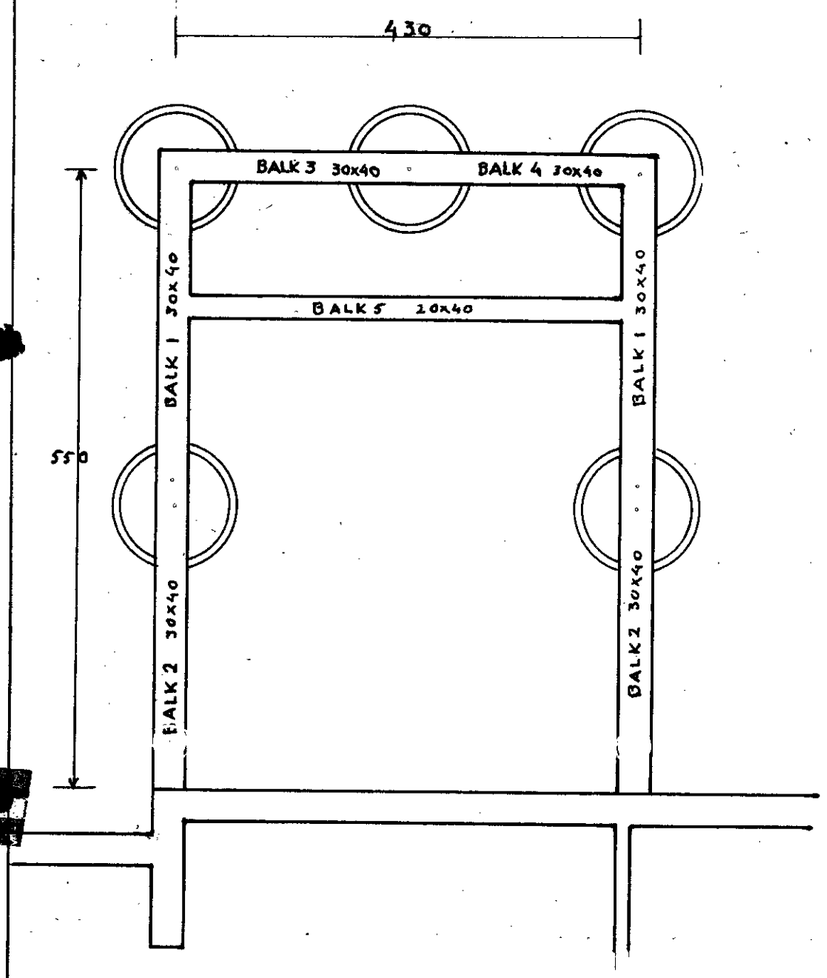
VERBOUW PERCEEL 2 AAN DV: LAAN 59 — GEW BETON FUNDEERING OP RINGEN ONDER UITGEBOUWDE KAMER. SCHAAL 1:50 EN 1:20.



BEREKENING GEW BETON FUNDEERING BALKEN

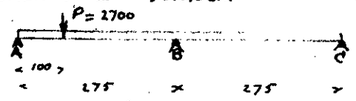
MENG VERHOUDING 1 PC 2 ZAND 3 GRINT.

belasting balk 1-2 muurgew 6,0 × 0,22 × 1800 = 2700 kg
balkgew 0,3 × 0,4 × 2400 = 290
2 vloeren 2 × 2 × 280 = 1120
1 volder 2 × 230 = 460
dakbel 4 × 275 = 1100
5670 kg/ml

belasting boven balk 3-4
muurgew 6,0 × 0,22 × 1800 = 2700
balkgew 290
dakbel 1100
4090 kg/ml

belasting balk 5 muurgew 6,0 × 0,11 × 1800 = 1350 kg/ml

BALK 1-2 30×40 cM



steunpuntreactie A = 9600 kg
M = 9600 × 1,12 − 2700 × 0,22 − 1,22 × 1/2 × 5670 = 6906,00 kgcm

pos mom balk 1 = 1/8 × 690600 = 520000 kgcm.
pos mom balk 2 = 1/10 × 5670 × 2,75² = 430000 kgcm.
inkl mom A = 3/8 × 690600 = 260000 kgcm
neg mom B = 5/8 × 690600 = 555000 kgcm.
inkl mom C = 1/3 × 430000 = 144000 kgcm.

f_{bj} trek balk 1 = $\frac{0,00094 \times 520000}{35}$ = 14 cm. 7 ϕ 16 = 14,07 cM².
f_{bj} druk " = 0,00169 $\frac{520000}{35}$ − 0,0106 × 30 × 35 = 5,5 cM² 3 ϕ 16 = 6,03 cM².

inkl A f_{bj} = 0,00094 × $\frac{260000}{35}$ = 7 cM² 4 ϕ 16 = 8,05 cM².
neg mom B f_{bj} = 0,00094 × $\frac{555000}{35}$ = 14,9 cM² 9 ϕ 16 = 16,08 cM².
$f_{bj\,dr}$ = 0,00169 $\frac{555000}{35}$ − 0,0106 × 30 × 35 = 8,3 cM² 5 ϕ 16 = 10,05 cM².
oplegging C f_{bj} = 0,00094 × $\frac{144000}{35}$ = 3,9 cM² 3 ϕ 16 = 4,02 cM²

schuifsp balk 1 links D = 9600 kg τ = 3/2 × 9600/30×40 = 12. $\frac{100 \times 30 \times 0,5}{1200}$ = 21,2 cM².
4 ϕ 16 √2 = 11,3/9,9 cM².
10 bengels ϕ 8 over 100 cM.

schuifsp balk 1 rechts D = 8700 kg τ = 3/2 × 8700/30×40 = 10,9. $\frac{96,5 \times 30 \times 8}{1200}$ = 19,3 cM²
4 ϕ 16 √2 = 11,3/8 cM²
8 bengels ϕ 8 over 96 cM'

schuifsp links balk 2 D = 5/8 × 5670 × 2,75 = 9750 kg. τ = 3/2 × 9750/30×40 = 12,2 cM
$\frac{90,4 \times 30 \times 0,6}{1200}$ = 19,4 cM² τ_0 = 90,4 cM'
4 ϕ 16 √2 = 11,3/8,1 cM² 9 berg ϕ 8 over 90 cM.

schuifsp rechts balk 2 D = 1/2 × 5670 × 2,75 = 7800 kg τ = 9,75
$\frac{59,5 \times 30 \times 3,4}{1200}$ = 11 cM² 2 ϕ 16 √2 = 5,6 cM² τ_0 = 59,5
von bengels 5,4 cM²
6 berg ϕ 8 over 60 cM.

BALK 3 = BALK 4. 30×40 cM.

pos moment = 1/12 × 4090 × 2,2² = 16500 kgcm. f_{bj} = 0,00094 × 16500/35 3 ϕ 16 = 6,03 cM².
inkl moment = 1/24 × 4090 × 2,2² = 8250 kgcm. f_{bj} = 0,00094 × 8250/35 = 2,22 cM².
neg moment tusschensteunpunt 1/10 × 4090 × 2,2² = 19900 kgcm. f_{bj} = 0,00094 × 19900/35 = 5,35 cM² 3 ϕ 16 = 6,03 cM².

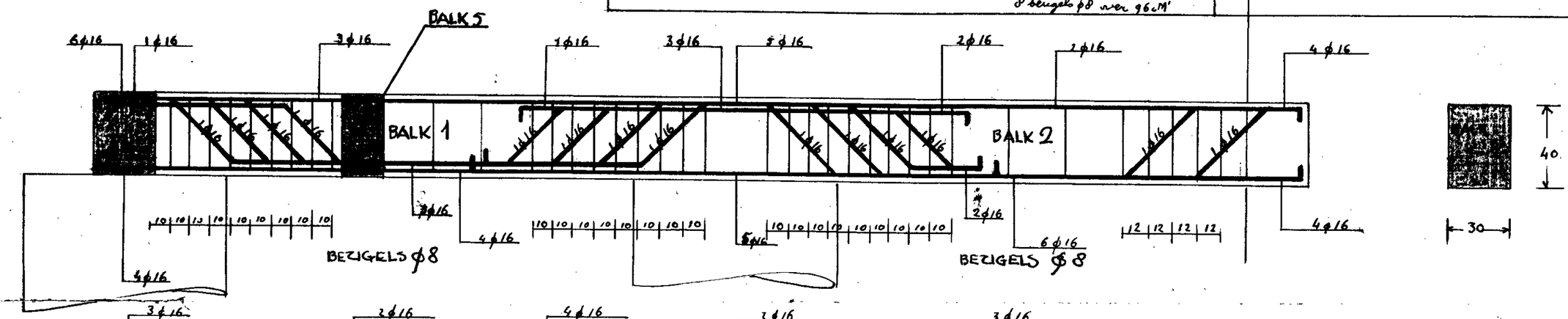
schuifsp oplegging D = 4500 kg τ = 5,6. τ_0 = 10,5 cM.
$\frac{10,5 \times 30 \times 5,3}{1200}$ = 1,5 cM².
1 ϕ 16 √2 = 2,02 cM²
bengels ϕ 6 - 30 cM.

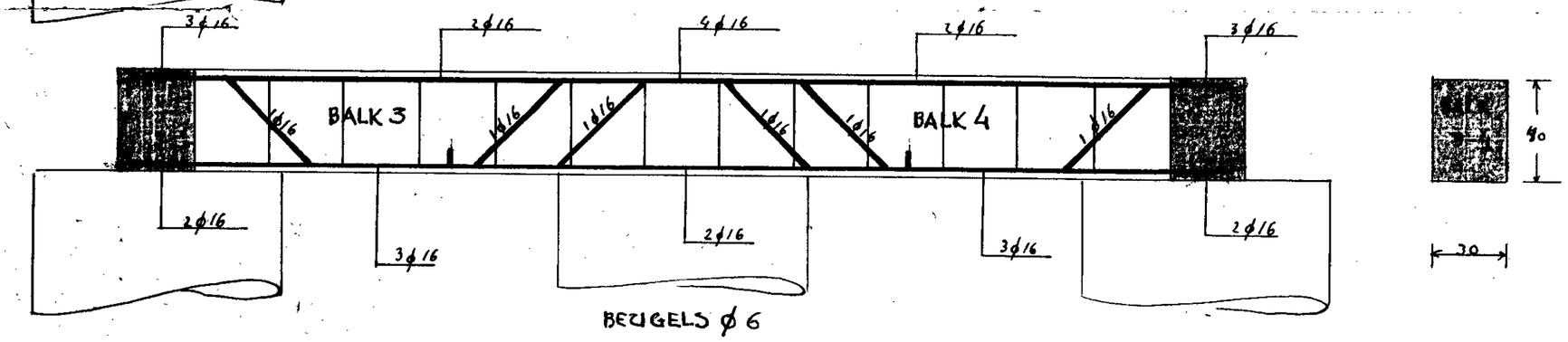
schuifsp tusschensteunpunt D = 5620 kg τ = 7. τ_0 = 35 cM
$\frac{35 \times 30 \times 6}{1200}$ = 5,25 cM²
2 ϕ 16 √2 = 5,67 cM²
berg ϕ 6 - 30 cM

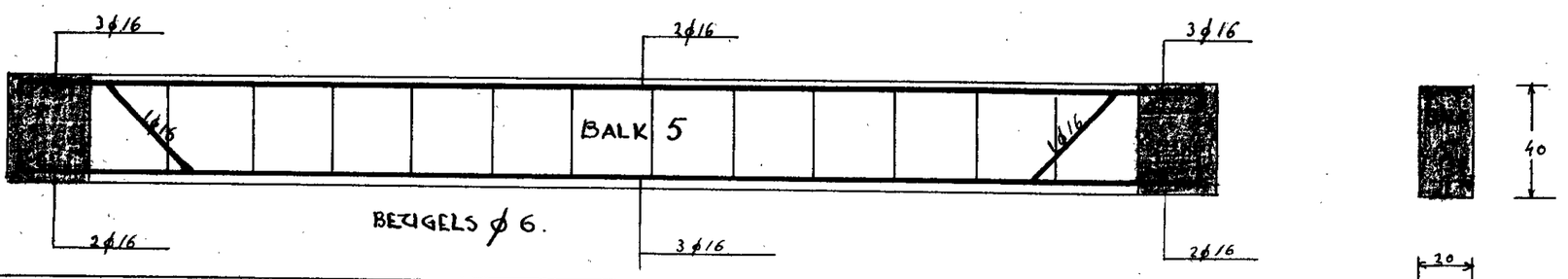
BALK 5 20×40 cM

pos moment 1/12 × 1350 × 4,4² = 2180000 kgcm. f_{bj} = 0,00094 × 2180000/35 3 ϕ 16 = 6,03 cM²
inkl moment 1/16 × 1350 × 4,4² = 1630000 kgcm. f_{bj} = 0,00094 × 1630000/35 = 4,4 cM² 3 ϕ 16 = 6,03 cM².

schuifsp oplegging D = 2980 kg τ = 5,6 τ_0 = 26 cM
$\frac{26 \times 20 \times 5,3}{1200}$ = 2,11 cM²
1 ϕ 16 √2 = 2,02 cM²
berg ϕ 6 - 30 cM.







RINGEN GEVULD MET STAMPBETON 1-3-5

HAARLEM FEBR 1937

DE CONSTR

Fundeering
Zandbouw

364

HEEMSTEDE
IN[illegible]EN
17. MRT. 1937
A[illegible] No.

Behoort bij beschikking van
Burgemeester en Wethouders van
HEEMSTEDE, den 17. MAART 1937
De Secretaris.

INGEKOMEN
16. MRT 1937
BOUWTOEZICHT
HEEMSTEDE