37.728 | 0.130 | 3.248 | 0.116 |
| -8.500 | 37.728 | 0.130 | 3.248 | 0.116 |
| -8.750 | 37.988 | 0.120 | 3.232 | 0.107 |
| -9.000 | 38.277 | 0.107 | 3.220 | 0.099 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -9.000 | 38.277 | 0.107 | 3.220 | 0.099 |
| -9.970 | 44.210 | 0.103 | 3.198 | 0.094 |
| -10.940 | 50.193 | 0.097 | 3.211 | 0.089 |
| -10.940 | 50.193 | 0.097 | 3.211 | 0.089 |
| -11.420 | 52.999 | 0.072 | 3.226 | 0.082 |
| -11.900 | 55.847 | 0.043 | 3.246 | 0.075 |
| -11.900 | 55.847 | 0.043 | 3.246 | 0.075 |
| -12.450 | 59.279 | 0.037 | 3.273 | 0.071 |
| -12.950 | 62.406 | 0.032 | 3.300 | 0.067 |
| -13.500 | 65.855 | 0.026 | 3.332 | 0.063 |
| -14.000 | 68.998 | 0.019 | 3.362 | 0.059 |
| -14.000 | 68.998 | 0.019 | 3.362 | 0.059 |
| -14.550 | 73.604 | -0.043 | 3.394 | 0.057 |
| -15.050 | 77.840 | -0.105 | 3.423 | 0.054 |
| -15.600 | 82.557 | -0.179 | 3.453 | 0.051 |
| -16.100 | 86.896 | -0.252 | 3.479 | 0.048 |
| -16.100 | 86.896 | -0.252 | 3.479 | 0.048 |
| -16.700 | 90.699 | -0.264 | 3.508 | 0.041 |
| -17.300 | 94.509 | -0.277 | 3.533 | 0.033 |
| -17.300 | 94.509 | -0.277 | 3.533 | 0.033 |
| -17.750 | 98.577 | -0.360 | 3.549 | 0.030 |
| -18.200 | 102.692 | -0.448 | 3.564 | 0.027 |
| -18.200 | 102.692 | -0.448 | 3.564 | 0.027 |
| -18.850 | 116.233 | -1.422 | 3.581 | 0.017 |
| -19.500 | 129.798 | -2.400 | 3.594 | 0.008 |
| -19.500 | 129.798 | -2.400 | 3.594 | 0.008 |
| -20.850 | 143.572 | -2.400 | 3.605 | 0.006 |
| -22.250 | 157.836 | -2.400 | 3.598 | 0.004 |
| -23.600 | 171.572 | -2.400 | 3.573 | 0.002 |
| -25.000 | 185.800 | -2.400 | 3.532 | 0.000 |

### 3.38 Results for Vertical 38 (X = -0.15 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.156 | 8.432 | -0.156 | 8.431 | 0.338 |
| -0.256 | 9.605 | -0.242 | 8.144 | 0.315 |
| -0.356 | 9.986 | -0.326 | 7.081 | 0.300 |
| -0.456 | 10.465 | -0.409 | 6.127 | 0.290 |
| -0.471 | 10.539 | -0.421 | 5.985 | 0.289 |
| -0.556 | 10.950 | -0.406 | 6.016 | 0.282 |
| -0.656 | 11.416 | -0.388 | 6.042 | 0.275 |
| -0.756 | 11.860 | -0.370 | 6.048 | 0.269 |
| -0.856 | 12.279 | -0.351 | 6.036 | 0.263 |
| -0.956 | 12.677 | -0.331 | 6.006 | 0.258 |
| -1.056 | 13.055 | -0.311 | 5.959 | 0.253 |
| -1.128 | 13.317 | -0.297 | 5.918 | 0.250 |
| -1.156 | 13.417 | -0.291 | 5.900 | 0.249 |
| -2.100 | 16.509 | -0.091 | 5.113 | 0.226 |
| -2.100 | 16.509 | -0.091 | 5.113 | 0.226 |
| -2.400 | 17.084 | -0.061 | 4.873 | 0.216 |
| -2.950 | 18.221 | -0.009 | 4.489 | 0.202 |
| -3.450 | 19.347 | 0.034 | 4.201 | 0.191 |
| -4.100 | 20.930 | 0.086 | 3.895 | 0.179 |
| -4.800 | 22.775 | 0.135 | 3.634 | 0.169 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -4.800 | 22.775 | 0.135 | 3.634 | 0.169 |
| -5.300 | 22.818 | 0.151 | 3.483 | 0.156 |
| -5.800 | 22.952 | 0.159 | 3.356 | 0.144 |
| -5.800 | 22.952 | 0.159 | 3.356 | 0.144 |
| -6.450 | 26.182 | 0.167 | 3.223 | 0.138 |
| -7.150 | 29.795 | 0.165 | 3.116 | 0.131 |
| -7.800 | 33.294 | 0.152 | 3.046 | 0.123 |
| -8.500 | 37.241 | 0.122 | 2.997 | 0.114 |
| -8.500 | 37.241 | 0.122 | 2.997 | 0.114 |
| -8.750 | 37.497 | 0.113 | 2.986 | 0.106 |
| -9.000 | 37.781 | 0.101 | 2.977 | 0.098 |
| -9.000 | 37.781 | 0.101 | 2.977 | 0.098 |
| -9.970 | 43.724 | 0.097 | 2.969 | 0.094 |
| -10.940 | 49.712 | 0.091 | 2.991 | 0.088 |
| -10.940 | 49.713 | 0.091 | 2.991 | 0.088 |
| -11.420 | 52.510 | 0.067 | 3.010 | 0.082 |
| -11.900 | 55.348 | 0.040 | 3.033 | 0.074 |
| -11.900 | 55.348 | 0.040 | 3.033 | 0.074 |
| -12.450 | 58.781 | 0.035 | 3.064 | 0.070 |
| -12.950 | 61.910 | 0.030 | 3.095 | 0.067 |
| -13.500 | 65.360 | 0.023 | 3.130 | 0.062 |
| -14.000 | 68.503 | 0.017 | 3.163 | 0.058 |
| -14.000 | 68.503 | 0.017 | 3.163 | 0.058 |
| -14.550 | 73.089 | -0.043 | 3.199 | 0.056 |
| -15.050 | 77.307 | -0.103 | 3.231 | 0.054 |
| -15.600 | 82.001 | -0.174 | 3.265 | 0.051 |
| -16.100 | 86.319 | -0.245 | 3.294 | 0.048 |
| -16.100 | 86.319 | -0.245 | 3.294 | 0.048 |
| -16.700 | 90.122 | -0.256 | 3.327 | 0.040 |
| -17.300 | 93.932 | -0.268 | 3.357 | 0.033 |
| -17.300 | 93.932 | -0.268 | 3.357 | 0.033 |
| -17.750 | 97.978 | -0.349 | 3.377 | 0.030 |
| -18.200 | 102.069 | -0.434 | 3.395 | 0.026 |
| -18.200 | 102.070 | -0.434 | 3.395 | 0.026 |
| -18.850 | 115.684 | -1.416 | 3.417 | 0.017 |
| -19.500 | 129.322 | -2.400 | 3.435 | 0.008 |
| -19.500 | 129.322 | -2.400 | 3.435 | 0.008 |
| -20.850 | 143.107 | -2.400 | 3.458 | 0.006 |
| -22.250 | 157.383 | -2.400 | 3.461 | 0.004 |
| -23.600 | 171.130 | -2.400 | 3.447 | 0.002 |
| -25.000 | 185.368 | -2.400 | 3.417 | 0.000 |

### 3.39 Results for Vertical 39 (X = -0.10 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.155 | 8.190 | -0.155 | 8.189 | 0.337 |
| -0.255 | 9.450 | -0.241 | 7.985 | 0.313 |
| -0.355 | 9.877 | -0.326 | 6.966 | 0.299 |
| -0.455 | 10.374 | -0.409 | 6.027 | 0.289 |
| -0.469 | 10.444 | -0.420 | 5.897 | 0.288 |
| -0.555 | 10.870 | -0.405 | 5.937 | 0.281 |
| -0.655 | 11.345 | -0.387 | 5.969 | 0.274 |
| -0.755 | 11.794 | -0.369 | 5.980 | 0.268 |
| -0.855 | 12.217 | -0.350 | 5.970 | 0.262 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.955 | 12.617 | -0.331 | 5.940 | 0.257 |
| -1.055 | 12.996 | -0.311 | 5.893 | 0.252 |
| -1.128 | 13.260 | -0.297 | 5.850 | 0.249 |
| -1.155 | 13.358 | -0.291 | 5.832 | 0.248 |
| -2.100 | 16.454 | -0.092 | 5.033 | 0.225 |
| -2.100 | 16.454 | -0.092 | 5.033 | 0.225 |
| -2.400 | 17.032 | -0.062 | 4.793 | 0.216 |
| -2.950 | 18.177 | -0.011 | 4.415 | 0.201 |
| -3.450 | 19.310 | 0.033 | 4.133 | 0.190 |
| -4.100 | 20.902 | 0.085 | 3.835 | 0.179 |
| -4.800 | 22.755 | 0.133 | 3.582 | 0.169 |
| -4.800 | 22.755 | 0.133 | 3.582 | 0.169 |
| -5.300 | 22.802 | 0.149 | 3.436 | 0.156 |
| -5.800 | 22.939 | 0.158 | 3.313 | 0.144 |
| -5.800 | 22.939 | 0.158 | 3.313 | 0.144 |
| -6.450 | 26.172 | 0.166 | 3.185 | 0.138 |
| -7.150 | 29.786 | 0.164 | 3.081 | 0.131 |
| -7.800 | 33.285 | 0.151 | 3.014 | 0.123 |
| -8.500 | 37.231 | 0.122 | 2.967 | 0.114 |
| -8.500 | 37.231 | 0.122 | 2.967 | 0.114 |
| -8.750 | 37.486 | 0.113 | 2.957 | 0.106 |
| -9.000 | 37.770 | 0.101 | 2.949 | 0.098 |
| -9.000 | 37.770 | 0.101 | 2.949 | 0.098 |
| -9.970 | 43.715 | 0.097 | 2.942 | 0.093 |
| -10.940 | 49.704 | 0.091 | 2.966 | 0.088 |
| -10.940 | 49.704 | 0.091 | 2.966 | 0.088 |
| -11.420 | 52.501 | 0.067 | 2.986 | 0.081 |
| -11.900 | 55.338 | 0.040 | 3.010 | 0.074 |
| -11.900 | 55.338 | 0.040 | 3.010 | 0.074 |
| -12.450 | 58.771 | 0.035 | 3.041 | 0.070 |
| -12.950 | 61.900 | 0.030 | 3.072 | 0.066 |
| -13.500 | 65.350 | 0.024 | 3.108 | 0.062 |
| -14.000 | 68.493 | 0.018 | 3.141 | 0.058 |
| -14.000 | 68.493 | 0.018 | 3.141 | 0.058 |
| -14.550 | 73.078 | -0.043 | 3.178 | 0.056 |
| -15.050 | 77.294 | -0.102 | 3.210 | 0.053 |
| -15.600 | 81.986 | -0.173 | 3.245 | 0.051 |
| -16.100 | 86.302 | -0.243 | 3.275 | 0.048 |
| -16.100 | 86.302 | -0.243 | 3.275 | 0.048 |
| -16.700 | 90.105 | -0.255 | 3.308 | 0.040 |
| -17.300 | 93.915 | -0.267 | 3.338 | 0.033 |
| -17.300 | 93.915 | -0.267 | 3.338 | 0.033 |
| -17.750 | 97.958 | -0.347 | 3.359 | 0.030 |
| -18.200 | 102.048 | -0.432 | 3.377 | 0.026 |
| -18.200 | 102.048 | -0.432 | 3.377 | 0.026 |
| -18.850 | 115.673 | -1.415 | 3.400 | 0.017 |
| -19.500 | 129.321 | -2.400 | 3.419 | 0.008 |
| -19.500 | 129.321 | -2.400 | 3.419 | 0.008 |
| -20.850 | 143.108 | -2.400 | 3.443 | 0.006 |
| -22.250 | 157.385 | -2.400 | 3.448 | 0.004 |
| -23.600 | 171.133 | -2.400 | 3.436 | 0.002 |
| -25.000 | 185.374 | -2.400 | 3.407 | 0.000 |

### 3.40 Results for Vertical 40 (X = 0.81 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.136 | 7.528 | -0.136 | 7.527 | 0.304 |
| -0.236 | 8.694 | -0.225 | 7.208 | 0.281 |
| -0.336 | 8.923 | -0.312 | 5.967 | 0.268 |
| -0.430 | 9.082 | -0.392 | 4.755 | 0.259 |
| -0.436 | 9.093 | -0.391 | 4.735 | 0.259 |
| -0.536 | 9.279 | -0.377 | 4.439 | 0.252 |
| -0.636 | 9.497 | -0.363 | 4.177 | 0.246 |
| -0.736 | 9.752 | -0.349 | 3.953 | 0.241 |
| -0.836 | 10.041 | -0.334 | 3.766 | 0.237 |
| -0.936 | 10.359 | -0.319 | 3.612 | 0.233 |
| -1.036 | 10.702 | -0.304 | 3.485 | 0.230 |
| -1.118 | 10.997 | -0.292 | 3.398 | 0.227 |
| -1.136 | 11.064 | -0.289 | 3.381 | 0.227 |
| -2.100 | 14.923 | -0.121 | 2.925 | 0.214 |
| -2.100 | 14.923 | -0.121 | 2.925 | 0.214 |
| -2.400 | 15.713 | -0.094 | 2.864 | 0.207 |
| -2.950 | 17.197 | -0.047 | 2.781 | 0.196 |
| -3.450 | 18.576 | -0.006 | 2.723 | 0.187 |
| -4.100 | 20.409 | 0.046 | 2.661 | 0.177 |
| -4.800 | 22.444 | 0.096 | 2.605 | 0.168 |
| -4.800 | 22.444 | 0.096 | 2.605 | 0.168 |
| -5.300 | 22.591 | 0.113 | 2.571 | 0.155 |
| -5.800 | 22.805 | 0.123 | 2.543 | 0.144 |
| -5.800 | 22.805 | 0.123 | 2.543 | 0.144 |
| -6.450 | 26.088 | 0.136 | 2.514 | 0.137 |
| -7.150 | 29.722 | 0.141 | 2.495 | 0.130 |
| -7.800 | 33.212 | 0.135 | 2.489 | 0.122 |
| -8.500 | 37.121 | 0.115 | 2.494 | 0.113 |
| -8.500 | 37.121 | 0.115 | 2.494 | 0.113 |
| -8.750 | 37.372 | 0.108 | 2.499 | 0.105 |
| -9.000 | 37.649 | 0.098 | 2.506 | 0.097 |
| -9.000 | 37.649 | 0.098 | 2.506 | 0.097 |
| -9.970 | 43.633 | 0.094 | 2.544 | 0.093 |
| -10.940 | 49.647 | 0.090 | 2.601 | 0.087 |
| -10.940 | 49.647 | 0.090 | 2.601 | 0.087 |
| -11.420 | 52.431 | 0.068 | 2.634 | 0.080 |
| -11.900 | 55.253 | 0.044 | 2.670 | 0.073 |
| -11.900 | 55.253 | 0.044 | 2.670 | 0.073 |
| -12.450 | 58.693 | 0.039 | 2.713 | 0.069 |
| -12.950 | 61.827 | 0.035 | 2.755 | 0.066 |
| -13.500 | 65.282 | 0.029 | 2.801 | 0.061 |
| -14.000 | 68.429 | 0.023 | 2.843 | 0.057 |
| -14.000 | 68.429 | 0.023 | 2.843 | 0.057 |
| -14.550 | 72.979 | -0.032 | 2.890 | 0.055 |
| -15.050 | 77.160 | -0.087 | 2.931 | 0.053 |
| -15.600 | 81.810 | -0.153 | 2.976 | 0.050 |
| -16.100 | 86.086 | -0.219 | 3.014 | 0.047 |
| -16.100 | 86.086 | -0.219 | 3.014 | 0.047 |
| -16.700 | 89.892 | -0.229 | 3.058 | 0.039 |
| -17.300 | 93.705 | -0.241 | 3.100 | 0.032 |
| -17.300 | 93.705 | -0.241 | 3.100 | 0.032 |
| -17.750 | 97.706 | -0.316 | 3.129 | 0.029 |
| -18.200 | 101.751 | -0.395 | 3.155 | 0.026 |
| -18.200 | 101.752 | -0.395 | 3.155 | 0.026 |
| -18.850 | 115.569 | -1.396 | 3.191 | 0.017 |
| -19.500 | 129.410 | -2.400 | 3.222 | 0.008 |
| -19.500 | 129.410 | -2.400 | 3.222 | 0.008 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -20.850 | 143.224 | -2.400 | 3.272 | 0.006 |
| -22.250 | 157.528 | -2.400 | 3.304 | 0.004 |
| -23.600 | 171.302 | -2.400 | 3.317 | 0.002 |
| -25.000 | 185.569 | -2.400 | 3.314 | 0.000 |

### 3.41 Results for Vertical 41 (X = 0.98 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.133 | 7.232 | -0.133 | 7.231 | 0.290 |
| -0.233 | 7.109 | -0.223 | 5.608 | 0.269 |
| -0.333 | 7.397 | -0.312 | 4.400 | 0.257 |
| -0.430 | 7.694 | -0.398 | 3.255 | 0.250 |
| -0.433 | 7.704 | -0.398 | 3.250 | 0.250 |
| -0.533 | 8.020 | -0.386 | 3.064 | 0.244 |
| -0.633 | 8.363 | -0.373 | 2.910 | 0.240 |
| -0.733 | 8.736 | -0.361 | 2.788 | 0.236 |
| -0.833 | 9.134 | -0.348 | 2.696 | 0.232 |
| -0.933 | 9.551 | -0.334 | 2.627 | 0.229 |
| -1.033 | 9.982 | -0.320 | 2.576 | 0.227 |
| -1.117 | 10.348 | -0.308 | 2.544 | 0.225 |
| -1.133 | 10.421 | -0.305 | 2.539 | 0.225 |
| -2.100 | 14.724 | -0.142 | 2.459 | 0.215 |
| -2.100 | 14.724 | -0.142 | 2.459 | 0.215 |
| -2.400 | 15.580 | -0.116 | 2.462 | 0.208 |
| -2.950 | 17.149 | -0.069 | 2.467 | 0.197 |
| -3.450 | 18.580 | -0.027 | 2.467 | 0.189 |
| -4.100 | 20.458 | 0.026 | 2.460 | 0.178 |
| -4.800 | 22.522 | 0.077 | 2.447 | 0.169 |
| -4.800 | 22.522 | 0.077 | 2.447 | 0.169 |
| -5.300 | 22.686 | 0.095 | 2.437 | 0.156 |
| -5.800 | 22.912 | 0.106 | 2.428 | 0.144 |
| -5.800 | 22.912 | 0.106 | 2.428 | 0.144 |
| -6.450 | 26.200 | 0.121 | 2.420 | 0.138 |
| -7.150 | 29.832 | 0.128 | 2.418 | 0.130 |
| -7.800 | 33.315 | 0.124 | 2.425 | 0.123 |
| -8.500 | 37.212 | 0.106 | 2.441 | 0.114 |
| -8.500 | 37.212 | 0.106 | 2.441 | 0.114 |
| -8.750 | 37.460 | 0.099 | 2.449 | 0.106 |
| -9.000 | 37.736 | 0.090 | 2.459 | 0.097 |
| -9.000 | 37.736 | 0.090 | 2.459 | 0.097 |
| -9.970 | 43.727 | 0.086 | 2.507 | 0.093 |
| -10.940 | 49.748 | 0.082 | 2.570 | 0.088 |
| -10.940 | 49.748 | 0.082 | 2.570 | 0.088 |
| -11.420 | 52.529 | 0.061 | 2.606 | 0.081 |
| -11.900 | 55.347 | 0.037 | 2.645 | 0.073 |
| -11.900 | 55.347 | 0.037 | 2.645 | 0.073 |
| -12.450 | 58.789 | 0.033 | 2.691 | 0.069 |
| -12.950 | 61.924 | 0.028 | 2.734 | 0.066 |
| -13.500 | 65.380 | 0.023 | 2.782 | 0.061 |
| -14.000 | 68.528 | 0.017 | 2.827 | 0.057 |
| -14.000 | 68.528 | 0.017 | 2.827 | 0.057 |
| -14.550 | 73.071 | -0.038 | 2.875 | 0.055 |
| -15.050 | 77.245 | -0.092 | 2.918 | 0.053 |
| -15.600 | 81.888 | -0.157 | 2.964 | 0.050 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -16.100 | 86.155 | -0.221 | 3.005 | 0.047 |
| -16.100 | 86.155 | -0.221 | 3.005 | 0.047 |
| -16.700 | 89.962 | -0.232 | 3.051 | 0.039 |
| -17.300 | 93.775 | -0.243 | 3.094 | 0.032 |
| -17.300 | 93.775 | -0.243 | 3.094 | 0.032 |
| -17.750 | 97.769 | -0.317 | 3.124 | 0.029 |
| -18.200 | 101.806 | -0.395 | 3.153 | 0.026 |
| -18.200 | 101.806 | -0.395 | 3.153 | 0.026 |
| -18.850 | 115.624 | -1.396 | 3.190 | 0.017 |
| -19.500 | 129.465 | -2.400 | 3.223 | 0.008 |
| -19.500 | 129.465 | -2.400 | 3.223 | 0.008 |
| -20.850 | 143.283 | -2.400 | 3.278 | 0.006 |
| -22.250 | 157.592 | -2.400 | 3.315 | 0.004 |
| -23.600 | 171.371 | -2.400 | 3.333 | 0.002 |
| -25.000 | 185.642 | -2.400 | 3.334 | 0.000 |

### 3.42 Results for Vertical 42 (X = 1.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.137 | 5.250 | -0.137 | 5.249 | 0.287 |
| -0.237 | 6.691 | -0.229 | 5.173 | 0.268 |
| -0.337 | 7.095 | -0.319 | 4.078 | 0.256 |
| -0.430 | 7.412 | -0.401 | 3.013 | 0.250 |
| -0.437 | 7.437 | -0.400 | 3.001 | 0.249 |
| -0.537 | 7.780 | -0.389 | 2.839 | 0.244 |
| -0.637 | 8.150 | -0.377 | 2.709 | 0.239 |
| -0.737 | 8.548 | -0.364 | 2.609 | 0.236 |
| -0.837 | 8.967 | -0.351 | 2.536 | 0.232 |
| -0.937 | 9.402 | -0.338 | 2.483 | 0.229 |
| -1.037 | 9.847 | -0.324 | 2.445 | 0.227 |
| -1.119 | 10.214 | -0.312 | 2.423 | 0.225 |
| -1.137 | 10.298 | -0.310 | 2.419 | 0.225 |
| -2.100 | 14.644 | -0.148 | 2.392 | 0.215 |
| -2.100 | 14.644 | -0.148 | 2.392 | 0.215 |
| -2.400 | 15.508 | -0.122 | 2.404 | 0.209 |
| -2.950 | 17.089 | -0.074 | 2.420 | 0.198 |
| -3.450 | 18.526 | -0.032 | 2.427 | 0.189 |
| -4.100 | 20.409 | 0.020 | 2.427 | 0.179 |
| -4.800 | 22.475 | 0.072 | 2.419 | 0.169 |
| -4.800 | 22.475 | 0.072 | 2.419 | 0.169 |
| -5.300 | 22.640 | 0.090 | 2.412 | 0.157 |
| -5.800 | 22.868 | 0.101 | 2.406 | 0.145 |
| -5.800 | 22.868 | 0.101 | 2.406 | 0.145 |
| -6.450 | 26.155 | 0.116 | 2.400 | 0.138 |
| -7.150 | 29.784 | 0.124 | 2.401 | 0.131 |
| -7.800 | 33.264 | 0.121 | 2.409 | 0.123 |
| -8.500 | 37.156 | 0.103 | 2.426 | 0.114 |
| -8.500 | 37.156 | 0.103 | 2.426 | 0.114 |
| -8.750 | 37.404 | 0.097 | 2.435 | 0.106 |
| -9.000 | 37.679 | 0.087 | 2.445 | 0.097 |
| -9.000 | 37.679 | 0.087 | 2.445 | 0.097 |
| -9.970 | 43.671 | 0.084 | 2.494 | 0.093 |
| -10.940 | 49.692 | 0.079 | 2.559 | 0.088 |
| -10.940 | 49.692 | 0.079 | 2.559 | 0.088 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -11.420 | 52.472 | 0.059 | 2.595 | 0.081 |
| -11.900 | 55.288 | 0.035 | 2.634 | 0.073 |
| -11.900 | 55.288 | 0.035 | 2.634 | 0.073 |
| -12.450 | 58.730 | 0.030 | 2.680 | 0.069 |
| -12.950 | 61.865 | 0.026 | 2.724 | 0.066 |
| -13.500 | 65.321 | 0.020 | 2.772 | 0.061 |
| -14.000 | 68.469 | 0.015 | 2.817 | 0.057 |
| -14.000 | 68.469 | 0.015 | 2.817 | 0.057 |
| -14.550 | 73.009 | -0.039 | 2.865 | 0.055 |
| -15.050 | 77.181 | -0.094 | 2.909 | 0.053 |
| -15.600 | 81.821 | -0.158 | 2.955 | 0.050 |
| -16.100 | 86.086 | -0.222 | 2.996 | 0.047 |
| -16.100 | 86.086 | -0.222 | 2.996 | 0.047 |
| -16.700 | 89.892 | -0.232 | 3.042 | 0.039 |
| -17.300 | 93.705 | -0.244 | 3.085 | 0.032 |
| -17.300 | 93.705 | -0.244 | 3.085 | 0.032 |
| -17.750 | 97.696 | -0.317 | 3.116 | 0.029 |
| -18.200 | 101.730 | -0.396 | 3.144 | 0.026 |
| -18.200 | 101.730 | -0.396 | 3.144 | 0.026 |
| -18.850 | 115.548 | -1.396 | 3.182 | 0.017 |
| -19.500 | 129.388 | -2.400 | 3.215 | 0.008 |
| -19.500 | 129.388 | -2.400 | 3.215 | 0.008 |
| -20.850 | 143.207 | -2.400 | 3.271 | 0.006 |
| -22.250 | 157.516 | -2.400 | 3.308 | 0.004 |
| -23.600 | 171.296 | -2.400 | 3.326 | 0.002 |
| -25.000 | 185.567 | -2.400 | 3.328 | 0.000 |

### 3.43 Results for Vertical 43 (X = 1.22 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.182 | 1.818 | -0.182 | 1.817 | 0.260 |
| -0.282 | 2.865 | -0.278 | 1.299 | 0.248 |
| -0.382 | 3.657 | -0.373 | 0.545 | 0.243 |
| -0.430 | 4.039 | -0.418 | 0.191 | 0.242 |
| -0.482 | 4.444 | -0.414 | 0.312 | 0.240 |
| -0.582 | 5.194 | -0.406 | 0.520 | 0.237 |
| -0.682 | 5.902 | -0.397 | 0.697 | 0.235 |
| -0.782 | 6.575 | -0.387 | 0.845 | 0.233 |
| -0.882 | 7.217 | -0.377 | 0.972 | 0.231 |
| -0.982 | 7.834 | -0.366 | 1.081 | 0.229 |
| -1.082 | 8.431 | -0.354 | 1.177 | 0.227 |
| -1.141 | 8.774 | -0.346 | 1.228 | 0.226 |
| -1.182 | 9.009 | -0.341 | 1.261 | 0.226 |
| -2.100 | 13.762 | -0.196 | 1.754 | 0.219 |
| -2.100 | 13.762 | -0.196 | 1.754 | 0.219 |
| -2.400 | 14.718 | -0.171 | 1.850 | 0.213 |
| -2.950 | 16.415 | -0.124 | 1.980 | 0.202 |
| -3.450 | 17.922 | -0.081 | 2.061 | 0.193 |
| -4.100 | 19.861 | -0.027 | 2.131 | 0.182 |
| -4.800 | 21.961 | 0.027 | 2.179 | 0.172 |
| -4.800 | 21.961 | 0.027 | 2.179 | 0.172 |
| -5.300 | 22.145 | 0.046 | 2.203 | 0.159 |
| -5.800 | 22.385 | 0.059 | 2.222 | 0.147 |
| -5.800 | 22.385 | 0.059 | 2.222 | 0.147 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -6.450 | 25.666 | 0.077 | 2.243 | 0.140 |
| -7.150 | 29.278 | 0.089 | 2.266 | 0.132 |
| -7.800 | 32.731 | 0.090 | 2.290 | 0.124 |
| -8.500 | 36.585 | 0.078 | 2.322 | 0.115 |
| -8.500 | 36.585 | 0.078 | 2.322 | 0.115 |
| -8.750 | 36.825 | 0.072 | 2.335 | 0.107 |
| -9.000 | 37.091 | 0.064 | 2.349 | 0.098 |
| -9.000 | 37.091 | 0.064 | 2.349 | 0.098 |
| -9.970 | 43.092 | 0.062 | 2.411 | 0.093 |
| -10.940 | 49.118 | 0.057 | 2.485 | 0.088 |
| -10.940 | 49.118 | 0.057 | 2.485 | 0.088 |
| -11.420 | 51.887 | 0.038 | 2.525 | 0.081 |
| -11.900 | 54.692 | 0.016 | 2.567 | 0.074 |
| -11.900 | 54.692 | 0.016 | 2.567 | 0.074 |
| -12.450 | 58.134 | 0.012 | 2.617 | 0.070 |
| -12.950 | 61.270 | 0.008 | 2.663 | 0.066 |
| -13.500 | 64.725 | 0.002 | 2.714 | 0.061 |
| -14.000 | 67.873 | -0.003 | 2.761 | 0.057 |
| -14.000 | 67.873 | -0.003 | 2.761 | 0.057 |
| -14.550 | 72.391 | -0.055 | 2.812 | 0.055 |
| -15.050 | 76.541 | -0.107 | 2.858 | 0.053 |
| -15.600 | 81.156 | -0.168 | 2.906 | 0.050 |
| -16.100 | 85.397 | -0.230 | 2.949 | 0.047 |
| -16.100 | 85.397 | -0.230 | 2.949 | 0.047 |
| -16.700 | 89.201 | -0.240 | 2.998 | 0.039 |
| -17.300 | 93.012 | -0.251 | 3.044 | 0.032 |
| -17.300 | 93.012 | -0.251 | 3.044 | 0.032 |
| -17.750 | 96.978 | -0.321 | 3.076 | 0.029 |
| -18.200 | 100.986 | -0.397 | 3.106 | 0.026 |
| -18.200 | 100.986 | -0.397 | 3.106 | 0.026 |
| -18.850 | 114.801 | -1.397 | 3.147 | 0.017 |
| -19.500 | 128.638 | -2.400 | 3.183 | 0.008 |
| -19.500 | 128.638 | -2.400 | 3.183 | 0.008 |
| -20.850 | 142.462 | -2.400 | 3.244 | 0.006 |
| -22.250 | 156.778 | -2.400 | 3.287 | 0.004 |
| -23.600 | 170.563 | -2.400 | 3.311 | 0.002 |
| -25.000 | 184.841 | -2.400 | 3.319 | 0.000 |

### 3.44 Results for Vertical 44 (X = 1.46 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.100 | 3.060 | -0.430 | 3.059 | 0.556 |
| -2.200 | 3.451 | -0.426 | 3.124 | 0.519 |
| -2.300 | 3.835 | -0.421 | 3.184 | 0.494 |
| -2.400 | 4.210 | -0.416 | 3.240 | 0.474 |
| -2.500 | 4.578 | -0.411 | 3.292 | 0.458 |
| -2.600 | 4.938 | -0.405 | 3.340 | 0.443 |
| -2.700 | 5.292 | -0.399 | 3.385 | 0.429 |
| -2.800 | 5.640 | -0.392 | 3.428 | 0.417 |
| -2.900 | 5.982 | -0.385 | 3.467 | 0.406 |
| -3.000 | 6.319 | -0.378 | 3.504 | 0.396 |
| -3.100 | 6.650 | -0.371 | 3.539 | 0.386 |
| -3.450 | 7.777 | -0.343 | 3.645 | 0.357 |
| -4.100 | 9.762 | -0.286 | 3.791 | 0.316 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -4.800 | 11.806 | -0.220 | 3.899 | 0.282 |
| -4.800 | 11.806 | -0.220 | 3.899 | 0.282 |
| -5.300 | 11.958 | -0.195 | 3.957 | 0.247 |
| -5.800 | 12.156 | -0.175 | 4.003 | 0.214 |
| -5.800 | 12.157 | -0.175 | 4.003 | 0.214 |
| -6.450 | 15.277 | -0.137 | 4.054 | 0.196 |
| -7.150 | 18.646 | -0.098 | 4.103 | 0.180 |
| -7.800 | 21.819 | -0.067 | 4.146 | 0.166 |
| -8.500 | 25.317 | -0.041 | 4.194 | 0.152 |
| -8.500 | 25.317 | -0.041 | 4.194 | 0.152 |
| -8.750 | 25.477 | -0.038 | 4.212 | 0.140 |
| -9.000 | 25.661 | -0.037 | 4.230 | 0.129 |
| -9.000 | 25.661 | -0.037 | 4.230 | 0.129 |
| -9.970 | 31.654 | -0.038 | 4.307 | 0.120 |
| -10.940 | 37.666 | -0.039 | 4.391 | 0.110 |
| -10.940 | 37.666 | -0.039 | 4.391 | 0.110 |
| -11.420 | 40.351 | -0.049 | 4.436 | 0.101 |
| -11.900 | 43.067 | -0.062 | 4.482 | 0.092 |
| -11.900 | 43.067 | -0.062 | 4.482 | 0.092 |
| -12.450 | 46.499 | -0.065 | 4.535 | 0.086 |
| -12.950 | 49.624 | -0.068 | 4.585 | 0.081 |
| -13.500 | 53.068 | -0.072 | 4.639 | 0.074 |
| -14.000 | 56.204 | -0.075 | 4.689 | 0.069 |
| -14.000 | 56.204 | -0.075 | 4.689 | 0.069 |
| -14.550 | 60.606 | -0.115 | 4.743 | 0.065 |
| -15.050 | 64.650 | -0.156 | 4.790 | 0.062 |
| -15.600 | 69.148 | -0.206 | 4.842 | 0.058 |
| -16.100 | 73.282 | -0.256 | 4.887 | 0.054 |
| -16.100 | 73.282 | -0.256 | 4.887 | 0.054 |
| -16.700 | 77.073 | -0.264 | 4.938 | 0.046 |
| -17.300 | 80.871 | -0.273 | 4.987 | 0.037 |
| -17.300 | 80.871 | -0.273 | 4.987 | 0.037 |
| -17.750 | 84.744 | -0.334 | 5.021 | 0.034 |
| -18.200 | 88.659 | -0.400 | 5.054 | 0.030 |
| -18.200 | 88.659 | -0.400 | 5.054 | 0.030 |
| -18.850 | 102.460 | -1.399 | 5.097 | 0.020 |
| -19.500 | 116.284 | -2.400 | 5.136 | 0.010 |
| -19.500 | 116.284 | -2.400 | 5.136 | 0.010 |
| -20.850 | 130.114 | -2.400 | 5.203 | 0.007 |
| -22.250 | 144.436 | -2.400 | 5.253 | 0.005 |
| -23.600 | 158.228 | -2.400 | 5.284 | 0.002 |
| -25.000 | 172.512 | -2.400 | 5.298 | 0.000 |

### 3.45 Results for Vertical 45 (X = 1.49 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.273 | 3.109 | -0.430 | 3.108 | 0.557 |
| -2.373 | 3.494 | -0.426 | 3.167 | 0.521 |
| -2.400 | 3.596 | -0.425 | 3.182 | 0.513 |
| -2.473 | 3.872 | -0.421 | 3.221 | 0.496 |
| -2.573 | 4.242 | -0.416 | 3.273 | 0.476 |
| -2.673 | 4.605 | -0.410 | 3.320 | 0.459 |
| -2.773 | 4.962 | -0.405 | 3.365 | 0.444 |
| -2.873 | 5.312 | -0.399 | 3.407 | 0.430 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.973 | 5.657 | -0.392 | 3.446 | 0.418 |
| -3.073 | 5.996 | -0.385 | 3.483 | 0.407 |
| -3.173 | 6.330 | -0.378 | 3.517 | 0.397 |
| -3.273 | 6.660 | -0.371 | 3.550 | 0.387 |
| -3.537 | 7.508 | -0.350 | 3.626 | 0.365 |
| -4.200 | 9.543 | -0.293 | 3.773 | 0.321 |
| -4.800 | 11.306 | -0.238 | 3.868 | 0.291 |
| -4.800 | 11.306 | -0.238 | 3.868 | 0.291 |
| -5.300 | 11.464 | -0.212 | 3.929 | 0.253 |
| -5.800 | 11.665 | -0.193 | 3.978 | 0.218 |
| -5.800 | 11.665 | -0.193 | 3.978 | 0.218 |
| -6.450 | 14.785 | -0.155 | 4.031 | 0.200 |
| -7.150 | 18.148 | -0.115 | 4.082 | 0.182 |
| -7.800 | 21.310 | -0.082 | 4.127 | 0.168 |
| -8.500 | 24.789 | -0.054 | 4.176 | 0.153 |
| -8.500 | 24.789 | -0.054 | 4.176 | 0.153 |
| -8.750 | 24.945 | -0.050 | 4.195 | 0.142 |
| -9.000 | 25.124 | -0.049 | 4.214 | 0.130 |
| -9.000 | 25.124 | -0.049 | 4.214 | 0.130 |
| -9.970 | 31.117 | -0.049 | 4.291 | 0.121 |
| -10.940 | 37.129 | -0.051 | 4.377 | 0.111 |
| -10.940 | 37.129 | -0.051 | 4.377 | 0.111 |
| -11.420 | 39.807 | -0.060 | 4.422 | 0.102 |
| -11.900 | 42.516 | -0.073 | 4.468 | 0.093 |
| -11.900 | 42.516 | -0.073 | 4.468 | 0.093 |
| -12.450 | 45.946 | -0.075 | 4.522 | 0.087 |
| -12.950 | 49.070 | -0.078 | 4.571 | 0.081 |
| -13.500 | 52.513 | -0.081 | 4.626 | 0.075 |
| -14.000 | 55.648 | -0.085 | 4.676 | 0.069 |
| -14.000 | 55.648 | -0.085 | 4.676 | 0.069 |
| -14.550 | 60.037 | -0.124 | 4.730 | 0.066 |
| -15.050 | 64.069 | -0.163 | 4.778 | 0.062 |
| -15.600 | 68.552 | -0.211 | 4.830 | 0.058 |
| -16.100 | 72.673 | -0.260 | 4.875 | 0.055 |
| -16.100 | 72.673 | -0.260 | 4.875 | 0.055 |
| -16.700 | 76.462 | -0.268 | 4.927 | 0.046 |
| -17.300 | 80.257 | -0.277 | 4.975 | 0.037 |
| -17.300 | 80.257 | -0.277 | 4.975 | 0.037 |
| -17.750 | 84.116 | -0.337 | 5.010 | 0.034 |
| -18.200 | 88.016 | -0.401 | 5.043 | 0.030 |
| -18.200 | 88.016 | -0.401 | 5.043 | 0.030 |
| -18.850 | 101.814 | -1.399 | 5.086 | 0.020 |
| -19.500 | 115.635 | -2.400 | 5.126 | 0.010 |
| -19.500 | 115.635 | -2.400 | 5.126 | 0.010 |
| -20.450 | 125.370 | -2.400 | 5.175 | 0.008 |
| -21.450 | 135.607 | -2.400 | 5.217 | 0.006 |
| -22.250 | 143.788 | -2.400 | 5.244 | 0.005 |
| -23.600 | 157.580 | -2.400 | 5.275 | 0.002 |
| -25.000 | 171.865 | -2.400 | 5.289 | 0.000 |

### 3.46 Results for Vertical 46 (X = 1.94 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.328 | 2.068 | -0.430 | 2.067 | 0.515 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.400 | 2.373 | -0.428 | 2.127 | 0.489 |
| -2.428 | 2.491 | -0.427 | 2.150 | 0.482 |
| -2.528 | 2.906 | -0.424 | 2.228 | 0.460 |
| -2.628 | 3.313 | -0.420 | 2.302 | 0.444 |
| -2.728 | 3.712 | -0.416 | 2.373 | 0.429 |
| -2.828 | 4.103 | -0.411 | 2.439 | 0.417 |
| -2.928 | 4.486 | -0.407 | 2.503 | 0.405 |
| -3.028 | 4.863 | -0.401 | 2.563 | 0.395 |
| -3.128 | 5.234 | -0.396 | 2.620 | 0.386 |
| -3.228 | 5.599 | -0.390 | 2.674 | 0.377 |
| -3.328 | 5.958 | -0.383 | 2.725 | 0.369 |
| -3.564 | 6.784 | -0.367 | 2.836 | 0.351 |
| -4.200 | 8.895 | -0.319 | 3.080 | 0.313 |
| -4.800 | 10.777 | -0.267 | 3.253 | 0.285 |
| -4.800 | 10.777 | -0.267 | 3.253 | 0.285 |
| -5.300 | 11.004 | -0.243 | 3.368 | 0.249 |
| -5.800 | 11.258 | -0.224 | 3.463 | 0.216 |
| -5.800 | 11.258 | -0.224 | 3.463 | 0.216 |
| -6.450 | 14.433 | -0.187 | 3.567 | 0.198 |
| -7.150 | 17.834 | -0.147 | 3.661 | 0.181 |
| -7.800 | 21.015 | -0.112 | 3.738 | 0.166 |
| -8.500 | 24.499 | -0.082 | 3.816 | 0.152 |
| -8.500 | 24.499 | -0.082 | 3.816 | 0.152 |
| -8.750 | 24.657 | -0.078 | 3.843 | 0.141 |
| -9.000 | 24.837 | -0.076 | 3.870 | 0.129 |
| -9.000 | 24.837 | -0.076 | 3.870 | 0.129 |
| -9.970 | 30.853 | -0.076 | 3.974 | 0.120 |
| -10.940 | 36.882 | -0.077 | 4.079 | 0.110 |
| -10.940 | 36.882 | -0.077 | 4.079 | 0.110 |
| -11.420 | 39.555 | -0.085 | 4.132 | 0.101 |
| -11.900 | 42.256 | -0.096 | 4.185 | 0.092 |
| -11.900 | 42.256 | -0.096 | 4.185 | 0.092 |
| -12.450 | 45.691 | -0.098 | 4.246 | 0.086 |
| -12.950 | 48.818 | -0.101 | 4.302 | 0.080 |
| -13.500 | 52.264 | -0.104 | 4.363 | 0.074 |
| -14.000 | 55.401 | -0.107 | 4.417 | 0.068 |
| -14.000 | 55.401 | -0.107 | 4.417 | 0.068 |
| -14.550 | 59.766 | -0.143 | 4.476 | 0.065 |
| -15.050 | 63.775 | -0.179 | 4.529 | 0.061 |
| -15.600 | 68.230 | -0.224 | 4.585 | 0.058 |
| -16.100 | 72.323 | -0.270 | 4.634 | 0.054 |
| -16.100 | 72.323 | -0.270 | 4.634 | 0.054 |
| -16.700 | 76.111 | -0.277 | 4.691 | 0.045 |
| -17.300 | 79.906 | -0.286 | 4.744 | 0.037 |
| -17.300 | 79.906 | -0.286 | 4.744 | 0.037 |
| -17.750 | 83.733 | -0.342 | 4.782 | 0.033 |
| -18.200 | 87.600 | -0.402 | 4.819 | 0.029 |
| -18.200 | 87.600 | -0.402 | 4.819 | 0.029 |
| -18.850 | 101.397 | -1.400 | 4.867 | 0.019 |
| -19.500 | 115.214 | -2.400 | 4.912 | 0.010 |
| -19.500 | 115.214 | -2.400 | 4.912 | 0.010 |
| -20.450 | 124.957 | -2.400 | 4.969 | 0.008 |
| -21.450 | 135.201 | -2.400 | 5.020 | 0.006 |
| -22.250 | 143.390 | -2.400 | 5.053 | 0.004 |
| -23.600 | 157.193 | -2.400 | 5.094 | 0.002 |
| -25.000 | 171.489 | -2.400 | 5.120 | 0.000 |

### 3.47 Results for Vertical 47 (X = 2.73 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.100 | 0.740 | -0.430 | 0.739 | 0.427 |
| -2.200 | 1.172 | -0.429 | 0.813 | 0.405 |
| -2.300 | 1.600 | -0.427 | 0.888 | 0.391 |
| -2.400 | 2.023 | -0.425 | 0.962 | 0.381 |
| -2.500 | 2.441 | -0.423 | 1.035 | 0.371 |
| -2.600 | 2.854 | -0.420 | 1.107 | 0.363 |
| -2.700 | 3.262 | -0.417 | 1.178 | 0.356 |
| -2.800 | 3.665 | -0.413 | 1.248 | 0.349 |
| -2.900 | 4.063 | -0.409 | 1.316 | 0.343 |
| -3.000 | 4.456 | -0.405 | 1.383 | 0.337 |
| -3.100 | 4.844 | -0.400 | 1.448 | 0.331 |
| -3.450 | 6.165 | -0.381 | 1.663 | 0.312 |
| -4.100 | 8.484 | -0.338 | 2.008 | 0.284 |
| -4.800 | 10.834 | -0.284 | 2.308 | 0.259 |
| -4.800 | 10.834 | -0.284 | 2.308 | 0.259 |
| -5.300 | 11.140 | -0.261 | 2.485 | 0.230 |
| -5.800 | 11.462 | -0.244 | 2.638 | 0.202 |
| -5.800 | 11.463 | -0.244 | 2.638 | 0.202 |
| -6.450 | 14.718 | -0.208 | 2.808 | 0.187 |
| -7.150 | 18.191 | -0.168 | 2.963 | 0.172 |
| -7.800 | 21.424 | -0.134 | 3.089 | 0.159 |
| -8.500 | 24.951 | -0.104 | 3.211 | 0.146 |
| -8.500 | 24.951 | -0.104 | 3.211 | 0.146 |
| -8.750 | 25.121 | -0.099 | 3.252 | 0.135 |
| -9.000 | 25.312 | -0.097 | 3.291 | 0.124 |
| -9.000 | 25.312 | -0.097 | 3.291 | 0.124 |
| -9.970 | 31.369 | -0.097 | 3.438 | 0.116 |
| -10.940 | 37.428 | -0.098 | 3.576 | 0.107 |
| -10.940 | 37.428 | -0.098 | 3.576 | 0.107 |
| -11.420 | 40.105 | -0.106 | 3.642 | 0.098 |
| -11.900 | 42.809 | -0.116 | 3.707 | 0.089 |
| -11.900 | 42.809 | -0.116 | 3.707 | 0.089 |
| -12.450 | 46.254 | -0.118 | 3.780 | 0.083 |
| -12.950 | 49.389 | -0.120 | 3.845 | 0.078 |
| -13.500 | 52.841 | -0.123 | 3.916 | 0.072 |
| -14.000 | 55.984 | -0.126 | 3.979 | 0.066 |
| -14.000 | 55.984 | -0.126 | 3.979 | 0.066 |
| -14.550 | 60.336 | -0.159 | 4.046 | 0.063 |
| -15.050 | 64.329 | -0.194 | 4.106 | 0.060 |
| -15.600 | 68.764 | -0.236 | 4.170 | 0.056 |
| -16.100 | 72.836 | -0.278 | 4.226 | 0.052 |
| -16.100 | 72.836 | -0.278 | 4.226 | 0.052 |
| -16.700 | 76.627 | -0.286 | 4.290 | 0.044 |
| -17.300 | 80.425 | -0.294 | 4.352 | 0.036 |
| -17.300 | 80.425 | -0.294 | 4.352 | 0.036 |
| -17.750 | 84.228 | -0.347 | 4.396 | 0.032 |
| -18.200 | 88.068 | -0.404 | 4.438 | 0.028 |
| -18.200 | 88.068 | -0.404 | 4.438 | 0.028 |
| -18.850 | 101.866 | -1.401 | 4.495 | 0.019 |
| -19.500 | 115.685 | -2.400 | 4.548 | 0.009 |
| -19.500 | 115.685 | -2.400 | 4.548 | 0.009 |
| -20.850 | 129.544 | -2.400 | 4.644 | 0.007 |
| -22.250 | 143.896 | -2.400 | 4.725 | 0.004 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -23.600 | 157.717 | -2.400 | 4.784 | 0.002 |
| -25.000 | 172.031 | -2.400 | 4.828 | 0.000 |

### 3.48 Results for Vertical 48 (X = 3.18 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.970 | 0.374 | -0.430 | 0.373 | 0.382 |
| -2.070 | 0.788 | -0.429 | 0.425 | 0.366 |
| -2.170 | 1.200 | -0.428 | 0.479 | 0.356 |
| -2.270 | 1.610 | -0.427 | 0.535 | 0.348 |
| -2.370 | 2.017 | -0.425 | 0.591 | 0.342 |
| -2.400 | 2.139 | -0.424 | 0.609 | 0.340 |
| -2.470 | 2.421 | -0.423 | 0.649 | 0.336 |
| -2.570 | 2.822 | -0.420 | 0.708 | 0.330 |
| -2.670 | 3.220 | -0.417 | 0.766 | 0.325 |
| -2.770 | 3.614 | -0.413 | 0.825 | 0.320 |
| -2.870 | 4.005 | -0.410 | 0.884 | 0.315 |
| -2.970 | 4.393 | -0.406 | 0.943 | 0.310 |
| -3.385 | 5.963 | -0.385 | 1.180 | 0.293 |
| -4.100 | 8.535 | -0.340 | 1.554 | 0.267 |
| -4.800 | 10.921 | -0.288 | 1.866 | 0.245 |
| -4.800 | 10.921 | -0.288 | 1.866 | 0.245 |
| -5.300 | 11.250 | -0.267 | 2.059 | 0.220 |
| -5.800 | 11.595 | -0.250 | 2.229 | 0.195 |
| -5.800 | 11.595 | -0.250 | 2.229 | 0.195 |
| -6.450 | 14.883 | -0.215 | 2.422 | 0.181 |
| -7.150 | 18.388 | -0.176 | 2.602 | 0.167 |
| -7.800 | 21.647 | -0.143 | 2.748 | 0.155 |
| -8.500 | 25.197 | -0.113 | 2.889 | 0.142 |
| -8.500 | 25.197 | -0.113 | 2.889 | 0.142 |
| -8.750 | 25.374 | -0.109 | 2.936 | 0.132 |
| -9.000 | 25.571 | -0.106 | 2.981 | 0.121 |
| -9.000 | 25.571 | -0.106 | 2.981 | 0.121 |
| -9.970 | 31.648 | -0.107 | 3.148 | 0.113 |
| -10.940 | 37.722 | -0.108 | 3.302 | 0.104 |
| -10.940 | 37.722 | -0.108 | 3.302 | 0.104 |
| -11.420 | 40.404 | -0.114 | 3.375 | 0.096 |
| -11.900 | 43.109 | -0.124 | 3.446 | 0.087 |
| -11.900 | 43.110 | -0.124 | 3.446 | 0.087 |
| -12.450 | 46.560 | -0.126 | 3.526 | 0.081 |
| -12.950 | 49.699 | -0.128 | 3.597 | 0.076 |
| -13.500 | 53.156 | -0.131 | 3.672 | 0.070 |
| -14.000 | 56.302 | -0.134 | 3.740 | 0.065 |
| -14.000 | 56.302 | -0.134 | 3.740 | 0.065 |
| -14.550 | 60.649 | -0.167 | 3.812 | 0.062 |
| -15.050 | 64.636 | -0.200 | 3.875 | 0.058 |
| -15.600 | 69.063 | -0.241 | 3.943 | 0.055 |
| -16.100 | 73.126 | -0.282 | 4.003 | 0.051 |
| -16.100 | 73.126 | -0.282 | 4.003 | 0.051 |
| -16.700 | 76.920 | -0.289 | 4.071 | 0.043 |
| -17.300 | 80.719 | -0.297 | 4.137 | 0.035 |
| -17.300 | 80.720 | -0.297 | 4.137 | 0.035 |
| -17.750 | 84.512 | -0.349 | 4.184 | 0.032 |
| -18.200 | 88.341 | -0.404 | 4.229 | 0.028 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -18.200 | 88.342 | -0.404 | 4.229 | 0.028 |
| -18.850 | 102.141 | -1.401 | 4.290 | 0.018 |
| -19.500 | 115.960 | -2.400 | 4.347 | 0.009 |
| -19.500 | 115.960 | -2.400 | 4.347 | 0.009 |
| -20.850 | 129.828 | -2.400 | 4.453 | 0.006 |
| -22.250 | 144.190 | -2.400 | 4.543 | 0.004 |
| -23.600 | 158.020 | -2.400 | 4.611 | 0.002 |
| -25.000 | 172.344 | -2.400 | 4.665 | 0.000 |

### 3.49 Results for Vertical 49 (X = 3.35 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.005 | 0.325 | -0.430 | 0.324 | 0.372 |
| -2.105 | 0.734 | -0.429 | 0.370 | 0.357 |
| -2.205 | 1.141 | -0.428 | 0.419 | 0.348 |
| -2.305 | 1.546 | -0.427 | 0.468 | 0.341 |
| -2.400 | 1.929 | -0.425 | 0.517 | 0.335 |
| -2.405 | 1.949 | -0.425 | 0.520 | 0.334 |
| -2.505 | 2.349 | -0.423 | 0.572 | 0.329 |
| -2.605 | 2.746 | -0.420 | 0.625 | 0.323 |
| -2.705 | 3.140 | -0.417 | 0.679 | 0.318 |
| -2.805 | 3.531 | -0.414 | 0.734 | 0.314 |
| -2.905 | 3.919 | -0.411 | 0.789 | 0.309 |
| -3.005 | 4.304 | -0.407 | 0.843 | 0.305 |
| -3.402 | 5.802 | -0.388 | 1.059 | 0.289 |
| -4.100 | 8.316 | -0.346 | 1.412 | 0.264 |
| -4.800 | 10.714 | -0.295 | 1.724 | 0.243 |
| -4.800 | 10.714 | -0.295 | 1.724 | 0.243 |
| -5.300 | 11.050 | -0.274 | 1.918 | 0.218 |
| -5.800 | 11.402 | -0.257 | 2.092 | 0.194 |
| -5.800 | 11.402 | -0.257 | 2.092 | 0.194 |
| -6.450 | 14.699 | -0.223 | 2.291 | 0.180 |
| -7.150 | 18.213 | -0.184 | 2.477 | 0.167 |
| -7.800 | 21.477 | -0.151 | 2.629 | 0.154 |
| -8.500 | 25.030 | -0.121 | 2.776 | 0.142 |
| -8.500 | 25.030 | -0.121 | 2.776 | 0.142 |
| -8.750 | 25.207 | -0.116 | 2.825 | 0.131 |
| -9.000 | 25.405 | -0.114 | 2.873 | 0.121 |
| -9.000 | 25.405 | -0.114 | 2.873 | 0.121 |
| -9.970 | 31.487 | -0.114 | 3.046 | 0.113 |
| -10.940 | 37.566 | -0.115 | 3.205 | 0.104 |
| -10.940 | 37.566 | -0.115 | 3.205 | 0.104 |
| -11.420 | 40.246 | -0.121 | 3.281 | 0.095 |
| -11.900 | 42.950 | -0.130 | 3.354 | 0.087 |
| -11.900 | 42.951 | -0.130 | 3.354 | 0.087 |
| -12.450 | 46.402 | -0.132 | 3.436 | 0.081 |
| -12.950 | 49.543 | -0.134 | 3.508 | 0.076 |
| -13.500 | 53.000 | -0.137 | 3.586 | 0.070 |
| -14.000 | 56.147 | -0.140 | 3.654 | 0.064 |
| -14.000 | 56.147 | -0.140 | 3.654 | 0.064 |
| -14.550 | 60.487 | -0.172 | 3.728 | 0.061 |
| -15.050 | 64.468 | -0.204 | 3.793 | 0.058 |
| -15.600 | 68.888 | -0.244 | 3.862 | 0.055 |
| -16.100 | 72.943 | -0.285 | 3.923 | 0.051 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -16.100 | 72.943 | -0.285 | 3.923 | 0.051 |
| -16.700 | 76.737 | -0.292 | 3.993 | 0.043 |
| -17.300 | 80.536 | -0.299 | 4.060 | 0.035 |
| -17.300 | 80.536 | -0.299 | 4.060 | 0.035 |
| -17.750 | 84.320 | -0.350 | 4.108 | 0.031 |
| -18.200 | 88.141 | -0.405 | 4.154 | 0.028 |
| -18.200 | 88.141 | -0.405 | 4.154 | 0.028 |
| -18.850 | 101.940 | -1.401 | 4.217 | 0.018 |
| -19.500 | 115.758 | -2.400 | 4.275 | 0.009 |
| -19.500 | 115.758 | -2.400 | 4.275 | 0.009 |
| -20.850 | 129.629 | -2.400 | 4.384 | 0.006 |
| -22.250 | 143.994 | -2.400 | 4.477 | 0.004 |
| -23.600 | 157.828 | -2.400 | 4.549 | 0.002 |
| -25.000 | 172.155 | -2.400 | 4.606 | 0.000 |

### 3.50 Results for Vertical 50 (X = 4.20 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.100 | 0.156 | -0.430 | 0.155 | 0.327 |
| -2.200 | 0.545 | -0.430 | 0.180 | 0.317 |
| -2.300 | 0.933 | -0.429 | 0.206 | 0.310 |
| -2.400 | 1.319 | -0.428 | 0.234 | 0.305 |
| -2.500 | 1.703 | -0.426 | 0.263 | 0.301 |
| -2.600 | 2.085 | -0.425 | 0.294 | 0.297 |
| -2.700 | 2.465 | -0.422 | 0.326 | 0.293 |
| -2.800 | 2.844 | -0.420 | 0.360 | 0.289 |
| -2.900 | 3.220 | -0.417 | 0.395 | 0.285 |
| -3.000 | 3.594 | -0.414 | 0.430 | 0.282 |
| -3.100 | 3.966 | -0.411 | 0.467 | 0.278 |
| -3.450 | 5.252 | -0.396 | 0.600 | 0.267 |
| -4.100 | 7.575 | -0.362 | 0.857 | 0.248 |
| -4.800 | 9.992 | -0.318 | 1.131 | 0.230 |
| -4.800 | 9.992 | -0.318 | 1.131 | 0.230 |
| -5.300 | 10.338 | -0.299 | 1.316 | 0.208 |
| -5.800 | 10.704 | -0.283 | 1.490 | 0.186 |
| -5.800 | 10.704 | -0.283 | 1.490 | 0.186 |
| -6.450 | 14.032 | -0.251 | 1.699 | 0.174 |
| -7.150 | 17.576 | -0.214 | 1.902 | 0.161 |
| -7.800 | 20.862 | -0.181 | 2.073 | 0.150 |
| -8.500 | 24.429 | -0.150 | 2.240 | 0.137 |
| -8.500 | 24.429 | -0.150 | 2.240 | 0.137 |
| -8.750 | 24.611 | -0.145 | 2.297 | 0.127 |
| -9.000 | 24.811 | -0.142 | 2.351 | 0.117 |
| -9.000 | 24.811 | -0.142 | 2.351 | 0.117 |
| -9.970 | 30.918 | -0.142 | 2.550 | 0.110 |
| -10.940 | 37.016 | -0.143 | 2.732 | 0.101 |
| -10.940 | 37.016 | -0.143 | 2.732 | 0.101 |
| -11.420 | 39.693 | -0.148 | 2.817 | 0.093 |
| -11.900 | 42.392 | -0.156 | 2.900 | 0.084 |
| -11.900 | 42.392 | -0.156 | 2.900 | 0.084 |
| -12.450 | 45.851 | -0.157 | 2.991 | 0.079 |
| -12.950 | 48.996 | -0.159 | 3.071 | 0.074 |
| -13.500 | 52.459 | -0.162 | 3.157 | 0.068 |
| -14.000 | 55.609 | -0.165 | 3.233 | 0.063 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -14.000 | 55.609 | -0.165 | 3.233 | 0.063 |
| -14.550 | 59.926 | -0.193 | 3.313 | 0.060 |
| -15.050 | 63.883 | -0.223 | 3.384 | 0.057 |
| -15.600 | 68.273 | -0.259 | 3.460 | 0.053 |
| -16.100 | 72.299 | -0.296 | 3.526 | 0.050 |
| -16.100 | 72.299 | -0.296 | 3.526 | 0.050 |
| -16.700 | 76.093 | -0.302 | 3.603 | 0.042 |
| -17.300 | 79.893 | -0.309 | 3.676 | 0.034 |
| -17.300 | 79.893 | -0.309 | 3.676 | 0.034 |
| -17.750 | 83.643 | -0.356 | 3.729 | 0.031 |
| -18.200 | 87.428 | -0.407 | 3.780 | 0.027 |
| -18.200 | 87.428 | -0.407 | 3.780 | 0.027 |
| -18.850 | 101.226 | -1.402 | 3.850 | 0.018 |
| -19.500 | 115.042 | -2.400 | 3.916 | 0.008 |
| -19.500 | 115.042 | -2.400 | 3.916 | 0.008 |
| -20.850 | 128.927 | -2.400 | 4.039 | 0.006 |
| -22.250 | 143.308 | -2.400 | 4.148 | 0.004 |
| -23.600 | 157.157 | -2.400 | 4.235 | 0.002 |
| -25.000 | 171.500 | -2.400 | 4.308 | 0.000 |

### 3.51 Results for Vertical 51 (X = 4.65 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.150 | 0.113 | -0.430 | 0.112 | 0.310 |
| -2.250 | 0.496 | -0.430 | 0.130 | 0.301 |
| -2.350 | 0.878 | -0.429 | 0.150 | 0.296 |
| -2.400 | 1.068 | -0.429 | 0.160 | 0.294 |
| -2.450 | 1.258 | -0.428 | 0.171 | 0.292 |
| -2.550 | 1.636 | -0.427 | 0.193 | 0.288 |
| -2.650 | 2.012 | -0.425 | 0.216 | 0.284 |
| -2.750 | 2.386 | -0.423 | 0.241 | 0.280 |
| -2.850 | 2.758 | -0.421 | 0.267 | 0.277 |
| -2.950 | 3.128 | -0.418 | 0.294 | 0.274 |
| -3.050 | 3.496 | -0.415 | 0.322 | 0.270 |
| -3.150 | 3.863 | -0.412 | 0.351 | 0.267 |
| -3.475 | 5.041 | -0.399 | 0.452 | 0.257 |
| -4.100 | 7.257 | -0.369 | 0.661 | 0.240 |
| -4.800 | 9.668 | -0.327 | 0.904 | 0.224 |
| -4.800 | 9.669 | -0.327 | 0.904 | 0.224 |
| -5.300 | 10.009 | -0.309 | 1.076 | 0.203 |
| -5.800 | 10.373 | -0.294 | 1.241 | 0.182 |
| -5.800 | 10.373 | -0.294 | 1.241 | 0.182 |
| -6.450 | 13.706 | -0.262 | 1.444 | 0.170 |
| -7.150 | 17.258 | -0.226 | 1.646 | 0.158 |
| -7.800 | 20.550 | -0.194 | 1.819 | 0.147 |
| -8.500 | 24.121 | -0.163 | 1.991 | 0.135 |
| -8.500 | 24.121 | -0.163 | 1.991 | 0.135 |
| -8.750 | 24.304 | -0.158 | 2.050 | 0.125 |
| -9.000 | 24.504 | -0.155 | 2.106 | 0.115 |
| -9.000 | 24.505 | -0.155 | 2.106 | 0.115 |
| -9.970 | 30.618 | -0.154 | 2.313 | 0.108 |
| -10.940 | 36.723 | -0.155 | 2.503 | 0.100 |
| -10.940 | 36.723 | -0.155 | 2.503 | 0.100 |
| -11.420 | 39.399 | -0.160 | 2.592 | 0.092 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -11.900 | 42.095 | -0.167 | 2.678 | 0.083 |
| -11.900 | 42.095 | -0.167 | 2.678 | 0.083 |
| -12.450 | 45.556 | -0.168 | 2.773 | 0.078 |
| -12.950 | 48.704 | -0.170 | 2.856 | 0.073 |
| -13.500 | 52.168 | -0.173 | 2.945 | 0.067 |
| -14.000 | 55.319 | -0.175 | 3.024 | 0.062 |
| -14.000 | 55.319 | -0.175 | 3.024 | 0.062 |
| -14.550 | 59.626 | -0.202 | 3.107 | 0.059 |
| -15.050 | 63.572 | -0.231 | 3.181 | 0.056 |
| -15.600 | 67.949 | -0.265 | 3.259 | 0.052 |
| -16.100 | 71.962 | -0.301 | 3.328 | 0.049 |
| -16.100 | 71.962 | -0.301 | 3.328 | 0.049 |
| -16.700 | 75.757 | -0.307 | 3.408 | 0.041 |
| -17.300 | 79.557 | -0.314 | 3.484 | 0.033 |
| -17.300 | 79.557 | -0.314 | 3.484 | 0.033 |
| -17.750 | 83.292 | -0.359 | 3.539 | 0.030 |
| -18.200 | 87.061 | -0.407 | 3.592 | 0.027 |
| -18.200 | 87.061 | -0.407 | 3.592 | 0.027 |
| -18.850 | 100.858 | -1.403 | 3.665 | 0.017 |
| -19.500 | 114.673 | -2.400 | 3.734 | 0.008 |
| -19.500 | 114.673 | -2.400 | 3.734 | 0.008 |
| -20.850 | 128.566 | -2.400 | 3.865 | 0.006 |
| -22.250 | 142.953 | -2.400 | 3.981 | 0.004 |
| -23.600 | 156.809 | -2.400 | 4.075 | 0.002 |
| -25.000 | 171.160 | -2.400 | 4.155 | 0.000 |

### 3.52 Results for Vertical 52 (X = 5.07 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.100 | 0.074 | -0.430 | 0.073 | 0.295 |
| -2.200 | 0.452 | -0.430 | 0.086 | 0.288 |
| -2.300 | 0.829 | -0.429 | 0.100 | 0.283 |
| -2.400 | 1.204 | -0.428 | 0.115 | 0.279 |
| -2.500 | 1.577 | -0.427 | 0.131 | 0.276 |
| -2.600 | 1.947 | -0.425 | 0.148 | 0.272 |
| -2.700 | 2.316 | -0.423 | 0.167 | 0.269 |
| -2.800 | 2.683 | -0.421 | 0.186 | 0.266 |
| -2.900 | 3.048 | -0.419 | 0.207 | 0.263 |
| -3.000 | 3.411 | -0.416 | 0.229 | 0.260 |
| -3.100 | 3.773 | -0.413 | 0.251 | 0.257 |
| -3.450 | 5.025 | -0.400 | 0.338 | 0.248 |
| -4.100 | 7.302 | -0.369 | 0.520 | 0.231 |
| -4.800 | 9.695 | -0.328 | 0.734 | 0.216 |
| -4.800 | 9.695 | -0.328 | 0.734 | 0.216 |
| -5.300 | 10.025 | -0.310 | 0.890 | 0.196 |
| -5.800 | 10.381 | -0.296 | 1.043 | 0.177 |
| -5.800 | 10.381 | -0.296 | 1.043 | 0.177 |
| -6.450 | 13.712 | -0.265 | 1.237 | 0.166 |
| -7.150 | 17.267 | -0.230 | 1.434 | 0.154 |
| -7.800 | 20.565 | -0.198 | 1.606 | 0.144 |
| -8.500 | 24.143 | -0.168 | 1.779 | 0.132 |
| -8.500 | 24.143 | -0.168 | 1.779 | 0.132 |
| -8.750 | 24.328 | -0.163 | 1.838 | 0.123 |
| -9.000 | 24.530 | -0.160 | 1.895 | 0.113 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -9.000 | 24.530 | -0.160 | 1.895 | 0.113 |
| -9.970 | 30.648 | -0.160 | 2.107 | 0.106 |
| -10.940 | 36.757 | -0.160 | 2.301 | 0.098 |
| -10.940 | 36.757 | -0.160 | 2.301 | 0.098 |
| -11.420 | 39.434 | -0.165 | 2.393 | 0.090 |
| -11.900 | 42.130 | -0.172 | 2.481 | 0.082 |
| -11.900 | 42.130 | -0.172 | 2.481 | 0.082 |
| -12.450 | 45.594 | -0.173 | 2.579 | 0.076 |
| -12.950 | 48.743 | -0.175 | 2.665 | 0.072 |
| -13.500 | 52.209 | -0.177 | 2.756 | 0.066 |
| -14.000 | 55.362 | -0.180 | 2.837 | 0.061 |
| -14.000 | 55.362 | -0.180 | 2.837 | 0.061 |
| -14.550 | 59.666 | -0.207 | 2.923 | 0.058 |
| -15.050 | 63.609 | -0.234 | 2.998 | 0.055 |
| -15.600 | 67.980 | -0.268 | 3.079 | 0.052 |
| -16.100 | 71.988 | -0.303 | 3.150 | 0.048 |
| -16.100 | 71.988 | -0.303 | 3.150 | 0.048 |
| -16.700 | 75.784 | -0.309 | 3.232 | 0.041 |
| -17.300 | 79.585 | -0.316 | 3.310 | 0.033 |
| -17.300 | 79.585 | -0.316 | 3.310 | 0.033 |
| -17.750 | 83.315 | -0.360 | 3.367 | 0.030 |
| -18.200 | 87.077 | -0.408 | 3.422 | 0.026 |
| -18.200 | 87.077 | -0.408 | 3.422 | 0.026 |
| -18.850 | 100.875 | -1.403 | 3.498 | 0.017 |
| -19.500 | 114.690 | -2.400 | 3.570 | 0.008 |
| -19.500 | 114.690 | -2.400 | 3.570 | 0.008 |
| -20.850 | 128.588 | -2.400 | 3.705 | 0.006 |
| -22.250 | 142.982 | -2.400 | 3.828 | 0.004 |
| -23.600 | 156.844 | -2.400 | 3.929 | 0.002 |
| -25.000 | 171.202 | -2.400 | 4.015 | 0.000 |

### 3.53 Results for Vertical 53 (X = 5.76 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.017 | 0.038 | -0.430 | 0.037 | 0.276 |
| -2.117 | 0.411 | -0.430 | 0.044 | 0.271 |
| -2.217 | 0.783 | -0.429 | 0.052 | 0.267 |
| -2.317 | 1.152 | -0.428 | 0.061 | 0.264 |
| -2.400 | 1.457 | -0.427 | 0.069 | 0.261 |
| -2.417 | 1.519 | -0.427 | 0.071 | 0.261 |
| -2.517 | 1.884 | -0.426 | 0.081 | 0.258 |
| -2.617 | 2.247 | -0.424 | 0.092 | 0.255 |
| -2.717 | 2.608 | -0.422 | 0.105 | 0.252 |
| -2.817 | 2.967 | -0.419 | 0.118 | 0.249 |
| -2.917 | 3.324 | -0.417 | 0.132 | 0.247 |
| -3.017 | 3.679 | -0.414 | 0.146 | 0.244 |
| -3.409 | 5.055 | -0.400 | 0.212 | 0.234 |
| -4.100 | 7.435 | -0.368 | 0.354 | 0.219 |
| -4.800 | 9.795 | -0.328 | 0.522 | 0.204 |
| -4.800 | 9.795 | -0.328 | 0.522 | 0.204 |
| -5.300 | 10.104 | -0.312 | 0.651 | 0.187 |
| -5.800 | 10.443 | -0.298 | 0.783 | 0.169 |
| -5.800 | 10.443 | -0.298 | 0.783 | 0.169 |
| -6.450 | 13.764 | -0.268 | 0.956 | 0.159 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -7.150 | 17.316 | -0.234 | 1.138 | 0.149 |
| -7.800 | 20.617 | -0.203 | 1.301 | 0.139 |
| -8.500 | 24.202 | -0.174 | 1.470 | 0.128 |
| -8.500 | 24.202 | -0.174 | 1.470 | 0.128 |
| -8.750 | 24.388 | -0.169 | 1.528 | 0.118 |
| -9.000 | 24.591 | -0.167 | 1.585 | 0.109 |
| -9.000 | 24.591 | -0.167 | 1.585 | 0.109 |
| -9.970 | 30.710 | -0.167 | 1.797 | 0.103 |
| -10.940 | 36.822 | -0.167 | 1.995 | 0.096 |
| -10.940 | 36.822 | -0.167 | 1.995 | 0.096 |
| -11.420 | 39.499 | -0.172 | 2.088 | 0.088 |
| -11.900 | 42.196 | -0.178 | 2.179 | 0.079 |
| -11.900 | 42.196 | -0.178 | 2.179 | 0.079 |
| -12.450 | 45.662 | -0.180 | 2.279 | 0.074 |
| -12.950 | 48.813 | -0.181 | 2.368 | 0.070 |
| -13.500 | 52.281 | -0.184 | 2.462 | 0.064 |
| -14.000 | 55.436 | -0.186 | 2.545 | 0.059 |
| -14.000 | 55.436 | -0.186 | 2.545 | 0.059 |
| -14.550 | 59.735 | -0.212 | 2.634 | 0.056 |
| -15.050 | 63.673 | -0.239 | 2.712 | 0.054 |
| -15.600 | 68.039 | -0.272 | 2.796 | 0.050 |
| -16.100 | 72.040 | -0.306 | 2.869 | 0.047 |
| -16.100 | 72.040 | -0.306 | 2.869 | 0.047 |
| -16.700 | 75.838 | -0.312 | 2.954 | 0.040 |
| -17.300 | 79.640 | -0.318 | 3.036 | 0.032 |
| -17.300 | 79.640 | -0.318 | 3.036 | 0.032 |
| -17.750 | 83.362 | -0.362 | 3.095 | 0.029 |
| -18.200 | 87.115 | -0.408 | 3.152 | 0.026 |
| -18.200 | 87.115 | -0.408 | 3.152 | 0.026 |
| -18.850 | 100.914 | -1.403 | 3.232 | 0.017 |
| -19.500 | 114.731 | -2.400 | 3.307 | 0.008 |
| -19.500 | 114.731 | -2.400 | 3.307 | 0.008 |
| -20.850 | 128.637 | -2.400 | 3.452 | 0.006 |
| -22.250 | 143.040 | -2.400 | 3.583 | 0.004 |
| -23.600 | 156.911 | -2.400 | 3.693 | 0.002 |
| -25.000 | 171.278 | -2.400 | 3.790 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -40.00 | 0.00 | -1.94 | 0.175 |
| 2 | -26.67 | 0.00 | -2.06 | 0.253 |
| 3 | -26.67 | 0.00 | -2.06 | 0.253 |
| 4 | -23.16 | 0.00 | -2.09 | 0.474 |
| 5 | -22.53 | 0.00 | -2.10 | 0.515 |
| 6 | -21.97 | 0.00 | -2.22 | 0.559 |
| 7 | -21.51 | 0.00 | -2.24 | 0.593 |
| 8 | -20.75 | 0.00 | -2.26 | 0.642 |
| 9 | -20.24 | 0.00 | -2.28 | 0.677 |
| 10 | -19.21 | 0.00 | -2.34 | 0.759 |
| 11 | -19.11 | 0.00 | -2.35 | 0.769 |
| 12 | -16.61 | 0.00 | -2.57 | 1.037 |
| 13 | -16.50 | 0.00 | -2.65 | 1.131 |
| 14 | -16.25 | 0.00 | -2.86 | 1.105 |
| 15 | -15.61 | 0.00 | -2.99 | 1.091 |
| 16 | -14.53 | 0.00 | -3.22 | 1.086 |
| 17 | -14.28 | 0.00 | -3.18 | 1.093 |
| 18 | -12.09 | 0.00 | -2.88 | 1.117 |
| 19 | -12.07 | 0.00 | -2.65 | 1.137 |
| 20 | -12.04 | 0.00 | -2.10 | 0.793 |
| 21 | -12.02 | 0.00 | -1.89 | 0.719 |
| 22 | -11.56 | 0.00 | -1.69 | 0.653 |
| 23 | -10.13 | 0.00 | -1.05 | 0.518 |
| 24 | -9.72 | 0.00 | -0.87 | 0.488 |
| 25 | -8.29 | 0.00 | -0.24 | 0.407 |
| 26 | -7.83 | 0.00 | -0.04 | 0.386 |
| 27 | -7.50 | 0.00 | 0.10 | 0.367 |
| 28 | -7.43 | 0.00 | 0.13 | 0.362 |
| 29 | -6.64 | 0.00 | 0.11 | 0.366 |
| 30 | -6.28 | 0.00 | 0.10 | 0.370 |
| 31 | -5.20 | 0.00 | 0.06 | 0.370 |
| 32 | -3.78 | 0.00 | 0.02 | 0.368 |
| 33 | -3.25 | 0.00 | 0.00 | 0.367 |
| 34 | -2.22 | 0.00 | -0.05 | 0.364 |
| 35 | -1.02 | 0.00 | -0.11 | 0.351 |
| 36 | -0.92 | 0.00 | -0.11 | 0.351 |
| 37 | -0.50 | 0.00 | -0.14 | 0.345 |
| 38 | -0.15 | 0.00 | -0.16 | 0.338 |
| 39 | -0.10 | 0.00 | -0.16 | 0.337 |
| 40 | 0.81 | 0.00 | -0.14 | 0.304 |
| 41 | 0.98 | 0.00 | -0.13 | 0.290 |
| 42 | 1.00 | 0.00 | -0.14 | 0.287 |
| 43 | 1.22 | 0.00 | -0.18 | 0.260 |
| 44 | 1.46 | 0.00 | -2.10 | 0.556 |
| 45 | 1.49 | 0.00 | -2.27 | 0.557 |
| 46 | 1.94 | 0.00 | -2.33 | 0.515 |
| 47 | 2.73 | 0.00 | -2.10 | 0.427 |
| 48 | 3.18 | 0.00 | -1.97 | 0.382 |
| 49 | 3.35 | 0.00 | -2.00 | 0.372 |
| 50 | 4.20 | 0.00 | -2.10 | 0.327 |
| 51 | 4.65 | 0.00 | -2.15 | 0.310 |
| 52 | 5.07 | 0.00 | -2.10 | 0.295 |
| 53 | 5.76 | 0.00 | -2.02 | 0.276 |

## 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 540 | 0.010 | 5.917 | 0.165 |
| | 5050 | 0.115 | 65.634 | 0.060 |
| 2 | 540 | 0.037 | 14.546 | 0.216 |
| | 5050 | 0.179 | 71.061 | 0.073 |
| 3 | 540 | 0.037 | 14.625 | 0.216 |
| | 5050 | 0.180 | 71.089 | 0.073 |
| 4 | 540 | 0.140 | 29.645 | 0.333 |
| | 5050 | 0.371 | 78.297 | 0.103 |
| 5 | 540 | 0.157 | 30.492 | 0.358 |
| | 5050 | 0.406 | 78.945 | 0.108 |
| 6 | 540 | 0.177 | 31.692 | 0.382 |
| | 5050 | 0.449 | 80.246 | 0.110 |
| 7 | 540 | 0.190 | 31.983 | 0.403 |
| | 5050 | 0.475 | 80.124 | 0.118 |
| 8 | 540 | 0.204 | 31.827 | 0.438 |
| | 5050 | 0.510 | 79.348 | 0.133 |
| 9 | 540 | 0.215 | 31.724 | 0.462 |
| | 5050 | 0.534 | 78.922 | 0.143 |
| 10 | 540 | 0.237 | 31.204 | 0.522 |
| | 5050 | 0.594 | 78.302 | 0.165 |
| 11 | 540 | 0.239 | 31.126 | 0.530 |
| | 5050 | 0.602 | 78.229 | 0.167 |
| 12 | 540 | 0.314 | 30.328 | 0.722 |
| | 5050 | 0.818 | 78.871 | 0.219 |
| 13 | 540 | 0.351 | 31.039 | 0.780 |
| | 5050 | 0.897 | 79.271 | 0.234 |
| 14 | 540 | 0.323 | 29.274 | 0.781 |
| | 5050 | 0.868 | 78.578 | 0.237 |
| 15 | 540 | 0.311 | 28.523 | 0.780 |
| | 5050 | 0.852 | 78.135 | 0.238 |
| 16 | 540 | 0.293 | 26.965 | 0.793 |
| | 5050 | 0.842 | 77.563 | 0.244 |
| 17 | 540 | 0.302 | 27.620 | 0.791 |
| | 5050 | 0.849 | 77.676 | 0.244 |
| 18 | 540 | 0.324 | 28.963 | 0.794 |
| | 5050 | 0.866 | 77.551 | 0.251 |
| 19 | 540 | 0.355 | 31.266 | 0.782 |
| | 5050 | 0.888 | 78.090 | 0.249 |
| 20 | 540 | 0.246 | 31.032 | 0.547 |
| | 5050 | 0.630 | 79.402 | 0.163 |
| 21 | 540 | 0.184 | 25.665 | 0.534 |
| | 5050 | 0.556 | 77.393 | 0.162 |
| 22 | 540 | 0.160 | 24.506 | 0.493 |
| | 5050 | 0.491 | 75.207 | 0.162 |
| 23 | 540 | 0.125 | 24.192 | 0.392 |
| | 5050 | 0.377 | 72.884 | 0.140 |
| 24 | 540 | 0.116 | 23.769 | 0.372 |
| | 5050 | 0.353 | 72.329 | 0.135 |
| 25 | 540 | 0.090 | 22.064 | 0.317 |
| | 5050 | 0.287 | 70.513 | 0.120 |
| 26 | 540 | 0.081 | 20.949 | 0.305 |
| | 5050 | 0.270 | 69.933 | 0.116 |
| 27 | 540 | 0.073 | 19.978 | 0.293 |
| | 5050 | 0.254 | 69.275 | 0.113 |
| 28 | 540 | 0.071 | 19.615 | 0.291 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 5050 | 0.250 | 69.087 | 0.112 |
| 29 | 540 | 0.072 | 19.815 | 0.293 |
| | 5050 | 0.256 | 69.915 | 0.110 |
| 30 | 540 | 0.073 | 19.679 | 0.297 |
| | 5050 | 0.260 | 70.354 | 0.110 |
| 31 | 540 | 0.072 | 19.515 | 0.298 |
| | 5050 | 0.261 | 70.596 | 0.109 |
| 32 | 540 | 0.071 | 19.305 | 0.297 |
| | 5050 | 0.260 | 70.666 | 0.108 |
| 33 | 540 | 0.071 | 19.354 | 0.296 |
| | 5050 | 0.259 | 70.741 | 0.107 |
| 34 | 540 | 0.072 | 19.677 | 0.292 |
| | 5050 | 0.258 | 71.014 | 0.105 |
| 35 | 540 | 0.073 | 20.693 | 0.278 |
| | 5050 | 0.250 | 71.108 | 0.101 |
| 36 | 540 | 0.075 | 21.291 | 0.277 |
| | 5050 | 0.250 | 71.232 | 0.101 |
| 37 | 540 | 0.077 | 22.323 | 0.268 |
| | 5050 | 0.246 | 71.319 | 0.099 |
| 38 | 540 | 0.077 | 22.789 | 0.261 |
| | 5050 | 0.241 | 71.362 | 0.097 |
| 39 | 540 | 0.077 | 22.783 | 0.260 |
| | 5050 | 0.240 | 71.332 | 0.097 |
| 40 | 540 | 0.068 | 22.290 | 0.236 |
| | 5050 | 0.214 | 70.579 | 0.089 |
| 41 | 540 | 0.060 | 20.710 | 0.230 |
| | 5050 | 0.202 | 69.732 | 0.088 |
| 42 | 540 | 0.058 | 20.177 | 0.229 |
| | 5050 | 0.200 | 69.497 | 0.088 |
| 43 | 540 | 0.038 | 14.535 | 0.222 |
| | 5050 | 0.175 | 67.154 | 0.085 |
| 44 | 540 | 0.155 | 27.967 | 0.400 |
| | 5050 | 0.419 | 75.427 | 0.137 |
| 45 | 540 | 0.156 | 27.972 | 0.401 |
| | 5050 | 0.421 | 75.574 | 0.136 |
| 46 | 540 | 0.136 | 26.349 | 0.379 |
| | 5050 | 0.385 | 74.793 | 0.130 |
| 47 | 540 | 0.089 | 20.777 | 0.338 |
| | 5050 | 0.307 | 71.879 | 0.120 |
| 48 | 540 | 0.065 | 16.944 | 0.317 |
| | 5050 | 0.267 | 69.852 | 0.115 |
| 49 | 540 | 0.060 | 16.168 | 0.312 |
| | 5050 | 0.258 | 69.461 | 0.113 |
| 50 | 540 | 0.041 | 12.618 | 0.286 |
| | 5050 | 0.221 | 67.556 | 0.106 |
| 51 | 540 | 0.035 | 11.356 | 0.275 |
| | 5050 | 0.207 | 66.851 | 0.103 |
| 52 | 540 | 0.029 | 10.002 | 0.265 |
| | 5050 | 0.194 | 65.991 | 0.100 |
| 53 | 540 | 0.023 | 8.470 | 0.252 |
| | 5050 | 0.179 | 64.941 | 0.097 |

## 5 Warnings and errors

List of non-fatal warnings and errors generated during calculation.

1 Non-uniform load [2]: Co-ordinate (1) lies below surface

2 Non-uniform load [3]: Co-ordinate (1) lies below surface

## End of Report

# Critical Circle Bishop




Xm : -16.58 [m]
Ym : 10.18 [m]

Radius : 15.88 [m]
Safety : 1.40

N468 steunberm
SB DW11 Profiel 14.430
STBI eind


waalpartners civil engineering
Zuidweg 75
2671MP Naaldwijk
Phone
Fax 0174 627791


| | |
|---|---|
| date | 2/5/2025 |
| drw. | - |
| ctr. | - |
| form. | A3 |

Annex -

D-Geo Stability 18.2 : 14.430 SB DW11 STBI_steunberm koe.sti

# Critical Circle Bishop




Layers

- 26. Asfalt
- 25. menggranulaat
- 24. nieuw profiel
- 23. nieuw profiel
- 22. Dijksmateriaal
- 21. Klei Hum Dk naast
- 20. Klei Hum DK
- 19. Hollandveen
- 18. Klei silt DKnaast
- 17. Klei silt DK
- 16. Hollandveen
- 15. Klei CA naast
- 14. Klei hum CA naast
- 13. Klei CA naast
- 12. Klei zand CA naast
- 11. Klei CA naast
- 10. Klei zand CA naast
- 9. Klei CA naast
- 8. Klei CA
- 7. Klei hum CA
- 6. Klei CA
- 5. Klei zand CA
- 4. Klei CA
- 3. Klei zand CA
- 2. Klei CA
- 1. Zand CA

Xm : -15.99 [m]
Ym : 8.06 [m]

Radius : 14.31 [m]
Safety : 1.18

N468 steunberm
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STBI eind


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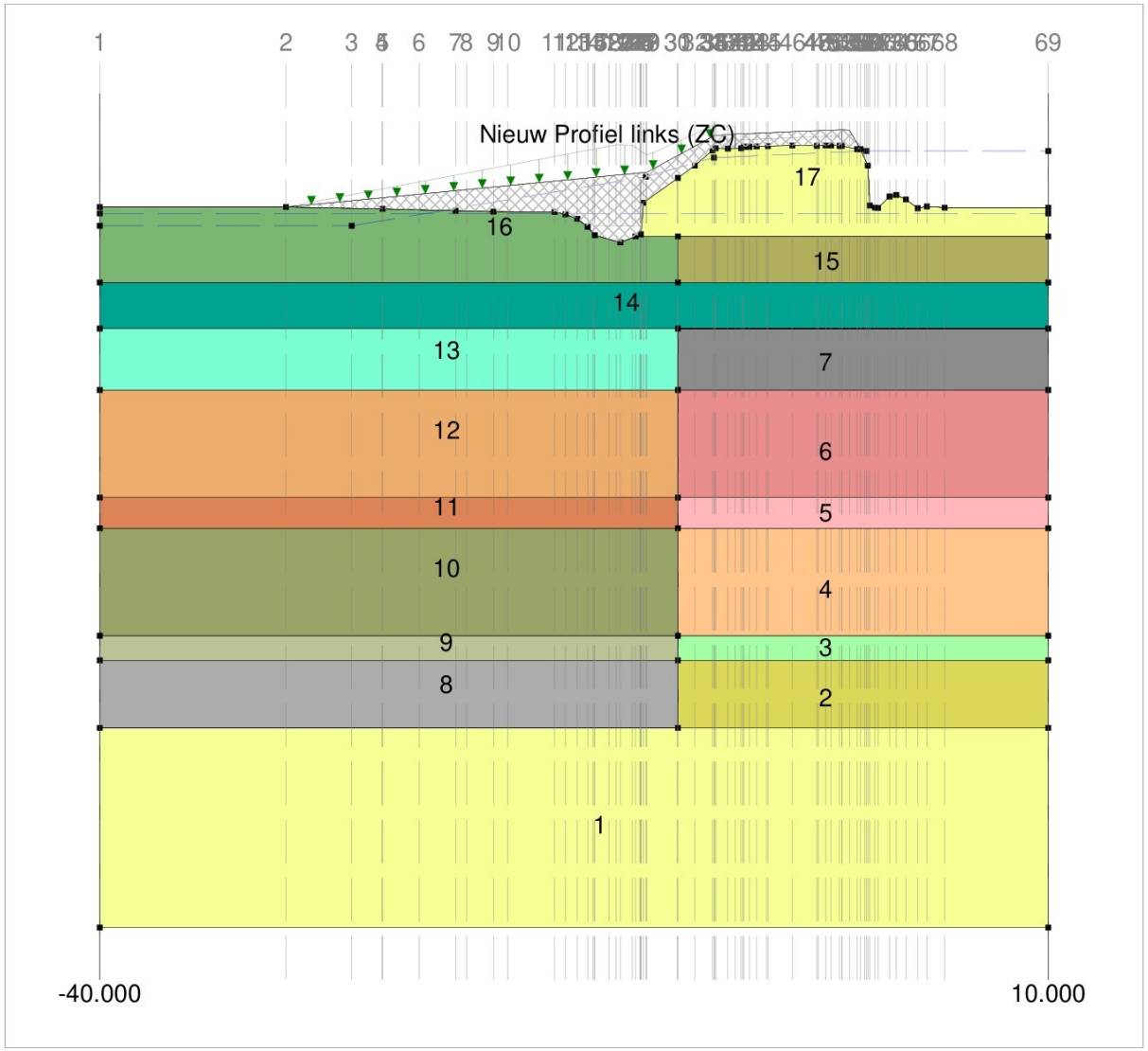
date 2/5/2025
dfw. -
ctr. -
form. A3
Annex -

D-Geo Stability 18.2 : 14.430 SB DW11 STBI_steunberm koe540.sti

Bijlage 5.2 SBDMW14

# Input View





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N468
profiel 14.600

Ontwerp STBI

| | | | |
|---|---|---|---|
| Annex - | - | 2/13/2025 | - |
| form. | ctr. | date | drw. |
| A3 | | | |

D-Settlement 23.2 : 14.600_dstab_nieuw_stbi_koe.sli

# Report for D-Settlement 23.2

Settlement Calculations
Developed by Deltares




| | |
|---|---|
| Company: | Waalpartners civil engineering |
| Date of report: | 2/13/2025 |
| Time of report: | 5:51:16 PM |
| Report with version: | 23.2.1.41771 |
| Date of calculation: | 1/13/2025 |
| Time of calculation: | 4:36:48 PM |
| Calculated with version: | 23.2.1.41771 |
| File name: | 14.600_dstab_nieuw_stbi_koe |
| Project identification: | N468<br>profiel 14.600<br>Ontwerp STBI |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 17 - X - | -40.000 | -30.172 | -25.083 | -21.236 | -19.241 |
| 17 - Y - | -2.039 | -2.040 | -2.094 | -2.161 | -2.183 |
| 17 - X - | -16.026 | -15.447 | -14.830 | -14.289 | -13.894 |
| 17 - Y - | -2.194 | -2.272 | -2.422 | -2.681 | -2.961 |
| 17 - X - | -12.554 | -11.763 | -11.466 | -11.346 | -9.525 |
| 17 - Y - | -3.192 | -3.000 | -2.928 | -1.901 | -1.087 |
| 17 - X - | -8.639 | -7.701 | -7.532 | -6.891 | -6.193 |
| 17 - Y - | -0.691 | -0.191 | -0.128 | -0.136 | -0.121 |
| 17 - X - | -6.051 | -5.752 | -5.369 | -4.781 | -3.492 |
| 17 - Y - | -0.080 | -0.072 | -0.064 | -0.058 | -0.039 |
| 17 - X - | -2.193 | -1.732 | -1.451 | -1.000 | -0.895 |
| 17 - Y - | -0.042 | -0.036 | -0.035 | -0.041 | -0.043 |
| 17 - X - | -0.075 | 0.101 | 0.484 | 0.596 | 0.864 |
| 17 - Y - | -0.150 | -0.156 | -0.685 | -1.991 | -2.055 |
| 17 - X - | 1.032 | 1.630 | 1.978 | 2.490 | 3.113 |
| 17 - Y - | -2.067 | -1.695 | -1.641 | -1.789 | -2.074 |
| 17 - X - | 3.590 | 4.535 | 10.000 | | |
| 17 - Y - | -2.016 | -2.063 | -2.063 | | |
| 16 - X - | -40.000 | -30.172 | -25.083 | -21.236 | -19.241 |
| 16 - Y - | -2.039 | -2.040 | -2.094 | -2.161 | -2.183 |
| 16 - X - | -16.026 | -15.447 | -14.830 | -14.289 | -13.894 |
| 16 - Y - | -2.194 | -2.272 | -2.422 | -2.681 | -2.961 |
| 16 - X - | -12.554 | -11.763 | -9.525 | 10.000 | |
| 16 - Y - | -3.192 | -3.000 | -3.000 | -3.000 | |
| 15 - X - | -40.000 | -9.525 | -9.525 | 10.000 | |
| 15 - Y - | -4.500 | -4.500 | -3.000 | -3.000 | |
| 14 - X - | -40.000 | -9.525 | 10.000 | | |
| 14 - Y - | -4.500 | -4.500 | -4.500 | | |
| 13 - X - | -40.000 | -9.525 | 10.000 | | |
| 13 - Y - | -6.000 | -6.000 | -6.000 | | |
| 12 - X - | -40.000 | -9.525 | -9.525 | 10.000 | |
| 12 - Y - | -8.000 | -8.000 | -6.000 | -6.000 | |
| 11 - X - | -40.000 | -9.525 | -9.525 | -9.525 | 10.000 |
| 11 - Y - | -11.500 | -11.500 | -8.000 | -6.000 | -6.000 |
| 10 - X - | -40.000 | -9.525 | -9.525 | -9.525 | -9.525 |
| 10 - Y - | -12.500 | -12.500 | -11.500 | -8.000 | -6.000 |
| 10 - X - | 10.000 | | | | |
| 10 - Y - | -6.000 | | | | |
| 9 - X - | -40.000 | -9.525 | -9.525 | -9.525 | -9.525 |
| 9 - Y - | -16.000 | -16.000 | -12.500 | -11.500 | -8.000 |
| 9 - X - | -9.525 | 10.000 | | | |
| 9 - Y - | -6.000 | -6.000 | | | |
| 8 - X - | -40.000 | -9.525 | -9.525 | -9.525 | -9.525 |
| 8 - Y - | -16.800 | -16.800 | -16.000 | -12.500 | -11.500 |
| 8 - X - | -9.525 | -9.525 | 10.000 | | |
| 8 - Y - | -8.000 | -6.000 | -6.000 | | |
| 7 - X - | -40.000 | -9.525 | -9.525 | -9.525 | -9.525 |
| 7 - Y - | -19.000 | -19.000 | -16.800 | -16.000 | -12.500 |
| 7 - X - | -9.525 | -9.525 | -9.525 | 10.000 | |
| 7 - Y - | -11.500 | -8.000 | -6.000 | -6.000 | |
| 6 - X - | -40.000 | -9.525 | -9.525 | -9.525 | -9.525 |
| 6 - Y - | -19.000 | -19.000 | -16.800 | -16.000 | -12.500 |
| 6 - X - | -9.525 | -9.525 | 10.000 | | |
| 6 - Y - | -11.500 | -8.000 | -8.000 | | |

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 5 - X - | -40.000 | -9.525 | -9.525 | -9.525 | -9.525 |
| 5 - Y - | -19.000 | -19.000 | -16.800 | -16.000 | -12.500 |
| 5 - X - | -9.525 | 10.000 | | | |
| 5 - Y - | -11.500 | -11.500 | | | |
| 4 - X - | -40.000 | -9.525 | -9.525 | -9.525 | -9.525 |
| 4 - Y - | -19.000 | -19.000 | -16.800 | -16.000 | -12.500 |
| 4 - X - | 10.000 | | | | |
| 4 - Y - | -12.500 | | | | |
| 3 - X - | -40.000 | -9.525 | -9.525 | -9.525 | 10.000 |
| 3 - Y - | -19.000 | -19.000 | -16.800 | -16.000 | -16.000 |
| 2 - X - | -40.000 | -9.525 | -9.525 | 10.000 | |
| 2 - Y - | -19.000 | -19.000 | -16.800 | -16.800 | |
| 1 - X - | -40.000 | -9.525 | 10.000 | | |
| 1 - Y - | -19.000 | -19.000 | -19.000 | | |
| 0 - X - | -40.000 | 10.000 | | | |
| 0 - Y - | -25.502 | -25.502 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -40.000 | -26.720 | -11.210 | -7.630 | 0.400 |
| 1 - Y - | -2.650 | -2.650 | -1.050 | -0.430 | -0.210 |
| 1 - X - | 10.000 | | | | |
| 1 - Y - | -0.210 | | | | |
| 2 - X - | -40.000 | 10.000 | | | |
| 2 - Y - | -2.250 | -2.250 | | | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | |
| - Loads: | Simulate |
| End of consolidation: | 10000.00 [days] |
| No maintain profile | |
| Pc (initial): | Variable parallel to the initial effective stress |
| Pc (per step): | Automatic increased to the final effective stresses |
| Creep rate reference time: | 1.000 [days] |
| No imaginary surface | |
| With submerging | |
| (only for non uniform loads) | |
| - Iteration stop criterium : | 0.10 [m] |
| Load column width | |
| - Non-Uniform Loads : | 1.00 [m] |
| - Trapeziform Loads : | 1.00 [m] |

## 2.4 Soil Profiles

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 17 | Dijksmateriaal | 1 | 1 |
| 16 | Klei Hum Dk naast | 1 | 1 |
| 15 | Klei Hum DK | 1 | 1 |
| 14 | Hollandveen | 1 | 1 |
| 13 | Klei silt DKnaast | 1 | 1 |
| 12 | Klei CA naast | 1 | 1 |

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 11 | Klei hum CA naast | 1 | 1 |
| 10 | Klei CA naast | 1 | 1 |
| 9 | Klei zand CA naast | 1 | 1 |
| 8 | Klei CA naast | 1 | 2 |
| 7 | klei Silt DK | 1 | 1 |
| 6 | Klei CA | 1 | 1 |
| 5 | Klei hum CA | 1 | 1 |
| 4 | Klei CA | 1 | 1 |
| 3 | Klei zand CA | 1 | 1 |
| 2 | Klei CA | 1 | 2 |
| 1 | Zand CA | 2 | 2 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 17 | No | 16.00 | 16.00 |
| 16 | No | 13.50 | 13.50 |
| 15 | No | 13.50 | 13.50 |
| 14 | No | 10.50 | 10.50 |
| 13 | No | 15.10 | 15.10 |
| 12 | No | 15.90 | 15.90 |
| 11 | No | 15.10 | 15.10 |
| 10 | No | 15.90 | 15.90 |
| 9 | No | 17.00 | 17.00 |
| 8 | No | 15.90 | 15.90 |
| 7 | No | 15.10 | 15.10 |
| 6 | No | 15.90 | 15.90 |
| 5 | No | 15.10 | 15.10 |
| 4 | No | 15.90 | 15.90 |
| 3 | No | 17.00 | 17.00 |
| 2 | No | 15.90 | 15.90 |
| 1 | Yes | 18.00 | 20.00 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] |
|---|---|---|
| 17 | Vert. cons. | 1.00E-08 |
| 16 | Vert. cons. | 2.07E-08 |
| 15 | Vert. cons. | 2.07E-08 |
| 14 | Vert. cons. | 2.37E-08 |
| 13 | Vert. cons. | 2.54E-08 |
| 12 | Vert. cons. | 6.02E-07 |
| 11 | Vert. cons. | 9.27E-08 |
| 10 | Vert. cons. | 6.02E-07 |
| 9 | Vert. cons. | 1.00E-07 |
| 8 | Vert. cons. | 6.02E-07 |
| 7 | Vert. cons. | 2.54E-08 |
| 6 | Vert. cons. | 6.02E-07 |
| 5 | Vert. cons. | 9.27E-08 |
| 4 | Vert. cons. | 6.02E-07 |
| 3 | Vert. cons. | 1.00E-07 |
| 2 | Vert. cons. | 6.02E-07 |
| 1 | Vert. cons. | - |

| Layer number | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|
| 17 | - | - | - |
| 16 | - | - | - |
| 15 | - | - | - |
| 14 | - | - | - |
| 13 | - | - | - |
| 12 | - | - | - |
| 11 | - | - | - |
| 10 | - | - | - |
| 9 | - | - | - |
| 8 | - | - | - |
| 7 | - | - | - |
| 6 | - | - | - |
| 5 | - | - | - |
| 4 | - | - | - |
| 3 | - | - | - |
| 2 | - | - | - |
| 1 | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 17 | - | 1.50 | - |
| 16 | - | 1.50 | - |
| 15 | - | 1.50 | - |
| 14 | - | 1.80 | - |
| 13 | - | 1.50 | - |
| 12 | - | 1.50 | - |
| 11 | - | 1.50 | - |
| 10 | - | 1.50 | - |
| 9 | - | 1.39 | - |
| 8 | - | 1.50 | - |
| 7 | - | 1.50 | - |
| 6 | - | 1.50 | - |
| 5 | - | 1.50 | - |
| 4 | - | 1.50 | - |
| 3 | - | 1.39 | - |
| 2 | - | 1.50 | - |
| 1 | - | 1.39 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 17 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 16 | 0.0338000 | 0.2190000 | 0.0174000 | - | - | - |
| 15 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 14 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 13 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 12 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 11 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 10 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 9 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 8 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 7 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 6 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 5 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 4 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 3 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 2 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 1 | 0.0100000 | 0.1062000 | 0.0033000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time [days] | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 1 | -1 | 13.50 | 13.50 |
| 2 | 2 | 16.00 | 16.00 |
| 3 | 2 | 19.00 | 19.00 |
| 4 | 2 | 25.00 | 25.00 |
| 5 | 2 | 16.00 | 16.00 |
| 6 | 2 | 16.00 | 16.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -14.02 | -13.94 | -11.54 | -11.50 | | |
| 1 - Y - | -2.87 | -2.65 | -2.65 | -2.94 | | |
| 2 - X - | -30.17 | -11.15 | -7.59 | -6.49 | -6.49 | |
| 2 - Y - | -2.04 | -0.90 | 0.29 | 0.34 | -0.13 | |
| 3 - X - | -6.49 | -6.49 | -6.09 | -4.84 | -3.49 | -2.14 |
| 3 - Y - | -0.13 | 0.14 | 0.15 | 0.18 | 0.22 | 0.25 |
| 3 - X - | -0.89 | -0.89 | | | | |
| 3 - Y - | 0.28 | -0.04 | | | | |
| 4 - X - | -6.49 | -6.49 | -6.09 | -4.84 | -3.49 | -2.14 |
| 4 - Y - | -0.13 | 0.34 | 0.35 | 0.38 | 0.42 | 0.45 |
| 4 - X - | -0.89 | -0.89 | | | | |
| 4 - Y - | 0.48 | -0.04 | | | | |
| 5 - X - | -0.89 | -0.89 | -0.49 | 0.10 | | |
| 5 - Y - | -0.04 | 0.48 | 0.47 | -0.16 | | |
| 6 - X - | -30.17 | -12.77 | -11.93 | -11.15 | -9.55 | -7.59 |
| 6 - Y - | -2.04 | -0.02 | -0.03 | -0.35 | 0.08 | 0.65 |
| 6 - X - | -6.49 | -6.49 | | | | |
| 6 - Y - | 0.57 | -0.13 | | | | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -40.000 | -30.172 | -26.720 | -25.116 | -25.083 |
| 6 - 10 | -23.152 | -21.236 | -20.660 | -19.241 | -18.500 |
| 11 - 15 | -16.026 | -15.447 | -14.830 | -14.289 | -13.988 |
| 16 - 20 | -13.937 | -13.894 | -13.160 | -12.774 | -12.554 |
| 21 - 25 | -11.934 | -11.763 | -11.536 | -11.497 | -11.466 |
| 26 - 30 | -11.452 | -11.346 | -11.210 | -11.152 | -9.550 |
| 31 - 35 | -9.525 | -8.639 | -7.701 | -7.630 | -7.592 |
| 36 - 40 | -7.532 | -6.891 | -6.492 | -6.193 | -6.092 |
| 41 - 45 | -6.051 | -5.752 | -5.369 | -4.843 | -4.781 |
| 46 - 50 | -3.492 | -2.193 | -2.141 | -1.732 | -1.451 |
| 51 - 55 | -1.000 | -0.895 | -0.892 | -0.492 | -0.075 |
| 56 - 60 | 0.101 | 0.309 | 0.400 | 0.484 | 0.596 |
| 61 - 65 | 0.864 | 1.032 | 1.630 | 1.978 | 2.490 |
| 66 - 69 | 3.113 | 3.590 | 4.535 | 10.000 | |

# 3 Results per Vertical

## 3.1 Results for Vertical 1 (X = -40.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.039 | 0.001 | -2.039 | 0.000 | 0.196 |
| -2.139 | 1.346 | -2.139 | 0.000 | 0.192 |
| -2.239 | 2.685 | -2.237 | 0.000 | 0.188 |
| -2.250 | 2.832 | -2.248 | 0.000 | 0.188 |
| -2.339 | 4.017 | -2.336 | 0.000 | 0.185 |
| -2.439 | 5.341 | -2.433 | 0.000 | 0.181 |
| -2.539 | 6.226 | -2.530 | -0.434 | 0.178 |
| -2.639 | 6.560 | -2.626 | -1.415 | 0.175 |
| -2.650 | 6.596 | -2.637 | -1.523 | 0.175 |
| -2.739 | 6.891 | -2.633 | -1.522 | 0.173 |
| -2.839 | 7.221 | -2.629 | -1.522 | 0.171 |
| -2.939 | 7.550 | -2.625 | -1.522 | 0.169 |
| -3.039 | 7.877 | -2.621 | -1.522 | 0.167 |
| -3.269 | 8.629 | -2.611 | -1.522 | 0.162 |
| -3.900 | 10.664 | -2.581 | -1.521 | 0.149 |
| -4.500 | 12.588 | -2.551 | -1.518 | 0.137 |
| -4.500 | 12.588 | -2.551 | -1.518 | 0.137 |
| -5.250 | 12.979 | -2.538 | -1.511 | 0.125 |
| -6.000 | 13.426 | -2.529 | -1.498 | 0.113 |
| -6.000 | 13.426 | -2.529 | -1.498 | 0.113 |
| -7.000 | 18.632 | -2.518 | -1.471 | 0.105 |
| -8.000 | 23.932 | -2.515 | -1.429 | 0.094 |
| -8.000 | 23.933 | -2.515 | -1.429 | 0.094 |
| -8.850 | 29.159 | -2.515 | -1.382 | 0.092 |
| -9.750 | 34.708 | -2.515 | -1.320 | 0.088 |
| -10.600 | 39.964 | -2.516 | -1.250 | 0.084 |
| -11.500 | 45.545 | -2.518 | -1.168 | 0.078 |
| -11.500 | 45.545 | -2.518 | -1.168 | 0.078 |
| -12.000 | 48.336 | -2.528 | -1.118 | 0.071 |
| -12.500 | 51.152 | -2.540 | -1.066 | 0.063 |
| -12.500 | 51.152 | -2.540 | -1.066 | 0.063 |
| -13.350 | 56.457 | -2.544 | -0.973 | 0.056 |
| -14.250 | 62.089 | -2.548 | -0.870 | 0.049 |
| -15.100 | 67.422 | -2.554 | -0.769 | 0.042 |
| -16.000 | 73.083 | -2.562 | -0.662 | 0.033 |
| -16.000 | 73.084 | -2.562 | -0.662 | 0.033 |
| -16.400 | 76.300 | -2.591 | -0.613 | 0.032 |
| -16.800 | 79.537 | -2.623 | -0.565 | 0.030 |
| -16.800 | 79.537 | -2.623 | -0.565 | 0.030 |
| -17.400 | 82.257 | -2.521 | -0.493 | 0.023 |
| -17.900 | 84.528 | -2.436 | -0.434 | 0.018 |
| -18.400 | 86.803 | -2.351 | -0.374 | 0.012 |
| -19.000 | 89.538 | -2.250 | -0.304 | 0.006 |
| -19.000 | 89.538 | -2.250 | -0.304 | 0.006 |
| -20.651 | 106.550 | -2.250 | -0.118 | 0.004 |
| -22.251 | 123.025 | -2.250 | 0.052 | 0.003 |
| -23.902 | 140.013 | -2.250 | 0.214 | 0.001 |
| -25.502 | 156.462 | -2.250 | 0.357 | 0.000 |

### 3.2 Results for Vertical 2 (X = -30.17 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.040 | 0.467 | -2.040 | 0.466 | 0.270 |
| -2.140 | 1.851 | -2.139 | 0.509 | 0.261 |
| -2.240 | 3.186 | -2.237 | 0.510 | 0.255 |
| -2.250 | 3.319 | -2.247 | 0.511 | 0.255 |
| -2.340 | 4.515 | -2.335 | 0.514 | 0.250 |
| -2.440 | 5.783 | -2.432 | 0.465 | 0.246 |
| -2.540 | 6.125 | -2.528 | -0.503 | 0.242 |
| -2.640 | 6.468 | -2.623 | -1.466 | 0.239 |
| -2.650 | 6.502 | -2.633 | -1.562 | 0.239 |
| -2.740 | 6.814 | -2.628 | -1.541 | 0.237 |
| -2.840 | 7.163 | -2.623 | -1.513 | 0.235 |
| -2.940 | 7.514 | -2.618 | -1.481 | 0.233 |
| -3.040 | 7.868 | -2.613 | -1.445 | 0.230 |
| -3.270 | 8.685 | -2.601 | -1.354 | 0.225 |
| -3.900 | 10.923 | -2.563 | -1.072 | 0.212 |
| -4.500 | 13.033 | -2.524 | -0.797 | 0.198 |
| -4.500 | 13.033 | -2.524 | -0.797 | 0.198 |
| -5.250 | 13.704 | -2.507 | -0.469 | 0.182 |
| -6.000 | 14.410 | -2.495 | -0.169 | 0.163 |
| -6.000 | 14.410 | -2.495 | -0.169 | 0.163 |
| -7.000 | 19.912 | -2.481 | 0.186 | 0.150 |
| -8.000 | 25.480 | -2.478 | 0.493 | 0.135 |
| -8.000 | 25.480 | -2.478 | 0.493 | 0.135 |
| -8.850 | 30.889 | -2.478 | 0.721 | 0.129 |
| -9.750 | 36.595 | -2.479 | 0.935 | 0.122 |
| -10.600 | 41.969 | -2.481 | 1.116 | 0.114 |
| -11.500 | 47.648 | -2.483 | 1.287 | 0.105 |
| -11.500 | 47.648 | -2.483 | 1.287 | 0.105 |
| -12.000 | 50.517 | -2.497 | 1.375 | 0.096 |
| -12.500 | 53.410 | -2.514 | 1.458 | 0.086 |
| -12.500 | 53.410 | -2.514 | 1.458 | 0.086 |
| -13.350 | 58.764 | -2.518 | 1.587 | 0.077 |
| -14.250 | 64.432 | -2.525 | 1.710 | 0.066 |
| -15.100 | 69.787 | -2.532 | 1.815 | 0.056 |
| -16.000 | 75.459 | -2.541 | 1.913 | 0.046 |
| -16.000 | 75.459 | -2.541 | 1.913 | 0.046 |
| -16.400 | 78.738 | -2.578 | 1.953 | 0.043 |
| -16.800 | 82.040 | -2.618 | 1.991 | 0.040 |
| -16.800 | 82.040 | -2.618 | 1.991 | 0.040 |
| -17.400 | 84.756 | -2.516 | 2.043 | 0.032 |
| -17.900 | 87.021 | -2.433 | 2.083 | 0.025 |
| -18.400 | 89.287 | -2.349 | 2.120 | 0.018 |
| -19.000 | 92.008 | -2.250 | 2.160 | 0.010 |
| -19.000 | 92.008 | -2.250 | 2.160 | 0.010 |
| -20.651 | 108.925 | -2.250 | 2.250 | 0.007 |
| -22.251 | 125.293 | -2.250 | 2.310 | 0.004 |
| -23.902 | 142.157 | -2.250 | 2.347 | 0.002 |
| -25.502 | 158.480 | -2.250 | 2.363 | 0.000 |

### 3.3 Results for Vertical 3 (X = -26.72 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.077 | 7.239 | -2.077 | 7.238 | 0.454 |
| -2.177 | 8.544 | -2.169 | 7.266 | 0.427 |
| -2.250 | 9.462 | -2.237 | 7.253 | 0.413 |
| -2.277 | 9.794 | -2.261 | 7.248 | 0.409 |
| -2.377 | 10.406 | -2.352 | 6.601 | 0.395 |
| -2.477 | 10.651 | -2.442 | 5.593 | 0.383 |
| -2.577 | 10.892 | -2.532 | 4.583 | 0.374 |
| -2.650 | 11.067 | -2.597 | 3.842 | 0.368 |
| -2.677 | 11.131 | -2.595 | 3.835 | 0.366 |
| -2.777 | 11.371 | -2.584 | 3.807 | 0.359 |
| -2.877 | 11.612 | -2.574 | 3.780 | 0.352 |
| -2.977 | 11.854 | -2.564 | 3.755 | 0.346 |
| -3.077 | 12.097 | -2.553 | 3.732 | 0.339 |
| -3.288 | 12.614 | -2.531 | 3.683 | 0.327 |
| -3.900 | 14.110 | -2.468 | 3.542 | 0.295 |
| -4.500 | 15.598 | -2.409 | 3.397 | 0.270 |
| -4.500 | 15.598 | -2.409 | 3.397 | 0.270 |
| -5.250 | 15.716 | -2.385 | 3.227 | 0.230 |
| -6.000 | 15.988 | -2.375 | 3.082 | 0.193 |
| -6.000 | 15.988 | -2.375 | 3.082 | 0.193 |
| -7.000 | 21.130 | -2.375 | 2.936 | 0.172 |
| -8.000 | 26.545 | -2.398 | 2.837 | 0.151 |
| -8.000 | 26.545 | -2.398 | 2.837 | 0.151 |
| -8.850 | 31.685 | -2.399 | 2.784 | 0.142 |
| -9.750 | 37.158 | -2.402 | 2.749 | 0.133 |
| -10.600 | 42.353 | -2.405 | 2.731 | 0.123 |
| -11.500 | 47.875 | -2.410 | 2.722 | 0.114 |
| -11.500 | 47.875 | -2.410 | 2.722 | 0.114 |
| -12.000 | 50.755 | -2.434 | 2.720 | 0.104 |
| -12.500 | 53.671 | -2.461 | 2.719 | 0.093 |
| -12.500 | 53.671 | -2.461 | 2.719 | 0.093 |
| -13.350 | 58.923 | -2.469 | 2.718 | 0.083 |
| -14.250 | 64.499 | -2.478 | 2.715 | 0.072 |
| -15.100 | 69.777 | -2.489 | 2.711 | 0.061 |
| -16.000 | 75.380 | -2.502 | 2.702 | 0.050 |
| -16.000 | 75.380 | -2.502 | 2.702 | 0.050 |
| -16.400 | 78.753 | -2.553 | 2.697 | 0.047 |
| -16.800 | 82.157 | -2.607 | 2.691 | 0.044 |
| -16.800 | 82.157 | -2.607 | 2.691 | 0.044 |
| -17.400 | 84.838 | -2.509 | 2.680 | 0.035 |
| -17.900 | 87.075 | -2.427 | 2.668 | 0.027 |
| -18.400 | 89.316 | -2.346 | 2.656 | 0.020 |
| -19.000 | 92.009 | -2.250 | 2.638 | 0.011 |
| -19.000 | 92.009 | -2.250 | 2.638 | 0.011 |
| -20.651 | 108.778 | -2.250 | 2.579 | 0.008 |
| -22.251 | 125.014 | -2.250 | 2.507 | 0.005 |
| -23.902 | 141.754 | -2.250 | 2.420 | 0.002 |
| -25.502 | 157.966 | -2.250 | 2.327 | 0.000 |

### 3.4 Results for Vertical 4 (X = -25.12 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.094 | 9.441 | -2.094 | 9.440 | 0.525 |
| -2.194 | 9.519 | -2.184 | 8.265 | 0.495 |
| -2.250 | 9.678 | -2.234 | 7.721 | 0.483 |
| -2.294 | 9.791 | -2.273 | 7.291 | 0.476 |
| -2.394 | 10.042 | -2.362 | 6.300 | 0.461 |
| -2.485 | 10.268 | -2.443 | 5.397 | 0.450 |
| -2.494 | 10.290 | -2.442 | 5.396 | 0.449 |
| -2.594 | 10.535 | -2.431 | 5.381 | 0.438 |
| -2.694 | 10.777 | -2.420 | 5.364 | 0.428 |
| -2.794 | 11.016 | -2.409 | 5.343 | 0.419 |
| -2.894 | 11.251 | -2.397 | 5.320 | 0.410 |
| -2.994 | 11.484 | -2.386 | 5.294 | 0.401 |
| -3.094 | 11.714 | -2.375 | 5.266 | 0.393 |
| -3.297 | 12.177 | -2.352 | 5.205 | 0.378 |
| -3.900 | 13.533 | -2.284 | 4.999 | 0.338 |
| -4.500 | 14.898 | -2.220 | 4.783 | 0.307 |
| -4.500 | 14.898 | -2.220 | 4.783 | 0.307 |
| -5.250 | 14.907 | -2.194 | 4.524 | 0.255 |
| -6.000 | 15.085 | -2.183 | 4.294 | 0.209 |
| -6.000 | 15.085 | -2.183 | 4.294 | 0.209 |
| -7.000 | 20.123 | -2.183 | 4.040 | 0.184 |
| -8.000 | 25.464 | -2.208 | 3.842 | 0.160 |
| -8.000 | 25.464 | -2.208 | 3.842 | 0.160 |
| -8.850 | 30.529 | -2.210 | 3.710 | 0.149 |
| -9.750 | 35.930 | -2.213 | 3.599 | 0.138 |
| -10.600 | 41.062 | -2.216 | 3.514 | 0.128 |
| -11.500 | 46.524 | -2.222 | 3.439 | 0.118 |
| -11.500 | 46.524 | -2.222 | 3.439 | 0.118 |
| -12.000 | 49.393 | -2.248 | 3.401 | 0.107 |
| -12.500 | 52.303 | -2.279 | 3.365 | 0.097 |
| -12.500 | 52.303 | -2.279 | 3.365 | 0.097 |
| -13.350 | 57.507 | -2.287 | 3.307 | 0.086 |
| -14.250 | 63.035 | -2.297 | 3.248 | 0.074 |
| -15.100 | 68.271 | -2.308 | 3.191 | 0.063 |
| -16.000 | 73.833 | -2.323 | 3.130 | 0.051 |
| -16.000 | 73.833 | -2.323 | 3.130 | 0.051 |
| -16.400 | 77.227 | -2.378 | 3.101 | 0.048 |
| -16.800 | 80.656 | -2.437 | 3.073 | 0.045 |
| -16.800 | 80.656 | -2.437 | 3.073 | 0.045 |
| -17.400 | 83.757 | -2.385 | 3.028 | 0.036 |
| -17.900 | 86.346 | -2.342 | 2.991 | 0.028 |
| -18.400 | 88.939 | -2.300 | 2.952 | 0.021 |
| -19.000 | 92.057 | -2.250 | 2.904 | 0.011 |
| -19.000 | 92.057 | -2.250 | 2.904 | 0.011 |
| -20.651 | 108.747 | -2.250 | 2.766 | 0.008 |
| -22.251 | 124.913 | -2.250 | 2.625 | 0.005 |
| -23.902 | 141.588 | -2.250 | 2.474 | 0.002 |
| -25.502 | 157.744 | -2.250 | 2.325 | 0.000 |

### 3.5 Results for Vertical 5 (X = -25.08 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.094 | 9.196 | -2.094 | 9.195 | 0.527 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.194 | 9.532 | -2.184 | 8.282 | 0.497 |
| -2.250 | 9.670 | -2.234 | 7.723 | 0.485 |
| -2.294 | 9.782 | -2.273 | 7.288 | 0.477 |
| -2.394 | 10.035 | -2.362 | 6.302 | 0.462 |
| -2.481 | 10.254 | -2.439 | 5.441 | 0.452 |
| -2.494 | 10.286 | -2.438 | 5.439 | 0.450 |
| -2.594 | 10.534 | -2.426 | 5.429 | 0.440 |
| -2.694 | 10.777 | -2.415 | 5.414 | 0.430 |
| -2.794 | 11.016 | -2.404 | 5.395 | 0.420 |
| -2.894 | 11.252 | -2.392 | 5.374 | 0.411 |
| -2.994 | 11.484 | -2.381 | 5.349 | 0.403 |
| -3.094 | 11.714 | -2.369 | 5.322 | 0.394 |
| -3.297 | 12.175 | -2.346 | 5.263 | 0.379 |
| -3.900 | 13.526 | -2.278 | 5.059 | 0.339 |
| -4.500 | 14.886 | -2.213 | 4.845 | 0.308 |
| -4.500 | 14.886 | -2.213 | 4.845 | 0.308 |
| -5.250 | 14.895 | -2.187 | 4.588 | 0.256 |
| -6.000 | 15.073 | -2.176 | 4.359 | 0.210 |
| -6.000 | 15.073 | -2.176 | 4.359 | 0.210 |
| -7.000 | 20.112 | -2.176 | 4.105 | 0.184 |
| -8.000 | 25.457 | -2.201 | 3.907 | 0.160 |
| -8.000 | 25.457 | -2.201 | 3.907 | 0.160 |
| -8.850 | 30.521 | -2.203 | 3.774 | 0.149 |
| -9.750 | 35.922 | -2.206 | 3.663 | 0.138 |
| -10.600 | 41.054 | -2.210 | 3.577 | 0.128 |
| -11.500 | 46.515 | -2.215 | 3.500 | 0.118 |
| -11.500 | 46.515 | -2.215 | 3.500 | 0.118 |
| -12.000 | 49.387 | -2.242 | 3.462 | 0.107 |
| -12.500 | 52.300 | -2.273 | 3.426 | 0.097 |
| -12.500 | 52.300 | -2.273 | 3.426 | 0.097 |
| -13.350 | 57.504 | -2.281 | 3.367 | 0.086 |
| -14.250 | 63.032 | -2.291 | 3.306 | 0.074 |
| -15.100 | 68.269 | -2.303 | 3.248 | 0.063 |
| -16.000 | 73.831 | -2.317 | 3.186 | 0.052 |
| -16.000 | 73.831 | -2.317 | 3.186 | 0.052 |
| -16.400 | 77.231 | -2.373 | 3.157 | 0.049 |
| -16.800 | 80.668 | -2.433 | 3.128 | 0.045 |
| -16.800 | 80.668 | -2.433 | 3.128 | 0.045 |
| -17.400 | 83.778 | -2.382 | 3.083 | 0.036 |
| -17.900 | 86.375 | -2.340 | 3.045 | 0.028 |
| -18.400 | 88.977 | -2.299 | 3.005 | 0.021 |
| -19.000 | 92.106 | -2.250 | 2.957 | 0.011 |
| -19.000 | 92.106 | -2.250 | 2.957 | 0.011 |
| -20.651 | 108.794 | -2.250 | 2.818 | 0.008 |
| -22.251 | 124.959 | -2.250 | 2.675 | 0.005 |
| -23.902 | 141.632 | -2.250 | 2.523 | 0.002 |
| -25.502 | 157.787 | -2.250 | 2.372 | 0.000 |

### 3.6 Results for Vertical 6 (X = -23.15 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.128 | 9.731 | -2.128 | 9.730 | 0.700 |
| -2.228 | 9.928 | -2.210 | 8.747 | 0.670 |
| -2.250 | 9.971 | -2.229 | 8.525 | 0.665 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.282 | 10.031 | -2.255 | 8.208 | 0.658 |
| -2.328 | 10.117 | -2.248 | 8.202 | 0.649 |
| -2.428 | 10.306 | -2.231 | 8.187 | 0.631 |
| -2.528 | 10.496 | -2.214 | 8.172 | 0.614 |
| -2.628 | 10.686 | -2.197 | 8.158 | 0.599 |
| -2.728 | 10.877 | -2.181 | 8.144 | 0.584 |
| -2.828 | 11.071 | -2.164 | 8.132 | 0.571 |
| -2.928 | 11.265 | -2.147 | 8.122 | 0.558 |
| -3.028 | 11.462 | -2.130 | 8.113 | 0.546 |
| -3.128 | 11.659 | -2.114 | 8.105 | 0.534 |
| -3.314 | 12.030 | -2.083 | 8.092 | 0.514 |
| -3.900 | 13.217 | -1.987 | 8.057 | 0.462 |
| -4.500 | 14.469 | -1.893 | 8.013 | 0.419 |
| -4.500 | 14.469 | -1.893 | 8.013 | 0.419 |
| -5.250 | 14.550 | -1.856 | 7.941 | 0.344 |
| -6.000 | 14.814 | -1.839 | 7.853 | 0.275 |
| -6.000 | 14.814 | -1.839 | 7.853 | 0.275 |
| -7.000 | 19.960 | -1.837 | 7.723 | 0.237 |
| -8.000 | 25.468 | -1.873 | 7.591 | 0.204 |
| -8.000 | 25.468 | -1.873 | 7.591 | 0.204 |
| -8.850 | 30.564 | -1.875 | 7.481 | 0.187 |
| -9.750 | 35.979 | -1.879 | 7.367 | 0.171 |
| -10.600 | 41.112 | -1.885 | 7.262 | 0.157 |
| -11.500 | 46.567 | -1.893 | 7.152 | 0.143 |
| -11.500 | 46.567 | -1.893 | 7.152 | 0.143 |
| -12.000 | 49.545 | -1.933 | 7.090 | 0.131 |
| -12.500 | 52.577 | -1.978 | 7.027 | 0.118 |
| -12.500 | 52.578 | -1.978 | 7.027 | 0.118 |
| -13.350 | 57.772 | -1.990 | 6.920 | 0.104 |
| -14.250 | 63.293 | -2.006 | 6.804 | 0.090 |
| -15.100 | 68.528 | -2.023 | 6.692 | 0.076 |
| -16.000 | 74.095 | -2.043 | 6.570 | 0.062 |
| -16.000 | 74.095 | -2.043 | 6.570 | 0.062 |
| -16.400 | 77.717 | -2.125 | 6.516 | 0.059 |
| -16.800 | 81.394 | -2.212 | 6.461 | 0.055 |
| -16.800 | 81.394 | -2.212 | 6.461 | 0.055 |
| -17.400 | 85.053 | -2.220 | 6.378 | 0.044 |
| -17.900 | 88.110 | -2.229 | 6.308 | 0.035 |
| -18.400 | 91.176 | -2.238 | 6.237 | 0.026 |
| -19.000 | 94.866 | -2.250 | 6.153 | 0.015 |
| -19.000 | 94.866 | -2.250 | 6.153 | 0.015 |
| -20.651 | 111.458 | -2.250 | 5.919 | 0.010 |
| -22.251 | 127.538 | -2.250 | 5.693 | 0.006 |
| -23.902 | 144.132 | -2.250 | 5.463 | 0.003 |
| -25.502 | 160.218 | -2.250 | 5.246 | 0.000 |

### 3.7 Results for Vertical 7 (X = -21.24 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.161 | 9.815 | -2.084 | 9.814 | 0.900 |
| -2.250 | 9.980 | -2.066 | 9.830 | 0.860 |
| -2.261 | 9.999 | -2.064 | 9.831 | 0.856 |
| -2.361 | 10.171 | -2.043 | 9.838 | 0.823 |
| -2.461 | 10.345 | -2.022 | 9.847 | 0.796 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.561 | 10.524 | -2.002 | 9.860 | 0.772 |
| -2.661 | 10.708 | -1.981 | 9.876 | 0.750 |
| -2.761 | 10.894 | -1.961 | 9.894 | 0.730 |
| -2.861 | 11.082 | -1.940 | 9.913 | 0.712 |
| -2.961 | 11.271 | -1.920 | 9.931 | 0.695 |
| -3.061 | 11.459 | -1.900 | 9.950 | 0.679 |
| -3.161 | 11.648 | -1.879 | 9.968 | 0.665 |
| -3.330 | 11.967 | -1.845 | 9.996 | 0.641 |
| -3.900 | 13.051 | -1.734 | 10.075 | 0.577 |
| -4.500 | 14.237 | -1.622 | 10.142 | 0.525 |
| -4.500 | 14.237 | -1.622 | 10.142 | 0.525 |
| -5.250 | 14.385 | -1.578 | 10.204 | 0.428 |
| -6.000 | 14.744 | -1.557 | 10.242 | 0.338 |
| -6.000 | 14.744 | -1.557 | 10.242 | 0.338 |
| -7.000 | 20.031 | -1.555 | 10.256 | 0.289 |
| -8.000 | 25.715 | -1.597 | 10.229 | 0.248 |
| -8.000 | 25.715 | -1.597 | 10.229 | 0.248 |
| -8.850 | 30.879 | -1.600 | 10.178 | 0.225 |
| -9.750 | 36.340 | -1.605 | 10.098 | 0.204 |
| -10.600 | 41.496 | -1.612 | 10.001 | 0.186 |
| -11.500 | 46.957 | -1.621 | 9.878 | 0.168 |
| -11.500 | 46.957 | -1.621 | 9.878 | 0.168 |
| -12.000 | 50.000 | -1.669 | 9.802 | 0.154 |
| -12.500 | 53.104 | -1.724 | 9.722 | 0.140 |
| -12.500 | 53.104 | -1.724 | 9.722 | 0.140 |
| -13.350 | 58.285 | -1.738 | 9.576 | 0.123 |
| -14.250 | 63.787 | -1.756 | 9.413 | 0.106 |
| -15.100 | 69.003 | -1.777 | 9.251 | 0.090 |
| -16.000 | 74.552 | -1.801 | 9.076 | 0.074 |
| -16.000 | 74.552 | -1.801 | 9.076 | 0.074 |
| -16.400 | 78.295 | -1.897 | 8.997 | 0.069 |
| -16.800 | 82.106 | -2.001 | 8.917 | 0.065 |
| -16.800 | 82.106 | -2.001 | 8.917 | 0.065 |
| -17.400 | 86.289 | -2.066 | 8.798 | 0.052 |
| -17.900 | 89.786 | -2.123 | 8.698 | 0.042 |
| -18.400 | 93.293 | -2.180 | 8.599 | 0.032 |
| -19.000 | 97.517 | -2.250 | 8.480 | 0.020 |
| -19.000 | 97.517 | -2.250 | 8.480 | 0.020 |
| -20.651 | 114.018 | -2.250 | 8.157 | 0.013 |
| -22.251 | 130.017 | -2.250 | 7.853 | 0.008 |
| -23.902 | 146.538 | -2.250 | 7.552 | 0.004 |
| -25.502 | 162.560 | -2.250 | 7.272 | 0.000 |

### 3.8 Results for Vertical 8 (X = -20.66 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.167 | 10.091 | -2.025 | 10.090 | 0.913 |
| -2.250 | 10.254 | -2.007 | 10.119 | 0.876 |
| -2.267 | 10.284 | -2.004 | 10.122 | 0.869 |
| -2.367 | 10.459 | -1.982 | 10.139 | 0.836 |
| -2.467 | 10.635 | -1.961 | 10.157 | 0.809 |
| -2.567 | 10.811 | -1.939 | 10.173 | 0.784 |
| -2.667 | 10.985 | -1.918 | 10.187 | 0.762 |
| -2.767 | 11.159 | -1.897 | 10.199 | 0.742 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.867 | 11.333 | -1.876 | 10.210 | 0.724 |
| -2.967 | 11.507 | -1.855 | 10.221 | 0.707 |
| -3.067 | 11.683 | -1.834 | 10.232 | 0.691 |
| -3.167 | 11.860 | -1.813 | 10.243 | 0.676 |
| -3.334 | 12.157 | -1.779 | 10.263 | 0.653 |
| -3.900 | 13.202 | -1.665 | 10.335 | 0.588 |
| -4.500 | 14.371 | -1.552 | 10.406 | 0.535 |
| -4.500 | 14.371 | -1.552 | 10.406 | 0.535 |
| -5.250 | 14.523 | -1.507 | 10.480 | 0.437 |
| -6.000 | 14.896 | -1.486 | 10.534 | 0.345 |
| -6.000 | 14.896 | -1.486 | 10.534 | 0.345 |
| -7.000 | 20.213 | -1.484 | 10.570 | 0.295 |
| -8.000 | 25.935 | -1.528 | 10.563 | 0.253 |
| -8.000 | 25.935 | -1.528 | 10.563 | 0.253 |
| -8.850 | 31.113 | -1.531 | 10.523 | 0.229 |
| -9.750 | 36.582 | -1.536 | 10.448 | 0.207 |
| -10.600 | 41.740 | -1.543 | 10.350 | 0.189 |
| -11.500 | 47.198 | -1.553 | 10.221 | 0.170 |
| -11.500 | 47.198 | -1.553 | 10.221 | 0.170 |
| -12.000 | 50.246 | -1.602 | 10.140 | 0.156 |
| -12.500 | 53.355 | -1.657 | 10.053 | 0.142 |
| -12.500 | 53.355 | -1.657 | 10.053 | 0.142 |
| -13.350 | 58.526 | -1.672 | 9.895 | 0.125 |
| -14.250 | 64.016 | -1.691 | 9.716 | 0.107 |
| -15.100 | 69.221 | -1.711 | 9.539 | 0.091 |
| -16.000 | 74.757 | -1.736 | 9.348 | 0.075 |
| -16.000 | 74.757 | -1.736 | 9.348 | 0.075 |
| -16.400 | 78.510 | -1.834 | 9.261 | 0.070 |
| -16.800 | 82.332 | -1.939 | 9.175 | 0.066 |
| -16.800 | 82.332 | -1.939 | 9.175 | 0.066 |
| -17.400 | 86.667 | -2.022 | 9.045 | 0.053 |
| -17.900 | 90.291 | -2.092 | 8.936 | 0.043 |
| -18.400 | 93.926 | -2.163 | 8.829 | 0.032 |
| -19.000 | 98.304 | -2.250 | 8.700 | 0.020 |
| -19.000 | 98.304 | -2.250 | 8.700 | 0.020 |
| -20.651 | 114.778 | -2.250 | 8.352 | 0.013 |
| -22.251 | 130.755 | -2.250 | 8.026 | 0.008 |
| -23.902 | 147.254 | -2.250 | 7.705 | 0.004 |
| -25.502 | 163.259 | -2.250 | 7.408 | 0.000 |

### 3.9 Results for Vertical 9 (X = -19.24 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.183 | 11.110 | -1.878 | 11.109 | 0.948 |
| -2.250 | 11.214 | -1.863 | 11.121 | 0.915 |
| -2.283 | 11.262 | -1.855 | 11.125 | 0.902 |
| -2.383 | 11.405 | -1.831 | 11.135 | 0.869 |
| -2.483 | 11.548 | -1.807 | 11.143 | 0.840 |
| -2.583 | 11.688 | -1.783 | 11.147 | 0.815 |
| -2.683 | 11.827 | -1.760 | 11.148 | 0.793 |
| -2.783 | 11.968 | -1.736 | 11.149 | 0.772 |
| -2.883 | 12.112 | -1.713 | 11.150 | 0.753 |
| -2.983 | 12.258 | -1.690 | 11.153 | 0.735 |
| -3.083 | 12.408 | -1.668 | 11.156 | 0.719 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.183 | 12.560 | -1.645 | 11.160 | 0.703 |
| -3.341 | 12.805 | -1.610 | 11.168 | 0.681 |
| -3.900 | 13.717 | -1.489 | 11.201 | 0.614 |
| -4.500 | 14.790 | -1.368 | 11.243 | 0.559 |
| -4.500 | 14.790 | -1.368 | 11.243 | 0.559 |
| -5.250 | 14.908 | -1.321 | 11.302 | 0.456 |
| -6.000 | 15.289 | -1.301 | 11.361 | 0.359 |
| -6.000 | 15.289 | -1.301 | 11.361 | 0.359 |
| -7.000 | 20.662 | -1.301 | 11.420 | 0.307 |
| -8.000 | 26.472 | -1.351 | 11.431 | 0.263 |
| -8.000 | 26.472 | -1.351 | 11.431 | 0.263 |
| -8.850 | 31.663 | -1.355 | 11.394 | 0.238 |
| -9.750 | 37.130 | -1.360 | 11.309 | 0.214 |
| -10.600 | 42.273 | -1.368 | 11.190 | 0.195 |
| -11.500 | 47.707 | -1.378 | 11.029 | 0.175 |
| -11.500 | 47.707 | -1.378 | 11.029 | 0.175 |
| -12.000 | 50.768 | -1.430 | 10.928 | 0.161 |
| -12.500 | 53.892 | -1.490 | 10.819 | 0.146 |
| -12.500 | 53.892 | -1.490 | 10.819 | 0.146 |
| -13.350 | 59.031 | -1.506 | 10.622 | 0.128 |
| -14.250 | 64.488 | -1.525 | 10.401 | 0.110 |
| -15.100 | 69.662 | -1.547 | 10.185 | 0.094 |
| -16.000 | 75.168 | -1.573 | 9.952 | 0.077 |
| -16.000 | 75.168 | -1.573 | 9.952 | 0.077 |
| -16.400 | 78.955 | -1.677 | 9.848 | 0.072 |
| -16.800 | 82.816 | -1.788 | 9.744 | 0.067 |
| -16.800 | 82.816 | -1.788 | 9.744 | 0.067 |
| -17.400 | 87.527 | -1.911 | 9.589 | 0.054 |
| -17.900 | 91.467 | -2.016 | 9.460 | 0.044 |
| -18.400 | 95.420 | -2.122 | 9.332 | 0.033 |
| -19.000 | 100.181 | -2.250 | 9.181 | 0.021 |
| -19.000 | 100.182 | -2.250 | 9.181 | 0.021 |
| -20.651 | 116.595 | -2.250 | 8.775 | 0.014 |
| -22.251 | 132.520 | -2.250 | 8.400 | 0.009 |
| -23.902 | 148.974 | -2.250 | 8.035 | 0.004 |
| -25.502 | 164.940 | -2.250 | 7.701 | 0.000 |

### 3.10 Results for Vertical 10 (X = -18.50 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.186 | 11.720 | -1.802 | 11.719 | 0.965 |
| -2.250 | 11.805 | -1.786 | 11.724 | 0.934 |
| -2.286 | 11.846 | -1.777 | 11.724 | 0.920 |
| -2.386 | 11.964 | -1.751 | 11.725 | 0.886 |
| -2.486 | 12.085 | -1.726 | 11.726 | 0.857 |
| -2.586 | 12.207 | -1.701 | 11.726 | 0.831 |
| -2.686 | 12.332 | -1.676 | 11.726 | 0.808 |
| -2.786 | 12.458 | -1.651 | 11.725 | 0.787 |
| -2.886 | 12.587 | -1.627 | 11.723 | 0.768 |
| -2.986 | 12.717 | -1.603 | 11.721 | 0.750 |
| -3.086 | 12.849 | -1.579 | 11.720 | 0.733 |
| -3.186 | 12.984 | -1.555 | 11.718 | 0.717 |
| -3.343 | 13.202 | -1.518 | 11.716 | 0.694 |
| -3.900 | 14.032 | -1.393 | 11.717 | 0.627 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -4.500 | 15.048 | -1.269 | 11.739 | 0.570 |
| -4.500 | 15.048 | -1.269 | 11.739 | 0.570 |
| -5.250 | 15.153 | -1.220 | 11.792 | 0.465 |
| -6.000 | 15.542 | -1.199 | 11.856 | 0.366 |
| -6.000 | 15.542 | -1.199 | 11.856 | 0.366 |
| -7.000 | 20.945 | -1.202 | 11.918 | 0.313 |
| -8.000 | 26.795 | -1.256 | 11.922 | 0.267 |
| -8.000 | 26.795 | -1.256 | 11.922 | 0.267 |
| -8.850 | 31.975 | -1.260 | 11.869 | 0.241 |
| -9.750 | 37.423 | -1.266 | 11.761 | 0.217 |
| -10.600 | 42.544 | -1.274 | 11.616 | 0.197 |
| -11.500 | 47.953 | -1.285 | 11.428 | 0.178 |
| -11.500 | 47.953 | -1.285 | 11.428 | 0.178 |
| -12.000 | 51.017 | -1.339 | 11.311 | 0.163 |
| -12.500 | 54.147 | -1.401 | 11.187 | 0.148 |
| -12.500 | 54.147 | -1.401 | 11.187 | 0.148 |
| -13.350 | 59.265 | -1.417 | 10.965 | 0.129 |
| -14.250 | 64.701 | -1.437 | 10.718 | 0.111 |
| -15.100 | 69.858 | -1.460 | 10.480 | 0.095 |
| -16.000 | 75.349 | -1.487 | 10.225 | 0.077 |
| -16.000 | 75.349 | -1.487 | 10.225 | 0.077 |
| -16.400 | 79.158 | -1.594 | 10.112 | 0.073 |
| -16.800 | 83.043 | -1.708 | 9.999 | 0.068 |
| -16.800 | 83.044 | -1.708 | 9.999 | 0.068 |
| -17.400 | 87.953 | -1.853 | 9.831 | 0.055 |
| -17.900 | 92.059 | -1.976 | 9.692 | 0.044 |
| -18.400 | 96.180 | -2.100 | 9.555 | 0.033 |
| -19.000 | 101.144 | -2.250 | 9.393 | 0.021 |
| -19.000 | 101.144 | -2.250 | 9.393 | 0.021 |
| -20.651 | 117.529 | -2.250 | 8.960 | 0.014 |
| -22.251 | 133.430 | -2.250 | 8.563 | 0.009 |
| -23.902 | 149.863 | -2.250 | 8.178 | 0.004 |
| -25.502 | 165.811 | -2.250 | 7.828 | 0.000 |

### 3.11 Results for Vertical 11 (X = -16.03 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.194 | 13.217 | -1.547 | 13.216 | 1.026 |
| -2.250 | 13.385 | -1.530 | 13.342 | 0.997 |
| -2.294 | 13.418 | -1.517 | 13.346 | 0.979 |
| -2.394 | 13.488 | -1.486 | 13.349 | 0.944 |
| -2.494 | 13.543 | -1.455 | 13.333 | 0.914 |
| -2.594 | 13.587 | -1.426 | 13.299 | 0.887 |
| -2.694 | 13.634 | -1.396 | 13.264 | 0.863 |
| -2.794 | 13.707 | -1.368 | 13.250 | 0.842 |
| -2.894 | 13.797 | -1.339 | 13.249 | 0.821 |
| -2.994 | 13.903 | -1.311 | 13.260 | 0.803 |
| -3.094 | 14.027 | -1.284 | 13.285 | 0.785 |
| -3.194 | 14.160 | -1.257 | 13.317 | 0.768 |
| -3.347 | 14.376 | -1.216 | 13.372 | 0.745 |
| -3.900 | 15.252 | -1.073 | 13.595 | 0.673 |
| -4.500 | 16.314 | -0.932 | 13.806 | 0.612 |
| -4.500 | 16.314 | -0.932 | 13.806 | 0.612 |
| -5.250 | 16.527 | -0.878 | 13.977 | 0.495 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -6.000 | 16.942 | -0.855 | 14.035 | 0.385 |
| -6.000 | 16.942 | -0.855 | 14.035 | 0.385 |
| -7.000 | 22.301 | -0.864 | 13.955 | 0.326 |
| -8.000 | 28.088 | -0.934 | 13.741 | 0.276 |
| -8.000 | 28.088 | -0.934 | 13.741 | 0.276 |
| -8.850 | 33.068 | -0.938 | 13.491 | 0.248 |
| -9.750 | 38.313 | -0.945 | 13.186 | 0.222 |
| -10.600 | 43.264 | -0.954 | 12.875 | 0.201 |
| -11.500 | 48.520 | -0.967 | 12.536 | 0.181 |
| -11.500 | 48.520 | -0.967 | 12.536 | 0.181 |
| -12.000 | 51.575 | -1.028 | 12.345 | 0.166 |
| -12.500 | 54.710 | -1.098 | 12.155 | 0.150 |
| -12.500 | 54.710 | -1.098 | 12.155 | 0.150 |
| -13.350 | 59.736 | -1.117 | 11.832 | 0.132 |
| -14.250 | 65.096 | -1.140 | 11.496 | 0.113 |
| -15.100 | 70.198 | -1.165 | 11.186 | 0.096 |
| -16.000 | 75.644 | -1.195 | 10.865 | 0.079 |
| -16.000 | 75.645 | -1.195 | 10.865 | 0.079 |
| -16.400 | 79.541 | -1.314 | 10.726 | 0.074 |
| -16.800 | 83.527 | -1.441 | 10.588 | 0.069 |
| -16.800 | 83.528 | -1.441 | 10.588 | 0.069 |
| -17.400 | 89.108 | -1.659 | 10.386 | 0.056 |
| -17.900 | 93.779 | -1.842 | 10.221 | 0.045 |
| -18.400 | 98.469 | -2.026 | 10.059 | 0.034 |
| -19.000 | 104.122 | -2.250 | 9.869 | 0.021 |
| -19.000 | 104.122 | -2.250 | 9.869 | 0.021 |
| -20.651 | 120.436 | -2.250 | 9.371 | 0.014 |
| -22.251 | 136.280 | -2.250 | 8.922 | 0.009 |
| -23.902 | 152.664 | -2.250 | 8.492 | 0.004 |
| -25.502 | 168.573 | -2.250 | 8.105 | 0.000 |

### 3.12 Results for Vertical 12 (X = -15.45 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.272 | 13.985 | -1.487 | 13.984 | 1.044 |
| -2.372 | 14.288 | -1.454 | 14.240 | 0.997 |
| -2.472 | 14.361 | -1.421 | 14.271 | 0.962 |
| -2.572 | 14.431 | -1.388 | 14.294 | 0.931 |
| -2.672 | 14.477 | -1.356 | 14.288 | 0.904 |
| -2.772 | 14.504 | -1.324 | 14.257 | 0.880 |
| -2.872 | 14.537 | -1.293 | 14.225 | 0.858 |
| -2.972 | 14.583 | -1.263 | 14.202 | 0.837 |
| -3.072 | 14.677 | -1.233 | 14.221 | 0.818 |
| -3.172 | 14.787 | -1.203 | 14.251 | 0.799 |
| -3.272 | 14.911 | -1.174 | 14.292 | 0.782 |
| -3.386 | 15.062 | -1.141 | 14.344 | 0.764 |
| -3.900 | 15.794 | -1.000 | 14.546 | 0.694 |
| -4.500 | 16.739 | -0.850 | 14.693 | 0.629 |
| -4.500 | 16.739 | -0.850 | 14.693 | 0.629 |
| -5.250 | 16.860 | -0.793 | 14.767 | 0.505 |
| -6.000 | 17.171 | -0.770 | 14.717 | 0.389 |
| -6.000 | 17.171 | -0.770 | 14.717 | 0.389 |
| -7.000 | 22.393 | -0.780 | 14.494 | 0.328 |
| -8.000 | 28.080 | -0.853 | 14.157 | 0.277 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -8.000 | 28.080 | -0.853 | 14.157 | 0.277 |
| -8.850 | 32.966 | -0.858 | 13.824 | 0.248 |
| -9.750 | 38.133 | -0.865 | 13.450 | 0.222 |
| -10.600 | 43.029 | -0.875 | 13.090 | 0.201 |
| -11.500 | 48.243 | -0.888 | 12.711 | 0.181 |
| -11.500 | 48.243 | -0.888 | 12.711 | 0.181 |
| -12.000 | 51.298 | -0.951 | 12.502 | 0.165 |
| -12.500 | 54.439 | -1.024 | 12.296 | 0.150 |
| -12.500 | 54.439 | -1.024 | 12.296 | 0.150 |
| -13.350 | 59.446 | -1.043 | 11.953 | 0.132 |
| -14.250 | 64.792 | -1.067 | 11.599 | 0.113 |
| -15.100 | 69.887 | -1.092 | 11.275 | 0.096 |
| -16.000 | 75.330 | -1.124 | 10.943 | 0.079 |
| -16.000 | 75.330 | -1.124 | 10.943 | 0.079 |
| -16.400 | 79.259 | -1.246 | 10.800 | 0.074 |
| -16.800 | 83.281 | -1.378 | 10.659 | 0.069 |
| -16.800 | 83.281 | -1.378 | 10.659 | 0.069 |
| -17.400 | 89.024 | -1.612 | 10.451 | 0.056 |
| -17.900 | 93.832 | -1.810 | 10.282 | 0.045 |
| -18.400 | 98.659 | -2.009 | 10.117 | 0.034 |
| -19.000 | 104.480 | -2.250 | 9.924 | 0.021 |
| -19.000 | 104.480 | -2.250 | 9.924 | 0.021 |
| -19.851 | 112.879 | -2.250 | 9.658 | 0.017 |
| -20.851 | 122.761 | -2.250 | 9.358 | 0.014 |
| -21.851 | 132.658 | -2.250 | 9.073 | 0.010 |
| -22.251 | 136.621 | -2.250 | 8.962 | 0.009 |
| -23.902 | 152.999 | -2.250 | 8.526 | 0.004 |
| -25.502 | 168.903 | -2.250 | 8.135 | 0.000 |

### 3.13 Results for Vertical 13 (X = -14.83 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.422 | 15.423 | -1.423 | 15.422 | 1.064 |
| -2.522 | 15.897 | -1.386 | 15.892 | 1.017 |
| -2.622 | 16.158 | -1.348 | 16.160 | 0.980 |
| -2.722 | 16.291 | -1.310 | 16.295 | 0.949 |
| -2.822 | 16.418 | -1.273 | 16.420 | 0.921 |
| -2.922 | 16.443 | -1.236 | 16.437 | 0.895 |
| -3.022 | 16.414 | -1.200 | 16.390 | 0.872 |
| -3.122 | 16.368 | -1.165 | 16.319 | 0.850 |
| -3.222 | 16.325 | -1.131 | 16.241 | 0.830 |
| -3.322 | 16.297 | -1.098 | 16.169 | 0.811 |
| -3.422 | 16.290 | -1.065 | 16.105 | 0.793 |
| -3.461 | 16.293 | -1.053 | 16.084 | 0.786 |
| -4.000 | 16.610 | -0.890 | 15.914 | 0.707 |
| -4.500 | 17.175 | -0.756 | 15.847 | 0.650 |
| -4.500 | 17.175 | -0.756 | 15.847 | 0.650 |
| -5.250 | 17.070 | -0.695 | 15.705 | 0.516 |
| -6.000 | 17.169 | -0.671 | 15.467 | 0.393 |
| -6.000 | 17.169 | -0.671 | 15.467 | 0.393 |
| -7.000 | 22.167 | -0.684 | 15.035 | 0.329 |
| -8.000 | 27.719 | -0.762 | 14.545 | 0.277 |
| -8.000 | 27.719 | -0.762 | 14.545 | 0.277 |
| -8.850 | 32.493 | -0.767 | 14.117 | 0.248 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -9.750 | 37.577 | -0.774 | 13.670 | 0.222 |
| -10.600 | 42.418 | -0.784 | 13.261 | 0.200 |
| -11.500 | 47.591 | -0.798 | 12.843 | 0.180 |
| -11.500 | 47.591 | -0.798 | 12.843 | 0.180 |
| -12.000 | 50.654 | -0.864 | 12.618 | 0.165 |
| -12.500 | 53.810 | -0.940 | 12.399 | 0.150 |
| -12.500 | 53.810 | -0.940 | 12.399 | 0.150 |
| -13.350 | 58.803 | -0.960 | 12.036 | 0.131 |
| -14.250 | 64.142 | -0.985 | 11.668 | 0.113 |
| -15.100 | 69.234 | -1.012 | 11.333 | 0.096 |
| -16.000 | 74.679 | -1.044 | 10.993 | 0.079 |
| -16.000 | 74.679 | -1.044 | 10.993 | 0.079 |
| -16.400 | 78.654 | -1.172 | 10.846 | 0.074 |
| -16.800 | 82.728 | -1.309 | 10.702 | 0.069 |
| -16.800 | 82.728 | -1.309 | 10.702 | 0.069 |
| -17.400 | 88.649 | -1.562 | 10.491 | 0.056 |
| -17.900 | 93.606 | -1.775 | 10.319 | 0.045 |
| -18.400 | 98.584 | -1.990 | 10.152 | 0.034 |
| -19.000 | 104.588 | -2.250 | 9.956 | 0.021 |
| -19.000 | 104.588 | -2.250 | 9.956 | 0.021 |
| -19.851 | 112.983 | -2.250 | 9.687 | 0.018 |
| -20.851 | 122.862 | -2.250 | 9.384 | 0.014 |
| -21.851 | 132.756 | -2.250 | 9.096 | 0.010 |
| -22.251 | 136.717 | -2.250 | 8.984 | 0.009 |
| -23.902 | 153.092 | -2.250 | 8.546 | 0.004 |
| -25.502 | 168.993 | -2.250 | 8.152 | 0.000 |

### 3.14 Results for Vertical 14 (X = -14.29 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.681 | 17.275 | -1.368 | 17.274 | 1.080 |
| -2.781 | 17.555 | -1.326 | 17.599 | 1.032 |
| -2.881 | 17.621 | -1.283 | 17.715 | 0.995 |
| -2.981 | 17.496 | -1.241 | 17.630 | 0.963 |
| -3.081 | 17.351 | -1.201 | 17.508 | 0.935 |
| -3.181 | 17.229 | -1.161 | 17.383 | 0.909 |
| -3.281 | 17.175 | -1.123 | 17.298 | 0.885 |
| -3.381 | 17.181 | -1.086 | 17.251 | 0.863 |
| -3.481 | 17.218 | -1.050 | 17.225 | 0.843 |
| -3.581 | 17.266 | -1.014 | 17.205 | 0.824 |
| -3.591 | 17.271 | -1.011 | 17.203 | 0.823 |
| -3.681 | 17.315 | -0.979 | 17.182 | 0.806 |
| -4.500 | 17.737 | -0.723 | 16.881 | 0.693 |
| -4.500 | 17.737 | -0.723 | 16.881 | 0.693 |
| -5.250 | 17.283 | -0.655 | 16.508 | 0.542 |
| -6.000 | 17.082 | -0.627 | 16.065 | 0.405 |
| -6.000 | 17.082 | -0.627 | 16.065 | 0.405 |
| -7.000 | 21.749 | -0.632 | 15.428 | 0.335 |
| -8.000 | 27.058 | -0.703 | 14.802 | 0.280 |
| -8.000 | 27.058 | -0.703 | 14.802 | 0.280 |
| -8.850 | 31.734 | -0.708 | 14.298 | 0.250 |
| -9.750 | 36.747 | -0.715 | 13.796 | 0.223 |
| -10.600 | 41.542 | -0.725 | 13.351 | 0.201 |
| -11.500 | 46.681 | -0.738 | 12.907 | 0.181 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -11.500 | 46.681 | -0.738 | 12.907 | 0.181 |
| -12.000 | 49.728 | -0.805 | 12.672 | 0.166 |
| -12.500 | 52.871 | -0.880 | 12.443 | 0.150 |
| -12.500 | 52.871 | -0.880 | 12.443 | 0.150 |
| -13.350 | 57.850 | -0.900 | 12.069 | 0.132 |
| -14.250 | 63.178 | -0.925 | 11.692 | 0.113 |
| -15.100 | 68.264 | -0.952 | 11.351 | 0.096 |
| -16.000 | 73.706 | -0.984 | 11.006 | 0.079 |
| -16.000 | 73.706 | -0.984 | 11.006 | 0.079 |
| -16.400 | 77.689 | -1.113 | 10.858 | 0.075 |
| -16.800 | 81.773 | -1.252 | 10.713 | 0.069 |
| -16.800 | 81.773 | -1.252 | 10.713 | 0.069 |
| -17.400 | 87.843 | -1.520 | 10.500 | 0.056 |
| -17.900 | 92.926 | -1.746 | 10.327 | 0.045 |
| -18.400 | 98.032 | -1.974 | 10.158 | 0.034 |
| -19.000 | 104.188 | -2.250 | 9.961 | 0.021 |
| -19.000 | 104.188 | -2.250 | 9.961 | 0.021 |
| -19.851 | 112.582 | -2.250 | 9.692 | 0.018 |
| -20.851 | 122.460 | -2.250 | 9.388 | 0.014 |
| -21.851 | 132.353 | -2.250 | 9.099 | 0.010 |
| -22.251 | 136.314 | -2.250 | 8.988 | 0.009 |
| -23.902 | 152.687 | -2.250 | 8.548 | 0.004 |
| -25.502 | 168.588 | -2.250 | 8.155 | 0.000 |

### 3.15 Results for Vertical 15 (X = -13.99 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.894 | 19.777 | -1.337 | 19.340 | 1.063 |
| -2.994 | 18.376 | -1.288 | 18.125 | 1.025 |
| -3.094 | 17.785 | -1.243 | 17.613 | 0.992 |
| -3.194 | 18.024 | -1.200 | 17.796 | 0.963 |
| -3.294 | 18.193 | -1.158 | 17.932 | 0.938 |
| -3.394 | 18.234 | -1.116 | 17.970 | 0.914 |
| -3.494 | 18.216 | -1.076 | 17.957 | 0.892 |
| -3.594 | 18.175 | -1.037 | 17.920 | 0.872 |
| -3.694 | 18.129 | -0.998 | 17.871 | 0.852 |
| -3.697 | 18.128 | -0.997 | 17.869 | 0.852 |
| -3.794 | 18.086 | -0.961 | 17.816 | 0.834 |
| -3.894 | 18.051 | -0.925 | 17.759 | 0.817 |
| -4.500 | 18.015 | -0.725 | 17.404 | 0.730 |
| -4.500 | 18.015 | -0.725 | 17.404 | 0.730 |
| -5.250 | 17.309 | -0.653 | 16.899 | 0.565 |
| -6.000 | 16.910 | -0.621 | 16.339 | 0.416 |
| -6.000 | 16.910 | -0.621 | 16.339 | 0.416 |
| -7.000 | 21.357 | -0.619 | 15.593 | 0.342 |
| -8.000 | 26.491 | -0.681 | 14.899 | 0.284 |
| -8.000 | 26.491 | -0.681 | 14.899 | 0.284 |
| -8.850 | 31.119 | -0.686 | 14.360 | 0.252 |
| -9.750 | 36.097 | -0.693 | 13.834 | 0.225 |
| -10.600 | 40.869 | -0.702 | 13.374 | 0.202 |
| -11.500 | 45.992 | -0.715 | 12.920 | 0.182 |
| -11.500 | 45.992 | -0.715 | 12.920 | 0.182 |
| -12.000 | 49.018 | -0.780 | 12.680 | 0.166 |
| -12.500 | 52.141 | -0.854 | 12.448 | 0.151 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -12.500 | 52.141 | -0.854 | 12.448 | 0.151 |
| -13.350 | 57.111 | -0.873 | 12.070 | 0.132 |
| -14.250 | 62.431 | -0.898 | 11.690 | 0.113 |
| -15.100 | 67.511 | -0.924 | 11.347 | 0.097 |
| -16.000 | 72.948 | -0.957 | 11.002 | 0.079 |
| -16.000 | 72.948 | -0.957 | 11.002 | 0.079 |
| -16.400 | 76.918 | -1.084 | 10.853 | 0.075 |
| -16.800 | 80.989 | -1.221 | 10.707 | 0.070 |
| -16.800 | 80.989 | -1.221 | 10.707 | 0.070 |
| -17.400 | 87.139 | -1.498 | 10.494 | 0.056 |
| -17.900 | 92.290 | -1.731 | 10.321 | 0.045 |
| -18.400 | 97.463 | -1.966 | 10.153 | 0.034 |
| -19.000 | 103.701 | -2.250 | 9.956 | 0.021 |
| -19.000 | 103.701 | -2.250 | 9.956 | 0.021 |
| -19.851 | 112.095 | -2.250 | 9.686 | 0.018 |
| -20.851 | 121.973 | -2.250 | 9.383 | 0.014 |
| -21.851 | 131.866 | -2.250 | 9.094 | 0.010 |
| -22.251 | 135.827 | -2.250 | 8.983 | 0.009 |
| -23.902 | 152.201 | -2.250 | 8.544 | 0.004 |
| -25.502 | 168.102 | -2.250 | 8.151 | 0.000 |

### 3.16 Results for Vertical 16 (X = -13.94 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.931 | 19.574 | -1.331 | 18.686 | 1.054 |
| -3.031 | 18.351 | -1.282 | 17.887 | 1.020 |
| -3.131 | 18.475 | -1.237 | 18.022 | 0.990 |
| -3.231 | 18.633 | -1.192 | 18.190 | 0.962 |
| -3.331 | 18.588 | -1.148 | 18.194 | 0.937 |
| -3.431 | 18.500 | -1.106 | 18.153 | 0.914 |
| -3.531 | 18.405 | -1.065 | 18.095 | 0.893 |
| -3.631 | 18.317 | -1.025 | 18.031 | 0.872 |
| -3.715 | 18.251 | -0.993 | 17.976 | 0.856 |
| -3.731 | 18.241 | -0.987 | 17.966 | 0.853 |
| -3.831 | 18.178 | -0.949 | 17.902 | 0.835 |
| -3.931 | 18.129 | -0.913 | 17.839 | 0.818 |
| -4.500 | 18.045 | -0.724 | 17.486 | 0.736 |
| -4.500 | 18.045 | -0.724 | 17.486 | 0.736 |
| -5.250 | 17.296 | -0.651 | 16.959 | 0.569 |
| -6.000 | 16.864 | -0.619 | 16.380 | 0.418 |
| -6.000 | 16.864 | -0.619 | 16.380 | 0.418 |
| -7.000 | 21.277 | -0.616 | 15.616 | 0.342 |
| -8.000 | 26.386 | -0.677 | 14.912 | 0.285 |
| -8.000 | 26.386 | -0.677 | 14.912 | 0.285 |
| -8.850 | 31.006 | -0.681 | 14.367 | 0.253 |
| -9.750 | 35.979 | -0.688 | 13.838 | 0.225 |
| -10.600 | 40.748 | -0.697 | 13.376 | 0.203 |
| -11.500 | 45.868 | -0.710 | 12.920 | 0.182 |
| -11.500 | 45.868 | -0.710 | 12.920 | 0.182 |
| -12.000 | 48.891 | -0.775 | 12.680 | 0.167 |
| -12.500 | 52.013 | -0.849 | 12.447 | 0.151 |
| -12.500 | 52.013 | -0.849 | 12.447 | 0.151 |
| -13.350 | 56.981 | -0.868 | 12.069 | 0.132 |
| -14.250 | 62.301 | -0.893 | 11.688 | 0.114 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -15.100 | 67.380 | -0.919 | 11.346 | 0.097 |
| -16.000 | 72.816 | -0.952 | 11.000 | 0.079 |
| -16.000 | 72.816 | -0.952 | 11.000 | 0.079 |
| -16.400 | 76.784 | -1.079 | 10.851 | 0.075 |
| -16.800 | 80.854 | -1.216 | 10.705 | 0.070 |
| -16.800 | 80.854 | -1.216 | 10.705 | 0.070 |
| -17.400 | 87.019 | -1.494 | 10.492 | 0.056 |
| -17.900 | 92.181 | -1.728 | 10.319 | 0.045 |
| -18.400 | 97.366 | -1.964 | 10.151 | 0.034 |
| -19.000 | 103.618 | -2.250 | 9.954 | 0.021 |
| -19.000 | 103.618 | -2.250 | 9.954 | 0.021 |
| -19.851 | 112.012 | -2.250 | 9.684 | 0.018 |
| -20.851 | 121.889 | -2.250 | 9.381 | 0.014 |
| -21.851 | 131.783 | -2.250 | 9.093 | 0.010 |
| -22.251 | 135.744 | -2.250 | 8.981 | 0.009 |
| -23.902 | 152.118 | -2.250 | 8.543 | 0.004 |
| -25.502 | 168.019 | -2.250 | 8.150 | 0.000 |

### 3.17 Results for Vertical 17 (X = -13.89 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.961 | 19.883 | -1.327 | 18.712 | 1.045 |
| -3.061 | 19.814 | -1.275 | 18.854 | 1.015 |
| -3.161 | 19.330 | -1.227 | 18.618 | 0.987 |
| -3.261 | 19.031 | -1.181 | 18.476 | 0.961 |
| -3.361 | 18.814 | -1.136 | 18.369 | 0.936 |
| -3.461 | 18.640 | -1.094 | 18.276 | 0.913 |
| -3.561 | 18.497 | -1.052 | 18.190 | 0.892 |
| -3.661 | 18.380 | -1.012 | 18.110 | 0.872 |
| -3.731 | 18.312 | -0.985 | 18.058 | 0.859 |
| -3.761 | 18.286 | -0.974 | 18.036 | 0.853 |
| -3.861 | 18.212 | -0.936 | 17.966 | 0.835 |
| -3.961 | 18.155 | -0.900 | 17.900 | 0.818 |
| -4.500 | 18.042 | -0.721 | 17.553 | 0.741 |
| -4.500 | 18.042 | -0.721 | 17.553 | 0.741 |
| -5.250 | 17.257 | -0.647 | 17.008 | 0.572 |
| -6.000 | 16.800 | -0.615 | 16.412 | 0.419 |
| -6.000 | 16.800 | -0.615 | 16.412 | 0.419 |
| -7.000 | 21.189 | -0.611 | 15.634 | 0.343 |
| -8.000 | 26.282 | -0.672 | 14.922 | 0.285 |
| -8.000 | 26.282 | -0.672 | 14.922 | 0.285 |
| -8.850 | 30.896 | -0.676 | 14.373 | 0.253 |
| -9.750 | 35.865 | -0.683 | 13.841 | 0.225 |
| -10.600 | 40.632 | -0.692 | 13.377 | 0.203 |
| -11.500 | 45.750 | -0.705 | 12.920 | 0.182 |
| -11.500 | 45.750 | -0.705 | 12.920 | 0.182 |
| -12.000 | 48.773 | -0.770 | 12.679 | 0.167 |
| -12.500 | 51.894 | -0.844 | 12.447 | 0.151 |
| -12.500 | 51.894 | -0.844 | 12.447 | 0.151 |
| -13.350 | 56.862 | -0.863 | 12.067 | 0.132 |
| -14.250 | 62.182 | -0.888 | 11.687 | 0.114 |
| -15.100 | 67.261 | -0.914 | 11.344 | 0.097 |
| -16.000 | 72.697 | -0.947 | 10.998 | 0.079 |
| -16.000 | 72.697 | -0.947 | 10.998 | 0.079 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -16.400 | 76.667 | -1.074 | 10.849 | 0.075 |
| -16.800 | 80.739 | -1.211 | 10.704 | 0.070 |
| -16.800 | 80.739 | -1.211 | 10.704 | 0.070 |
| -17.400 | 86.915 | -1.491 | 10.491 | 0.056 |
| -17.900 | 92.088 | -1.726 | 10.318 | 0.045 |
| -18.400 | 97.283 | -1.963 | 10.149 | 0.034 |
| -19.000 | 103.548 | -2.250 | 9.952 | 0.021 |
| -19.000 | 103.548 | -2.250 | 9.952 | 0.021 |
| -19.851 | 111.941 | -2.250 | 9.683 | 0.018 |
| -20.851 | 121.819 | -2.250 | 9.380 | 0.014 |
| -21.851 | 131.713 | -2.250 | 9.092 | 0.010 |
| -22.251 | 135.674 | -2.250 | 8.980 | 0.009 |
| -23.902 | 152.048 | -2.250 | 8.542 | 0.004 |
| -25.502 | 167.950 | -2.250 | 8.149 | 0.000 |

### 3.18 Results for Vertical 18 (X = -13.16 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.088 | 20.416 | -1.251 | 18.918 | 1.028 |
| -3.188 | 20.324 | -1.198 | 18.913 | 1.000 |
| -3.288 | 20.178 | -1.148 | 18.895 | 0.974 |
| -3.388 | 20.046 | -1.100 | 18.878 | 0.951 |
| -3.488 | 19.943 | -1.054 | 18.872 | 0.928 |
| -3.588 | 19.864 | -1.009 | 18.874 | 0.907 |
| -3.688 | 19.792 | -0.965 | 18.873 | 0.887 |
| -3.788 | 19.714 | -0.923 | 18.860 | 0.869 |
| -3.794 | 19.708 | -0.920 | 18.858 | 0.868 |
| -3.888 | 19.626 | -0.882 | 18.830 | 0.851 |
| -3.988 | 19.531 | -0.842 | 18.784 | 0.834 |
| -4.088 | 19.430 | -0.803 | 18.724 | 0.818 |
| -4.500 | 19.017 | -0.657 | 18.368 | 0.758 |
| -4.500 | 19.017 | -0.657 | 18.368 | 0.758 |
| -5.250 | 17.683 | -0.578 | 17.537 | 0.582 |
| -6.000 | 16.853 | -0.543 | 16.714 | 0.423 |
| -6.000 | 16.853 | -0.543 | 16.714 | 0.423 |
| -7.000 | 20.949 | -0.537 | 15.758 | 0.344 |
| -8.000 | 25.879 | -0.594 | 14.954 | 0.285 |
| -8.000 | 25.879 | -0.594 | 14.954 | 0.285 |
| -8.850 | 30.432 | -0.598 | 14.363 | 0.252 |
| -9.750 | 35.363 | -0.605 | 13.805 | 0.224 |
| -10.600 | 40.109 | -0.614 | 13.328 | 0.202 |
| -11.500 | 45.215 | -0.627 | 12.863 | 0.181 |
| -11.500 | 45.215 | -0.627 | 12.863 | 0.181 |
| -12.000 | 48.232 | -0.692 | 12.620 | 0.166 |
| -12.500 | 51.350 | -0.765 | 12.386 | 0.151 |
| -12.500 | 51.350 | -0.765 | 12.386 | 0.151 |
| -13.350 | 56.315 | -0.785 | 12.006 | 0.132 |
| -14.250 | 61.635 | -0.809 | 11.626 | 0.113 |
| -15.100 | 66.715 | -0.836 | 11.286 | 0.096 |
| -16.000 | 72.154 | -0.869 | 10.942 | 0.079 |
| -16.000 | 72.154 | -0.869 | 10.942 | 0.079 |
| -16.400 | 76.130 | -0.996 | 10.794 | 0.074 |
| -16.800 | 80.210 | -1.134 | 10.650 | 0.069 |
| -16.800 | 80.210 | -1.134 | 10.650 | 0.069 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -17.400 | 86.592 | -1.435 | 10.439 | 0.056 |
| -17.900 | 91.937 | -1.688 | 10.268 | 0.045 |
| -18.400 | 97.306 | -1.942 | 10.101 | 0.034 |
| -19.000 | 103.779 | -2.250 | 9.906 | 0.021 |
| -19.000 | 103.779 | -2.250 | 9.906 | 0.021 |
| -19.851 | 112.175 | -2.250 | 9.639 | 0.017 |
| -20.851 | 122.056 | -2.250 | 9.340 | 0.014 |
| -21.851 | 131.952 | -2.250 | 9.054 | 0.010 |
| -22.251 | 135.915 | -2.250 | 8.944 | 0.009 |
| -23.902 | 152.293 | -2.250 | 8.510 | 0.004 |
| -25.502 | 168.198 | -2.250 | 8.121 | 0.000 |

### 3.19 Results for Vertical 19 (X = -12.77 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.154 | 21.031 | -1.211 | 19.229 | 1.019 |
| -3.254 | 21.014 | -1.157 | 19.307 | 0.992 |
| -3.354 | 21.039 | -1.105 | 19.434 | 0.967 |
| -3.454 | 20.937 | -1.054 | 19.465 | 0.944 |
| -3.554 | 20.759 | -1.006 | 19.430 | 0.923 |
| -3.654 | 20.561 | -0.959 | 19.367 | 0.903 |
| -3.754 | 20.363 | -0.914 | 19.291 | 0.883 |
| -3.827 | 20.220 | -0.882 | 19.229 | 0.870 |
| -3.854 | 20.168 | -0.871 | 19.204 | 0.865 |
| -3.954 | 19.979 | -0.829 | 19.109 | 0.847 |
| -4.054 | 19.796 | -0.788 | 19.006 | 0.831 |
| -4.154 | 19.619 | -0.749 | 18.895 | 0.815 |
| -4.500 | 19.080 | -0.625 | 18.472 | 0.765 |
| -4.500 | 19.080 | -0.625 | 18.472 | 0.765 |
| -5.250 | 17.536 | -0.545 | 17.508 | 0.586 |
| -6.000 | 16.621 | -0.509 | 16.636 | 0.423 |
| -6.000 | 16.621 | -0.509 | 16.636 | 0.423 |
| -7.000 | 20.669 | -0.501 | 15.663 | 0.344 |
| -8.000 | 25.573 | -0.557 | 14.860 | 0.285 |
| -8.000 | 25.573 | -0.557 | 14.860 | 0.285 |
| -8.850 | 30.126 | -0.561 | 14.273 | 0.252 |
| -9.750 | 35.061 | -0.568 | 13.721 | 0.224 |
| -10.600 | 39.810 | -0.577 | 13.249 | 0.202 |
| -11.500 | 44.919 | -0.590 | 12.790 | 0.181 |
| -11.500 | 44.920 | -0.590 | 12.790 | 0.181 |
| -12.000 | 47.936 | -0.654 | 12.550 | 0.166 |
| -12.500 | 51.052 | -0.727 | 12.319 | 0.150 |
| -12.500 | 51.052 | -0.727 | 12.319 | 0.150 |
| -13.350 | 56.020 | -0.746 | 11.943 | 0.131 |
| -14.250 | 61.342 | -0.771 | 11.568 | 0.113 |
| -15.100 | 66.426 | -0.797 | 11.231 | 0.096 |
| -16.000 | 71.867 | -0.830 | 10.891 | 0.079 |
| -16.000 | 71.867 | -0.830 | 10.891 | 0.079 |
| -16.400 | 75.841 | -0.957 | 10.745 | 0.074 |
| -16.800 | 79.917 | -1.095 | 10.602 | 0.069 |
| -16.800 | 79.917 | -1.095 | 10.602 | 0.069 |
| -17.400 | 86.408 | -1.406 | 10.393 | 0.056 |
| -17.900 | 91.843 | -1.668 | 10.224 | 0.045 |
| -18.400 | 97.302 | -1.931 | 10.059 | 0.034 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -19.000 | 103.885 | -2.250 | 9.866 | 0.021 |
| -19.000 | 103.885 | -2.250 | 9.866 | 0.021 |
| -19.851 | 112.283 | -2.250 | 9.602 | 0.017 |
| -20.851 | 122.167 | -2.250 | 9.305 | 0.014 |
| -21.851 | 132.066 | -2.250 | 9.023 | 0.010 |
| -22.251 | 136.030 | -2.250 | 8.913 | 0.009 |
| -23.902 | 152.412 | -2.250 | 8.483 | 0.004 |
| -25.502 | 168.320 | -2.250 | 8.098 | 0.000 |

### 3.20 Results for Vertical 20 (X = -12.55 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.192 | 21.172 | -1.189 | 19.340 | 1.019 |
| -3.292 | 21.120 | -1.134 | 19.420 | 0.992 |
| -3.392 | 21.060 | -1.081 | 19.485 | 0.968 |
| -3.492 | 20.917 | -1.031 | 19.482 | 0.945 |
| -3.592 | 20.736 | -0.982 | 19.439 | 0.923 |
| -3.692 | 20.538 | -0.935 | 19.371 | 0.903 |
| -3.792 | 20.331 | -0.890 | 19.283 | 0.883 |
| -3.846 | 20.216 | -0.867 | 19.228 | 0.873 |
| -3.892 | 20.118 | -0.847 | 19.178 | 0.865 |
| -3.992 | 19.906 | -0.805 | 19.061 | 0.848 |
| -4.092 | 19.699 | -0.765 | 18.934 | 0.831 |
| -4.192 | 19.500 | -0.726 | 18.802 | 0.815 |
| -4.500 | 18.966 | -0.615 | 18.376 | 0.770 |
| -4.500 | 18.966 | -0.615 | 18.376 | 0.770 |
| -5.250 | 17.377 | -0.534 | 17.373 | 0.589 |
| -6.000 | 16.466 | -0.498 | 16.509 | 0.425 |
| -6.000 | 16.466 | -0.498 | 16.509 | 0.425 |
| -7.000 | 20.517 | -0.489 | 15.556 | 0.345 |
| -8.000 | 25.411 | -0.541 | 14.771 | 0.285 |
| -8.000 | 25.412 | -0.541 | 14.771 | 0.285 |
| -8.850 | 29.975 | -0.545 | 14.196 | 0.252 |
| -9.750 | 34.918 | -0.552 | 13.653 | 0.224 |
| -10.600 | 39.673 | -0.561 | 13.189 | 0.202 |
| -11.500 | 44.787 | -0.573 | 12.736 | 0.181 |
| -11.500 | 44.787 | -0.573 | 12.736 | 0.181 |
| -12.000 | 47.797 | -0.636 | 12.498 | 0.166 |
| -12.500 | 50.907 | -0.709 | 12.269 | 0.150 |
| -12.500 | 50.907 | -0.709 | 12.269 | 0.150 |
| -13.350 | 55.877 | -0.728 | 11.898 | 0.131 |
| -14.250 | 61.201 | -0.752 | 11.526 | 0.113 |
| -15.100 | 66.284 | -0.779 | 11.192 | 0.096 |
| -16.000 | 71.726 | -0.810 | 10.856 | 0.079 |
| -16.000 | 71.726 | -0.810 | 10.856 | 0.079 |
| -16.400 | 75.689 | -0.937 | 10.711 | 0.074 |
| -16.800 | 79.753 | -1.073 | 10.569 | 0.069 |
| -16.800 | 79.753 | -1.073 | 10.569 | 0.069 |
| -17.400 | 86.304 | -1.390 | 10.362 | 0.055 |
| -17.900 | 91.789 | -1.657 | 10.194 | 0.045 |
| -18.400 | 97.298 | -1.925 | 10.030 | 0.034 |
| -19.000 | 103.940 | -2.250 | 9.839 | 0.021 |
| -19.000 | 103.940 | -2.250 | 9.839 | 0.021 |
| -19.851 | 112.341 | -2.250 | 9.577 | 0.017 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -20.851 | 122.227 | -2.250 | 9.282 | 0.013 |
| -21.851 | 132.127 | -2.250 | 9.001 | 0.010 |
| -22.251 | 136.092 | -2.250 | 8.892 | 0.009 |
| -23.902 | 152.476 | -2.250 | 8.465 | 0.004 |
| -25.502 | 168.387 | -2.250 | 8.082 | 0.000 |

### 3.21 Results for Vertical 21 (X = -11.93 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.042 | 20.677 | -1.125 | 19.266 | 1.004 |
| -3.142 | 20.835 | -1.071 | 19.416 | 0.975 |
| -3.242 | 20.666 | -1.020 | 19.407 | 0.950 |
| -3.342 | 20.353 | -0.970 | 19.262 | 0.926 |
| -3.442 | 20.003 | -0.923 | 19.064 | 0.903 |
| -3.542 | 19.661 | -0.878 | 18.851 | 0.882 |
| -3.642 | 19.350 | -0.835 | 18.642 | 0.862 |
| -3.742 | 19.074 | -0.794 | 18.444 | 0.843 |
| -3.771 | 19.000 | -0.782 | 18.389 | 0.837 |
| -3.842 | 18.834 | -0.754 | 18.262 | 0.825 |
| -3.942 | 18.626 | -0.716 | 18.092 | 0.808 |
| -4.042 | 18.446 | -0.679 | 17.935 | 0.792 |
| -4.500 | 17.900 | -0.526 | 17.320 | 0.727 |
| -4.500 | 17.900 | -0.526 | 17.320 | 0.727 |
| -5.250 | 16.726 | -0.452 | 16.518 | 0.560 |
| -6.000 | 16.121 | -0.421 | 15.843 | 0.410 |
| -6.000 | 16.121 | -0.421 | 15.843 | 0.410 |
| -7.000 | 20.462 | -0.417 | 15.067 | 0.336 |
| -8.000 | 25.558 | -0.477 | 14.393 | 0.279 |
| -8.000 | 25.558 | -0.477 | 14.393 | 0.279 |
| -8.850 | 30.197 | -0.481 | 13.882 | 0.248 |
| -9.750 | 35.197 | -0.488 | 13.388 | 0.221 |
| -10.600 | 39.991 | -0.497 | 12.957 | 0.199 |
| -11.500 | 45.137 | -0.510 | 12.532 | 0.179 |
| -11.500 | 45.137 | -0.510 | 12.532 | 0.179 |
| -12.000 | 48.167 | -0.574 | 12.307 | 0.164 |
| -12.500 | 51.292 | -0.646 | 12.090 | 0.148 |
| -12.500 | 51.292 | -0.646 | 12.090 | 0.148 |
| -13.350 | 56.281 | -0.666 | 11.735 | 0.130 |
| -14.250 | 61.620 | -0.690 | 11.378 | 0.112 |
| -15.100 | 66.716 | -0.716 | 11.057 | 0.095 |
| -16.000 | 72.168 | -0.748 | 10.731 | 0.078 |
| -16.000 | 72.169 | -0.748 | 10.731 | 0.078 |
| -16.400 | 76.132 | -0.874 | 10.591 | 0.073 |
| -16.800 | 80.194 | -1.009 | 10.454 | 0.068 |
| -16.800 | 80.194 | -1.009 | 10.454 | 0.068 |
| -17.400 | 86.921 | -1.344 | 10.253 | 0.055 |
| -17.900 | 92.553 | -1.625 | 10.089 | 0.044 |
| -18.400 | 98.208 | -1.908 | 9.930 | 0.033 |
| -19.000 | 105.027 | -2.250 | 9.744 | 0.021 |
| -19.000 | 105.027 | -2.250 | 9.744 | 0.021 |
| -19.851 | 113.434 | -2.250 | 9.488 | 0.017 |
| -20.851 | 123.328 | -2.250 | 9.201 | 0.013 |
| -21.851 | 133.235 | -2.250 | 8.927 | 0.010 |
| -22.251 | 137.202 | -2.250 | 8.820 | 0.009 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -23.902 | 153.596 | -2.250 | 8.402 | 0.004 |
| -25.502 | 169.514 | -2.250 | 8.026 | 0.000 |

### 3.22 Results for Vertical 22 (X = -11.76 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.000 | 20.494 | -1.107 | 19.253 | 1.008 |
| -3.100 | 20.393 | -1.054 | 19.279 | 0.978 |
| -3.200 | 19.801 | -1.005 | 18.921 | 0.951 |
| -3.300 | 19.296 | -0.958 | 18.580 | 0.926 |
| -3.400 | 18.993 | -0.913 | 18.363 | 0.902 |
| -3.500 | 18.738 | -0.870 | 18.169 | 0.880 |
| -3.600 | 18.506 | -0.829 | 17.984 | 0.860 |
| -3.700 | 18.301 | -0.789 | 17.810 | 0.840 |
| -3.750 | 18.209 | -0.770 | 17.729 | 0.831 |
| -3.800 | 18.124 | -0.751 | 17.651 | 0.822 |
| -3.900 | 17.975 | -0.714 | 17.506 | 0.805 |
| -4.000 | 17.851 | -0.678 | 17.374 | 0.789 |
| -4.500 | 17.507 | -0.516 | 16.832 | 0.719 |
| -4.500 | 17.507 | -0.516 | 16.832 | 0.719 |
| -5.250 | 16.560 | -0.445 | 16.175 | 0.556 |
| -6.000 | 16.082 | -0.414 | 15.592 | 0.408 |
| -6.000 | 16.082 | -0.414 | 15.592 | 0.408 |
| -7.000 | 20.514 | -0.410 | 14.889 | 0.335 |
| -8.000 | 25.651 | -0.468 | 14.259 | 0.279 |
| -8.000 | 25.651 | -0.468 | 14.259 | 0.279 |
| -8.850 | 30.319 | -0.472 | 13.773 | 0.248 |
| -9.750 | 35.339 | -0.479 | 13.297 | 0.221 |
| -10.600 | 40.147 | -0.488 | 12.879 | 0.199 |
| -11.500 | 45.302 | -0.501 | 12.464 | 0.179 |
| -11.500 | 45.302 | -0.501 | 12.464 | 0.179 |
| -12.000 | 48.327 | -0.563 | 12.244 | 0.164 |
| -12.500 | 51.447 | -0.635 | 12.030 | 0.148 |
| -12.500 | 51.448 | -0.635 | 12.030 | 0.148 |
| -13.350 | 56.440 | -0.654 | 11.682 | 0.130 |
| -14.250 | 61.781 | -0.678 | 11.330 | 0.111 |
| -15.100 | 66.878 | -0.704 | 11.012 | 0.095 |
| -16.000 | 72.330 | -0.735 | 10.691 | 0.078 |
| -16.000 | 72.330 | -0.735 | 10.691 | 0.078 |
| -16.400 | 76.278 | -0.859 | 10.552 | 0.073 |
| -16.800 | 80.324 | -0.993 | 10.416 | 0.068 |
| -16.800 | 80.324 | -0.993 | 10.416 | 0.068 |
| -17.400 | 87.096 | -1.332 | 10.217 | 0.055 |
| -17.900 | 92.766 | -1.617 | 10.055 | 0.044 |
| -18.400 | 98.459 | -1.903 | 9.898 | 0.033 |
| -19.000 | 105.322 | -2.250 | 9.713 | 0.021 |
| -19.000 | 105.322 | -2.250 | 9.713 | 0.021 |
| -19.851 | 113.731 | -2.250 | 9.460 | 0.017 |
| -20.851 | 123.627 | -2.250 | 9.175 | 0.013 |
| -21.851 | 133.537 | -2.250 | 8.903 | 0.010 |
| -22.251 | 137.504 | -2.250 | 8.797 | 0.009 |
| -23.902 | 153.901 | -2.250 | 8.382 | 0.004 |
| -25.502 | 169.822 | -2.250 | 8.008 | 0.000 |

### 3.23 Results for Vertical 23 (X = -11.54 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.945 | 20.613 | -1.084 | 19.797 | 1.000 |
| -2.972 | 20.724 | -1.061 | 19.929 | 0.992 |
| -3.000 | 20.432 | -1.039 | 19.735 | 0.984 |
| -3.000 | 20.432 | -1.039 | 19.734 | 0.984 |
| -3.045 | 19.669 | -1.017 | 19.091 | 0.970 |
| -3.145 | 18.514 | -0.970 | 18.104 | 0.941 |
| -3.245 | 17.818 | -0.927 | 17.501 | 0.914 |
| -3.345 | 17.408 | -0.886 | 17.133 | 0.890 |
| -3.445 | 17.165 | -0.848 | 16.897 | 0.868 |
| -3.545 | 17.026 | -0.810 | 16.741 | 0.847 |
| -3.645 | 16.948 | -0.774 | 16.630 | 0.828 |
| -3.745 | 16.907 | -0.739 | 16.544 | 0.810 |
| -3.750 | 16.906 | -0.737 | 16.541 | 0.809 |
| -3.845 | 16.888 | -0.704 | 16.473 | 0.793 |
| -3.945 | 16.883 | -0.671 | 16.410 | 0.777 |
| -4.500 | 17.002 | -0.501 | 16.100 | 0.702 |
| -4.500 | 17.002 | -0.501 | 16.100 | 0.702 |
| -5.250 | 16.397 | -0.433 | 15.673 | 0.545 |
| -6.000 | 16.109 | -0.402 | 15.225 | 0.403 |
| -6.000 | 16.109 | -0.402 | 15.225 | 0.403 |
| -7.000 | 20.681 | -0.399 | 14.630 | 0.332 |
| -8.000 | 25.889 | -0.456 | 14.065 | 0.277 |
| -8.000 | 25.889 | -0.456 | 14.065 | 0.277 |
| -8.850 | 30.600 | -0.460 | 13.614 | 0.247 |
| -9.750 | 35.650 | -0.467 | 13.165 | 0.220 |
| -10.600 | 40.477 | -0.476 | 12.766 | 0.198 |
| -11.500 | 45.647 | -0.488 | 12.366 | 0.178 |
| -11.500 | 45.647 | -0.488 | 12.366 | 0.178 |
| -12.000 | 48.669 | -0.550 | 12.152 | 0.163 |
| -12.500 | 51.783 | -0.620 | 11.945 | 0.148 |
| -12.500 | 51.783 | -0.620 | 11.945 | 0.148 |
| -13.350 | 56.782 | -0.639 | 11.605 | 0.129 |
| -14.250 | 62.127 | -0.662 | 11.260 | 0.111 |
| -15.100 | 67.226 | -0.688 | 10.949 | 0.094 |
| -16.000 | 72.678 | -0.719 | 10.633 | 0.077 |
| -16.000 | 72.678 | -0.719 | 10.633 | 0.077 |
| -16.400 | 76.607 | -0.841 | 10.496 | 0.073 |
| -16.800 | 80.630 | -0.972 | 10.363 | 0.067 |
| -16.800 | 80.630 | -0.972 | 10.363 | 0.067 |
| -17.400 | 87.463 | -1.317 | 10.166 | 0.054 |
| -17.900 | 93.182 | -1.606 | 10.007 | 0.043 |
| -18.400 | 98.925 | -1.898 | 9.851 | 0.033 |
| -19.000 | 105.847 | -2.250 | 9.669 | 0.020 |
| -19.000 | 105.848 | -2.250 | 9.669 | 0.020 |
| -19.851 | 114.260 | -2.250 | 9.419 | 0.017 |
| -20.851 | 124.160 | -2.250 | 9.137 | 0.013 |
| -21.851 | 134.072 | -2.250 | 8.868 | 0.010 |
| -22.251 | 138.041 | -2.250 | 8.764 | 0.009 |
| -23.902 | 154.442 | -2.250 | 8.353 | 0.004 |
| -25.502 | 170.367 | -2.250 | 7.983 | 0.000 |

### 3.24 Results for Vertical 24 (X = -11.50 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.936 | 20.945 | -1.080 | 20.944 | 1.010 |
| -2.968 | 20.187 | -1.054 | 19.984 | 0.995 |
| -3.000 | 18.750 | -1.029 | 18.615 | 0.984 |
| -3.000 | 18.749 | -1.029 | 18.614 | 0.984 |
| -3.036 | 18.235 | -1.013 | 18.041 | 0.972 |
| -3.136 | 17.713 | -0.969 | 17.437 | 0.941 |
| -3.236 | 17.315 | -0.928 | 17.044 | 0.914 |
| -3.336 | 17.045 | -0.889 | 16.778 | 0.890 |
| -3.436 | 16.880 | -0.850 | 16.599 | 0.868 |
| -3.536 | 16.790 | -0.814 | 16.477 | 0.847 |
| -3.636 | 16.749 | -0.778 | 16.392 | 0.828 |
| -3.736 | 16.737 | -0.743 | 16.327 | 0.810 |
| -3.750 | 16.737 | -0.738 | 16.319 | 0.807 |
| -3.836 | 16.743 | -0.709 | 16.273 | 0.793 |
| -3.936 | 16.760 | -0.676 | 16.225 | 0.777 |
| -4.500 | 16.966 | -0.504 | 15.969 | 0.701 |
| -4.500 | 16.966 | -0.504 | 15.969 | 0.701 |
| -5.250 | 16.418 | -0.436 | 15.583 | 0.545 |
| -6.000 | 16.158 | -0.406 | 15.159 | 0.403 |
| -6.000 | 16.158 | -0.406 | 15.159 | 0.403 |
| -7.000 | 20.747 | -0.401 | 14.583 | 0.332 |
| -8.000 | 25.955 | -0.457 | 14.030 | 0.277 |
| -8.000 | 25.955 | -0.457 | 14.030 | 0.277 |
| -8.850 | 30.673 | -0.461 | 13.585 | 0.247 |
| -9.750 | 35.729 | -0.467 | 13.142 | 0.220 |
| -10.600 | 40.559 | -0.476 | 12.746 | 0.199 |
| -11.500 | 45.730 | -0.489 | 12.348 | 0.178 |
| -11.500 | 45.730 | -0.489 | 12.348 | 0.178 |
| -12.000 | 48.749 | -0.550 | 12.136 | 0.163 |
| -12.500 | 51.858 | -0.620 | 11.929 | 0.148 |
| -12.500 | 51.858 | -0.620 | 11.929 | 0.148 |
| -13.350 | 56.857 | -0.638 | 11.591 | 0.129 |
| -14.250 | 62.202 | -0.661 | 11.248 | 0.111 |
| -15.100 | 67.300 | -0.687 | 10.937 | 0.094 |
| -16.000 | 72.752 | -0.717 | 10.622 | 0.077 |
| -16.000 | 72.752 | -0.717 | 10.622 | 0.077 |
| -16.400 | 76.672 | -0.838 | 10.486 | 0.073 |
| -16.800 | 80.686 | -0.968 | 10.353 | 0.067 |
| -16.800 | 80.686 | -0.968 | 10.353 | 0.067 |
| -17.400 | 87.529 | -1.314 | 10.157 | 0.054 |
| -17.900 | 93.256 | -1.605 | 9.998 | 0.043 |
| -18.400 | 99.006 | -1.897 | 9.843 | 0.033 |
| -19.000 | 105.937 | -2.250 | 9.661 | 0.020 |
| -19.000 | 105.937 | -2.250 | 9.661 | 0.020 |
| -19.851 | 114.351 | -2.250 | 9.412 | 0.017 |
| -20.851 | 124.251 | -2.250 | 9.131 | 0.013 |
| -21.851 | 134.164 | -2.250 | 8.862 | 0.010 |
| -22.251 | 138.133 | -2.250 | 8.758 | 0.009 |
| -23.902 | 154.535 | -2.250 | 8.348 | 0.004 |
| -25.502 | 170.460 | -2.250 | 7.978 | 0.000 |

### 3.25 Results for Vertical 25 (X = -11.47 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.928 | 18.356 | -1.076 | 18.355 | 1.016 |
| -2.964 | 17.708 | -1.051 | 17.719 | 0.998 |
| -3.000 | 17.305 | -1.027 | 17.266 | 0.985 |
| -3.000 | 17.305 | -1.027 | 17.266 | 0.985 |
| -3.028 | 17.097 | -1.015 | 17.022 | 0.975 |
| -3.128 | 17.005 | -0.974 | 16.784 | 0.943 |
| -3.228 | 16.899 | -0.934 | 16.620 | 0.916 |
| -3.328 | 16.772 | -0.895 | 16.465 | 0.892 |
| -3.428 | 16.684 | -0.857 | 16.344 | 0.869 |
| -3.528 | 16.641 | -0.821 | 16.258 | 0.849 |
| -3.628 | 16.631 | -0.786 | 16.197 | 0.829 |
| -3.728 | 16.644 | -0.751 | 16.150 | 0.811 |
| -3.750 | 16.649 | -0.744 | 16.141 | 0.807 |
| -3.828 | 16.671 | -0.718 | 16.111 | 0.794 |
| -3.928 | 16.705 | -0.685 | 16.076 | 0.778 |
| -4.500 | 16.981 | -0.511 | 15.864 | 0.701 |
| -4.500 | 16.981 | -0.511 | 15.864 | 0.701 |
| -5.250 | 16.474 | -0.443 | 15.511 | 0.545 |
| -6.000 | 16.236 | -0.412 | 15.106 | 0.404 |
| -6.000 | 16.236 | -0.412 | 15.106 | 0.404 |
| -7.000 | 20.831 | -0.406 | 14.545 | 0.333 |
| -8.000 | 26.032 | -0.460 | 14.001 | 0.278 |
| -8.000 | 26.032 | -0.460 | 14.001 | 0.278 |
| -8.850 | 30.755 | -0.464 | 13.562 | 0.247 |
| -9.750 | 35.814 | -0.470 | 13.122 | 0.221 |
| -10.600 | 40.646 | -0.479 | 12.729 | 0.199 |
| -11.500 | 45.819 | -0.491 | 12.334 | 0.178 |
| -11.500 | 45.819 | -0.491 | 12.334 | 0.178 |
| -12.000 | 48.832 | -0.552 | 12.123 | 0.163 |
| -12.500 | 51.934 | -0.621 | 11.917 | 0.148 |
| -12.500 | 51.934 | -0.621 | 11.917 | 0.148 |
| -13.350 | 56.932 | -0.639 | 11.580 | 0.129 |
| -14.250 | 62.276 | -0.662 | 11.238 | 0.111 |
| -15.100 | 67.373 | -0.687 | 10.928 | 0.094 |
| -16.000 | 72.822 | -0.717 | 10.614 | 0.077 |
| -16.000 | 72.822 | -0.717 | 10.614 | 0.077 |
| -16.400 | 76.732 | -0.837 | 10.478 | 0.072 |
| -16.800 | 80.734 | -0.966 | 10.345 | 0.067 |
| -16.800 | 80.734 | -0.966 | 10.345 | 0.067 |
| -17.400 | 87.584 | -1.313 | 10.150 | 0.054 |
| -17.900 | 93.316 | -1.603 | 9.991 | 0.043 |
| -18.400 | 99.072 | -1.896 | 9.836 | 0.033 |
| -19.000 | 106.009 | -2.250 | 9.655 | 0.020 |
| -19.000 | 106.009 | -2.250 | 9.655 | 0.020 |
| -19.851 | 114.423 | -2.250 | 9.406 | 0.017 |
| -20.851 | 124.323 | -2.250 | 9.125 | 0.013 |
| -21.851 | 134.237 | -2.250 | 8.857 | 0.010 |
| -22.251 | 138.206 | -2.250 | 8.753 | 0.009 |
| -23.902 | 154.609 | -2.250 | 8.344 | 0.004 |
| -25.502 | 170.534 | -2.250 | 7.975 | 0.000 |

### 3.26 Results for Vertical 26 (X = -11.45 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.808 | 14.451 | -1.075 | 14.450 | 0.982 |
| -2.904 | 15.879 | -1.019 | 15.836 | 0.945 |
| -2.908 | 15.744 | -1.016 | 15.699 | 0.944 |
| -3.000 | 16.593 | -0.962 | 16.465 | 0.918 |
| -3.000 | 16.593 | -0.962 | 16.465 | 0.918 |
| -3.008 | 16.612 | -0.959 | 16.474 | 0.915 |
| -3.108 | 16.773 | -0.921 | 16.467 | 0.889 |
| -3.208 | 16.848 | -0.883 | 16.432 | 0.865 |
| -3.308 | 16.811 | -0.847 | 16.333 | 0.844 |
| -3.408 | 16.772 | -0.811 | 16.239 | 0.824 |
| -3.508 | 16.760 | -0.776 | 16.167 | 0.805 |
| -3.608 | 16.776 | -0.742 | 16.114 | 0.788 |
| -3.708 | 16.810 | -0.709 | 16.075 | 0.771 |
| -3.750 | 16.828 | -0.695 | 16.061 | 0.765 |
| -3.808 | 16.856 | -0.676 | 16.042 | 0.756 |
| -4.500 | 17.284 | -0.471 | 15.816 | 0.667 |
| -4.500 | 17.284 | -0.471 | 15.816 | 0.667 |
| -5.250 | 16.825 | -0.405 | 15.479 | 0.523 |
| -6.000 | 16.625 | -0.377 | 15.082 | 0.393 |
| -6.000 | 16.625 | -0.377 | 15.082 | 0.393 |
| -7.000 | 21.302 | -0.379 | 14.528 | 0.326 |
| -8.000 | 26.603 | -0.443 | 13.988 | 0.273 |
| -8.000 | 26.603 | -0.443 | 13.988 | 0.273 |
| -8.850 | 31.333 | -0.447 | 13.552 | 0.244 |
| -9.750 | 36.398 | -0.454 | 13.114 | 0.218 |
| -10.600 | 41.236 | -0.463 | 12.722 | 0.197 |
| -11.500 | 46.415 | -0.476 | 12.327 | 0.177 |
| -11.500 | 46.415 | -0.476 | 12.327 | 0.177 |
| -12.000 | 49.449 | -0.538 | 12.116 | 0.162 |
| -12.500 | 52.575 | -0.610 | 11.911 | 0.147 |
| -12.500 | 52.575 | -0.610 | 11.911 | 0.147 |
| -13.350 | 57.579 | -0.629 | 11.575 | 0.128 |
| -14.250 | 62.930 | -0.652 | 11.233 | 0.110 |
| -15.100 | 68.033 | -0.678 | 10.924 | 0.094 |
| -16.000 | 73.489 | -0.709 | 10.610 | 0.077 |
| -16.000 | 73.490 | -0.709 | 10.610 | 0.077 |
| -16.400 | 77.424 | -0.831 | 10.475 | 0.072 |
| -16.800 | 81.452 | -0.963 | 10.342 | 0.067 |
| -16.800 | 81.452 | -0.963 | 10.342 | 0.067 |
| -17.400 | 88.311 | -1.310 | 10.147 | 0.054 |
| -17.900 | 94.051 | -1.602 | 9.988 | 0.043 |
| -18.400 | 99.815 | -1.895 | 9.833 | 0.033 |
| -19.000 | 106.762 | -2.250 | 9.652 | 0.020 |
| -19.000 | 106.762 | -2.250 | 9.652 | 0.020 |
| -19.851 | 115.176 | -2.250 | 9.403 | 0.017 |
| -20.851 | 125.077 | -2.250 | 9.123 | 0.013 |
| -21.851 | 134.990 | -2.250 | 8.855 | 0.010 |
| -22.251 | 138.960 | -2.250 | 8.751 | 0.008 |
| -23.902 | 155.363 | -2.250 | 8.342 | 0.004 |
| -25.502 | 171.288 | -2.250 | 7.973 | 0.000 |

### 3.27 Results for Vertical 27 (X = -11.35 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.901 | 10.049 | -1.064 | 10.048 | 0.834 |
| -2.001 | 14.293 | -1.024 | 14.069 | 0.797 |
| -2.101 | 15.375 | -0.978 | 14.983 | 0.769 |
| -2.201 | 16.291 | -0.931 | 15.742 | 0.746 |
| -2.250 | 16.676 | -0.907 | 16.054 | 0.736 |
| -2.301 | 17.045 | -0.882 | 16.350 | 0.726 |
| -2.401 | 17.518 | -0.834 | 16.682 | 0.708 |
| -2.450 | 17.314 | -0.810 | 16.406 | 0.700 |
| -2.501 | 16.895 | -0.786 | 15.907 | 0.692 |
| -2.601 | 16.245 | -0.742 | 15.076 | 0.678 |
| -2.701 | 15.957 | -0.699 | 14.585 | 0.666 |
| -2.801 | 15.884 | -0.658 | 14.297 | 0.656 |
| -2.901 | 15.931 | -0.618 | 14.118 | 0.646 |
| -3.000 | 16.206 | -0.579 | 14.164 | 0.637 |
| -3.000 | 16.206 | -0.579 | 14.164 | 0.637 |
| -3.750 | 18.829 | -0.390 | 15.460 | 0.562 |
| -4.500 | 20.114 | -0.221 | 15.456 | 0.502 |
| -4.500 | 20.114 | -0.221 | 15.456 | 0.502 |
| -5.250 | 19.996 | -0.176 | 15.229 | 0.415 |
| -6.000 | 20.071 | -0.168 | 14.897 | 0.334 |
| -6.000 | 20.071 | -0.168 | 14.897 | 0.334 |
| -7.000 | 25.313 | -0.220 | 14.396 | 0.288 |
| -8.000 | 31.278 | -0.347 | 13.889 | 0.247 |
| -8.000 | 31.278 | -0.347 | 13.889 | 0.247 |
| -8.850 | 36.053 | -0.354 | 13.471 | 0.224 |
| -9.750 | 41.161 | -0.363 | 13.046 | 0.203 |
| -10.600 | 46.035 | -0.375 | 12.664 | 0.185 |
| -11.500 | 51.251 | -0.391 | 12.277 | 0.167 |
| -11.500 | 51.251 | -0.391 | 12.277 | 0.167 |
| -12.000 | 54.411 | -0.466 | 12.070 | 0.153 |
| -12.500 | 57.666 | -0.550 | 11.868 | 0.139 |
| -12.500 | 57.666 | -0.550 | 11.868 | 0.139 |
| -13.350 | 62.705 | -0.572 | 11.535 | 0.122 |
| -14.250 | 68.092 | -0.599 | 11.198 | 0.105 |
| -15.100 | 73.230 | -0.628 | 10.892 | 0.090 |
| -16.000 | 78.724 | -0.662 | 10.581 | 0.074 |
| -16.000 | 78.724 | -0.662 | 10.581 | 0.074 |
| -16.400 | 82.785 | -0.797 | 10.446 | 0.069 |
| -16.800 | 86.943 | -0.942 | 10.315 | 0.065 |
| -16.800 | 86.944 | -0.942 | 10.315 | 0.065 |
| -17.400 | 93.858 | -1.295 | 10.121 | 0.052 |
| -17.900 | 99.645 | -1.591 | 9.964 | 0.042 |
| -18.400 | 105.457 | -1.889 | 9.810 | 0.031 |
| -19.000 | 112.462 | -2.250 | 9.630 | 0.019 |
| -19.000 | 112.462 | -2.250 | 9.630 | 0.019 |
| -20.651 | 128.799 | -2.250 | 9.159 | 0.013 |
| -22.251 | 144.665 | -2.250 | 8.734 | 0.008 |
| -23.902 | 161.070 | -2.250 | 8.327 | 0.004 |
| -25.502 | 176.998 | -2.250 | 7.960 | 0.000 |

### 3.28 Results for Vertical 28 (X = -11.21 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.840 | 13.956 | -1.050 | 13.955 | 0.822 |
| -1.940 | 13.621 | -1.007 | 13.427 | 0.784 |
| -2.040 | 12.982 | -0.966 | 12.566 | 0.757 |
| -2.140 | 12.780 | -0.928 | 12.118 | 0.736 |
| -2.240 | 12.957 | -0.891 | 12.037 | 0.718 |
| -2.250 | 12.985 | -0.888 | 12.041 | 0.717 |
| -2.340 | 13.293 | -0.855 | 12.115 | 0.703 |
| -2.420 | 13.651 | -0.825 | 12.268 | 0.692 |
| -2.440 | 13.801 | -0.818 | 12.367 | 0.690 |
| -2.540 | 14.741 | -0.779 | 13.064 | 0.677 |
| -2.640 | 15.408 | -0.740 | 13.500 | 0.666 |
| -2.740 | 15.785 | -0.699 | 13.654 | 0.655 |
| -2.840 | 16.042 | -0.659 | 13.686 | 0.645 |
| -3.000 | 16.384 | -0.595 | 13.664 | 0.631 |
| -3.000 | 16.384 | -0.595 | 13.664 | 0.631 |
| -3.750 | 18.677 | -0.408 | 14.749 | 0.559 |
| -4.500 | 20.260 | -0.240 | 15.002 | 0.500 |
| -4.500 | 20.260 | -0.240 | 15.002 | 0.500 |
| -5.250 | 20.297 | -0.194 | 14.905 | 0.414 |
| -6.000 | 20.462 | -0.184 | 14.654 | 0.334 |
| -6.000 | 20.462 | -0.184 | 14.654 | 0.334 |
| -7.000 | 25.744 | -0.232 | 14.222 | 0.289 |
| -8.000 | 31.696 | -0.352 | 13.757 | 0.247 |
| -8.000 | 31.696 | -0.352 | 13.757 | 0.247 |
| -8.850 | 36.497 | -0.359 | 13.363 | 0.224 |
| -9.750 | 41.623 | -0.368 | 12.957 | 0.203 |
| -10.600 | 46.508 | -0.379 | 12.587 | 0.185 |
| -11.500 | 51.731 | -0.394 | 12.210 | 0.167 |
| -11.500 | 51.731 | -0.394 | 12.210 | 0.167 |
| -12.000 | 54.874 | -0.467 | 12.008 | 0.153 |
| -12.500 | 58.110 | -0.549 | 11.810 | 0.139 |
| -12.500 | 58.110 | -0.549 | 11.810 | 0.139 |
| -13.350 | 63.149 | -0.570 | 11.483 | 0.122 |
| -14.250 | 68.535 | -0.597 | 11.151 | 0.105 |
| -15.100 | 73.670 | -0.625 | 10.849 | 0.090 |
| -16.000 | 79.160 | -0.658 | 10.542 | 0.074 |
| -16.000 | 79.160 | -0.658 | 10.542 | 0.074 |
| -16.400 | 83.189 | -0.790 | 10.409 | 0.069 |
| -16.800 | 87.312 | -0.931 | 10.278 | 0.064 |
| -16.800 | 87.313 | -0.931 | 10.278 | 0.064 |
| -17.400 | 94.259 | -1.287 | 10.087 | 0.052 |
| -17.900 | 100.073 | -1.586 | 9.931 | 0.041 |
| -18.400 | 105.910 | -1.886 | 9.779 | 0.031 |
| -19.000 | 112.946 | -2.250 | 9.600 | 0.019 |
| -19.000 | 112.946 | -2.250 | 9.600 | 0.019 |
| -20.651 | 129.286 | -2.250 | 9.133 | 0.013 |
| -22.251 | 145.157 | -2.250 | 8.712 | 0.008 |
| -23.902 | 161.565 | -2.250 | 8.308 | 0.004 |
| -25.502 | 177.495 | -2.250 | 7.943 | 0.000 |

### 3.29 Results for Vertical 29 (X = -11.15 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.814 | 12.134 | -1.040 | 12.133 | 0.817 |
| -1.914 | 12.012 | -1.001 | 11.770 | 0.780 |
| -2.014 | 12.573 | -0.964 | 12.081 | 0.754 |
| -2.114 | 12.824 | -0.927 | 12.080 | 0.733 |
| -2.214 | 13.053 | -0.890 | 12.052 | 0.715 |
| -2.250 | 13.156 | -0.876 | 12.063 | 0.709 |
| -2.314 | 13.365 | -0.853 | 12.106 | 0.700 |
| -2.407 | 13.701 | -0.818 | 12.205 | 0.687 |
| -2.414 | 13.731 | -0.816 | 12.216 | 0.686 |
| -2.514 | 14.315 | -0.778 | 12.549 | 0.674 |
| -2.614 | 14.999 | -0.740 | 12.990 | 0.662 |
| -2.714 | 15.519 | -0.701 | 13.277 | 0.652 |
| -2.814 | 15.893 | -0.661 | 13.420 | 0.642 |
| -3.000 | 16.395 | -0.588 | 13.492 | 0.626 |
| -3.000 | 16.395 | -0.588 | 13.492 | 0.626 |
| -3.750 | 18.564 | -0.403 | 14.477 | 0.555 |
| -4.500 | 20.255 | -0.237 | 14.813 | 0.497 |
| -4.500 | 20.255 | -0.237 | 14.813 | 0.497 |
| -5.250 | 20.357 | -0.191 | 14.768 | 0.413 |
| -6.000 | 20.563 | -0.181 | 14.550 | 0.333 |
| -6.000 | 20.563 | -0.181 | 14.550 | 0.333 |
| -7.000 | 25.875 | -0.228 | 14.146 | 0.288 |
| -8.000 | 31.839 | -0.347 | 13.699 | 0.247 |
| -8.000 | 31.839 | -0.347 | 13.699 | 0.247 |
| -8.850 | 36.652 | -0.353 | 13.316 | 0.224 |
| -9.750 | 41.786 | -0.363 | 12.918 | 0.203 |
| -10.600 | 46.677 | -0.374 | 12.553 | 0.185 |
| -11.500 | 51.904 | -0.389 | 12.181 | 0.167 |
| -11.500 | 51.904 | -0.389 | 12.181 | 0.167 |
| -12.000 | 55.045 | -0.461 | 11.981 | 0.153 |
| -12.500 | 58.277 | -0.542 | 11.784 | 0.139 |
| -12.500 | 58.277 | -0.542 | 11.784 | 0.139 |
| -13.350 | 63.317 | -0.564 | 11.461 | 0.122 |
| -14.250 | 68.704 | -0.589 | 11.130 | 0.105 |
| -15.100 | 73.839 | -0.617 | 10.830 | 0.089 |
| -16.000 | 79.328 | -0.651 | 10.525 | 0.073 |
| -16.000 | 79.328 | -0.651 | 10.525 | 0.073 |
| -16.400 | 83.349 | -0.782 | 10.392 | 0.069 |
| -16.800 | 87.464 | -0.922 | 10.263 | 0.064 |
| -16.800 | 87.464 | -0.922 | 10.263 | 0.064 |
| -17.400 | 94.437 | -1.280 | 10.072 | 0.052 |
| -17.900 | 100.272 | -1.581 | 9.917 | 0.041 |
| -18.400 | 106.130 | -1.884 | 9.765 | 0.031 |
| -19.000 | 113.191 | -2.250 | 9.588 | 0.019 |
| -19.000 | 113.191 | -2.250 | 9.588 | 0.019 |
| -20.651 | 129.534 | -2.250 | 9.122 | 0.013 |
| -22.251 | 145.406 | -2.250 | 8.702 | 0.008 |
| -23.902 | 161.815 | -2.250 | 8.299 | 0.004 |
| -25.502 | 177.746 | -2.250 | 7.936 | 0.000 |

### 3.30 Results for Vertical 30 (X = -9.55 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.098 | 12.845 | -0.763 | 12.844 | 0.700 |
| -1.198 | 12.214 | -0.730 | 11.910 | 0.663 |
| -1.298 | 12.429 | -0.700 | 11.808 | 0.638 |
| -1.398 | 12.714 | -0.669 | 11.777 | 0.617 |
| -1.498 | 13.022 | -0.638 | 11.770 | 0.600 |
| -1.598 | 13.304 | -0.607 | 11.738 | 0.584 |
| -1.698 | 13.550 | -0.575 | 11.672 | 0.571 |
| -1.798 | 13.776 | -0.544 | 11.585 | 0.559 |
| -1.898 | 14.008 | -0.513 | 11.506 | 0.548 |
| -1.998 | 14.267 | -0.482 | 11.452 | 0.538 |
| -2.049 | 14.409 | -0.466 | 11.435 | 0.534 |
| -2.098 | 14.553 | -0.450 | 11.426 | 0.529 |
| -2.250 | 15.025 | -0.403 | 11.425 | 0.518 |
| -3.000 | 17.417 | -0.168 | 11.474 | 0.478 |
| -3.000 | 17.417 | -0.168 | 11.474 | 0.478 |
| -3.750 | 18.818 | -0.030 | 11.463 | 0.432 |
| -4.500 | 20.596 | 0.086 | 11.578 | 0.394 |
| -4.500 | 20.596 | 0.086 | 11.578 | 0.394 |
| -5.250 | 21.089 | 0.115 | 11.773 | 0.343 |
| -6.000 | 21.844 | 0.113 | 11.934 | 0.291 |
| -6.000 | 21.844 | 0.113 | 11.934 | 0.291 |
| -7.000 | 27.930 | 0.047 | 12.021 | 0.259 |
| -8.000 | 34.535 | -0.089 | 11.971 | 0.226 |
| -8.000 | 34.535 | -0.089 | 11.971 | 0.226 |
| -8.850 | 39.663 | -0.096 | 11.848 | 0.208 |
| -9.750 | 45.053 | -0.105 | 11.665 | 0.190 |
| -10.600 | 50.131 | -0.117 | 11.459 | 0.174 |
| -11.500 | 55.511 | -0.132 | 11.221 | 0.158 |
| -11.500 | 55.511 | -0.132 | 11.221 | 0.158 |
| -12.000 | 58.715 | -0.203 | 11.083 | 0.145 |
| -12.500 | 61.997 | -0.283 | 10.942 | 0.131 |
| -12.500 | 61.997 | -0.283 | 10.942 | 0.131 |
| -13.350 | 67.124 | -0.304 | 10.700 | 0.116 |
| -14.250 | 72.585 | -0.329 | 10.443 | 0.099 |
| -15.100 | 77.776 | -0.356 | 10.202 | 0.085 |
| -16.000 | 83.312 | -0.388 | 9.950 | 0.069 |
| -16.000 | 83.312 | -0.388 | 9.950 | 0.069 |
| -16.400 | 87.308 | -0.514 | 9.840 | 0.065 |
| -16.800 | 91.387 | -0.648 | 9.731 | 0.060 |
| -16.800 | 91.387 | -0.648 | 9.731 | 0.060 |
| -17.400 | 99.121 | -1.081 | 9.569 | 0.048 |
| -17.900 | 105.589 | -1.444 | 9.437 | 0.039 |
| -18.400 | 112.080 | -1.809 | 9.306 | 0.029 |
| -19.000 | 119.898 | -2.250 | 9.152 | 0.018 |
| -19.000 | 119.898 | -2.250 | 9.152 | 0.018 |
| -20.651 | 136.302 | -2.250 | 8.744 | 0.012 |
| -22.251 | 152.222 | -2.250 | 8.372 | 0.008 |
| -23.902 | 168.675 | -2.250 | 8.010 | 0.003 |
| -25.502 | 184.641 | -2.250 | 7.681 | 0.000 |

### 3.31 Results for Vertical 31 (X = -9.53 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.087 | 11.037 | -0.758 | 11.036 | 0.697 |
| -1.187 | 10.038 | -0.731 | 9.686 | 0.662 |
| -1.287 | 11.171 | -0.704 | 10.461 | 0.638 |
| -1.387 | 12.400 | -0.676 | 11.354 | 0.618 |
| -1.487 | 12.935 | -0.645 | 11.568 | 0.601 |
| -1.587 | 13.313 | -0.614 | 11.632 | 0.585 |
| -1.687 | 13.612 | -0.583 | 11.619 | 0.572 |
| -1.787 | 13.867 | -0.551 | 11.563 | 0.560 |
| -1.887 | 14.112 | -0.520 | 11.498 | 0.549 |
| -1.987 | 14.372 | -0.488 | 11.446 | 0.539 |
| -2.043 | 14.528 | -0.471 | 11.427 | 0.534 |
| -2.087 | 14.653 | -0.457 | 11.418 | 0.530 |
| -2.250 | 15.149 | -0.406 | 11.410 | 0.517 |
| -3.000 | 17.519 | -0.170 | 11.449 | 0.477 |
| -3.000 | 17.519 | -0.170 | 11.449 | 0.477 |
| -3.750 | 18.913 | -0.031 | 11.438 | 0.432 |
| -4.500 | 20.678 | 0.086 | 11.549 | 0.394 |
| -4.500 | 20.678 | 0.086 | 11.549 | 0.394 |
| -5.250 | 21.164 | 0.115 | 11.740 | 0.342 |
| -6.000 | 21.915 | 0.114 | 11.901 | 0.291 |
| -6.000 | 21.915 | 0.114 | 11.901 | 0.291 |
| -7.000 | 27.997 | 0.048 | 11.991 | 0.259 |
| -8.000 | 34.597 | -0.087 | 11.944 | 0.226 |
| -8.000 | 34.597 | -0.087 | 11.944 | 0.226 |
| -8.850 | 39.728 | -0.094 | 11.824 | 0.207 |
| -9.750 | 45.121 | -0.103 | 11.644 | 0.189 |
| -10.600 | 50.201 | -0.114 | 11.440 | 0.174 |
| -11.500 | 55.582 | -0.129 | 11.204 | 0.158 |
| -11.500 | 55.583 | -0.129 | 11.204 | 0.158 |
| -12.000 | 58.785 | -0.201 | 11.067 | 0.145 |
| -12.500 | 62.065 | -0.280 | 10.927 | 0.131 |
| -12.500 | 62.065 | -0.280 | 10.927 | 0.131 |
| -13.350 | 67.193 | -0.301 | 10.686 | 0.116 |
| -14.250 | 72.654 | -0.326 | 10.431 | 0.099 |
| -15.100 | 77.846 | -0.353 | 10.190 | 0.085 |
| -16.000 | 83.382 | -0.385 | 9.940 | 0.069 |
| -16.000 | 83.382 | -0.385 | 9.940 | 0.069 |
| -16.400 | 87.374 | -0.511 | 9.830 | 0.065 |
| -16.800 | 91.449 | -0.644 | 9.721 | 0.060 |
| -16.800 | 91.449 | -0.644 | 9.721 | 0.060 |
| -17.400 | 99.194 | -1.078 | 9.560 | 0.048 |
| -17.900 | 105.672 | -1.442 | 9.428 | 0.039 |
| -18.400 | 112.172 | -1.808 | 9.298 | 0.029 |
| -19.000 | 120.002 | -2.250 | 9.144 | 0.018 |
| -19.000 | 120.002 | -2.250 | 9.144 | 0.018 |
| -20.651 | 136.406 | -2.250 | 8.738 | 0.012 |
| -22.251 | 152.328 | -2.250 | 8.366 | 0.008 |
| -23.902 | 168.781 | -2.250 | 8.005 | 0.003 |
| -25.502 | 184.748 | -2.250 | 7.676 | 0.000 |

### 3.32 Results for Vertical 32 (X = -8.64 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.691 | 11.668 | -0.605 | 11.667 | 0.657 |
| -0.791 | 12.390 | -0.576 | 12.053 | 0.621 |
| -0.891 | 13.076 | -0.546 | 12.415 | 0.596 |
| -0.991 | 13.349 | -0.515 | 12.370 | 0.575 |
| -1.091 | 13.607 | -0.484 | 12.311 | 0.557 |
| -1.191 | 13.848 | -0.454 | 12.236 | 0.541 |
| -1.291 | 14.071 | -0.423 | 12.144 | 0.527 |
| -1.391 | 14.277 | -0.392 | 12.035 | 0.515 |
| -1.491 | 14.472 | -0.361 | 11.914 | 0.504 |
| -1.591 | 14.662 | -0.330 | 11.787 | 0.493 |
| -1.691 | 14.855 | -0.299 | 11.662 | 0.484 |
| -1.845 | 15.170 | -0.252 | 11.483 | 0.472 |
| -2.250 | 16.118 | -0.130 | 11.126 | 0.447 |
| -3.000 | 18.270 | 0.090 | 10.794 | 0.420 |
| -3.000 | 18.270 | 0.090 | 10.794 | 0.420 |
| -3.750 | 20.049 | 0.180 | 10.682 | 0.387 |
| -4.500 | 22.133 | 0.251 | 10.687 | 0.359 |
| -4.500 | 22.133 | 0.251 | 10.687 | 0.359 |
| -5.250 | 22.545 | 0.273 | 10.774 | 0.316 |
| -6.000 | 23.271 | 0.267 | 10.890 | 0.272 |
| -6.000 | 23.271 | 0.267 | 10.890 | 0.272 |
| -7.000 | 29.443 | 0.195 | 11.006 | 0.244 |
| -8.000 | 36.183 | 0.054 | 11.038 | 0.215 |
| -8.000 | 36.183 | 0.054 | 11.038 | 0.215 |
| -8.850 | 41.404 | 0.047 | 10.997 | 0.198 |
| -9.750 | 46.891 | 0.038 | 10.897 | 0.182 |
| -10.600 | 52.049 | 0.026 | 10.764 | 0.167 |
| -11.500 | 57.504 | 0.012 | 10.592 | 0.152 |
| -11.500 | 57.504 | 0.012 | 10.592 | 0.152 |
| -12.000 | 60.734 | -0.059 | 10.487 | 0.140 |
| -12.500 | 64.035 | -0.137 | 10.378 | 0.127 |
| -12.500 | 64.035 | -0.137 | 10.378 | 0.127 |
| -13.350 | 69.212 | -0.158 | 10.183 | 0.112 |
| -14.250 | 74.716 | -0.182 | 9.970 | 0.096 |
| -15.100 | 79.942 | -0.209 | 9.766 | 0.082 |
| -16.000 | 85.508 | -0.240 | 9.550 | 0.067 |
| -16.000 | 85.508 | -0.240 | 9.550 | 0.067 |
| -16.400 | 89.488 | -0.363 | 9.454 | 0.063 |
| -16.800 | 93.545 | -0.493 | 9.358 | 0.058 |
| -16.800 | 93.545 | -0.493 | 9.358 | 0.058 |
| -17.400 | 101.715 | -0.968 | 9.216 | 0.047 |
| -17.900 | 108.546 | -1.367 | 9.098 | 0.037 |
| -18.400 | 115.398 | -1.767 | 8.982 | 0.028 |
| -19.000 | 123.649 | -2.250 | 8.844 | 0.017 |
| -19.000 | 123.649 | -2.250 | 8.844 | 0.017 |
| -20.651 | 140.094 | -2.250 | 8.476 | 0.012 |
| -22.251 | 156.049 | -2.250 | 8.136 | 0.007 |
| -23.902 | 172.531 | -2.250 | 7.803 | 0.003 |
| -25.502 | 188.523 | -2.250 | 7.498 | 0.000 |

### 3.33 Results for Vertical 33 (X = -7.70 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.191 | 10.359 | -0.191 | 10.358 | 0.485 |
| -0.291 | 11.605 | -0.272 | 10.188 | 0.458 |
| -0.391 | 12.463 | -0.352 | 9.648 | 0.442 |
| -0.442 | 12.905 | -0.392 | 9.377 | 0.435 |
| -0.491 | 13.039 | -0.382 | 9.313 | 0.429 |
| -0.591 | 13.334 | -0.360 | 9.202 | 0.418 |
| -0.691 | 13.642 | -0.338 | 9.107 | 0.408 |
| -0.791 | 13.955 | -0.316 | 9.017 | 0.399 |
| -0.891 | 14.265 | -0.294 | 8.926 | 0.391 |
| -0.991 | 14.568 | -0.271 | 8.830 | 0.384 |
| -1.091 | 14.864 | -0.249 | 8.729 | 0.377 |
| -1.191 | 15.156 | -0.226 | 8.624 | 0.371 |
| -1.595 | 16.382 | -0.133 | 8.257 | 0.351 |
| -2.250 | 18.599 | 0.019 | 7.917 | 0.331 |
| -3.000 | 21.317 | 0.192 | 7.689 | 0.320 |
| -3.000 | 21.317 | 0.192 | 7.689 | 0.320 |
| -3.750 | 23.275 | 0.263 | 7.570 | 0.299 |
| -4.500 | 25.477 | 0.317 | 7.532 | 0.281 |
| -4.500 | 25.477 | 0.317 | 7.532 | 0.281 |
| -5.250 | 25.882 | 0.332 | 7.553 | 0.249 |
| -6.000 | 26.566 | 0.322 | 7.608 | 0.218 |
| -6.000 | 26.566 | 0.322 | 7.608 | 0.218 |
| -7.000 | 32.683 | 0.249 | 7.685 | 0.198 |
| -8.000 | 39.326 | 0.119 | 7.725 | 0.175 |
| -8.000 | 39.326 | 0.119 | 7.725 | 0.175 |
| -8.850 | 44.574 | 0.113 | 7.716 | 0.163 |
| -9.750 | 50.101 | 0.104 | 7.663 | 0.151 |
| -10.600 | 55.300 | 0.095 | 7.577 | 0.140 |
| -11.500 | 60.793 | 0.082 | 7.458 | 0.128 |
| -11.500 | 60.793 | 0.082 | 7.458 | 0.128 |
| -12.000 | 63.955 | 0.022 | 7.381 | 0.117 |
| -12.500 | 67.175 | -0.045 | 7.298 | 0.106 |
| -12.500 | 67.175 | -0.045 | 7.298 | 0.106 |
| -13.350 | 72.371 | -0.063 | 7.147 | 0.094 |
| -14.250 | 77.887 | -0.084 | 6.977 | 0.081 |
| -15.100 | 83.115 | -0.106 | 6.811 | 0.069 |
| -16.000 | 88.674 | -0.133 | 6.630 | 0.056 |
| -16.000 | 88.675 | -0.133 | 6.630 | 0.056 |
| -16.400 | 92.489 | -0.237 | 6.549 | 0.052 |
| -16.800 | 96.364 | -0.347 | 6.468 | 0.049 |
| -16.800 | 96.364 | -0.348 | 6.468 | 0.049 |
| -17.400 | 104.951 | -0.863 | 6.347 | 0.039 |
| -17.900 | 112.125 | -1.294 | 6.246 | 0.030 |
| -18.400 | 119.317 | -1.728 | 6.145 | 0.022 |
| -19.000 | 127.972 | -2.250 | 6.025 | 0.013 |
| -19.000 | 127.972 | -2.250 | 6.025 | 0.013 |
| -20.651 | 144.464 | -2.250 | 5.701 | 0.009 |
| -22.251 | 160.457 | -2.250 | 5.398 | 0.006 |
| -23.902 | 176.974 | -2.250 | 5.097 | 0.003 |
| -25.502 | 192.993 | -2.250 | 4.819 | 0.000 |

### 3.34 Results for Vertical 34 (X = -7.63 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.165 | 10.702 | -0.165 | 10.701 | 0.474 |
| -0.265 | 10.980 | -0.246 | 9.557 | 0.448 |
| -0.365 | 10.516 | -0.328 | 7.671 | 0.432 |
| -0.430 | 10.479 | -0.383 | 6.697 | 0.425 |
| -0.465 | 10.519 | -0.377 | 6.581 | 0.422 |
| -0.565 | 11.719 | -0.359 | 7.337 | 0.413 |
| -0.665 | 12.770 | -0.339 | 7.959 | 0.404 |
| -0.765 | 13.445 | -0.319 | 8.217 | 0.396 |
| -0.865 | 13.958 | -0.298 | 8.320 | 0.388 |
| -0.965 | 14.391 | -0.276 | 8.346 | 0.381 |
| -1.065 | 14.776 | -0.254 | 8.328 | 0.374 |
| -1.165 | 15.132 | -0.232 | 8.284 | 0.368 |
| -1.582 | 16.522 | -0.137 | 8.019 | 0.348 |
| -2.250 | 18.828 | 0.018 | 7.711 | 0.328 |
| -3.000 | 21.560 | 0.191 | 7.499 | 0.317 |
| -3.000 | 21.560 | 0.191 | 7.499 | 0.317 |
| -3.750 | 23.520 | 0.262 | 7.385 | 0.296 |
| -4.500 | 25.718 | 0.316 | 7.346 | 0.278 |
| -4.500 | 25.718 | 0.316 | 7.346 | 0.278 |
| -5.250 | 26.117 | 0.331 | 7.364 | 0.247 |
| -6.000 | 26.792 | 0.323 | 7.415 | 0.216 |
| -6.000 | 26.792 | 0.323 | 7.415 | 0.216 |
| -7.000 | 32.891 | 0.251 | 7.488 | 0.196 |
| -8.000 | 39.512 | 0.122 | 7.527 | 0.173 |
| -8.000 | 39.513 | 0.122 | 7.527 | 0.173 |
| -8.850 | 44.761 | 0.116 | 7.518 | 0.162 |
| -9.750 | 50.289 | 0.108 | 7.467 | 0.150 |
| -10.600 | 55.489 | 0.098 | 7.384 | 0.139 |
| -11.500 | 60.983 | 0.086 | 7.268 | 0.127 |
| -11.500 | 60.983 | 0.086 | 7.268 | 0.127 |
| -12.000 | 64.138 | 0.027 | 7.193 | 0.117 |
| -12.500 | 67.350 | -0.039 | 7.112 | 0.105 |
| -12.500 | 67.350 | -0.039 | 7.112 | 0.105 |
| -13.350 | 72.546 | -0.056 | 6.964 | 0.093 |
| -14.250 | 78.062 | -0.077 | 6.797 | 0.080 |
| -15.100 | 83.290 | -0.099 | 6.633 | 0.068 |
| -16.000 | 88.848 | -0.126 | 6.455 | 0.055 |
| -16.000 | 88.848 | -0.126 | 6.455 | 0.055 |
| -16.400 | 92.648 | -0.228 | 6.376 | 0.052 |
| -16.800 | 96.508 | -0.337 | 6.296 | 0.048 |
| -16.800 | 96.508 | -0.337 | 6.296 | 0.048 |
| -17.400 | 105.125 | -0.855 | 6.176 | 0.038 |
| -17.900 | 112.325 | -1.289 | 6.076 | 0.030 |
| -18.400 | 119.543 | -1.725 | 5.976 | 0.022 |
| -19.000 | 128.228 | -2.250 | 5.858 | 0.012 |
| -19.000 | 128.228 | -2.250 | 5.858 | 0.012 |
| -20.651 | 144.723 | -2.250 | 5.537 | 0.009 |
| -22.251 | 160.719 | -2.250 | 5.237 | 0.005 |
| -23.902 | 177.238 | -2.250 | 4.939 | 0.003 |
| -25.502 | 193.260 | -2.250 | 4.663 | 0.000 |

### 3.35 Results for Vertical 35 (X = -7.59 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.150 | 10.442 | -0.150 | 10.441 | 0.469 |
| -0.250 | 10.780 | -0.233 | 9.349 | 0.443 |
| -0.350 | 10.842 | -0.315 | 7.986 | 0.427 |
| -0.429 | 10.821 | -0.380 | 6.843 | 0.418 |
| -0.450 | 10.832 | -0.376 | 6.758 | 0.416 |
| -0.550 | 11.348 | -0.359 | 6.826 | 0.407 |
| -0.650 | 12.349 | -0.340 | 7.390 | 0.399 |
| -0.750 | 13.136 | -0.321 | 7.750 | 0.391 |
| -0.850 | 13.741 | -0.300 | 7.937 | 0.384 |
| -0.950 | 14.241 | -0.279 | 8.024 | 0.377 |
| -1.050 | 14.675 | -0.258 | 8.050 | 0.371 |
| -1.150 | 15.069 | -0.236 | 8.038 | 0.365 |
| -1.575 | 16.566 | -0.141 | 7.835 | 0.345 |
| -2.250 | 18.938 | 0.013 | 7.546 | 0.326 |
| -3.000 | 21.694 | 0.185 | 7.344 | 0.315 |
| -3.000 | 21.695 | 0.185 | 7.344 | 0.315 |
| -3.750 | 23.663 | 0.255 | 7.232 | 0.294 |
| -4.500 | 25.865 | 0.309 | 7.193 | 0.276 |
| -4.500 | 25.865 | 0.309 | 7.193 | 0.276 |
| -5.250 | 26.262 | 0.324 | 7.209 | 0.245 |
| -6.000 | 26.935 | 0.315 | 7.258 | 0.215 |
| -6.000 | 26.935 | 0.315 | 7.258 | 0.215 |
| -7.000 | 33.026 | 0.244 | 7.328 | 0.195 |
| -8.000 | 39.634 | 0.117 | 7.366 | 0.172 |
| -8.000 | 39.634 | 0.117 | 7.366 | 0.172 |
| -8.850 | 44.882 | 0.111 | 7.358 | 0.161 |
| -9.750 | 50.411 | 0.102 | 7.308 | 0.149 |
| -10.600 | 55.611 | 0.093 | 7.227 | 0.138 |
| -11.500 | 61.105 | 0.081 | 7.112 | 0.127 |
| -11.500 | 61.106 | 0.081 | 7.112 | 0.127 |
| -12.000 | 64.254 | 0.022 | 7.038 | 0.116 |
| -12.500 | 67.459 | -0.043 | 6.958 | 0.105 |
| -12.500 | 67.460 | -0.043 | 6.958 | 0.105 |
| -13.350 | 72.656 | -0.060 | 6.812 | 0.092 |
| -14.250 | 78.171 | -0.081 | 6.646 | 0.080 |
| -15.100 | 83.397 | -0.102 | 6.484 | 0.068 |
| -16.000 | 88.954 | -0.128 | 6.307 | 0.055 |
| -16.000 | 88.954 | -0.128 | 6.307 | 0.055 |
| -16.400 | 92.742 | -0.230 | 6.228 | 0.052 |
| -16.800 | 96.589 | -0.337 | 6.149 | 0.048 |
| -16.800 | 96.589 | -0.337 | 6.149 | 0.048 |
| -17.400 | 105.207 | -0.855 | 6.030 | 0.038 |
| -17.900 | 112.407 | -1.289 | 5.931 | 0.030 |
| -18.400 | 119.625 | -1.725 | 5.832 | 0.022 |
| -19.000 | 128.310 | -2.250 | 5.714 | 0.012 |
| -19.000 | 128.310 | -2.250 | 5.714 | 0.012 |
| -20.651 | 144.807 | -2.250 | 5.395 | 0.009 |
| -22.251 | 160.805 | -2.250 | 5.096 | 0.005 |
| -23.902 | 177.326 | -2.250 | 4.800 | 0.003 |
| -25.502 | 193.349 | -2.250 | 4.525 | 0.000 |

### 3.36 Results for Vertical 36 (X = -7.53 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.128 | 10.275 | -0.128 | 10.274 | 0.462 |
| -0.228 | 10.622 | -0.212 | 9.180 | 0.436 |
| -0.328 | 11.013 | -0.295 | 8.140 | 0.420 |
| -0.427 | 11.193 | -0.377 | 6.902 | 0.409 |
| -0.428 | 11.194 | -0.376 | 6.900 | 0.409 |
| -0.528 | 11.397 | -0.359 | 6.655 | 0.400 |
| -0.628 | 12.006 | -0.341 | 6.819 | 0.392 |
| -0.728 | 12.760 | -0.323 | 7.134 | 0.385 |
| -0.828 | 13.432 | -0.304 | 7.377 | 0.378 |
| -0.928 | 14.007 | -0.284 | 7.529 | 0.372 |
| -1.028 | 14.508 | -0.263 | 7.612 | 0.366 |
| -1.128 | 14.955 | -0.242 | 7.646 | 0.360 |
| -1.564 | 16.626 | -0.148 | 7.541 | 0.341 |
| -2.250 | 19.112 | 0.006 | 7.287 | 0.321 |
| -3.000 | 21.912 | 0.174 | 7.097 | 0.311 |
| -3.000 | 21.912 | 0.174 | 7.097 | 0.311 |
| -3.750 | 23.896 | 0.243 | 6.990 | 0.291 |
| -4.500 | 26.104 | 0.296 | 6.951 | 0.273 |
| -4.500 | 26.104 | 0.296 | 6.951 | 0.273 |
| -5.250 | 26.501 | 0.311 | 6.965 | 0.243 |
| -6.000 | 27.168 | 0.302 | 7.010 | 0.213 |
| -6.000 | 27.168 | 0.302 | 7.010 | 0.213 |
| -7.000 | 33.246 | 0.232 | 7.077 | 0.193 |
| -8.000 | 39.834 | 0.107 | 7.113 | 0.171 |
| -8.000 | 39.834 | 0.107 | 7.113 | 0.171 |
| -8.850 | 45.081 | 0.101 | 7.106 | 0.159 |
| -9.750 | 50.609 | 0.093 | 7.057 | 0.148 |
| -10.600 | 55.810 | 0.083 | 6.978 | 0.137 |
| -11.500 | 61.305 | 0.071 | 6.865 | 0.126 |
| -11.500 | 61.305 | 0.071 | 6.865 | 0.126 |
| -12.000 | 64.444 | 0.014 | 6.793 | 0.115 |
| -12.500 | 67.637 | -0.050 | 6.715 | 0.104 |
| -12.500 | 67.637 | -0.050 | 6.715 | 0.104 |
| -13.350 | 72.833 | -0.066 | 6.571 | 0.092 |
| -14.250 | 78.347 | -0.086 | 6.408 | 0.079 |
| -15.100 | 83.571 | -0.108 | 6.248 | 0.067 |
| -16.000 | 89.125 | -0.133 | 6.074 | 0.055 |
| -16.000 | 89.125 | -0.133 | 6.074 | 0.055 |
| -16.400 | 92.893 | -0.232 | 5.995 | 0.051 |
| -16.800 | 96.717 | -0.337 | 5.917 | 0.048 |
| -16.800 | 96.718 | -0.337 | 5.917 | 0.048 |
| -17.400 | 105.337 | -0.856 | 5.799 | 0.038 |
| -17.900 | 112.538 | -1.290 | 5.701 | 0.030 |
| -18.400 | 119.755 | -1.725 | 5.603 | 0.022 |
| -19.000 | 128.440 | -2.250 | 5.487 | 0.012 |
| -19.000 | 128.440 | -2.250 | 5.487 | 0.012 |
| -20.651 | 144.940 | -2.250 | 5.171 | 0.008 |
| -22.251 | 160.941 | -2.250 | 4.874 | 0.005 |
| -23.902 | 177.463 | -2.250 | 4.580 | 0.003 |
| -25.502 | 193.488 | -2.250 | 4.307 | 0.000 |

### 3.37 Results for Vertical 37 (X = -6.89 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.136 | 10.189 | -0.136 | 10.188 | 0.456 |
| -0.236 | 10.624 | -0.220 | 9.185 | 0.430 |
| -0.336 | 11.072 | -0.302 | 8.204 | 0.414 |
| -0.410 | 11.391 | -0.363 | 7.472 | 0.406 |
| -0.436 | 11.500 | -0.358 | 7.465 | 0.403 |
| -0.536 | 11.896 | -0.340 | 7.421 | 0.393 |
| -0.636 | 12.267 | -0.321 | 7.355 | 0.385 |
| -0.736 | 12.626 | -0.302 | 7.280 | 0.377 |
| -0.836 | 12.987 | -0.283 | 7.208 | 0.370 |
| -0.936 | 13.356 | -0.264 | 7.149 | 0.364 |
| -1.036 | 13.738 | -0.244 | 7.103 | 0.358 |
| -1.136 | 14.129 | -0.224 | 7.072 | 0.353 |
| -1.568 | 15.877 | -0.135 | 7.021 | 0.335 |
| -2.250 | 18.600 | 0.013 | 6.979 | 0.317 |
| -3.000 | 21.544 | 0.180 | 6.914 | 0.307 |
| -3.000 | 21.544 | 0.180 | 6.914 | 0.307 |
| -3.750 | 23.578 | 0.249 | 6.856 | 0.287 |
| -4.500 | 25.785 | 0.302 | 6.820 | 0.269 |
| -4.500 | 25.785 | 0.302 | 6.820 | 0.269 |
| -5.250 | 26.148 | 0.318 | 6.809 | 0.239 |
| -6.000 | 26.767 | 0.309 | 6.819 | 0.209 |
| -6.000 | 26.767 | 0.309 | 6.819 | 0.209 |
| -7.000 | 32.769 | 0.242 | 6.844 | 0.190 |
| -8.000 | 39.293 | 0.120 | 6.859 | 0.168 |
| -8.000 | 39.293 | 0.120 | 6.859 | 0.168 |
| -8.850 | 44.535 | 0.114 | 6.848 | 0.157 |
| -9.750 | 50.071 | 0.107 | 6.809 | 0.146 |
| -10.600 | 55.289 | 0.097 | 6.747 | 0.135 |
| -11.500 | 60.808 | 0.085 | 6.657 | 0.124 |
| -11.500 | 60.808 | 0.085 | 6.657 | 0.124 |
| -12.000 | 63.954 | 0.029 | 6.599 | 0.114 |
| -12.500 | 67.156 | -0.034 | 6.535 | 0.103 |
| -12.500 | 67.156 | -0.034 | 6.535 | 0.103 |
| -13.350 | 72.377 | -0.051 | 6.416 | 0.091 |
| -14.250 | 77.917 | -0.071 | 6.279 | 0.078 |
| -15.100 | 83.165 | -0.092 | 6.142 | 0.067 |
| -16.000 | 88.743 | -0.117 | 5.992 | 0.054 |
| -16.000 | 88.743 | -0.117 | 5.992 | 0.054 |
| -16.400 | 92.516 | -0.216 | 5.924 | 0.051 |
| -16.800 | 96.346 | -0.320 | 5.855 | 0.047 |
| -16.800 | 96.346 | -0.320 | 5.855 | 0.047 |
| -17.400 | 105.027 | -0.843 | 5.752 | 0.038 |
| -17.900 | 112.278 | -1.281 | 5.665 | 0.030 |
| -18.400 | 119.546 | -1.720 | 5.578 | 0.022 |
| -19.000 | 128.291 | -2.250 | 5.474 | 0.012 |
| -19.000 | 128.291 | -2.250 | 5.474 | 0.012 |
| -20.651 | 144.824 | -2.250 | 5.189 | 0.008 |
| -22.251 | 160.852 | -2.250 | 4.919 | 0.005 |
| -23.902 | 177.400 | -2.250 | 4.649 | 0.002 |
| -25.502 | 193.446 | -2.250 | 4.396 | 0.000 |

### 3.38 Results for Vertical 38 (X = -6.49 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.127 | 9.506 | -0.127 | 9.505 | 0.448 |
| -0.227 | 10.032 | -0.212 | 8.582 | 0.423 |
| -0.327 | 10.539 | -0.296 | 7.650 | 0.408 |
| -0.399 | 10.885 | -0.355 | 6.973 | 0.399 |
| -0.427 | 11.020 | -0.350 | 6.978 | 0.396 |
| -0.527 | 11.469 | -0.333 | 6.979 | 0.387 |
| -0.627 | 11.897 | -0.315 | 6.962 | 0.379 |
| -0.727 | 12.311 | -0.297 | 6.934 | 0.371 |
| -0.827 | 12.717 | -0.278 | 6.902 | 0.364 |
| -0.927 | 13.120 | -0.260 | 6.870 | 0.358 |
| -1.027 | 13.521 | -0.241 | 6.840 | 0.352 |
| -1.127 | 13.924 | -0.221 | 6.814 | 0.347 |
| -1.564 | 15.696 | -0.133 | 6.749 | 0.329 |
| -2.250 | 18.485 | 0.013 | 6.729 | 0.312 |
| -3.000 | 21.491 | 0.178 | 6.705 | 0.302 |
| -3.000 | 21.491 | 0.178 | 6.705 | 0.302 |
| -3.750 | 23.551 | 0.246 | 6.668 | 0.282 |
| -4.500 | 25.758 | 0.300 | 6.630 | 0.265 |
| -4.500 | 25.758 | 0.300 | 6.630 | 0.265 |
| -5.250 | 26.104 | 0.315 | 6.605 | 0.235 |
| -6.000 | 26.694 | 0.307 | 6.593 | 0.206 |
| -6.000 | 26.694 | 0.307 | 6.593 | 0.206 |
| -7.000 | 32.647 | 0.241 | 6.591 | 0.187 |
| -8.000 | 39.122 | 0.122 | 6.586 | 0.165 |
| -8.000 | 39.122 | 0.122 | 6.586 | 0.165 |
| -8.850 | 44.354 | 0.117 | 6.569 | 0.155 |
| -9.750 | 49.889 | 0.109 | 6.531 | 0.144 |
| -10.600 | 55.112 | 0.100 | 6.475 | 0.134 |
| -11.500 | 60.639 | 0.089 | 6.396 | 0.123 |
| -11.500 | 60.639 | 0.089 | 6.396 | 0.123 |
| -12.000 | 63.783 | 0.033 | 6.345 | 0.112 |
| -12.500 | 66.982 | -0.029 | 6.289 | 0.101 |
| -12.500 | 66.982 | -0.029 | 6.289 | 0.101 |
| -13.350 | 72.215 | -0.045 | 6.183 | 0.090 |
| -14.250 | 77.768 | -0.065 | 6.061 | 0.077 |
| -15.100 | 83.028 | -0.085 | 5.938 | 0.066 |
| -16.000 | 88.618 | -0.110 | 5.802 | 0.053 |
| -16.000 | 88.618 | -0.110 | 5.802 | 0.053 |
| -16.400 | 92.383 | -0.207 | 5.740 | 0.050 |
| -16.800 | 96.204 | -0.310 | 5.678 | 0.047 |
| -16.800 | 96.204 | -0.310 | 5.678 | 0.047 |
| -17.400 | 104.920 | -0.836 | 5.583 | 0.037 |
| -17.900 | 112.200 | -1.276 | 5.503 | 0.029 |
| -18.400 | 119.497 | -1.718 | 5.423 | 0.021 |
| -19.000 | 128.275 | -2.250 | 5.327 | 0.012 |
| -19.000 | 128.276 | -2.250 | 5.327 | 0.012 |
| -20.651 | 144.830 | -2.250 | 5.062 | 0.008 |
| -22.251 | 160.876 | -2.250 | 4.809 | 0.005 |
| -23.902 | 177.439 | -2.250 | 4.554 | 0.002 |
| -25.502 | 193.498 | -2.250 | 4.314 | 0.000 |

### 3.39 Results for Vertical 39 (X = -6.19 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.121 | 9.140 | -0.121 | 9.139 | 0.442 |
| -0.221 | 9.684 | -0.206 | 8.226 | 0.417 |
| -0.321 | 10.051 | -0.291 | 7.147 | 0.402 |
| -0.391 | 10.336 | -0.349 | 6.426 | 0.394 |
| -0.421 | 10.470 | -0.344 | 6.421 | 0.391 |
| -0.521 | 10.938 | -0.328 | 6.430 | 0.382 |
| -0.621 | 11.420 | -0.311 | 6.458 | 0.374 |
| -0.721 | 11.898 | -0.294 | 6.487 | 0.367 |
| -0.821 | 12.367 | -0.276 | 6.510 | 0.361 |
| -0.921 | 12.825 | -0.258 | 6.528 | 0.355 |
| -1.021 | 13.274 | -0.240 | 6.539 | 0.349 |
| -1.121 | 13.715 | -0.221 | 6.547 | 0.344 |
| -1.561 | 15.596 | -0.134 | 6.562 | 0.326 |
| -2.250 | 18.450 | 0.012 | 6.577 | 0.309 |
| -3.000 | 21.485 | 0.176 | 6.573 | 0.300 |
| -3.000 | 21.485 | 0.176 | 6.573 | 0.300 |
| -3.750 | 23.554 | 0.244 | 6.542 | 0.280 |
| -4.500 | 25.756 | 0.297 | 6.500 | 0.262 |
| -4.500 | 25.756 | 0.297 | 6.500 | 0.262 |
| -5.250 | 26.086 | 0.313 | 6.462 | 0.233 |
| -6.000 | 26.655 | 0.305 | 6.433 | 0.203 |
| -6.000 | 26.655 | 0.305 | 6.433 | 0.203 |
| -7.000 | 32.569 | 0.241 | 6.410 | 0.185 |
| -8.000 | 39.004 | 0.124 | 6.390 | 0.163 |
| -8.000 | 39.004 | 0.124 | 6.390 | 0.163 |
| -8.850 | 44.227 | 0.119 | 6.366 | 0.153 |
| -9.750 | 49.759 | 0.111 | 6.327 | 0.142 |
| -10.600 | 54.984 | 0.102 | 6.274 | 0.132 |
| -11.500 | 60.517 | 0.091 | 6.202 | 0.122 |
| -11.500 | 60.517 | 0.091 | 6.202 | 0.122 |
| -12.000 | 63.658 | 0.036 | 6.155 | 0.111 |
| -12.500 | 66.854 | -0.025 | 6.104 | 0.100 |
| -12.500 | 66.854 | -0.025 | 6.104 | 0.100 |
| -13.350 | 72.095 | -0.041 | 6.008 | 0.089 |
| -14.250 | 77.656 | -0.060 | 5.896 | 0.077 |
| -15.100 | 82.924 | -0.081 | 5.784 | 0.065 |
| -16.000 | 88.522 | -0.106 | 5.658 | 0.053 |
| -16.000 | 88.522 | -0.106 | 5.658 | 0.053 |
| -16.400 | 92.281 | -0.201 | 5.600 | 0.050 |
| -16.800 | 96.095 | -0.303 | 5.542 | 0.046 |
| -16.800 | 96.095 | -0.303 | 5.542 | 0.046 |
| -17.400 | 104.837 | -0.831 | 5.454 | 0.037 |
| -17.900 | 112.140 | -1.272 | 5.379 | 0.029 |
| -18.400 | 119.458 | -1.716 | 5.304 | 0.021 |
| -19.000 | 128.262 | -2.250 | 5.214 | 0.012 |
| -19.000 | 128.262 | -2.250 | 5.214 | 0.012 |
| -20.651 | 144.831 | -2.250 | 4.964 | 0.008 |
| -22.251 | 160.890 | -2.250 | 4.724 | 0.005 |
| -23.902 | 177.466 | -2.250 | 4.480 | 0.002 |
| -25.502 | 193.536 | -2.250 | 4.250 | 0.000 |

### 3.40 Results for Vertical 40 (X = -6.09 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.092 | 8.871 | -0.092 | 8.870 | 0.433 |
| -0.192 | 9.423 | -0.179 | 7.952 | 0.408 |
| -0.292 | 9.846 | -0.264 | 6.917 | 0.393 |
| -0.388 | 10.317 | -0.346 | 5.993 | 0.383 |
| -0.392 | 10.336 | -0.345 | 5.994 | 0.383 |
| -0.492 | 10.832 | -0.330 | 6.022 | 0.375 |
| -0.592 | 11.330 | -0.314 | 6.058 | 0.367 |
| -0.692 | 11.824 | -0.297 | 6.095 | 0.360 |
| -0.792 | 12.311 | -0.280 | 6.128 | 0.354 |
| -0.892 | 12.788 | -0.263 | 6.156 | 0.348 |
| -0.992 | 13.256 | -0.245 | 6.179 | 0.343 |
| -1.092 | 13.714 | -0.227 | 6.196 | 0.338 |
| -1.546 | 15.717 | -0.140 | 6.239 | 0.321 |
| -2.250 | 18.688 | 0.004 | 6.268 | 0.304 |
| -3.000 | 21.764 | 0.164 | 6.268 | 0.295 |
| -3.000 | 21.764 | 0.164 | 6.268 | 0.295 |
| -3.750 | 23.847 | 0.230 | 6.238 | 0.276 |
| -4.500 | 26.057 | 0.283 | 6.194 | 0.258 |
| -4.500 | 26.057 | 0.283 | 6.194 | 0.258 |
| -5.250 | 26.386 | 0.298 | 6.150 | 0.229 |
| -6.000 | 26.949 | 0.290 | 6.116 | 0.200 |
| -6.000 | 26.949 | 0.290 | 6.116 | 0.200 |
| -7.000 | 32.846 | 0.227 | 6.085 | 0.182 |
| -8.000 | 39.254 | 0.112 | 6.060 | 0.161 |
| -8.000 | 39.254 | 0.112 | 6.060 | 0.161 |
| -8.850 | 44.473 | 0.107 | 6.033 | 0.151 |
| -9.750 | 50.003 | 0.100 | 5.993 | 0.141 |
| -10.600 | 55.226 | 0.091 | 5.942 | 0.131 |
| -11.500 | 60.757 | 0.080 | 5.872 | 0.120 |
| -11.500 | 60.758 | 0.080 | 5.872 | 0.120 |
| -12.000 | 63.885 | 0.026 | 5.826 | 0.110 |
| -12.500 | 67.067 | -0.033 | 5.777 | 0.099 |
| -12.500 | 67.067 | -0.033 | 5.777 | 0.099 |
| -13.350 | 72.307 | -0.048 | 5.684 | 0.088 |
| -14.250 | 77.867 | -0.067 | 5.576 | 0.076 |
| -15.100 | 83.133 | -0.087 | 5.466 | 0.065 |
| -16.000 | 88.727 | -0.111 | 5.344 | 0.052 |
| -16.000 | 88.727 | -0.111 | 5.344 | 0.052 |
| -16.400 | 92.461 | -0.204 | 5.288 | 0.049 |
| -16.800 | 96.247 | -0.303 | 5.231 | 0.046 |
| -16.800 | 96.247 | -0.303 | 5.231 | 0.046 |
| -17.400 | 104.993 | -0.831 | 5.145 | 0.036 |
| -17.900 | 112.298 | -1.272 | 5.072 | 0.029 |
| -18.400 | 119.618 | -1.716 | 4.999 | 0.021 |
| -19.000 | 128.423 | -2.250 | 4.911 | 0.011 |
| -19.000 | 128.423 | -2.250 | 4.911 | 0.011 |
| -20.651 | 144.998 | -2.250 | 4.666 | 0.008 |
| -22.251 | 161.062 | -2.250 | 4.430 | 0.005 |
| -23.902 | 177.642 | -2.250 | 4.190 | 0.002 |
| -25.502 | 193.715 | -2.250 | 3.964 | 0.000 |

### 3.41 Results for Vertical 41 (X = -6.05 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.080 | 8.755 | -0.080 | 8.754 | 0.430 |
| -0.180 | 9.133 | -0.167 | 7.655 | 0.405 |
| -0.280 | 9.746 | -0.254 | 6.804 | 0.390 |
| -0.380 | 10.281 | -0.339 | 5.882 | 0.380 |
| -0.387 | 10.316 | -0.345 | 5.819 | 0.380 |
| -0.480 | 10.795 | -0.331 | 5.860 | 0.372 |
| -0.580 | 11.302 | -0.315 | 5.901 | 0.364 |
| -0.680 | 11.803 | -0.299 | 5.941 | 0.358 |
| -0.780 | 12.296 | -0.282 | 5.978 | 0.351 |
| -0.880 | 12.779 | -0.265 | 6.009 | 0.346 |
| -0.980 | 13.253 | -0.248 | 6.035 | 0.341 |
| -1.080 | 13.718 | -0.230 | 6.055 | 0.336 |
| -1.540 | 15.771 | -0.144 | 6.109 | 0.319 |
| -2.250 | 18.788 | 0.000 | 6.143 | 0.302 |
| -3.000 | 21.880 | 0.158 | 6.145 | 0.293 |
| -3.000 | 21.880 | 0.158 | 6.145 | 0.293 |
| -3.750 | 23.969 | 0.225 | 6.115 | 0.274 |
| -4.500 | 26.182 | 0.277 | 6.069 | 0.257 |
| -4.500 | 26.182 | 0.277 | 6.069 | 0.257 |
| -5.250 | 26.510 | 0.292 | 6.024 | 0.228 |
| -6.000 | 27.070 | 0.284 | 5.987 | 0.199 |
| -6.000 | 27.070 | 0.284 | 5.987 | 0.199 |
| -7.000 | 32.961 | 0.221 | 5.953 | 0.181 |
| -8.000 | 39.358 | 0.107 | 5.926 | 0.160 |
| -8.000 | 39.358 | 0.107 | 5.926 | 0.160 |
| -8.850 | 44.575 | 0.102 | 5.898 | 0.150 |
| -9.750 | 50.103 | 0.095 | 5.858 | 0.140 |
| -10.600 | 55.326 | 0.086 | 5.807 | 0.130 |
| -11.500 | 60.857 | 0.075 | 5.738 | 0.120 |
| -11.500 | 60.857 | 0.075 | 5.738 | 0.120 |
| -12.000 | 63.979 | 0.022 | 5.693 | 0.110 |
| -12.500 | 67.154 | -0.036 | 5.644 | 0.099 |
| -12.500 | 67.155 | -0.036 | 5.644 | 0.099 |
| -13.350 | 72.394 | -0.051 | 5.552 | 0.088 |
| -14.250 | 77.953 | -0.070 | 5.446 | 0.076 |
| -15.100 | 83.218 | -0.090 | 5.337 | 0.064 |
| -16.000 | 88.811 | -0.113 | 5.216 | 0.052 |
| -16.000 | 88.812 | -0.113 | 5.216 | 0.052 |
| -16.400 | 92.534 | -0.205 | 5.161 | 0.049 |
| -16.800 | 96.309 | -0.303 | 5.105 | 0.046 |
| -16.800 | 96.309 | -0.303 | 5.105 | 0.046 |
| -17.400 | 105.057 | -0.831 | 5.020 | 0.036 |
| -17.900 | 112.363 | -1.272 | 4.948 | 0.028 |
| -18.400 | 119.683 | -1.716 | 4.875 | 0.021 |
| -19.000 | 128.489 | -2.250 | 4.787 | 0.011 |
| -19.000 | 128.489 | -2.250 | 4.787 | 0.011 |
| -20.651 | 145.066 | -2.250 | 4.545 | 0.008 |
| -22.251 | 161.132 | -2.250 | 4.310 | 0.005 |
| -23.902 | 177.713 | -2.250 | 4.072 | 0.002 |
| -25.502 | 193.787 | -2.250 | 3.847 | 0.000 |

### 3.42 Results for Vertical 42 (X = -5.75 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.072 | 8.660 | -0.072 | 8.659 | 0.425 |
| -0.172 | 9.192 | -0.160 | 7.713 | 0.400 |
| -0.272 | 9.685 | -0.246 | 6.739 | 0.386 |
| -0.372 | 10.168 | -0.332 | 5.761 | 0.375 |
| -0.379 | 10.199 | -0.338 | 5.697 | 0.375 |
| -0.472 | 10.655 | -0.324 | 5.710 | 0.367 |
| -0.572 | 11.148 | -0.309 | 5.732 | 0.360 |
| -0.672 | 11.642 | -0.293 | 5.760 | 0.353 |
| -0.772 | 12.133 | -0.277 | 5.790 | 0.347 |
| -0.872 | 12.620 | -0.260 | 5.820 | 0.342 |
| -0.972 | 13.100 | -0.243 | 5.848 | 0.337 |
| -1.072 | 13.575 | -0.226 | 5.875 | 0.332 |
| -1.536 | 15.695 | -0.140 | 5.962 | 0.315 |
| -2.250 | 18.774 | 0.002 | 6.021 | 0.299 |
| -3.000 | 21.887 | 0.159 | 6.028 | 0.290 |
| -3.000 | 21.887 | 0.159 | 6.028 | 0.290 |
| -3.750 | 23.977 | 0.224 | 5.993 | 0.271 |
| -4.500 | 26.183 | 0.276 | 5.937 | 0.254 |
| -4.500 | 26.183 | 0.276 | 5.937 | 0.254 |
| -5.250 | 26.495 | 0.291 | 5.875 | 0.225 |
| -6.000 | 27.035 | 0.284 | 5.821 | 0.197 |
| -6.000 | 27.035 | 0.284 | 5.821 | 0.197 |
| -7.000 | 32.893 | 0.221 | 5.765 | 0.179 |
| -8.000 | 39.256 | 0.109 | 5.721 | 0.158 |
| -8.000 | 39.256 | 0.109 | 5.721 | 0.158 |
| -8.850 | 44.464 | 0.104 | 5.686 | 0.149 |
| -9.750 | 49.987 | 0.097 | 5.643 | 0.139 |
| -10.600 | 55.210 | 0.088 | 5.593 | 0.129 |
| -11.500 | 60.745 | 0.077 | 5.529 | 0.119 |
| -11.500 | 60.745 | 0.077 | 5.529 | 0.119 |
| -12.000 | 63.864 | 0.025 | 5.488 | 0.109 |
| -12.500 | 67.036 | -0.032 | 5.444 | 0.098 |
| -12.500 | 67.036 | -0.032 | 5.444 | 0.098 |
| -13.350 | 72.283 | -0.047 | 5.361 | 0.087 |
| -14.250 | 77.850 | -0.066 | 5.264 | 0.075 |
| -15.100 | 83.123 | -0.085 | 5.165 | 0.064 |
| -16.000 | 88.724 | -0.109 | 5.054 | 0.052 |
| -16.000 | 88.724 | -0.109 | 5.054 | 0.052 |
| -16.400 | 92.440 | -0.199 | 5.003 | 0.049 |
| -16.800 | 96.208 | -0.296 | 4.952 | 0.045 |
| -16.800 | 96.208 | -0.296 | 4.952 | 0.045 |
| -17.400 | 104.982 | -0.826 | 4.873 | 0.036 |
| -17.900 | 112.309 | -1.269 | 4.806 | 0.028 |
| -18.400 | 119.651 | -1.714 | 4.738 | 0.020 |
| -19.000 | 128.482 | -2.250 | 4.656 | 0.011 |
| -19.000 | 128.482 | -2.250 | 4.656 | 0.011 |
| -20.651 | 145.075 | -2.250 | 4.428 | 0.008 |
| -22.251 | 161.153 | -2.250 | 4.207 | 0.005 |
| -23.902 | 177.747 | -2.250 | 3.980 | 0.002 |
| -25.502 | 193.832 | -2.250 | 3.765 | 0.000 |

### 3.43 Results for Vertical 43 (X = -5.37 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.064 | 8.684 | -0.064 | 8.683 | 0.420 |
| -0.164 | 9.203 | -0.152 | 7.722 | 0.396 |
| -0.264 | 9.698 | -0.238 | 6.749 | 0.381 |
| -0.364 | 10.186 | -0.324 | 5.775 | 0.371 |
| -0.368 | 10.205 | -0.328 | 5.736 | 0.370 |
| -0.464 | 10.669 | -0.314 | 5.743 | 0.363 |
| -0.564 | 11.149 | -0.299 | 5.751 | 0.355 |
| -0.664 | 11.626 | -0.283 | 5.760 | 0.349 |
| -0.764 | 12.101 | -0.268 | 5.772 | 0.343 |
| -0.864 | 12.573 | -0.251 | 5.784 | 0.337 |
| -0.964 | 13.042 | -0.235 | 5.798 | 0.332 |
| -1.064 | 13.508 | -0.217 | 5.813 | 0.327 |
| -1.532 | 15.637 | -0.132 | 5.878 | 0.310 |
| -2.250 | 18.749 | 0.009 | 5.932 | 0.294 |
| -3.000 | 21.872 | 0.163 | 5.928 | 0.286 |
| -3.000 | 21.872 | 0.163 | 5.928 | 0.286 |
| -3.750 | 23.954 | 0.228 | 5.877 | 0.267 |
| -4.500 | 26.145 | 0.279 | 5.798 | 0.250 |
| -4.500 | 26.145 | 0.279 | 5.798 | 0.250 |
| -5.250 | 26.436 | 0.293 | 5.713 | 0.221 |
| -6.000 | 26.949 | 0.286 | 5.634 | 0.193 |
| -6.000 | 26.949 | 0.286 | 5.634 | 0.193 |
| -7.000 | 32.770 | 0.225 | 5.549 | 0.176 |
| -8.000 | 39.096 | 0.114 | 5.485 | 0.156 |
| -8.000 | 39.096 | 0.114 | 5.485 | 0.156 |
| -8.850 | 44.291 | 0.109 | 5.439 | 0.146 |
| -9.750 | 49.808 | 0.102 | 5.391 | 0.137 |
| -10.600 | 55.030 | 0.093 | 5.343 | 0.127 |
| -11.500 | 60.569 | 0.083 | 5.285 | 0.117 |
| -11.500 | 60.569 | 0.083 | 5.285 | 0.117 |
| -12.000 | 63.686 | 0.031 | 5.248 | 0.107 |
| -12.500 | 66.856 | -0.026 | 5.209 | 0.097 |
| -12.500 | 66.856 | -0.026 | 5.209 | 0.097 |
| -13.350 | 72.112 | -0.041 | 5.137 | 0.086 |
| -14.250 | 77.690 | -0.059 | 5.052 | 0.074 |
| -15.100 | 82.972 | -0.078 | 4.965 | 0.063 |
| -16.000 | 88.584 | -0.101 | 4.867 | 0.051 |
| -16.000 | 88.584 | -0.101 | 4.867 | 0.051 |
| -16.400 | 92.296 | -0.191 | 4.821 | 0.048 |
| -16.800 | 96.058 | -0.286 | 4.775 | 0.045 |
| -16.800 | 96.058 | -0.286 | 4.775 | 0.045 |
| -17.400 | 104.866 | -0.819 | 4.704 | 0.036 |
| -17.900 | 112.222 | -1.264 | 4.644 | 0.028 |
| -18.400 | 119.592 | -1.711 | 4.582 | 0.020 |
| -19.000 | 128.456 | -2.250 | 4.508 | 0.011 |
| -19.000 | 128.456 | -2.250 | 4.508 | 0.011 |
| -20.651 | 145.069 | -2.250 | 4.299 | 0.008 |
| -22.251 | 161.165 | -2.250 | 4.094 | 0.005 |
| -23.902 | 177.774 | -2.250 | 3.882 | 0.002 |
| -25.502 | 193.872 | -2.250 | 3.680 | 0.000 |

### 3.44 Results for Vertical 44 (X = -4.84 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.059 | 8.788 | -0.059 | 8.787 | 0.416 |
| -0.159 | 9.341 | -0.146 | 7.863 | 0.391 |
| -0.259 | 9.795 | -0.233 | 6.849 | 0.376 |
| -0.354 | 10.237 | -0.314 | 5.904 | 0.367 |
| -0.359 | 10.260 | -0.313 | 5.904 | 0.366 |
| -0.459 | 10.730 | -0.299 | 5.898 | 0.358 |
| -0.559 | 11.200 | -0.284 | 5.896 | 0.350 |
| -0.659 | 11.668 | -0.268 | 5.896 | 0.344 |
| -0.759 | 12.133 | -0.253 | 5.898 | 0.337 |
| -0.859 | 12.596 | -0.236 | 5.901 | 0.332 |
| -0.959 | 13.054 | -0.220 | 5.904 | 0.327 |
| -1.059 | 13.510 | -0.203 | 5.908 | 0.322 |
| -1.529 | 15.611 | -0.118 | 5.927 | 0.305 |
| -2.250 | 18.701 | 0.023 | 5.933 | 0.288 |
| -3.000 | 21.803 | 0.175 | 5.886 | 0.280 |
| -3.000 | 21.803 | 0.175 | 5.886 | 0.280 |
| -3.750 | 23.852 | 0.238 | 5.792 | 0.261 |
| -4.500 | 26.012 | 0.288 | 5.673 | 0.244 |
| -4.500 | 26.012 | 0.288 | 5.673 | 0.244 |
| -5.250 | 26.267 | 0.303 | 5.548 | 0.216 |
| -6.000 | 26.745 | 0.295 | 5.435 | 0.189 |
| -6.000 | 26.745 | 0.295 | 5.435 | 0.189 |
| -7.000 | 32.520 | 0.234 | 5.311 | 0.172 |
| -8.000 | 38.805 | 0.124 | 5.219 | 0.152 |
| -8.000 | 38.805 | 0.124 | 5.219 | 0.152 |
| -8.850 | 43.983 | 0.119 | 5.159 | 0.143 |
| -9.750 | 49.491 | 0.112 | 5.105 | 0.134 |
| -10.600 | 54.713 | 0.104 | 5.058 | 0.125 |
| -11.500 | 60.257 | 0.093 | 5.006 | 0.115 |
| -11.500 | 60.257 | 0.093 | 5.006 | 0.115 |
| -12.000 | 63.375 | 0.043 | 4.976 | 0.105 |
| -12.500 | 66.545 | -0.014 | 4.943 | 0.095 |
| -12.500 | 66.545 | -0.014 | 4.943 | 0.095 |
| -13.350 | 71.813 | -0.028 | 4.884 | 0.084 |
| -14.250 | 77.406 | -0.046 | 4.814 | 0.073 |
| -15.100 | 82.703 | -0.065 | 4.743 | 0.062 |
| -16.000 | 88.330 | -0.088 | 4.661 | 0.050 |
| -16.000 | 88.330 | -0.088 | 4.661 | 0.050 |
| -16.400 | 92.043 | -0.178 | 4.623 | 0.048 |
| -16.800 | 95.807 | -0.272 | 4.584 | 0.044 |
| -16.800 | 95.807 | -0.272 | 4.584 | 0.044 |
| -17.400 | 104.664 | -0.808 | 4.524 | 0.035 |
| -17.900 | 112.060 | -1.257 | 4.472 | 0.027 |
| -18.400 | 119.470 | -1.707 | 4.420 | 0.020 |
| -19.000 | 128.383 | -2.250 | 4.355 | 0.011 |
| -19.000 | 128.383 | -2.250 | 4.355 | 0.011 |
| -20.651 | 145.022 | -2.250 | 4.172 | 0.008 |
| -22.251 | 161.142 | -2.250 | 3.989 | 0.005 |
| -23.902 | 177.772 | -2.250 | 3.799 | 0.002 |
| -25.502 | 193.889 | -2.250 | 3.614 | 0.000 |

### 3.45 Results for Vertical 45 (X = -4.78 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.058 | 8.795 | -0.058 | 8.794 | 0.415 |
| -0.158 | 9.273 | -0.146 | 7.794 | 0.391 |
| -0.258 | 9.768 | -0.232 | 6.822 | 0.376 |
| -0.352 | 10.223 | -0.313 | 5.905 | 0.366 |
| -0.358 | 10.252 | -0.312 | 5.905 | 0.366 |
| -0.458 | 10.730 | -0.297 | 5.907 | 0.357 |
| -0.558 | 11.203 | -0.282 | 5.909 | 0.350 |
| -0.658 | 11.673 | -0.267 | 5.911 | 0.343 |
| -0.758 | 12.139 | -0.251 | 5.914 | 0.337 |
| -0.858 | 12.602 | -0.235 | 5.917 | 0.331 |
| -0.958 | 13.061 | -0.218 | 5.920 | 0.326 |
| -1.058 | 13.516 | -0.201 | 5.923 | 0.321 |
| -1.529 | 15.615 | -0.116 | 5.938 | 0.304 |
| -2.250 | 18.700 | 0.024 | 5.937 | 0.288 |
| -3.000 | 21.797 | 0.176 | 5.883 | 0.279 |
| -3.000 | 21.797 | 0.176 | 5.883 | 0.279 |
| -3.750 | 23.841 | 0.240 | 5.783 | 0.260 |
| -4.500 | 25.996 | 0.289 | 5.658 | 0.244 |
| -4.500 | 25.996 | 0.289 | 5.658 | 0.244 |
| -5.250 | 26.247 | 0.304 | 5.529 | 0.216 |
| -6.000 | 26.721 | 0.296 | 5.411 | 0.188 |
| -6.000 | 26.721 | 0.296 | 5.411 | 0.188 |
| -7.000 | 32.490 | 0.235 | 5.282 | 0.171 |
| -8.000 | 38.771 | 0.126 | 5.187 | 0.152 |
| -8.000 | 38.771 | 0.126 | 5.187 | 0.152 |
| -8.850 | 43.947 | 0.121 | 5.126 | 0.143 |
| -9.750 | 49.454 | 0.114 | 5.071 | 0.133 |
| -10.600 | 54.676 | 0.105 | 5.024 | 0.125 |
| -11.500 | 60.221 | 0.095 | 4.973 | 0.115 |
| -11.500 | 60.221 | 0.095 | 4.973 | 0.115 |
| -12.000 | 63.338 | 0.044 | 4.944 | 0.105 |
| -12.500 | 66.509 | -0.012 | 4.912 | 0.095 |
| -12.500 | 66.509 | -0.012 | 4.912 | 0.095 |
| -13.350 | 71.778 | -0.027 | 4.854 | 0.084 |
| -14.250 | 77.372 | -0.045 | 4.786 | 0.073 |
| -15.100 | 82.671 | -0.064 | 4.717 | 0.062 |
| -16.000 | 88.300 | -0.087 | 4.637 | 0.050 |
| -16.000 | 88.300 | -0.087 | 4.637 | 0.050 |
| -16.400 | 92.014 | -0.176 | 4.600 | 0.047 |
| -16.800 | 95.777 | -0.270 | 4.561 | 0.044 |
| -16.800 | 95.777 | -0.270 | 4.561 | 0.044 |
| -17.400 | 104.640 | -0.807 | 4.502 | 0.035 |
| -17.900 | 112.041 | -1.256 | 4.452 | 0.027 |
| -18.400 | 119.456 | -1.707 | 4.400 | 0.020 |
| -19.000 | 128.374 | -2.250 | 4.337 | 0.011 |
| -19.000 | 128.374 | -2.250 | 4.337 | 0.011 |
| -20.651 | 145.016 | -2.250 | 4.157 | 0.008 |
| -22.251 | 161.139 | -2.250 | 3.977 | 0.005 |
| -23.902 | 177.772 | -2.250 | 3.788 | 0.002 |
| -25.502 | 193.890 | -2.250 | 3.606 | 0.000 |

### 3.46 Results for Vertical 46 (X = -3.49 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.039 | 8.998 | -0.039 | 8.997 | 0.405 |
| -0.139 | 9.496 | -0.127 | 8.017 | 0.380 |
| -0.239 | 9.975 | -0.213 | 7.028 | 0.365 |
| -0.317 | 10.346 | -0.280 | 6.263 | 0.357 |
| -0.339 | 10.452 | -0.277 | 6.263 | 0.355 |
| -0.439 | 10.929 | -0.262 | 6.262 | 0.346 |
| -0.539 | 11.403 | -0.248 | 6.262 | 0.338 |
| -0.639 | 11.872 | -0.232 | 6.262 | 0.331 |
| -0.739 | 12.336 | -0.217 | 6.259 | 0.324 |
| -0.839 | 12.794 | -0.201 | 6.255 | 0.318 |
| -0.939 | 13.246 | -0.184 | 6.249 | 0.313 |
| -1.039 | 13.692 | -0.168 | 6.241 | 0.308 |
| -1.520 | 15.771 | -0.083 | 6.176 | 0.289 |
| -2.250 | 18.763 | 0.055 | 6.000 | 0.272 |
| -3.000 | 21.727 | 0.201 | 5.754 | 0.263 |
| -3.000 | 21.727 | 0.201 | 5.754 | 0.263 |
| -3.750 | 23.632 | 0.261 | 5.483 | 0.245 |
| -4.500 | 25.680 | 0.308 | 5.221 | 0.229 |
| -4.500 | 25.680 | 0.308 | 5.221 | 0.229 |
| -5.250 | 25.839 | 0.321 | 4.988 | 0.202 |
| -6.000 | 26.238 | 0.313 | 4.793 | 0.177 |
| -6.000 | 26.238 | 0.313 | 4.793 | 0.177 |
| -7.000 | 31.920 | 0.253 | 4.592 | 0.161 |
| -8.000 | 38.121 | 0.147 | 4.453 | 0.143 |
| -8.000 | 38.121 | 0.147 | 4.453 | 0.143 |
| -8.850 | 43.272 | 0.142 | 4.372 | 0.135 |
| -9.750 | 48.768 | 0.135 | 4.312 | 0.127 |
| -10.600 | 53.991 | 0.127 | 4.272 | 0.119 |
| -11.500 | 59.548 | 0.117 | 4.239 | 0.110 |
| -11.500 | 59.548 | 0.117 | 4.239 | 0.110 |
| -12.000 | 62.661 | 0.068 | 4.222 | 0.100 |
| -12.500 | 65.828 | 0.014 | 4.206 | 0.090 |
| -12.500 | 65.828 | 0.014 | 4.206 | 0.090 |
| -13.350 | 71.122 | 0.000 | 4.178 | 0.080 |
| -14.250 | 76.747 | -0.018 | 4.146 | 0.070 |
| -15.100 | 82.076 | -0.036 | 4.111 | 0.059 |
| -16.000 | 87.737 | -0.058 | 4.069 | 0.048 |
| -16.000 | 87.738 | -0.058 | 4.069 | 0.048 |
| -16.400 | 91.445 | -0.145 | 4.049 | 0.046 |
| -16.800 | 95.200 | -0.237 | 4.027 | 0.042 |
| -16.800 | 95.200 | -0.237 | 4.027 | 0.042 |
| -17.400 | 104.178 | -0.783 | 3.993 | 0.034 |
| -17.900 | 111.675 | -1.240 | 3.963 | 0.026 |
| -18.400 | 119.185 | -1.698 | 3.931 | 0.019 |
| -19.000 | 128.217 | -2.250 | 3.892 | 0.010 |
| -19.000 | 128.217 | -2.250 | 3.892 | 0.010 |
| -20.651 | 144.923 | -2.250 | 3.773 | 0.007 |
| -22.251 | 161.102 | -2.250 | 3.647 | 0.005 |
| -23.902 | 177.787 | -2.250 | 3.510 | 0.002 |
| -25.502 | 193.951 | -2.250 | 3.371 | 0.000 |

### 3.47 Results for Vertical 47 (X = -2.19 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.042 | 9.317 | -0.042 | 9.316 | 0.396 |
| -0.142 | 9.841 | -0.129 | 8.366 | 0.371 |
| -0.242 | 10.309 | -0.215 | 7.370 | 0.355 |
| -0.281 | 10.490 | -0.249 | 6.981 | 0.351 |
| -0.342 | 10.771 | -0.240 | 6.969 | 0.344 |
| -0.442 | 11.223 | -0.226 | 6.945 | 0.335 |
| -0.542 | 11.664 | -0.211 | 6.913 | 0.326 |
| -0.642 | 12.095 | -0.195 | 6.876 | 0.318 |
| -0.742 | 12.519 | -0.180 | 6.834 | 0.311 |
| -0.842 | 12.935 | -0.164 | 6.788 | 0.304 |
| -0.942 | 13.344 | -0.148 | 6.738 | 0.299 |
| -1.042 | 13.748 | -0.131 | 6.685 | 0.293 |
| -1.521 | 15.612 | -0.048 | 6.395 | 0.273 |
| -2.250 | 18.327 | 0.084 | 5.897 | 0.255 |
| -3.000 | 21.114 | 0.223 | 5.400 | 0.247 |
| -3.000 | 21.114 | 0.223 | 5.400 | 0.247 |
| -3.750 | 22.898 | 0.280 | 4.975 | 0.229 |
| -4.500 | 24.893 | 0.323 | 4.631 | 0.215 |
| -4.500 | 24.893 | 0.323 | 4.631 | 0.215 |
| -5.250 | 25.025 | 0.335 | 4.363 | 0.190 |
| -6.000 | 25.409 | 0.328 | 4.158 | 0.167 |
| -6.000 | 25.410 | 0.328 | 4.158 | 0.167 |
| -7.000 | 31.063 | 0.271 | 3.964 | 0.153 |
| -8.000 | 37.224 | 0.171 | 3.841 | 0.136 |
| -8.000 | 37.224 | 0.171 | 3.841 | 0.136 |
| -8.850 | 42.389 | 0.166 | 3.778 | 0.129 |
| -9.750 | 47.901 | 0.159 | 3.740 | 0.121 |
| -10.600 | 53.142 | 0.152 | 3.723 | 0.114 |
| -11.500 | 58.722 | 0.142 | 3.718 | 0.106 |
| -11.500 | 58.722 | 0.142 | 3.718 | 0.106 |
| -12.000 | 61.833 | 0.095 | 3.718 | 0.097 |
| -12.500 | 64.998 | 0.042 | 3.719 | 0.087 |
| -12.500 | 64.998 | 0.042 | 3.719 | 0.087 |
| -13.350 | 70.318 | 0.029 | 3.722 | 0.077 |
| -14.250 | 75.972 | 0.012 | 3.724 | 0.067 |
| -15.100 | 81.330 | -0.006 | 3.722 | 0.057 |
| -16.000 | 87.022 | -0.028 | 3.716 | 0.047 |
| -16.000 | 87.022 | -0.028 | 3.716 | 0.047 |
| -16.400 | 90.726 | -0.113 | 3.711 | 0.044 |
| -16.800 | 94.478 | -0.203 | 3.706 | 0.041 |
| -16.800 | 94.478 | -0.203 | 3.706 | 0.041 |
| -17.400 | 103.571 | -0.758 | 3.695 | 0.032 |
| -17.900 | 111.164 | -1.222 | 3.684 | 0.025 |
| -18.400 | 118.770 | -1.688 | 3.671 | 0.018 |
| -19.000 | 127.917 | -2.250 | 3.654 | 0.010 |
| -19.000 | 127.917 | -2.250 | 3.654 | 0.010 |
| -20.651 | 144.683 | -2.250 | 3.593 | 0.007 |
| -22.251 | 160.915 | -2.250 | 3.520 | 0.004 |
| -23.902 | 177.651 | -2.250 | 3.431 | 0.002 |
| -25.502 | 193.859 | -2.250 | 3.336 | 0.000 |

### 3.48 Results for Vertical 48 (X = -2.14 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.041 | 9.365 | -0.041 | 9.364 | 0.395 |
| -0.141 | 9.846 | -0.129 | 8.372 | 0.370 |
| -0.241 | 10.317 | -0.215 | 7.378 | 0.355 |
| -0.280 | 10.495 | -0.248 | 6.996 | 0.350 |
| -0.341 | 10.779 | -0.239 | 6.984 | 0.343 |
| -0.441 | 11.229 | -0.224 | 6.958 | 0.334 |
| -0.541 | 11.668 | -0.209 | 6.924 | 0.325 |
| -0.641 | 12.097 | -0.194 | 6.884 | 0.317 |
| -0.741 | 12.518 | -0.179 | 6.838 | 0.310 |
| -0.841 | 12.931 | -0.163 | 6.789 | 0.304 |
| -0.941 | 13.338 | -0.146 | 6.736 | 0.298 |
| -1.041 | 13.739 | -0.130 | 6.680 | 0.292 |
| -1.521 | 15.594 | -0.047 | 6.377 | 0.272 |
| -2.250 | 18.301 | 0.084 | 5.863 | 0.254 |
| -3.000 | 21.084 | 0.223 | 5.358 | 0.246 |
| -3.000 | 21.084 | 0.223 | 5.358 | 0.246 |
| -3.750 | 22.868 | 0.279 | 4.931 | 0.229 |
| -4.500 | 24.866 | 0.323 | 4.588 | 0.214 |
| -4.500 | 24.866 | 0.323 | 4.588 | 0.214 |
| -5.250 | 24.999 | 0.335 | 4.321 | 0.190 |
| -6.000 | 25.385 | 0.328 | 4.118 | 0.167 |
| -6.000 | 25.385 | 0.328 | 4.118 | 0.167 |
| -7.000 | 31.039 | 0.271 | 3.927 | 0.153 |
| -8.000 | 37.198 | 0.171 | 3.807 | 0.136 |
| -8.000 | 37.198 | 0.171 | 3.807 | 0.136 |
| -8.850 | 42.364 | 0.166 | 3.745 | 0.129 |
| -9.750 | 47.878 | 0.160 | 3.709 | 0.121 |
| -10.600 | 53.120 | 0.152 | 3.693 | 0.114 |
| -11.500 | 58.700 | 0.142 | 3.689 | 0.106 |
| -11.500 | 58.700 | 0.142 | 3.689 | 0.106 |
| -12.000 | 61.810 | 0.095 | 3.690 | 0.096 |
| -12.500 | 64.975 | 0.043 | 3.692 | 0.087 |
| -12.500 | 64.975 | 0.043 | 3.692 | 0.087 |
| -13.350 | 70.296 | 0.029 | 3.696 | 0.077 |
| -14.250 | 75.950 | 0.012 | 3.699 | 0.067 |
| -15.100 | 81.309 | -0.006 | 3.699 | 0.057 |
| -16.000 | 87.002 | -0.027 | 3.694 | 0.047 |
| -16.000 | 87.002 | -0.027 | 3.694 | 0.047 |
| -16.400 | 90.705 | -0.112 | 3.690 | 0.044 |
| -16.800 | 94.455 | -0.201 | 3.685 | 0.041 |
| -16.800 | 94.455 | -0.201 | 3.685 | 0.041 |
| -17.400 | 103.553 | -0.757 | 3.675 | 0.032 |
| -17.900 | 111.149 | -1.222 | 3.665 | 0.025 |
| -18.400 | 118.759 | -1.688 | 3.653 | 0.018 |
| -19.000 | 127.910 | -2.250 | 3.637 | 0.010 |
| -19.000 | 127.910 | -2.250 | 3.637 | 0.010 |
| -20.651 | 144.678 | -2.250 | 3.578 | 0.007 |
| -22.251 | 160.912 | -2.250 | 3.507 | 0.004 |
| -23.902 | 177.650 | -2.250 | 3.420 | 0.002 |
| -25.502 | 193.860 | -2.250 | 3.327 | 0.000 |

### 3.49 Results for Vertical 49 (X = -1.73 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.036 | 9.457 | -0.036 | 9.456 | 0.387 |
| -0.136 | 9.932 | -0.123 | 8.456 | 0.362 |
| -0.236 | 10.371 | -0.210 | 7.427 | 0.347 |
| -0.268 | 10.510 | -0.238 | 7.092 | 0.343 |
| -0.336 | 10.797 | -0.228 | 7.052 | 0.336 |
| -0.436 | 11.212 | -0.214 | 6.988 | 0.326 |
| -0.536 | 11.619 | -0.200 | 6.918 | 0.317 |
| -0.636 | 12.019 | -0.185 | 6.845 | 0.309 |
| -0.736 | 12.414 | -0.170 | 6.770 | 0.302 |
| -0.836 | 12.805 | -0.154 | 6.693 | 0.296 |
| -0.936 | 13.191 | -0.139 | 6.614 | 0.290 |
| -1.036 | 13.573 | -0.123 | 6.534 | 0.284 |
| -1.518 | 15.364 | -0.042 | 6.127 | 0.264 |
| -2.250 | 18.021 | 0.085 | 5.505 | 0.247 |
| -3.000 | 20.808 | 0.219 | 4.961 | 0.240 |
| -3.000 | 20.808 | 0.219 | 4.961 | 0.240 |
| -3.750 | 22.610 | 0.274 | 4.535 | 0.223 |
| -4.500 | 24.636 | 0.317 | 4.213 | 0.209 |
| -4.500 | 24.636 | 0.317 | 4.213 | 0.209 |
| -5.250 | 24.794 | 0.329 | 3.970 | 0.186 |
| -6.000 | 25.198 | 0.322 | 3.791 | 0.164 |
| -6.000 | 25.198 | 0.322 | 3.791 | 0.164 |
| -7.000 | 30.854 | 0.268 | 3.627 | 0.150 |
| -8.000 | 36.997 | 0.172 | 3.529 | 0.134 |
| -8.000 | 36.997 | 0.172 | 3.529 | 0.134 |
| -8.850 | 42.176 | 0.167 | 3.483 | 0.127 |
| -9.750 | 47.701 | 0.161 | 3.461 | 0.120 |
| -10.600 | 52.952 | 0.153 | 3.457 | 0.112 |
| -11.500 | 58.541 | 0.144 | 3.464 | 0.104 |
| -11.500 | 58.541 | 0.144 | 3.464 | 0.104 |
| -12.000 | 61.645 | 0.098 | 3.472 | 0.095 |
| -12.500 | 64.801 | 0.047 | 3.480 | 0.086 |
| -12.500 | 64.801 | 0.047 | 3.480 | 0.086 |
| -13.350 | 70.129 | 0.034 | 3.495 | 0.076 |
| -14.250 | 75.790 | 0.018 | 3.509 | 0.066 |
| -15.100 | 81.155 | 0.000 | 3.519 | 0.057 |
| -16.000 | 86.855 | -0.021 | 3.524 | 0.046 |
| -16.000 | 86.855 | -0.021 | 3.524 | 0.046 |
| -16.400 | 90.544 | -0.104 | 3.525 | 0.043 |
| -16.800 | 94.280 | -0.192 | 3.525 | 0.040 |
| -16.800 | 94.280 | -0.192 | 3.525 | 0.040 |
| -17.400 | 103.411 | -0.750 | 3.522 | 0.032 |
| -17.900 | 111.035 | -1.217 | 3.517 | 0.025 |
| -18.400 | 118.672 | -1.686 | 3.511 | 0.018 |
| -19.000 | 127.855 | -2.250 | 3.501 | 0.009 |
| -19.000 | 127.855 | -2.250 | 3.501 | 0.009 |
| -20.651 | 144.642 | -2.250 | 3.460 | 0.007 |
| -22.251 | 160.892 | -2.250 | 3.405 | 0.004 |
| -23.902 | 177.645 | -2.250 | 3.333 | 0.002 |
| -25.502 | 193.868 | -2.250 | 3.252 | 0.000 |

### 3.50 Results for Vertical 50 (X = -1.45 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.035 | 9.529 | -0.035 | 9.528 | 0.381 |
| -0.135 | 9.954 | -0.123 | 8.476 | 0.356 |
| -0.235 | 10.331 | -0.209 | 7.383 | 0.341 |
| -0.261 | 10.424 | -0.231 | 7.099 | 0.338 |
| -0.335 | 10.692 | -0.221 | 7.007 | 0.330 |
| -0.435 | 11.056 | -0.208 | 6.887 | 0.320 |
| -0.535 | 11.429 | -0.193 | 6.780 | 0.311 |
| -0.635 | 11.810 | -0.179 | 6.683 | 0.303 |
| -0.735 | 12.193 | -0.164 | 6.592 | 0.296 |
| -0.835 | 12.575 | -0.149 | 6.502 | 0.290 |
| -0.935 | 12.953 | -0.134 | 6.410 | 0.284 |
| -1.035 | 13.327 | -0.119 | 6.317 | 0.279 |
| -1.518 | 15.080 | -0.041 | 5.845 | 0.259 |
| -2.250 | 17.726 | 0.083 | 5.173 | 0.243 |
| -3.000 | 20.548 | 0.214 | 4.635 | 0.236 |
| -3.000 | 20.549 | 0.214 | 4.635 | 0.236 |
| -3.750 | 22.387 | 0.268 | 4.237 | 0.220 |
| -4.500 | 24.447 | 0.310 | 3.945 | 0.207 |
| -4.500 | 24.447 | 0.310 | 3.945 | 0.207 |
| -5.250 | 24.631 | 0.322 | 3.731 | 0.184 |
| -6.000 | 25.053 | 0.316 | 3.576 | 0.162 |
| -6.000 | 25.053 | 0.316 | 3.576 | 0.162 |
| -7.000 | 30.712 | 0.265 | 3.438 | 0.149 |
| -8.000 | 36.842 | 0.172 | 3.359 | 0.132 |
| -8.000 | 36.842 | 0.172 | 3.359 | 0.132 |
| -8.850 | 42.032 | 0.167 | 3.326 | 0.126 |
| -9.750 | 47.567 | 0.161 | 3.315 | 0.119 |
| -10.600 | 52.825 | 0.154 | 3.321 | 0.112 |
| -11.500 | 58.420 | 0.145 | 3.337 | 0.104 |
| -11.500 | 58.420 | 0.145 | 3.337 | 0.104 |
| -12.000 | 61.518 | 0.100 | 3.349 | 0.095 |
| -12.500 | 64.669 | 0.050 | 3.361 | 0.085 |
| -12.500 | 64.669 | 0.050 | 3.361 | 0.085 |
| -13.350 | 70.001 | 0.037 | 3.383 | 0.076 |
| -14.250 | 75.667 | 0.021 | 3.405 | 0.066 |
| -15.100 | 81.036 | 0.004 | 3.422 | 0.056 |
| -16.000 | 86.739 | -0.017 | 3.435 | 0.046 |
| -16.000 | 86.739 | -0.017 | 3.435 | 0.046 |
| -16.400 | 90.419 | -0.099 | 3.439 | 0.043 |
| -16.800 | 94.145 | -0.185 | 3.442 | 0.040 |
| -16.800 | 94.145 | -0.185 | 3.442 | 0.040 |
| -17.400 | 103.299 | -0.745 | 3.443 | 0.032 |
| -17.900 | 110.941 | -1.214 | 3.443 | 0.025 |
| -18.400 | 118.597 | -1.684 | 3.440 | 0.018 |
| -19.000 | 127.802 | -2.250 | 3.434 | 0.009 |
| -19.000 | 127.802 | -2.250 | 3.434 | 0.009 |
| -20.651 | 144.600 | -2.250 | 3.406 | 0.007 |
| -22.251 | 160.861 | -2.250 | 3.360 | 0.004 |
| -23.902 | 177.624 | -2.250 | 3.299 | 0.002 |
| -25.502 | 193.857 | -2.250 | 3.227 | 0.000 |

### 3.51 Results for Vertical 51 (X = -1.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.041 | 8.459 | -0.041 | 8.458 | 0.368 |
| -0.141 | 8.637 | -0.130 | 7.145 | 0.344 |
| -0.241 | 9.230 | -0.218 | 6.252 | 0.330 |
| -0.248 | 9.281 | -0.225 | 6.194 | 0.329 |
| -0.341 | 9.861 | -0.213 | 6.312 | 0.320 |
| -0.441 | 10.375 | -0.201 | 6.332 | 0.310 |
| -0.541 | 10.813 | -0.188 | 6.281 | 0.301 |
| -0.641 | 11.210 | -0.174 | 6.191 | 0.294 |
| -0.741 | 11.584 | -0.160 | 6.082 | 0.287 |
| -0.841 | 11.945 | -0.146 | 5.962 | 0.281 |
| -0.941 | 12.298 | -0.132 | 5.837 | 0.275 |
| -1.041 | 12.648 | -0.117 | 5.711 | 0.270 |
| -1.520 | 14.336 | -0.045 | 5.143 | 0.252 |
| -2.250 | 17.052 | 0.073 | 4.493 | 0.238 |
| -3.000 | 20.006 | 0.200 | 4.050 | 0.232 |
| -3.000 | 20.006 | 0.200 | 4.050 | 0.232 |
| -3.750 | 21.946 | 0.253 | 3.749 | 0.217 |
| -4.500 | 24.082 | 0.296 | 3.538 | 0.204 |
| -4.500 | 24.082 | 0.296 | 3.538 | 0.204 |
| -5.250 | 24.321 | 0.309 | 3.388 | 0.182 |
| -6.000 | 24.778 | 0.305 | 3.283 | 0.161 |
| -6.000 | 24.778 | 0.305 | 3.283 | 0.161 |
| -7.000 | 30.438 | 0.258 | 3.196 | 0.148 |
| -8.000 | 36.542 | 0.171 | 3.154 | 0.131 |
| -8.000 | 36.542 | 0.171 | 3.154 | 0.131 |
| -8.850 | 41.753 | 0.167 | 3.146 | 0.125 |
| -9.750 | 47.305 | 0.162 | 3.155 | 0.118 |
| -10.600 | 52.576 | 0.155 | 3.177 | 0.111 |
| -11.500 | 58.182 | 0.146 | 3.209 | 0.103 |
| -11.500 | 58.182 | 0.146 | 3.209 | 0.103 |
| -12.000 | 61.271 | 0.103 | 3.228 | 0.094 |
| -12.500 | 64.411 | 0.055 | 3.248 | 0.085 |
| -12.500 | 64.411 | 0.055 | 3.248 | 0.085 |
| -13.350 | 69.751 | 0.042 | 3.282 | 0.075 |
| -14.250 | 75.424 | 0.026 | 3.316 | 0.065 |
| -15.100 | 80.798 | 0.010 | 3.344 | 0.056 |
| -16.000 | 86.508 | -0.011 | 3.368 | 0.045 |
| -16.000 | 86.508 | -0.011 | 3.368 | 0.045 |
| -16.400 | 90.173 | -0.090 | 3.377 | 0.043 |
| -16.800 | 93.883 | -0.174 | 3.385 | 0.040 |
| -16.800 | 93.883 | -0.174 | 3.385 | 0.040 |
| -17.400 | 103.073 | -0.737 | 3.394 | 0.031 |
| -17.900 | 110.745 | -1.208 | 3.399 | 0.025 |
| -18.400 | 118.430 | -1.681 | 3.402 | 0.018 |
| -19.000 | 127.671 | -2.250 | 3.404 | 0.009 |
| -19.000 | 127.671 | -2.250 | 3.404 | 0.009 |
| -20.651 | 144.488 | -2.250 | 3.393 | 0.007 |
| -22.251 | 160.766 | -2.250 | 3.364 | 0.004 |
| -23.902 | 177.545 | -2.250 | 3.318 | 0.002 |
| -25.502 | 193.792 | -2.250 | 3.260 | 0.000 |

### 3.52 Results for Vertical 52 (X = -0.90 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.043 | 6.521 | -0.043 | 6.520 | 0.365 |
| -0.143 | 9.049 | -0.133 | 7.546 | 0.342 |
| -0.243 | 9.568 | -0.221 | 6.584 | 0.328 |
| -0.245 | 9.579 | -0.223 | 6.558 | 0.328 |
| -0.343 | 9.971 | -0.211 | 6.466 | 0.317 |
| -0.443 | 10.336 | -0.198 | 6.338 | 0.307 |
| -0.543 | 10.686 | -0.185 | 6.198 | 0.298 |
| -0.643 | 11.031 | -0.172 | 6.054 | 0.291 |
| -0.743 | 11.372 | -0.158 | 5.909 | 0.284 |
| -0.843 | 11.713 | -0.144 | 5.766 | 0.278 |
| -0.943 | 12.054 | -0.130 | 5.626 | 0.272 |
| -1.043 | 12.396 | -0.116 | 5.489 | 0.267 |
| -1.522 | 14.087 | -0.045 | 4.914 | 0.250 |
| -2.250 | 16.854 | 0.070 | 4.301 | 0.237 |
| -3.000 | 19.858 | 0.196 | 3.897 | 0.232 |
| -3.000 | 19.858 | 0.196 | 3.897 | 0.232 |
| -3.750 | 21.831 | 0.249 | 3.628 | 0.217 |
| -4.500 | 23.988 | 0.292 | 3.441 | 0.204 |
| -4.500 | 23.988 | 0.292 | 3.441 | 0.204 |
| -5.250 | 24.243 | 0.306 | 3.309 | 0.182 |
| -6.000 | 24.709 | 0.302 | 3.218 | 0.161 |
| -6.000 | 24.709 | 0.302 | 3.218 | 0.161 |
| -7.000 | 30.371 | 0.257 | 3.144 | 0.148 |
| -8.000 | 36.468 | 0.171 | 3.112 | 0.131 |
| -8.000 | 36.468 | 0.171 | 3.112 | 0.131 |
| -8.850 | 41.685 | 0.167 | 3.109 | 0.125 |
| -9.750 | 47.241 | 0.162 | 3.124 | 0.118 |
| -10.600 | 52.515 | 0.155 | 3.150 | 0.111 |
| -11.500 | 58.124 | 0.146 | 3.185 | 0.103 |
| -11.500 | 58.124 | 0.146 | 3.185 | 0.103 |
| -12.000 | 61.211 | 0.103 | 3.207 | 0.094 |
| -12.500 | 64.348 | 0.056 | 3.228 | 0.084 |
| -12.500 | 64.348 | 0.056 | 3.228 | 0.084 |
| -13.350 | 69.690 | 0.043 | 3.265 | 0.075 |
| -14.250 | 75.364 | 0.028 | 3.301 | 0.065 |
| -15.100 | 80.740 | 0.011 | 3.332 | 0.056 |
| -16.000 | 86.451 | -0.009 | 3.359 | 0.045 |
| -16.000 | 86.451 | -0.009 | 3.359 | 0.045 |
| -16.400 | 90.113 | -0.088 | 3.369 | 0.043 |
| -16.800 | 93.819 | -0.172 | 3.378 | 0.040 |
| -16.800 | 93.819 | -0.172 | 3.378 | 0.040 |
| -17.400 | 103.017 | -0.736 | 3.388 | 0.031 |
| -17.900 | 110.696 | -1.207 | 3.395 | 0.024 |
| -18.400 | 118.388 | -1.680 | 3.400 | 0.018 |
| -19.000 | 127.637 | -2.250 | 3.403 | 0.009 |
| -19.000 | 127.637 | -2.250 | 3.403 | 0.009 |
| -20.651 | 144.458 | -2.250 | 3.396 | 0.007 |
| -22.251 | 160.740 | -2.250 | 3.371 | 0.004 |
| -23.902 | 177.523 | -2.250 | 3.329 | 0.002 |
| -25.502 | 193.773 | -2.250 | 3.274 | 0.000 |

### 3.53 Results for Vertical 53 (X = -0.89 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.043 | 13.030 | -0.043 | 13.029 | 0.368 |
| -0.143 | 9.099 | -0.130 | 7.635 | 0.341 |
| -0.243 | 9.548 | -0.217 | 6.603 | 0.327 |
| -0.245 | 9.556 | -0.219 | 6.581 | 0.327 |
| -0.343 | 9.937 | -0.207 | 6.475 | 0.316 |
| -0.443 | 10.297 | -0.194 | 6.341 | 0.306 |
| -0.543 | 10.645 | -0.181 | 6.197 | 0.297 |
| -0.643 | 10.989 | -0.168 | 6.052 | 0.290 |
| -0.743 | 11.330 | -0.155 | 5.906 | 0.283 |
| -0.843 | 11.670 | -0.141 | 5.763 | 0.277 |
| -0.943 | 12.011 | -0.127 | 5.622 | 0.272 |
| -1.043 | 12.354 | -0.113 | 5.485 | 0.267 |
| -1.522 | 14.049 | -0.042 | 4.910 | 0.250 |
| -2.250 | 16.822 | 0.072 | 4.298 | 0.236 |
| -3.000 | 19.832 | 0.198 | 3.896 | 0.231 |
| -3.000 | 19.832 | 0.198 | 3.896 | 0.231 |
| -3.750 | 21.808 | 0.251 | 3.628 | 0.217 |
| -4.500 | 23.969 | 0.294 | 3.441 | 0.204 |
| -4.500 | 23.969 | 0.294 | 3.441 | 0.204 |
| -5.250 | 24.226 | 0.307 | 3.310 | 0.182 |
| -6.000 | 24.694 | 0.303 | 3.219 | 0.161 |
| -6.000 | 24.694 | 0.303 | 3.219 | 0.161 |
| -7.000 | 30.358 | 0.257 | 3.146 | 0.148 |
| -8.000 | 36.458 | 0.172 | 3.114 | 0.131 |
| -8.000 | 36.459 | 0.172 | 3.114 | 0.131 |
| -8.850 | 41.676 | 0.168 | 3.111 | 0.125 |
| -9.750 | 47.232 | 0.162 | 3.127 | 0.118 |
| -10.600 | 52.506 | 0.155 | 3.153 | 0.111 |
| -11.500 | 58.115 | 0.146 | 3.188 | 0.103 |
| -11.500 | 58.115 | 0.146 | 3.188 | 0.103 |
| -12.000 | 61.203 | 0.104 | 3.209 | 0.094 |
| -12.500 | 64.341 | 0.056 | 3.231 | 0.084 |
| -12.500 | 64.341 | 0.056 | 3.231 | 0.084 |
| -13.350 | 69.683 | 0.043 | 3.268 | 0.075 |
| -14.250 | 75.357 | 0.028 | 3.304 | 0.065 |
| -15.100 | 80.734 | 0.011 | 3.335 | 0.056 |
| -16.000 | 86.445 | -0.009 | 3.362 | 0.045 |
| -16.000 | 86.445 | -0.009 | 3.362 | 0.045 |
| -16.400 | 90.107 | -0.088 | 3.372 | 0.043 |
| -16.800 | 93.814 | -0.172 | 3.381 | 0.040 |
| -16.800 | 93.814 | -0.172 | 3.381 | 0.040 |
| -17.400 | 103.013 | -0.735 | 3.392 | 0.031 |
| -17.900 | 110.692 | -1.207 | 3.398 | 0.025 |
| -18.400 | 118.385 | -1.680 | 3.403 | 0.018 |
| -19.000 | 127.634 | -2.250 | 3.406 | 0.009 |
| -19.000 | 127.634 | -2.250 | 3.406 | 0.009 |
| -20.651 | 144.455 | -2.250 | 3.399 | 0.007 |
| -22.251 | 160.737 | -2.250 | 3.375 | 0.004 |
| -23.902 | 177.520 | -2.250 | 3.332 | 0.002 |
| -25.502 | 193.770 | -2.250 | 3.278 | 0.000 |

### 3.54 Results for Vertical 54 (X = -0.49 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.096 | 6.041 | -0.096 | 6.040 | 0.361 |
| -0.196 | 6.873 | -0.186 | 5.364 | 0.339 |
| -0.234 | 7.139 | -0.221 | 5.047 | 0.334 |
| -0.296 | 7.538 | -0.215 | 5.129 | 0.326 |
| -0.396 | 8.113 | -0.204 | 5.191 | 0.316 |
| -0.496 | 8.595 | -0.193 | 5.165 | 0.306 |
| -0.596 | 9.015 | -0.181 | 5.082 | 0.298 |
| -0.696 | 9.405 | -0.169 | 4.970 | 0.291 |
| -0.796 | 9.783 | -0.157 | 4.851 | 0.285 |
| -0.896 | 10.161 | -0.144 | 4.734 | 0.279 |
| -0.996 | 10.543 | -0.131 | 4.625 | 0.274 |
| -1.096 | 10.932 | -0.118 | 4.526 | 0.270 |
| -1.548 | 12.763 | -0.054 | 4.184 | 0.255 |
| -2.250 | 15.731 | 0.056 | 3.880 | 0.243 |
| -3.000 | 18.925 | 0.184 | 3.693 | 0.238 |
| -3.000 | 18.925 | 0.184 | 3.693 | 0.238 |
| -3.750 | 21.021 | 0.240 | 3.572 | 0.224 |
| -4.500 | 23.249 | 0.287 | 3.489 | 0.211 |
| -4.500 | 23.249 | 0.287 | 3.489 | 0.211 |
| -5.250 | 23.556 | 0.303 | 3.433 | 0.188 |
| -6.000 | 24.055 | 0.301 | 3.399 | 0.165 |
| -6.000 | 24.055 | 0.301 | 3.399 | 0.165 |
| -7.000 | 29.716 | 0.262 | 3.380 | 0.152 |
| -8.000 | 35.790 | 0.183 | 3.387 | 0.135 |
| -8.000 | 35.790 | 0.183 | 3.387 | 0.135 |
| -8.850 | 41.030 | 0.179 | 3.410 | 0.128 |
| -9.750 | 46.605 | 0.173 | 3.446 | 0.121 |
| -10.600 | 51.893 | 0.167 | 3.488 | 0.113 |
| -11.500 | 57.514 | 0.158 | 3.537 | 0.105 |
| -11.500 | 57.514 | 0.158 | 3.537 | 0.105 |
| -12.000 | 60.603 | 0.116 | 3.566 | 0.096 |
| -12.500 | 63.744 | 0.068 | 3.594 | 0.086 |
| -12.500 | 63.744 | 0.068 | 3.594 | 0.086 |
| -13.350 | 69.096 | 0.056 | 3.642 | 0.077 |
| -14.250 | 74.780 | 0.041 | 3.689 | 0.067 |
| -15.100 | 80.166 | 0.024 | 3.729 | 0.057 |
| -16.000 | 85.887 | 0.003 | 3.766 | 0.046 |
| -16.000 | 85.887 | 0.003 | 3.766 | 0.046 |
| -16.400 | 89.558 | -0.076 | 3.780 | 0.043 |
| -16.800 | 93.273 | -0.160 | 3.793 | 0.041 |
| -16.800 | 93.273 | -0.160 | 3.793 | 0.041 |
| -17.400 | 102.509 | -0.727 | 3.810 | 0.032 |
| -17.900 | 110.219 | -1.201 | 3.822 | 0.025 |
| -18.400 | 117.943 | -1.677 | 3.832 | 0.018 |
| -19.000 | 127.230 | -2.250 | 3.841 | 0.010 |
| -19.000 | 127.230 | -2.250 | 3.841 | 0.010 |
| -20.651 | 144.067 | -2.250 | 3.850 | 0.007 |
| -22.251 | 160.363 | -2.250 | 3.839 | 0.004 |
| -23.902 | 177.160 | -2.250 | 3.810 | 0.002 |
| -25.502 | 193.422 | -2.250 | 3.768 | 0.000 |

### 3.55 Results for Vertical 55 (X = -0.07 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.150 | 3.000 | -0.150 | 2.999 | 0.344 |
| -0.223 | 3.472 | -0.219 | 2.340 | 0.331 |
| -0.250 | 3.639 | -0.218 | 2.355 | 0.327 |
| -0.350 | 4.239 | -0.212 | 2.393 | 0.318 |
| -0.450 | 4.844 | -0.205 | 2.445 | 0.310 |
| -0.550 | 5.468 | -0.198 | 2.521 | 0.303 |
| -0.650 | 6.095 | -0.190 | 2.609 | 0.298 |
| -0.750 | 6.714 | -0.181 | 2.697 | 0.293 |
| -0.850 | 7.321 | -0.171 | 2.779 | 0.288 |
| -0.950 | 7.913 | -0.161 | 2.854 | 0.284 |
| -1.050 | 8.491 | -0.150 | 2.920 | 0.281 |
| -1.150 | 9.055 | -0.138 | 2.979 | 0.277 |
| -1.575 | 11.326 | -0.083 | 3.163 | 0.266 |
| -2.250 | 14.646 | 0.022 | 3.330 | 0.256 |
| -3.000 | 18.077 | 0.155 | 3.429 | 0.251 |
| -3.000 | 18.077 | 0.155 | 3.429 | 0.251 |
| -3.750 | 20.311 | 0.215 | 3.486 | 0.235 |
| -4.500 | 22.606 | 0.267 | 3.524 | 0.221 |
| -4.500 | 22.606 | 0.267 | 3.524 | 0.221 |
| -5.250 | 22.964 | 0.287 | 3.553 | 0.197 |
| -6.000 | 23.493 | 0.288 | 3.581 | 0.173 |
| -6.000 | 23.493 | 0.288 | 3.581 | 0.173 |
| -7.000 | 29.133 | 0.257 | 3.622 | 0.158 |
| -8.000 | 35.160 | 0.187 | 3.673 | 0.140 |
| -8.000 | 35.160 | 0.187 | 3.673 | 0.140 |
| -8.850 | 40.424 | 0.184 | 3.722 | 0.133 |
| -9.750 | 46.018 | 0.178 | 3.781 | 0.125 |
| -10.600 | 51.320 | 0.172 | 3.841 | 0.117 |
| -11.500 | 56.953 | 0.164 | 3.906 | 0.109 |
| -11.500 | 56.953 | 0.164 | 3.906 | 0.109 |
| -12.000 | 60.037 | 0.123 | 3.942 | 0.099 |
| -12.500 | 63.172 | 0.077 | 3.977 | 0.089 |
| -12.500 | 63.173 | 0.077 | 3.977 | 0.089 |
| -13.350 | 68.532 | 0.065 | 4.036 | 0.079 |
| -14.250 | 74.224 | 0.049 | 4.094 | 0.069 |
| -15.100 | 79.617 | 0.033 | 4.144 | 0.059 |
| -16.000 | 85.346 | 0.013 | 4.191 | 0.048 |
| -16.000 | 85.346 | 0.013 | 4.191 | 0.048 |
| -16.400 | 89.013 | -0.066 | 4.209 | 0.045 |
| -16.800 | 92.725 | -0.149 | 4.227 | 0.042 |
| -16.800 | 92.725 | -0.149 | 4.227 | 0.042 |
| -17.400 | 101.995 | -0.719 | 4.250 | 0.033 |
| -17.900 | 109.735 | -1.196 | 4.267 | 0.026 |
| -18.400 | 117.488 | -1.674 | 4.281 | 0.019 |
| -19.000 | 126.811 | -2.250 | 4.296 | 0.010 |
| -19.000 | 126.811 | -2.250 | 4.296 | 0.010 |
| -20.651 | 143.664 | -2.250 | 4.320 | 0.007 |
| -22.251 | 159.974 | -2.250 | 4.324 | 0.005 |
| -23.902 | 176.785 | -2.250 | 4.308 | 0.002 |
| -25.502 | 193.060 | -2.250 | 4.278 | 0.000 |

### 3.56 Results for Vertical 56 (X = 0.10 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.156 | 0.738 | -0.156 | 0.737 | 0.311 |
| -0.218 | 1.174 | -0.217 | 0.188 | 0.306 |
| -0.256 | 1.484 | -0.217 | 0.271 | 0.305 |
| -0.356 | 2.379 | -0.214 | 0.574 | 0.302 |
| -0.456 | 3.265 | -0.210 | 0.881 | 0.299 |
| -0.556 | 4.106 | -0.204 | 1.154 | 0.295 |
| -0.656 | 4.900 | -0.198 | 1.391 | 0.291 |
| -0.756 | 5.655 | -0.191 | 1.599 | 0.288 |
| -0.856 | 6.374 | -0.183 | 1.780 | 0.285 |
| -0.956 | 7.062 | -0.173 | 1.939 | 0.282 |
| -1.056 | 7.723 | -0.163 | 2.078 | 0.279 |
| -1.156 | 8.360 | -0.153 | 2.201 | 0.276 |
| -1.578 | 10.842 | -0.100 | 2.586 | 0.267 |
| -2.250 | 14.348 | 0.002 | 2.938 | 0.258 |
| -3.000 | 17.887 | 0.137 | 3.155 | 0.253 |
| -3.000 | 17.888 | 0.137 | 3.155 | 0.253 |
| -3.750 | 20.182 | 0.198 | 3.286 | 0.237 |
| -4.500 | 22.509 | 0.252 | 3.373 | 0.223 |
| -4.500 | 22.509 | 0.252 | 3.373 | 0.223 |
| -5.250 | 22.890 | 0.273 | 3.438 | 0.198 |
| -6.000 | 23.430 | 0.276 | 3.492 | 0.174 |
| -6.000 | 23.430 | 0.276 | 3.492 | 0.174 |
| -7.000 | 29.059 | 0.248 | 3.559 | 0.159 |
| -8.000 | 35.058 | 0.183 | 3.628 | 0.141 |
| -8.000 | 35.058 | 0.183 | 3.628 | 0.141 |
| -8.850 | 40.331 | 0.180 | 3.689 | 0.134 |
| -9.750 | 45.932 | 0.175 | 3.758 | 0.126 |
| -10.600 | 51.239 | 0.169 | 3.824 | 0.118 |
| -11.500 | 56.876 | 0.161 | 3.896 | 0.109 |
| -11.500 | 56.876 | 0.161 | 3.896 | 0.109 |
| -12.000 | 59.953 | 0.121 | 3.935 | 0.100 |
| -12.500 | 63.079 | 0.076 | 3.974 | 0.090 |
| -12.500 | 63.079 | 0.076 | 3.974 | 0.090 |
| -13.350 | 68.440 | 0.064 | 4.037 | 0.080 |
| -14.250 | 74.134 | 0.049 | 4.100 | 0.069 |
| -15.100 | 79.527 | 0.033 | 4.154 | 0.059 |
| -16.000 | 85.256 | 0.013 | 4.205 | 0.048 |
| -16.000 | 85.256 | 0.013 | 4.205 | 0.048 |
| -16.400 | 88.911 | -0.064 | 4.225 | 0.045 |
| -16.800 | 92.609 | -0.145 | 4.244 | 0.042 |
| -16.800 | 92.609 | -0.145 | 4.244 | 0.042 |
| -17.400 | 101.892 | -0.716 | 4.270 | 0.033 |
| -17.900 | 109.642 | -1.194 | 4.289 | 0.026 |
| -18.400 | 117.406 | -1.673 | 4.305 | 0.019 |
| -19.000 | 126.740 | -2.250 | 4.322 | 0.010 |
| -19.000 | 126.740 | -2.250 | 4.322 | 0.010 |
| -20.651 | 143.599 | -2.250 | 4.353 | 0.007 |
| -22.251 | 159.915 | -2.250 | 4.362 | 0.005 |
| -23.902 | 176.732 | -2.250 | 4.353 | 0.002 |
| -25.502 | 193.012 | -2.250 | 4.328 | 0.000 |

### 3.57 Results for Vertical 57 (X = 0.31 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.443 | 0.387 | -0.212 | 0.386 | 0.345 |
| -0.543 | 1.244 | -0.211 | 0.638 | 0.335 |
| -0.643 | 2.089 | -0.208 | 0.891 | 0.329 |
| -0.743 | 2.909 | -0.204 | 1.131 | 0.323 |
| -0.843 | 3.699 | -0.199 | 1.352 | 0.318 |
| -0.943 | 4.457 | -0.193 | 1.554 | 0.314 |
| -1.043 | 5.187 | -0.185 | 1.738 | 0.310 |
| -1.143 | 5.889 | -0.177 | 1.904 | 0.306 |
| -1.243 | 6.566 | -0.168 | 2.055 | 0.303 |
| -1.343 | 7.220 | -0.157 | 2.191 | 0.300 |
| -1.443 | 7.852 | -0.146 | 2.315 | 0.297 |
| -1.722 | 9.519 | -0.111 | 2.603 | 0.290 |
| -2.250 | 12.392 | -0.031 | 2.989 | 0.281 |
| -3.000 | 16.043 | 0.105 | 3.329 | 0.274 |
| -3.000 | 16.043 | 0.105 | 3.329 | 0.274 |
| -3.750 | 18.392 | 0.169 | 3.540 | 0.256 |
| -4.500 | 20.736 | 0.227 | 3.684 | 0.240 |
| -4.500 | 20.736 | 0.227 | 3.684 | 0.240 |
| -5.250 | 21.129 | 0.250 | 3.789 | 0.212 |
| -6.000 | 21.669 | 0.257 | 3.874 | 0.185 |
| -6.000 | 21.669 | 0.257 | 3.874 | 0.185 |
| -7.000 | 27.247 | 0.237 | 3.971 | 0.168 |
| -8.000 | 33.173 | 0.182 | 4.061 | 0.149 |
| -8.000 | 33.173 | 0.182 | 4.061 | 0.149 |
| -8.850 | 38.457 | 0.179 | 4.136 | 0.141 |
| -9.750 | 44.066 | 0.174 | 4.216 | 0.132 |
| -10.600 | 49.378 | 0.168 | 4.291 | 0.124 |
| -11.500 | 55.019 | 0.160 | 4.370 | 0.114 |
| -11.500 | 55.019 | 0.160 | 4.370 | 0.114 |
| -12.000 | 58.087 | 0.122 | 4.413 | 0.104 |
| -12.500 | 61.204 | 0.078 | 4.456 | 0.094 |
| -12.500 | 61.204 | 0.078 | 4.456 | 0.094 |
| -13.350 | 66.567 | 0.067 | 4.524 | 0.083 |
| -14.250 | 72.263 | 0.052 | 4.592 | 0.072 |
| -15.100 | 77.658 | 0.036 | 4.651 | 0.061 |
| -16.000 | 83.389 | 0.017 | 4.706 | 0.050 |
| -16.000 | 83.389 | 0.017 | 4.706 | 0.050 |
| -16.400 | 87.037 | -0.059 | 4.729 | 0.047 |
| -16.800 | 90.729 | -0.140 | 4.750 | 0.044 |
| -16.800 | 90.729 | -0.140 | 4.750 | 0.044 |
| -17.400 | 100.029 | -0.712 | 4.778 | 0.035 |
| -17.900 | 107.793 | -1.191 | 4.800 | 0.027 |
| -18.400 | 115.571 | -1.671 | 4.819 | 0.020 |
| -19.000 | 124.922 | -2.250 | 4.839 | 0.011 |
| -19.000 | 124.923 | -2.250 | 4.839 | 0.011 |
| -20.651 | 141.789 | -2.250 | 4.877 | 0.008 |
| -22.251 | 158.112 | -2.250 | 4.893 | 0.005 |
| -23.902 | 174.935 | -2.250 | 4.890 | 0.002 |
| -25.502 | 191.221 | -2.250 | 4.870 | 0.000 |

### 3.58 Results for Vertical 58 (X = 0.40 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.569 | 0.462 | -0.210 | 0.461 | 0.345 |
| -0.669 | 1.276 | -0.209 | 0.672 | 0.334 |
| -0.769 | 2.081 | -0.206 | 0.884 | 0.327 |
| -0.869 | 2.866 | -0.202 | 1.089 | 0.322 |
| -0.969 | 3.627 | -0.197 | 1.283 | 0.317 |
| -1.069 | 4.364 | -0.190 | 1.463 | 0.313 |
| -1.169 | 5.076 | -0.183 | 1.629 | 0.309 |
| -1.269 | 5.765 | -0.174 | 1.782 | 0.306 |
| -1.369 | 6.433 | -0.165 | 1.922 | 0.303 |
| -1.469 | 7.079 | -0.155 | 2.051 | 0.300 |
| -1.569 | 7.707 | -0.144 | 2.169 | 0.297 |
| -1.784 | 9.003 | -0.117 | 2.392 | 0.292 |
| -2.250 | 11.585 | -0.049 | 2.760 | 0.283 |
| -3.000 | 15.313 | 0.084 | 3.146 | 0.276 |
| -3.000 | 15.313 | 0.084 | 3.146 | 0.276 |
| -3.750 | 17.698 | 0.147 | 3.389 | 0.258 |
| -4.500 | 20.059 | 0.206 | 3.555 | 0.242 |
| -4.500 | 20.059 | 0.206 | 3.555 | 0.242 |
| -5.250 | 20.462 | 0.230 | 3.677 | 0.214 |
| -6.000 | 21.002 | 0.238 | 3.775 | 0.186 |
| -6.000 | 21.002 | 0.238 | 3.775 | 0.186 |
| -7.000 | 26.553 | 0.222 | 3.885 | 0.169 |
| -8.000 | 32.434 | 0.172 | 3.984 | 0.150 |
| -8.000 | 32.434 | 0.172 | 3.984 | 0.150 |
| -8.850 | 37.722 | 0.169 | 4.065 | 0.142 |
| -9.750 | 43.333 | 0.165 | 4.150 | 0.133 |
| -10.600 | 48.646 | 0.160 | 4.229 | 0.124 |
| -11.500 | 54.287 | 0.152 | 4.311 | 0.114 |
| -11.500 | 54.287 | 0.152 | 4.311 | 0.114 |
| -12.000 | 57.342 | 0.115 | 4.356 | 0.104 |
| -12.500 | 60.444 | 0.073 | 4.400 | 0.094 |
| -12.500 | 60.444 | 0.073 | 4.400 | 0.094 |
| -13.350 | 65.806 | 0.062 | 4.471 | 0.084 |
| -14.250 | 71.500 | 0.048 | 4.541 | 0.072 |
| -15.100 | 76.893 | 0.033 | 4.602 | 0.061 |
| -16.000 | 82.620 | 0.014 | 4.659 | 0.050 |
| -16.000 | 82.620 | 0.014 | 4.659 | 0.050 |
| -16.400 | 86.249 | -0.060 | 4.683 | 0.047 |
| -16.800 | 89.922 | -0.139 | 4.705 | 0.044 |
| -16.800 | 89.922 | -0.139 | 4.705 | 0.044 |
| -17.400 | 99.226 | -0.712 | 4.734 | 0.035 |
| -17.900 | 106.993 | -1.191 | 4.757 | 0.027 |
| -18.400 | 114.773 | -1.671 | 4.777 | 0.020 |
| -19.000 | 124.127 | -2.250 | 4.798 | 0.011 |
| -19.000 | 124.128 | -2.250 | 4.798 | 0.011 |
| -20.651 | 140.997 | -2.250 | 4.840 | 0.008 |
| -22.251 | 157.323 | -2.250 | 4.858 | 0.005 |
| -23.902 | 174.149 | -2.250 | 4.858 | 0.002 |
| -25.502 | 190.438 | -2.250 | 4.841 | 0.000 |

### 3.59 Results for Vertical 59 (X = 0.48 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.685 | 0.519 | -0.210 | 0.518 | 0.345 |
| -0.785 | 1.306 | -0.208 | 0.702 | 0.333 |
| -0.885 | 2.082 | -0.206 | 0.887 | 0.327 |
| -0.985 | 2.842 | -0.202 | 1.068 | 0.321 |
| -1.085 | 3.581 | -0.196 | 1.240 | 0.317 |
| -1.185 | 4.300 | -0.190 | 1.402 | 0.313 |
| -1.285 | 4.998 | -0.183 | 1.553 | 0.309 |
| -1.385 | 5.676 | -0.174 | 1.694 | 0.306 |
| -1.485 | 6.334 | -0.165 | 1.825 | 0.303 |
| -1.585 | 6.973 | -0.154 | 1.947 | 0.300 |
| -1.685 | 7.595 | -0.143 | 2.059 | 0.297 |
| -1.843 | 8.543 | -0.124 | 2.220 | 0.294 |
| -2.250 | 10.840 | -0.067 | 2.558 | 0.286 |
| -3.000 | 14.637 | 0.063 | 2.981 | 0.279 |
| -3.000 | 14.637 | 0.063 | 2.981 | 0.279 |
| -3.750 | 17.054 | 0.126 | 3.251 | 0.260 |
| -4.500 | 19.432 | 0.185 | 3.438 | 0.244 |
| -4.500 | 19.432 | 0.185 | 3.438 | 0.244 |
| -5.250 | 19.843 | 0.209 | 3.575 | 0.215 |
| -6.000 | 20.384 | 0.218 | 3.684 | 0.187 |
| -6.000 | 20.384 | 0.218 | 3.684 | 0.187 |
| -7.000 | 25.911 | 0.207 | 3.806 | 0.170 |
| -8.000 | 31.752 | 0.161 | 3.913 | 0.150 |
| -8.000 | 31.752 | 0.161 | 3.913 | 0.150 |
| -8.850 | 37.043 | 0.159 | 4.000 | 0.142 |
| -9.750 | 42.657 | 0.155 | 4.089 | 0.133 |
| -10.600 | 47.971 | 0.149 | 4.172 | 0.124 |
| -11.500 | 53.612 | 0.142 | 4.257 | 0.114 |
| -11.500 | 53.612 | 0.142 | 4.257 | 0.114 |
| -12.000 | 56.654 | 0.107 | 4.304 | 0.105 |
| -12.500 | 59.743 | 0.066 | 4.349 | 0.094 |
| -12.500 | 59.743 | 0.066 | 4.349 | 0.094 |
| -13.350 | 65.104 | 0.055 | 4.422 | 0.084 |
| -14.250 | 70.795 | 0.042 | 4.494 | 0.072 |
| -15.100 | 76.186 | 0.027 | 4.557 | 0.061 |
| -16.000 | 81.911 | 0.008 | 4.616 | 0.050 |
| -16.000 | 81.911 | 0.008 | 4.616 | 0.050 |
| -16.400 | 85.522 | -0.064 | 4.640 | 0.047 |
| -16.800 | 89.177 | -0.141 | 4.663 | 0.044 |
| -16.800 | 89.177 | -0.141 | 4.663 | 0.044 |
| -17.400 | 98.478 | -0.713 | 4.694 | 0.035 |
| -17.900 | 106.242 | -1.192 | 4.717 | 0.027 |
| -18.400 | 114.020 | -1.672 | 4.738 | 0.020 |
| -19.000 | 123.371 | -2.250 | 4.761 | 0.011 |
| -19.000 | 123.371 | -2.250 | 4.761 | 0.011 |
| -20.651 | 140.244 | -2.250 | 4.805 | 0.008 |
| -22.251 | 156.573 | -2.250 | 4.826 | 0.005 |
| -23.902 | 173.401 | -2.250 | 4.829 | 0.002 |
| -25.502 | 189.692 | -2.250 | 4.814 | 0.000 |

### 3.60 Results for Vertical 60 (X = 0.60 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.991 | 2.087 | -0.210 | 2.086 | 0.431 |
| -2.091 | 2.740 | -0.205 | 2.175 | 0.410 |
| -2.191 | 3.377 | -0.198 | 2.258 | 0.398 |
| -2.250 | 3.745 | -0.193 | 2.304 | 0.392 |
| -2.291 | 3.997 | -0.190 | 2.335 | 0.389 |
| -2.391 | 4.601 | -0.181 | 2.408 | 0.382 |
| -2.491 | 5.190 | -0.171 | 2.477 | 0.376 |
| -2.495 | 5.216 | -0.171 | 2.480 | 0.375 |
| -2.591 | 5.765 | -0.160 | 2.541 | 0.371 |
| -2.691 | 6.326 | -0.148 | 2.602 | 0.366 |
| -2.791 | 6.876 | -0.135 | 2.659 | 0.363 |
| -2.891 | 7.413 | -0.121 | 2.713 | 0.359 |
| -2.991 | 7.940 | -0.107 | 2.764 | 0.356 |
| -3.000 | 7.987 | -0.105 | 2.768 | 0.356 |
| -3.000 | 7.987 | -0.105 | 2.768 | 0.356 |
| -3.750 | 10.511 | -0.050 | 3.072 | 0.322 |
| -4.500 | 12.903 | 0.010 | 3.284 | 0.294 |
| -4.500 | 12.903 | 0.010 | 3.284 | 0.294 |
| -5.250 | 13.287 | 0.040 | 3.441 | 0.251 |
| -6.000 | 13.763 | 0.057 | 3.565 | 0.210 |
| -6.000 | 13.763 | 0.057 | 3.565 | 0.210 |
| -7.000 | 19.023 | 0.074 | 3.701 | 0.186 |
| -8.000 | 24.472 | 0.070 | 3.819 | 0.163 |
| -8.000 | 24.472 | 0.070 | 3.819 | 0.163 |
| -8.850 | 29.754 | 0.069 | 3.913 | 0.153 |
| -9.750 | 35.353 | 0.067 | 4.009 | 0.142 |
| -10.600 | 40.650 | 0.064 | 4.096 | 0.132 |
| -11.500 | 46.269 | 0.059 | 4.186 | 0.120 |
| -11.500 | 46.270 | 0.059 | 4.186 | 0.120 |
| -12.000 | 49.200 | 0.035 | 4.234 | 0.110 |
| -12.500 | 52.169 | 0.007 | 4.281 | 0.099 |
| -12.500 | 52.169 | 0.007 | 4.281 | 0.099 |
| -13.350 | 57.502 | 0.000 | 4.357 | 0.087 |
| -14.250 | 63.161 | -0.011 | 4.432 | 0.075 |
| -15.100 | 68.519 | -0.022 | 4.497 | 0.064 |
| -16.000 | 74.206 | -0.036 | 4.559 | 0.051 |
| -16.000 | 74.206 | -0.036 | 4.559 | 0.051 |
| -16.400 | 77.667 | -0.093 | 4.584 | 0.048 |
| -16.800 | 81.164 | -0.154 | 4.608 | 0.045 |
| -16.800 | 81.164 | -0.154 | 4.608 | 0.045 |
| -17.400 | 90.435 | -0.723 | 4.640 | 0.035 |
| -17.900 | 98.173 | -1.199 | 4.665 | 0.028 |
| -18.400 | 105.922 | -1.676 | 4.687 | 0.020 |
| -19.000 | 115.236 | -2.250 | 4.711 | 0.011 |
| -19.000 | 115.237 | -2.250 | 4.711 | 0.011 |
| -20.651 | 132.113 | -2.250 | 4.759 | 0.008 |
| -22.251 | 148.445 | -2.250 | 4.784 | 0.005 |
| -23.902 | 165.277 | -2.250 | 4.790 | 0.002 |
| -25.502 | 181.571 | -2.250 | 4.778 | 0.000 |

### 3.61 Results for Vertical 61 (X = 0.86 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.055 | 1.601 | -0.210 | 1.600 | 0.417 |
| -2.155 | 2.267 | -0.206 | 1.691 | 0.398 |
| -2.250 | 2.886 | -0.200 | 1.773 | 0.388 |
| -2.255 | 2.918 | -0.200 | 1.777 | 0.387 |
| -2.355 | 3.552 | -0.193 | 1.859 | 0.380 |
| -2.455 | 4.171 | -0.185 | 1.937 | 0.373 |
| -2.527 | 4.610 | -0.179 | 1.991 | 0.370 |
| -2.555 | 4.775 | -0.176 | 2.011 | 0.368 |
| -2.655 | 5.365 | -0.166 | 2.081 | 0.364 |
| -2.755 | 5.942 | -0.155 | 2.149 | 0.360 |
| -2.855 | 6.506 | -0.143 | 2.212 | 0.357 |
| -2.955 | 7.059 | -0.130 | 2.273 | 0.354 |
| -3.000 | 7.304 | -0.124 | 2.300 | 0.353 |
| -3.000 | 7.304 | -0.124 | 2.300 | 0.353 |
| -3.055 | 7.504 | -0.120 | 2.331 | 0.350 |
| -3.750 | 9.927 | -0.072 | 2.666 | 0.320 |
| -4.500 | 12.392 | -0.014 | 2.929 | 0.293 |
| -4.500 | 12.392 | -0.014 | 2.929 | 0.293 |
| -5.250 | 12.823 | 0.015 | 3.128 | 0.251 |
| -6.000 | 13.328 | 0.032 | 3.285 | 0.209 |
| -6.000 | 13.328 | 0.032 | 3.285 | 0.209 |
| -7.000 | 18.594 | 0.052 | 3.455 | 0.186 |
| -8.000 | 24.020 | 0.053 | 3.599 | 0.163 |
| -8.000 | 24.020 | 0.053 | 3.599 | 0.163 |
| -8.850 | 29.316 | 0.052 | 3.709 | 0.152 |
| -9.750 | 34.926 | 0.051 | 3.819 | 0.142 |
| -10.600 | 40.231 | 0.048 | 3.917 | 0.131 |
| -11.500 | 45.855 | 0.044 | 4.016 | 0.120 |
| -11.500 | 45.855 | 0.044 | 4.016 | 0.120 |
| -12.000 | 48.770 | 0.022 | 4.069 | 0.109 |
| -12.500 | 51.723 | -0.004 | 4.120 | 0.098 |
| -12.500 | 51.723 | -0.004 | 4.120 | 0.098 |
| -13.350 | 57.057 | -0.011 | 4.203 | 0.087 |
| -14.250 | 62.716 | -0.021 | 4.285 | 0.075 |
| -15.100 | 68.073 | -0.031 | 4.355 | 0.063 |
| -16.000 | 73.758 | -0.045 | 4.423 | 0.051 |
| -16.000 | 73.758 | -0.045 | 4.423 | 0.051 |
| -16.400 | 77.192 | -0.099 | 4.451 | 0.048 |
| -16.800 | 80.661 | -0.156 | 4.477 | 0.044 |
| -16.800 | 80.661 | -0.156 | 4.477 | 0.044 |
| -17.400 | 89.929 | -0.725 | 4.513 | 0.035 |
| -17.900 | 97.664 | -1.200 | 4.540 | 0.028 |
| -18.400 | 105.410 | -1.676 | 4.565 | 0.020 |
| -19.000 | 114.720 | -2.250 | 4.592 | 0.011 |
| -19.000 | 114.720 | -2.250 | 4.592 | 0.011 |
| -20.651 | 131.606 | -2.250 | 4.650 | 0.008 |
| -22.251 | 147.946 | -2.250 | 4.683 | 0.005 |
| -23.902 | 164.786 | -2.250 | 4.696 | 0.002 |
| -25.502 | 181.088 | -2.250 | 4.692 | 0.000 |

### 3.62 Results for Vertical 62 (X = 1.03 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.067 | 1.336 | -0.210 | 1.335 | 0.405 |
| -2.167 | 2.007 | -0.206 | 1.424 | 0.388 |
| -2.250 | 2.552 | -0.202 | 1.494 | 0.380 |
| -2.267 | 2.662 | -0.201 | 1.509 | 0.378 |
| -2.367 | 3.302 | -0.195 | 1.591 | 0.371 |
| -2.467 | 3.928 | -0.188 | 1.669 | 0.366 |
| -2.534 | 4.336 | -0.182 | 1.720 | 0.363 |
| -2.567 | 4.539 | -0.179 | 1.745 | 0.361 |
| -2.667 | 5.136 | -0.170 | 1.817 | 0.357 |
| -2.767 | 5.721 | -0.159 | 1.886 | 0.354 |
| -2.867 | 6.293 | -0.148 | 1.952 | 0.351 |
| -2.967 | 6.854 | -0.135 | 2.016 | 0.349 |
| -3.000 | 7.036 | -0.131 | 2.036 | 0.348 |
| -3.000 | 7.036 | -0.131 | 2.036 | 0.348 |
| -3.067 | 7.284 | -0.127 | 2.077 | 0.345 |
| -3.750 | 9.704 | -0.081 | 2.429 | 0.316 |
| -4.500 | 12.208 | -0.024 | 2.718 | 0.290 |
| -4.500 | 12.208 | -0.024 | 2.718 | 0.290 |
| -5.250 | 12.665 | 0.004 | 2.939 | 0.249 |
| -6.000 | 13.188 | 0.022 | 3.115 | 0.208 |
| -6.000 | 13.188 | 0.022 | 3.115 | 0.208 |
| -7.000 | 18.464 | 0.043 | 3.304 | 0.185 |
| -8.000 | 23.886 | 0.045 | 3.463 | 0.162 |
| -8.000 | 23.886 | 0.045 | 3.463 | 0.162 |
| -8.850 | 29.191 | 0.045 | 3.584 | 0.152 |
| -9.750 | 34.808 | 0.043 | 3.701 | 0.141 |
| -10.600 | 40.117 | 0.041 | 3.806 | 0.131 |
| -11.500 | 45.745 | 0.037 | 3.911 | 0.119 |
| -11.500 | 45.745 | 0.037 | 3.911 | 0.119 |
| -12.000 | 48.655 | 0.016 | 3.967 | 0.109 |
| -12.500 | 51.600 | -0.009 | 4.021 | 0.098 |
| -12.500 | 51.600 | -0.009 | 4.021 | 0.098 |
| -13.350 | 56.936 | -0.016 | 4.108 | 0.087 |
| -14.250 | 62.596 | -0.025 | 4.193 | 0.074 |
| -15.100 | 67.953 | -0.036 | 4.268 | 0.063 |
| -16.000 | 73.638 | -0.049 | 4.339 | 0.051 |
| -16.000 | 73.638 | -0.049 | 4.339 | 0.051 |
| -16.400 | 77.060 | -0.102 | 4.368 | 0.047 |
| -16.800 | 80.516 | -0.158 | 4.395 | 0.044 |
| -16.800 | 80.517 | -0.158 | 4.395 | 0.044 |
| -17.400 | 89.784 | -0.726 | 4.434 | 0.035 |
| -17.900 | 97.518 | -1.201 | 4.463 | 0.027 |
| -18.400 | 105.263 | -1.677 | 4.490 | 0.020 |
| -19.000 | 114.571 | -2.250 | 4.519 | 0.011 |
| -19.000 | 114.571 | -2.250 | 4.519 | 0.011 |
| -20.651 | 131.462 | -2.250 | 4.582 | 0.008 |
| -22.251 | 147.808 | -2.250 | 4.620 | 0.005 |
| -23.902 | 164.653 | -2.250 | 4.638 | 0.002 |
| -25.502 | 180.959 | -2.250 | 4.639 | 0.000 |

### 3.63 Results for Vertical 63 (X = 1.63 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.695 | 0.436 | -0.210 | 0.435 | 0.332 |
| -1.795 | 1.103 | -0.209 | 0.498 | 0.322 |
| -1.895 | 1.761 | -0.206 | 0.564 | 0.318 |
| -1.995 | 2.409 | -0.202 | 0.630 | 0.314 |
| -2.095 | 3.047 | -0.197 | 0.698 | 0.311 |
| -2.195 | 3.675 | -0.191 | 0.765 | 0.309 |
| -2.250 | 4.016 | -0.187 | 0.803 | 0.308 |
| -2.295 | 4.293 | -0.184 | 0.833 | 0.307 |
| -2.348 | 4.613 | -0.180 | 0.869 | 0.306 |
| -2.395 | 4.901 | -0.176 | 0.901 | 0.305 |
| -2.495 | 5.499 | -0.167 | 0.968 | 0.303 |
| -2.595 | 6.087 | -0.157 | 1.035 | 0.302 |
| -2.695 | 6.666 | -0.146 | 1.100 | 0.301 |
| -3.000 | 8.375 | -0.109 | 1.293 | 0.298 |
| -3.000 | 8.375 | -0.109 | 1.293 | 0.298 |
| -3.750 | 11.069 | -0.058 | 1.711 | 0.277 |
| -4.500 | 13.644 | -0.004 | 2.050 | 0.259 |
| -4.500 | 13.644 | -0.004 | 2.050 | 0.259 |
| -5.250 | 14.169 | 0.023 | 2.325 | 0.226 |
| -6.000 | 14.757 | 0.039 | 2.550 | 0.194 |
| -6.000 | 14.757 | 0.039 | 2.550 | 0.194 |
| -7.000 | 20.132 | 0.055 | 2.796 | 0.174 |
| -8.000 | 25.657 | 0.052 | 3.001 | 0.154 |
| -8.000 | 25.657 | 0.052 | 3.001 | 0.154 |
| -8.850 | 30.995 | 0.052 | 3.153 | 0.145 |
| -9.750 | 36.642 | 0.050 | 3.298 | 0.135 |
| -10.600 | 41.975 | 0.047 | 3.424 | 0.126 |
| -11.500 | 47.624 | 0.043 | 3.549 | 0.115 |
| -11.500 | 47.624 | 0.043 | 3.549 | 0.115 |
| -12.000 | 50.553 | 0.021 | 3.614 | 0.105 |
| -12.500 | 53.518 | -0.005 | 3.677 | 0.095 |
| -12.500 | 53.518 | -0.005 | 3.677 | 0.095 |
| -13.350 | 58.870 | -0.013 | 3.777 | 0.084 |
| -14.250 | 64.546 | -0.022 | 3.876 | 0.072 |
| -15.100 | 69.917 | -0.033 | 3.962 | 0.061 |
| -16.000 | 75.616 | -0.046 | 4.045 | 0.049 |
| -16.000 | 75.616 | -0.046 | 4.045 | 0.049 |
| -16.400 | 79.054 | -0.100 | 4.079 | 0.046 |
| -16.800 | 82.525 | -0.157 | 4.112 | 0.043 |
| -16.800 | 82.525 | -0.157 | 4.112 | 0.043 |
| -17.400 | 91.802 | -0.725 | 4.158 | 0.034 |
| -17.900 | 99.543 | -1.200 | 4.193 | 0.027 |
| -18.400 | 107.295 | -1.677 | 4.226 | 0.019 |
| -19.000 | 116.613 | -2.250 | 4.262 | 0.010 |
| -19.000 | 116.613 | -2.250 | 4.262 | 0.010 |
| -20.651 | 133.522 | -2.250 | 4.343 | 0.007 |
| -22.251 | 149.885 | -2.250 | 4.398 | 0.005 |
| -23.902 | 166.747 | -2.250 | 4.433 | 0.002 |
| -25.502 | 183.069 | -2.250 | 4.449 | 0.000 |

### 3.64 Results for Vertical 64 (X = 1.98 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.641 | 0.257 | -0.210 | 0.256 | 0.309 |
| -1.741 | 0.909 | -0.209 | 0.301 | 0.302 |
| -1.841 | 1.554 | -0.207 | 0.348 | 0.299 |
| -1.941 | 2.191 | -0.203 | 0.398 | 0.296 |
| -2.041 | 2.819 | -0.199 | 0.449 | 0.294 |
| -2.141 | 3.438 | -0.194 | 0.502 | 0.293 |
| -2.241 | 4.049 | -0.187 | 0.557 | 0.291 |
| -2.250 | 4.104 | -0.187 | 0.562 | 0.291 |
| -2.321 | 4.529 | -0.182 | 0.601 | 0.290 |
| -2.341 | 4.652 | -0.180 | 0.612 | 0.290 |
| -2.441 | 5.247 | -0.172 | 0.669 | 0.289 |
| -2.541 | 5.833 | -0.163 | 0.725 | 0.288 |
| -2.641 | 6.410 | -0.153 | 0.782 | 0.287 |
| -3.000 | 8.417 | -0.110 | 0.985 | 0.284 |
| -3.000 | 8.417 | -0.110 | 0.985 | 0.284 |
| -3.750 | 11.105 | -0.062 | 1.382 | 0.266 |
| -4.500 | 13.700 | -0.009 | 1.724 | 0.249 |
| -4.500 | 13.700 | -0.009 | 1.724 | 0.249 |
| -5.250 | 14.247 | 0.017 | 2.012 | 0.219 |
| -6.000 | 14.855 | 0.033 | 2.254 | 0.189 |
| -6.000 | 14.855 | 0.033 | 2.254 | 0.189 |
| -7.000 | 20.254 | 0.049 | 2.523 | 0.170 |
| -8.000 | 25.795 | 0.047 | 2.749 | 0.151 |
| -8.000 | 25.795 | 0.047 | 2.749 | 0.151 |
| -8.850 | 31.148 | 0.046 | 2.915 | 0.142 |
| -9.750 | 36.807 | 0.044 | 3.074 | 0.133 |
| -10.600 | 42.150 | 0.041 | 3.212 | 0.124 |
| -11.500 | 47.808 | 0.037 | 3.346 | 0.114 |
| -11.500 | 47.808 | 0.037 | 3.346 | 0.114 |
| -12.000 | 50.736 | 0.016 | 3.416 | 0.104 |
| -12.500 | 53.699 | -0.010 | 3.484 | 0.093 |
| -12.500 | 53.699 | -0.010 | 3.484 | 0.093 |
| -13.350 | 59.056 | -0.017 | 3.592 | 0.083 |
| -14.250 | 64.737 | -0.026 | 3.698 | 0.071 |
| -15.100 | 70.112 | -0.036 | 3.790 | 0.060 |
| -16.000 | 75.814 | -0.049 | 3.879 | 0.048 |
| -16.000 | 75.814 | -0.049 | 3.879 | 0.048 |
| -16.400 | 79.244 | -0.102 | 3.916 | 0.045 |
| -16.800 | 82.706 | -0.158 | 3.951 | 0.042 |
| -16.800 | 82.706 | -0.158 | 3.951 | 0.042 |
| -17.400 | 91.985 | -0.726 | 4.001 | 0.033 |
| -17.900 | 99.727 | -1.201 | 4.040 | 0.026 |
| -18.400 | 107.480 | -1.677 | 4.075 | 0.019 |
| -19.000 | 116.798 | -2.250 | 4.115 | 0.010 |
| -19.000 | 116.798 | -2.250 | 4.115 | 0.010 |
| -20.651 | 133.718 | -2.250 | 4.207 | 0.007 |
| -22.251 | 150.090 | -2.250 | 4.271 | 0.005 |
| -23.902 | 166.962 | -2.250 | 4.316 | 0.002 |
| -25.502 | 183.292 | -2.250 | 4.340 | 0.000 |

### 3.65 Results for Vertical 65 (X = 2.49 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.789 | 0.182 | -0.210 | 0.181 | 0.296 |
| -1.889 | 0.822 | -0.209 | 0.212 | 0.291 |
| -1.989 | 1.454 | -0.207 | 0.245 | 0.288 |
| -2.089 | 2.078 | -0.204 | 0.280 | 0.286 |
| -2.189 | 2.694 | -0.200 | 0.316 | 0.285 |
| -2.250 | 3.066 | -0.197 | 0.340 | 0.284 |
| -2.289 | 3.302 | -0.195 | 0.355 | 0.284 |
| -2.389 | 3.901 | -0.189 | 0.395 | 0.282 |
| -2.394 | 3.934 | -0.188 | 0.397 | 0.282 |
| -2.489 | 4.493 | -0.182 | 0.436 | 0.282 |
| -2.589 | 5.077 | -0.174 | 0.479 | 0.281 |
| -2.689 | 5.653 | -0.165 | 0.522 | 0.280 |
| -2.789 | 6.222 | -0.155 | 0.567 | 0.279 |
| -3.000 | 7.396 | -0.132 | 0.662 | 0.278 |
| -3.000 | 7.396 | -0.132 | 0.662 | 0.278 |
| -3.750 | 10.074 | -0.088 | 1.004 | 0.261 |
| -4.500 | 12.682 | -0.039 | 1.326 | 0.245 |
| -4.500 | 12.682 | -0.039 | 1.326 | 0.245 |
| -5.250 | 13.239 | -0.014 | 1.614 | 0.216 |
| -6.000 | 13.856 | 0.002 | 1.867 | 0.186 |
| -6.000 | 13.856 | 0.002 | 1.867 | 0.186 |
| -7.000 | 19.245 | 0.021 | 2.156 | 0.168 |
| -8.000 | 24.750 | 0.025 | 2.403 | 0.149 |
| -8.000 | 24.750 | 0.025 | 2.403 | 0.149 |
| -8.850 | 30.117 | 0.024 | 2.587 | 0.141 |
| -9.750 | 35.789 | 0.023 | 2.762 | 0.132 |
| -10.600 | 41.141 | 0.020 | 2.913 | 0.123 |
| -11.500 | 46.806 | 0.017 | 3.060 | 0.113 |
| -11.500 | 46.806 | 0.017 | 3.060 | 0.113 |
| -12.000 | 49.714 | -0.002 | 3.137 | 0.103 |
| -12.500 | 52.656 | -0.025 | 3.211 | 0.092 |
| -12.500 | 52.656 | -0.025 | 3.211 | 0.092 |
| -13.350 | 58.015 | -0.031 | 3.328 | 0.082 |
| -14.250 | 63.697 | -0.039 | 3.444 | 0.070 |
| -15.100 | 69.071 | -0.049 | 3.545 | 0.059 |
| -16.000 | 74.772 | -0.061 | 3.642 | 0.048 |
| -16.000 | 74.772 | -0.061 | 3.642 | 0.048 |
| -16.400 | 78.166 | -0.110 | 3.683 | 0.045 |
| -16.800 | 81.592 | -0.161 | 3.722 | 0.042 |
| -16.800 | 81.592 | -0.161 | 3.722 | 0.042 |
| -17.400 | 90.867 | -0.729 | 3.777 | 0.033 |
| -17.900 | 98.607 | -1.203 | 3.820 | 0.026 |
| -18.400 | 106.356 | -1.678 | 3.860 | 0.019 |
| -19.000 | 115.669 | -2.250 | 3.905 | 0.010 |
| -19.000 | 115.669 | -2.250 | 3.905 | 0.010 |
| -20.651 | 132.602 | -2.250 | 4.010 | 0.007 |
| -22.251 | 148.988 | -2.250 | 4.088 | 0.005 |
| -23.902 | 165.872 | -2.250 | 4.145 | 0.002 |
| -25.502 | 182.214 | -2.250 | 4.181 | 0.000 |

### 3.66 Results for Vertical 66 (X = 3.11 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.074 | 0.153 | -0.210 | 0.152 | 0.293 |
| -2.174 | 0.785 | -0.209 | 0.174 | 0.288 |
| -2.250 | 1.260 | -0.208 | 0.193 | 0.286 |
| -2.274 | 1.409 | -0.207 | 0.199 | 0.286 |
| -2.374 | 2.025 | -0.204 | 0.224 | 0.284 |
| -2.474 | 2.631 | -0.200 | 0.251 | 0.283 |
| -2.537 | 3.009 | -0.197 | 0.269 | 0.282 |
| -2.574 | 3.230 | -0.195 | 0.280 | 0.282 |
| -2.674 | 3.820 | -0.189 | 0.310 | 0.281 |
| -2.774 | 4.402 | -0.182 | 0.340 | 0.280 |
| -2.874 | 4.976 | -0.174 | 0.372 | 0.279 |
| -2.974 | 5.542 | -0.166 | 0.405 | 0.279 |
| -3.000 | 5.688 | -0.163 | 0.414 | 0.279 |
| -3.000 | 5.688 | -0.163 | 0.414 | 0.279 |
| -3.074 | 5.954 | -0.160 | 0.439 | 0.277 |
| -3.750 | 8.361 | -0.126 | 0.680 | 0.261 |
| -4.500 | 10.973 | -0.082 | 0.958 | 0.245 |
| -4.500 | 10.973 | -0.082 | 0.958 | 0.245 |
| -5.250 | 11.525 | -0.059 | 1.224 | 0.215 |
| -6.000 | 12.135 | -0.043 | 1.472 | 0.186 |
| -6.000 | 12.135 | -0.043 | 1.472 | 0.186 |
| -7.000 | 17.492 | -0.020 | 1.767 | 0.167 |
| -8.000 | 22.927 | -0.008 | 2.026 | 0.148 |
| -8.000 | 22.927 | -0.008 | 2.026 | 0.148 |
| -8.850 | 28.303 | -0.008 | 2.223 | 0.140 |
| -9.750 | 33.983 | -0.009 | 2.412 | 0.131 |
| -10.600 | 39.340 | -0.011 | 2.575 | 0.122 |
| -11.500 | 45.009 | -0.013 | 2.734 | 0.112 |
| -11.500 | 45.009 | -0.013 | 2.734 | 0.112 |
| -12.000 | 47.886 | -0.028 | 2.817 | 0.102 |
| -12.500 | 50.793 | -0.047 | 2.897 | 0.091 |
| -12.500 | 50.793 | -0.047 | 2.897 | 0.091 |
| -13.350 | 56.151 | -0.052 | 3.024 | 0.081 |
| -14.250 | 61.830 | -0.059 | 3.150 | 0.070 |
| -15.100 | 67.200 | -0.067 | 3.259 | 0.059 |
| -16.000 | 72.895 | -0.078 | 3.366 | 0.047 |
| -16.000 | 72.895 | -0.078 | 3.366 | 0.047 |
| -16.400 | 76.237 | -0.121 | 3.410 | 0.044 |
| -16.800 | 79.606 | -0.167 | 3.453 | 0.041 |
| -16.800 | 79.606 | -0.167 | 3.453 | 0.041 |
| -17.400 | 88.875 | -0.733 | 3.514 | 0.032 |
| -17.900 | 96.608 | -1.205 | 3.561 | 0.025 |
| -18.400 | 104.351 | -1.680 | 3.607 | 0.018 |
| -19.000 | 113.654 | -2.250 | 3.657 | 0.010 |
| -19.000 | 113.654 | -2.250 | 3.657 | 0.010 |
| -20.651 | 130.602 | -2.250 | 3.778 | 0.007 |
| -22.251 | 147.002 | -2.250 | 3.870 | 0.005 |
| -23.902 | 163.901 | -2.250 | 3.942 | 0.002 |
| -25.502 | 180.257 | -2.250 | 3.991 | 0.000 |

### 3.67 Results for Vertical 67 (X = 3.59 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.016 | 0.093 | -0.210 | 0.092 | 0.275 |
| -2.116 | 0.719 | -0.209 | 0.107 | 0.271 |
| -2.216 | 1.337 | -0.208 | 0.123 | 0.270 |
| -2.250 | 1.546 | -0.207 | 0.129 | 0.269 |
| -2.316 | 1.947 | -0.205 | 0.141 | 0.268 |
| -2.416 | 2.548 | -0.201 | 0.160 | 0.267 |
| -2.508 | 3.094 | -0.197 | 0.178 | 0.267 |
| -2.516 | 3.142 | -0.196 | 0.180 | 0.267 |
| -2.616 | 3.727 | -0.191 | 0.201 | 0.266 |
| -2.716 | 4.304 | -0.184 | 0.224 | 0.265 |
| -2.816 | 4.874 | -0.177 | 0.248 | 0.265 |
| -2.916 | 5.436 | -0.169 | 0.272 | 0.264 |
| -3.000 | 5.903 | -0.161 | 0.294 | 0.264 |
| -3.000 | 5.903 | -0.161 | 0.294 | 0.264 |
| -3.016 | 5.960 | -0.160 | 0.298 | 0.264 |
| -3.750 | 8.529 | -0.125 | 0.508 | 0.248 |
| -4.500 | 11.114 | -0.082 | 0.747 | 0.234 |
| -4.500 | 11.114 | -0.082 | 0.747 | 0.234 |
| -5.250 | 11.647 | -0.059 | 0.989 | 0.207 |
| -6.000 | 12.249 | -0.043 | 1.222 | 0.179 |
| -6.000 | 12.249 | -0.043 | 1.222 | 0.179 |
| -7.000 | 17.608 | -0.021 | 1.510 | 0.162 |
| -8.000 | 23.053 | -0.010 | 1.771 | 0.144 |
| -8.000 | 23.054 | -0.010 | 1.771 | 0.144 |
| -8.850 | 28.434 | -0.010 | 1.972 | 0.137 |
| -9.750 | 34.119 | -0.011 | 2.166 | 0.128 |
| -10.600 | 39.482 | -0.013 | 2.335 | 0.119 |
| -11.500 | 45.157 | -0.016 | 2.501 | 0.110 |
| -11.500 | 45.157 | -0.016 | 2.501 | 0.110 |
| -12.000 | 48.036 | -0.030 | 2.588 | 0.100 |
| -12.500 | 50.943 | -0.049 | 2.671 | 0.090 |
| -12.500 | 50.943 | -0.049 | 2.671 | 0.090 |
| -13.350 | 56.307 | -0.054 | 2.804 | 0.079 |
| -14.250 | 61.991 | -0.061 | 2.936 | 0.068 |
| -15.100 | 67.365 | -0.069 | 3.051 | 0.058 |
| -16.000 | 73.065 | -0.080 | 3.163 | 0.046 |
| -16.000 | 73.065 | -0.080 | 3.163 | 0.046 |
| -16.400 | 76.404 | -0.122 | 3.210 | 0.043 |
| -16.800 | 79.770 | -0.167 | 3.256 | 0.040 |
| -16.800 | 79.770 | -0.167 | 3.256 | 0.040 |
| -17.400 | 89.042 | -0.733 | 3.320 | 0.032 |
| -17.900 | 96.778 | -1.206 | 3.371 | 0.025 |
| -18.400 | 104.522 | -1.680 | 3.420 | 0.018 |
| -19.000 | 113.827 | -2.250 | 3.474 | 0.009 |
| -19.000 | 113.827 | -2.250 | 3.474 | 0.009 |
| -20.651 | 130.786 | -2.250 | 3.605 | 0.007 |
| -22.251 | 147.197 | -2.250 | 3.707 | 0.004 |
| -23.902 | 164.106 | -2.250 | 3.790 | 0.002 |
| -25.502 | 180.471 | -2.250 | 3.849 | 0.000 |

### 3.68 Results for Vertical 68 (X = 4.54 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.063 | 0.048 | -0.210 | 0.047 | 0.257 |
| -2.163 | 0.669 | -0.209 | 0.056 | 0.255 |
| -2.250 | 1.202 | -0.208 | 0.063 | 0.254 |
| -2.263 | 1.281 | -0.208 | 0.064 | 0.253 |
| -2.363 | 1.885 | -0.205 | 0.074 | 0.252 |
| -2.463 | 2.480 | -0.202 | 0.085 | 0.252 |
| -2.531 | 2.884 | -0.199 | 0.093 | 0.251 |
| -2.563 | 3.068 | -0.197 | 0.096 | 0.251 |
| -2.663 | 3.647 | -0.192 | 0.108 | 0.251 |
| -2.763 | 4.218 | -0.186 | 0.122 | 0.250 |
| -2.863 | 4.782 | -0.179 | 0.136 | 0.250 |
| -2.963 | 5.339 | -0.171 | 0.150 | 0.249 |
| -3.000 | 5.543 | -0.168 | 0.156 | 0.249 |
| -3.000 | 5.543 | -0.168 | 0.156 | 0.249 |
| -3.063 | 5.761 | -0.165 | 0.166 | 0.248 |
| -3.750 | 8.120 | -0.135 | 0.292 | 0.235 |
| -4.500 | 10.665 | -0.095 | 0.461 | 0.221 |
| -4.500 | 10.665 | -0.095 | 0.461 | 0.221 |
| -5.250 | 11.157 | -0.073 | 0.648 | 0.196 |
| -6.000 | 11.728 | -0.059 | 0.842 | 0.171 |
| -6.000 | 11.728 | -0.059 | 0.842 | 0.171 |
| -7.000 | 17.057 | -0.036 | 1.100 | 0.156 |
| -8.000 | 22.473 | -0.024 | 1.346 | 0.139 |
| -8.000 | 22.473 | -0.024 | 1.346 | 0.139 |
| -8.850 | 27.848 | -0.024 | 1.543 | 0.132 |
| -9.750 | 33.533 | -0.025 | 1.739 | 0.124 |
| -10.600 | 38.897 | -0.026 | 1.912 | 0.116 |
| -11.500 | 44.575 | -0.029 | 2.084 | 0.106 |
| -11.500 | 44.575 | -0.029 | 2.084 | 0.106 |
| -12.000 | 47.443 | -0.042 | 2.175 | 0.097 |
| -12.500 | 50.338 | -0.058 | 2.262 | 0.087 |
| -12.500 | 50.338 | -0.058 | 2.262 | 0.087 |
| -13.350 | 55.704 | -0.063 | 2.403 | 0.077 |
| -14.250 | 61.391 | -0.070 | 2.542 | 0.066 |
| -15.100 | 66.768 | -0.077 | 2.666 | 0.056 |
| -16.000 | 72.469 | -0.087 | 2.787 | 0.045 |
| -16.000 | 72.469 | -0.087 | 2.787 | 0.045 |
| -16.400 | 75.787 | -0.127 | 2.838 | 0.042 |
| -16.800 | 79.130 | -0.169 | 2.888 | 0.039 |
| -16.800 | 79.131 | -0.169 | 2.888 | 0.039 |
| -17.400 | 88.403 | -0.735 | 2.958 | 0.031 |
| -17.900 | 96.138 | -1.207 | 3.014 | 0.024 |
| -18.400 | 103.882 | -1.680 | 3.068 | 0.017 |
| -19.000 | 113.187 | -2.250 | 3.129 | 0.009 |
| -19.000 | 113.187 | -2.250 | 3.129 | 0.009 |
| -20.651 | 130.164 | -2.250 | 3.278 | 0.007 |
| -22.251 | 146.591 | -2.250 | 3.397 | 0.004 |
| -23.902 | 163.518 | -2.250 | 3.498 | 0.002 |
| -25.502 | 179.901 | -2.250 | 3.574 | 0.000 |

### 3.69 Results for Vertical 69 (X = 10.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.063 | 0.004 | -0.210 | 0.003 | 0.213 |
| -2.163 | 0.618 | -0.210 | 0.003 | 0.212 |
| -2.250 | 1.146 | -0.208 | 0.004 | 0.211 |
| -2.263 | 1.224 | -0.208 | 0.004 | 0.211 |
| -2.363 | 1.823 | -0.206 | 0.005 | 0.211 |
| -2.463 | 2.413 | -0.203 | 0.005 | 0.210 |
| -2.531 | 2.812 | -0.200 | 0.006 | 0.210 |
| -2.563 | 2.995 | -0.199 | 0.006 | 0.210 |
| -2.663 | 3.569 | -0.195 | 0.007 | 0.209 |
| -2.763 | 4.136 | -0.189 | 0.008 | 0.209 |
| -2.863 | 4.695 | -0.183 | 0.009 | 0.209 |
| -2.963 | 5.247 | -0.176 | 0.010 | 0.208 |
| -3.000 | 5.450 | -0.173 | 0.011 | 0.208 |
| -3.000 | 5.450 | -0.173 | 0.011 | 0.208 |
| -3.063 | 5.662 | -0.171 | 0.012 | 0.207 |
| -3.750 | 7.944 | -0.144 | 0.025 | 0.195 |
| -4.500 | 10.392 | -0.109 | 0.046 | 0.183 |
| -4.500 | 10.392 | -0.109 | 0.046 | 0.183 |
| -5.250 | 10.757 | -0.090 | 0.078 | 0.162 |
| -6.000 | 11.194 | -0.078 | 0.120 | 0.142 |
| -6.000 | 11.194 | -0.078 | 0.120 | 0.142 |
| -7.000 | 16.367 | -0.059 | 0.191 | 0.129 |
| -8.000 | 21.638 | -0.048 | 0.279 | 0.115 |
| -8.000 | 21.638 | -0.048 | 0.279 | 0.115 |
| -8.850 | 26.901 | -0.048 | 0.365 | 0.111 |
| -9.750 | 32.487 | -0.048 | 0.464 | 0.105 |
| -10.600 | 37.775 | -0.049 | 0.565 | 0.099 |
| -11.500 | 43.387 | -0.051 | 0.677 | 0.091 |
| -11.500 | 43.387 | -0.051 | 0.677 | 0.091 |
| -12.000 | 46.204 | -0.062 | 0.740 | 0.083 |
| -12.500 | 49.049 | -0.076 | 0.804 | 0.074 |
| -12.500 | 49.050 | -0.076 | 0.804 | 0.074 |
| -13.350 | 54.377 | -0.080 | 0.914 | 0.066 |
| -14.250 | 60.030 | -0.086 | 1.031 | 0.057 |
| -15.100 | 65.383 | -0.093 | 1.141 | 0.048 |
| -16.000 | 71.063 | -0.101 | 1.255 | 0.039 |
| -16.000 | 71.063 | -0.101 | 1.255 | 0.039 |
| -16.400 | 74.333 | -0.136 | 1.305 | 0.036 |
| -16.800 | 77.627 | -0.174 | 1.354 | 0.034 |
| -16.800 | 77.627 | -0.174 | 1.354 | 0.034 |
| -17.400 | 86.891 | -0.738 | 1.427 | 0.027 |
| -17.900 | 94.620 | -1.209 | 1.487 | 0.021 |
| -18.400 | 102.359 | -1.682 | 1.545 | 0.014 |
| -19.000 | 111.658 | -2.250 | 1.614 | 0.007 |
| -19.000 | 111.658 | -2.250 | 1.614 | 0.007 |
| -20.651 | 128.663 | -2.250 | 1.793 | 0.005 |
| -22.251 | 145.129 | -2.250 | 1.953 | 0.003 |
| -23.902 | 162.105 | -2.250 | 2.101 | 0.002 |
| -25.502 | 178.540 | -2.250 | 2.230 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -40.00 | 0.00 | -2.04 | 0.196 |
| 2 | -30.17 | 0.00 | -2.04 | 0.270 |
| 3 | -26.72 | 0.00 | -2.08 | 0.454 |
| 4 | -25.12 | 0.00 | -2.09 | 0.525 |
| 5 | -25.08 | 0.00 | -2.09 | 0.527 |
| 6 | -23.15 | 0.00 | -2.13 | 0.700 |
| 7 | -21.24 | 0.00 | -2.16 | 0.900 |
| 8 | -20.66 | 0.00 | -2.17 | 0.913 |
| 9 | -19.24 | 0.00 | -2.18 | 0.948 |
| 10 | -18.50 | 0.00 | -2.19 | 0.965 |
| 11 | -16.03 | 0.00 | -2.19 | 1.026 |
| 12 | -15.45 | 0.00 | -2.27 | 1.044 |
| 13 | -14.83 | 0.00 | -2.42 | 1.064 |
| 14 | -14.29 | 0.00 | -2.68 | 1.080 |
| 15 | -13.99 | 0.00 | -2.89 | 1.063 |
| 16 | -13.94 | 0.00 | -2.93 | 1.054 |
| 17 | -13.89 | 0.00 | -2.96 | 1.045 |
| 18 | -13.16 | 0.00 | -3.09 | 1.028 |
| 19 | -12.77 | 0.00 | -3.15 | 1.019 |
| 20 | -12.55 | 0.00 | -3.19 | 1.019 |
| 21 | -11.93 | 0.00 | -3.04 | 1.004 |
| 22 | -11.76 | 0.00 | -3.00 | 1.008 |
| 23 | -11.54 | 0.00 | -2.94 | 1.000 |
| 24 | -11.50 | 0.00 | -2.94 | 1.010 |
| 25 | -11.47 | 0.00 | -2.93 | 1.016 |
| 26 | -11.45 | 0.00 | -2.81 | 0.982 |
| 27 | -11.35 | 0.00 | -1.90 | 0.834 |
| 28 | -11.21 | 0.00 | -1.84 | 0.822 |
| 29 | -11.15 | 0.00 | -1.81 | 0.817 |
| 30 | -9.55 | 0.00 | -1.10 | 0.700 |
| 31 | -9.53 | 0.00 | -1.09 | 0.697 |
| 32 | -8.64 | 0.00 | -0.69 | 0.657 |
| 33 | -7.70 | 0.00 | -0.19 | 0.485 |
| 34 | -7.63 | 0.00 | -0.16 | 0.474 |
| 35 | -7.59 | 0.00 | -0.15 | 0.469 |
| 36 | -7.53 | 0.00 | -0.13 | 0.462 |
| 37 | -6.89 | 0.00 | -0.14 | 0.456 |
| 38 | -6.49 | 0.00 | -0.13 | 0.448 |
| 39 | -6.19 | 0.00 | -0.12 | 0.442 |
| 40 | -6.09 | 0.00 | -0.09 | 0.433 |
| 41 | -6.05 | 0.00 | -0.08 | 0.430 |
| 42 | -5.75 | 0.00 | -0.07 | 0.425 |
| 43 | -5.37 | 0.00 | -0.06 | 0.420 |
| 44 | -4.84 | 0.00 | -0.06 | 0.416 |
| 45 | -4.78 | 0.00 | -0.06 | 0.415 |
| 46 | -3.49 | 0.00 | -0.04 | 0.405 |
| 47 | -2.19 | 0.00 | -0.04 | 0.396 |
| 48 | -2.14 | 0.00 | -0.04 | 0.395 |
| 49 | -1.73 | 0.00 | -0.04 | 0.387 |
| 50 | -1.45 | 0.00 | -0.04 | 0.381 |
| 51 | -1.00 | 0.00 | -0.04 | 0.368 |
| 52 | -0.90 | 0.00 | -0.04 | 0.365 |

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 53 | -0.89 | 0.00 | -0.04 | 0.368 |
| 54 | -0.49 | 0.00 | -0.10 | 0.361 |
| 55 | -0.07 | 0.00 | -0.15 | 0.344 |
| 56 | 0.10 | 0.00 | -0.16 | 0.311 |
| 57 | 0.31 | 0.00 | -0.44 | 0.345 |
| 58 | 0.40 | 0.00 | -0.57 | 0.345 |
| 59 | 0.48 | 0.00 | -0.69 | 0.345 |
| 60 | 0.60 | 0.00 | -1.99 | 0.431 |
| 61 | 0.86 | 0.00 | -2.06 | 0.417 |
| 62 | 1.03 | 0.00 | -2.07 | 0.405 |
| 63 | 1.63 | 0.00 | -1.70 | 0.332 |
| 64 | 1.98 | 0.00 | -1.64 | 0.309 |
| 65 | 2.49 | 0.00 | -1.79 | 0.296 |
| 66 | 3.11 | 0.00 | -2.07 | 0.293 |
| 67 | 3.59 | 0.00 | -2.02 | 0.275 |
| 68 | 4.54 | 0.00 | -2.06 | 0.257 |
| 69 | 10.00 | 0.00 | -2.06 | 0.213 |

### 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 540 | 0.020 | 10.115 | 0.176 |
| | 5040 | 0.136 | 69.699 | 0.059 |
| 2 | 540 | 0.046 | 17.235 | 0.223 |
| | 5040 | 0.199 | 73.696 | 0.071 |
| 3 | 540 | 0.131 | 28.796 | 0.323 |
| | 5040 | 0.358 | 78.795 | 0.096 |
| 4 | 540 | 0.161 | 30.633 | 0.364 |
| | 5040 | 0.423 | 80.617 | 0.102 |
| 5 | 540 | 0.161 | 30.674 | 0.365 |
| | 5040 | 0.424 | 80.595 | 0.102 |
| 6 | 540 | 0.204 | 29.122 | 0.496 |
| | 5040 | 0.548 | 78.200 | 0.153 |
| 7 | 540 | 0.285 | 31.641 | 0.615 |
| | 5040 | 0.716 | 79.593 | 0.184 |
| 8 | 540 | 0.289 | 31.633 | 0.624 |
| | 5040 | 0.727 | 79.640 | 0.186 |
| 9 | 540 | 0.298 | 31.440 | 0.650 |
| | 5040 | 0.755 | 79.622 | 0.193 |
| 10 | 540 | 0.302 | 31.266 | 0.664 |
| | 5040 | 0.768 | 79.566 | 0.197 |
| 11 | 540 | 0.314 | 30.585 | 0.712 |
| | 5040 | 0.813 | 79.273 | 0.213 |
| 12 | 540 | 0.316 | 30.271 | 0.728 |
| | 5040 | 0.826 | 79.114 | 0.218 |
| 13 | 540 | 0.319 | 30.020 | 0.744 |
| | 5040 | 0.838 | 78.805 | 0.225 |
| 14 | 540 | 0.319 | 29.480 | 0.762 |
| | 5040 | 0.850 | 78.654 | 0.231 |
| 15 | 540 | 0.297 | 27.919 | 0.766 |
| | 5040 | 0.831 | 78.160 | 0.232 |
| 16 | 540 | 0.287 | 27.267 | 0.766 |
| | 5040 | 0.821 | 77.942 | 0.232 |
| 17 | 540 | 0.278 | 26.561 | 0.768 |
| | 5040 | 0.812 | 77.704 | 0.233 |
| 18 | 540 | 0.263 | 25.616 | 0.765 |
| | 5040 | 0.795 | 77.286 | 0.234 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 19 | 540 | 0.255 | 24.990 | 0.764 |
| | 5040 | 0.785 | 77.021 | 0.234 |
| 20 | 540 | 0.254 | 24.895 | 0.765 |
| | 5040 | 0.785 | 77.036 | 0.234 |
| 21 | 540 | 0.254 | 25.325 | 0.749 |
| | 5040 | 0.772 | 76.877 | 0.232 |
| 22 | 540 | 0.260 | 25.803 | 0.748 |
| | 5040 | 0.777 | 77.108 | 0.231 |
| 23 | 540 | 0.256 | 25.547 | 0.745 |
| | 5040 | 0.772 | 77.156 | 0.228 |
| 24 | 540 | 0.265 | 26.267 | 0.744 |
| | 5040 | 0.782 | 77.458 | 0.228 |
| 25 | 540 | 0.273 | 26.862 | 0.743 |
| | 5040 | 0.790 | 77.718 | 0.226 |
| 26 | 540 | 0.257 | 26.211 | 0.725 |
| | 5040 | 0.758 | 77.182 | 0.224 |
| 27 | 540 | 0.216 | 25.936 | 0.618 |
| | 5040 | 0.631 | 75.609 | 0.203 |
| 28 | 540 | 0.209 | 25.485 | 0.612 |
| | 5040 | 0.623 | 75.755 | 0.199 |
| 29 | 540 | 0.210 | 25.667 | 0.607 |
| | 5040 | 0.619 | 75.770 | 0.198 |
| 30 | 540 | 0.183 | 26.155 | 0.517 |
| | 5040 | 0.524 | 74.827 | 0.176 |
| 31 | 540 | 0.185 | 26.479 | 0.513 |
| | 5040 | 0.522 | 74.877 | 0.175 |
| 32 | 540 | 0.178 | 27.072 | 0.479 |
| | 5040 | 0.491 | 74.652 | 0.167 |
| 33 | 540 | 0.127 | 26.151 | 0.358 |
| | 5040 | 0.360 | 74.297 | 0.125 |
| 34 | 540 | 0.122 | 25.783 | 0.352 |
| | 5040 | 0.353 | 74.408 | 0.121 |
| 35 | 540 | 0.121 | 25.782 | 0.348 |
| | 5040 | 0.350 | 74.696 | 0.119 |
| 36 | 540 | 0.119 | 25.815 | 0.343 |
| | 5040 | 0.347 | 75.154 | 0.115 |
| 37 | 540 | 0.118 | 25.770 | 0.339 |
| | 5040 | 0.340 | 74.557 | 0.116 |
| 38 | 540 | 0.115 | 25.642 | 0.333 |
| | 5040 | 0.334 | 74.455 | 0.115 |
| 39 | 540 | 0.112 | 25.355 | 0.330 |
| | 5040 | 0.328 | 74.309 | 0.114 |
| 40 | 540 | 0.110 | 25.354 | 0.323 |
| | 5040 | 0.324 | 74.854 | 0.109 |
| 41 | 540 | 0.109 | 25.339 | 0.321 |
| | 5040 | 0.322 | 75.032 | 0.107 |
| 42 | 540 | 0.107 | 25.201 | 0.318 |
| | 5040 | 0.318 | 74.954 | 0.106 |
| 43 | 540 | 0.106 | 25.191 | 0.314 |
| | 5040 | 0.315 | 74.895 | 0.105 |
| 44 | 540 | 0.105 | 25.279 | 0.311 |
| | 5040 | 0.311 | 74.811 | 0.105 |
| 45 | 540 | 0.105 | 25.283 | 0.310 |
| | 5040 | 0.311 | 74.802 | 0.105 |
| 46 | 540 | 0.104 | 25.598 | 0.301 |
| | 5040 | 0.303 | 74.816 | 0.102 |
| 47 | 540 | 0.103 | 26.160 | 0.292 |
| | 5040 | 0.295 | 74.505 | 0.101 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 48 | 540 | 0.103 | 26.188 | 0.291 |
| | 5040 | 0.294 | 74.513 | 0.101 |
| 49 | 540 | 0.102 | 26.395 | 0.285 |
| | 5040 | 0.289 | 74.542 | 0.099 |
| 50 | 540 | 0.101 | 26.477 | 0.280 |
| | 5040 | 0.284 | 74.482 | 0.097 |
| 51 | 540 | 0.097 | 26.343 | 0.271 |
| | 5040 | 0.273 | 73.988 | 0.096 |
| 52 | 540 | 0.096 | 26.366 | 0.269 |
| | 5040 | 0.270 | 73.865 | 0.096 |
| 53 | 540 | 0.097 | 26.422 | 0.270 |
| | 5040 | 0.272 | 73.979 | 0.096 |
| 54 | 540 | 0.091 | 25.199 | 0.270 |
| | 5040 | 0.261 | 72.332 | 0.100 |
| 55 | 540 | 0.072 | 21.011 | 0.271 |
| | 5040 | 0.240 | 69.952 | 0.103 |
| 56 | 540 | 0.047 | 15.218 | 0.264 |
| | 5040 | 0.208 | 66.941 | 0.103 |
| 57 | 540 | 0.056 | 16.336 | 0.289 |
| | 5040 | 0.235 | 68.145 | 0.110 |
| 58 | 540 | 0.056 | 16.196 | 0.289 |
| | 5040 | 0.235 | 68.052 | 0.110 |
| 59 | 540 | 0.056 | 16.113 | 0.289 |
| | 5040 | 0.234 | 68.003 | 0.110 |
| 60 | 540 | 0.087 | 20.281 | 0.344 |
| | 5040 | 0.309 | 71.711 | 0.122 |
| 61 | 540 | 0.079 | 19.073 | 0.337 |
| | 5040 | 0.297 | 71.289 | 0.120 |
| 62 | 540 | 0.074 | 18.251 | 0.331 |
| | 5040 | 0.287 | 70.909 | 0.118 |
| 63 | 540 | 0.044 | 13.231 | 0.288 |
| | 5040 | 0.224 | 67.363 | 0.108 |
| 64 | 540 | 0.034 | 11.144 | 0.275 |
| | 5040 | 0.204 | 66.096 | 0.105 |
| 65 | 540 | 0.030 | 9.991 | 0.267 |
| | 5040 | 0.195 | 65.617 | 0.102 |
| 66 | 540 | 0.028 | 9.658 | 0.264 |
| | 5040 | 0.193 | 65.896 | 0.100 |
| 67 | 540 | 0.023 | 8.364 | 0.252 |
| | 5040 | 0.178 | 64.880 | 0.096 |
| 68 | 540 | 0.018 | 7.193 | 0.238 |
| | 5040 | 0.164 | 64.074 | 0.092 |
| 69 | 540 | 0.009 | 4.396 | 0.203 |
| | 5040 | 0.131 | 61.631 | 0.082 |

## 5 Warnings and errors

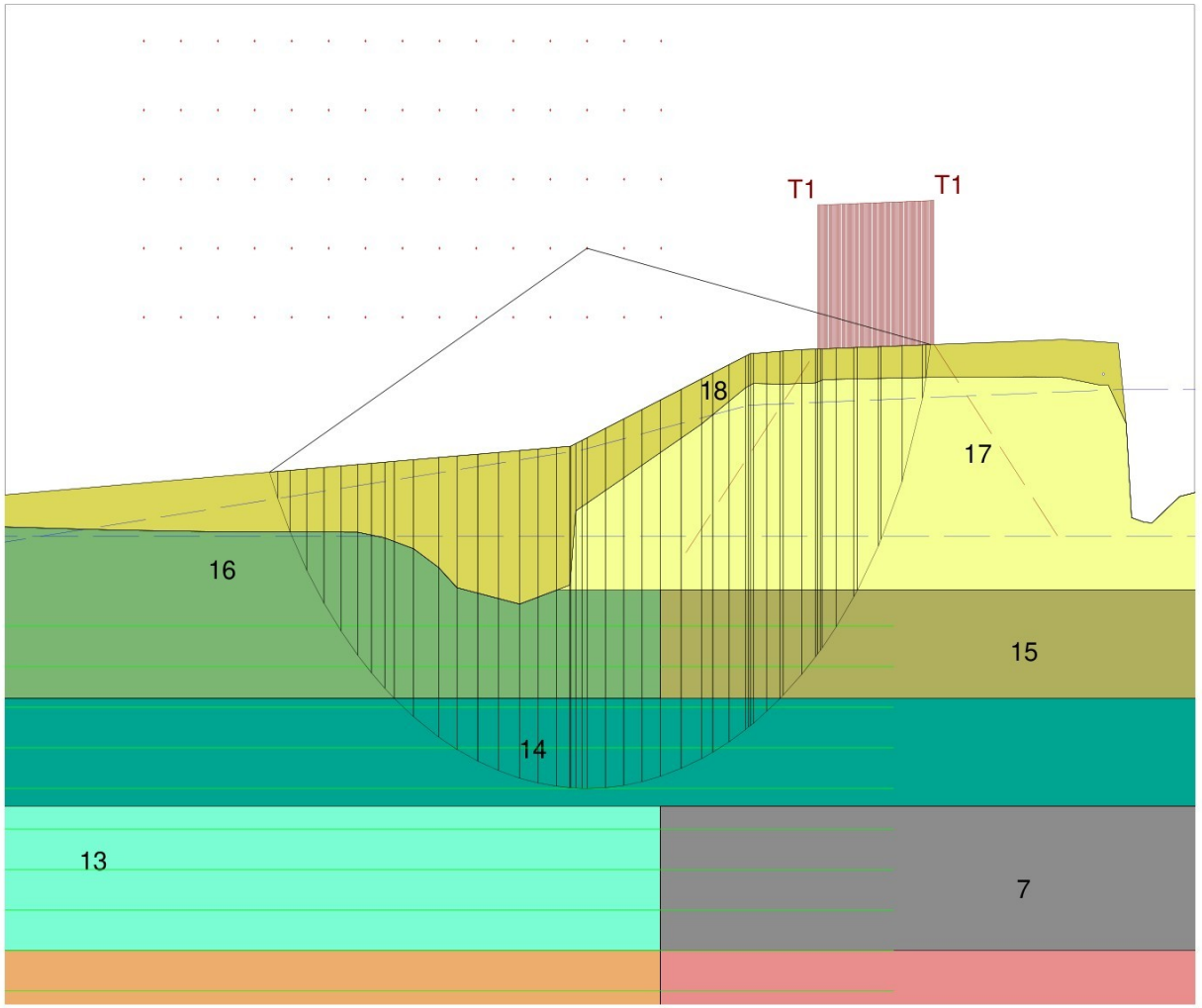
List of non-fatal warnings and errors generated during calculation.

1 Non-uniform load [1]: Co-ordinate (1) lies below surface

2 Non-uniform load [1]: Co-ordinate (4) lies below surface

## End of Report

# Critical Circle Bishop




Layers

- 18. Klei Hum Dk naast
- 17. Dijksmateriaal
- 16. Klei Hum Dk naast
- 15. Klei Hum DK
- 14. Hollandveen
- 13. Klei silt DKnaast
- 12. Klei CA naast
- 11. Klei hum CA naast
- 10. Klei CA naast
- 9. Klei zand CA naast
- 8. Klei CA naast
- 7. Klei silt DK
- 6. Klei CA
- 5. Klei hum CA
- 4. Klei CA
- 3. Klei zand CA
- 2. Klei CA
- 1. Zand CA

Xm : -11.10 [m]
Ym : 1.75 [m]

Radius : 7.50 [m]
Safety : 1.30

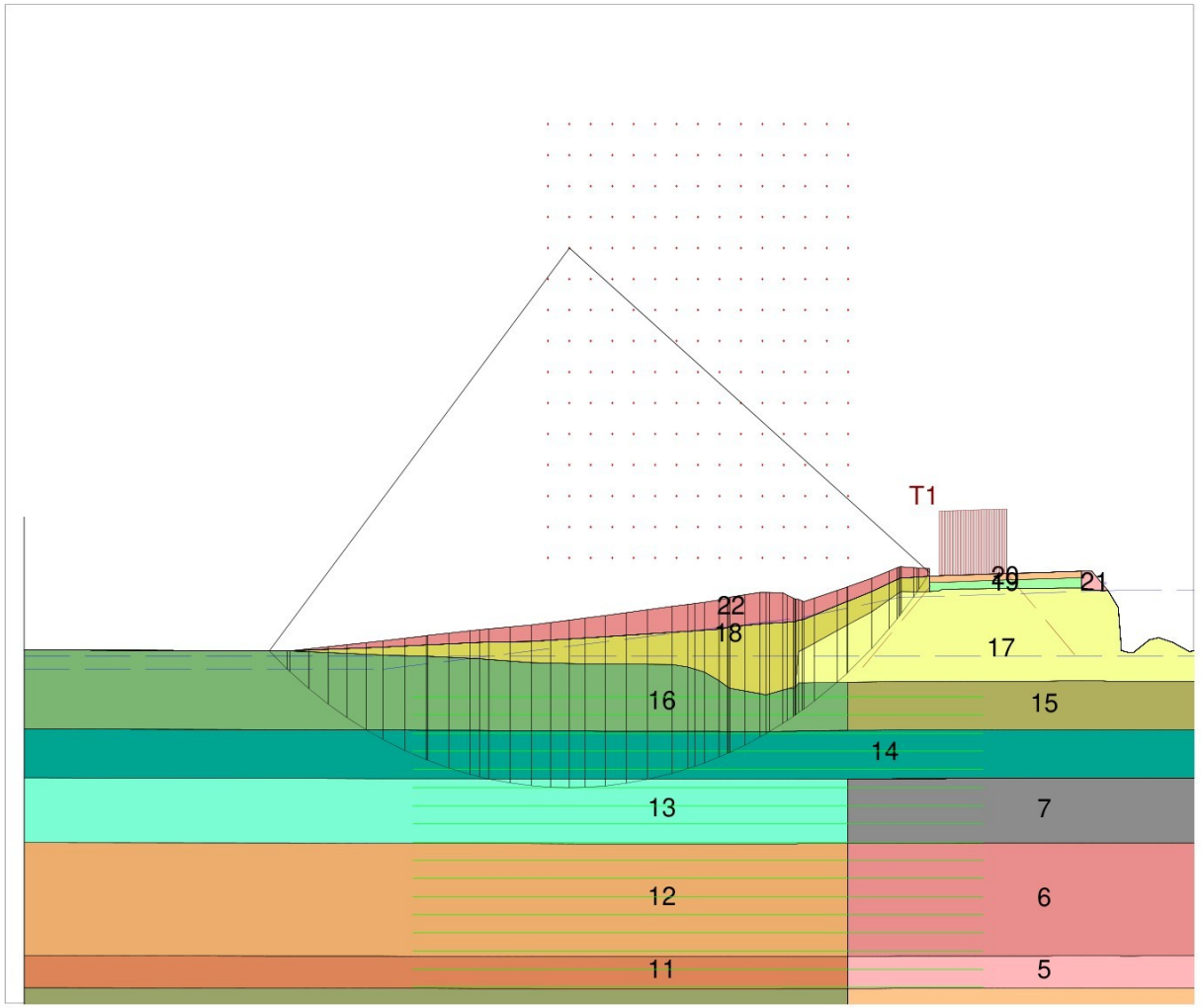
waalpartners civil engineering
Zuidweg 75
2671MP Naaldwijk
Phone
Fax 0174 627791

N468
profiel 14.600
Ontwerp STBI

| | | |
|---|---|---|
| date | 2/13/2025 | drw. - |
| | - | ctr. |
| Annex - | | form. A3 |

D-Geo Stability 18.2 : 14.600_eind_nieuw_stbi_koe.sti

# Critical Circle Bishop




Layers

- 22. nieuw profiel
- 21. nieuw profiel
- 20. Asfalt
- 19. menggranulaat
- 18. nieuw profiel
- 17. Dijksmateriaal
- 16. Klei Hum Dk naast
- 15. Klei Hum DK
- 14. Hollandveen
- 13. Klei silt DKnaast
- 12. Klei CA naast
- 11. Klei hum CA naast
- 10. Klei CA naast
- 9. Klei zand CA naast
- 8. Klei CA naast
- 7. Klei silt DK
- 6. Klei CA
- 5. Klei hum CA
- 4. Klei CA
- 3. Klei zand CA
- 2. Klei CA
- 1. Zand CA

Xm : -19.83 [m]
Ym : 10.38 [m]

Radius : 16.70 [m]
Safety : 1.22

D-Geo Stability 18.2 : 14.600_eind_nieuw_stbi_koe540.sti

waalpartners civil engineering
Zuidweg 75
2671MP Naaldwijk
Phone
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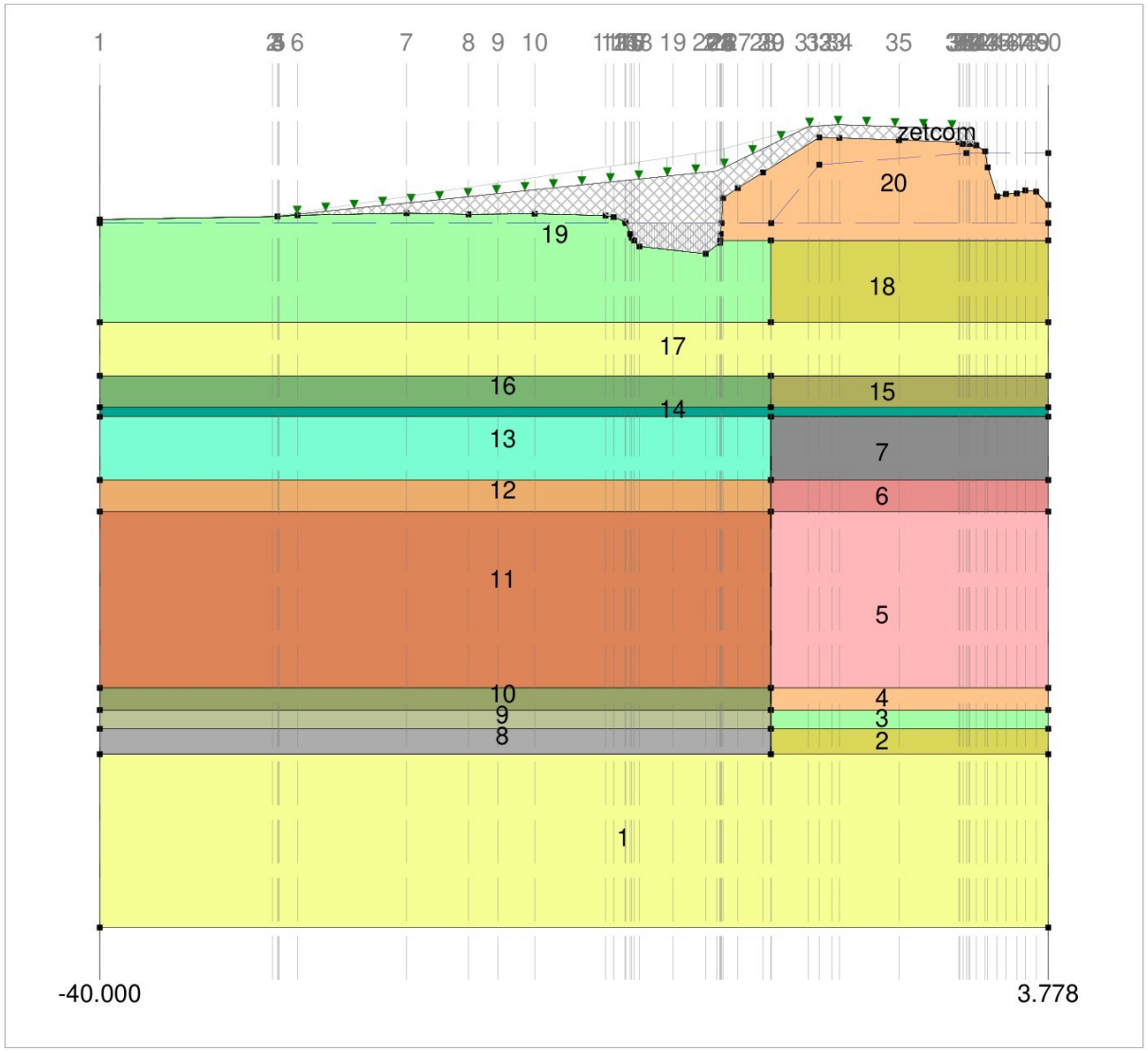
N468
profiel 14.600

Ontwerp STBI

| | | | |
|---|---|---|---|
| Annex - | - | 2/13/2025 | - |
| form. | ctr. | date | drw. |
| A3 | | | |

Bijlage 5.2 SB13

# Input View




Layers

- 20. Dijksmateriaal
- 19. Klei Hum Dk naast
- 18. Klei Hum DK
- 17. Hollandveen
- 16. Klei silt DKnaast
- 15. Klei silt DK
- 14. Hollandveen
- 13. Klei CA naast
- 12. Klei hum CA naast
- 11. Klei CA naast
- 10. Klei zand CA naast
- 9. Klei CA naast
- 8. Klei hum CA naast
- 7. Klei CA
- 6. Klei hum CA
- 5. Klei CA
- 4. Klei zand CA
- 3. Klei CA
- 2. Klei hum CA
- 1. Zand CA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profiel 14.84
huidige STBI

| | | |
|---|---|---|
| date | 2/13/2025 | drw. - |
| | - | ctr. |
| Annex - | | form. A3 |

D-Settlement 23.2 : 14.840 SB13 Zetting eind steunberm KOE.sli

# Report for D-Settlement 23.2

Settlement Calculations
Developed by Deltares

| | |
|---|---|
| Company: | Waalpartners civil engineering |
| Date of report: | 2/13/2025 |
| Time of report: | 6:30:46 PM |
| Report with version: | 23.2.1.41771 |
| Date of calculation: | 1/13/2025 |
| Time of calculation: | 4:44:41 PM |
| Calculated with version: | 23.2.1.41771 |
| File name: | 14.840 SB13 Zetting eind steunberm KOE |
| Project identification: | N468 steunberm<br>profiel 10.350<br>huidige STBI |

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# 2 Echo of the Input

## 2.1 Layer Boundaries

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 20 - X - | -40.000 | -31.794 | -30.877 | -25.839 | -22.968 |
| 20 - Y - | -2.538 | -2.439 | -2.404 | -2.338 | -2.376 |
| 20 - X - | -19.933 | -16.657 | -16.277 | -15.748 | -15.720 |
| 20 - Y - | -2.356 | -2.419 | -2.464 | -2.608 | -2.650 |
| 20 - X - | -15.517 | -15.449 | -15.339 | -15.086 | -12.029 |
| 20 - Y - | -3.000 | -3.116 | -3.200 | -3.394 | -3.625 |
| 20 - X - | -11.369 | -11.362 | -11.343 | -11.310 | -11.236 |
| 20 - Y - | -3.281 | -3.200 | -3.000 | -2.650 | -1.857 |
| 20 - X - | -10.553 | -9.386 | -6.796 | -5.869 | -3.119 |
| 20 - Y - | -1.544 | -1.048 | 0.065 | 0.043 | -0.022 |
| 20 - X - | -0.369 | -0.164 | 0.153 | 0.451 | 0.869 |
| 20 - Y - | -0.086 | -0.150 | -0.150 | -0.189 | -0.380 |
| 20 - X - | 0.982 | 1.415 | 1.824 | 2.326 | 2.709 |
| 20 - Y - | -0.890 | -1.813 | -1.735 | -1.710 | -1.616 |
| 20 - X - | 3.211 | 3.778 | | | |
| 20 - Y - | -1.651 | -2.075 | | | |
| 19 - X - | -40.000 | -31.794 | -30.877 | -25.839 | -22.968 |
| 19 - Y - | -2.538 | -2.439 | -2.404 | -2.338 | -2.376 |
| 19 - X - | -19.933 | -16.657 | -16.277 | -15.748 | -15.720 |
| 19 - Y - | -2.356 | -2.419 | -2.464 | -2.608 | -2.650 |
| 19 - X - | -15.517 | -15.449 | -15.339 | -15.086 | -12.029 |
| 19 - Y - | -3.000 | -3.116 | -3.200 | -3.394 | -3.625 |
| 19 - X - | -11.369 | -11.362 | -9.020 | 3.778 | |
| 19 - Y - | -3.281 | -3.200 | -3.200 | -3.200 | |
| 18 - X - | -40.000 | -9.020 | -9.020 | 3.778 | |
| 18 - Y - | -5.800 | -5.800 | -3.200 | -3.200 | |
| 17 - X - | -40.000 | -9.020 | 3.778 | | |
| 17 - Y - | -5.800 | -5.800 | -5.800 | | |
| 16 - X - | -40.000 | -9.020 | 3.778 | | |
| 16 - Y - | -7.500 | -7.500 | -7.500 | | |
| 15 - X - | -40.000 | -9.020 | -9.020 | 3.778 | |
| 15 - Y - | -8.500 | -8.500 | -7.500 | -7.500 | |
| 14 - X - | -40.000 | -9.020 | 3.778 | | |
| 14 - Y - | -8.500 | -8.500 | -8.500 | | |
| 13 - X - | -40.000 | -9.020 | 3.778 | | |
| 13 - Y - | -8.800 | -8.800 | -8.800 | | |
| 12 - X - | -40.000 | -9.020 | -9.020 | 3.778 | |
| 12 - Y - | -10.800 | -10.800 | -8.800 | -8.800 | |
| 11 - X - | -40.000 | -9.020 | -9.020 | -9.020 | 3.778 |
| 11 - Y - | -11.800 | -11.800 | -10.800 | -8.800 | -8.800 |
| 10 - X - | -40.000 | -9.020 | -9.020 | -9.020 | -9.020 |
| 10 - Y - | -17.400 | -17.400 | -11.800 | -10.800 | -8.800 |
| 10 - X - | 3.778 | | | | |
| 10 - Y - | -8.800 | | | | |
| 9 - X - | -40.000 | -9.020 | -9.020 | -9.020 | -9.020 |
| 9 - Y - | -18.100 | -18.100 | -17.400 | -11.800 | -10.800 |
| 9 - X - | -9.020 | 3.778 | | | |
| 9 - Y - | -8.800 | -8.800 | | | |
| 8 - X - | -40.000 | -9.020 | -9.020 | -9.020 | -9.020 |
| 8 - Y - | -18.700 | -18.700 | -18.100 | -17.400 | -11.800 |
| 8 - X - | -9.020 | -9.020 | 3.778 | | |
| 8 - Y - | -10.800 | -8.800 | -8.800 | | |
| 7 - X - | -40.000 | -9.020 | -9.020 | -9.020 | -9.020 |
| 7 - Y - | -19.500 | -19.500 | -18.700 | -18.100 | -17.400 |

| Boundary number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 7 - X - | -9.020 | -9.020 | -9.020 | 3.778 | |
| 7 - Y - | -11.800 | -10.800 | -8.800 | -8.800 | |
| 6 - X - | -40.000 | -9.020 | -9.020 | -9.020 | -9.020 |
| 6 - Y - | -19.500 | -19.500 | -18.700 | -18.100 | -17.400 |
| 6 - X - | -9.020 | -9.020 | 3.778 | | |
| 6 - Y - | -11.800 | -10.800 | -10.800 | | |
| 5 - X - | -40.000 | -9.020 | -9.020 | -9.020 | -9.020 |
| 5 - Y - | -19.500 | -19.500 | -18.700 | -18.100 | -17.400 |
| 5 - X - | -9.020 | 3.778 | | | |
| 5 - Y - | -11.800 | -11.800 | | | |
| 4 - X - | -40.000 | -9.020 | -9.020 | -9.020 | -9.020 |
| 4 - Y - | -19.500 | -19.500 | -18.700 | -18.100 | -17.400 |
| 4 - X - | 3.778 | | | | |
| 4 - Y - | -17.400 | | | | |
| 3 - X - | -40.000 | -9.020 | -9.020 | -9.020 | 3.778 |
| 3 - Y - | -19.500 | -19.500 | -18.700 | -18.100 | -18.100 |
| 2 - X - | -40.000 | -9.020 | -9.020 | 3.778 | |
| 2 - Y - | -19.500 | -19.500 | -18.700 | -18.700 | |
| 1 - X - | -40.000 | -9.020 | 3.778 | | |
| 1 - Y - | -19.500 | -19.500 | -19.500 | | |
| 0 - X - | -40.000 | 3.778 | | | |
| 0 - Y - | -25.000 | -25.000 | | | |

## 2.2 Pl-lines

| Pl-line number | Co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - X - | -40.000 | -9.016 | -6.796 | 0.000 | 3.778 |
| 1 - Y - | -2.650 | -2.650 | -0.800 | -0.430 | -0.430 |
| 2 - X - | -40.000 | 3.778 | | | |
| 2 - Y - | -2.650 | -2.650 | | | |

## 2.3 General Data

| | |
|---|---|
| Soil model: | NEN Bjerrum |
| Consolidation model: | Darcy |
| Strain model: | Linear |
| Groundwater level: | Initial determined by Pl-line number 1 |
| Unit weight of water: | 9.81 [kN/m³] |
| Stress distribution | |
| - Soil: | |
| - Loads: | None |
| End of consolidation: | 10000.00 [days] |
| No maintain profile | |
| Pc (initial): | Variable parallel to the initial effective stress |
| Pc (per step): | Automatic increased to the final effective stresses |
| Creep rate reference time: | 1.000 [days] |
| No imaginary surface | |
| With submerging | |
| (only for non uniform loads) | |
| - Iteration stop criterium : | 0.10 [m] |
| Load column width | |
| - Non-Uniform Loads : | 1.00 [m] |
| - Trapeziform Loads : | 1.00 [m] |

## 2.4 Soil Profiles

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 20 | Dijksmateriaal | 1 | 1 |
| 19 | Klei Hum Dk naast | 1 | 1 |

| Layer number | Material name | Pl-line top | Pl-line bottom |
|---|---|---|---|
| 18 | Klei Hum DK | 1 | 1 |
| 17 | Hollandveen | 1 | 1 |
| 16 | Klei silt DKnaast | 1 | 1 |
| 15 | Klei silt DK | 1 | 1 |
| 14 | Hollandveen | 1 | 1 |
| 13 | Klei CA naast | 1 | 1 |
| 12 | Klei hum CA naast | 1 | 1 |
| 11 | Klei CA naast | 1 | 1 |
| 10 | Klei zand CA naast | 1 | 1 |
| 9 | Klei CA naast | 1 | 1 |
| 8 | Klei hum CA naast | 1 | 2 |
| 7 | Klei CA | 1 | 1 |
| 6 | Klei hum CA | 1 | 1 |
| 5 | Klei CA | 1 | 1 |
| 4 | Klei zand CA | 1 | 1 |
| 3 | Klei CA | 1 | 1 |
| 2 | Klei hum CA | 1 | 2 |
| 1 | Zand CA | 2 | 2 |

## 2.5 Soil Properties

| Layer number | Drained | Unit weight | |
|---|---|---|---|
| | | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 20 | No | 16.00 | 16.00 |
| 19 | No | 13.50 | 13.50 |
| 18 | No | 13.50 | 13.50 |
| 17 | No | 10.50 | 10.50 |
| 16 | No | 15.10 | 15.10 |
| 15 | No | 15.10 | 15.10 |
| 14 | No | 10.50 | 10.50 |
| 13 | No | 15.90 | 15.90 |
| 12 | No | 15.10 | 15.10 |
| 11 | No | 15.90 | 15.90 |
| 10 | No | 17.00 | 17.00 |
| 9 | No | 15.90 | 15.90 |
| 8 | No | 15.10 | 15.10 |
| 7 | No | 15.90 | 15.90 |
| 6 | No | 15.10 | 15.10 |
| 5 | No | 15.90 | 15.90 |
| 4 | No | 17.00 | 17.00 |
| 3 | No | 15.90 | 15.90 |
| 2 | No | 15.10 | 15.10 |
| 1 | Yes | 18.00 | 20.00 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] |
|---|---|---|
| 20 | Vert. cons. | 1.00E-08 |
| 19 | Vert. cons. | 2.07E-08 |
| 18 | Vert. cons. | 2.07E-08 |
| 17 | Vert. cons. | 2.37E-08 |
| 16 | Vert. cons. | 2.54E-08 |
| 15 | Vert. cons. | 2.54E-08 |
| 14 | Vert. cons. | 2.37E-08 |
| 13 | Vert. cons. | 6.02E-07 |
| 12 | Vert. cons. | 9.27E-08 |
| 11 | Vert. cons. | 6.02E-07 |
| 10 | Vert. cons. | 1.00E-07 |

| Layer number | Storage type | Vert. consolid. coefficient Cv [m²/s] |
|---|---|---|
| 9 | Vert. cons. | 6.02E-07 |
| 8 | Vert. cons. | 9.27E-08 |
| 7 | Vert. cons. | 6.02E-07 |
| 6 | Vert. cons. | 9.27E-08 |
| 5 | Vert. cons. | 6.02E-07 |
| 4 | Vert. cons. | 1.00E-07 |
| 3 | Vert. cons. | 6.02E-07 |
| 2 | Vert. cons. | 9.27E-08 |
| 1 | Vert. cons. | - |

| Layer number | Vertical permeability [m/s] | Permeability strain mod. [-] | Initial vertical permeability [m/s] |
|---|---|---|---|
| 20 | - | - | - |
| 19 | - | - | - |
| 18 | - | - | - |
| 17 | - | - | - |
| 16 | - | - | - |
| 15 | - | - | - |
| 14 | - | - | - |
| 13 | - | - | - |
| 12 | - | - | - |
| 11 | - | - | - |
| 10 | - | - | - |
| 9 | - | - | - |
| 8 | - | - | - |
| 7 | - | - | - |
| 6 | - | - | - |
| 5 | - | - | - |
| 4 | - | - | - |
| 3 | - | - | - |
| 2 | - | - | - |
| 1 | - | - | - |

| Layer number | POP [kN/m²] | OCR [-] | Equiv. age [days] |
|---|---|---|---|
| 20 | - | 1.50 | - |
| 19 | - | 1.50 | - |
| 18 | - | 1.50 | - |
| 17 | - | 1.80 | - |
| 16 | - | 1.50 | - |
| 15 | - | 1.50 | - |
| 14 | - | 1.80 | - |
| 13 | - | 1.50 | - |
| 12 | - | 1.50 | - |
| 11 | - | 1.50 | - |
| 10 | - | 1.39 | - |
| 9 | - | 1.50 | - |
| 8 | - | 1.50 | - |
| 7 | - | 1.50 | - |
| 6 | - | 1.50 | - |
| 5 | - | 1.50 | - |
| 4 | - | 1.39 | - |
| 3 | - | 1.50 | - |
| 2 | - | 1.50 | - |
| 1 | - | 1.39 | - |

| Layer number | Reloading/ swelling ratio RR [-] | Compression ratio CR [-] | Coeff. of sec. compression Ca [-] | Reloading/ swelling index Cr [-] | Compression index Cc [-] | Initial void ratio (e0) [-] |
|---|---|---|---|---|---|---|
| 20 | 0.0285000 | 0.2190000 | 0.0100000 | - | - | - |
| 19 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 18 | 0.0338000 | 0.2712000 | 0.0174000 | - | - | - |
| 17 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 16 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 15 | 0.0285000 | 0.2190000 | 0.0139000 | - | - | - |
| 14 | 0.0845000 | 0.4570000 | 0.0361000 | - | - | - |
| 13 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 12 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 11 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 10 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 9 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 8 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 7 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 6 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 5 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 4 | 0.0190000 | 0.1500000 | 0.0060000 | - | - | - |
| 3 | 0.0288000 | 0.2190000 | 0.0110000 | - | - | - |
| 2 | 0.0289000 | 0.2114000 | 0.0129000 | - | - | - |
| 1 | 0.0100000 | 0.1062000 | 0.0033000 | - | - | - |

## 2.6 Non-Uniform Loads

| Load number | Time | Unit weight | |
|---|---|---|---|
| | [days] | Unsaturated [kN/m³] | Saturated [kN/m³] |
| 1 | -1 | 14.00 | 14.00 |
| 2 | 1 | 16.00 | 16.00 |
| 3 | 1 | 16.00 | 16.00 |

| Load number | Co-ordinates [m] | | | | | |
|---|---|---|---|---|---|---|
| 1 - X - | -15.72 | -11.31 | | | | |
| 1 - Y - | -2.65 | -2.65 | | | | |
| 2 - X - | -31.73 | -11.51 | -7.30 | -6.20 | -5.87 | -3.12 |
| 2 - Y - | -2.44 | -1.00 | 0.40 | 0.46 | 0.47 | 0.40 |
| 2 - X - | -0.37 | -0.30 | 0.10 | 0.45 | | |
| 2 - Y - | 0.33 | 0.33 | 0.32 | -0.19 | | |
| 3 - X - | -32.02 | -11.51 | -7.30 | -6.20 | -5.87 | -3.12 |
| 3 - Y - | -2.44 | -0.35 | 0.40 | 0.46 | 0.47 | 0.40 |
| 3 - X - | -0.37 | -0.30 | 0.10 | 0.45 | | |
| 3 - Y - | 0.33 | 0.33 | 0.32 | -0.19 | | |

## 2.7 Verticals

| Vertical number | X co-ordinates [m] | | | | |
|---|---|---|---|---|---|
| 1 - 5 | -40.000 | -32.020 | -31.794 | -31.736 | -31.724 |
| 6 - 10 | -30.877 | -25.839 | -22.968 | -21.620 | -19.933 |
| 11 - 15 | -16.657 | -16.277 | -15.748 | -15.720 | -15.517 |
| 16 - 20 | -15.449 | -15.339 | -15.086 | -13.560 | -12.029 |
| 21 - 25 | -11.513 | -11.369 | -11.362 | -11.343 | -11.310 |
| 26 - 30 | -11.236 | -10.553 | -9.386 | -9.020 | -9.016 |
| 31 - 35 | -7.302 | -6.796 | -6.202 | -5.869 | -3.119 |
| 36 - 40 | -0.369 | -0.302 | -0.164 | 0.000 | 0.098 |
| 41 - 45 | 0.153 | 0.451 | 0.869 | 0.982 | 1.415 |
| 46 - 50 | 1.824 | 2.326 | 2.709 | 3.211 | 3.778 |

# 3 Results per Vertical

## 3.1 Results for Vertical 1 (X = -40.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.538 | 0.001 | -2.538 | 0.000 | 0.161 |
| -2.638 | 0.367 | -2.638 | -0.981 | 0.162 |
| -2.650 | 0.410 | -2.650 | -1.099 | 0.162 |
| -2.738 | 0.730 | -2.649 | -1.099 | 0.163 |
| -2.838 | 1.091 | -2.648 | -1.099 | 0.163 |
| -2.938 | 1.450 | -2.647 | -1.099 | 0.163 |
| -3.038 | 1.809 | -2.646 | -1.098 | 0.163 |
| -3.138 | 2.165 | -2.645 | -1.098 | 0.163 |
| -3.238 | 2.520 | -2.644 | -1.098 | 0.162 |
| -3.338 | 2.873 | -2.642 | -1.098 | 0.162 |
| -3.438 | 3.225 | -2.640 | -1.098 | 0.161 |
| -3.538 | 3.575 | -2.638 | -1.098 | 0.161 |
| -4.169 | 5.752 | -2.623 | -1.096 | 0.156 |
| -5.000 | 8.544 | -2.594 | -1.091 | 0.149 |
| -5.800 | 11.175 | -2.560 | -1.079 | 0.141 |
| -5.800 | 11.175 | -2.560 | -1.079 | 0.141 |
| -6.650 | 11.589 | -2.540 | -1.057 | 0.125 |
| -7.500 | 12.076 | -2.527 | -1.025 | 0.110 |
| -7.500 | 12.076 | -2.527 | -1.025 | 0.110 |
| -8.000 | 14.646 | -2.517 | -1.000 | 0.106 |
| -8.500 | 17.226 | -2.507 | -0.970 | 0.102 |
| -8.500 | 17.226 | -2.507 | -0.970 | 0.102 |
| -8.650 | 17.325 | -2.506 | -0.961 | 0.098 |
| -8.800 | 17.428 | -2.504 | -0.951 | 0.095 |
| -8.800 | 17.428 | -2.504 | -0.951 | 0.095 |
| -9.800 | 23.592 | -2.504 | -0.874 | 0.093 |
| -10.800 | 29.775 | -2.504 | -0.781 | 0.089 |
| -10.800 | 29.775 | -2.504 | -0.781 | 0.089 |
| -11.300 | 32.482 | -2.505 | -0.729 | 0.082 |
| -11.800 | 35.207 | -2.508 | -0.675 | 0.075 |
| -11.800 | 35.207 | -2.508 | -0.675 | 0.075 |
| -12.800 | 41.429 | -2.509 | -0.557 | 0.069 |
| -13.800 | 47.670 | -2.511 | -0.429 | 0.062 |
| -14.600 | 52.675 | -2.514 | -0.323 | 0.056 |
| -15.100 | 55.809 | -2.516 | -0.255 | 0.052 |
| -15.600 | 58.948 | -2.518 | -0.186 | 0.047 |
| -16.600 | 65.238 | -2.524 | -0.045 | 0.038 |
| -17.400 | 70.283 | -2.530 | 0.068 | 0.031 |
| -17.400 | 70.283 | -2.530 | 0.068 | 0.031 |
| -17.750 | 73.079 | -2.553 | 0.117 | 0.029 |
| -18.100 | 75.889 | -2.578 | 0.167 | 0.028 |
| -18.100 | 75.889 | -2.578 | 0.167 | 0.028 |
| -18.400 | 77.787 | -2.580 | 0.209 | 0.024 |
| -18.700 | 79.686 | -2.583 | 0.251 | 0.021 |
| -18.700 | 79.687 | -2.583 | 0.251 | 0.021 |
| -19.100 | 82.172 | -2.615 | 0.307 | 0.013 |
| -19.500 | 84.685 | -2.650 | 0.362 | 0.005 |
| -19.500 | 84.686 | -2.650 | 0.362 | 0.005 |
| -20.450 | 94.499 | -2.650 | 0.491 | 0.004 |
| -21.450 | 104.826 | -2.650 | 0.624 | 0.003 |
| -22.250 | 113.085 | -2.650 | 0.727 | 0.003 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -23.600 | 127.013 | -2.650 | 0.892 | 0.001 |
| -25.000 | 141.447 | -2.650 | 1.053 | 0.000 |

### 3.2 Results for Vertical 2 (X = -32.02 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.442 | 0.002 | -2.442 | 0.001 | 0.213 |
| -2.542 | 0.623 | -2.541 | -0.724 | 0.212 |
| -2.642 | 1.009 | -2.641 | -1.680 | 0.211 |
| -2.650 | 1.042 | -2.649 | -1.759 | 0.211 |
| -2.742 | 1.403 | -2.648 | -1.726 | 0.212 |
| -2.842 | 1.797 | -2.647 | -1.688 | 0.212 |
| -2.942 | 2.187 | -2.645 | -1.653 | 0.212 |
| -3.042 | 2.572 | -2.644 | -1.621 | 0.211 |
| -3.142 | 2.954 | -2.642 | -1.591 | 0.211 |
| -3.242 | 3.333 | -2.640 | -1.562 | 0.210 |
| -3.342 | 3.710 | -2.638 | -1.534 | 0.210 |
| -3.442 | 4.084 | -2.635 | -1.506 | 0.209 |
| -4.121 | 6.584 | -2.616 | -1.320 | 0.204 |
| -5.000 | 9.728 | -2.581 | -1.076 | 0.195 |
| -5.800 | 12.522 | -2.542 | -0.852 | 0.185 |
| -5.800 | 12.522 | -2.542 | -0.852 | 0.185 |
| -6.650 | 13.123 | -2.519 | -0.614 | 0.166 |
| -7.500 | 13.794 | -2.503 | -0.378 | 0.145 |
| -7.500 | 13.794 | -2.503 | -0.378 | 0.145 |
| -8.000 | 16.466 | -2.492 | -0.240 | 0.140 |
| -8.500 | 19.147 | -2.482 | -0.103 | 0.134 |
| -8.500 | 19.147 | -2.482 | -0.103 | 0.134 |
| -8.650 | 19.277 | -2.480 | -0.062 | 0.129 |
| -8.800 | 19.411 | -2.479 | -0.022 | 0.124 |
| -8.800 | 19.411 | -2.479 | -0.022 | 0.124 |
| -9.800 | 25.768 | -2.479 | 0.246 | 0.119 |
| -10.800 | 32.123 | -2.479 | 0.505 | 0.113 |
| -10.800 | 32.123 | -2.479 | 0.505 | 0.113 |
| -11.300 | 34.919 | -2.481 | 0.631 | 0.105 |
| -11.800 | 37.729 | -2.485 | 0.754 | 0.097 |
| -11.800 | 37.729 | -2.485 | 0.754 | 0.097 |
| -12.800 | 44.081 | -2.487 | 0.993 | 0.088 |
| -13.800 | 50.432 | -2.490 | 1.218 | 0.078 |
| -14.600 | 55.513 | -2.493 | 1.389 | 0.070 |
| -15.100 | 58.688 | -2.496 | 1.492 | 0.064 |
| -15.600 | 61.864 | -2.498 | 1.590 | 0.059 |
| -16.600 | 68.217 | -2.505 | 1.776 | 0.048 |
| -17.400 | 73.302 | -2.512 | 1.914 | 0.039 |
| -17.400 | 73.302 | -2.512 | 1.914 | 0.039 |
| -17.750 | 76.143 | -2.539 | 1.971 | 0.036 |
| -18.100 | 79.000 | -2.568 | 2.026 | 0.034 |
| -18.100 | 79.000 | -2.568 | 2.026 | 0.034 |
| -18.400 | 80.908 | -2.571 | 2.072 | 0.030 |
| -18.700 | 82.816 | -2.575 | 2.117 | 0.026 |
| -18.700 | 82.816 | -2.575 | 2.117 | 0.026 |
| -19.100 | 85.348 | -2.611 | 2.174 | 0.018 |
| -19.500 | 87.908 | -2.650 | 2.229 | 0.009 |
| -19.500 | 87.908 | -2.650 | 2.229 | 0.009 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -20.450 | 97.718 | -2.650 | 2.349 | 0.007 |
| -21.450 | 108.029 | -2.650 | 2.462 | 0.005 |
| -22.250 | 116.268 | -2.650 | 2.542 | 0.004 |
| -23.600 | 130.151 | -2.650 | 2.658 | 0.002 |
| -25.000 | 144.522 | -2.650 | 2.754 | 0.000 |

### 3.3 Results for Vertical 3 (X = -31.79 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.439 | 0.247 | -2.439 | 0.246 | 0.226 |
| -2.539 | 0.849 | -2.539 | -0.497 | 0.221 |
| -2.639 | 1.252 | -2.638 | -1.435 | 0.219 |
| -2.650 | 1.295 | -2.649 | -1.540 | 0.219 |
| -2.739 | 1.628 | -2.647 | -1.524 | 0.218 |
| -2.839 | 1.996 | -2.646 | -1.512 | 0.218 |
| -2.939 | 2.362 | -2.645 | -1.500 | 0.217 |
| -3.039 | 2.728 | -2.643 | -1.486 | 0.216 |
| -3.139 | 3.095 | -2.641 | -1.470 | 0.216 |
| -3.239 | 3.463 | -2.639 | -1.452 | 0.215 |
| -3.339 | 3.830 | -2.637 | -1.432 | 0.214 |
| -3.439 | 4.198 | -2.635 | -1.411 | 0.213 |
| -4.120 | 6.679 | -2.615 | -1.245 | 0.207 |
| -5.000 | 9.814 | -2.579 | -1.009 | 0.197 |
| -5.800 | 12.602 | -2.540 | -0.788 | 0.187 |
| -5.800 | 12.602 | -2.540 | -0.788 | 0.187 |
| -6.650 | 13.200 | -2.517 | -0.552 | 0.167 |
| -7.500 | 13.869 | -2.501 | -0.316 | 0.146 |
| -7.500 | 13.869 | -2.501 | -0.316 | 0.146 |
| -8.000 | 16.542 | -2.490 | -0.179 | 0.141 |
| -8.500 | 19.223 | -2.480 | -0.043 | 0.134 |
| -8.500 | 19.223 | -2.480 | -0.043 | 0.134 |
| -8.650 | 19.353 | -2.478 | -0.002 | 0.130 |
| -8.800 | 19.487 | -2.477 | 0.039 | 0.125 |
| -8.800 | 19.487 | -2.477 | 0.039 | 0.125 |
| -9.800 | 25.844 | -2.477 | 0.305 | 0.120 |
| -10.800 | 32.198 | -2.477 | 0.563 | 0.113 |
| -10.800 | 32.198 | -2.477 | 0.563 | 0.113 |
| -11.300 | 34.995 | -2.479 | 0.688 | 0.105 |
| -11.800 | 37.806 | -2.483 | 0.811 | 0.097 |
| -11.800 | 37.806 | -2.483 | 0.811 | 0.097 |
| -12.800 | 44.157 | -2.485 | 1.048 | 0.088 |
| -13.800 | 50.508 | -2.488 | 1.272 | 0.078 |
| -14.600 | 55.588 | -2.491 | 1.442 | 0.070 |
| -15.100 | 58.763 | -2.494 | 1.543 | 0.065 |
| -15.600 | 61.938 | -2.497 | 1.641 | 0.059 |
| -16.600 | 68.290 | -2.504 | 1.824 | 0.048 |
| -17.400 | 73.373 | -2.511 | 1.960 | 0.039 |
| -17.400 | 73.373 | -2.511 | 1.960 | 0.039 |
| -17.750 | 76.217 | -2.538 | 2.016 | 0.037 |
| -18.100 | 79.076 | -2.567 | 2.070 | 0.034 |
| -18.100 | 79.076 | -2.567 | 2.070 | 0.034 |
| -18.400 | 80.983 | -2.570 | 2.115 | 0.030 |
| -18.700 | 82.890 | -2.574 | 2.159 | 0.026 |
| -18.700 | 82.890 | -2.574 | 2.159 | 0.026 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -19.100 | 85.425 | -2.610 | 2.215 | 0.018 |
| -19.500 | 87.987 | -2.650 | 2.268 | 0.009 |
| -19.500 | 87.987 | -2.650 | 2.268 | 0.009 |
| -20.450 | 97.794 | -2.650 | 2.386 | 0.007 |
| -21.450 | 108.102 | -2.650 | 2.495 | 0.005 |
| -22.250 | 116.338 | -2.650 | 2.572 | 0.004 |
| -23.600 | 130.216 | -2.650 | 2.683 | 0.002 |
| -25.000 | 144.583 | -2.650 | 2.774 | 0.000 |

### 3.4 Results for Vertical 4 (X = -31.74 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.437 | 0.521 | -2.437 | 0.520 | 0.232 |
| -2.537 | 1.030 | -2.536 | -0.315 | 0.224 |
| -2.637 | 1.372 | -2.635 | -1.314 | 0.221 |
| -2.650 | 1.418 | -2.648 | -1.445 | 0.221 |
| -2.737 | 1.720 | -2.647 | -1.452 | 0.220 |
| -2.837 | 2.072 | -2.646 | -1.456 | 0.219 |
| -2.937 | 2.427 | -2.644 | -1.453 | 0.218 |
| -3.037 | 2.787 | -2.643 | -1.446 | 0.217 |
| -3.137 | 3.149 | -2.641 | -1.435 | 0.217 |
| -3.237 | 3.513 | -2.639 | -1.420 | 0.216 |
| -3.337 | 3.878 | -2.637 | -1.403 | 0.215 |
| -3.437 | 4.243 | -2.634 | -1.383 | 0.214 |
| -4.118 | 6.720 | -2.614 | -1.223 | 0.208 |
| -5.000 | 9.855 | -2.578 | -0.990 | 0.198 |
| -5.800 | 12.640 | -2.539 | -0.770 | 0.188 |
| -5.800 | 12.640 | -2.539 | -0.770 | 0.188 |
| -6.650 | 13.237 | -2.516 | -0.535 | 0.168 |
| -7.500 | 13.906 | -2.500 | -0.300 | 0.146 |
| -7.500 | 13.906 | -2.500 | -0.300 | 0.146 |
| -8.000 | 16.578 | -2.489 | -0.163 | 0.141 |
| -8.500 | 19.260 | -2.479 | -0.027 | 0.135 |
| -8.500 | 19.260 | -2.479 | -0.027 | 0.135 |
| -8.650 | 19.390 | -2.477 | 0.014 | 0.130 |
| -8.800 | 19.524 | -2.476 | 0.054 | 0.125 |
| -8.800 | 19.524 | -2.476 | 0.054 | 0.125 |
| -9.800 | 25.881 | -2.476 | 0.320 | 0.120 |
| -10.800 | 32.235 | -2.476 | 0.578 | 0.114 |
| -10.800 | 32.235 | -2.476 | 0.578 | 0.114 |
| -11.300 | 35.032 | -2.479 | 0.703 | 0.106 |
| -11.800 | 37.843 | -2.483 | 0.826 | 0.097 |
| -11.800 | 37.843 | -2.483 | 0.826 | 0.097 |
| -12.800 | 44.195 | -2.485 | 1.062 | 0.088 |
| -13.800 | 50.545 | -2.488 | 1.286 | 0.078 |
| -14.600 | 55.625 | -2.491 | 1.455 | 0.070 |
| -15.100 | 58.800 | -2.493 | 1.556 | 0.065 |
| -15.600 | 61.975 | -2.496 | 1.653 | 0.059 |
| -16.600 | 68.327 | -2.503 | 1.836 | 0.048 |
| -17.400 | 73.410 | -2.510 | 1.971 | 0.039 |
| -17.400 | 73.410 | -2.510 | 1.971 | 0.039 |
| -17.750 | 76.254 | -2.538 | 2.027 | 0.037 |
| -18.100 | 79.114 | -2.567 | 2.081 | 0.034 |
| -18.100 | 79.114 | -2.567 | 2.081 | 0.034 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -18.400 | 81.021 | -2.570 | 2.126 | 0.030 |
| -18.700 | 82.928 | -2.574 | 2.169 | 0.027 |
| -18.700 | 82.928 | -2.574 | 2.169 | 0.027 |
| -19.100 | 85.464 | -2.610 | 2.224 | 0.018 |
| -19.500 | 88.027 | -2.650 | 2.278 | 0.009 |
| -19.500 | 88.027 | -2.650 | 2.278 | 0.009 |
| -20.450 | 97.833 | -2.650 | 2.394 | 0.007 |
| -21.450 | 108.140 | -2.650 | 2.503 | 0.005 |
| -22.250 | 116.376 | -2.650 | 2.579 | 0.004 |
| -23.600 | 130.252 | -2.650 | 2.689 | 0.002 |
| -25.000 | 144.618 | -2.650 | 2.779 | 0.000 |

### 3.5 Results for Vertical 5 (X = -31.72 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.436 | 0.605 | -2.436 | 0.604 | 0.233 |
| -2.536 | 1.065 | -2.536 | -0.279 | 0.224 |
| -2.636 | 1.396 | -2.635 | -1.289 | 0.221 |
| -2.650 | 1.443 | -2.648 | -1.425 | 0.221 |
| -2.736 | 1.738 | -2.647 | -1.438 | 0.220 |
| -2.836 | 2.087 | -2.646 | -1.444 | 0.219 |
| -2.936 | 2.441 | -2.644 | -1.444 | 0.219 |
| -3.036 | 2.799 | -2.643 | -1.438 | 0.218 |
| -3.136 | 3.160 | -2.641 | -1.427 | 0.217 |
| -3.236 | 3.523 | -2.639 | -1.413 | 0.216 |
| -3.336 | 3.888 | -2.636 | -1.396 | 0.215 |
| -3.436 | 4.253 | -2.634 | -1.377 | 0.214 |
| -4.118 | 6.729 | -2.614 | -1.219 | 0.208 |
| -5.000 | 9.864 | -2.578 | -0.986 | 0.198 |
| -5.800 | 12.648 | -2.538 | -0.767 | 0.188 |
| -5.800 | 12.648 | -2.538 | -0.767 | 0.188 |
| -6.650 | 13.244 | -2.516 | -0.532 | 0.168 |
| -7.500 | 13.913 | -2.500 | -0.297 | 0.147 |
| -7.500 | 13.913 | -2.500 | -0.297 | 0.147 |
| -8.000 | 16.586 | -2.489 | -0.160 | 0.141 |
| -8.500 | 19.268 | -2.478 | -0.023 | 0.135 |
| -8.500 | 19.268 | -2.478 | -0.023 | 0.135 |
| -8.650 | 19.398 | -2.477 | 0.017 | 0.130 |
| -8.800 | 19.532 | -2.476 | 0.058 | 0.125 |
| -8.800 | 19.532 | -2.476 | 0.058 | 0.125 |
| -9.800 | 25.889 | -2.476 | 0.323 | 0.120 |
| -10.800 | 32.242 | -2.476 | 0.581 | 0.114 |
| -10.800 | 32.242 | -2.476 | 0.581 | 0.114 |
| -11.300 | 35.040 | -2.478 | 0.706 | 0.106 |
| -11.800 | 37.851 | -2.483 | 0.829 | 0.097 |
| -11.800 | 37.851 | -2.483 | 0.829 | 0.097 |
| -12.800 | 44.203 | -2.484 | 1.065 | 0.088 |
| -13.800 | 50.553 | -2.487 | 1.289 | 0.078 |
| -14.600 | 55.633 | -2.491 | 1.458 | 0.070 |
| -15.100 | 58.808 | -2.493 | 1.559 | 0.065 |
| -15.600 | 61.983 | -2.496 | 1.656 | 0.059 |
| -16.600 | 68.334 | -2.503 | 1.838 | 0.048 |
| -17.400 | 73.417 | -2.510 | 1.973 | 0.039 |
| -17.400 | 73.417 | -2.510 | 1.973 | 0.039 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -17.750 | 76.262 | -2.538 | 2.029 | 0.037 |
| -18.100 | 79.122 | -2.567 | 2.083 | 0.034 |
| -18.100 | 79.122 | -2.567 | 2.083 | 0.034 |
| -18.400 | 81.029 | -2.570 | 2.128 | 0.030 |
| -18.700 | 82.936 | -2.573 | 2.171 | 0.027 |
| -18.700 | 82.936 | -2.573 | 2.171 | 0.027 |
| -19.100 | 85.472 | -2.610 | 2.227 | 0.018 |
| -19.500 | 88.036 | -2.650 | 2.280 | 0.009 |
| -19.500 | 88.036 | -2.650 | 2.280 | 0.009 |
| -20.450 | 97.841 | -2.650 | 2.396 | 0.007 |
| -21.450 | 108.148 | -2.650 | 2.504 | 0.005 |
| -22.250 | 116.384 | -2.650 | 2.581 | 0.004 |
| -23.600 | 130.260 | -2.650 | 2.690 | 0.002 |
| -25.000 | 144.625 | -2.650 | 2.780 | 0.000 |

### 3.6 Results for Vertical 6 (X = -30.88 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.404 | 1.170 | -2.404 | 1.169 | 0.274 |
| -2.504 | 1.831 | -2.503 | 0.489 | 0.259 |
| -2.604 | 2.188 | -2.602 | -0.490 | 0.253 |
| -2.650 | 2.352 | -2.647 | -0.940 | 0.251 |
| -2.704 | 2.543 | -2.646 | -0.938 | 0.249 |
| -2.804 | 2.899 | -2.644 | -0.933 | 0.246 |
| -2.904 | 3.253 | -2.642 | -0.928 | 0.244 |
| -3.004 | 3.607 | -2.640 | -0.922 | 0.241 |
| -3.104 | 3.960 | -2.638 | -0.915 | 0.239 |
| -3.204 | 4.313 | -2.635 | -0.907 | 0.237 |
| -3.304 | 4.665 | -2.633 | -0.898 | 0.235 |
| -3.404 | 5.016 | -2.630 | -0.889 | 0.233 |
| -4.102 | 7.453 | -2.606 | -0.796 | 0.221 |
| -5.000 | 10.548 | -2.566 | -0.621 | 0.207 |
| -5.800 | 13.273 | -2.524 | -0.437 | 0.196 |
| -5.800 | 13.273 | -2.524 | -0.437 | 0.196 |
| -6.650 | 13.836 | -2.500 | -0.226 | 0.173 |
| -7.500 | 14.487 | -2.485 | -0.009 | 0.150 |
| -7.500 | 14.487 | -2.485 | -0.009 | 0.150 |
| -8.000 | 17.157 | -2.474 | 0.120 | 0.144 |
| -8.500 | 19.841 | -2.465 | 0.249 | 0.138 |
| -8.500 | 19.841 | -2.465 | 0.249 | 0.138 |
| -8.650 | 19.971 | -2.463 | 0.288 | 0.133 |
| -8.800 | 20.105 | -2.462 | 0.326 | 0.128 |
| -8.800 | 20.106 | -2.462 | 0.326 | 0.128 |
| -9.800 | 26.453 | -2.462 | 0.580 | 0.123 |
| -10.800 | 32.799 | -2.463 | 0.828 | 0.115 |
| -10.800 | 32.799 | -2.463 | 0.828 | 0.115 |
| -11.300 | 35.601 | -2.466 | 0.948 | 0.107 |
| -11.800 | 38.418 | -2.471 | 1.066 | 0.099 |
| -11.800 | 38.418 | -2.471 | 1.066 | 0.099 |
| -12.800 | 44.764 | -2.474 | 1.293 | 0.089 |
| -13.800 | 51.109 | -2.477 | 1.506 | 0.079 |
| -14.600 | 56.185 | -2.480 | 1.666 | 0.071 |
| -15.100 | 59.357 | -2.483 | 1.762 | 0.066 |
| -15.600 | 62.530 | -2.486 | 1.853 | 0.060 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -16.600 | 68.876 | -2.494 | 2.023 | 0.049 |
| -17.400 | 73.954 | -2.501 | 2.148 | 0.039 |
| -17.400 | 73.954 | -2.501 | 2.148 | 0.039 |
| -17.750 | 76.812 | -2.531 | 2.199 | 0.037 |
| -18.100 | 79.687 | -2.562 | 2.249 | 0.035 |
| -18.100 | 79.687 | -2.562 | 2.249 | 0.035 |
| -18.400 | 81.592 | -2.565 | 2.289 | 0.031 |
| -18.700 | 83.498 | -2.569 | 2.328 | 0.027 |
| -18.700 | 83.498 | -2.569 | 2.328 | 0.027 |
| -19.100 | 86.050 | -2.608 | 2.378 | 0.018 |
| -19.500 | 88.630 | -2.650 | 2.426 | 0.009 |
| -19.500 | 88.630 | -2.650 | 2.426 | 0.009 |
| -20.450 | 98.422 | -2.650 | 2.528 | 0.007 |
| -21.450 | 108.715 | -2.650 | 2.622 | 0.006 |
| -22.250 | 116.938 | -2.650 | 2.686 | 0.004 |
| -23.600 | 130.795 | -2.650 | 2.775 | 0.002 |
| -25.000 | 145.139 | -2.650 | 2.844 | 0.000 |

### 3.7 Results for Vertical 7 (X = -25.84 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.338 | 6.852 | -2.338 | 6.851 | 0.526 |
| -2.438 | 7.062 | -2.431 | 5.777 | 0.494 |
| -2.538 | 7.366 | -2.524 | 4.801 | 0.474 |
| -2.638 | 7.664 | -2.617 | 3.821 | 0.460 |
| -2.650 | 7.699 | -2.628 | 3.703 | 0.458 |
| -2.738 | 7.960 | -2.621 | 3.704 | 0.448 |
| -2.838 | 8.256 | -2.614 | 3.705 | 0.438 |
| -2.938 | 8.552 | -2.606 | 3.707 | 0.428 |
| -3.038 | 8.846 | -2.598 | 3.709 | 0.419 |
| -3.138 | 9.140 | -2.590 | 3.711 | 0.410 |
| -3.238 | 9.433 | -2.582 | 3.715 | 0.402 |
| -3.338 | 9.725 | -2.574 | 3.718 | 0.394 |
| -4.069 | 11.840 | -2.511 | 3.757 | 0.348 |
| -4.900 | 14.203 | -2.434 | 3.809 | 0.310 |
| -5.800 | 16.768 | -2.350 | 3.870 | 0.279 |
| -5.800 | 16.768 | -2.350 | 3.870 | 0.279 |
| -6.650 | 17.061 | -2.314 | 3.933 | 0.235 |
| -7.500 | 17.545 | -2.296 | 4.000 | 0.193 |
| -7.500 | 17.545 | -2.296 | 4.000 | 0.193 |
| -8.000 | 20.178 | -2.290 | 4.043 | 0.183 |
| -8.500 | 22.864 | -2.289 | 4.087 | 0.172 |
| -8.500 | 22.864 | -2.289 | 4.087 | 0.172 |
| -8.650 | 22.990 | -2.290 | 4.100 | 0.165 |
| -8.800 | 23.124 | -2.292 | 4.114 | 0.158 |
| -8.800 | 23.124 | -2.292 | 4.114 | 0.158 |
| -9.800 | 29.333 | -2.293 | 4.206 | 0.147 |
| -10.800 | 35.557 | -2.295 | 4.298 | 0.136 |
| -10.800 | 35.557 | -2.295 | 4.298 | 0.136 |
| -11.300 | 38.389 | -2.309 | 4.342 | 0.126 |
| -11.800 | 41.251 | -2.326 | 4.385 | 0.115 |
| -11.800 | 41.251 | -2.326 | 4.385 | 0.115 |
| -12.800 | 47.497 | -2.331 | 4.462 | 0.103 |
| -13.800 | 53.751 | -2.339 | 4.527 | 0.091 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -14.600 | 58.758 | -2.347 | 4.568 | 0.081 |
| -15.100 | 61.889 | -2.353 | 4.589 | 0.075 |
| -15.600 | 65.022 | -2.359 | 4.605 | 0.068 |
| -16.600 | 71.293 | -2.374 | 4.625 | 0.056 |
| -17.400 | 76.316 | -2.388 | 4.629 | 0.046 |
| -17.400 | 76.316 | -2.388 | 4.629 | 0.046 |
| -17.750 | 79.355 | -2.440 | 4.627 | 0.043 |
| -18.100 | 82.422 | -2.496 | 4.624 | 0.040 |
| -18.100 | 82.422 | -2.496 | 4.624 | 0.040 |
| -18.400 | 84.311 | -2.503 | 4.620 | 0.036 |
| -18.700 | 86.200 | -2.509 | 4.614 | 0.032 |
| -18.700 | 86.200 | -2.509 | 4.614 | 0.032 |
| -19.100 | 88.980 | -2.577 | 4.604 | 0.022 |
| -19.500 | 91.801 | -2.650 | 4.592 | 0.012 |
| -19.500 | 91.801 | -2.650 | 4.592 | 0.012 |
| -20.450 | 101.455 | -2.650 | 4.556 | 0.009 |
| -21.450 | 111.603 | -2.650 | 4.506 | 0.007 |
| -22.250 | 119.713 | -2.650 | 4.459 | 0.005 |
| -23.600 | 133.384 | -2.650 | 4.366 | 0.003 |
| -25.000 | 147.545 | -2.650 | 4.256 | 0.000 |

### 3.8 Results for Vertical 8 (X = -22.97 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.376 | 10.198 | -2.376 | 10.197 | 0.690 |
| -2.476 | 10.439 | -2.463 | 9.218 | 0.654 |
| -2.576 | 10.680 | -2.549 | 8.240 | 0.630 |
| -2.650 | 10.859 | -2.614 | 7.517 | 0.616 |
| -2.676 | 10.922 | -2.610 | 7.518 | 0.612 |
| -2.776 | 11.164 | -2.597 | 7.522 | 0.596 |
| -2.876 | 11.407 | -2.583 | 7.527 | 0.581 |
| -2.976 | 11.649 | -2.570 | 7.531 | 0.567 |
| -3.076 | 11.890 | -2.557 | 7.534 | 0.554 |
| -3.176 | 12.129 | -2.543 | 7.538 | 0.542 |
| -3.276 | 12.368 | -2.530 | 7.540 | 0.530 |
| -3.376 | 12.606 | -2.516 | 7.543 | 0.519 |
| -4.088 | 14.288 | -2.418 | 7.560 | 0.454 |
| -4.900 | 16.208 | -2.307 | 7.575 | 0.399 |
| -5.800 | 18.409 | -2.191 | 7.586 | 0.354 |
| -5.800 | 18.409 | -2.191 | 7.586 | 0.354 |
| -6.650 | 18.550 | -2.144 | 7.593 | 0.293 |
| -7.500 | 18.969 | -2.124 | 7.601 | 0.236 |
| -7.500 | 18.969 | -2.124 | 7.601 | 0.236 |
| -8.000 | 21.615 | -2.123 | 7.606 | 0.222 |
| -8.500 | 24.347 | -2.130 | 7.611 | 0.207 |
| -8.500 | 24.348 | -2.130 | 7.611 | 0.207 |
| -8.650 | 24.482 | -2.132 | 7.612 | 0.198 |
| -8.800 | 24.627 | -2.136 | 7.613 | 0.189 |
| -8.800 | 24.627 | -2.136 | 7.613 | 0.189 |
| -9.800 | 30.781 | -2.139 | 7.620 | 0.172 |
| -10.800 | 36.946 | -2.143 | 7.615 | 0.157 |
| -10.800 | 36.946 | -2.143 | 7.615 | 0.157 |
| -11.300 | 39.823 | -2.166 | 7.608 | 0.145 |
| -11.800 | 42.739 | -2.193 | 7.595 | 0.133 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -11.800 | 42.739 | -2.193 | 7.595 | 0.133 |
| -12.800 | 48.912 | -2.202 | 7.555 | 0.118 |
| -13.800 | 55.087 | -2.214 | 7.493 | 0.103 |
| -14.600 | 60.029 | -2.226 | 7.428 | 0.091 |
| -15.100 | 63.120 | -2.234 | 7.381 | 0.084 |
| -15.600 | 66.213 | -2.243 | 7.329 | 0.077 |
| -16.600 | 72.409 | -2.264 | 7.212 | 0.063 |
| -17.400 | 77.376 | -2.283 | 7.107 | 0.052 |
| -17.400 | 77.377 | -2.283 | 7.107 | 0.052 |
| -17.750 | 80.577 | -2.358 | 7.059 | 0.049 |
| -18.100 | 83.818 | -2.436 | 7.009 | 0.046 |
| -18.100 | 83.818 | -2.436 | 7.009 | 0.046 |
| -18.400 | 85.690 | -2.445 | 6.965 | 0.041 |
| -18.700 | 87.565 | -2.454 | 6.920 | 0.036 |
| -18.700 | 87.565 | -2.454 | 6.920 | 0.036 |
| -19.100 | 90.553 | -2.549 | 6.859 | 0.026 |
| -19.500 | 93.599 | -2.650 | 6.797 | 0.015 |
| -19.500 | 93.599 | -2.650 | 6.797 | 0.015 |
| -20.450 | 103.132 | -2.650 | 6.644 | 0.012 |
| -21.450 | 113.158 | -2.650 | 6.479 | 0.009 |
| -22.250 | 121.176 | -2.650 | 6.344 | 0.006 |
| -23.600 | 134.701 | -2.650 | 6.113 | 0.003 |
| -25.000 | 148.725 | -2.650 | 5.874 | 0.000 |

### 3.9 Results for Vertical 9 (X = -21.62 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.367 | 11.896 | -2.367 | 11.895 | 0.747 |
| -2.467 | 12.115 | -2.451 | 10.924 | 0.709 |
| -2.567 | 12.324 | -2.534 | 9.945 | 0.683 |
| -2.650 | 12.493 | -2.604 | 9.127 | 0.667 |
| -2.667 | 12.527 | -2.601 | 9.125 | 0.664 |
| -2.767 | 12.729 | -2.585 | 9.116 | 0.647 |
| -2.867 | 12.932 | -2.569 | 9.107 | 0.631 |
| -2.967 | 13.136 | -2.553 | 9.100 | 0.616 |
| -3.067 | 13.343 | -2.537 | 9.095 | 0.602 |
| -3.167 | 13.552 | -2.521 | 9.092 | 0.588 |
| -3.267 | 13.763 | -2.505 | 9.091 | 0.576 |
| -3.367 | 13.974 | -2.489 | 9.090 | 0.564 |
| -4.084 | 15.503 | -2.374 | 9.098 | 0.492 |
| -4.900 | 17.277 | -2.248 | 9.100 | 0.431 |
| -5.800 | 19.341 | -2.120 | 9.088 | 0.382 |
| -5.800 | 19.341 | -2.120 | 9.088 | 0.382 |
| -6.650 | 19.433 | -2.070 | 9.071 | 0.315 |
| -7.500 | 19.847 | -2.051 | 9.057 | 0.252 |
| -7.500 | 19.847 | -2.051 | 9.057 | 0.252 |
| -8.000 | 22.519 | -2.052 | 9.050 | 0.236 |
| -8.500 | 25.292 | -2.064 | 9.042 | 0.221 |
| -8.500 | 25.292 | -2.064 | 9.042 | 0.221 |
| -8.650 | 25.435 | -2.067 | 9.039 | 0.211 |
| -8.800 | 25.588 | -2.072 | 9.037 | 0.201 |
| -8.800 | 25.588 | -2.072 | 9.037 | 0.201 |
| -9.800 | 31.732 | -2.075 | 9.010 | 0.182 |
| -10.800 | 37.874 | -2.080 | 8.963 | 0.165 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -10.800 | 37.874 | -2.080 | 8.963 | 0.165 |
| -11.300 | 40.768 | -2.107 | 8.928 | 0.152 |
| -11.800 | 43.704 | -2.139 | 8.887 | 0.140 |
| -11.800 | 43.704 | -2.139 | 8.887 | 0.140 |
| -12.800 | 49.829 | -2.150 | 8.781 | 0.123 |
| -13.800 | 55.949 | -2.163 | 8.646 | 0.107 |
| -14.600 | 60.844 | -2.177 | 8.520 | 0.095 |
| -15.100 | 63.905 | -2.186 | 8.434 | 0.088 |
| -15.600 | 66.969 | -2.196 | 8.342 | 0.080 |
| -16.600 | 73.107 | -2.220 | 8.148 | 0.066 |
| -17.400 | 78.033 | -2.242 | 7.983 | 0.054 |
| -17.400 | 78.033 | -2.242 | 7.983 | 0.054 |
| -17.750 | 81.290 | -2.324 | 7.909 | 0.051 |
| -18.100 | 84.594 | -2.412 | 7.834 | 0.048 |
| -18.100 | 84.594 | -2.412 | 7.834 | 0.048 |
| -18.400 | 86.454 | -2.422 | 7.769 | 0.043 |
| -18.700 | 88.316 | -2.432 | 7.704 | 0.038 |
| -18.700 | 88.316 | -2.432 | 7.704 | 0.038 |
| -19.100 | 91.381 | -2.538 | 7.615 | 0.027 |
| -19.500 | 94.510 | -2.650 | 7.527 | 0.016 |
| -19.500 | 94.510 | -2.650 | 7.527 | 0.016 |
| -20.450 | 103.977 | -2.650 | 7.314 | 0.013 |
| -21.450 | 113.941 | -2.650 | 7.090 | 0.009 |
| -22.250 | 121.912 | -2.650 | 6.912 | 0.007 |
| -23.600 | 135.364 | -2.650 | 6.614 | 0.003 |
| -25.000 | 149.321 | -2.650 | 6.313 | 0.000 |

### 3.10 Results for Vertical 10 (X = -19.93 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.356 | 13.981 | -2.356 | 13.980 | 0.812 |
| -2.456 | 14.155 | -2.436 | 13.005 | 0.772 |
| -2.556 | 14.327 | -2.515 | 12.026 | 0.745 |
| -2.650 | 14.489 | -2.590 | 11.104 | 0.725 |
| -2.656 | 14.499 | -2.589 | 11.104 | 0.724 |
| -2.756 | 14.671 | -2.569 | 11.101 | 0.705 |
| -2.856 | 14.841 | -2.550 | 11.096 | 0.688 |
| -2.956 | 15.012 | -2.530 | 11.089 | 0.672 |
| -3.056 | 15.183 | -2.511 | 11.082 | 0.657 |
| -3.156 | 15.356 | -2.491 | 11.076 | 0.642 |
| -3.256 | 15.530 | -2.472 | 11.071 | 0.628 |
| -3.356 | 15.706 | -2.453 | 11.066 | 0.615 |
| -4.078 | 17.014 | -2.317 | 11.045 | 0.536 |
| -4.900 | 18.575 | -2.171 | 11.001 | 0.469 |
| -5.800 | 20.469 | -2.029 | 10.942 | 0.414 |
| -5.800 | 20.469 | -2.029 | 10.942 | 0.414 |
| -6.650 | 20.531 | -1.974 | 10.906 | 0.341 |
| -7.500 | 20.985 | -1.956 | 10.889 | 0.272 |
| -7.500 | 20.985 | -1.956 | 10.889 | 0.272 |
| -8.000 | 23.719 | -1.962 | 10.881 | 0.254 |
| -8.500 | 26.566 | -1.980 | 10.869 | 0.237 |
| -8.500 | 26.566 | -1.980 | 10.869 | 0.237 |
| -8.650 | 26.724 | -1.985 | 10.865 | 0.226 |
| -8.800 | 26.894 | -1.991 | 10.859 | 0.215 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -8.800 | 26.894 | -1.991 | 10.859 | 0.215 |
| -9.800 | 33.030 | -1.995 | 10.795 | 0.193 |
| -10.800 | 39.127 | -2.002 | 10.681 | 0.174 |
| -10.800 | 39.127 | -2.002 | 10.681 | 0.174 |
| -11.300 | 42.033 | -2.034 | 10.604 | 0.161 |
| -11.800 | 44.979 | -2.072 | 10.514 | 0.147 |
| -11.800 | 44.979 | -2.072 | 10.514 | 0.147 |
| -12.800 | 51.011 | -2.084 | 10.301 | 0.129 |
| -13.800 | 57.029 | -2.100 | 10.052 | 0.112 |
| -14.600 | 61.842 | -2.116 | 9.833 | 0.099 |
| -15.100 | 64.854 | -2.126 | 9.689 | 0.091 |
| -15.600 | 67.870 | -2.138 | 9.542 | 0.083 |
| -16.600 | 73.919 | -2.165 | 9.239 | 0.068 |
| -17.400 | 78.782 | -2.189 | 8.992 | 0.056 |
| -17.400 | 78.782 | -2.189 | 8.992 | 0.056 |
| -17.750 | 82.106 | -2.283 | 8.883 | 0.053 |
| -18.100 | 85.484 | -2.382 | 8.775 | 0.050 |
| -18.100 | 85.484 | -2.382 | 8.775 | 0.050 |
| -18.400 | 87.325 | -2.393 | 8.682 | 0.045 |
| -18.700 | 89.170 | -2.405 | 8.589 | 0.039 |
| -18.700 | 89.170 | -2.405 | 8.589 | 0.039 |
| -19.100 | 92.327 | -2.524 | 8.466 | 0.029 |
| -19.500 | 95.558 | -2.650 | 8.343 | 0.017 |
| -19.500 | 95.558 | -2.650 | 8.343 | 0.017 |
| -20.450 | 104.942 | -2.650 | 8.055 | 0.014 |
| -21.450 | 114.826 | -2.650 | 7.759 | 0.010 |
| -22.250 | 122.738 | -2.650 | 7.528 | 0.007 |
| -23.600 | 136.102 | -2.650 | 7.150 | 0.003 |
| -25.000 | 149.979 | -2.650 | 6.776 | 0.000 |

### 3.11 Results for Vertical 11 (X = -16.66 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.419 | 18.207 | -2.419 | 18.206 | 0.976 |
| -2.519 | 18.338 | -2.487 | 17.299 | 0.933 |
| -2.619 | 18.369 | -2.556 | 16.284 | 0.904 |
| -2.650 | 18.356 | -2.578 | 15.944 | 0.896 |
| -2.719 | 18.306 | -2.557 | 15.844 | 0.879 |
| -2.819 | 18.253 | -2.528 | 15.709 | 0.857 |
| -2.919 | 18.257 | -2.499 | 15.626 | 0.836 |
| -3.019 | 18.299 | -2.471 | 15.577 | 0.816 |
| -3.119 | 18.353 | -2.443 | 15.534 | 0.797 |
| -3.219 | 18.403 | -2.415 | 15.484 | 0.779 |
| -3.319 | 18.447 | -2.388 | 15.423 | 0.762 |
| -3.419 | 18.488 | -2.362 | 15.355 | 0.746 |
| -4.109 | 19.026 | -2.187 | 14.976 | 0.653 |
| -5.000 | 20.846 | -1.986 | 15.226 | 0.566 |
| -5.800 | 22.903 | -1.827 | 15.639 | 0.506 |
| -5.800 | 22.903 | -1.827 | 15.639 | 0.506 |
| -6.650 | 23.296 | -1.761 | 15.916 | 0.412 |
| -7.500 | 23.875 | -1.742 | 15.975 | 0.322 |
| -7.500 | 23.875 | -1.742 | 15.975 | 0.322 |
| -8.000 | 26.643 | -1.757 | 15.919 | 0.299 |
| -8.500 | 29.502 | -1.788 | 15.806 | 0.276 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -8.500 | 29.502 | -1.788 | 15.806 | 0.276 |
| -8.650 | 29.644 | -1.796 | 15.763 | 0.262 |
| -8.800 | 29.796 | -1.805 | 15.716 | 0.248 |
| -8.800 | 29.796 | -1.805 | 15.716 | 0.248 |
| -9.800 | 35.547 | -1.811 | 15.318 | 0.218 |
| -10.800 | 41.205 | -1.820 | 14.821 | 0.193 |
| -10.800 | 41.205 | -1.820 | 14.821 | 0.193 |
| -11.300 | 43.991 | -1.864 | 14.550 | 0.178 |
| -11.800 | 46.837 | -1.915 | 14.271 | 0.162 |
| -11.800 | 46.837 | -1.915 | 14.271 | 0.162 |
| -12.800 | 52.479 | -1.931 | 13.701 | 0.141 |
| -13.800 | 58.159 | -1.952 | 13.129 | 0.122 |
| -14.600 | 62.743 | -1.972 | 12.679 | 0.107 |
| -15.100 | 65.629 | -1.986 | 12.404 | 0.099 |
| -15.600 | 68.532 | -2.001 | 12.133 | 0.090 |
| -16.600 | 74.393 | -2.035 | 11.609 | 0.074 |
| -17.400 | 79.137 | -2.066 | 11.206 | 0.061 |
| -17.400 | 79.137 | -2.066 | 11.206 | 0.061 |
| -17.750 | 82.631 | -2.184 | 11.035 | 0.058 |
| -18.100 | 86.201 | -2.310 | 10.867 | 0.055 |
| -18.100 | 86.201 | -2.310 | 10.867 | 0.055 |
| -18.400 | 88.015 | -2.324 | 10.725 | 0.049 |
| -18.700 | 89.835 | -2.339 | 10.586 | 0.043 |
| -18.700 | 89.835 | -2.339 | 10.586 | 0.043 |
| -19.100 | 93.235 | -2.490 | 10.403 | 0.032 |
| -19.500 | 96.735 | -2.650 | 10.224 | 0.020 |
| -19.500 | 96.735 | -2.650 | 10.224 | 0.020 |
| -20.450 | 105.979 | -2.650 | 9.815 | 0.016 |
| -21.450 | 115.734 | -2.650 | 9.406 | 0.011 |
| -22.250 | 123.555 | -2.650 | 9.095 | 0.008 |
| -23.600 | 136.786 | -2.650 | 8.600 | 0.004 |
| -25.000 | 150.548 | -2.650 | 8.124 | 0.000 |

### 3.12 Results for Vertical 12 (X = -16.28 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.464 | 18.699 | -2.464 | 18.698 | 1.024 |
| -2.564 | 19.049 | -2.530 | 18.035 | 0.980 |
| -2.650 | 19.115 | -2.587 | 17.223 | 0.954 |
| -2.664 | 19.124 | -2.582 | 17.227 | 0.950 |
| -2.764 | 19.153 | -2.549 | 17.209 | 0.924 |
| -2.864 | 19.095 | -2.517 | 17.096 | 0.899 |
| -2.964 | 18.961 | -2.486 | 16.901 | 0.876 |
| -3.064 | 18.803 | -2.456 | 16.670 | 0.855 |
| -3.164 | 18.666 | -2.426 | 16.450 | 0.834 |
| -3.264 | 18.567 | -2.397 | 16.258 | 0.815 |
| -3.364 | 18.505 | -2.369 | 16.095 | 0.797 |
| -3.464 | 18.477 | -2.341 | 15.957 | 0.780 |
| -4.132 | 19.166 | -2.166 | 15.719 | 0.686 |
| -5.000 | 21.364 | -1.958 | 16.383 | 0.596 |
| -5.800 | 23.415 | -1.790 | 16.886 | 0.532 |
| -5.800 | 23.415 | -1.790 | 16.886 | 0.532 |
| -6.650 | 23.700 | -1.718 | 17.124 | 0.431 |
| -7.500 | 24.149 | -1.699 | 17.101 | 0.334 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -7.500 | 24.149 | -1.699 | 17.101 | 0.334 |
| -8.000 | 26.849 | -1.714 | 16.989 | 0.309 |
| -8.500 | 29.648 | -1.746 | 16.821 | 0.286 |
| -8.500 | 29.648 | -1.746 | 16.821 | 0.286 |
| -8.650 | 29.772 | -1.755 | 16.762 | 0.271 |
| -8.800 | 29.908 | -1.765 | 16.699 | 0.256 |
| -8.800 | 29.908 | -1.765 | 16.699 | 0.256 |
| -9.800 | 35.532 | -1.771 | 16.202 | 0.225 |
| -10.800 | 41.090 | -1.780 | 15.623 | 0.198 |
| -10.800 | 41.090 | -1.780 | 15.623 | 0.198 |
| -11.300 | 43.851 | -1.826 | 15.317 | 0.182 |
| -11.800 | 46.682 | -1.879 | 15.007 | 0.166 |
| -11.800 | 46.682 | -1.879 | 15.007 | 0.166 |
| -12.800 | 52.266 | -1.897 | 14.384 | 0.144 |
| -13.800 | 57.905 | -1.919 | 13.772 | 0.124 |
| -14.600 | 62.465 | -1.939 | 13.296 | 0.110 |
| -15.100 | 65.340 | -1.954 | 13.006 | 0.101 |
| -15.600 | 68.234 | -1.970 | 12.723 | 0.092 |
| -16.600 | 74.084 | -2.005 | 12.177 | 0.076 |
| -17.400 | 78.826 | -2.038 | 11.760 | 0.063 |
| -17.400 | 78.826 | -2.038 | 11.760 | 0.063 |
| -17.750 | 82.367 | -2.162 | 11.583 | 0.060 |
| -18.100 | 85.990 | -2.293 | 11.410 | 0.056 |
| -18.100 | 85.990 | -2.293 | 11.410 | 0.056 |
| -18.400 | 87.806 | -2.308 | 11.264 | 0.050 |
| -18.700 | 89.628 | -2.323 | 11.121 | 0.045 |
| -18.700 | 89.628 | -2.323 | 11.121 | 0.045 |
| -19.100 | 93.094 | -2.482 | 10.933 | 0.033 |
| -19.500 | 96.666 | -2.650 | 10.750 | 0.021 |
| -19.500 | 96.666 | -2.650 | 10.750 | 0.021 |
| -20.450 | 105.899 | -2.650 | 10.331 | 0.016 |
| -21.450 | 115.644 | -2.650 | 9.914 | 0.012 |
| -22.250 | 123.458 | -2.650 | 9.597 | 0.009 |
| -23.600 | 136.680 | -2.650 | 9.094 | 0.004 |
| -25.000 | 150.433 | -2.650 | 8.611 | 0.000 |

### 3.13 Results for Vertical 13 (X = -15.75 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.608 | 19.067 | -2.608 | 19.066 | 1.171 |
| -2.650 | 19.143 | -2.634 | 18.732 | 1.148 |
| -2.708 | 16.710 | -2.614 | 16.281 | 1.123 |
| -2.808 | 15.505 | -2.584 | 14.998 | 1.087 |
| -2.908 | 18.381 | -2.554 | 17.613 | 1.055 |
| -3.008 | 19.305 | -2.519 | 18.437 | 1.025 |
| -3.108 | 19.015 | -2.485 | 18.126 | 0.997 |
| -3.208 | 18.639 | -2.452 | 17.714 | 0.971 |
| -3.308 | 18.527 | -2.421 | 17.525 | 0.947 |
| -3.408 | 18.602 | -2.390 | 17.495 | 0.925 |
| -3.508 | 18.765 | -2.359 | 17.541 | 0.904 |
| -3.608 | 18.993 | -2.328 | 17.639 | 0.884 |
| -4.204 | 20.750 | -2.148 | 18.570 | 0.785 |
| -5.000 | 22.593 | -1.920 | 19.383 | 0.683 |
| -5.800 | 24.054 | -1.719 | 19.707 | 0.604 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -5.800 | 24.054 | -1.719 | 19.707 | 0.604 |
| -6.650 | 23.907 | -1.635 | 19.735 | 0.483 |
| -7.500 | 24.024 | -1.610 | 19.513 | 0.370 |
| -7.500 | 24.024 | -1.610 | 19.513 | 0.370 |
| -8.000 | 26.561 | -1.623 | 19.293 | 0.340 |
| -8.500 | 29.227 | -1.656 | 19.025 | 0.313 |
| -8.500 | 29.227 | -1.656 | 19.025 | 0.313 |
| -8.650 | 29.316 | -1.664 | 18.938 | 0.297 |
| -8.800 | 29.420 | -1.674 | 18.847 | 0.280 |
| -8.800 | 29.420 | -1.674 | 18.847 | 0.280 |
| -9.800 | 34.841 | -1.681 | 18.192 | 0.244 |
| -10.800 | 40.247 | -1.691 | 17.489 | 0.214 |
| -10.800 | 40.247 | -1.691 | 17.489 | 0.214 |
| -11.300 | 42.981 | -1.741 | 17.134 | 0.197 |
| -11.800 | 45.801 | -1.798 | 16.780 | 0.180 |
| -11.800 | 45.801 | -1.798 | 16.780 | 0.180 |
| -12.800 | 51.312 | -1.818 | 16.086 | 0.156 |
| -13.800 | 56.903 | -1.841 | 15.420 | 0.134 |
| -14.600 | 61.440 | -1.864 | 14.910 | 0.118 |
| -15.100 | 64.307 | -1.880 | 14.603 | 0.109 |
| -15.600 | 67.197 | -1.898 | 14.304 | 0.100 |
| -16.600 | 73.049 | -1.937 | 13.731 | 0.082 |
| -17.400 | 77.801 | -1.972 | 13.298 | 0.069 |
| -17.400 | 77.801 | -1.972 | 13.298 | 0.069 |
| -17.750 | 81.459 | -2.109 | 13.115 | 0.065 |
| -18.100 | 85.211 | -2.255 | 12.935 | 0.061 |
| -18.100 | 85.211 | -2.255 | 12.935 | 0.061 |
| -18.400 | 87.035 | -2.271 | 12.784 | 0.055 |
| -18.700 | 88.869 | -2.288 | 12.636 | 0.049 |
| -18.700 | 88.869 | -2.288 | 12.636 | 0.049 |
| -19.100 | 92.495 | -2.463 | 12.443 | 0.037 |
| -19.500 | 96.243 | -2.650 | 12.255 | 0.024 |
| -19.500 | 96.243 | -2.650 | 12.255 | 0.024 |
| -20.450 | 105.463 | -2.650 | 11.825 | 0.019 |
| -21.450 | 115.196 | -2.650 | 11.398 | 0.014 |
| -22.250 | 123.002 | -2.650 | 11.075 | 0.010 |
| -23.600 | 136.213 | -2.650 | 10.563 | 0.005 |
| -25.000 | 149.957 | -2.650 | 10.072 | 0.000 |

### 3.14 Results for Vertical 14 (X = -15.72 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.650 | 22.051 | -2.650 | 22.050 | 1.215 |
| -2.750 | 20.463 | -2.607 | 20.306 | 1.160 |
| -2.850 | 20.358 | -2.567 | 20.071 | 1.119 |
| -2.950 | 20.077 | -2.527 | 19.818 | 1.083 |
| -3.050 | 19.370 | -2.490 | 19.149 | 1.050 |
| -3.150 | 18.618 | -2.455 | 18.415 | 1.021 |
| -3.250 | 18.294 | -2.422 | 18.047 | 0.994 |
| -3.350 | 18.300 | -2.389 | 17.965 | 0.969 |
| -3.450 | 18.437 | -2.358 | 17.996 | 0.945 |
| -3.550 | 18.641 | -2.326 | 18.083 | 0.923 |
| -3.650 | 18.900 | -2.294 | 18.216 | 0.903 |
| -4.225 | 20.578 | -2.115 | 19.146 | 0.803 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -5.000 | 22.266 | -1.888 | 19.900 | 0.700 |
| -5.800 | 23.657 | -1.683 | 20.201 | 0.619 |
| -5.800 | 23.657 | -1.683 | 20.201 | 0.619 |
| -6.650 | 23.478 | -1.598 | 20.214 | 0.494 |
| -7.500 | 23.581 | -1.573 | 19.978 | 0.377 |
| -7.500 | 23.581 | -1.573 | 19.978 | 0.377 |
| -8.000 | 26.121 | -1.588 | 19.752 | 0.347 |
| -8.500 | 28.798 | -1.622 | 19.478 | 0.320 |
| -8.500 | 28.798 | -1.622 | 19.478 | 0.320 |
| -8.650 | 28.889 | -1.631 | 19.389 | 0.303 |
| -8.800 | 28.995 | -1.642 | 19.297 | 0.286 |
| -8.800 | 28.995 | -1.642 | 19.297 | 0.286 |
| -9.800 | 34.406 | -1.649 | 18.633 | 0.248 |
| -10.800 | 39.807 | -1.659 | 17.923 | 0.218 |
| -10.800 | 39.807 | -1.659 | 17.923 | 0.218 |
| -11.300 | 42.555 | -1.711 | 17.565 | 0.201 |
| -11.800 | 45.392 | -1.770 | 17.209 | 0.183 |
| -11.800 | 45.392 | -1.770 | 17.209 | 0.183 |
| -12.800 | 50.904 | -1.790 | 16.512 | 0.159 |
| -13.800 | 56.500 | -1.815 | 15.843 | 0.137 |
| -14.600 | 61.043 | -1.838 | 15.331 | 0.121 |
| -15.100 | 63.913 | -1.855 | 15.023 | 0.111 |
| -15.600 | 66.808 | -1.873 | 14.723 | 0.102 |
| -16.600 | 72.671 | -1.913 | 14.150 | 0.084 |
| -17.400 | 77.433 | -1.950 | 13.715 | 0.070 |
| -17.400 | 77.433 | -1.950 | 13.715 | 0.070 |
| -17.750 | 81.133 | -2.091 | 13.532 | 0.067 |
| -18.100 | 84.931 | -2.241 | 13.352 | 0.063 |
| -18.100 | 84.931 | -2.241 | 13.352 | 0.063 |
| -18.400 | 86.761 | -2.258 | 13.201 | 0.056 |
| -18.700 | 88.600 | -2.276 | 13.053 | 0.050 |
| -18.700 | 88.600 | -2.276 | 13.053 | 0.050 |
| -19.100 | 92.283 | -2.457 | 12.860 | 0.038 |
| -19.500 | 96.093 | -2.650 | 12.671 | 0.025 |
| -19.500 | 96.093 | -2.650 | 12.671 | 0.025 |
| -20.450 | 105.312 | -2.650 | 12.241 | 0.020 |
| -21.450 | 115.045 | -2.650 | 11.814 | 0.014 |
| -22.250 | 122.851 | -2.650 | 11.490 | 0.010 |
| -23.600 | 136.061 | -2.650 | 10.977 | 0.005 |
| -25.000 | 149.804 | -2.650 | 10.486 | 0.000 |

### 3.15 Results for Vertical 15 (X = -15.52 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.000 | 22.699 | -2.650 | 21.687 | 1.180 |
| -3.100 | 22.849 | -2.603 | 21.825 | 1.141 |
| -3.200 | 20.163 | -2.561 | 19.507 | 1.106 |
| -3.300 | 20.547 | -2.522 | 19.805 | 1.074 |
| -3.400 | 20.217 | -2.484 | 19.498 | 1.045 |
| -3.500 | 20.278 | -2.447 | 19.506 | 1.017 |
| -3.600 | 20.508 | -2.411 | 19.657 | 0.992 |
| -3.700 | 20.677 | -2.374 | 19.760 | 0.968 |
| -3.800 | 20.840 | -2.338 | 19.856 | 0.946 |
| -3.900 | 21.022 | -2.303 | 19.967 | 0.925 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -4.000 | 21.213 | -2.268 | 20.085 | 0.905 |
| -4.400 | 21.861 | -2.130 | 20.454 | 0.833 |
| -5.100 | 22.675 | -1.908 | 20.734 | 0.733 |
| -5.800 | 23.510 | -1.716 | 20.817 | 0.655 |
| -5.800 | 23.510 | -1.716 | 20.817 | 0.655 |
| -6.650 | 23.070 | -1.623 | 20.702 | 0.517 |
| -7.500 | 22.973 | -1.592 | 20.366 | 0.390 |
| -7.500 | 22.973 | -1.592 | 20.366 | 0.390 |
| -8.000 | 25.387 | -1.601 | 20.089 | 0.357 |
| -8.500 | 27.943 | -1.629 | 19.771 | 0.328 |
| -8.500 | 27.943 | -1.629 | 19.771 | 0.328 |
| -8.650 | 28.007 | -1.637 | 19.669 | 0.310 |
| -8.800 | 28.087 | -1.646 | 19.566 | 0.292 |
| -8.800 | 28.087 | -1.646 | 19.566 | 0.292 |
| -9.800 | 33.408 | -1.653 | 18.835 | 0.253 |
| -10.800 | 38.742 | -1.663 | 18.078 | 0.221 |
| -10.800 | 38.742 | -1.663 | 18.078 | 0.221 |
| -11.300 | 41.449 | -1.712 | 17.700 | 0.203 |
| -11.800 | 44.249 | -1.770 | 17.328 | 0.185 |
| -11.800 | 44.249 | -1.770 | 17.328 | 0.185 |
| -12.800 | 49.724 | -1.790 | 16.605 | 0.160 |
| -13.800 | 55.292 | -1.814 | 15.917 | 0.138 |
| -14.600 | 59.818 | -1.837 | 15.394 | 0.122 |
| -15.100 | 62.679 | -1.854 | 15.079 | 0.112 |
| -15.600 | 65.566 | -1.872 | 14.775 | 0.103 |
| -16.600 | 71.417 | -1.912 | 14.192 | 0.085 |
| -17.400 | 76.172 | -1.949 | 13.752 | 0.071 |
| -17.400 | 76.172 | -1.949 | 13.752 | 0.071 |
| -17.750 | 79.869 | -2.089 | 13.567 | 0.067 |
| -18.100 | 83.666 | -2.240 | 13.385 | 0.063 |
| -18.100 | 83.667 | -2.240 | 13.385 | 0.063 |
| -18.400 | 85.495 | -2.257 | 13.233 | 0.057 |
| -18.700 | 87.332 | -2.274 | 13.083 | 0.051 |
| -18.700 | 87.332 | -2.274 | 13.083 | 0.051 |
| -19.100 | 91.018 | -2.456 | 12.888 | 0.039 |
| -19.500 | 94.833 | -2.650 | 12.698 | 0.026 |
| -19.500 | 94.834 | -2.650 | 12.698 | 0.026 |
| -20.450 | 104.048 | -2.650 | 12.264 | 0.020 |
| -21.450 | 113.777 | -2.650 | 11.834 | 0.014 |
| -22.250 | 121.581 | -2.650 | 11.508 | 0.011 |
| -23.600 | 134.788 | -2.650 | 10.993 | 0.005 |
| -25.000 | 148.529 | -2.650 | 10.500 | 0.000 |

### 3.16 Results for Vertical 16 (X = -15.45 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.116 | 27.612 | -2.650 | 25.661 | 1.163 |
| -3.216 | 25.309 | -2.594 | 23.776 | 1.128 |
| -3.316 | 22.388 | -2.547 | 21.359 | 1.096 |
| -3.416 | 21.224 | -2.505 | 20.371 | 1.065 |
| -3.516 | 21.475 | -2.465 | 20.565 | 1.037 |
| -3.616 | 21.478 | -2.426 | 20.558 | 1.011 |
| -3.716 | 21.428 | -2.387 | 20.503 | 0.986 |
| -3.816 | 21.463 | -2.349 | 20.514 | 0.963 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.916 | 21.562 | -2.312 | 20.574 | 0.941 |
| -4.016 | 21.680 | -2.275 | 20.649 | 0.920 |
| -4.116 | 21.795 | -2.239 | 20.721 | 0.900 |
| -4.458 | 22.113 | -2.118 | 20.883 | 0.839 |
| -5.100 | 22.634 | -1.910 | 21.006 | 0.745 |
| -5.800 | 23.345 | -1.715 | 21.028 | 0.664 |
| -5.800 | 23.345 | -1.715 | 21.028 | 0.664 |
| -6.650 | 22.823 | -1.620 | 20.867 | 0.523 |
| -7.500 | 22.667 | -1.588 | 20.495 | 0.393 |
| -7.500 | 22.667 | -1.588 | 20.495 | 0.393 |
| -8.000 | 25.050 | -1.596 | 20.200 | 0.360 |
| -8.500 | 27.579 | -1.623 | 19.867 | 0.330 |
| -8.500 | 27.579 | -1.623 | 19.867 | 0.330 |
| -8.650 | 27.636 | -1.631 | 19.761 | 0.312 |
| -8.800 | 27.709 | -1.640 | 19.653 | 0.294 |
| -8.800 | 27.709 | -1.640 | 19.653 | 0.294 |
| -9.800 | 33.001 | -1.646 | 18.900 | 0.253 |
| -10.800 | 38.314 | -1.656 | 18.127 | 0.221 |
| -10.800 | 38.314 | -1.656 | 18.127 | 0.221 |
| -11.300 | 41.013 | -1.706 | 17.743 | 0.203 |
| -11.800 | 43.807 | -1.764 | 17.366 | 0.186 |
| -11.800 | 43.807 | -1.764 | 17.366 | 0.186 |
| -12.800 | 49.273 | -1.784 | 16.634 | 0.160 |
| -13.800 | 54.834 | -1.808 | 15.940 | 0.138 |
| -14.600 | 59.356 | -1.831 | 15.413 | 0.122 |
| -15.100 | 62.216 | -1.848 | 15.097 | 0.112 |
| -15.600 | 65.101 | -1.866 | 14.790 | 0.103 |
| -16.600 | 70.951 | -1.906 | 14.205 | 0.085 |
| -17.400 | 75.706 | -1.943 | 13.763 | 0.071 |
| -17.400 | 75.706 | -1.943 | 13.763 | 0.071 |
| -17.750 | 79.412 | -2.085 | 13.577 | 0.067 |
| -18.100 | 83.219 | -2.237 | 13.395 | 0.063 |
| -18.100 | 83.219 | -2.237 | 13.395 | 0.063 |
| -18.400 | 85.048 | -2.254 | 13.242 | 0.057 |
| -18.700 | 86.886 | -2.271 | 13.092 | 0.051 |
| -18.700 | 86.886 | -2.271 | 13.092 | 0.051 |
| -19.100 | 90.585 | -2.454 | 12.896 | 0.039 |
| -19.500 | 94.415 | -2.650 | 12.705 | 0.026 |
| -19.500 | 94.415 | -2.650 | 12.705 | 0.026 |
| -20.450 | 103.628 | -2.650 | 12.271 | 0.020 |
| -21.450 | 113.357 | -2.650 | 11.840 | 0.014 |
| -22.250 | 121.160 | -2.650 | 11.514 | 0.011 |
| -23.600 | 134.365 | -2.650 | 10.997 | 0.005 |
| -25.000 | 148.105 | -2.650 | 10.503 | 0.000 |

### 3.17 Results for Vertical 17 (X = -15.34 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.200 | 27.949 | -2.650 | 25.531 | 1.144 |
| -3.300 | 27.780 | -2.591 | 25.490 | 1.112 |
| -3.400 | 26.264 | -2.537 | 24.381 | 1.082 |
| -3.500 | 24.732 | -2.488 | 23.213 | 1.054 |
| -3.600 | 23.500 | -2.442 | 22.255 | 1.027 |
| -3.700 | 22.926 | -2.399 | 21.812 | 1.001 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.800 | 22.737 | -2.358 | 21.673 | 0.978 |
| -3.900 | 22.680 | -2.318 | 21.637 | 0.955 |
| -4.000 | 22.657 | -2.279 | 21.624 | 0.933 |
| -4.100 | 22.639 | -2.240 | 21.611 | 0.913 |
| -4.200 | 22.621 | -2.202 | 21.594 | 0.893 |
| -4.500 | 22.592 | -2.093 | 21.532 | 0.840 |
| -5.200 | 22.825 | -1.864 | 21.443 | 0.738 |
| -5.800 | 23.305 | -1.695 | 21.373 | 0.668 |
| -5.800 | 23.305 | -1.695 | 21.373 | 0.668 |
| -6.650 | 22.668 | -1.600 | 21.134 | 0.525 |
| -7.500 | 22.435 | -1.568 | 20.701 | 0.393 |
| -7.500 | 22.435 | -1.568 | 20.701 | 0.393 |
| -8.000 | 24.788 | -1.577 | 20.377 | 0.360 |
| -8.500 | 27.295 | -1.606 | 20.019 | 0.330 |
| -8.500 | 27.295 | -1.606 | 20.019 | 0.330 |
| -8.650 | 27.346 | -1.614 | 19.906 | 0.311 |
| -8.800 | 27.413 | -1.624 | 19.792 | 0.293 |
| -8.800 | 27.413 | -1.624 | 19.792 | 0.293 |
| -9.800 | 32.659 | -1.630 | 19.003 | 0.253 |
| -10.800 | 37.941 | -1.640 | 18.203 | 0.221 |
| -10.800 | 37.941 | -1.640 | 18.203 | 0.221 |
| -11.300 | 40.636 | -1.691 | 17.809 | 0.203 |
| -11.800 | 43.429 | -1.750 | 17.423 | 0.185 |
| -11.800 | 43.429 | -1.750 | 17.423 | 0.185 |
| -12.800 | 48.881 | -1.770 | 16.679 | 0.160 |
| -13.800 | 54.434 | -1.794 | 15.975 | 0.138 |
| -14.600 | 58.952 | -1.818 | 15.442 | 0.121 |
| -15.100 | 61.811 | -1.835 | 15.123 | 0.112 |
| -15.600 | 64.696 | -1.853 | 14.813 | 0.103 |
| -16.600 | 70.546 | -1.894 | 14.224 | 0.085 |
| -17.400 | 75.304 | -1.932 | 13.780 | 0.071 |
| -17.400 | 75.304 | -1.932 | 13.780 | 0.071 |
| -17.750 | 79.030 | -2.076 | 13.593 | 0.067 |
| -18.100 | 82.860 | -2.230 | 13.410 | 0.063 |
| -18.100 | 82.860 | -2.230 | 13.410 | 0.063 |
| -18.400 | 84.691 | -2.247 | 13.256 | 0.057 |
| -18.700 | 86.530 | -2.265 | 13.105 | 0.051 |
| -18.700 | 86.530 | -2.265 | 13.105 | 0.051 |
| -19.100 | 90.258 | -2.451 | 12.909 | 0.039 |
| -19.500 | 94.119 | -2.650 | 12.717 | 0.026 |
| -19.500 | 94.120 | -2.650 | 12.717 | 0.026 |
| -20.450 | 103.331 | -2.650 | 12.281 | 0.020 |
| -21.450 | 113.057 | -2.650 | 11.849 | 0.015 |
| -22.250 | 120.859 | -2.650 | 11.522 | 0.011 |
| -23.600 | 134.063 | -2.650 | 11.004 | 0.005 |
| -25.000 | 147.802 | -2.650 | 10.509 | 0.000 |

### 3.18 Results for Vertical 18 (X = -15.09 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.394 | 27.993 | -2.650 | 24.951 | 1.131 |
| -3.494 | 28.361 | -2.592 | 25.442 | 1.102 |
| -3.594 | 27.999 | -2.536 | 25.351 | 1.074 |
| -3.694 | 27.392 | -2.482 | 25.025 | 1.047 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.794 | 26.757 | -2.432 | 24.646 | 1.022 |
| -3.894 | 26.175 | -2.383 | 24.286 | 0.998 |
| -3.994 | 25.668 | -2.336 | 23.967 | 0.975 |
| -4.094 | 25.235 | -2.291 | 23.691 | 0.953 |
| -4.194 | 24.870 | -2.248 | 23.457 | 0.932 |
| -4.294 | 24.567 | -2.206 | 23.259 | 0.912 |
| -4.394 | 24.317 | -2.165 | 23.092 | 0.893 |
| -4.597 | 23.944 | -2.086 | 22.832 | 0.856 |
| -5.200 | 23.524 | -1.874 | 22.413 | 0.764 |
| -5.800 | 23.642 | -1.696 | 22.163 | 0.690 |
| -5.800 | 23.642 | -1.696 | 22.163 | 0.690 |
| -6.650 | 22.695 | -1.595 | 21.741 | 0.538 |
| -7.500 | 22.238 | -1.560 | 21.165 | 0.399 |
| -7.500 | 22.238 | -1.560 | 21.165 | 0.399 |
| -8.000 | 24.478 | -1.567 | 20.771 | 0.364 |
| -8.500 | 26.887 | -1.594 | 20.353 | 0.333 |
| -8.500 | 26.887 | -1.594 | 20.353 | 0.333 |
| -8.650 | 26.913 | -1.601 | 20.224 | 0.314 |
| -8.800 | 26.958 | -1.611 | 20.094 | 0.296 |
| -8.800 | 26.958 | -1.611 | 20.094 | 0.296 |
| -9.800 | 32.094 | -1.617 | 19.221 | 0.254 |
| -10.800 | 37.301 | -1.627 | 18.363 | 0.221 |
| -10.800 | 37.301 | -1.627 | 18.363 | 0.221 |
| -11.300 | 39.967 | -1.677 | 17.947 | 0.203 |
| -11.800 | 42.737 | -1.737 | 17.542 | 0.185 |
| -11.800 | 42.737 | -1.737 | 17.542 | 0.185 |
| -12.800 | 48.153 | -1.757 | 16.769 | 0.160 |
| -13.800 | 53.681 | -1.782 | 16.044 | 0.138 |
| -14.600 | 58.186 | -1.806 | 15.499 | 0.121 |
| -15.100 | 61.039 | -1.823 | 15.174 | 0.112 |
| -15.600 | 63.919 | -1.841 | 14.859 | 0.103 |
| -16.600 | 69.763 | -1.883 | 14.261 | 0.085 |
| -17.400 | 74.518 | -1.921 | 13.811 | 0.071 |
| -17.400 | 74.518 | -1.921 | 13.811 | 0.071 |
| -17.750 | 78.262 | -2.067 | 13.622 | 0.068 |
| -18.100 | 82.112 | -2.223 | 13.437 | 0.064 |
| -18.100 | 82.112 | -2.223 | 13.437 | 0.064 |
| -18.400 | 83.943 | -2.241 | 13.282 | 0.057 |
| -18.700 | 85.784 | -2.259 | 13.130 | 0.051 |
| -18.700 | 85.784 | -2.259 | 13.130 | 0.051 |
| -19.100 | 89.539 | -2.448 | 12.932 | 0.039 |
| -19.500 | 93.431 | -2.650 | 12.739 | 0.026 |
| -19.500 | 93.431 | -2.650 | 12.739 | 0.026 |
| -20.450 | 102.638 | -2.650 | 12.300 | 0.020 |
| -21.450 | 112.362 | -2.650 | 11.865 | 0.015 |
| -22.250 | 120.161 | -2.650 | 11.536 | 0.011 |
| -23.600 | 133.362 | -2.650 | 11.016 | 0.005 |
| -25.000 | 147.099 | -2.650 | 10.519 | 0.000 |

### 3.19 Results for Vertical 19 (X = -13.56 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.509 | 29.277 | -2.650 | 25.717 | 1.135 |
| -3.609 | 29.361 | -2.594 | 25.900 | 1.107 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.709 | 29.350 | -2.539 | 26.043 | 1.080 |
| -3.809 | 29.361 | -2.486 | 26.194 | 1.055 |
| -3.909 | 29.356 | -2.434 | 26.326 | 1.032 |
| -4.009 | 29.327 | -2.383 | 26.431 | 1.009 |
| -4.109 | 29.276 | -2.333 | 26.513 | 0.987 |
| -4.209 | 29.214 | -2.283 | 26.578 | 0.966 |
| -4.309 | 29.145 | -2.235 | 26.631 | 0.945 |
| -4.409 | 29.072 | -2.188 | 26.674 | 0.926 |
| -4.509 | 28.993 | -2.141 | 26.705 | 0.907 |
| -4.655 | 28.868 | -2.076 | 26.726 | 0.881 |
| -5.200 | 28.243 | -1.850 | 26.510 | 0.792 |
| -5.800 | 27.401 | -1.641 | 25.805 | 0.712 |
| -5.800 | 27.401 | -1.641 | 25.805 | 0.712 |
| -6.650 | 25.076 | -1.526 | 24.440 | 0.546 |
| -7.500 | 23.533 | -1.489 | 23.039 | 0.397 |
| -7.500 | 23.533 | -1.489 | 23.039 | 0.397 |
| -8.000 | 25.305 | -1.498 | 22.265 | 0.361 |
| -8.500 | 27.354 | -1.527 | 21.538 | 0.328 |
| -8.500 | 27.354 | -1.527 | 21.538 | 0.328 |
| -8.650 | 27.286 | -1.535 | 21.330 | 0.309 |
| -8.800 | 27.244 | -1.546 | 21.126 | 0.290 |
| -8.800 | 27.244 | -1.546 | 21.126 | 0.290 |
| -9.800 | 31.898 | -1.552 | 19.867 | 0.247 |
| -10.800 | 36.802 | -1.563 | 18.764 | 0.215 |
| -10.800 | 36.802 | -1.563 | 18.764 | 0.215 |
| -11.300 | 39.387 | -1.617 | 18.261 | 0.197 |
| -11.800 | 42.104 | -1.679 | 17.787 | 0.180 |
| -11.800 | 42.104 | -1.679 | 17.787 | 0.180 |
| -12.800 | 47.403 | -1.700 | 16.914 | 0.155 |
| -13.800 | 52.861 | -1.727 | 16.125 | 0.134 |
| -14.600 | 57.334 | -1.752 | 15.545 | 0.119 |
| -15.100 | 60.174 | -1.770 | 15.203 | 0.109 |
| -15.600 | 63.047 | -1.790 | 14.875 | 0.101 |
| -16.600 | 68.889 | -1.834 | 14.258 | 0.084 |
| -17.400 | 73.651 | -1.874 | 13.798 | 0.071 |
| -17.400 | 73.652 | -1.874 | 13.798 | 0.071 |
| -17.750 | 77.477 | -2.029 | 13.606 | 0.067 |
| -18.100 | 81.419 | -2.195 | 13.418 | 0.063 |
| -18.100 | 81.419 | -2.195 | 13.418 | 0.063 |
| -18.400 | 83.258 | -2.214 | 13.261 | 0.057 |
| -18.700 | 85.107 | -2.233 | 13.107 | 0.051 |
| -18.700 | 85.107 | -2.233 | 13.107 | 0.051 |
| -19.100 | 88.977 | -2.434 | 12.907 | 0.039 |
| -19.500 | 92.998 | -2.650 | 12.713 | 0.026 |
| -19.500 | 92.998 | -2.650 | 12.713 | 0.026 |
| -20.450 | 102.200 | -2.650 | 12.271 | 0.020 |
| -21.450 | 111.921 | -2.650 | 11.836 | 0.015 |
| -22.250 | 119.719 | -2.650 | 11.507 | 0.011 |
| -23.600 | 132.919 | -2.650 | 10.988 | 0.005 |
| -25.000 | 146.655 | -2.650 | 10.493 | 0.000 |

### 3.20 Results for Vertical 20 (X = -12.03 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.625 | 34.997 | -2.650 | 31.205 | 1.109 |
| -3.725 | 34.879 | -2.580 | 31.390 | 1.080 |
| -3.825 | 34.665 | -2.512 | 31.471 | 1.052 |
| -3.925 | 34.286 | -2.447 | 31.394 | 1.025 |
| -4.025 | 33.743 | -2.384 | 31.160 | 1.000 |
| -4.125 | 33.086 | -2.322 | 30.809 | 0.976 |
| -4.225 | 32.373 | -2.264 | 30.389 | 0.953 |
| -4.325 | 31.650 | -2.207 | 29.940 | 0.930 |
| -4.425 | 30.946 | -2.154 | 29.487 | 0.909 |
| -4.525 | 30.279 | -2.102 | 29.045 | 0.888 |
| -4.625 | 29.655 | -2.052 | 28.621 | 0.868 |
| -4.713 | 29.149 | -2.010 | 28.268 | 0.852 |
| -5.300 | 26.581 | -1.765 | 26.306 | 0.754 |
| -5.800 | 25.276 | -1.598 | 25.032 | 0.687 |
| -5.800 | 25.276 | -1.598 | 25.031 | 0.687 |
| -6.650 | 22.774 | -1.491 | 23.308 | 0.523 |
| -7.500 | 21.396 | -1.460 | 21.902 | 0.380 |
| -7.500 | 21.396 | -1.460 | 21.902 | 0.380 |
| -8.000 | 23.315 | -1.473 | 21.175 | 0.345 |
| -8.500 | 25.513 | -1.508 | 20.506 | 0.314 |
| -8.500 | 25.513 | -1.508 | 20.506 | 0.314 |
| -8.650 | 25.483 | -1.517 | 20.315 | 0.296 |
| -8.800 | 25.477 | -1.528 | 20.129 | 0.277 |
| -8.800 | 25.477 | -1.528 | 20.129 | 0.277 |
| -9.800 | 30.304 | -1.535 | 18.986 | 0.238 |
| -10.800 | 35.349 | -1.547 | 17.986 | 0.208 |
| -10.800 | 35.349 | -1.547 | 17.986 | 0.208 |
| -11.300 | 38.012 | -1.602 | 17.530 | 0.191 |
| -11.800 | 40.801 | -1.667 | 17.099 | 0.174 |
| -11.800 | 40.801 | -1.667 | 17.099 | 0.174 |
| -12.800 | 46.199 | -1.688 | 16.303 | 0.151 |
| -13.800 | 51.741 | -1.715 | 15.580 | 0.131 |
| -14.600 | 56.273 | -1.741 | 15.047 | 0.116 |
| -15.100 | 59.146 | -1.760 | 14.732 | 0.107 |
| -15.600 | 62.051 | -1.779 | 14.429 | 0.099 |
| -16.600 | 67.949 | -1.824 | 13.858 | 0.082 |
| -17.400 | 72.753 | -1.865 | 13.431 | 0.070 |
| -17.400 | 72.753 | -1.865 | 13.431 | 0.070 |
| -17.750 | 76.611 | -2.022 | 13.252 | 0.066 |
| -18.100 | 80.587 | -2.190 | 13.077 | 0.062 |
| -18.100 | 80.587 | -2.190 | 13.077 | 0.062 |
| -18.400 | 82.439 | -2.209 | 12.930 | 0.056 |
| -18.700 | 84.301 | -2.229 | 12.786 | 0.050 |
| -18.700 | 84.301 | -2.229 | 12.786 | 0.050 |
| -19.100 | 88.208 | -2.432 | 12.599 | 0.038 |
| -19.500 | 92.264 | -2.650 | 12.417 | 0.026 |
| -19.500 | 92.264 | -2.650 | 12.417 | 0.026 |
| -20.450 | 101.495 | -2.650 | 12.002 | 0.020 |
| -21.450 | 111.242 | -2.650 | 11.592 | 0.014 |
| -22.250 | 119.059 | -2.650 | 11.281 | 0.011 |
| -23.600 | 132.287 | -2.650 | 10.789 | 0.005 |
| -25.000 | 146.048 | -2.650 | 10.318 | 0.000 |

### 3.21 Results for Vertical 21 (X = -11.51 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.356 | 37.406 | -2.650 | 34.450 | 1.112 |
| -3.456 | 36.365 | -2.573 | 33.716 | 1.079 |
| -3.556 | 34.054 | -2.502 | 31.930 | 1.049 |
| -3.656 | 31.982 | -2.437 | 30.350 | 1.020 |
| -3.756 | 30.340 | -2.377 | 29.101 | 0.993 |
| -3.856 | 29.017 | -2.321 | 28.092 | 0.967 |
| -3.956 | 27.975 | -2.269 | 27.294 | 0.942 |
| -4.056 | 27.178 | -2.219 | 26.681 | 0.918 |
| -4.156 | 26.574 | -2.172 | 26.211 | 0.896 |
| -4.256 | 26.107 | -2.127 | 25.843 | 0.875 |
| -4.356 | 25.734 | -2.083 | 25.542 | 0.855 |
| -4.578 | 25.109 | -1.991 | 25.010 | 0.813 |
| -5.200 | 24.043 | -1.767 | 23.882 | 0.716 |
| -5.800 | 23.558 | -1.591 | 22.969 | 0.642 |
| -5.800 | 23.558 | -1.591 | 22.969 | 0.642 |
| -6.650 | 21.960 | -1.498 | 21.813 | 0.496 |
| -7.500 | 21.132 | -1.475 | 20.763 | 0.366 |
| -7.500 | 21.132 | -1.475 | 20.763 | 0.366 |
| -8.000 | 23.304 | -1.494 | 20.188 | 0.334 |
| -8.500 | 25.713 | -1.533 | 19.642 | 0.306 |
| -8.500 | 25.713 | -1.533 | 19.642 | 0.306 |
| -8.650 | 25.733 | -1.543 | 19.484 | 0.289 |
| -8.800 | 25.774 | -1.555 | 19.328 | 0.272 |
| -8.800 | 25.774 | -1.555 | 19.328 | 0.272 |
| -9.800 | 30.816 | -1.562 | 18.349 | 0.235 |
| -10.800 | 36.011 | -1.574 | 17.466 | 0.206 |
| -10.800 | 36.011 | -1.574 | 17.466 | 0.206 |
| -11.300 | 38.734 | -1.629 | 17.056 | 0.190 |
| -11.800 | 41.573 | -1.694 | 16.665 | 0.173 |
| -11.800 | 41.573 | -1.694 | 16.665 | 0.173 |
| -12.800 | 47.048 | -1.716 | 15.934 | 0.151 |
| -13.800 | 52.649 | -1.742 | 15.263 | 0.130 |
| -14.600 | 57.215 | -1.768 | 14.763 | 0.116 |
| -15.100 | 60.107 | -1.786 | 14.467 | 0.107 |
| -15.600 | 63.027 | -1.805 | 14.181 | 0.098 |
| -16.600 | 68.949 | -1.849 | 13.639 | 0.082 |
| -17.400 | 73.764 | -1.889 | 13.232 | 0.069 |
| -17.400 | 73.764 | -1.889 | 13.232 | 0.069 |
| -17.750 | 77.591 | -2.042 | 13.060 | 0.065 |
| -18.100 | 81.526 | -2.205 | 12.893 | 0.062 |
| -18.100 | 81.527 | -2.205 | 12.893 | 0.062 |
| -18.400 | 83.380 | -2.223 | 12.752 | 0.056 |
| -18.700 | 85.243 | -2.242 | 12.614 | 0.050 |
| -18.700 | 85.243 | -2.242 | 12.614 | 0.050 |
| -19.100 | 89.096 | -2.439 | 12.434 | 0.038 |
| -19.500 | 93.089 | -2.650 | 12.259 | 0.025 |
| -19.500 | 93.089 | -2.650 | 12.259 | 0.025 |
| -20.450 | 102.337 | -2.650 | 11.859 | 0.019 |
| -21.450 | 112.098 | -2.650 | 11.463 | 0.014 |
| -22.250 | 119.926 | -2.650 | 11.162 | 0.010 |
| -23.600 | 133.170 | -2.650 | 10.685 | 0.005 |
| -25.000 | 146.945 | -2.650 | 10.226 | 0.000 |

### 3.22 Results for Vertical 22 (X = -11.37 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.281 | 31.952 | -2.650 | 30.136 | 1.148 |
| -3.381 | 29.069 | -2.587 | 27.714 | 1.112 |
| -3.481 | 26.555 | -2.531 | 25.640 | 1.078 |
| -3.581 | 24.352 | -2.482 | 23.782 | 1.046 |
| -3.681 | 24.255 | -2.436 | 23.681 | 1.017 |
| -3.781 | 24.635 | -2.391 | 23.992 | 0.989 |
| -3.881 | 24.800 | -2.346 | 24.133 | 0.964 |
| -3.981 | 24.790 | -2.301 | 24.129 | 0.939 |
| -4.081 | 24.701 | -2.258 | 24.056 | 0.917 |
| -4.181 | 24.592 | -2.215 | 23.960 | 0.895 |
| -4.281 | 24.487 | -2.174 | 23.860 | 0.874 |
| -4.540 | 24.257 | -2.071 | 23.612 | 0.825 |
| -5.200 | 23.850 | -1.839 | 22.950 | 0.722 |
| -5.800 | 23.687 | -1.664 | 22.287 | 0.649 |
| -5.800 | 23.687 | -1.664 | 22.287 | 0.649 |
| -6.650 | 22.322 | -1.568 | 21.329 | 0.503 |
| -7.500 | 21.606 | -1.541 | 20.398 | 0.372 |
| -7.500 | 21.606 | -1.541 | 20.398 | 0.372 |
| -8.000 | 23.791 | -1.554 | 19.872 | 0.340 |
| -8.500 | 26.190 | -1.587 | 19.366 | 0.311 |
| -8.500 | 26.190 | -1.587 | 19.366 | 0.311 |
| -8.650 | 26.212 | -1.596 | 19.218 | 0.294 |
| -8.800 | 26.254 | -1.607 | 19.072 | 0.276 |
| -8.800 | 26.254 | -1.607 | 19.072 | 0.276 |
| -9.800 | 31.358 | -1.613 | 18.147 | 0.239 |
| -10.800 | 36.592 | -1.624 | 17.301 | 0.209 |
| -10.800 | 36.592 | -1.624 | 17.301 | 0.209 |
| -11.300 | 39.301 | -1.676 | 16.906 | 0.193 |
| -11.800 | 42.119 | -1.737 | 16.528 | 0.176 |
| -11.800 | 42.119 | -1.737 | 16.528 | 0.176 |
| -12.800 | 47.608 | -1.758 | 15.818 | 0.153 |
| -13.800 | 53.215 | -1.783 | 15.163 | 0.132 |
| -14.600 | 57.782 | -1.807 | 14.675 | 0.117 |
| -15.100 | 60.672 | -1.824 | 14.384 | 0.108 |
| -15.600 | 63.589 | -1.843 | 14.103 | 0.099 |
| -16.600 | 69.502 | -1.885 | 13.571 | 0.082 |
| -17.400 | 74.308 | -1.923 | 13.170 | 0.069 |
| -17.400 | 74.308 | -1.923 | 13.170 | 0.069 |
| -17.750 | 78.072 | -2.069 | 13.001 | 0.065 |
| -18.100 | 81.939 | -2.225 | 12.835 | 0.061 |
| -18.100 | 81.939 | -2.225 | 12.835 | 0.061 |
| -18.400 | 83.787 | -2.242 | 12.697 | 0.055 |
| -18.700 | 85.643 | -2.261 | 12.561 | 0.049 |
| -18.700 | 85.643 | -2.261 | 12.561 | 0.049 |
| -19.100 | 89.412 | -2.449 | 12.383 | 0.038 |
| -19.500 | 93.314 | -2.650 | 12.210 | 0.025 |
| -19.500 | 93.314 | -2.650 | 12.210 | 0.025 |
| -20.450 | 102.567 | -2.650 | 11.815 | 0.019 |
| -21.450 | 112.333 | -2.650 | 11.423 | 0.014 |
| -22.250 | 120.164 | -2.650 | 11.125 | 0.010 |
| -23.600 | 133.413 | -2.650 | 10.652 | 0.005 |
| -25.000 | 147.192 | -2.650 | 10.198 | 0.000 |

### 3.23 Results for Vertical 23 (X = -11.36 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.200 | 20.800 | -2.650 | 20.492 | 1.169 |
| -3.300 | 20.757 | -2.609 | 20.401 | 1.122 |
| -3.400 | 27.580 | -2.562 | 26.312 | 1.086 |
| -3.500 | 25.819 | -2.510 | 24.860 | 1.054 |
| -3.600 | 24.178 | -2.463 | 23.466 | 1.024 |
| -3.700 | 24.289 | -2.418 | 23.536 | 0.996 |
| -3.800 | 24.666 | -2.374 | 23.840 | 0.970 |
| -3.900 | 24.832 | -2.330 | 23.976 | 0.946 |
| -4.000 | 24.839 | -2.286 | 23.980 | 0.923 |
| -4.100 | 24.774 | -2.244 | 23.920 | 0.901 |
| -4.200 | 24.689 | -2.202 | 23.838 | 0.880 |
| -4.500 | 24.454 | -2.082 | 23.575 | 0.823 |
| -5.200 | 24.075 | -1.837 | 22.904 | 0.715 |
| -5.800 | 23.943 | -1.663 | 22.253 | 0.644 |
| -5.800 | 23.943 | -1.663 | 22.253 | 0.644 |
| -6.650 | 22.598 | -1.569 | 21.305 | 0.499 |
| -7.500 | 21.896 | -1.542 | 20.380 | 0.371 |
| -7.500 | 21.896 | -1.542 | 20.380 | 0.371 |
| -8.000 | 24.089 | -1.556 | 19.857 | 0.339 |
| -8.500 | 26.497 | -1.590 | 19.352 | 0.310 |
| -8.500 | 26.497 | -1.590 | 19.352 | 0.310 |
| -8.650 | 26.520 | -1.599 | 19.205 | 0.293 |
| -8.800 | 26.564 | -1.609 | 19.060 | 0.276 |
| -8.800 | 26.564 | -1.609 | 19.060 | 0.276 |
| -9.800 | 31.672 | -1.616 | 18.137 | 0.238 |
| -10.800 | 36.909 | -1.627 | 17.293 | 0.209 |
| -10.800 | 36.909 | -1.627 | 17.293 | 0.209 |
| -11.300 | 39.619 | -1.679 | 16.899 | 0.192 |
| -11.800 | 42.438 | -1.740 | 16.521 | 0.176 |
| -11.800 | 42.438 | -1.740 | 16.521 | 0.176 |
| -12.800 | 47.929 | -1.761 | 15.812 | 0.152 |
| -13.800 | 53.537 | -1.786 | 15.158 | 0.132 |
| -14.600 | 58.104 | -1.810 | 14.670 | 0.117 |
| -15.100 | 60.994 | -1.827 | 14.380 | 0.108 |
| -15.600 | 63.911 | -1.846 | 14.099 | 0.099 |
| -16.600 | 69.823 | -1.887 | 13.567 | 0.082 |
| -17.400 | 74.628 | -1.925 | 13.166 | 0.069 |
| -17.400 | 74.629 | -1.925 | 13.166 | 0.069 |
| -17.750 | 78.388 | -2.071 | 12.998 | 0.065 |
| -18.100 | 82.250 | -2.227 | 12.833 | 0.061 |
| -18.100 | 82.250 | -2.227 | 12.833 | 0.061 |
| -18.400 | 84.098 | -2.244 | 12.694 | 0.055 |
| -18.700 | 85.954 | -2.262 | 12.558 | 0.049 |
| -18.700 | 85.954 | -2.262 | 12.558 | 0.049 |
| -19.100 | 89.716 | -2.450 | 12.381 | 0.038 |
| -19.500 | 93.610 | -2.650 | 12.208 | 0.025 |
| -19.500 | 93.610 | -2.650 | 12.208 | 0.025 |
| -20.450 | 102.863 | -2.650 | 11.813 | 0.019 |
| -21.450 | 112.630 | -2.650 | 11.421 | 0.014 |
| -22.250 | 120.461 | -2.650 | 11.123 | 0.010 |
| -23.600 | 133.710 | -2.650 | 10.651 | 0.005 |
| -25.000 | 147.489 | -2.650 | 10.196 | 0.000 |

### 3.24 Results for Vertical 24 (X = -11.34 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.000 | 20.040 | -2.650 | 19.939 | 1.098 |
| -3.100 | 28.384 | -2.546 | 27.782 | 1.065 |
| -3.200 | 20.156 | -2.444 | 20.625 | 1.039 |
| -3.200 | 20.156 | -2.444 | 20.625 | 1.039 |
| -3.300 | 19.644 | -2.408 | 20.080 | 1.008 |
| -3.400 | 23.801 | -2.369 | 23.618 | 0.980 |
| -3.500 | 24.123 | -2.327 | 23.892 | 0.954 |
| -3.600 | 23.064 | -2.285 | 22.956 | 0.929 |
| -3.700 | 23.188 | -2.246 | 23.001 | 0.906 |
| -3.800 | 23.647 | -2.206 | 23.336 | 0.884 |
| -3.900 | 23.940 | -2.167 | 23.539 | 0.863 |
| -4.000 | 24.071 | -2.128 | 23.609 | 0.844 |
| -4.500 | 24.089 | -1.945 | 23.372 | 0.757 |
| -5.200 | 24.044 | -1.724 | 22.779 | 0.662 |
| -5.800 | 24.131 | -1.568 | 22.161 | 0.599 |
| -5.800 | 24.131 | -1.568 | 22.161 | 0.599 |
| -6.650 | 22.950 | -1.487 | 21.240 | 0.469 |
| -7.500 | 22.380 | -1.471 | 20.330 | 0.353 |
| -7.500 | 22.381 | -1.471 | 20.330 | 0.353 |
| -8.000 | 24.696 | -1.497 | 19.814 | 0.324 |
| -8.500 | 27.236 | -1.543 | 19.315 | 0.298 |
| -8.500 | 27.236 | -1.543 | 19.315 | 0.298 |
| -8.650 | 27.285 | -1.555 | 19.169 | 0.282 |
| -8.800 | 27.353 | -1.568 | 19.025 | 0.266 |
| -8.800 | 27.353 | -1.568 | 19.025 | 0.266 |
| -9.800 | 32.480 | -1.576 | 18.110 | 0.231 |
| -10.800 | 37.735 | -1.587 | 17.271 | 0.204 |
| -10.800 | 37.735 | -1.587 | 17.271 | 0.204 |
| -11.300 | 40.493 | -1.644 | 16.878 | 0.188 |
| -11.800 | 43.361 | -1.710 | 16.503 | 0.172 |
| -11.800 | 43.361 | -1.710 | 16.503 | 0.172 |
| -12.800 | 48.868 | -1.732 | 15.796 | 0.149 |
| -13.800 | 54.493 | -1.759 | 15.145 | 0.130 |
| -14.600 | 59.073 | -1.784 | 14.658 | 0.115 |
| -15.100 | 61.971 | -1.802 | 14.369 | 0.106 |
| -15.600 | 64.897 | -1.821 | 14.089 | 0.097 |
| -16.600 | 70.826 | -1.865 | 13.558 | 0.081 |
| -17.400 | 75.645 | -1.904 | 13.158 | 0.068 |
| -17.400 | 75.645 | -1.904 | 13.158 | 0.068 |
| -17.750 | 79.450 | -2.054 | 12.990 | 0.065 |
| -18.100 | 83.360 | -2.214 | 12.825 | 0.061 |
| -18.100 | 83.360 | -2.214 | 12.825 | 0.061 |
| -18.400 | 85.213 | -2.232 | 12.687 | 0.055 |
| -18.700 | 87.075 | -2.251 | 12.551 | 0.049 |
| -18.700 | 87.075 | -2.251 | 12.551 | 0.049 |
| -19.100 | 90.891 | -2.444 | 12.374 | 0.037 |
| -19.500 | 94.841 | -2.650 | 12.201 | 0.024 |
| -19.500 | 94.841 | -2.650 | 12.201 | 0.024 |
| -20.450 | 104.095 | -2.650 | 11.807 | 0.019 |
| -21.450 | 113.862 | -2.650 | 11.416 | 0.014 |
| -22.250 | 121.694 | -2.650 | 11.118 | 0.010 |
| -23.600 | 134.943 | -2.650 | 10.646 | 0.005 |
| -25.000 | 148.723 | -2.650 | 10.193 | 0.000 |

### 3.25 Results for Vertical 25 (X = -11.31 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.650 | 19.254 | -2.650 | 19.253 | 1.027 |
| -2.750 | 27.428 | -2.552 | 27.557 | 0.988 |
| -2.850 | 26.337 | -2.442 | 26.799 | 0.958 |
| -2.925 | 21.196 | -2.371 | 22.067 | 0.939 |
| -2.950 | 20.309 | -2.351 | 21.251 | 0.933 |
| -3.050 | 18.399 | -2.278 | 19.497 | 0.913 |
| -3.150 | 18.959 | -2.209 | 19.991 | 0.895 |
| -3.200 | 18.986 | -2.175 | 20.018 | 0.887 |
| -3.200 | 18.986 | -2.175 | 20.018 | 0.887 |
| -3.250 | 18.444 | -2.160 | 19.475 | 0.876 |
| -3.350 | 18.354 | -2.131 | 19.262 | 0.856 |
| -3.450 | 21.454 | -2.100 | 21.834 | 0.837 |
| -3.550 | 21.978 | -2.066 | 22.208 | 0.818 |
| -3.650 | 21.910 | -2.033 | 22.053 | 0.800 |
| -4.500 | 24.093 | -1.769 | 23.021 | 0.676 |
| -5.200 | 24.552 | -1.582 | 22.562 | 0.597 |
| -5.800 | 24.969 | -1.453 | 22.001 | 0.544 |
| -5.800 | 24.969 | -1.453 | 22.001 | 0.544 |
| -6.650 | 24.031 | -1.391 | 21.125 | 0.433 |
| -7.500 | 23.655 | -1.391 | 20.244 | 0.333 |
| -7.500 | 23.655 | -1.391 | 20.244 | 0.333 |
| -8.000 | 26.141 | -1.432 | 19.739 | 0.308 |
| -8.500 | 28.863 | -1.496 | 19.250 | 0.284 |
| -8.500 | 28.863 | -1.496 | 19.250 | 0.284 |
| -8.650 | 28.946 | -1.511 | 19.106 | 0.269 |
| -8.800 | 29.048 | -1.527 | 18.964 | 0.254 |
| -8.800 | 29.048 | -1.527 | 18.964 | 0.254 |
| -9.800 | 34.205 | -1.536 | 18.061 | 0.223 |
| -10.800 | 39.485 | -1.550 | 17.232 | 0.198 |
| -10.800 | 39.485 | -1.550 | 17.232 | 0.198 |
| -11.300 | 42.301 | -1.612 | 16.843 | 0.183 |
| -11.800 | 45.228 | -1.684 | 16.470 | 0.167 |
| -11.800 | 45.228 | -1.684 | 16.470 | 0.167 |
| -12.800 | 50.757 | -1.707 | 15.769 | 0.146 |
| -13.800 | 56.401 | -1.735 | 15.121 | 0.127 |
| -14.600 | 60.997 | -1.762 | 14.637 | 0.113 |
| -15.100 | 63.904 | -1.780 | 14.349 | 0.104 |
| -15.600 | 66.839 | -1.800 | 14.071 | 0.096 |
| -16.600 | 72.786 | -1.845 | 13.542 | 0.080 |
| -17.400 | 77.618 | -1.886 | 13.143 | 0.067 |
| -17.400 | 77.618 | -1.886 | 13.143 | 0.067 |
| -17.750 | 81.465 | -2.040 | 12.976 | 0.064 |
| -18.100 | 85.416 | -2.205 | 12.811 | 0.060 |
| -18.100 | 85.416 | -2.205 | 12.811 | 0.060 |
| -18.400 | 87.274 | -2.223 | 12.673 | 0.054 |
| -18.700 | 89.140 | -2.242 | 12.538 | 0.048 |
| -18.700 | 89.141 | -2.242 | 12.538 | 0.048 |
| -19.100 | 93.001 | -2.439 | 12.362 | 0.037 |
| -19.500 | 96.995 | -2.650 | 12.189 | 0.024 |
| -19.500 | 96.995 | -2.650 | 12.189 | 0.024 |
| -20.450 | 106.250 | -2.650 | 11.797 | 0.018 |
| -21.450 | 116.019 | -2.650 | 11.406 | 0.014 |
| -22.250 | 123.851 | -2.650 | 11.110 | 0.010 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -23.600 | 137.102 | -2.650 | 10.639 | 0.005 |
| -25.000 | 150.883 | -2.650 | 10.186 | 0.000 |

### 3.26 Results for Vertical 26 (X = -11.24 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.857 | 17.134 | -1.857 | 17.133 | 0.667 |
| -1.957 | 26.597 | -1.907 | 25.492 | 0.635 |
| -2.057 | 28.506 | -1.944 | 26.413 | 0.611 |
| -2.157 | 30.330 | -1.979 | 27.276 | 0.592 |
| -2.257 | 31.226 | -2.011 | 27.237 | 0.575 |
| -2.357 | 28.772 | -2.045 | 23.829 | 0.561 |
| -2.457 | 25.758 | -2.086 | 19.794 | 0.550 |
| -2.529 | 24.566 | -2.119 | 17.835 | 0.543 |
| -2.557 | 24.222 | -2.133 | 17.179 | 0.541 |
| -2.650 | 23.413 | -2.180 | 15.333 | 0.535 |
| -2.657 | 23.366 | -2.177 | 15.276 | 0.534 |
| -2.757 | 22.838 | -2.130 | 14.590 | 0.529 |
| -2.857 | 22.562 | -2.085 | 14.134 | 0.524 |
| -3.200 | 23.358 | -1.936 | 14.194 | 0.509 |
| -3.200 | 23.358 | -1.936 | 14.194 | 0.509 |
| -3.900 | 27.979 | -1.801 | 16.760 | 0.465 |
| -4.500 | 30.427 | -1.694 | 17.586 | 0.428 |
| -5.200 | 32.038 | -1.590 | 17.409 | 0.390 |
| -5.800 | 33.236 | -1.524 | 16.971 | 0.362 |
| -5.800 | 33.236 | -1.524 | 16.971 | 0.362 |
| -6.650 | 32.858 | -1.505 | 16.199 | 0.300 |
| -7.500 | 32.883 | -1.539 | 15.379 | 0.241 |
| -7.500 | 32.883 | -1.539 | 15.379 | 0.241 |
| -8.000 | 35.667 | -1.607 | 14.901 | 0.226 |
| -8.500 | 38.659 | -1.696 | 14.433 | 0.210 |
| -8.500 | 38.659 | -1.696 | 14.433 | 0.210 |
| -8.650 | 38.788 | -1.714 | 14.295 | 0.200 |
| -8.800 | 38.934 | -1.734 | 14.159 | 0.190 |
| -8.800 | 38.934 | -1.734 | 14.159 | 0.190 |
| -9.800 | 44.138 | -1.744 | 13.285 | 0.171 |
| -10.800 | 49.445 | -1.758 | 12.475 | 0.155 |
| -10.800 | 49.445 | -1.758 | 12.475 | 0.155 |
| -11.300 | 52.243 | -1.817 | 12.094 | 0.143 |
| -11.800 | 55.129 | -1.884 | 11.729 | 0.130 |
| -11.800 | 55.129 | -1.884 | 11.729 | 0.130 |
| -12.800 | 60.649 | -1.905 | 11.039 | 0.115 |
| -13.800 | 66.267 | -1.929 | 10.400 | 0.101 |
| -14.600 | 70.830 | -1.952 | 9.922 | 0.090 |
| -15.100 | 73.711 | -1.967 | 9.637 | 0.083 |
| -15.600 | 76.614 | -1.984 | 9.361 | 0.076 |
| -16.600 | 82.486 | -2.020 | 8.837 | 0.063 |
| -17.400 | 87.244 | -2.053 | 8.442 | 0.053 |
| -17.400 | 87.244 | -2.053 | 8.442 | 0.053 |
| -17.750 | 90.783 | -2.176 | 8.276 | 0.050 |
| -18.100 | 94.394 | -2.305 | 8.113 | 0.048 |
| -18.100 | 94.394 | -2.305 | 8.113 | 0.048 |
| -18.400 | 96.213 | -2.320 | 7.976 | 0.043 |
| -18.700 | 98.040 | -2.335 | 7.842 | 0.038 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -18.700 | 98.040 | -2.335 | 7.842 | 0.038 |
| -19.100 | 101.467 | -2.488 | 7.667 | 0.028 |
| -19.500 | 104.988 | -2.650 | 7.496 | 0.017 |
| -19.500 | 104.988 | -2.650 | 7.496 | 0.017 |
| -20.850 | 118.151 | -2.650 | 6.947 | 0.011 |
| -22.250 | 131.851 | -2.650 | 6.422 | 0.007 |
| -23.600 | 145.104 | -2.650 | 5.954 | 0.003 |
| -25.000 | 158.887 | -2.650 | 5.503 | 0.000 |

### 3.27 Results for Vertical 27 (X = -10.55 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.544 | 20.394 | -1.544 | 20.393 | 0.599 |
| -1.644 | 22.407 | -1.599 | 21.250 | 0.567 |
| -1.744 | 24.055 | -1.651 | 21.769 | 0.545 |
| -1.844 | 25.227 | -1.701 | 21.831 | 0.527 |
| -1.944 | 26.349 | -1.749 | 21.857 | 0.512 |
| -2.044 | 27.388 | -1.797 | 21.811 | 0.499 |
| -2.144 | 28.331 | -1.844 | 21.679 | 0.488 |
| -2.244 | 29.185 | -1.889 | 21.463 | 0.478 |
| -2.344 | 29.093 | -1.935 | 20.306 | 0.469 |
| -2.372 | 29.029 | -1.948 | 19.944 | 0.467 |
| -2.444 | 28.860 | -1.981 | 19.004 | 0.462 |
| -2.544 | 28.627 | -2.028 | 17.691 | 0.455 |
| -2.650 | 28.406 | -2.079 | 16.311 | 0.450 |
| -3.200 | 27.692 | -1.818 | 14.753 | 0.429 |
| -3.200 | 27.692 | -1.818 | 14.753 | 0.429 |
| -3.900 | 27.772 | -1.692 | 13.432 | 0.397 |
| -4.500 | 29.630 | -1.605 | 13.663 | 0.374 |
| -5.200 | 32.414 | -1.525 | 14.290 | 0.350 |
| -5.800 | 34.643 | -1.477 | 14.554 | 0.330 |
| -5.800 | 34.643 | -1.477 | 14.554 | 0.330 |
| -6.650 | 35.318 | -1.469 | 14.538 | 0.282 |
| -7.500 | 36.095 | -1.511 | 14.249 | 0.233 |
| -7.500 | 36.096 | -1.511 | 14.249 | 0.233 |
| -8.000 | 39.255 | -1.587 | 14.010 | 0.220 |
| -8.500 | 42.573 | -1.683 | 13.740 | 0.206 |
| -8.500 | 42.573 | -1.683 | 13.740 | 0.206 |
| -8.650 | 42.783 | -1.703 | 13.655 | 0.196 |
| -8.800 | 43.007 | -1.725 | 13.569 | 0.187 |
| -8.800 | 43.007 | -1.725 | 13.569 | 0.187 |
| -9.800 | 48.562 | -1.735 | 12.971 | 0.170 |
| -10.800 | 54.124 | -1.750 | 12.363 | 0.155 |
| -10.800 | 54.125 | -1.750 | 12.363 | 0.155 |
| -11.300 | 57.043 | -1.811 | 12.063 | 0.143 |
| -11.800 | 60.037 | -1.880 | 11.767 | 0.131 |
| -11.800 | 60.037 | -1.880 | 11.767 | 0.131 |
| -12.800 | 65.702 | -1.902 | 11.192 | 0.116 |
| -13.800 | 71.433 | -1.927 | 10.644 | 0.101 |
| -14.600 | 76.069 | -1.950 | 10.225 | 0.090 |
| -15.100 | 78.990 | -1.966 | 9.972 | 0.083 |
| -15.600 | 81.930 | -1.982 | 9.726 | 0.077 |
| -16.600 | 87.863 | -2.019 | 9.253 | 0.063 |
| -17.400 | 92.664 | -2.052 | 8.892 | 0.053 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -17.400 | 92.664 | -2.052 | 8.892 | 0.053 |
| -17.750 | 96.226 | -2.176 | 8.740 | 0.050 |
| -18.100 | 99.855 | -2.306 | 8.590 | 0.047 |
| -18.100 | 99.855 | -2.306 | 8.590 | 0.047 |
| -18.400 | 101.686 | -2.320 | 8.463 | 0.042 |
| -18.700 | 103.525 | -2.335 | 8.339 | 0.038 |
| -18.700 | 103.525 | -2.335 | 8.339 | 0.038 |
| -19.100 | 106.967 | -2.488 | 8.177 | 0.027 |
| -19.500 | 110.498 | -2.650 | 8.017 | 0.016 |
| -19.500 | 110.498 | -2.650 | 8.017 | 0.016 |
| -20.850 | 123.701 | -2.650 | 7.505 | 0.011 |
| -22.250 | 137.434 | -2.650 | 7.010 | 0.007 |
| -23.600 | 150.714 | -2.650 | 6.567 | 0.003 |
| -25.000 | 164.521 | -2.650 | 6.137 | 0.000 |

### 3.28 Results for Vertical 28 (X = -9.39 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.048 | 17.364 | -1.048 | 17.363 | 0.518 |
| -1.148 | 19.257 | -1.115 | 17.977 | 0.488 |
| -1.248 | 20.036 | -1.181 | 17.495 | 0.467 |
| -1.348 | 20.270 | -1.246 | 16.469 | 0.451 |
| -1.448 | 20.860 | -1.311 | 15.801 | 0.439 |
| -1.548 | 22.313 | -1.375 | 16.006 | 0.428 |
| -1.648 | 23.905 | -1.438 | 16.369 | 0.418 |
| -1.748 | 25.352 | -1.498 | 16.605 | 0.410 |
| -1.848 | 26.656 | -1.557 | 16.713 | 0.402 |
| -1.948 | 27.858 | -1.614 | 16.732 | 0.395 |
| -2.048 | 28.992 | -1.671 | 16.692 | 0.389 |
| -2.124 | 29.824 | -1.713 | 16.637 | 0.385 |
| -2.650 | 32.293 | -2.004 | 12.999 | 0.364 |
| -3.200 | 32.866 | -1.768 | 12.480 | 0.353 |
| -3.200 | 32.866 | -1.768 | 12.480 | 0.353 |
| -3.900 | 33.627 | -1.650 | 11.817 | 0.330 |
| -4.500 | 34.643 | -1.569 | 11.382 | 0.314 |
| -5.200 | 36.524 | -1.498 | 11.266 | 0.297 |
| -5.800 | 38.621 | -1.458 | 11.403 | 0.284 |
| -5.800 | 38.621 | -1.458 | 11.403 | 0.284 |
| -6.650 | 39.650 | -1.457 | 11.671 | 0.249 |
| -7.500 | 41.005 | -1.503 | 11.841 | 0.213 |
| -7.500 | 41.005 | -1.503 | 11.841 | 0.213 |
| -8.000 | 44.529 | -1.583 | 11.874 | 0.202 |
| -8.500 | 48.193 | -1.683 | 11.861 | 0.191 |
| -8.500 | 48.193 | -1.683 | 11.861 | 0.191 |
| -8.650 | 48.498 | -1.704 | 11.849 | 0.183 |
| -8.800 | 48.815 | -1.726 | 11.834 | 0.175 |
| -8.800 | 48.815 | -1.726 | 11.834 | 0.175 |
| -9.800 | 54.882 | -1.737 | 11.656 | 0.161 |
| -10.800 | 60.852 | -1.752 | 11.384 | 0.148 |
| -10.800 | 60.852 | -1.752 | 11.384 | 0.148 |
| -11.300 | 63.951 | -1.815 | 11.224 | 0.138 |
| -11.800 | 67.106 | -1.884 | 11.054 | 0.126 |
| -11.800 | 67.106 | -1.884 | 11.054 | 0.126 |
| -12.800 | 73.027 | -1.906 | 10.692 | 0.112 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -13.800 | 78.963 | -1.932 | 10.315 | 0.099 |
| -14.600 | 83.734 | -1.955 | 10.010 | 0.088 |
| -15.100 | 86.729 | -1.971 | 9.820 | 0.081 |
| -15.600 | 89.735 | -1.987 | 9.631 | 0.075 |
| -16.600 | 95.785 | -2.024 | 9.258 | 0.062 |
| -17.400 | 100.663 | -2.057 | 8.967 | 0.051 |
| -17.400 | 100.664 | -2.057 | 8.967 | 0.051 |
| -17.750 | 104.252 | -2.180 | 8.841 | 0.049 |
| -18.100 | 107.901 | -2.309 | 8.718 | 0.046 |
| -18.100 | 107.902 | -2.309 | 8.718 | 0.046 |
| -18.400 | 109.756 | -2.324 | 8.612 | 0.041 |
| -18.700 | 111.615 | -2.338 | 8.508 | 0.036 |
| -18.700 | 111.616 | -2.338 | 8.508 | 0.036 |
| -19.100 | 115.071 | -2.490 | 8.371 | 0.026 |
| -19.500 | 118.610 | -2.650 | 8.236 | 0.015 |
| -19.500 | 118.611 | -2.650 | 8.236 | 0.015 |
| -20.850 | 131.893 | -2.650 | 7.796 | 0.011 |
| -22.250 | 145.695 | -2.650 | 7.364 | 0.007 |
| -23.600 | 159.031 | -2.650 | 6.970 | 0.003 |
| -25.000 | 172.885 | -2.650 | 6.585 | 0.000 |

### 3.29 Results for Vertical 29 (X = -9.02 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.891 | 19.972 | -0.891 | 19.971 | 0.494 |
| -0.991 | 16.598 | -0.960 | 15.303 | 0.464 |
| -1.091 | 17.844 | -1.031 | 15.232 | 0.445 |
| -1.191 | 19.058 | -1.100 | 15.143 | 0.430 |
| -1.291 | 20.177 | -1.169 | 14.974 | 0.417 |
| -1.391 | 21.276 | -1.236 | 14.796 | 0.407 |
| -1.491 | 22.368 | -1.302 | 14.624 | 0.398 |
| -1.591 | 23.480 | -1.366 | 14.482 | 0.390 |
| -1.691 | 24.639 | -1.430 | 14.398 | 0.383 |
| -1.791 | 25.847 | -1.492 | 14.375 | 0.377 |
| -1.891 | 27.083 | -1.554 | 14.391 | 0.371 |
| -2.045 | 29.004 | -1.646 | 14.445 | 0.363 |
| -2.650 | 33.273 | -1.997 | 11.535 | 0.345 |
| -3.200 | 34.239 | -1.768 | 11.336 | 0.336 |
| -3.200 | 34.239 | -1.768 | 11.336 | 0.336 |
| -3.900 | 35.318 | -1.652 | 10.968 | 0.316 |
| -4.500 | 36.470 | -1.572 | 10.674 | 0.301 |
| -5.200 | 38.322 | -1.502 | 10.560 | 0.285 |
| -5.800 | 40.348 | -1.463 | 10.656 | 0.273 |
| -5.800 | 40.348 | -1.463 | 10.656 | 0.273 |
| -6.650 | 41.338 | -1.461 | 10.911 | 0.241 |
| -7.500 | 42.737 | -1.508 | 11.130 | 0.207 |
| -7.500 | 42.737 | -1.508 | 11.130 | 0.207 |
| -8.000 | 46.309 | -1.587 | 11.208 | 0.197 |
| -8.500 | 50.028 | -1.688 | 11.245 | 0.186 |
| -8.500 | 50.028 | -1.688 | 11.245 | 0.186 |
| -8.650 | 50.350 | -1.708 | 11.248 | 0.178 |
| -8.800 | 50.685 | -1.731 | 11.248 | 0.171 |
| -8.800 | 50.685 | -1.731 | 11.248 | 0.171 |
| -9.800 | 56.867 | -1.742 | 11.171 | 0.158 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -10.800 | 62.942 | -1.756 | 10.988 | 0.146 |
| -10.800 | 62.942 | -1.756 | 10.988 | 0.146 |
| -11.300 | 66.087 | -1.819 | 10.868 | 0.135 |
| -11.800 | 69.282 | -1.889 | 10.734 | 0.124 |
| -11.800 | 69.282 | -1.889 | 10.734 | 0.124 |
| -12.800 | 75.278 | -1.910 | 10.436 | 0.111 |
| -13.800 | 81.275 | -1.936 | 10.113 | 0.098 |
| -14.600 | 86.088 | -1.959 | 9.844 | 0.087 |
| -15.100 | 89.106 | -1.975 | 9.675 | 0.080 |
| -15.600 | 92.133 | -1.991 | 9.504 | 0.074 |
| -16.600 | 98.220 | -2.028 | 9.165 | 0.061 |
| -17.400 | 103.123 | -2.061 | 8.897 | 0.051 |
| -17.400 | 103.123 | -2.061 | 8.897 | 0.051 |
| -17.750 | 106.716 | -2.183 | 8.780 | 0.048 |
| -18.100 | 110.368 | -2.312 | 8.665 | 0.045 |
| -18.100 | 110.368 | -2.312 | 8.665 | 0.045 |
| -18.400 | 112.230 | -2.326 | 8.567 | 0.040 |
| -18.700 | 114.096 | -2.341 | 8.470 | 0.036 |
| -18.700 | 114.096 | -2.341 | 8.470 | 0.036 |
| -19.100 | 117.553 | -2.491 | 8.342 | 0.026 |
| -19.500 | 121.090 | -2.650 | 8.215 | 0.015 |
| -19.500 | 121.090 | -2.650 | 8.215 | 0.015 |
| -20.850 | 134.401 | -2.650 | 7.799 | 0.011 |
| -22.250 | 148.227 | -2.650 | 7.388 | 0.007 |
| -23.600 | 161.581 | -2.650 | 7.012 | 0.003 |
| -25.000 | 175.452 | -2.650 | 6.642 | 0.000 |

### 3.30 Results for Vertical 30 (X = -9.02 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.889 | 14.822 | -0.889 | 14.821 | 0.492 |
| -0.989 | 15.006 | -0.964 | 13.654 | 0.464 |
| -1.089 | 17.691 | -1.036 | 15.007 | 0.445 |
| -1.189 | 19.032 | -1.106 | 15.044 | 0.430 |
| -1.289 | 20.197 | -1.174 | 14.921 | 0.418 |
| -1.389 | 21.315 | -1.241 | 14.763 | 0.407 |
| -1.489 | 22.417 | -1.307 | 14.601 | 0.398 |
| -1.589 | 23.533 | -1.372 | 14.464 | 0.390 |
| -1.689 | 24.692 | -1.435 | 14.382 | 0.383 |
| -1.789 | 25.898 | -1.498 | 14.357 | 0.377 |
| -1.889 | 27.132 | -1.559 | 14.372 | 0.372 |
| -2.045 | 29.061 | -1.652 | 14.426 | 0.364 |
| -2.650 | 33.331 | -2.002 | 11.515 | 0.345 |
| -3.200 | 34.291 | -1.773 | 11.318 | 0.337 |
| -3.200 | 34.291 | -1.773 | 11.318 | 0.337 |
| -3.900 | 35.368 | -1.656 | 10.953 | 0.316 |
| -4.500 | 36.517 | -1.576 | 10.662 | 0.301 |
| -5.200 | 38.364 | -1.505 | 10.548 | 0.285 |
| -5.800 | 40.386 | -1.465 | 10.643 | 0.273 |
| -5.800 | 40.386 | -1.465 | 10.643 | 0.273 |
| -6.650 | 41.372 | -1.464 | 10.898 | 0.241 |
| -7.500 | 42.769 | -1.509 | 11.118 | 0.207 |
| -7.500 | 42.769 | -1.509 | 11.118 | 0.207 |
| -8.000 | 46.339 | -1.589 | 11.196 | 0.197 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -8.500 | 50.055 | -1.689 | 11.234 | 0.186 |
| -8.500 | 50.055 | -1.689 | 11.234 | 0.186 |
| -8.650 | 50.377 | -1.709 | 11.237 | 0.178 |
| -8.800 | 50.712 | -1.732 | 11.237 | 0.171 |
| -8.800 | 50.712 | -1.732 | 11.237 | 0.171 |
| -9.800 | 56.895 | -1.743 | 11.161 | 0.158 |
| -10.800 | 62.970 | -1.757 | 10.978 | 0.146 |
| -10.800 | 62.970 | -1.757 | 10.978 | 0.146 |
| -11.300 | 66.114 | -1.820 | 10.859 | 0.135 |
| -11.800 | 69.309 | -1.890 | 10.726 | 0.124 |
| -11.800 | 69.309 | -1.890 | 10.726 | 0.124 |
| -12.800 | 75.305 | -1.911 | 10.428 | 0.111 |
| -13.800 | 81.303 | -1.936 | 10.106 | 0.098 |
| -14.600 | 86.116 | -1.960 | 9.838 | 0.087 |
| -15.100 | 89.134 | -1.975 | 9.668 | 0.080 |
| -15.600 | 92.161 | -1.992 | 9.498 | 0.074 |
| -16.600 | 98.248 | -2.029 | 9.159 | 0.061 |
| -17.400 | 103.151 | -2.061 | 8.891 | 0.051 |
| -17.400 | 103.151 | -2.061 | 8.891 | 0.051 |
| -17.750 | 106.743 | -2.184 | 8.775 | 0.048 |
| -18.100 | 110.394 | -2.312 | 8.660 | 0.045 |
| -18.100 | 110.394 | -2.312 | 8.660 | 0.045 |
| -18.400 | 112.255 | -2.326 | 8.562 | 0.040 |
| -18.700 | 114.122 | -2.341 | 8.465 | 0.036 |
| -18.700 | 114.122 | -2.341 | 8.465 | 0.036 |
| -19.100 | 117.577 | -2.491 | 8.337 | 0.026 |
| -19.500 | 121.113 | -2.650 | 8.210 | 0.015 |
| -19.500 | 121.113 | -2.650 | 8.210 | 0.015 |
| -20.850 | 134.423 | -2.650 | 7.794 | 0.011 |
| -22.250 | 148.249 | -2.650 | 7.384 | 0.007 |
| -23.600 | 161.604 | -2.650 | 7.008 | 0.003 |
| -25.000 | 175.476 | -2.650 | 6.638 | 0.000 |

### 3.31 Results for Vertical 31 (X = -7.30 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.152 | 7.632 | -0.152 | 7.631 | 0.406 |
| -0.252 | 9.948 | -0.240 | 8.469 | 0.382 |
| -0.352 | 11.864 | -0.325 | 8.933 | 0.367 |
| -0.452 | 13.315 | -0.408 | 8.953 | 0.356 |
| -0.552 | 14.720 | -0.489 | 8.943 | 0.347 |
| -0.652 | 16.070 | -0.568 | 8.894 | 0.339 |
| -0.752 | 17.365 | -0.647 | 8.804 | 0.332 |
| -0.852 | 18.617 | -0.723 | 8.684 | 0.327 |
| -0.952 | 19.842 | -0.799 | 8.548 | 0.322 |
| -1.052 | 20.107 | -0.873 | 7.463 | 0.318 |
| -1.152 | 20.401 | -0.947 | 6.413 | 0.314 |
| -1.222 | 20.625 | -0.998 | 5.709 | 0.312 |
| -1.676 | 22.352 | -0.876 | 5.820 | 0.303 |
| -2.650 | 26.193 | -0.605 | 6.297 | 0.293 |
| -3.200 | 28.307 | -0.446 | 6.563 | 0.290 |
| -3.200 | 28.307 | -0.446 | 6.563 | 0.290 |
| -3.900 | 30.370 | -0.361 | 6.877 | 0.277 |
| -4.500 | 32.198 | -0.299 | 7.097 | 0.266 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -5.200 | 34.447 | -0.241 | 7.314 | 0.254 |
| -5.800 | 36.530 | -0.207 | 7.497 | 0.245 |
| -5.800 | 36.530 | -0.207 | 7.497 | 0.245 |
| -6.650 | 37.408 | -0.202 | 7.775 | 0.218 |
| -7.500 | 38.680 | -0.236 | 8.058 | 0.189 |
| -7.500 | 38.681 | -0.236 | 8.058 | 0.189 |
| -8.000 | 42.122 | -0.296 | 8.214 | 0.181 |
| -8.500 | 45.710 | -0.373 | 8.353 | 0.171 |
| -8.500 | 45.710 | -0.373 | 8.353 | 0.171 |
| -8.650 | 46.022 | -0.389 | 8.391 | 0.165 |
| -8.800 | 46.347 | -0.407 | 8.427 | 0.158 |
| -8.800 | 46.347 | -0.407 | 8.427 | 0.158 |
| -9.800 | 52.790 | -0.416 | 8.614 | 0.148 |
| -10.800 | 59.150 | -0.428 | 8.710 | 0.138 |
| -10.800 | 59.150 | -0.428 | 8.710 | 0.138 |
| -11.300 | 62.341 | -0.480 | 8.727 | 0.128 |
| -11.800 | 65.571 | -0.537 | 8.724 | 0.118 |
| -11.800 | 65.571 | -0.537 | 8.724 | 0.118 |
| -12.800 | 71.813 | -0.556 | 8.671 | 0.105 |
| -13.800 | 78.024 | -0.577 | 8.567 | 0.093 |
| -14.600 | 82.984 | -0.597 | 8.455 | 0.083 |
| -15.100 | 86.083 | -0.611 | 8.374 | 0.077 |
| -15.600 | 89.184 | -0.625 | 8.288 | 0.070 |
| -16.600 | 95.397 | -0.657 | 8.101 | 0.058 |
| -17.400 | 100.384 | -0.686 | 7.940 | 0.047 |
| -17.400 | 100.384 | -0.686 | 7.940 | 0.047 |
| -17.750 | 103.881 | -0.794 | 7.868 | 0.045 |
| -18.100 | 107.427 | -0.906 | 7.795 | 0.042 |
| -18.100 | 107.427 | -0.906 | 7.795 | 0.042 |
| -18.400 | 109.311 | -0.919 | 7.731 | 0.037 |
| -18.700 | 111.197 | -0.932 | 7.667 | 0.033 |
| -18.700 | 111.197 | -0.932 | 7.667 | 0.033 |
| -19.100 | 121.573 | -1.783 | 7.581 | 0.023 |
| -19.500 | 132.103 | -2.650 | 7.495 | 0.013 |
| -19.500 | 132.103 | -2.650 | 7.495 | 0.013 |
| -20.850 | 145.549 | -2.650 | 7.201 | 0.009 |
| -22.250 | 159.493 | -2.650 | 6.898 | 0.006 |
| -23.600 | 172.945 | -2.650 | 6.610 | 0.003 |
| -25.000 | 186.902 | -2.650 | 6.319 | 0.000 |

### 3.32 Results for Vertical 32 (X = -6.80 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.065 | 5.850 | 0.065 | 5.849 | 0.379 |
| -0.035 | 8.225 | -0.026 | 6.717 | 0.357 |
| -0.135 | 9.792 | -0.114 | 6.800 | 0.344 |
| -0.235 | 11.255 | -0.200 | 6.797 | 0.335 |
| -0.335 | 12.656 | -0.285 | 6.747 | 0.327 |
| -0.435 | 13.993 | -0.368 | 6.650 | 0.321 |
| -0.535 | 15.316 | -0.450 | 6.551 | 0.315 |
| -0.635 | 15.699 | -0.530 | 5.525 | 0.311 |
| -0.735 | 16.131 | -0.610 | 4.556 | 0.307 |
| -0.800 | 16.434 | -0.662 | 3.952 | 0.306 |
| -0.835 | 16.602 | -0.654 | 3.976 | 0.305 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.935 | 17.092 | -0.633 | 4.058 | 0.302 |
| -1.567 | 20.112 | -0.489 | 4.573 | 0.291 |
| -2.150 | 22.732 | -0.346 | 4.994 | 0.285 |
| -2.650 | 24.889 | -0.216 | 5.326 | 0.282 |
| -3.200 | 27.162 | -0.067 | 5.659 | 0.280 |
| -3.200 | 27.162 | -0.067 | 5.659 | 0.280 |
| -3.900 | 29.326 | 0.014 | 6.032 | 0.268 |
| -4.500 | 31.223 | 0.074 | 6.300 | 0.258 |
| -5.200 | 33.525 | 0.130 | 6.564 | 0.247 |
| -5.800 | 35.620 | 0.165 | 6.771 | 0.237 |
| -5.800 | 35.620 | 0.165 | 6.771 | 0.237 |
| -6.650 | 36.475 | 0.172 | 7.059 | 0.211 |
| -7.500 | 37.694 | 0.142 | 7.341 | 0.184 |
| -7.500 | 37.694 | 0.142 | 7.341 | 0.184 |
| -8.000 | 41.077 | 0.087 | 7.498 | 0.176 |
| -8.500 | 44.604 | 0.016 | 7.643 | 0.167 |
| -8.500 | 44.604 | 0.016 | 7.643 | 0.167 |
| -8.650 | 44.905 | 0.001 | 7.683 | 0.160 |
| -8.800 | 45.219 | -0.016 | 7.722 | 0.154 |
| -8.800 | 45.219 | -0.016 | 7.722 | 0.154 |
| -9.800 | 51.681 | -0.024 | 7.939 | 0.145 |
| -10.800 | 58.076 | -0.035 | 8.077 | 0.135 |
| -10.800 | 58.076 | -0.035 | 8.077 | 0.135 |
| -11.300 | 61.262 | -0.084 | 8.117 | 0.125 |
| -11.800 | 64.487 | -0.138 | 8.140 | 0.115 |
| -11.800 | 64.487 | -0.138 | 8.140 | 0.115 |
| -12.800 | 70.775 | -0.155 | 8.138 | 0.103 |
| -13.800 | 77.032 | -0.176 | 8.084 | 0.091 |
| -14.600 | 82.025 | -0.195 | 8.010 | 0.081 |
| -15.100 | 85.144 | -0.208 | 7.952 | 0.075 |
| -15.600 | 88.263 | -0.222 | 7.888 | 0.069 |
| -16.600 | 94.509 | -0.252 | 7.741 | 0.056 |
| -17.400 | 99.517 | -0.280 | 7.611 | 0.046 |
| -17.400 | 99.517 | -0.280 | 7.611 | 0.046 |
| -17.750 | 102.987 | -0.383 | 7.551 | 0.044 |
| -18.100 | 106.503 | -0.492 | 7.489 | 0.041 |
| -18.100 | 106.503 | -0.492 | 7.489 | 0.041 |
| -18.400 | 108.393 | -0.504 | 7.436 | 0.037 |
| -18.700 | 110.285 | -0.516 | 7.381 | 0.032 |
| -18.700 | 110.285 | -0.516 | 7.381 | 0.032 |
| -19.100 | 122.703 | -1.574 | 7.307 | 0.022 |
| -19.500 | 135.295 | -2.650 | 7.233 | 0.012 |
| -19.500 | 135.295 | -2.650 | 7.233 | 0.012 |
| -20.850 | 148.781 | -2.650 | 6.975 | 0.009 |
| -22.250 | 162.762 | -2.650 | 6.704 | 0.006 |
| -23.600 | 176.243 | -2.650 | 6.444 | 0.003 |
| -25.000 | 190.227 | -2.650 | 6.177 | 0.000 |

### 3.33 Results for Vertical 33 (X = -6.20 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.051 | 6.396 | 0.051 | 6.395 | 0.366 |
| -0.049 | 7.932 | -0.040 | 6.422 | 0.345 |
| -0.149 | 9.398 | -0.129 | 6.396 | 0.332 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.249 | 10.835 | -0.216 | 6.357 | 0.322 |
| -0.349 | 12.263 | -0.302 | 6.324 | 0.315 |
| -0.449 | 13.689 | -0.386 | 6.305 | 0.309 |
| -0.549 | 14.744 | -0.469 | 5.929 | 0.304 |
| -0.649 | 15.185 | -0.551 | 4.951 | 0.300 |
| -0.749 | 15.626 | -0.631 | 3.982 | 0.296 |
| -0.768 | 15.708 | -0.646 | 3.802 | 0.296 |
| -0.849 | 16.070 | -0.630 | 3.817 | 0.294 |
| -0.949 | 16.515 | -0.610 | 3.840 | 0.292 |
| -1.575 | 19.326 | -0.477 | 4.086 | 0.281 |
| -2.150 | 21.889 | -0.344 | 4.391 | 0.276 |
| -2.650 | 24.061 | -0.222 | 4.670 | 0.273 |
| -3.200 | 26.368 | -0.079 | 4.971 | 0.272 |
| -3.200 | 26.368 | -0.079 | 4.971 | 0.272 |
| -3.900 | 28.544 | -0.001 | 5.325 | 0.260 |
| -4.500 | 30.456 | 0.057 | 5.592 | 0.250 |
| -5.200 | 32.769 | 0.112 | 5.862 | 0.240 |
| -5.800 | 34.859 | 0.147 | 6.071 | 0.230 |
| -5.800 | 34.859 | 0.147 | 6.071 | 0.230 |
| -6.650 | 35.679 | 0.155 | 6.351 | 0.205 |
| -7.500 | 36.838 | 0.129 | 6.620 | 0.179 |
| -7.500 | 36.838 | 0.129 | 6.620 | 0.179 |
| -8.000 | 40.163 | 0.078 | 6.772 | 0.171 |
| -8.500 | 43.627 | 0.013 | 6.915 | 0.163 |
| -8.500 | 43.627 | 0.013 | 6.915 | 0.163 |
| -8.650 | 43.917 | -0.001 | 6.955 | 0.156 |
| -8.800 | 44.218 | -0.016 | 6.995 | 0.150 |
| -8.800 | 44.218 | -0.016 | 6.995 | 0.150 |
| -9.800 | 50.682 | -0.024 | 7.227 | 0.141 |
| -10.800 | 57.100 | -0.034 | 7.397 | 0.132 |
| -10.800 | 57.100 | -0.034 | 7.397 | 0.132 |
| -11.300 | 60.279 | -0.080 | 7.458 | 0.123 |
| -11.800 | 63.496 | -0.132 | 7.503 | 0.113 |
| -11.800 | 63.496 | -0.132 | 7.503 | 0.113 |
| -12.800 | 69.827 | -0.148 | 7.549 | 0.102 |
| -13.800 | 76.129 | -0.167 | 7.544 | 0.090 |
| -14.600 | 81.157 | -0.185 | 7.509 | 0.080 |
| -15.100 | 84.296 | -0.198 | 7.476 | 0.074 |
| -15.600 | 87.436 | -0.211 | 7.435 | 0.068 |
| -16.600 | 93.718 | -0.241 | 7.332 | 0.056 |
| -17.400 | 98.752 | -0.267 | 7.235 | 0.046 |
| -17.400 | 98.752 | -0.267 | 7.235 | 0.046 |
| -17.750 | 102.197 | -0.366 | 7.189 | 0.043 |
| -18.100 | 105.687 | -0.471 | 7.141 | 0.040 |
| -18.100 | 105.687 | -0.471 | 7.141 | 0.040 |
| -18.400 | 107.584 | -0.482 | 7.098 | 0.036 |
| -18.700 | 109.484 | -0.494 | 7.054 | 0.032 |
| -18.700 | 109.484 | -0.494 | 7.054 | 0.032 |
| -19.100 | 122.028 | -1.563 | 6.995 | 0.022 |
| -19.500 | 134.741 | -2.650 | 6.933 | 0.012 |
| -19.500 | 134.741 | -2.650 | 6.933 | 0.012 |
| -20.850 | 148.273 | -2.650 | 6.718 | 0.009 |
| -22.250 | 162.295 | -2.650 | 6.484 | 0.005 |
| -23.600 | 175.811 | -2.650 | 6.256 | 0.003 |
| -25.000 | 189.827 | -2.650 | 6.018 | 0.000 |

### 3.34 Results for Vertical 34 (X = -5.87 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| 0.043 | 6.645 | 0.043 | 6.644 | 0.363 |
| -0.057 | 8.250 | -0.048 | 6.742 | 0.341 |
| -0.157 | 9.742 | -0.136 | 6.745 | 0.328 |
| -0.257 | 11.202 | -0.223 | 6.731 | 0.318 |
| -0.357 | 12.630 | -0.309 | 6.701 | 0.311 |
| -0.457 | 14.035 | -0.393 | 6.662 | 0.304 |
| -0.557 | 14.836 | -0.476 | 6.034 | 0.299 |
| -0.657 | 15.238 | -0.557 | 5.017 | 0.295 |
| -0.750 | 15.610 | -0.632 | 4.081 | 0.292 |
| -0.757 | 15.641 | -0.631 | 4.079 | 0.292 |
| -0.857 | 16.046 | -0.611 | 4.056 | 0.289 |
| -0.957 | 16.456 | -0.592 | 4.040 | 0.286 |
| -1.579 | 19.081 | -0.463 | 4.084 | 0.276 |
| -2.150 | 21.545 | -0.335 | 4.266 | 0.270 |
| -2.650 | 23.684 | -0.216 | 4.475 | 0.268 |
| -3.200 | 25.978 | -0.077 | 4.723 | 0.266 |
| -3.200 | 25.978 | -0.077 | 4.723 | 0.266 |
| -3.900 | 28.131 | -0.002 | 5.034 | 0.255 |
| -4.500 | 30.034 | 0.055 | 5.277 | 0.246 |
| -5.200 | 32.343 | 0.109 | 5.530 | 0.235 |
| -5.800 | 34.426 | 0.143 | 5.729 | 0.226 |
| -5.800 | 34.426 | 0.143 | 5.729 | 0.226 |
| -6.650 | 35.225 | 0.151 | 5.994 | 0.202 |
| -7.500 | 36.353 | 0.126 | 6.250 | 0.176 |
| -7.500 | 36.353 | 0.126 | 6.250 | 0.176 |
| -8.000 | 39.650 | 0.077 | 6.396 | 0.168 |
| -8.500 | 43.084 | 0.014 | 6.534 | 0.160 |
| -8.500 | 43.084 | 0.014 | 6.534 | 0.160 |
| -8.650 | 43.367 | 0.001 | 6.574 | 0.154 |
| -8.800 | 43.663 | -0.014 | 6.613 | 0.148 |
| -8.800 | 43.663 | -0.014 | 6.613 | 0.148 |
| -9.800 | 50.121 | -0.022 | 6.847 | 0.139 |
| -10.800 | 56.545 | -0.032 | 7.028 | 0.130 |
| -10.800 | 56.545 | -0.032 | 7.028 | 0.130 |
| -11.300 | 59.718 | -0.076 | 7.096 | 0.121 |
| -11.800 | 62.931 | -0.126 | 7.151 | 0.112 |
| -11.800 | 62.931 | -0.126 | 7.151 | 0.112 |
| -12.800 | 69.281 | -0.142 | 7.219 | 0.100 |
| -13.800 | 75.603 | -0.161 | 7.238 | 0.089 |
| -14.600 | 80.648 | -0.179 | 7.223 | 0.079 |
| -15.100 | 83.799 | -0.191 | 7.201 | 0.073 |
| -15.600 | 86.948 | -0.204 | 7.172 | 0.067 |
| -16.600 | 93.249 | -0.232 | 7.093 | 0.055 |
| -17.400 | 98.298 | -0.258 | 7.013 | 0.045 |
| -17.400 | 98.298 | -0.258 | 7.013 | 0.045 |
| -17.750 | 101.731 | -0.356 | 6.974 | 0.043 |
| -18.100 | 105.209 | -0.458 | 6.933 | 0.040 |
| -18.100 | 105.209 | -0.458 | 6.933 | 0.040 |
| -18.400 | 107.110 | -0.469 | 6.896 | 0.036 |
| -18.700 | 109.014 | -0.481 | 6.859 | 0.031 |
| -18.700 | 109.014 | -0.481 | 6.859 | 0.031 |
| -19.100 | 121.632 | -1.557 | 6.806 | 0.022 |
| -19.500 | 134.417 | -2.650 | 6.752 | 0.012 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -19.500 | 134.417 | -2.650 | 6.752 | 0.012 |
| -20.850 | 147.975 | -2.650 | 6.559 | 0.009 |
| -22.250 | 162.019 | -2.650 | 6.347 | 0.005 |
| -23.600 | 175.555 | -2.650 | 6.136 | 0.003 |
| -25.000 | 189.588 | -2.650 | 5.915 | 0.000 |

### 3.35 Results for Vertical 35 (X = -3.12 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.022 | 6.657 | -0.022 | 6.656 | 0.335 |
| -0.122 | 8.263 | -0.113 | 6.750 | 0.313 |
| -0.222 | 9.762 | -0.203 | 6.752 | 0.300 |
| -0.322 | 11.247 | -0.291 | 6.755 | 0.290 |
| -0.422 | 12.139 | -0.377 | 6.179 | 0.283 |
| -0.522 | 12.616 | -0.462 | 5.200 | 0.277 |
| -0.600 | 12.982 | -0.528 | 4.438 | 0.273 |
| -0.622 | 13.085 | -0.525 | 4.438 | 0.272 |
| -0.722 | 13.549 | -0.509 | 4.436 | 0.268 |
| -0.822 | 14.007 | -0.493 | 4.434 | 0.264 |
| -0.922 | 14.460 | -0.477 | 4.430 | 0.261 |
| -1.022 | 14.909 | -0.460 | 4.425 | 0.258 |
| -1.611 | 17.476 | -0.355 | 4.378 | 0.245 |
| -2.150 | 19.722 | -0.251 | 4.305 | 0.238 |
| -2.650 | 21.737 | -0.150 | 4.217 | 0.234 |
| -3.200 | 23.888 | -0.033 | 4.111 | 0.232 |
| -3.200 | 23.888 | -0.033 | 4.111 | 0.232 |
| -3.900 | 25.721 | 0.031 | 3.986 | 0.220 |
| -4.500 | 27.387 | 0.078 | 3.902 | 0.211 |
| -5.200 | 29.463 | 0.123 | 3.837 | 0.202 |
| -5.800 | 31.370 | 0.152 | 3.813 | 0.194 |
| -5.800 | 31.370 | 0.152 | 3.813 | 0.194 |
| -6.650 | 31.906 | 0.160 | 3.826 | 0.173 |
| -7.500 | 32.760 | 0.140 | 3.886 | 0.151 |
| -7.500 | 32.760 | 0.140 | 3.886 | 0.151 |
| -8.000 | 35.852 | 0.101 | 3.940 | 0.145 |
| -8.500 | 39.070 | 0.050 | 4.005 | 0.138 |
| -8.500 | 39.070 | 0.050 | 4.005 | 0.138 |
| -8.650 | 39.303 | 0.039 | 4.027 | 0.133 |
| -8.800 | 39.547 | 0.027 | 4.048 | 0.128 |
| -8.800 | 39.547 | 0.027 | 4.048 | 0.128 |
| -9.800 | 45.885 | 0.021 | 4.208 | 0.122 |
| -10.800 | 52.255 | 0.013 | 4.378 | 0.115 |
| -10.800 | 52.255 | 0.013 | 4.378 | 0.115 |
| -11.300 | 55.352 | -0.023 | 4.462 | 0.107 |
| -11.800 | 58.495 | -0.063 | 4.544 | 0.099 |
| -11.800 | 58.495 | -0.063 | 4.544 | 0.099 |
| -12.800 | 64.895 | -0.077 | 4.695 | 0.090 |
| -13.800 | 71.298 | -0.092 | 4.826 | 0.080 |
| -14.600 | 76.422 | -0.107 | 4.913 | 0.072 |
| -15.100 | 79.625 | -0.117 | 4.959 | 0.067 |
| -15.600 | 82.828 | -0.128 | 4.999 | 0.061 |
| -16.600 | 89.237 | -0.153 | 5.060 | 0.050 |
| -17.400 | 94.370 | -0.175 | 5.092 | 0.041 |
| -17.400 | 94.370 | -0.175 | 5.092 | 0.041 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -17.750 | 97.720 | -0.258 | 5.102 | 0.039 |
| -18.100 | 101.107 | -0.346 | 5.109 | 0.037 |
| -18.100 | 101.107 | -0.346 | 5.109 | 0.037 |
| -18.400 | 103.037 | -0.356 | 5.113 | 0.033 |
| -18.700 | 104.968 | -0.366 | 5.115 | 0.029 |
| -18.700 | 104.968 | -0.366 | 5.115 | 0.029 |
| -19.100 | 118.213 | -1.500 | 5.115 | 0.020 |
| -19.500 | 131.613 | -2.650 | 5.112 | 0.010 |
| -19.500 | 131.613 | -2.650 | 5.112 | 0.010 |
| -20.850 | 145.349 | -2.650 | 5.084 | 0.007 |
| -22.250 | 159.564 | -2.650 | 5.029 | 0.005 |
| -23.600 | 173.247 | -2.650 | 4.954 | 0.002 |
| -25.000 | 187.419 | -2.650 | 4.860 | 0.000 |

### 3.36 Results for Vertical 36 (X = -0.37 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.086 | 6.678 | -0.086 | 6.677 | 0.301 |
| -0.186 | 7.861 | -0.178 | 6.335 | 0.279 |
| -0.286 | 9.017 | -0.269 | 5.979 | 0.267 |
| -0.386 | 9.671 | -0.359 | 5.135 | 0.258 |
| -0.450 | 10.036 | -0.416 | 4.543 | 0.253 |
| -0.486 | 10.225 | -0.412 | 4.549 | 0.251 |
| -0.586 | 10.701 | -0.401 | 4.520 | 0.245 |
| -0.686 | 11.122 | -0.389 | 4.437 | 0.240 |
| -0.786 | 11.506 | -0.377 | 4.322 | 0.235 |
| -0.886 | 11.870 | -0.364 | 4.190 | 0.231 |
| -0.986 | 12.225 | -0.351 | 4.050 | 0.227 |
| -1.086 | 12.577 | -0.338 | 3.911 | 0.224 |
| -1.643 | 14.614 | -0.262 | 3.249 | 0.211 |
| -2.150 | 16.601 | -0.187 | 2.838 | 0.206 |
| -2.650 | 18.627 | -0.106 | 2.556 | 0.203 |
| -3.200 | 20.866 | -0.010 | 2.337 | 0.202 |
| -3.200 | 20.866 | -0.010 | 2.337 | 0.202 |
| -3.900 | 22.733 | 0.044 | 2.147 | 0.192 |
| -4.500 | 24.436 | 0.085 | 2.039 | 0.185 |
| -5.200 | 26.539 | 0.126 | 1.960 | 0.177 |
| -5.800 | 28.444 | 0.154 | 1.925 | 0.170 |
| -5.800 | 28.444 | 0.154 | 1.925 | 0.170 |
| -6.650 | 28.932 | 0.163 | 1.920 | 0.151 |
| -7.500 | 29.681 | 0.151 | 1.959 | 0.133 |
| -7.500 | 29.681 | 0.151 | 1.959 | 0.133 |
| -8.000 | 32.640 | 0.124 | 1.999 | 0.128 |
| -8.500 | 35.700 | 0.087 | 2.050 | 0.122 |
| -8.500 | 35.700 | 0.087 | 2.050 | 0.122 |
| -8.650 | 35.900 | 0.079 | 2.067 | 0.117 |
| -8.800 | 36.109 | 0.070 | 2.085 | 0.113 |
| -8.800 | 36.109 | 0.070 | 2.085 | 0.113 |
| -9.800 | 42.394 | 0.066 | 2.222 | 0.108 |
| -10.800 | 48.719 | 0.059 | 2.381 | 0.103 |
| -10.800 | 48.720 | 0.059 | 2.381 | 0.103 |
| -11.300 | 51.729 | 0.032 | 2.466 | 0.096 |
| -11.800 | 54.782 | 0.000 | 2.552 | 0.089 |
| -11.800 | 54.782 | 0.000 | 2.552 | 0.089 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -12.800 | 61.167 | -0.010 | 2.726 | 0.081 |
| -13.800 | 67.570 | -0.023 | 2.896 | 0.073 |
| -14.600 | 72.703 | -0.035 | 3.025 | 0.065 |
| -15.100 | 75.916 | -0.043 | 3.102 | 0.061 |
| -15.600 | 79.131 | -0.052 | 3.175 | 0.056 |
| -16.600 | 85.571 | -0.072 | 3.308 | 0.046 |
| -17.400 | 90.731 | -0.091 | 3.403 | 0.038 |
| -17.400 | 90.731 | -0.091 | 3.403 | 0.038 |
| -17.750 | 93.976 | -0.161 | 3.441 | 0.036 |
| -18.100 | 97.253 | -0.234 | 3.477 | 0.034 |
| -18.100 | 97.253 | -0.234 | 3.477 | 0.034 |
| -18.400 | 99.193 | -0.242 | 3.506 | 0.030 |
| -18.700 | 101.135 | -0.251 | 3.533 | 0.026 |
| -18.700 | 101.135 | -0.251 | 3.533 | 0.026 |
| -19.100 | 114.985 | -1.443 | 3.567 | 0.017 |
| -19.500 | 128.978 | -2.650 | 3.598 | 0.008 |
| -19.500 | 128.979 | -2.650 | 3.598 | 0.008 |
| -20.850 | 142.835 | -2.650 | 3.685 | 0.006 |
| -22.250 | 157.172 | -2.650 | 3.745 | 0.004 |
| -23.600 | 170.969 | -2.650 | 3.777 | 0.002 |
| -25.000 | 185.252 | -2.650 | 3.788 | 0.000 |

### 3.37 Results for Vertical 37 (X = -0.30 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.107 | 6.944 | -0.107 | 6.943 | 0.301 |
| -0.207 | 8.747 | -0.199 | 7.228 | 0.279 |
| -0.307 | 9.217 | -0.289 | 6.192 | 0.266 |
| -0.407 | 9.679 | -0.379 | 5.156 | 0.256 |
| -0.446 | 9.857 | -0.414 | 4.744 | 0.254 |
| -0.507 | 10.114 | -0.407 | 4.693 | 0.250 |
| -0.607 | 10.499 | -0.396 | 4.570 | 0.244 |
| -0.707 | 10.851 | -0.384 | 4.418 | 0.238 |
| -0.807 | 11.188 | -0.372 | 4.252 | 0.233 |
| -0.907 | 11.520 | -0.360 | 4.084 | 0.229 |
| -1.007 | 11.854 | -0.348 | 3.920 | 0.225 |
| -1.107 | 12.195 | -0.335 | 3.766 | 0.222 |
| -1.653 | 14.195 | -0.262 | 3.099 | 0.210 |
| -2.650 | 18.221 | -0.111 | 2.441 | 0.202 |
| -3.200 | 20.488 | -0.016 | 2.236 | 0.201 |
| -3.200 | 20.488 | -0.016 | 2.236 | 0.201 |
| -3.900 | 22.375 | 0.037 | 2.060 | 0.192 |
| -4.500 | 24.089 | 0.078 | 1.961 | 0.184 |
| -5.200 | 26.199 | 0.119 | 1.890 | 0.176 |
| -5.800 | 28.108 | 0.147 | 1.861 | 0.170 |
| -5.800 | 28.108 | 0.147 | 1.861 | 0.170 |
| -6.650 | 28.596 | 0.158 | 1.861 | 0.151 |
| -7.500 | 29.341 | 0.146 | 1.903 | 0.132 |
| -7.500 | 29.341 | 0.146 | 1.903 | 0.132 |
| -8.000 | 32.292 | 0.119 | 1.944 | 0.127 |
| -8.500 | 35.343 | 0.084 | 1.996 | 0.122 |
| -8.500 | 35.343 | 0.084 | 1.996 | 0.122 |
| -8.650 | 35.541 | 0.076 | 2.013 | 0.117 |
| -8.800 | 35.748 | 0.067 | 2.031 | 0.112 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -8.800 | 35.748 | 0.067 | 2.031 | 0.112 |
| -9.800 | 42.033 | 0.063 | 2.169 | 0.108 |
| -10.800 | 48.357 | 0.057 | 2.329 | 0.103 |
| -10.800 | 48.357 | 0.057 | 2.329 | 0.103 |
| -11.300 | 51.362 | 0.030 | 2.414 | 0.096 |
| -11.800 | 54.409 | -0.002 | 2.501 | 0.088 |
| -11.800 | 54.409 | -0.002 | 2.501 | 0.088 |
| -12.800 | 60.792 | -0.012 | 2.676 | 0.081 |
| -13.800 | 67.194 | -0.024 | 2.847 | 0.072 |
| -14.600 | 72.327 | -0.036 | 2.976 | 0.065 |
| -15.100 | 75.539 | -0.044 | 3.053 | 0.061 |
| -15.600 | 78.753 | -0.053 | 3.127 | 0.056 |
| -16.600 | 85.192 | -0.073 | 3.262 | 0.046 |
| -17.400 | 90.351 | -0.091 | 3.357 | 0.038 |
| -17.400 | 90.351 | -0.091 | 3.357 | 0.038 |
| -17.750 | 93.589 | -0.160 | 3.396 | 0.036 |
| -18.100 | 96.857 | -0.233 | 3.432 | 0.033 |
| -18.100 | 96.858 | -0.233 | 3.432 | 0.033 |
| -18.400 | 98.797 | -0.241 | 3.461 | 0.030 |
| -18.700 | 100.738 | -0.249 | 3.489 | 0.026 |
| -18.700 | 100.739 | -0.249 | 3.489 | 0.026 |
| -19.100 | 114.598 | -1.442 | 3.524 | 0.017 |
| -19.500 | 128.599 | -2.650 | 3.556 | 0.008 |
| -19.500 | 128.599 | -2.650 | 3.556 | 0.008 |
| -20.850 | 142.458 | -2.650 | 3.644 | 0.006 |
| -22.250 | 156.797 | -2.650 | 3.706 | 0.004 |
| -23.600 | 170.597 | -2.650 | 3.741 | 0.002 |
| -25.000 | 184.882 | -2.650 | 3.754 | 0.000 |

### 3.38 Results for Vertical 38 (X = -0.16 m;  Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.150 | 7.500 | -0.150 | 7.499 | 0.300 |
| -0.250 | 8.886 | -0.241 | 7.370 | 0.277 |
| -0.350 | 9.262 | -0.332 | 6.243 | 0.263 |
| -0.439 | 9.452 | -0.411 | 5.101 | 0.255 |
| -0.450 | 9.473 | -0.410 | 5.065 | 0.254 |
| -0.550 | 9.665 | -0.399 | 4.743 | 0.247 |
| -0.650 | 9.877 | -0.389 | 4.441 | 0.240 |
| -0.750 | 10.118 | -0.378 | 4.171 | 0.235 |
| -0.850 | 10.388 | -0.367 | 3.930 | 0.230 |
| -0.950 | 10.683 | -0.355 | 3.717 | 0.226 |
| -1.050 | 11.001 | -0.344 | 3.529 | 0.223 |
| -1.150 | 11.338 | -0.332 | 3.362 | 0.219 |
| -1.675 | 13.324 | -0.266 | 2.745 | 0.208 |
| -2.650 | 17.406 | -0.124 | 2.184 | 0.202 |
| -3.200 | 19.729 | -0.031 | 2.013 | 0.201 |
| -3.200 | 19.729 | -0.031 | 2.013 | 0.201 |
| -3.900 | 21.655 | 0.021 | 1.870 | 0.191 |
| -4.500 | 23.391 | 0.062 | 1.791 | 0.184 |
| -5.200 | 25.515 | 0.103 | 1.737 | 0.176 |
| -5.800 | 27.427 | 0.132 | 1.718 | 0.169 |
| -5.800 | 27.427 | 0.132 | 1.718 | 0.169 |
| -6.650 | 27.916 | 0.143 | 1.730 | 0.151 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -7.500 | 28.651 | 0.133 | 1.779 | 0.132 |
| -7.500 | 28.651 | 0.133 | 1.779 | 0.132 |
| -8.000 | 31.584 | 0.109 | 1.823 | 0.127 |
| -8.500 | 34.612 | 0.076 | 1.877 | 0.121 |
| -8.500 | 34.612 | 0.076 | 1.877 | 0.121 |
| -8.650 | 34.805 | 0.069 | 1.895 | 0.117 |
| -8.800 | 35.008 | 0.061 | 1.913 | 0.112 |
| -8.800 | 35.008 | 0.061 | 1.913 | 0.112 |
| -9.800 | 41.292 | 0.056 | 2.054 | 0.108 |
| -10.800 | 47.615 | 0.050 | 2.216 | 0.103 |
| -10.800 | 47.615 | 0.050 | 2.216 | 0.103 |
| -11.300 | 50.608 | 0.025 | 2.301 | 0.096 |
| -11.800 | 53.643 | -0.005 | 2.389 | 0.088 |
| -11.800 | 53.643 | -0.005 | 2.389 | 0.088 |
| -12.800 | 60.023 | -0.015 | 2.565 | 0.081 |
| -13.800 | 66.422 | -0.027 | 2.737 | 0.072 |
| -14.600 | 71.552 | -0.039 | 2.868 | 0.065 |
| -15.100 | 74.762 | -0.046 | 2.946 | 0.060 |
| -15.600 | 77.975 | -0.055 | 3.020 | 0.056 |
| -16.600 | 84.410 | -0.074 | 3.157 | 0.046 |
| -17.400 | 89.566 | -0.092 | 3.255 | 0.037 |
| -17.400 | 89.566 | -0.092 | 3.255 | 0.037 |
| -17.750 | 92.788 | -0.159 | 3.295 | 0.035 |
| -18.100 | 96.039 | -0.230 | 3.332 | 0.033 |
| -18.100 | 96.039 | -0.230 | 3.332 | 0.033 |
| -18.400 | 97.978 | -0.238 | 3.362 | 0.030 |
| -18.700 | 99.918 | -0.246 | 3.391 | 0.026 |
| -18.700 | 99.918 | -0.246 | 3.391 | 0.026 |
| -19.100 | 113.794 | -1.441 | 3.427 | 0.017 |
| -19.500 | 127.810 | -2.650 | 3.460 | 0.008 |
| -19.500 | 127.810 | -2.650 | 3.460 | 0.008 |
| -20.850 | 141.674 | -2.650 | 3.553 | 0.006 |
| -22.250 | 156.018 | -2.650 | 3.620 | 0.004 |
| -23.600 | 169.822 | -2.650 | 3.659 | 0.002 |
| -25.000 | 184.111 | -2.650 | 3.676 | 0.000 |

### 3.39 Results for Vertical 39 (X = 0.00 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.150 | 7.586 | -0.150 | 7.585 | 0.294 |
| -0.250 | 8.707 | -0.242 | 7.189 | 0.271 |
| -0.350 | 8.882 | -0.332 | 5.858 | 0.257 |
| -0.430 | 8.953 | -0.404 | 4.726 | 0.250 |
| -0.450 | 8.974 | -0.402 | 4.642 | 0.248 |
| -0.550 | 9.105 | -0.392 | 4.252 | 0.241 |
| -0.650 | 9.289 | -0.382 | 3.916 | 0.235 |
| -0.750 | 9.522 | -0.372 | 3.630 | 0.230 |
| -0.850 | 9.798 | -0.362 | 3.388 | 0.226 |
| -0.950 | 10.108 | -0.351 | 3.183 | 0.222 |
| -1.050 | 10.447 | -0.340 | 3.009 | 0.219 |
| -1.150 | 10.809 | -0.329 | 2.861 | 0.216 |
| -1.675 | 12.930 | -0.266 | 2.350 | 0.207 |
| -2.650 | 17.177 | -0.127 | 1.928 | 0.201 |
| -3.200 | 19.552 | -0.034 | 1.805 | 0.200 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.200 | 19.552 | -0.034 | 1.805 | 0.200 |
| -3.900 | 21.521 | 0.018 | 1.705 | 0.191 |
| -4.500 | 23.280 | 0.059 | 1.652 | 0.183 |
| -5.200 | 25.420 | 0.101 | 1.620 | 0.175 |
| -5.800 | 27.340 | 0.130 | 1.616 | 0.169 |
| -5.800 | 27.340 | 0.130 | 1.616 | 0.169 |
| -6.650 | 27.835 | 0.142 | 1.641 | 0.150 |
| -7.500 | 28.570 | 0.133 | 1.699 | 0.132 |
| -7.500 | 28.571 | 0.133 | 1.699 | 0.132 |
| -8.000 | 31.496 | 0.110 | 1.747 | 0.127 |
| -8.500 | 34.516 | 0.078 | 1.804 | 0.121 |
| -8.500 | 34.516 | 0.078 | 1.804 | 0.121 |
| -8.650 | 34.708 | 0.071 | 1.822 | 0.116 |
| -8.800 | 34.909 | 0.063 | 1.842 | 0.112 |
| -8.800 | 34.909 | 0.063 | 1.842 | 0.112 |
| -9.800 | 41.195 | 0.059 | 1.986 | 0.108 |
| -10.800 | 47.518 | 0.053 | 2.149 | 0.103 |
| -10.800 | 47.518 | 0.053 | 2.149 | 0.103 |
| -11.300 | 50.507 | 0.028 | 2.235 | 0.096 |
| -11.800 | 53.536 | -0.001 | 2.324 | 0.088 |
| -11.800 | 53.536 | -0.001 | 2.324 | 0.088 |
| -12.800 | 59.916 | -0.011 | 2.501 | 0.080 |
| -13.800 | 66.314 | -0.023 | 2.675 | 0.072 |
| -14.600 | 71.443 | -0.034 | 2.807 | 0.065 |
| -15.100 | 74.653 | -0.042 | 2.886 | 0.060 |
| -15.600 | 77.866 | -0.050 | 2.962 | 0.056 |
| -16.600 | 84.301 | -0.069 | 3.102 | 0.046 |
| -17.400 | 89.458 | -0.087 | 3.203 | 0.037 |
| -17.400 | 89.458 | -0.087 | 3.203 | 0.037 |
| -17.750 | 92.673 | -0.154 | 3.243 | 0.035 |
| -18.100 | 95.918 | -0.223 | 3.282 | 0.033 |
| -18.100 | 95.918 | -0.223 | 3.282 | 0.033 |
| -18.400 | 97.857 | -0.231 | 3.313 | 0.030 |
| -18.700 | 99.797 | -0.239 | 3.343 | 0.026 |
| -18.700 | 99.797 | -0.239 | 3.343 | 0.026 |
| -19.100 | 113.709 | -1.437 | 3.380 | 0.017 |
| -19.500 | 127.760 | -2.650 | 3.415 | 0.008 |
| -19.500 | 127.760 | -2.650 | 3.415 | 0.008 |
| -20.850 | 141.629 | -2.650 | 3.512 | 0.006 |
| -22.250 | 155.978 | -2.650 | 3.585 | 0.004 |
| -23.600 | 169.787 | -2.650 | 3.629 | 0.002 |
| -25.000 | 184.082 | -2.650 | 3.651 | 0.000 |

### 3.40 Results for Vertical 40 (X = 0.10 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.150 | 7.230 | -0.150 | 7.229 | 0.286 |
| -0.250 | 7.690 | -0.242 | 6.165 | 0.264 |
| -0.350 | 7.839 | -0.334 | 4.795 | 0.252 |
| -0.430 | 8.068 | -0.407 | 3.814 | 0.245 |
| -0.450 | 8.127 | -0.405 | 3.767 | 0.244 |
| -0.550 | 8.417 | -0.396 | 3.527 | 0.238 |
| -0.650 | 8.712 | -0.387 | 3.295 | 0.233 |
| -0.750 | 9.026 | -0.377 | 3.084 | 0.228 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.850 | 9.364 | -0.367 | 2.899 | 0.224 |
| -0.950 | 9.726 | -0.357 | 2.741 | 0.221 |
| -1.050 | 10.108 | -0.347 | 2.607 | 0.218 |
| -1.150 | 10.506 | -0.336 | 2.492 | 0.215 |
| -1.675 | 12.758 | -0.274 | 2.099 | 0.206 |
| -2.650 | 17.114 | -0.135 | 1.782 | 0.201 |
| -3.200 | 19.516 | -0.043 | 1.691 | 0.200 |
| -3.200 | 19.516 | -0.043 | 1.691 | 0.200 |
| -3.900 | 21.509 | 0.010 | 1.618 | 0.191 |
| -4.500 | 23.280 | 0.052 | 1.582 | 0.183 |
| -5.200 | 25.428 | 0.094 | 1.564 | 0.176 |
| -5.800 | 27.350 | 0.124 | 1.568 | 0.169 |
| -5.800 | 27.350 | 0.124 | 1.568 | 0.169 |
| -6.650 | 27.848 | 0.137 | 1.602 | 0.150 |
| -7.500 | 28.583 | 0.129 | 1.665 | 0.132 |
| -7.500 | 28.583 | 0.129 | 1.665 | 0.132 |
| -8.000 | 31.505 | 0.106 | 1.716 | 0.127 |
| -8.500 | 34.520 | 0.075 | 1.774 | 0.121 |
| -8.500 | 34.520 | 0.075 | 1.774 | 0.121 |
| -8.650 | 34.711 | 0.068 | 1.794 | 0.116 |
| -8.800 | 34.911 | 0.060 | 1.813 | 0.112 |
| -8.800 | 34.911 | 0.060 | 1.813 | 0.112 |
| -9.800 | 41.198 | 0.056 | 1.959 | 0.108 |
| -10.800 | 47.521 | 0.050 | 2.124 | 0.103 |
| -10.800 | 47.521 | 0.050 | 2.124 | 0.103 |
| -11.300 | 50.508 | 0.025 | 2.211 | 0.095 |
| -11.800 | 53.535 | -0.004 | 2.300 | 0.088 |
| -11.800 | 53.535 | -0.004 | 2.300 | 0.088 |
| -12.800 | 59.914 | -0.013 | 2.478 | 0.080 |
| -13.800 | 66.312 | -0.025 | 2.652 | 0.072 |
| -14.600 | 71.441 | -0.036 | 2.786 | 0.065 |
| -15.100 | 74.651 | -0.044 | 2.866 | 0.060 |
| -15.600 | 77.864 | -0.052 | 2.942 | 0.055 |
| -16.600 | 84.299 | -0.071 | 3.084 | 0.046 |
| -17.400 | 89.456 | -0.089 | 3.186 | 0.037 |
| -17.400 | 89.456 | -0.089 | 3.186 | 0.037 |
| -17.750 | 92.668 | -0.155 | 3.227 | 0.035 |
| -18.100 | 95.910 | -0.224 | 3.266 | 0.033 |
| -18.100 | 95.910 | -0.224 | 3.266 | 0.033 |
| -18.400 | 97.849 | -0.232 | 3.298 | 0.029 |
| -18.700 | 99.789 | -0.240 | 3.328 | 0.026 |
| -18.700 | 99.790 | -0.240 | 3.328 | 0.026 |
| -19.100 | 113.698 | -1.438 | 3.366 | 0.017 |
| -19.500 | 127.745 | -2.650 | 3.402 | 0.008 |
| -19.500 | 127.745 | -2.650 | 3.402 | 0.008 |
| -20.850 | 141.616 | -2.650 | 3.503 | 0.006 |
| -22.250 | 155.969 | -2.650 | 3.578 | 0.004 |
| -23.600 | 169.781 | -2.650 | 3.625 | 0.002 |
| -25.000 | 184.079 | -2.650 | 3.650 | 0.000 |

### 3.41 Results for Vertical 41 (X = 0.15 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.150 | 4.862 | -0.150 | 4.861 | 0.279 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.250 | 6.376 | -0.244 | 4.833 | 0.260 |
| -0.350 | 7.029 | -0.337 | 3.956 | 0.249 |
| -0.430 | 7.443 | -0.411 | 3.154 | 0.243 |
| -0.450 | 7.535 | -0.409 | 3.138 | 0.242 |
| -0.550 | 7.949 | -0.400 | 3.017 | 0.236 |
| -0.650 | 8.329 | -0.391 | 2.866 | 0.231 |
| -0.750 | 8.706 | -0.382 | 2.715 | 0.227 |
| -0.850 | 9.094 | -0.373 | 2.577 | 0.223 |
| -0.950 | 9.495 | -0.363 | 2.456 | 0.220 |
| -1.050 | 9.909 | -0.353 | 2.351 | 0.217 |
| -1.150 | 10.334 | -0.342 | 2.261 | 0.215 |
| -1.675 | 12.672 | -0.281 | 1.950 | 0.206 |
| -2.650 | 17.091 | -0.142 | 1.697 | 0.201 |
| -3.200 | 19.507 | -0.048 | 1.625 | 0.201 |
| -3.200 | 19.507 | -0.048 | 1.625 | 0.201 |
| -3.900 | 21.513 | 0.005 | 1.568 | 0.191 |
| -4.500 | 23.289 | 0.047 | 1.541 | 0.184 |
| -5.200 | 25.440 | 0.090 | 1.531 | 0.176 |
| -5.800 | 27.361 | 0.120 | 1.540 | 0.169 |
| -5.800 | 27.361 | 0.120 | 1.540 | 0.169 |
| -6.650 | 27.861 | 0.133 | 1.579 | 0.151 |
| -7.500 | 28.595 | 0.126 | 1.646 | 0.132 |
| -7.500 | 28.595 | 0.126 | 1.646 | 0.132 |
| -8.000 | 31.514 | 0.103 | 1.698 | 0.127 |
| -8.500 | 34.525 | 0.072 | 1.757 | 0.121 |
| -8.500 | 34.525 | 0.072 | 1.757 | 0.121 |
| -8.650 | 34.715 | 0.066 | 1.777 | 0.116 |
| -8.800 | 34.915 | 0.058 | 1.797 | 0.112 |
| -8.800 | 34.915 | 0.058 | 1.797 | 0.112 |
| -9.800 | 41.203 | 0.054 | 1.944 | 0.108 |
| -10.800 | 47.526 | 0.048 | 2.110 | 0.103 |
| -10.800 | 47.526 | 0.048 | 2.110 | 0.103 |
| -11.300 | 50.511 | 0.023 | 2.197 | 0.095 |
| -11.800 | 53.536 | -0.006 | 2.285 | 0.088 |
| -11.800 | 53.536 | -0.006 | 2.285 | 0.088 |
| -12.800 | 59.915 | -0.015 | 2.464 | 0.080 |
| -13.800 | 66.312 | -0.027 | 2.639 | 0.072 |
| -14.600 | 71.441 | -0.038 | 2.773 | 0.065 |
| -15.100 | 74.651 | -0.045 | 2.854 | 0.060 |
| -15.600 | 77.864 | -0.054 | 2.930 | 0.055 |
| -16.600 | 84.300 | -0.073 | 3.073 | 0.046 |
| -17.400 | 89.457 | -0.090 | 3.176 | 0.037 |
| -17.400 | 89.457 | -0.090 | 3.176 | 0.037 |
| -17.750 | 92.667 | -0.156 | 3.217 | 0.035 |
| -18.100 | 95.906 | -0.225 | 3.257 | 0.033 |
| -18.100 | 95.906 | -0.225 | 3.257 | 0.033 |
| -18.400 | 97.845 | -0.233 | 3.289 | 0.029 |
| -18.700 | 99.785 | -0.241 | 3.320 | 0.026 |
| -18.700 | 99.786 | -0.241 | 3.320 | 0.026 |
| -19.100 | 113.691 | -1.438 | 3.358 | 0.017 |
| -19.500 | 127.735 | -2.650 | 3.394 | 0.008 |
| -19.500 | 127.735 | -2.650 | 3.394 | 0.008 |
| -20.850 | 141.608 | -2.650 | 3.496 | 0.006 |
| -22.250 | 155.963 | -2.650 | 3.573 | 0.004 |
| -23.600 | 169.777 | -2.650 | 3.622 | 0.002 |
| -25.000 | 184.077 | -2.650 | 3.649 | 0.000 |

### 3.42 Results for Vertical 42 (X = 0.45 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.189 | 1.568 | -0.189 | 1.567 | 0.244 |
| -0.289 | 2.627 | -0.287 | 1.050 | 0.234 |
| -0.389 | 3.352 | -0.383 | 0.210 | 0.229 |
| -0.430 | 3.668 | -0.422 | -0.112 | 0.228 |
| -0.489 | 4.131 | -0.419 | 0.014 | 0.227 |
| -0.589 | 4.910 | -0.414 | 0.227 | 0.225 |
| -0.689 | 5.657 | -0.408 | 0.416 | 0.222 |
| -0.789 | 6.365 | -0.401 | 0.572 | 0.220 |
| -0.889 | 7.035 | -0.393 | 0.697 | 0.218 |
| -0.989 | 7.674 | -0.385 | 0.796 | 0.217 |
| -1.089 | 8.287 | -0.377 | 0.875 | 0.215 |
| -1.189 | 8.878 | -0.367 | 0.938 | 0.213 |
| -1.694 | 11.657 | -0.313 | 1.120 | 0.208 |
| -2.650 | 16.386 | -0.180 | 1.244 | 0.203 |
| -3.200 | 18.904 | -0.086 | 1.279 | 0.203 |
| -3.200 | 18.904 | -0.086 | 1.279 | 0.203 |
| -3.900 | 20.987 | -0.031 | 1.311 | 0.193 |
| -4.500 | 22.800 | 0.012 | 1.337 | 0.186 |
| -5.200 | 24.970 | 0.058 | 1.371 | 0.177 |
| -5.800 | 26.893 | 0.091 | 1.408 | 0.171 |
| -5.800 | 26.893 | 0.091 | 1.408 | 0.171 |
| -6.650 | 27.395 | 0.107 | 1.474 | 0.152 |
| -7.500 | 28.120 | 0.101 | 1.559 | 0.132 |
| -7.500 | 28.120 | 0.101 | 1.559 | 0.132 |
| -8.000 | 31.016 | 0.082 | 1.619 | 0.127 |
| -8.500 | 33.998 | 0.055 | 1.685 | 0.121 |
| -8.500 | 33.998 | 0.055 | 1.685 | 0.121 |
| -8.650 | 34.183 | 0.049 | 1.705 | 0.117 |
| -8.800 | 34.377 | 0.042 | 1.727 | 0.112 |
| -8.800 | 34.377 | 0.042 | 1.727 | 0.112 |
| -9.800 | 40.669 | 0.038 | 1.881 | 0.108 |
| -10.800 | 46.992 | 0.033 | 2.051 | 0.103 |
| -10.800 | 46.992 | 0.033 | 2.051 | 0.103 |
| -11.300 | 49.963 | 0.009 | 2.140 | 0.096 |
| -11.800 | 52.975 | -0.018 | 2.230 | 0.088 |
| -11.800 | 52.975 | -0.018 | 2.230 | 0.088 |
| -12.800 | 59.351 | -0.027 | 2.412 | 0.080 |
| -13.800 | 65.745 | -0.038 | 2.589 | 0.072 |
| -14.600 | 70.872 | -0.049 | 2.726 | 0.065 |
| -15.100 | 74.081 | -0.056 | 2.808 | 0.060 |
| -15.600 | 77.293 | -0.064 | 2.887 | 0.055 |
| -16.600 | 83.726 | -0.083 | 3.034 | 0.046 |
| -17.400 | 88.882 | -0.099 | 3.141 | 0.037 |
| -17.400 | 88.882 | -0.099 | 3.141 | 0.037 |
| -17.750 | 92.074 | -0.163 | 3.184 | 0.035 |
| -18.100 | 95.296 | -0.231 | 3.226 | 0.033 |
| -18.100 | 95.296 | -0.231 | 3.226 | 0.033 |
| -18.400 | 97.235 | -0.238 | 3.259 | 0.029 |
| -18.700 | 99.175 | -0.246 | 3.292 | 0.026 |
| -18.700 | 99.175 | -0.246 | 3.292 | 0.026 |
| -19.100 | 113.060 | -1.441 | 3.333 | 0.017 |
| -19.500 | 127.080 | -2.650 | 3.371 | 0.008 |
| -19.500 | 127.081 | -2.650 | 3.371 | 0.008 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -20.850 | 140.962 | -2.650 | 3.482 | 0.006 |
| -22.250 | 155.326 | -2.650 | 3.568 | 0.004 |
| -23.600 | 169.149 | -2.650 | 3.626 | 0.002 |
| -25.000 | 183.459 | -2.650 | 3.662 | 0.000 |

### 3.43 Results for Vertical 43 (X = 0.87 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.380 | 0.039 | -0.380 | 0.038 | 0.243 |
| -0.430 | 0.381 | -0.430 | -0.417 | 0.243 |
| -0.480 | 0.734 | -0.429 | -0.367 | 0.243 |
| -0.580 | 1.467 | -0.427 | -0.234 | 0.243 |
| -0.680 | 2.222 | -0.424 | -0.070 | 0.243 |
| -0.780 | 2.982 | -0.421 | 0.108 | 0.242 |
| -0.880 | 3.732 | -0.416 | 0.287 | 0.241 |
| -0.980 | 4.466 | -0.410 | 0.460 | 0.240 |
| -1.080 | 5.180 | -0.403 | 0.621 | 0.239 |
| -1.180 | 5.873 | -0.395 | 0.771 | 0.237 |
| -1.280 | 6.544 | -0.387 | 0.907 | 0.236 |
| -1.380 | 7.195 | -0.377 | 1.030 | 0.235 |
| -1.790 | 9.674 | -0.331 | 1.425 | 0.230 |
| -2.650 | 14.191 | -0.201 | 1.891 | 0.225 |
| -3.200 | 16.754 | -0.098 | 2.062 | 0.223 |
| -3.200 | 16.754 | -0.098 | 2.062 | 0.223 |
| -3.900 | 18.890 | -0.037 | 2.213 | 0.212 |
| -4.500 | 20.713 | 0.012 | 2.310 | 0.203 |
| -5.200 | 22.869 | 0.066 | 2.405 | 0.193 |
| -5.800 | 24.766 | 0.106 | 2.480 | 0.185 |
| -5.800 | 24.766 | 0.106 | 2.480 | 0.185 |
| -6.650 | 25.257 | 0.126 | 2.585 | 0.164 |
| -7.500 | 25.965 | 0.126 | 2.698 | 0.142 |
| -7.500 | 25.965 | 0.126 | 2.698 | 0.142 |
| -8.000 | 28.835 | 0.110 | 2.768 | 0.137 |
| -8.500 | 31.792 | 0.086 | 2.843 | 0.130 |
| -8.500 | 31.792 | 0.086 | 2.843 | 0.130 |
| -8.650 | 31.974 | 0.081 | 2.866 | 0.125 |
| -8.800 | 32.165 | 0.074 | 2.890 | 0.120 |
| -8.800 | 32.165 | 0.074 | 2.890 | 0.120 |
| -9.800 | 38.464 | 0.071 | 3.055 | 0.116 |
| -10.800 | 44.792 | 0.066 | 3.232 | 0.109 |
| -10.800 | 44.792 | 0.066 | 3.232 | 0.109 |
| -11.300 | 47.769 | 0.042 | 3.323 | 0.102 |
| -11.800 | 50.788 | 0.014 | 3.415 | 0.094 |
| -11.800 | 50.788 | 0.014 | 3.415 | 0.094 |
| -12.800 | 57.169 | 0.004 | 3.600 | 0.085 |
| -13.800 | 63.572 | -0.007 | 3.782 | 0.076 |
| -14.600 | 68.707 | -0.019 | 3.922 | 0.069 |
| -15.100 | 71.922 | -0.026 | 4.006 | 0.064 |
| -15.600 | 75.142 | -0.035 | 4.088 | 0.059 |
| -16.600 | 81.592 | -0.055 | 4.240 | 0.048 |
| -17.400 | 86.765 | -0.073 | 4.352 | 0.039 |
| -17.400 | 86.765 | -0.073 | 4.352 | 0.039 |
| -17.750 | 90.007 | -0.141 | 4.398 | 0.037 |
| -18.100 | 93.282 | -0.214 | 4.442 | 0.035 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -18.100 | 93.282 | -0.214 | 4.442 | 0.035 |
| -18.400 | 95.228 | -0.222 | 4.478 | 0.031 |
| -18.700 | 97.176 | -0.230 | 4.513 | 0.027 |
| -18.700 | 97.177 | -0.230 | 4.513 | 0.027 |
| -19.100 | 111.133 | -1.432 | 4.557 | 0.018 |
| -19.500 | 125.241 | -2.650 | 4.598 | 0.009 |
| -19.500 | 125.241 | -2.650 | 4.598 | 0.009 |
| -20.850 | 139.134 | -2.650 | 4.720 | 0.007 |
| -22.250 | 153.510 | -2.650 | 4.818 | 0.004 |
| -23.600 | 167.345 | -2.650 | 4.887 | 0.002 |
| -25.000 | 181.667 | -2.650 | 4.935 | 0.000 |

### 3.44 Results for Vertical 44 (X = 0.98 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -0.890 | 0.560 | -0.430 | 0.559 | 0.302 |
| -0.990 | 1.311 | -0.428 | 0.708 | 0.291 |
| -1.090 | 2.049 | -0.426 | 0.855 | 0.284 |
| -1.190 | 2.768 | -0.421 | 0.995 | 0.280 |
| -1.290 | 3.468 | -0.416 | 1.127 | 0.276 |
| -1.390 | 4.148 | -0.410 | 1.250 | 0.272 |
| -1.490 | 4.809 | -0.403 | 1.364 | 0.269 |
| -1.590 | 5.451 | -0.394 | 1.469 | 0.266 |
| -1.690 | 6.075 | -0.385 | 1.566 | 0.264 |
| -1.790 | 6.683 | -0.375 | 1.655 | 0.261 |
| -1.890 | 7.275 | -0.364 | 1.736 | 0.259 |
| -2.045 | 8.165 | -0.345 | 1.850 | 0.256 |
| -2.650 | 11.370 | -0.256 | 2.182 | 0.249 |
| -3.200 | 13.997 | -0.156 | 2.382 | 0.246 |
| -3.200 | 13.997 | -0.156 | 2.382 | 0.246 |
| -3.900 | 16.153 | -0.095 | 2.561 | 0.231 |
| -4.500 | 17.974 | -0.043 | 2.676 | 0.220 |
| -5.200 | 20.109 | 0.014 | 2.786 | 0.208 |
| -5.800 | 21.974 | 0.058 | 2.870 | 0.199 |
| -5.800 | 21.974 | 0.058 | 2.870 | 0.199 |
| -6.650 | 22.430 | 0.083 | 2.986 | 0.175 |
| -7.500 | 23.092 | 0.088 | 3.105 | 0.152 |
| -7.500 | 23.092 | 0.088 | 3.105 | 0.152 |
| -8.000 | 25.904 | 0.079 | 3.179 | 0.145 |
| -8.500 | 28.795 | 0.062 | 3.256 | 0.138 |
| -8.500 | 28.795 | 0.062 | 3.256 | 0.138 |
| -8.650 | 28.964 | 0.058 | 3.280 | 0.133 |
| -8.800 | 29.142 | 0.053 | 3.304 | 0.128 |
| -8.800 | 29.142 | 0.053 | 3.304 | 0.128 |
| -9.800 | 35.438 | 0.050 | 3.472 | 0.122 |
| -10.800 | 41.762 | 0.045 | 3.651 | 0.115 |
| -10.800 | 41.762 | 0.045 | 3.651 | 0.115 |
| -11.300 | 44.715 | 0.024 | 3.743 | 0.107 |
| -11.800 | 47.708 | -0.001 | 3.836 | 0.099 |
| -11.800 | 47.708 | -0.001 | 3.836 | 0.099 |
| -12.800 | 54.082 | -0.010 | 4.022 | 0.090 |
| -13.800 | 60.478 | -0.021 | 4.204 | 0.080 |
| -14.600 | 65.607 | -0.031 | 4.345 | 0.072 |
| -15.100 | 68.819 | -0.039 | 4.430 | 0.066 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -15.600 | 72.035 | -0.047 | 4.512 | 0.061 |
| -16.600 | 78.478 | -0.066 | 4.666 | 0.050 |
| -17.400 | 83.645 | -0.083 | 4.779 | 0.041 |
| -17.400 | 83.645 | -0.083 | 4.779 | 0.041 |
| -17.750 | 86.864 | -0.150 | 4.826 | 0.038 |
| -18.100 | 90.116 | -0.220 | 4.870 | 0.036 |
| -18.100 | 90.116 | -0.220 | 4.870 | 0.036 |
| -18.400 | 92.061 | -0.227 | 4.907 | 0.032 |
| -18.700 | 94.007 | -0.236 | 4.942 | 0.028 |
| -18.700 | 94.007 | -0.236 | 4.942 | 0.028 |
| -19.100 | 107.939 | -1.435 | 4.987 | 0.019 |
| -19.500 | 122.022 | -2.650 | 5.029 | 0.010 |
| -19.500 | 122.022 | -2.650 | 5.029 | 0.010 |
| -20.850 | 135.917 | -2.650 | 5.154 | 0.007 |
| -22.250 | 150.297 | -2.650 | 5.255 | 0.005 |
| -23.600 | 164.135 | -2.650 | 5.327 | 0.002 |
| -25.000 | 178.460 | -2.650 | 5.378 | 0.000 |

### 3.45 Results for Vertical 45 (X = 1.42 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.813 | 0.931 | -0.430 | 0.930 | 0.327 |
| -1.913 | 1.606 | -0.427 | 1.012 | 0.313 |
| -2.013 | 2.266 | -0.424 | 1.091 | 0.306 |
| -2.113 | 2.910 | -0.418 | 1.167 | 0.300 |
| -2.213 | 3.539 | -0.412 | 1.239 | 0.296 |
| -2.313 | 4.153 | -0.405 | 1.308 | 0.292 |
| -2.413 | 4.754 | -0.396 | 1.373 | 0.289 |
| -2.506 | 5.303 | -0.387 | 1.432 | 0.287 |
| -2.513 | 5.341 | -0.386 | 1.436 | 0.287 |
| -2.613 | 5.915 | -0.376 | 1.495 | 0.284 |
| -2.650 | 6.124 | -0.372 | 1.516 | 0.284 |
| -2.713 | 6.477 | -0.364 | 1.552 | 0.282 |
| -2.813 | 7.027 | -0.352 | 1.605 | 0.281 |
| -3.200 | 9.056 | -0.296 | 1.789 | 0.276 |
| -3.200 | 9.056 | -0.296 | 1.789 | 0.276 |
| -3.900 | 11.366 | -0.241 | 2.049 | 0.256 |
| -4.500 | 13.263 | -0.192 | 2.219 | 0.242 |
| -5.200 | 15.429 | -0.133 | 2.380 | 0.227 |
| -5.800 | 17.279 | -0.083 | 2.499 | 0.215 |
| -5.800 | 17.279 | -0.083 | 2.499 | 0.215 |
| -6.650 | 17.704 | -0.051 | 2.651 | 0.187 |
| -7.500 | 18.291 | -0.036 | 2.796 | 0.160 |
| -7.500 | 18.291 | -0.036 | 2.796 | 0.160 |
| -8.000 | 20.987 | -0.033 | 2.881 | 0.153 |
| -8.500 | 23.738 | -0.034 | 2.967 | 0.145 |
| -8.500 | 23.738 | -0.034 | 2.967 | 0.145 |
| -8.650 | 23.880 | -0.036 | 2.994 | 0.140 |
| -8.800 | 24.030 | -0.038 | 3.020 | 0.134 |
| -8.800 | 24.030 | -0.038 | 3.020 | 0.134 |
| -9.800 | 30.322 | -0.039 | 3.199 | 0.128 |
| -10.800 | 36.633 | -0.042 | 3.385 | 0.120 |
| -10.800 | 36.634 | -0.042 | 3.385 | 0.120 |
| -11.300 | 39.516 | -0.056 | 3.480 | 0.111 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -11.800 | 42.433 | -0.073 | 3.575 | 0.102 |
| -11.800 | 42.433 | -0.073 | 3.575 | 0.102 |
| -12.800 | 48.786 | -0.079 | 3.765 | 0.093 |
| -13.800 | 55.157 | -0.087 | 3.951 | 0.082 |
| -14.600 | 60.266 | -0.096 | 4.095 | 0.074 |
| -15.100 | 63.463 | -0.102 | 4.182 | 0.068 |
| -15.600 | 66.665 | -0.108 | 4.266 | 0.062 |
| -16.600 | 73.078 | -0.123 | 4.425 | 0.051 |
| -17.400 | 78.219 | -0.138 | 4.542 | 0.041 |
| -17.400 | 78.220 | -0.138 | 4.542 | 0.041 |
| -17.750 | 81.331 | -0.193 | 4.591 | 0.039 |
| -18.100 | 84.471 | -0.251 | 4.638 | 0.036 |
| -18.100 | 84.471 | -0.251 | 4.638 | 0.036 |
| -18.400 | 86.405 | -0.258 | 4.676 | 0.032 |
| -18.700 | 88.340 | -0.265 | 4.714 | 0.028 |
| -18.700 | 88.340 | -0.265 | 4.714 | 0.028 |
| -19.100 | 102.140 | -1.450 | 4.761 | 0.019 |
| -19.500 | 116.075 | -2.650 | 4.806 | 0.010 |
| -19.500 | 116.075 | -2.650 | 4.806 | 0.010 |
| -20.850 | 129.981 | -2.650 | 4.941 | 0.007 |
| -22.250 | 144.372 | -2.650 | 5.053 | 0.005 |
| -23.600 | 158.221 | -2.650 | 5.136 | 0.002 |
| -25.000 | 172.558 | -2.650 | 5.198 | 0.000 |

### 3.46 Results for Vertical 46 (X = 1.82 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.735 | 0.478 | -0.430 | 0.477 | 0.298 |
| -1.835 | 1.145 | -0.428 | 0.541 | 0.288 |
| -1.935 | 1.801 | -0.426 | 0.606 | 0.284 |
| -2.035 | 2.445 | -0.422 | 0.670 | 0.280 |
| -2.135 | 3.077 | -0.416 | 0.735 | 0.277 |
| -2.235 | 3.698 | -0.410 | 0.798 | 0.275 |
| -2.335 | 4.306 | -0.403 | 0.860 | 0.273 |
| -2.435 | 4.904 | -0.394 | 0.921 | 0.271 |
| -2.467 | 5.095 | -0.391 | 0.941 | 0.270 |
| -2.535 | 5.490 | -0.385 | 0.981 | 0.269 |
| -2.635 | 6.065 | -0.374 | 1.039 | 0.268 |
| -2.650 | 6.150 | -0.373 | 1.047 | 0.268 |
| -2.735 | 6.629 | -0.363 | 1.095 | 0.267 |
| -3.200 | 9.120 | -0.299 | 1.334 | 0.263 |
| -3.200 | 9.120 | -0.299 | 1.334 | 0.263 |
| -3.900 | 11.481 | -0.247 | 1.629 | 0.246 |
| -4.500 | 13.423 | -0.198 | 1.832 | 0.233 |
| -5.200 | 15.635 | -0.140 | 2.027 | 0.220 |
| -5.800 | 17.518 | -0.092 | 2.171 | 0.209 |
| -5.800 | 17.518 | -0.092 | 2.171 | 0.209 |
| -6.650 | 17.975 | -0.060 | 2.352 | 0.183 |
| -7.500 | 18.583 | -0.045 | 2.518 | 0.156 |
| -7.500 | 18.583 | -0.045 | 2.518 | 0.156 |
| -8.000 | 21.287 | -0.042 | 2.613 | 0.149 |
| -8.500 | 24.042 | -0.043 | 2.707 | 0.142 |
| -8.500 | 24.042 | -0.043 | 2.707 | 0.142 |
| -8.650 | 24.186 | -0.044 | 2.735 | 0.137 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -8.800 | 24.337 | -0.046 | 2.763 | 0.131 |
| -8.800 | 24.337 | -0.046 | 2.763 | 0.131 |
| -9.800 | 30.637 | -0.047 | 2.953 | 0.125 |
| -10.800 | 36.954 | -0.050 | 3.145 | 0.118 |
| -10.800 | 36.954 | -0.050 | 3.145 | 0.118 |
| -11.300 | 39.834 | -0.064 | 3.242 | 0.109 |
| -11.800 | 42.747 | -0.080 | 3.339 | 0.101 |
| -11.800 | 42.747 | -0.080 | 3.339 | 0.101 |
| -12.800 | 49.101 | -0.086 | 3.532 | 0.091 |
| -13.800 | 55.472 | -0.094 | 3.721 | 0.081 |
| -14.600 | 60.580 | -0.102 | 3.867 | 0.072 |
| -15.100 | 63.778 | -0.108 | 3.956 | 0.067 |
| -15.600 | 66.979 | -0.115 | 4.042 | 0.061 |
| -16.600 | 73.393 | -0.129 | 4.205 | 0.050 |
| -17.400 | 78.535 | -0.144 | 4.326 | 0.040 |
| -17.400 | 78.535 | -0.144 | 4.326 | 0.040 |
| -17.750 | 81.637 | -0.198 | 4.377 | 0.038 |
| -18.100 | 84.767 | -0.255 | 4.425 | 0.036 |
| -18.100 | 84.767 | -0.255 | 4.425 | 0.036 |
| -18.400 | 86.701 | -0.261 | 4.465 | 0.032 |
| -18.700 | 88.637 | -0.268 | 4.504 | 0.028 |
| -18.700 | 88.637 | -0.268 | 4.504 | 0.028 |
| -19.100 | 102.424 | -1.452 | 4.554 | 0.019 |
| -19.500 | 116.344 | -2.650 | 4.602 | 0.009 |
| -19.500 | 116.344 | -2.650 | 4.602 | 0.009 |
| -20.850 | 130.259 | -2.650 | 4.745 | 0.007 |
| -22.250 | 144.659 | -2.650 | 4.867 | 0.004 |
| -23.600 | 158.518 | -2.650 | 4.959 | 0.002 |
| -25.000 | 172.865 | -2.650 | 5.031 | 0.000 |

### 3.47 Results for Vertical 47 (X = 2.33 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.710 | 0.230 | -0.430 | 0.229 | 0.274 |
| -1.810 | 0.878 | -0.429 | 0.269 | 0.267 |
| -1.910 | 1.517 | -0.427 | 0.311 | 0.264 |
| -2.010 | 2.148 | -0.423 | 0.355 | 0.262 |
| -2.110 | 2.769 | -0.419 | 0.400 | 0.260 |
| -2.210 | 3.380 | -0.414 | 0.446 | 0.259 |
| -2.310 | 3.982 | -0.407 | 0.494 | 0.258 |
| -2.410 | 4.575 | -0.400 | 0.542 | 0.256 |
| -2.455 | 4.839 | -0.396 | 0.563 | 0.256 |
| -2.510 | 5.159 | -0.391 | 0.590 | 0.255 |
| -2.610 | 5.734 | -0.382 | 0.638 | 0.255 |
| -2.650 | 5.961 | -0.378 | 0.657 | 0.254 |
| -2.710 | 6.299 | -0.371 | 0.686 | 0.254 |
| -3.200 | 8.939 | -0.308 | 0.914 | 0.251 |
| -3.200 | 8.939 | -0.308 | 0.914 | 0.251 |
| -3.900 | 11.323 | -0.258 | 1.208 | 0.237 |
| -4.500 | 13.297 | -0.211 | 1.425 | 0.226 |
| -5.200 | 15.549 | -0.155 | 1.643 | 0.213 |
| -5.800 | 17.463 | -0.108 | 1.807 | 0.203 |
| -5.800 | 17.463 | -0.108 | 1.807 | 0.203 |
| -6.650 | 17.948 | -0.076 | 2.012 | 0.178 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -7.500 | 18.575 | -0.061 | 2.198 | 0.153 |
| -7.500 | 18.575 | -0.061 | 2.198 | 0.153 |
| -8.000 | 21.282 | -0.057 | 2.303 | 0.146 |
| -8.500 | 24.035 | -0.057 | 2.405 | 0.139 |
| -8.500 | 24.035 | -0.057 | 2.405 | 0.139 |
| -8.650 | 24.179 | -0.058 | 2.435 | 0.134 |
| -8.800 | 24.330 | -0.060 | 2.465 | 0.129 |
| -8.800 | 24.330 | -0.060 | 2.465 | 0.129 |
| -9.800 | 30.639 | -0.061 | 2.666 | 0.123 |
| -10.800 | 36.959 | -0.064 | 2.865 | 0.116 |
| -10.800 | 36.960 | -0.064 | 2.865 | 0.116 |
| -11.300 | 39.834 | -0.076 | 2.964 | 0.107 |
| -11.800 | 42.739 | -0.092 | 3.063 | 0.099 |
| -11.800 | 42.739 | -0.092 | 3.063 | 0.099 |
| -12.800 | 49.092 | -0.098 | 3.260 | 0.090 |
| -13.800 | 55.461 | -0.106 | 3.452 | 0.080 |
| -14.600 | 60.568 | -0.113 | 3.600 | 0.071 |
| -15.100 | 63.764 | -0.119 | 3.691 | 0.066 |
| -15.600 | 66.964 | -0.125 | 3.778 | 0.060 |
| -16.600 | 73.376 | -0.139 | 3.946 | 0.049 |
| -17.400 | 78.516 | -0.153 | 4.071 | 0.040 |
| -17.400 | 78.517 | -0.153 | 4.071 | 0.040 |
| -17.750 | 81.602 | -0.205 | 4.123 | 0.038 |
| -18.100 | 84.715 | -0.260 | 4.174 | 0.035 |
| -18.100 | 84.715 | -0.260 | 4.174 | 0.035 |
| -18.400 | 86.649 | -0.267 | 4.216 | 0.031 |
| -18.700 | 88.584 | -0.273 | 4.256 | 0.027 |
| -18.700 | 88.584 | -0.273 | 4.256 | 0.027 |
| -19.100 | 102.351 | -1.455 | 4.309 | 0.018 |
| -19.500 | 116.246 | -2.650 | 4.359 | 0.009 |
| -19.500 | 116.246 | -2.650 | 4.359 | 0.009 |
| -20.850 | 130.169 | -2.650 | 4.512 | 0.007 |
| -22.250 | 144.580 | -2.650 | 4.644 | 0.004 |
| -23.600 | 158.451 | -2.650 | 4.747 | 0.002 |
| -25.000 | 172.809 | -2.650 | 4.831 | 0.000 |

### 3.48 Results for Vertical 48 (X = 2.71 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.616 | 0.118 | -0.430 | 0.117 | 0.255 |
| -1.716 | 0.753 | -0.429 | 0.142 | 0.251 |
| -1.816 | 1.381 | -0.427 | 0.169 | 0.250 |
| -1.916 | 2.001 | -0.424 | 0.199 | 0.248 |
| -2.016 | 2.613 | -0.421 | 0.230 | 0.247 |
| -2.116 | 3.217 | -0.416 | 0.263 | 0.246 |
| -2.216 | 3.812 | -0.410 | 0.298 | 0.245 |
| -2.316 | 4.400 | -0.403 | 0.334 | 0.244 |
| -2.408 | 4.933 | -0.396 | 0.368 | 0.243 |
| -2.416 | 4.979 | -0.395 | 0.371 | 0.243 |
| -2.516 | 5.551 | -0.386 | 0.410 | 0.243 |
| -2.616 | 6.114 | -0.377 | 0.449 | 0.242 |
| -2.650 | 6.304 | -0.373 | 0.462 | 0.242 |
| -3.200 | 9.244 | -0.303 | 0.683 | 0.240 |
| -3.200 | 9.244 | -0.303 | 0.683 | 0.240 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -3.900 | 11.615 | -0.254 | 0.955 | 0.228 |
| -4.500 | 13.595 | -0.208 | 1.168 | 0.217 |
| -5.200 | 15.864 | -0.154 | 1.390 | 0.206 |
| -5.800 | 17.797 | -0.108 | 1.560 | 0.197 |
| -5.800 | 17.797 | -0.108 | 1.560 | 0.197 |
| -6.650 | 18.302 | -0.077 | 1.776 | 0.173 |
| -7.500 | 18.945 | -0.063 | 1.973 | 0.149 |
| -7.500 | 18.945 | -0.063 | 1.973 | 0.149 |
| -8.000 | 21.663 | -0.059 | 2.083 | 0.143 |
| -8.500 | 24.426 | -0.060 | 2.189 | 0.136 |
| -8.500 | 24.426 | -0.060 | 2.189 | 0.136 |
| -8.650 | 24.572 | -0.061 | 2.221 | 0.131 |
| -8.800 | 24.725 | -0.063 | 2.252 | 0.126 |
| -8.800 | 24.725 | -0.063 | 2.252 | 0.126 |
| -9.800 | 31.040 | -0.064 | 2.459 | 0.120 |
| -10.800 | 37.364 | -0.066 | 2.663 | 0.113 |
| -10.800 | 37.364 | -0.066 | 2.663 | 0.113 |
| -11.300 | 40.239 | -0.079 | 2.763 | 0.105 |
| -11.800 | 43.145 | -0.095 | 2.864 | 0.097 |
| -11.800 | 43.145 | -0.095 | 2.864 | 0.097 |
| -12.800 | 49.499 | -0.101 | 3.062 | 0.088 |
| -13.800 | 55.869 | -0.108 | 3.256 | 0.078 |
| -14.600 | 60.976 | -0.116 | 3.406 | 0.070 |
| -15.100 | 64.172 | -0.121 | 3.497 | 0.065 |
| -15.600 | 67.373 | -0.128 | 3.586 | 0.059 |
| -16.600 | 73.786 | -0.142 | 3.756 | 0.048 |
| -17.400 | 78.927 | -0.155 | 3.884 | 0.039 |
| -17.400 | 78.927 | -0.155 | 3.884 | 0.039 |
| -17.750 | 82.010 | -0.207 | 3.937 | 0.037 |
| -18.100 | 85.119 | -0.262 | 3.989 | 0.035 |
| -18.100 | 85.119 | -0.262 | 3.989 | 0.035 |
| -18.400 | 87.054 | -0.268 | 4.032 | 0.031 |
| -18.700 | 88.989 | -0.274 | 4.074 | 0.027 |
| -18.700 | 88.990 | -0.274 | 4.074 | 0.027 |
| -19.100 | 102.751 | -1.456 | 4.128 | 0.018 |
| -19.500 | 116.641 | -2.650 | 4.180 | 0.009 |
| -19.500 | 116.641 | -2.650 | 4.180 | 0.009 |
| -20.850 | 130.571 | -2.650 | 4.339 | 0.006 |
| -22.250 | 144.989 | -2.650 | 4.478 | 0.004 |
| -23.600 | 158.867 | -2.650 | 4.589 | 0.002 |
| -25.000 | 173.234 | -2.650 | 4.681 | 0.000 |

### 3.49 Results for Vertical 49 (X = 3.21 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -1.651 | 0.070 | -0.430 | 0.069 | 0.244 |
| -1.751 | 0.697 | -0.429 | 0.085 | 0.241 |
| -1.851 | 1.317 | -0.428 | 0.102 | 0.240 |
| -1.951 | 1.928 | -0.425 | 0.121 | 0.239 |
| -2.051 | 2.532 | -0.421 | 0.142 | 0.238 |
| -2.151 | 3.127 | -0.417 | 0.164 | 0.237 |
| -2.251 | 3.714 | -0.411 | 0.188 | 0.236 |
| -2.351 | 4.294 | -0.404 | 0.213 | 0.236 |
| -2.425 | 4.721 | -0.399 | 0.233 | 0.235 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.451 | 4.866 | -0.397 | 0.240 | 0.235 |
| -2.551 | 5.431 | -0.388 | 0.267 | 0.235 |
| -2.650 | 5.982 | -0.379 | 0.296 | 0.234 |
| -2.651 | 5.987 | -0.379 | 0.296 | 0.234 |
| -3.200 | 8.911 | -0.313 | 0.467 | 0.233 |
| -3.200 | 8.911 | -0.313 | 0.467 | 0.233 |
| -3.900 | 11.264 | -0.266 | 0.699 | 0.221 |
| -4.500 | 13.244 | -0.223 | 0.894 | 0.212 |
| -5.200 | 15.522 | -0.170 | 1.108 | 0.201 |
| -5.800 | 17.466 | -0.125 | 1.278 | 0.192 |
| -5.800 | 17.466 | -0.125 | 1.278 | 0.192 |
| -6.650 | 17.981 | -0.095 | 1.500 | 0.169 |
| -7.500 | 18.628 | -0.080 | 1.704 | 0.146 |
| -7.500 | 18.628 | -0.080 | 1.704 | 0.146 |
| -8.000 | 21.341 | -0.075 | 1.817 | 0.140 |
| -8.500 | 24.097 | -0.075 | 1.928 | 0.134 |
| -8.500 | 24.097 | -0.075 | 1.928 | 0.134 |
| -8.650 | 24.242 | -0.076 | 1.961 | 0.129 |
| -8.800 | 24.393 | -0.078 | 1.993 | 0.124 |
| -8.800 | 24.393 | -0.078 | 1.993 | 0.124 |
| -9.800 | 30.712 | -0.079 | 2.205 | 0.118 |
| -10.800 | 37.037 | -0.081 | 2.413 | 0.112 |
| -10.800 | 37.037 | -0.081 | 2.413 | 0.112 |
| -11.300 | 39.904 | -0.093 | 2.515 | 0.104 |
| -11.800 | 42.801 | -0.108 | 2.616 | 0.096 |
| -11.800 | 42.801 | -0.108 | 2.616 | 0.096 |
| -12.800 | 49.152 | -0.113 | 2.817 | 0.087 |
| -13.800 | 55.519 | -0.120 | 3.012 | 0.077 |
| -14.600 | 60.622 | -0.127 | 3.163 | 0.069 |
| -15.100 | 63.817 | -0.133 | 3.255 | 0.064 |
| -15.600 | 67.016 | -0.138 | 3.345 | 0.059 |
| -16.600 | 73.424 | -0.152 | 3.518 | 0.048 |
| -17.400 | 78.563 | -0.165 | 3.648 | 0.039 |
| -17.400 | 78.563 | -0.165 | 3.648 | 0.039 |
| -17.750 | 81.627 | -0.215 | 3.703 | 0.036 |
| -18.100 | 84.718 | -0.268 | 3.756 | 0.034 |
| -18.100 | 84.718 | -0.268 | 3.756 | 0.034 |
| -18.400 | 86.651 | -0.274 | 3.800 | 0.030 |
| -18.700 | 88.586 | -0.280 | 3.843 | 0.026 |
| -18.700 | 88.586 | -0.280 | 3.843 | 0.026 |
| -19.100 | 102.325 | -1.458 | 3.899 | 0.018 |
| -19.500 | 116.188 | -2.650 | 3.953 | 0.009 |
| -19.500 | 116.189 | -2.650 | 3.953 | 0.009 |
| -20.850 | 130.125 | -2.650 | 4.119 | 0.006 |
| -22.250 | 144.552 | -2.650 | 4.267 | 0.004 |
| -23.600 | 158.439 | -2.650 | 4.387 | 0.002 |
| -25.000 | 172.815 | -2.650 | 4.488 | 0.000 |

### 3.50 Results for Vertical 50 (X = 3.78 m; Z = 0.00 m)

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.075 | 0.086 | -0.430 | 0.085 | 0.251 |
| -2.175 | 0.712 | -0.429 | 0.100 | 0.248 |
| -2.275 | 1.328 | -0.427 | 0.115 | 0.246 |

| Depth [m] | Effective Stress [kPa] | Hydraulic head [m] | Loading [kPa] | Settlement [m] |
|---|---|---|---|---|
| -2.375 | 1.935 | -0.425 | 0.132 | 0.245 |
| -2.475 | 2.533 | -0.421 | 0.150 | 0.244 |
| -2.575 | 3.122 | -0.416 | 0.169 | 0.244 |
| -2.638 | 3.485 | -0.412 | 0.181 | 0.243 |
| -2.650 | 3.558 | -0.411 | 0.184 | 0.243 |
| -2.675 | 3.702 | -0.410 | 0.189 | 0.243 |
| -2.775 | 4.273 | -0.403 | 0.210 | 0.242 |
| -2.875 | 4.836 | -0.395 | 0.232 | 0.242 |
| -2.975 | 5.390 | -0.386 | 0.254 | 0.241 |
| -3.075 | 5.936 | -0.376 | 0.278 | 0.241 |
| -3.200 | 6.607 | -0.362 | 0.308 | 0.241 |
| -3.200 | 6.607 | -0.362 | 0.308 | 0.241 |
| -3.900 | 8.982 | -0.322 | 0.492 | 0.228 |
| -4.500 | 10.975 | -0.283 | 0.660 | 0.217 |
| -5.200 | 13.262 | -0.233 | 0.854 | 0.205 |
| -5.800 | 15.203 | -0.188 | 1.015 | 0.196 |
| -5.800 | 15.203 | -0.188 | 1.015 | 0.196 |
| -6.650 | 15.703 | -0.158 | 1.231 | 0.172 |
| -7.500 | 16.322 | -0.140 | 1.435 | 0.148 |
| -7.500 | 16.322 | -0.140 | 1.435 | 0.148 |
| -8.000 | 18.992 | -0.131 | 1.550 | 0.142 |
| -8.500 | 21.694 | -0.125 | 1.662 | 0.135 |
| -8.500 | 21.694 | -0.125 | 1.662 | 0.135 |
| -8.650 | 21.827 | -0.125 | 1.695 | 0.130 |
| -8.800 | 21.967 | -0.125 | 1.728 | 0.125 |
| -8.800 | 21.967 | -0.125 | 1.728 | 0.125 |
| -9.800 | 28.281 | -0.125 | 1.942 | 0.119 |
| -10.800 | 34.600 | -0.127 | 2.151 | 0.113 |
| -10.800 | 34.600 | -0.127 | 2.151 | 0.113 |
| -11.300 | 37.433 | -0.135 | 2.254 | 0.105 |
| -11.800 | 40.293 | -0.146 | 2.356 | 0.096 |
| -11.800 | 40.293 | -0.146 | 2.356 | 0.096 |
| -12.800 | 46.632 | -0.150 | 2.557 | 0.087 |
| -13.800 | 52.985 | -0.156 | 2.753 | 0.077 |
| -14.600 | 58.077 | -0.162 | 2.905 | 0.069 |
| -15.100 | 61.263 | -0.167 | 2.998 | 0.064 |
| -15.600 | 64.454 | -0.172 | 3.088 | 0.059 |
| -16.600 | 70.845 | -0.184 | 3.263 | 0.048 |
| -17.400 | 75.969 | -0.195 | 3.395 | 0.038 |
| -17.400 | 75.969 | -0.195 | 3.395 | 0.038 |
| -17.750 | 78.976 | -0.239 | 3.451 | 0.036 |
| -18.100 | 82.006 | -0.285 | 3.505 | 0.034 |
| -18.100 | 82.006 | -0.285 | 3.505 | 0.034 |
| -18.400 | 83.933 | -0.290 | 3.550 | 0.030 |
| -18.700 | 85.862 | -0.296 | 3.595 | 0.026 |
| -18.700 | 85.862 | -0.296 | 3.595 | 0.026 |
| -19.100 | 99.528 | -1.467 | 3.652 | 0.017 |
| -19.500 | 113.309 | -2.650 | 3.708 | 0.008 |
| -19.500 | 113.310 | -2.650 | 3.708 | 0.008 |
| -20.850 | 127.253 | -2.650 | 3.881 | 0.006 |
| -22.250 | 141.688 | -2.650 | 4.037 | 0.004 |
| -23.600 | 155.583 | -2.650 | 4.166 | 0.002 |
| -25.000 | 169.970 | -2.650 | 4.277 | 0.000 |

# 4 Settlements

## 4.1 Settlements

| Vertical number | X co-ordinate [m] | Z co-ordinate [m] | Surface level [m] | Settlement [m] |
|---|---|---|---|---|
| 1 | -40.00 | 0.00 | -2.54 | 0.161 |
| 2 | -32.02 | 0.00 | -2.44 | 0.213 |
| 3 | -31.79 | 0.00 | -2.44 | 0.226 |
| 4 | -31.74 | 0.00 | -2.44 | 0.232 |
| 5 | -31.72 | 0.00 | -2.44 | 0.233 |
| 6 | -30.88 | 0.00 | -2.40 | 0.274 |
| 7 | -25.84 | 0.00 | -2.34 | 0.526 |
| 8 | -22.97 | 0.00 | -2.38 | 0.690 |
| 9 | -21.62 | 0.00 | -2.37 | 0.747 |
| 10 | -19.93 | 0.00 | -2.36 | 0.812 |
| 11 | -16.66 | 0.00 | -2.42 | 0.976 |
| 12 | -16.28 | 0.00 | -2.46 | 1.024 |
| 13 | -15.75 | 0.00 | -2.61 | 1.171 |
| 14 | -15.72 | 0.00 | -2.65 | 1.215 |
| 15 | -15.52 | 0.00 | -3.00 | 1.180 |
| 16 | -15.45 | 0.00 | -3.12 | 1.163 |
| 17 | -15.34 | 0.00 | -3.20 | 1.144 |
| 18 | -15.09 | 0.00 | -3.39 | 1.131 |
| 19 | -13.56 | 0.00 | -3.51 | 1.135 |
| 20 | -12.03 | 0.00 | -3.63 | 1.109 |
| 21 | -11.51 | 0.00 | -3.36 | 1.112 |
| 22 | -11.37 | 0.00 | -3.28 | 1.148 |
| 23 | -11.36 | 0.00 | -3.20 | 1.169 |
| 24 | -11.34 | 0.00 | -3.00 | 1.098 |
| 25 | -11.31 | 0.00 | -2.65 | 1.027 |
| 26 | -11.24 | 0.00 | -1.86 | 0.667 |
| 27 | -10.55 | 0.00 | -1.54 | 0.599 |
| 28 | -9.39 | 0.00 | -1.05 | 0.518 |
| 29 | -9.02 | 0.00 | -0.89 | 0.494 |
| 30 | -9.02 | 0.00 | -0.89 | 0.492 |
| 31 | -7.30 | 0.00 | -0.15 | 0.406 |
| 32 | -6.80 | 0.00 | 0.07 | 0.379 |
| 33 | -6.20 | 0.00 | 0.05 | 0.366 |
| 34 | -5.87 | 0.00 | 0.04 | 0.363 |
| 35 | -3.12 | 0.00 | -0.02 | 0.335 |
| 36 | -0.37 | 0.00 | -0.09 | 0.301 |
| 37 | -0.30 | 0.00 | -0.11 | 0.301 |
| 38 | -0.16 | 0.00 | -0.15 | 0.300 |
| 39 | 0.00 | 0.00 | -0.15 | 0.294 |
| 40 | 0.10 | 0.00 | -0.15 | 0.286 |
| 41 | 0.15 | 0.00 | -0.15 | 0.279 |
| 42 | 0.45 | 0.00 | -0.19 | 0.244 |
| 43 | 0.87 | 0.00 | -0.38 | 0.243 |
| 44 | 0.98 | 0.00 | -0.89 | 0.302 |
| 45 | 1.42 | 0.00 | -1.81 | 0.327 |
| 46 | 1.82 | 0.00 | -1.74 | 0.298 |
| 47 | 2.33 | 0.00 | -1.71 | 0.274 |
| 48 | 2.71 | 0.00 | -1.62 | 0.255 |
| 49 | 3.21 | 0.00 | -1.65 | 0.244 |
| 50 | 3.78 | 0.00 | -2.08 | 0.251 |

## 4.2 Residual Times

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| 1 | 540 | 0.011 | 6.984 | 0.150 |
| | 5000 | 0.104 | 64.691 | 0.057 |
| 2 | 540 | 0.025 | 11.670 | 0.188 |
| | 5000 | 0.152 | 71.248 | 0.061 |
| 3 | 540 | 0.033 | 14.537 | 0.193 |
| | 5000 | 0.164 | 72.312 | 0.063 |
| 4 | 540 | 0.037 | 15.917 | 0.195 |
| | 5000 | 0.169 | 72.763 | 0.063 |
| 5 | 540 | 0.038 | 16.208 | 0.195 |
| | 5000 | 0.170 | 72.859 | 0.063 |
| 6 | 540 | 0.059 | 21.602 | 0.215 |
| | 5000 | 0.207 | 75.465 | 0.067 |
| 7 | 540 | 0.162 | 30.722 | 0.365 |
| | 5000 | 0.415 | 78.826 | 0.111 |
| 8 | 540 | 0.210 | 30.411 | 0.480 |
| | 5000 | 0.537 | 77.763 | 0.154 |
| 9 | 540 | 0.226 | 30.197 | 0.521 |
| | 5000 | 0.580 | 77.655 | 0.167 |
| 10 | 540 | 0.243 | 29.913 | 0.569 |
| | 5000 | 0.629 | 77.474 | 0.183 |
| 11 | 540 | 0.279 | 28.595 | 0.697 |
| | 5000 | 0.751 | 76.945 | 0.225 |
| 12 | 540 | 0.287 | 28.077 | 0.736 |
| | 5000 | 0.788 | 76.951 | 0.236 |
| 13 | 540 | 0.347 | 29.638 | 0.824 |
| | 5000 | 0.912 | 77.858 | 0.259 |
| 14 | 540 | 0.351 | 28.914 | 0.863 |
| | 5000 | 0.945 | 77.803 | 0.270 |
| 15 | 540 | 0.328 | 27.845 | 0.851 |
| | 5000 | 0.910 | 77.111 | 0.270 |
| 16 | 540 | 0.310 | 26.636 | 0.853 |
| | 5000 | 0.891 | 76.579 | 0.272 |
| 17 | 540 | 0.292 | 25.538 | 0.852 |
| | 5000 | 0.869 | 75.983 | 0.275 |
| 18 | 540 | 0.284 | 25.075 | 0.847 |
| | 5000 | 0.854 | 75.541 | 0.277 |
| 19 | 540 | 0.284 | 25.046 | 0.850 |
| | 5000 | 0.855 | 75.324 | 0.280 |
| 20 | 540 | 0.269 | 24.267 | 0.840 |
| | 5000 | 0.823 | 74.208 | 0.286 |
| 21 | 540 | 0.268 | 24.135 | 0.843 |
| | 5000 | 0.826 | 74.290 | 0.286 |
| 22 | 540 | 0.302 | 26.296 | 0.846 |
| | 5000 | 0.867 | 75.565 | 0.280 |
| 23 | 540 | 0.330 | 28.240 | 0.839 |
| | 5000 | 0.890 | 76.185 | 0.278 |
| 24 | 540 | 0.259 | 23.584 | 0.839 |
| | 5000 | 0.818 | 74.543 | 0.279 |
| 25 | 540 | 0.220 | 21.419 | 0.807 |
| | 5000 | 0.752 | 73.225 | 0.275 |
| 26 | 540 | 0.158 | 23.771 | 0.508 |
| | 5000 | 0.489 | 73.277 | 0.178 |
| 27 | 540 | 0.147 | 24.548 | 0.452 |
| | 5000 | 0.435 | 72.694 | 0.164 |
| 28 | 540 | 0.127 | 24.547 | 0.391 |

| Vertical number | Time [days] | Settlement [m] | Part of final settlement [%] | Residual settlements [m] |
|---|---|---|---|---|
| | 5000 | 0.374 | 72.216 | 0.144 |
| 29 | 540 | 0.120 | 24.309 | 0.374 |
| | 5000 | 0.355 | 71.929 | 0.139 |
| 30 | 540 | 0.120 | 24.291 | 0.373 |
| | 5000 | 0.354 | 71.871 | 0.138 |
| 31 | 540 | 0.090 | 22.293 | 0.315 |
| | 5000 | 0.285 | 70.174 | 0.121 |
| 32 | 540 | 0.079 | 20.798 | 0.300 |
| | 5000 | 0.263 | 69.371 | 0.116 |
| 33 | 540 | 0.076 | 20.705 | 0.290 |
| | 5000 | 0.254 | 69.257 | 0.113 |
| 34 | 540 | 0.077 | 21.109 | 0.286 |
| | 5000 | 0.252 | 69.454 | 0.111 |
| 35 | 540 | 0.072 | 21.638 | 0.262 |
| | 5000 | 0.234 | 69.789 | 0.101 |
| 36 | 540 | 0.068 | 22.563 | 0.233 |
| | 5000 | 0.212 | 70.392 | 0.089 |
| 37 | 540 | 0.069 | 22.992 | 0.232 |
| | 5000 | 0.213 | 70.564 | 0.089 |
| 38 | 540 | 0.070 | 23.408 | 0.230 |
| | 5000 | 0.212 | 70.783 | 0.088 |
| 39 | 540 | 0.068 | 23.044 | 0.226 |
| | 5000 | 0.207 | 70.509 | 0.087 |
| 40 | 540 | 0.063 | 22.160 | 0.223 |
| | 5000 | 0.200 | 70.001 | 0.086 |
| 41 | 540 | 0.059 | 21.040 | 0.221 |
| | 5000 | 0.194 | 69.415 | 0.085 |
| 42 | 540 | 0.034 | 14.082 | 0.210 |
| | 5000 | 0.161 | 66.056 | 0.083 |
| 43 | 540 | 0.015 | 6.244 | 0.228 |
| | 5000 | 0.142 | 58.485 | 0.101 |
| 44 | 540 | 0.038 | 12.704 | 0.263 |
| | 5000 | 0.190 | 63.026 | 0.112 |
| 45 | 540 | 0.045 | 13.868 | 0.282 |
| | 5000 | 0.210 | 64.299 | 0.117 |
| 46 | 540 | 0.032 | 10.602 | 0.267 |
| | 5000 | 0.186 | 62.469 | 0.112 |
| 47 | 540 | 0.021 | 7.642 | 0.253 |
| | 5000 | 0.166 | 60.777 | 0.107 |
| 48 | 540 | 0.015 | 5.685 | 0.241 |
| | 5000 | 0.152 | 59.531 | 0.103 |
| 49 | 540 | 0.011 | 4.597 | 0.233 |
| | 5000 | 0.144 | 58.906 | 0.100 |
| 50 | 540 | 0.013 | 5.190 | 0.238 |
| | 5000 | 0.150 | 59.776 | 0.101 |

## 5 Warnings and errors

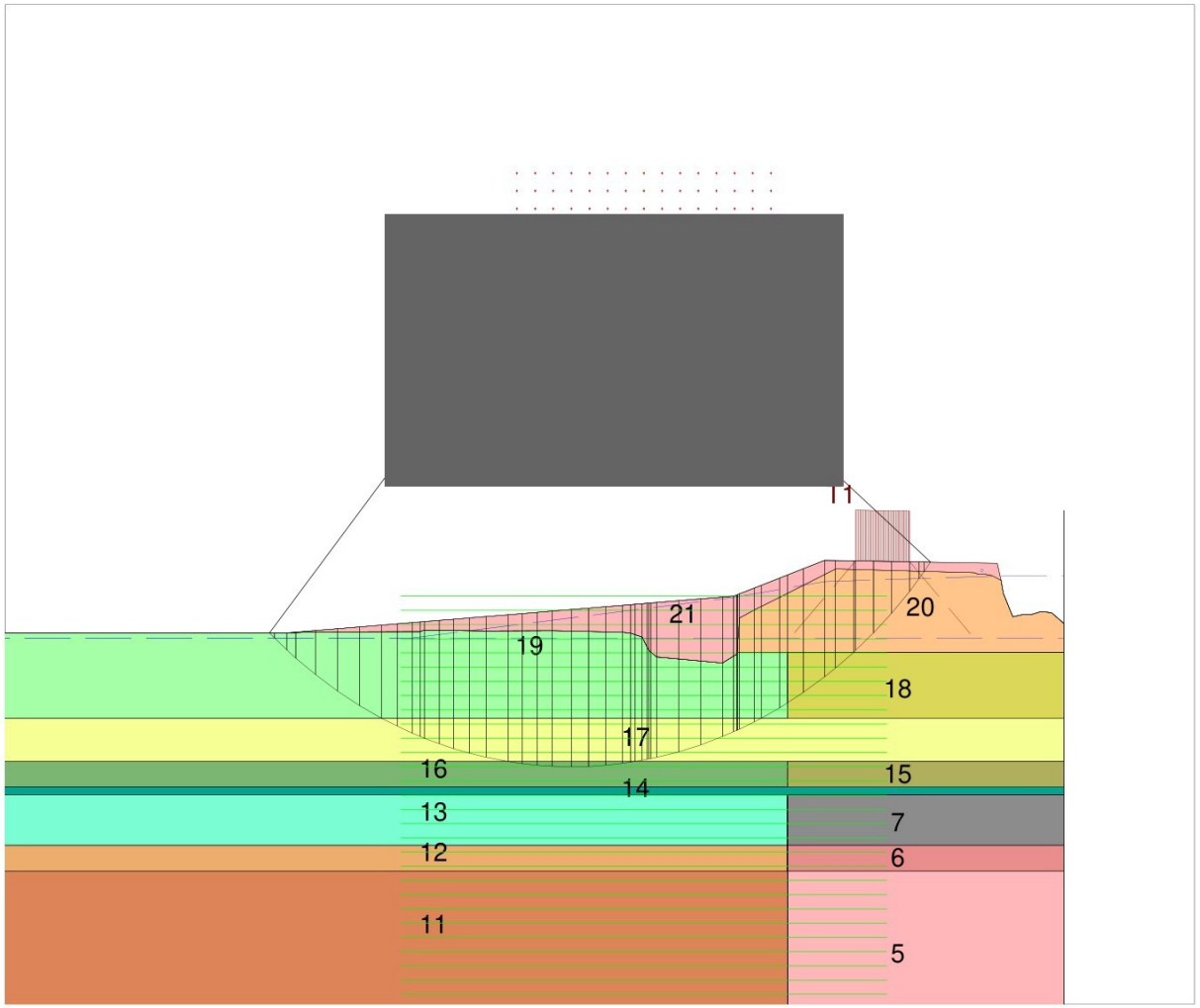
List of non-fatal warnings and errors generated during calculation.

1 Non-uniform load [2]: Co-ordinate (1) lies below surface

2 Non-uniform load [3]: Co-ordinate (1) lies below surface

## End of Report

# Critical Circle Bishop




Layers

- 21. nieuw profiel
- 20. Dijksmateriaal
- 19. Klei Hum Dk naast
- 18. Klei Hum DK
- 17. Hollandveen
- 16. Klei silt DKnaast
- 15. Klei silt DK
- 14. Hollandveen
- 13. Klei CA naast
- 12. Klei hum CA naast
- 11. Klei CA naast
- 10. Klei zand CA naast
- 9. Klei CA naast
- 8. Klei hum CA naast
- 7. Klei CA
- 6. Klei hum CA
- 5. Klei CA
- 4. Klei zand CA
- 3. Klei CA
- 2. Klei hum CA
- 1. Zand CA

Xm : -19.03 [m]
Ym : 13.52 [m]

Radius : 21.23 [m]
Safety : 1.50

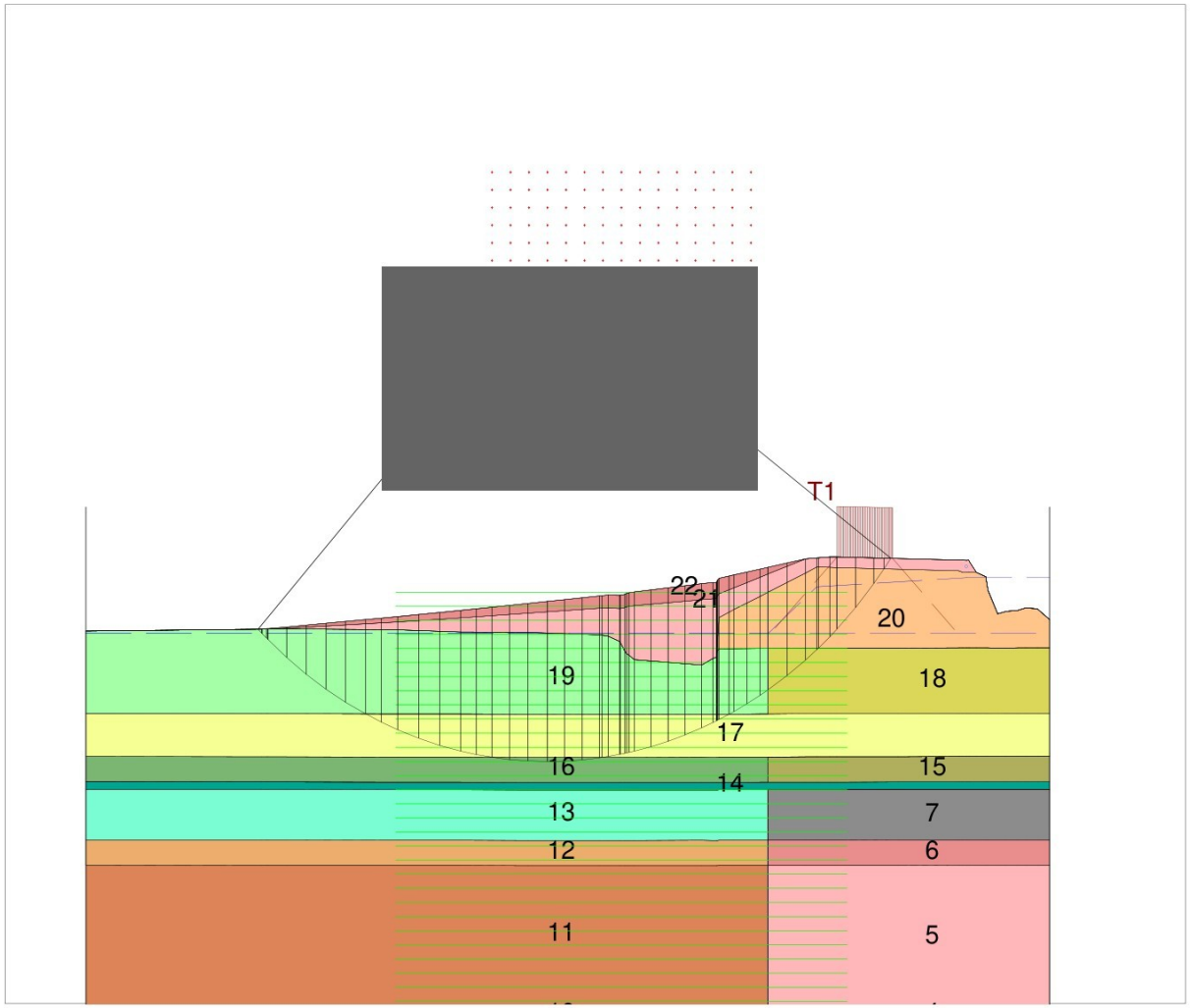
D-Geo Stability 18.2 : 14.840_stbi_eind_steunberm koe.sti

waalpartners civil engineering
Zuidweg 75
2671MP Naaldwijk
Phone
Fax 0174 627791

N468 steunberm
SB13 profiel 14.840
STBI eind

| | | | |
|---|---|---|---|
| Annex - | - | 2/13/2025 | - |
| form. | ctr. | date | drw. |
| A3 | | | |

# Critical Circle Bishop




Layers

- 22. nieuw profiel
- 21. nieuw profiel
- 20. Dijksmateriaal
- 19. Klei Hum Dk naast
- 18. Klei Hum DK
- 17. Hollandveen
- 16. Klei silt DKnaast
- 15. Klei silt DK
- 14. Hollandveen
- 13. Klei CA naast
- 12. Klei hum CA naast
- 11. Klei CA naast
- 10. Klei zand CA naast
- 9. Klei CA naast
- 8. Klei hum CA naast
- 7. Klei CA
- 6. Klei hum CA
- 5. Klei CA
- 4. Klei zand CA
- 3. Klei CA
- 2. Klei hum CA
- 1. Zand CA

Xm : -19.03 [m]
Ym : 11.42 [m]

Radius : 19.13 [m]
Safety : 1.15

N468 steunberm
SB13 profiel 14.840
STBI eind

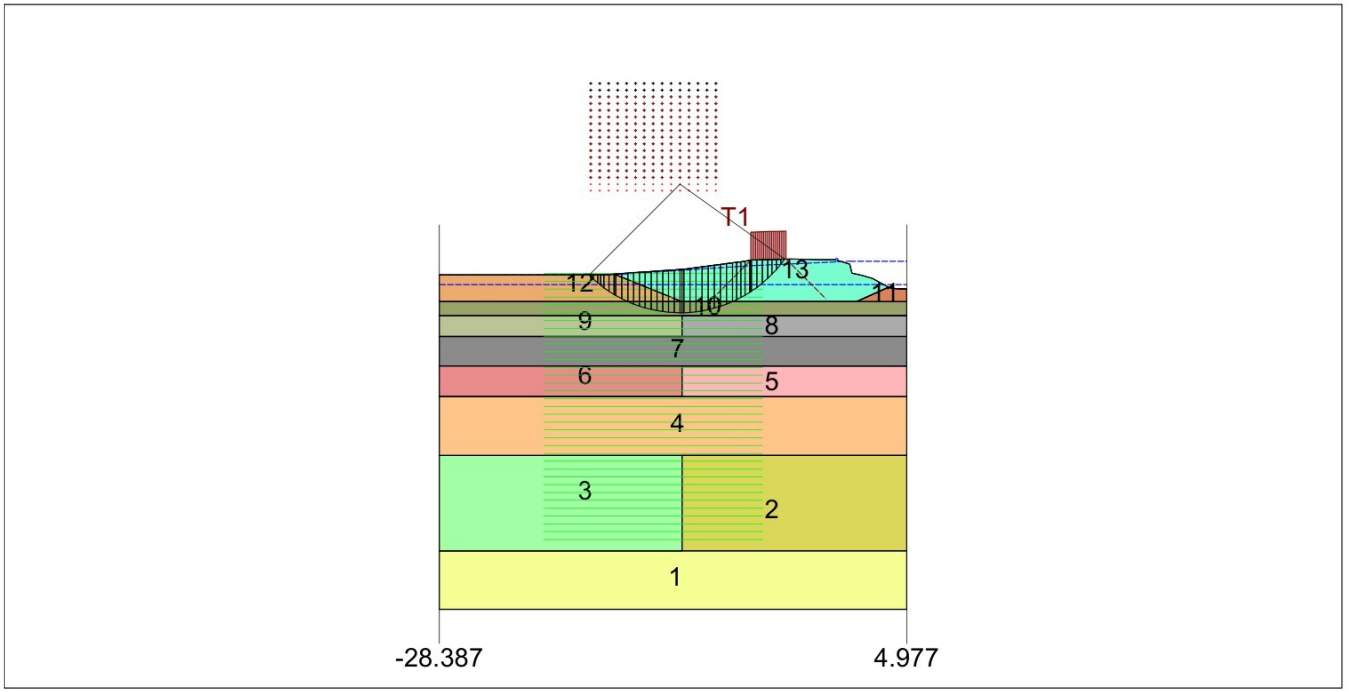
waalpartners civil engineering
Zuidweg 75
2671MP Naaldwijk
Phone
Fax 0174 627791

date 2/13/2025
dfw. -
ctr. -
form. A3
Annex -

D-Geo Stability 18.2 : 14.840_stbi_eind_steunberm koe540.sti

Bijlage 5.3 12.420

# Critical Circle Bishop




Layers

- 13. Dijksmateriaal
- 12. Klei silt DKnaast
- 11. Klei silt DKnaast
- 10. Hollandveen
- 9. Klei silt DKnaast
- 8. Klei silt DK
- 7. Hollandveen
- 6. Klei CA naast
- 5. Klei CA
- 4. Zand CA
- 3. Klei zand CA naast
- 2. Klei zand CA
- 1. Zand CA

Xm : -11.19 [m]
Ym : 5.40 [m]

Radius : 9.19 [m]
Safety : 1.72

N468 steunberm
profiel 12.420
huidige STBI

Phone
Fax

date 12/21/2022

Annex -

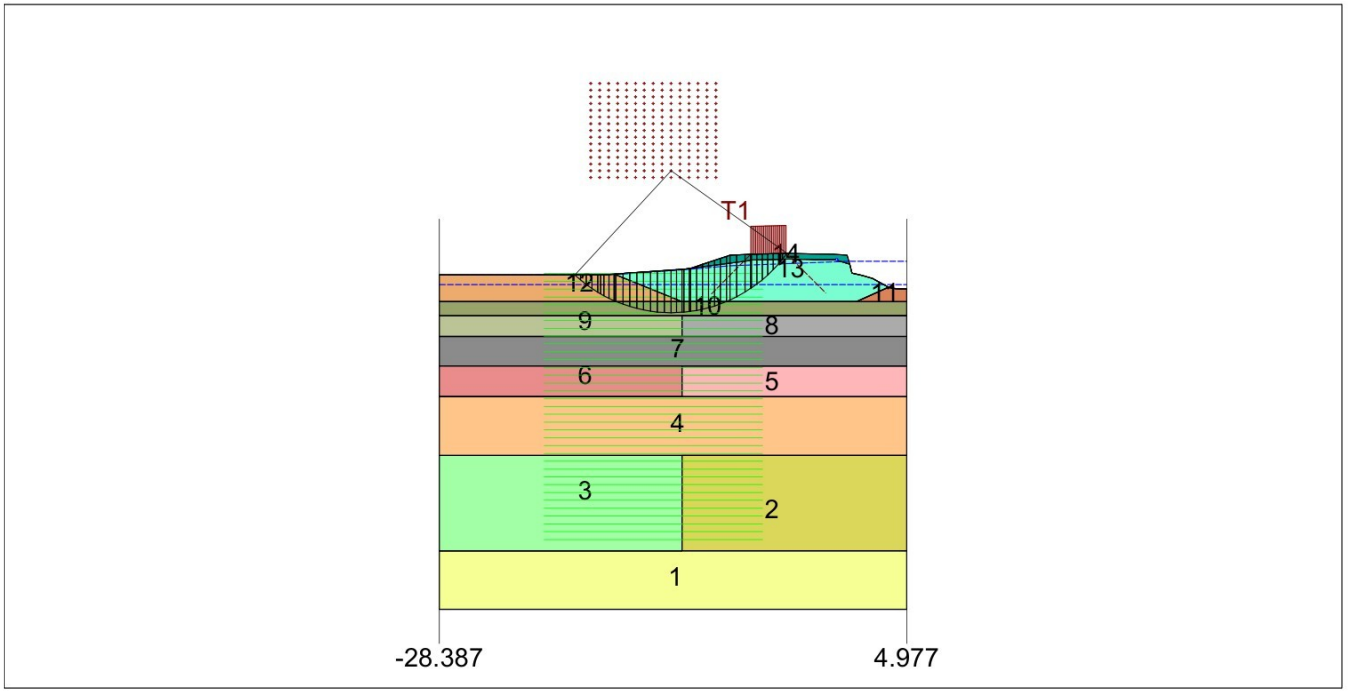
ctr. -

form. A4

drw. -

D-Geo Stability 18.2 : 12.420 STBI huidig.sti

# Critical Circle Bishop




Layers

- 14. nieuw profiel
- 13. Dijksmateriaal
- 12. Klei silt DKnaast
- 11. Klei silt DKnaast
- 10. Hollandveen
- 9. Klei silt DKnaast
- 8. Klei silt DK
- 7. Hollandveen
- 6. Klei CA naast
- 5. Klei CA
- 4. Zand CA
- 3. Klei zand CA naast
- 2. Klei zand CA
- 1. Zand CA

Xm : -11.83 [m]
Ym : 6.36 [m]

Radius : 10.15 [m]
Safety : 1.47

N468 steunberm
profiel 12.420
STBI ontwerp

Phone
Fax

date 12/21/2022
drw. -
ctr.
form. A4

Annex -
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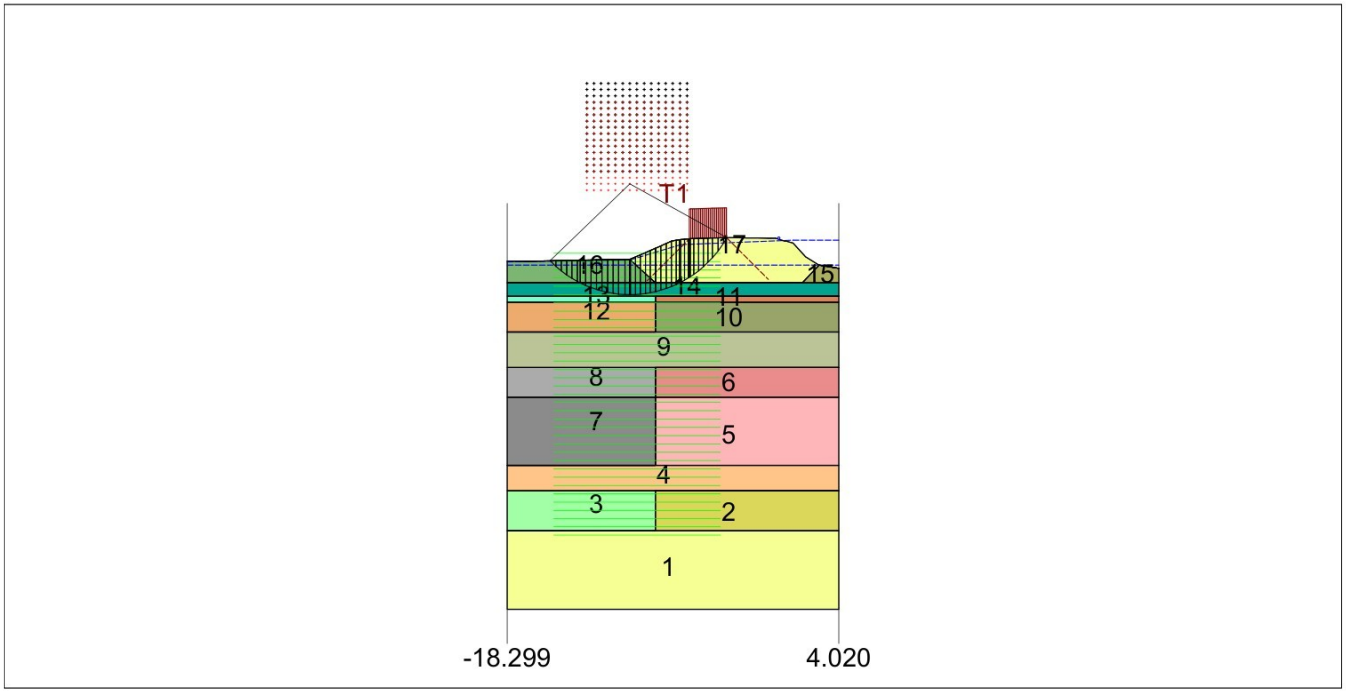
D-Geo Stability 18.2 : 12.420 STBI_ontwerp.sti

Bijlage 5.3 12.450

# Critical Circle Bishop




Layers

- 17. Dijksmateriaal
- 16. Klei silt DKnaast
- 15. Klei silt DKnaast
- 14. Hollandveen
- 13. Klei silt DKnaast
- 12. Klei zandig DK naast
- 11. Klei silt DK
- 10. Klei zandig DK
- 9. Hollandveen
- 8. Klei CA naast
- 7. Klei zand CA naast
- 6. Klei CA
- 5. Klei zand CA
- 4. Zand CA
- 3. Klei zand CA naast
- 2. Klei zand CA
- 1. Zand CA

Xm : -10.05 [m]
Ym : 3.66 [m]

Radius : 7.46 [m]
Safety : 1.08

N468 steunberm
profiel 12.450
huidige STBI

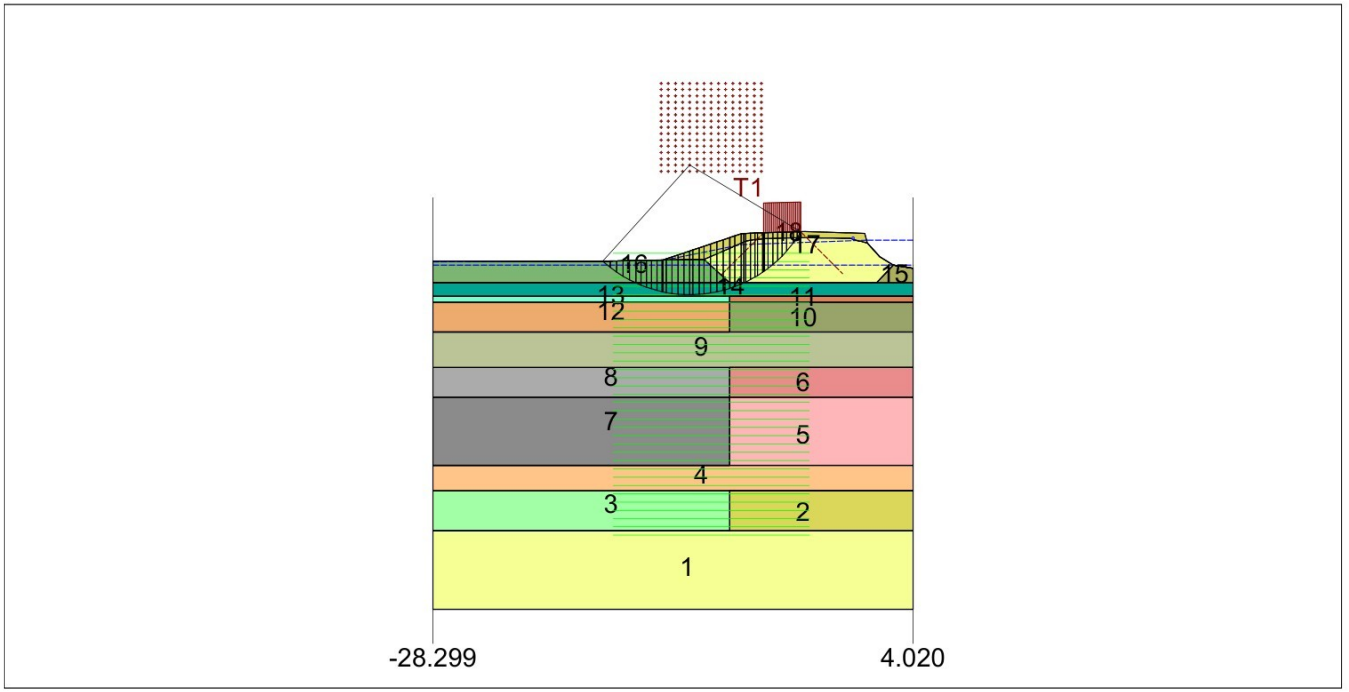
Phone
Fax

date 12/21/2022
drw. -
ctr. -
form. A4

Annex -

D-Geo Stability 18.2 : 12.450 STBI huidig.stl

# Critical Circle Bishop




Layers

- 18. nieuw profiel
- 17. Dijksmateriaal
- 16. Klei silt DKnaast
- 15. Klei silt DKnaast
- 14. Hollandveen
- 13. Klei silt DKnaast
- 12. Klei zandig DK naast
- 11. Klei silt DK
- 10. Klei zandig DK
- 9. Hollandveen
- 8. Klei CA naast
- 7. Klei zand CA naast
- 6. Klei CA
- 5. Klei zand CA
- 4. Zand CA
- 3. Klei zand CA naast
- 2. Klei zand CA
- 1. Zand CA

Xm : -11.01 [m]
Ym : 4.93 [m]

Radius : 8.73 [m]
Safety : 1.08

N468 steunberm
profiel 12.450
STBI ontwerp

Phone
Fax

date 12/21/2022

drw. -

ctr. -

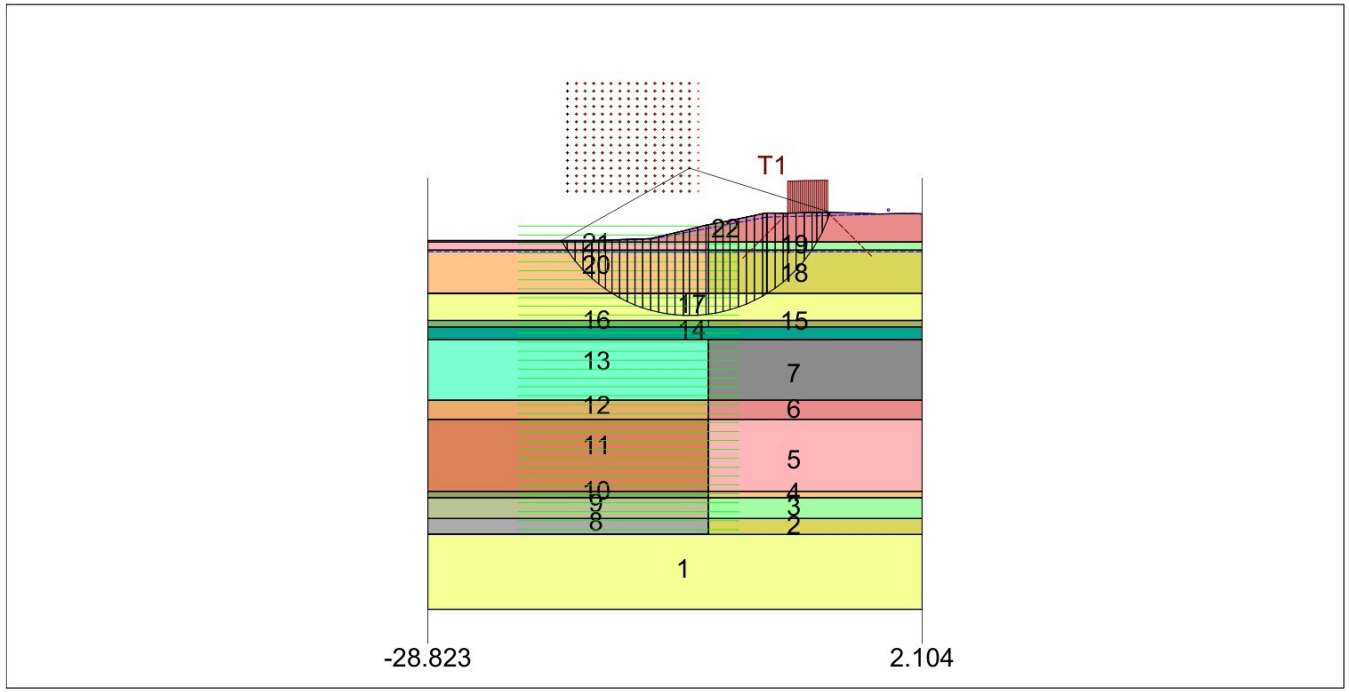
form. A4

Annex -

D-Geo Stability 18.2 : 12.450 STBI_ontwerp.sti

Bijlage 5.3 14.915

# Critical Circle Bishop




Layers

- 22. Dijksmateriaal
- 21. Klei zandig DK naast
- 20. Klei Hum Dk naast
- 19. Klei zandig DK
- 18. Klei Hum DK
- 17. Hollandveen
- 16. Klei silt DKnaast
- 15. Klei silt DK
- 14. Hollandveen
- 13. Klei CA naast
- 12. Klei hum CA naast
- 11. Klei CA naast
- 10. Klei zand CA naast
- 9. Klei CA naast
- 8. Klei hum CA naast
- 7. Klei CA
- 6. Klei hum CA
- 5. Klei CA
- 4. Klei zand CA
- 3. Klei CA
- 2. Klei hum CA
- 1. Zand CA

Xm : -12.45 [m]
Ym : 2.63 [m]

Radius : 9.22 [m]
Safety : 1.30

N468 steunberm
profiel 14.970
huidige STBI

Phone
Fax

date 12/23/2022

Annex -

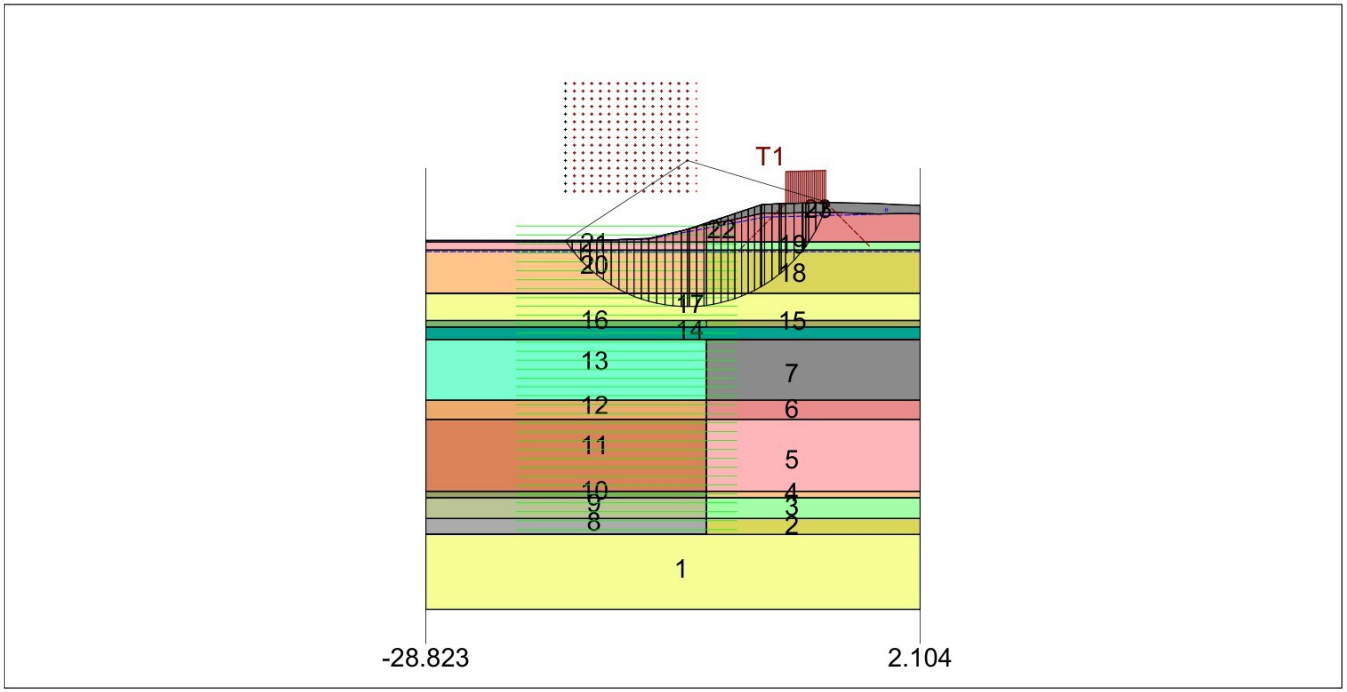
form. A4

ctr. -

drw. -

D-Geo Stability 18.2 : basis bestand stabiliteit.sti

# Critical Circle Bishop




Layers

- 23. nieuw profiel
- 22. Dijksmateriaal
- 21. Klei zandig DK naast
- 20. Klei Hum Dk naast
- 19. Klei zandig DK
- 18. Klei Hum DK
- 17. Hollandveen
- 16. Klei silt DKnaast
- 15. Klei silt DK
- 14. Hollandveen
- 13. Klei CA naast
- 12. Klei hum CA naast
- 11. Klei CA naast
- 10. Klei zand CA naast
- 9. Klei CA naast
- 8. Klei hum CA naast
- 7. Klei CA
- 6. Klei hum CA
- 5. Klei CA
- 4. Klei zand CA
- 3. Klei CA
- 2. Klei hum CA
- 1. Zand CA

Xm : -12.45 [m]
Ym : 3.12 [m]

Radius : 9.15 [m]
Safety : 1.16

N468 steunberm
profiel 14.970
STBI ontwerp

Phone
Fax

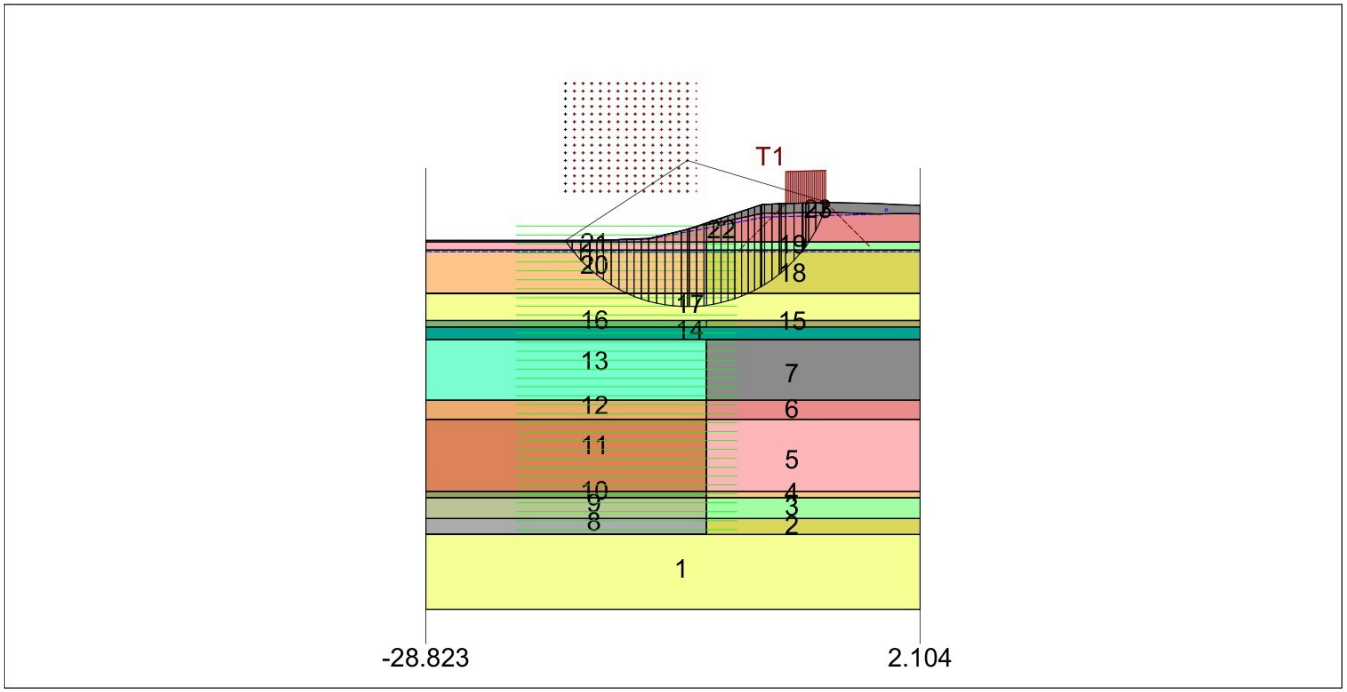
date 12/23/2022
drw. -
ctr.
form. A4

Annex -
-

D-Geo Stability 18.2 : 14.970 STBI_ontwerp.sti

Bijlage 5.3 14.970

# Critical Circle Bishop




Layers

- 23. nieuw profiel
- 22. Dijksmateriaal
- 21. Klei zandig DK naast
- 20. Klei Hum Dk naast
- 19. Klei zandig DK
- 18. Klei Hum DK
- 17. Hollandveen
- 16. Klei silt DKnaast
- 15. Klei silt DK
- 14. Hollandveen
- 13. Klei CA naast
- 12. Klei hum CA naast
- 11. Klei CA naast
- 10. Klei zand CA naast
- 9. Klei CA naast
- 8. Klei hum CA naast
- 7. Klei CA
- 6. Klei hum CA
- 5. Klei CA
- 4. Klei zand CA
- 3. Klei CA
- 2. Klei hum CA
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Xm : -12.45 [m]
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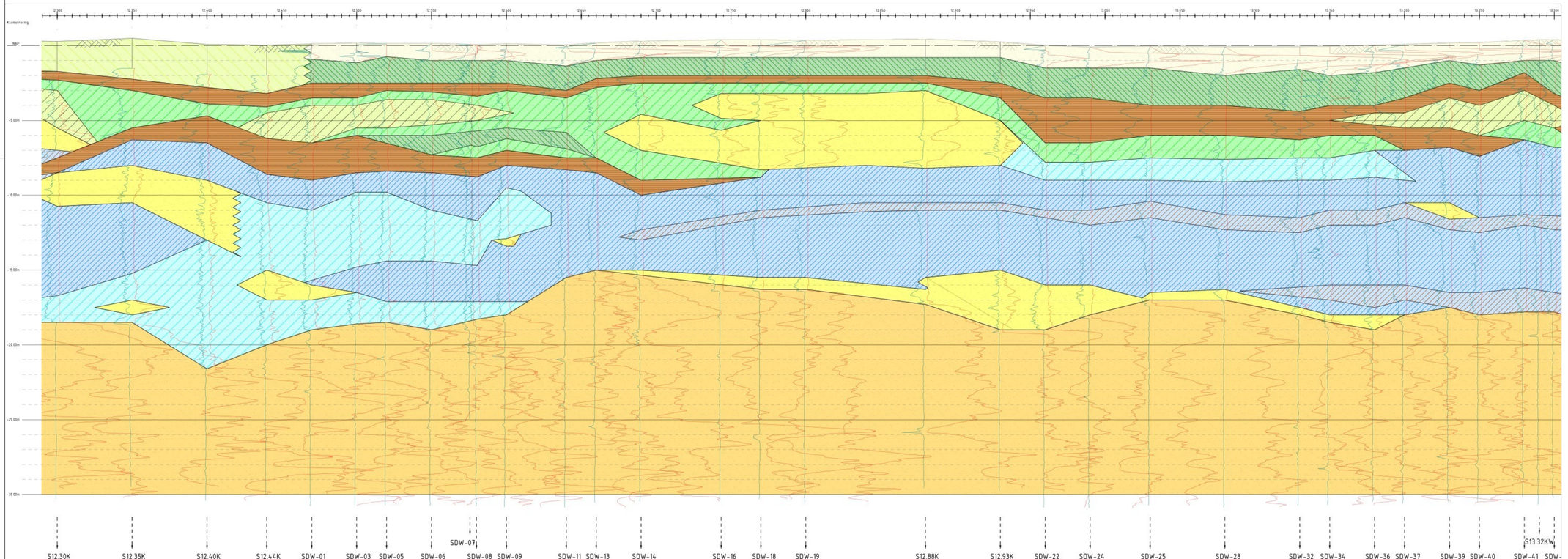
# Bijlage 6. Tekeningen

# Bijlage 7. Geotechnische lengteprofiel

Tekening: N468-T-GEO-DO-LP-3003




SITUATIE OVERZICHT

Schaal 1:20.000




LEGENDA

| | |
|---|---|
| Antropogeen | Calais Klei huneus |
| Antropogeen zand | Calais Klei zandig |
| Duinkerke Klei huneus | Calais zand |
| Duinkerke Klei | Hollandveen |
| Duinkerke Klei zandig | Pleistoceen zand |
| Calais Klei | S10.06K Sondering nr. |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| A0.2 | CONCEPT NAAR DEFINITIEF | B.Ra | T.Ko | S.Ek | 26-10-22 |
| A0.1 | GEOTECHNISCH LENGTEPROFIEL \| TD-03A KM12.30-KM13.30 | B.Ra | T.Ko | S.Ek | 18-10-2022 |
| Versie | Omschrijving | Getekend | Gecontroleerd | Akkoord | Datum |

Project
Groot onderhoud

Project
GROOT ONDERHOUD N468
TE MIDDEN-DELFLAND

Fase
DEFINITIEF ONTWERP

Onderdeel
GEOTECHNISCH LENGTEPROFIEL|TD-03A KM12.30-KM13.30

Tekeningnummer
N468-T-GEO-DO-LP-3030

In opdracht van
provincie Zuid-Holland
Delfland

Uitgevoerd door
bam
DE KONING
waalpartners civiel engineering

| Provincieblokje | Schaal | Bladnummer / van | Document type |
|---|---|---|---|
| | 1:1000 | 01 van 03 | DWG Tekening |
| Status | Formaat | Volgnrtgeconnner | Projectnummer PON |
| DEFINITIEF | A2-1261 | A0.1 | - |

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