

BEM1602795
gemeente Steenbergen

Werk : Woonzorggebouw SDW Zuidwal Steenbergen.

Werknummer : 15-1017

Opdrachtgever : Aan de Stegge Roosendaal

Datum : 23 mei 2016

Onderdeel :
- Brand beschouwing .
- Stabiliteits beschouwing.

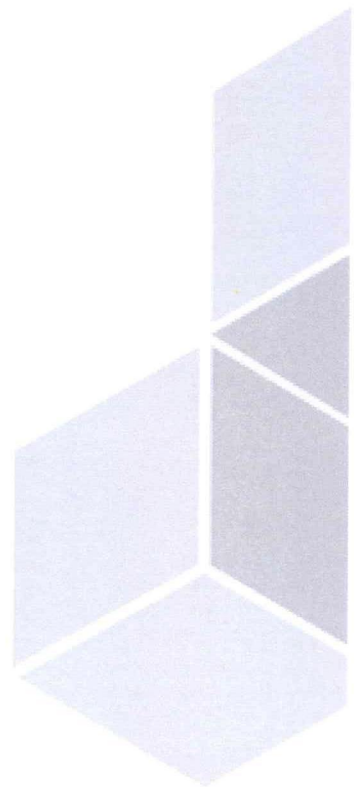
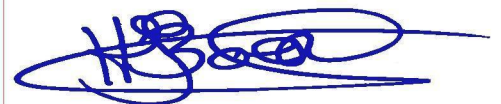
Constructeur :

Behoort bij beschikking

d.d. 29-06-2016

nr.(s) ZK16002016

Juridisch beleidsmedewerker
Publiekszaken / vergunningen



Brand eis:

Het gebouw zal aan een brand eis van 90 minuten moeten voldoen.

Het geen gerealiseerd zal worden d.m.v. de detaillering regels van de diverse onderdelen.

De aanwezige staalconstructie zal dusdanig omkleed worden, zodat de brand eis van 90 minuten gewaarborgd wordt.

* Stabiliteits berekening

+ Deel L-D / 5-9 $H = 6.6 \text{ m}$

Deel A-E / 1-9 $H = 9.8 \text{ m}$

+ Windgebied III, onbebouwd

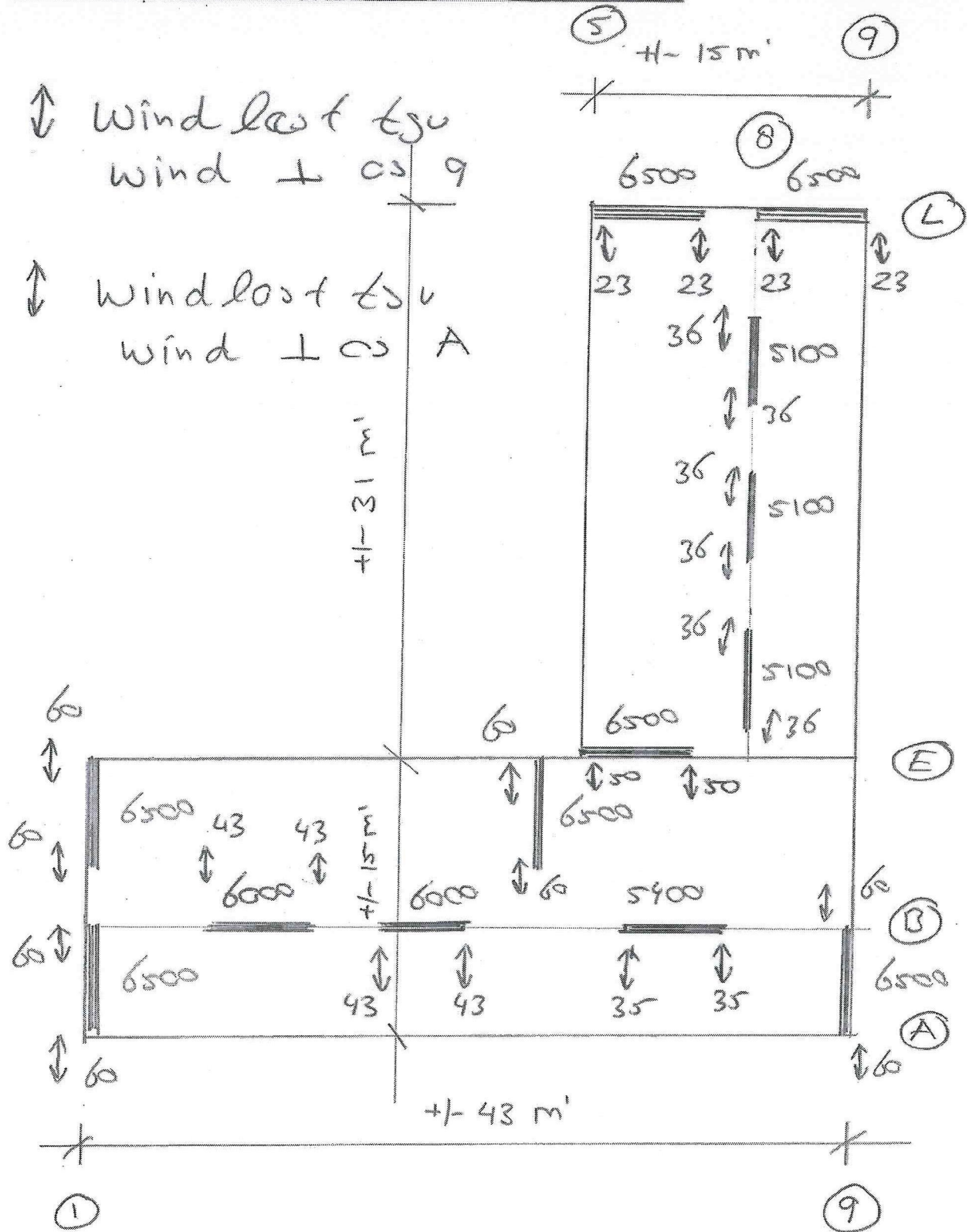
+ $H = 6.6 \text{ m} \rightarrow 0.60 \text{ s/m}^2$

$$z_{rep} = [0.8 + 0.5] \times 0.60 \text{ s/m}^2 \\ = \underline{\underline{0.80 \text{ s/m}^2}}$$

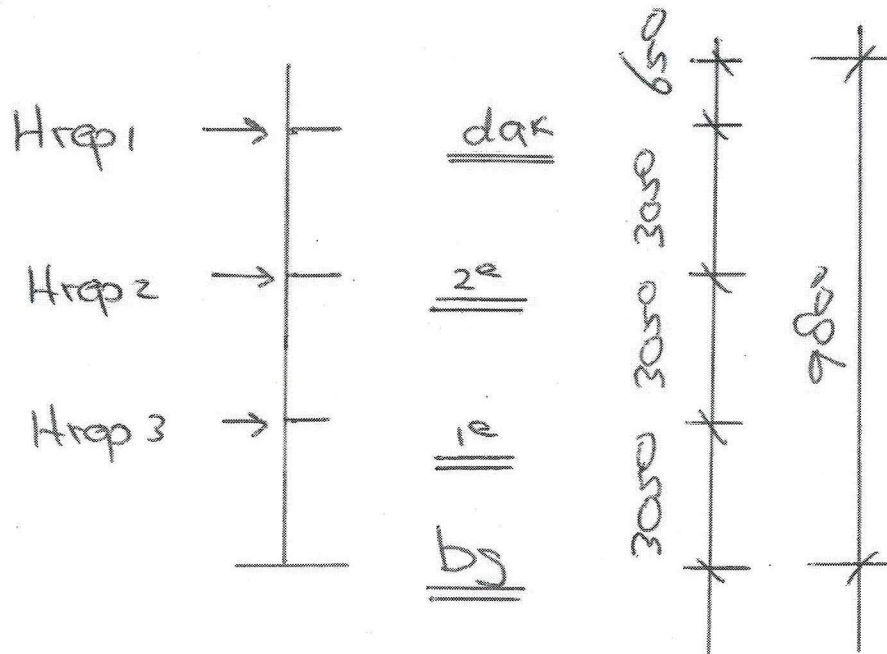
$H = 9.8 \text{ m} \rightarrow 0.70 \text{ s/m}^2$

$$z_{rep} = [0.8 + 0.5] \times 0.70 \text{ s/m}^2 \\ > \underline{\underline{0.90 \text{ s/m}^2}}$$

Overzicht steb. wonden



* Daan as 1-9



$$H_{rep 1} = [0,65 + 3050/2] \times 0,90 \text{ Dk/m}^2$$

$$\approx 2,0 \text{ Dk/m}^2$$

$$H_{rep 2 + 3} = 3,05 \times 0,90 \text{ Dk/m}^2$$

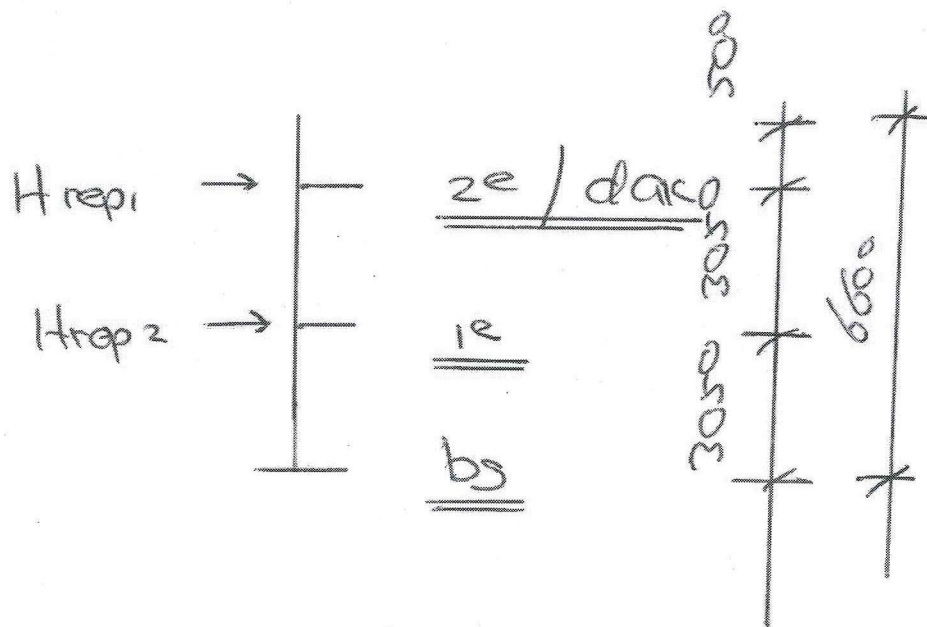
$$\approx 2,8 \text{ Dk/m}^2$$

$$M_{rep} = 9,15 \times 2,0 + 6,1 \times 2,8$$

$$\text{fund} + 3,05 \times 2,8 = \underline{\underline{44 \text{ Dkm/m}^2}}$$

$$\approx \frac{1}{2} \times 0,90 \times 9,8^2 = 43,2 \text{ Dkm/m}^2$$

x Drsch as L-E



$$H_{\text{trap 1}} \geq [0,5 + 3,050/2] \times 0,80 \text{ l/m}^2$$

$$\approx 1,6 \text{ l/m}^2$$

$$H_{\text{trap 2}} \geq 3,05 \times 0,80 \text{ l/m}^2$$

$$\approx 2,5 \text{ l/m}^2$$

$$M_{\text{trap fund}} \geq 6,1 \times 1,6 + 3,05 \times 2,5$$

$$\approx 18 \text{ lsm/m}^2$$

$$\approx 1/2 \times 0,8 \times 6,6^2 \approx 17,4 \text{ lsm/m}^2$$

* Wind ⊥ op 9

belasting op wanden =

Wanden op L $\underline{2} \times 6,5 \text{ m}'$ [Lees deel]

Mrep tot $\rightarrow 31/2 \text{ m}' \times 18 \text{ Qm/m}'$
Zie S4

$\approx \underline{280 \text{ Qm}} = 140 \text{ Qm per wand}$

aan +/- 6 m'

$\Rightarrow N_{rep} \approx 140 \text{ Qm} / 6$

$\approx 23 \text{ Qm} \uparrow$

Wanden c) B + E:

$$M_{rep} \text{ tot} = 15 \text{ m} \times 44 \text{ Dxm / m} \quad \begin{array}{l} \text{Hoos deel} \\ \text{Zie S3} \end{array}$$

$$+ \text{Lees deel} \\ + 280 \text{ Dxm} = \underline{\underline{940 \text{ Dxm}}}$$

Wanden c) B	2 x 6,0 m'	216	25%
E	1 x 6,5 m'	274	32%
B	1 x 5,4 m'	157	18%
		<u>863</u>	

$$\text{Wand c) E: } M_{rep} = 0,32 \times 940 \text{ Dxm} \\ = 300 \text{ Dxm} \quad \text{arm } 6 \text{ m}'$$

$$N_{rep} = 50 \text{ Dxm} \downarrow$$

Wand c) B 5,4 m':

$$M_{rep} = 0,18 \times 940 \text{ Dxm} = 169 \text{ Dxm} \\ \text{arm } 4,9 \text{ m}'$$

$$N_{rep} = 35 \text{ Dxm} \downarrow$$

Wendels \approx B 6,0 m'

$$M_{rep} = 0,25 \times 940 \text{ Dkm} \\ \approx 235 \text{ Dkm}$$

o₁ M 5,5 m'

$$N_{rep} = 43 \text{ Dk} \updownarrow$$

$$\text{Controle} = 2 \times 6 \times 23 + 1 \times 6 \times 50 \\ + 2 \times 5,5 \times 43 + 1 \times 4,9 \times 30 \\ \approx 1221 \text{ Dkm} \quad l$$

$$\approx 31 \times 18 \text{ Dkm/m} + 15 \times 49 \text{ Dkm/m} \\ \approx 1218 \text{ Dkm}$$

* Wind Lrs (A)

belasting op wind

$$M_{rep} \text{ 2e verd.} = 3,050 \times 2,0 \text{ kN/m} \\ = 6,1 \text{ kN/m} \text{ Zie S3}$$

$$M_{rep} \text{ tot 2e verd.} = 43 \text{ m} \times 6,1 \text{ kN/m} \\ = \underline{\underline{262 \text{ kNm}}}$$

Zie schema b2 S2

4 winden a' 6,5 m'

$$M_{rep} \text{ per wind} = 262 / 4 = 66 \text{ kNm} \\ \text{arm } 6 \text{ m}'$$

$$N_{rep} = 11 \text{ kN} \uparrow$$

* M_{rep} fund.

$$= 43 \text{ m} \times [49 \text{ kNm/m} - 6,1 \text{ kNm/m}]$$

$$= 1630 \text{ kNm}$$

$$4 \times \text{wend } L = 6,5 \text{ m} \rightarrow 1098 \quad 18\%$$

$$3 \times \text{wend } L = 5,1 \text{ m} \rightarrow 398 \quad 10\%$$

$$1496 +$$

$$4 \times 18\% + 3 \times 10\% = 102\% \uparrow$$

$$\text{Wend } L \geq 6,5 \text{ m} \quad M_{rep} = 0,18 \times 1630 \text{ kNm}$$

$$\rightarrow 294 \text{ kNm} \quad \text{aan } 6 \text{ m}$$

$$N_{rep} = 49 \text{ kN} \uparrow$$

$$\text{Wend } L < 5,1 \text{ m} \quad M_{rep} = 0,10 \times 1630 \text{ kNm}$$

$$\rightarrow 163 \text{ kNm} \quad \text{aan } 4,6 \text{ m}$$

$$N_{rep} = 36 \text{ kN} \uparrow$$

Totaal:

Wond $L > 6,5 \text{ m}$ 4x

Nrep fund $> 11 \text{ DN} \uparrow$	Zie S8
49 "	Zie S9
<hr/>	
60 DN \uparrow	

Wond $L = 5,1 \text{ m}$ 3x

Nrep fund = 36 DN \uparrow Zie S9

Controle: $48 \times 6 \times 60 + 3 \times 4,6 \times 36$
 $= 1737 \text{ DN}$

$\Rightarrow 43 \times 44 \text{ DN/m} = 1892 \text{ DN}$