

Multimediehuset (Dokk1)

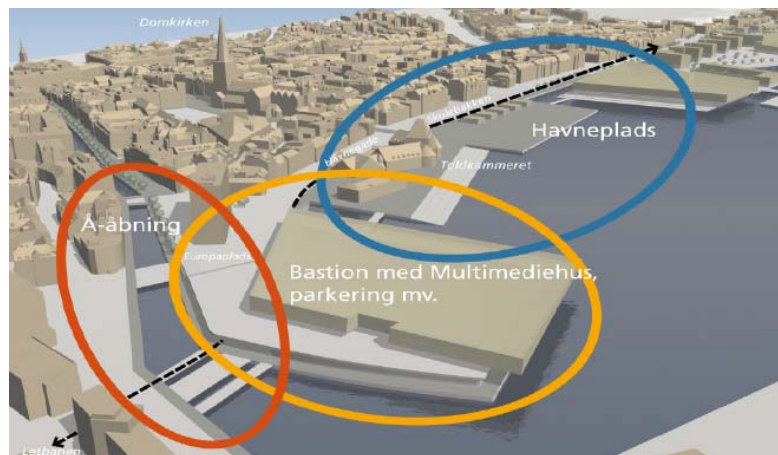
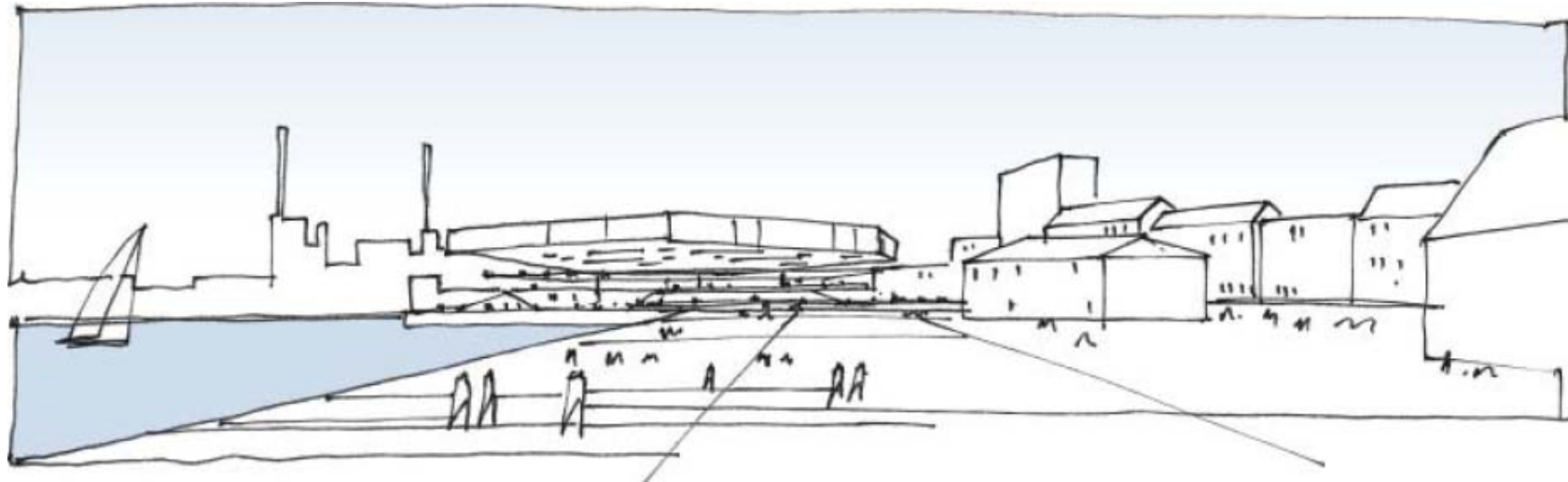


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Dansk Ståldag 2012
Ronni Lundoff Madsen, civilingeniør

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PROJEKTET



Det er intentionen at de nye bebyggelser [på de bynære havnearealer] skal fremstå som markante/skulpturelle bygningsværker med særlige arkitektoniske kvaliteter og sammen med den eksisterende havnefrontsbebyggelse, udgøre byens nye profil mod bugten

Kvalitetshåndbog for De Bynære Havnearealer, januar 2006

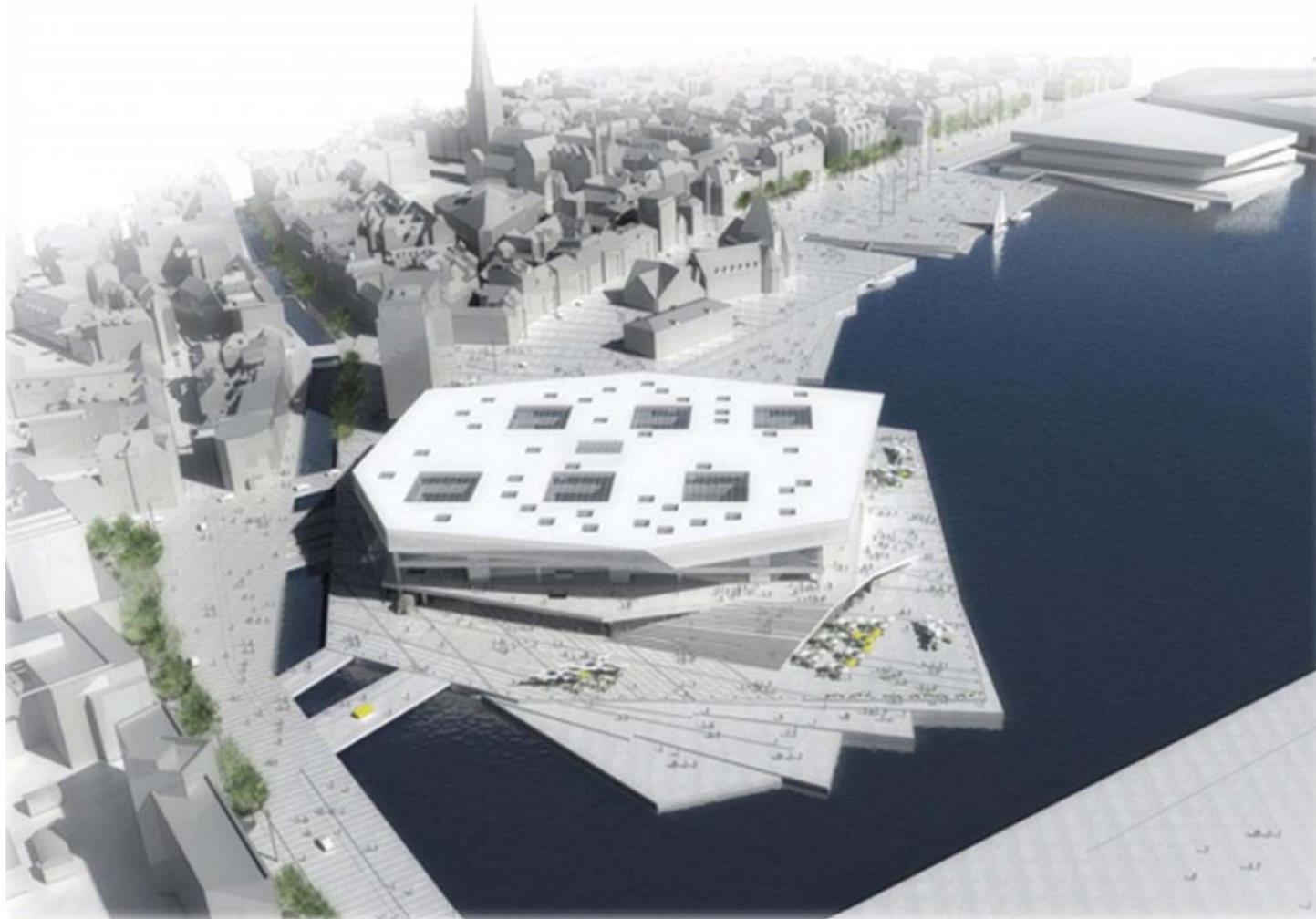
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2,0 MIA. DKK

ET SYMBOL PÅ VIDENSBYEN AARHUS



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FÆRDIGT?

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Foråret 2011

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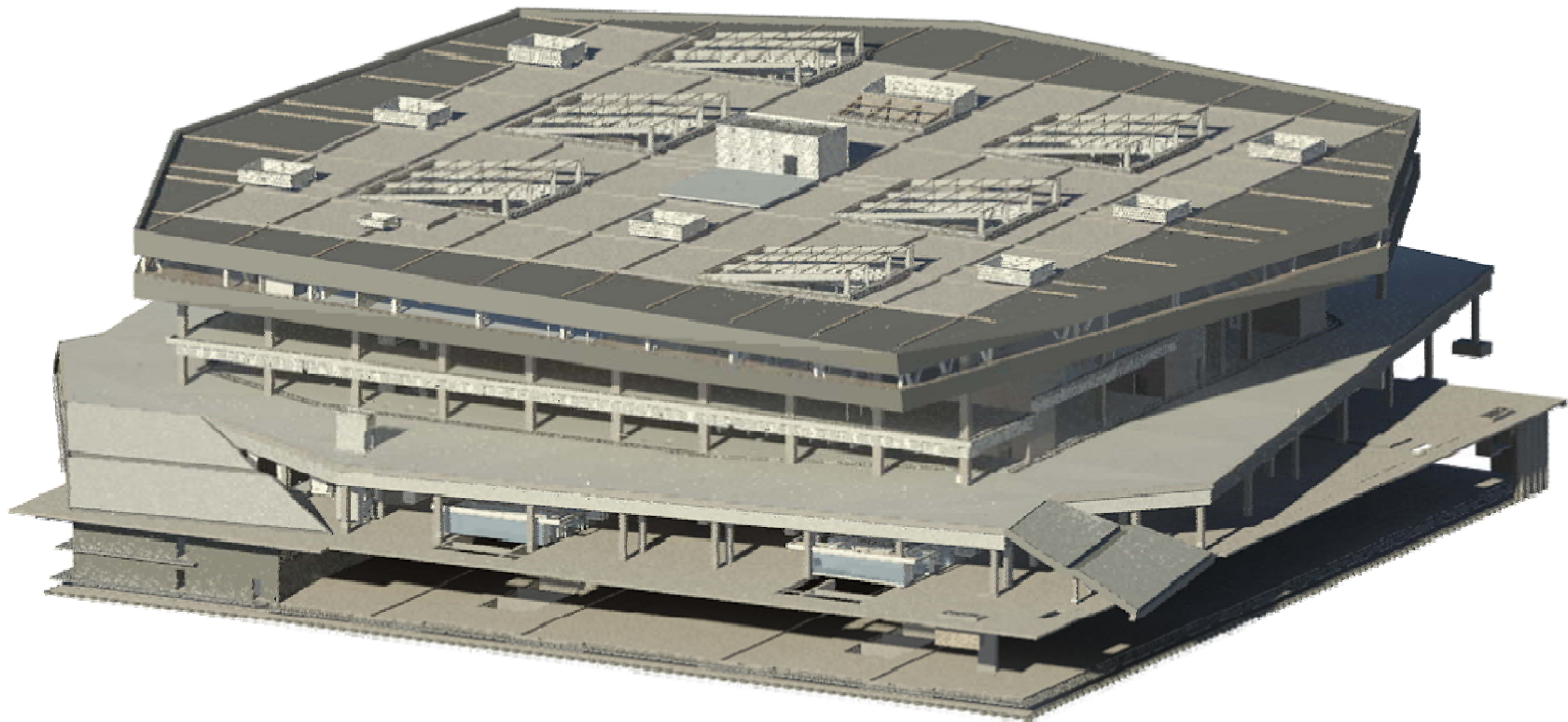
Efteråret 2012

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Efteråret 2012

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Efteråret 2012

HVAD ER MULTIMEDIEHUSET?

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40.000 m²

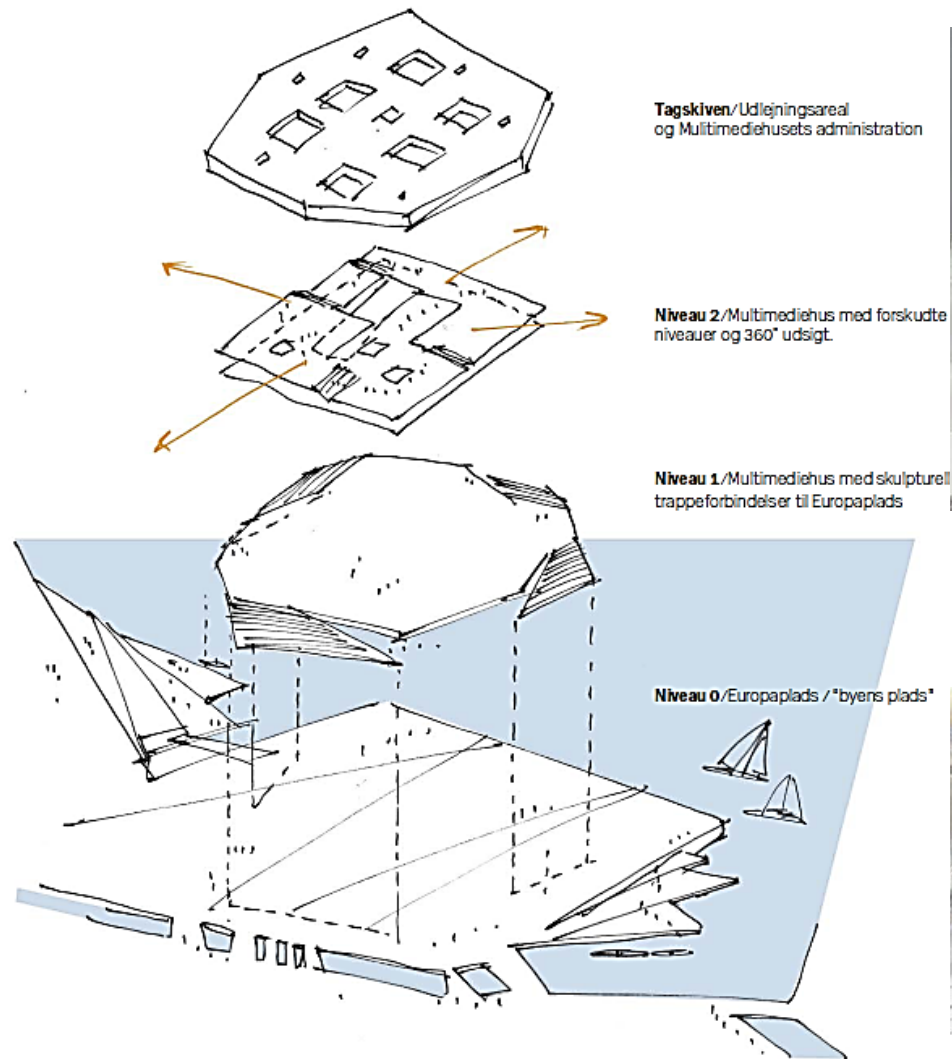


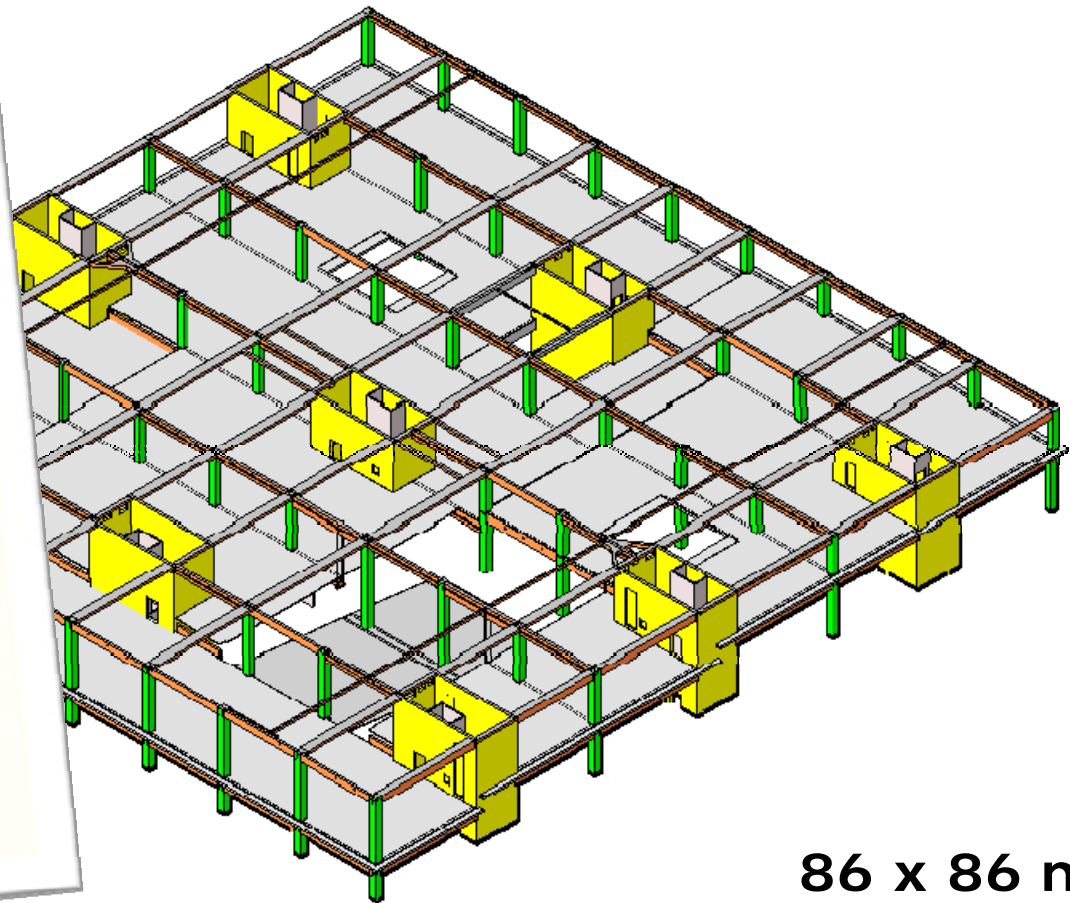
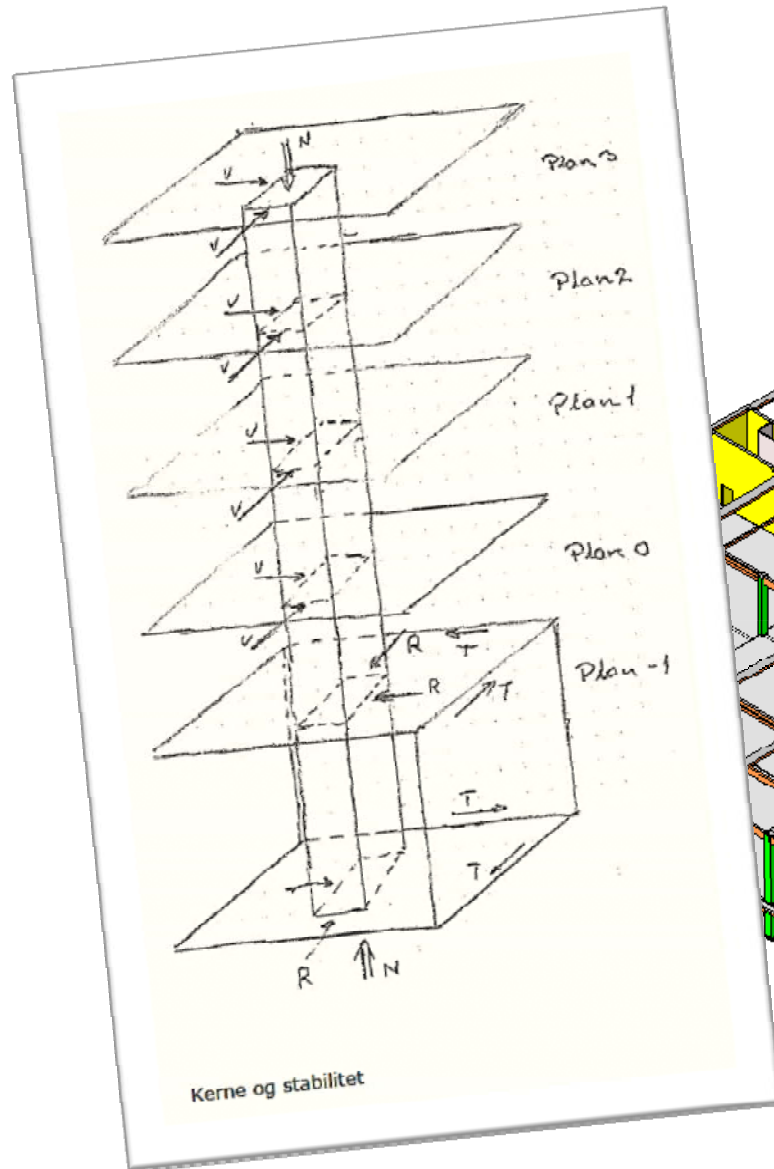
Hovedbibliotek

Ophold

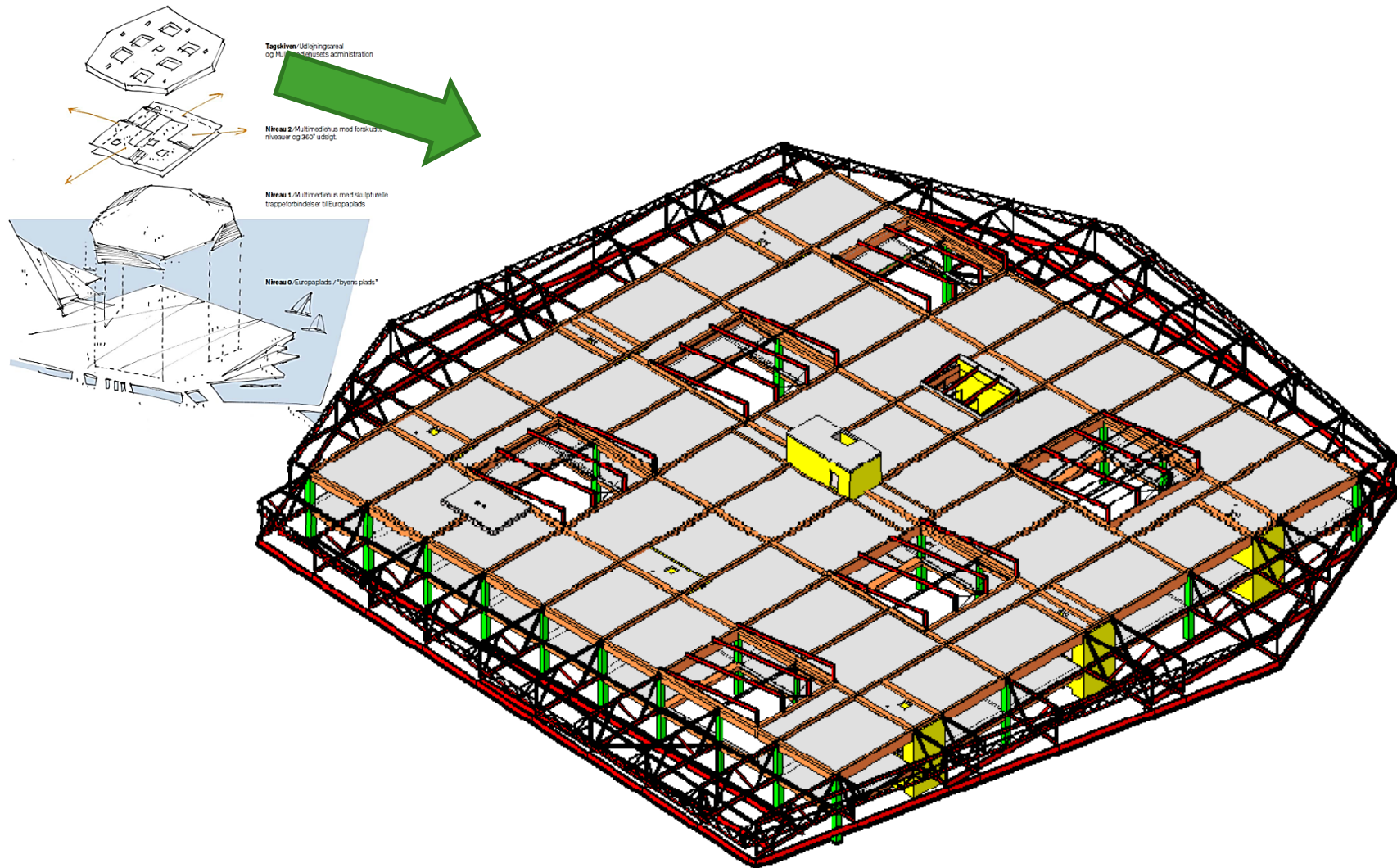
Borgerservice

Udlejningsareal





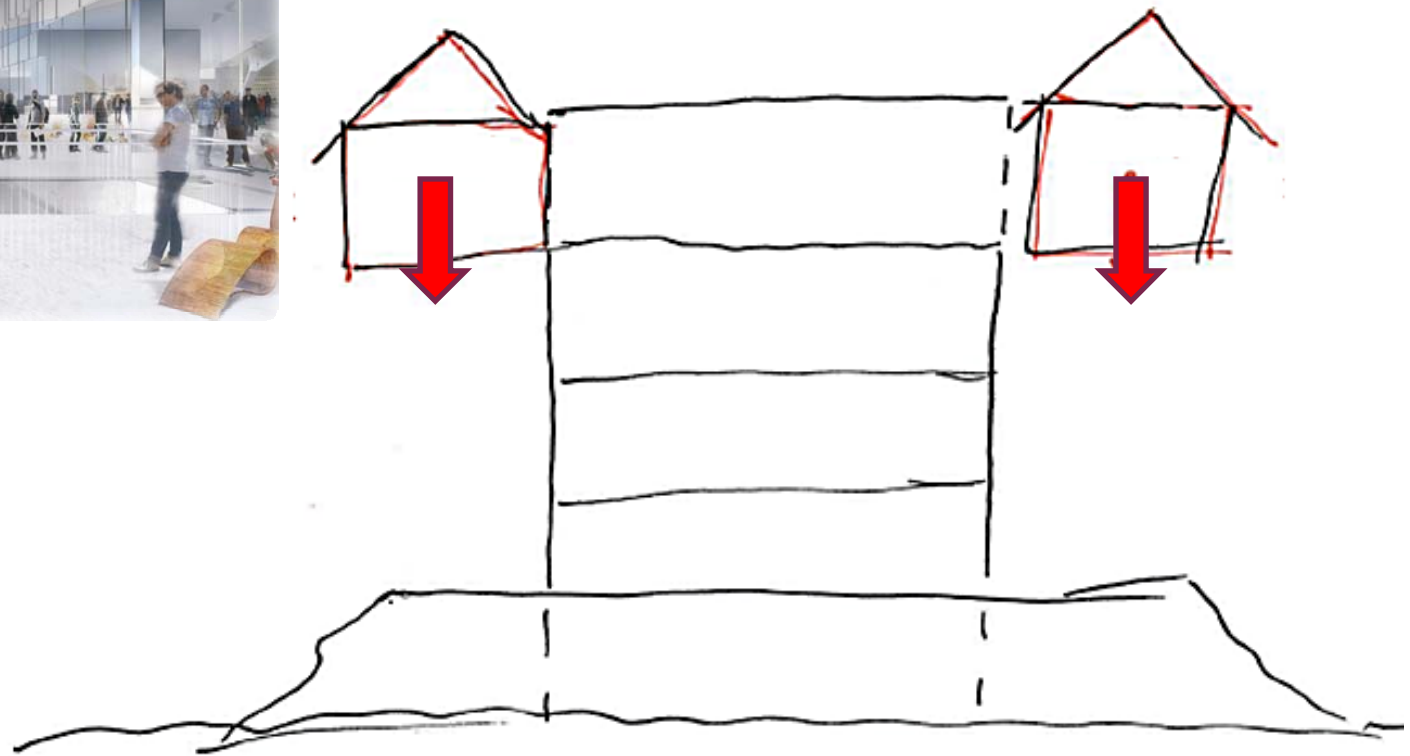
86 x 86 m



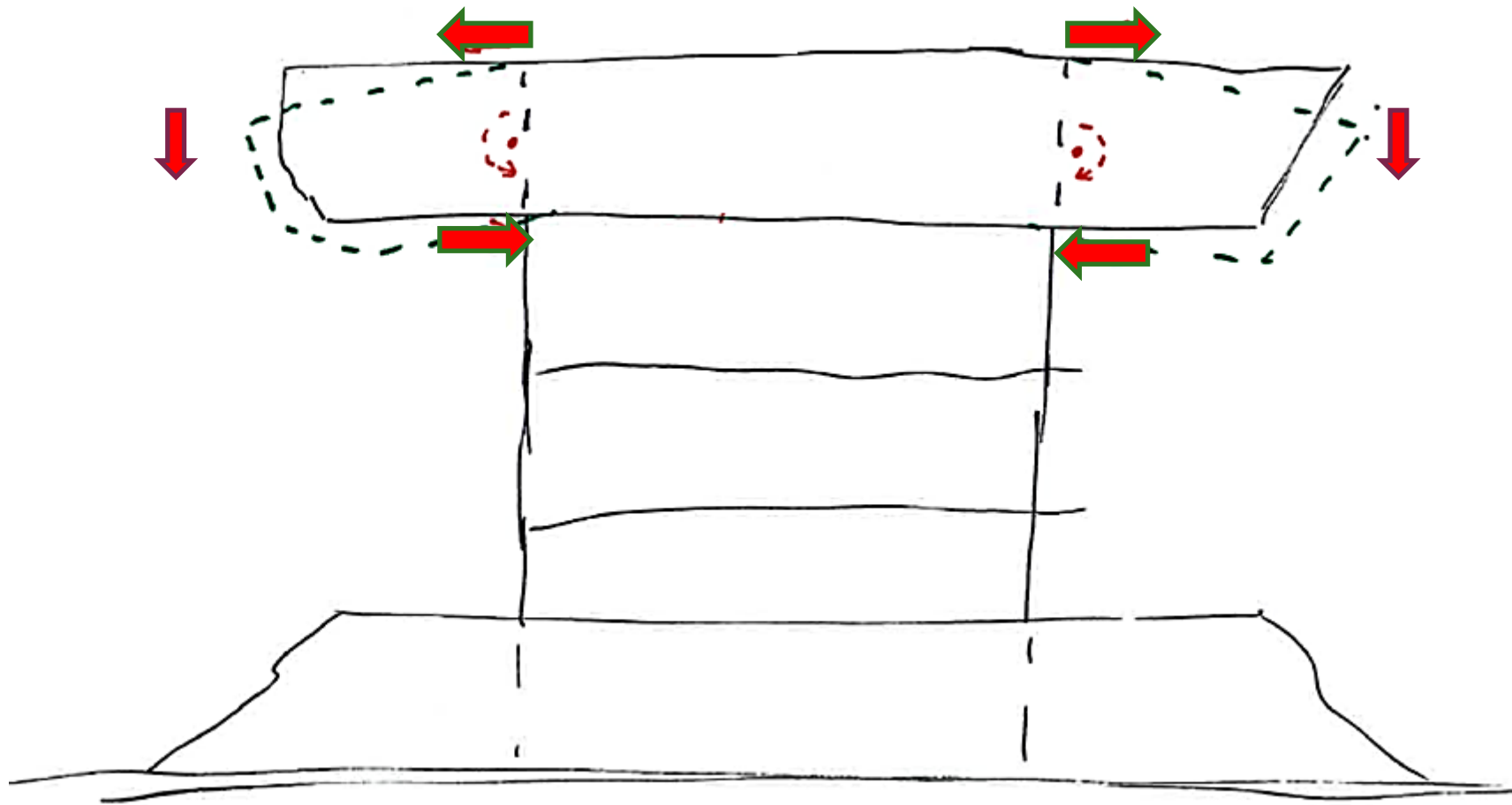
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20 PARCELHUSE
ophængt 24 m over terræn

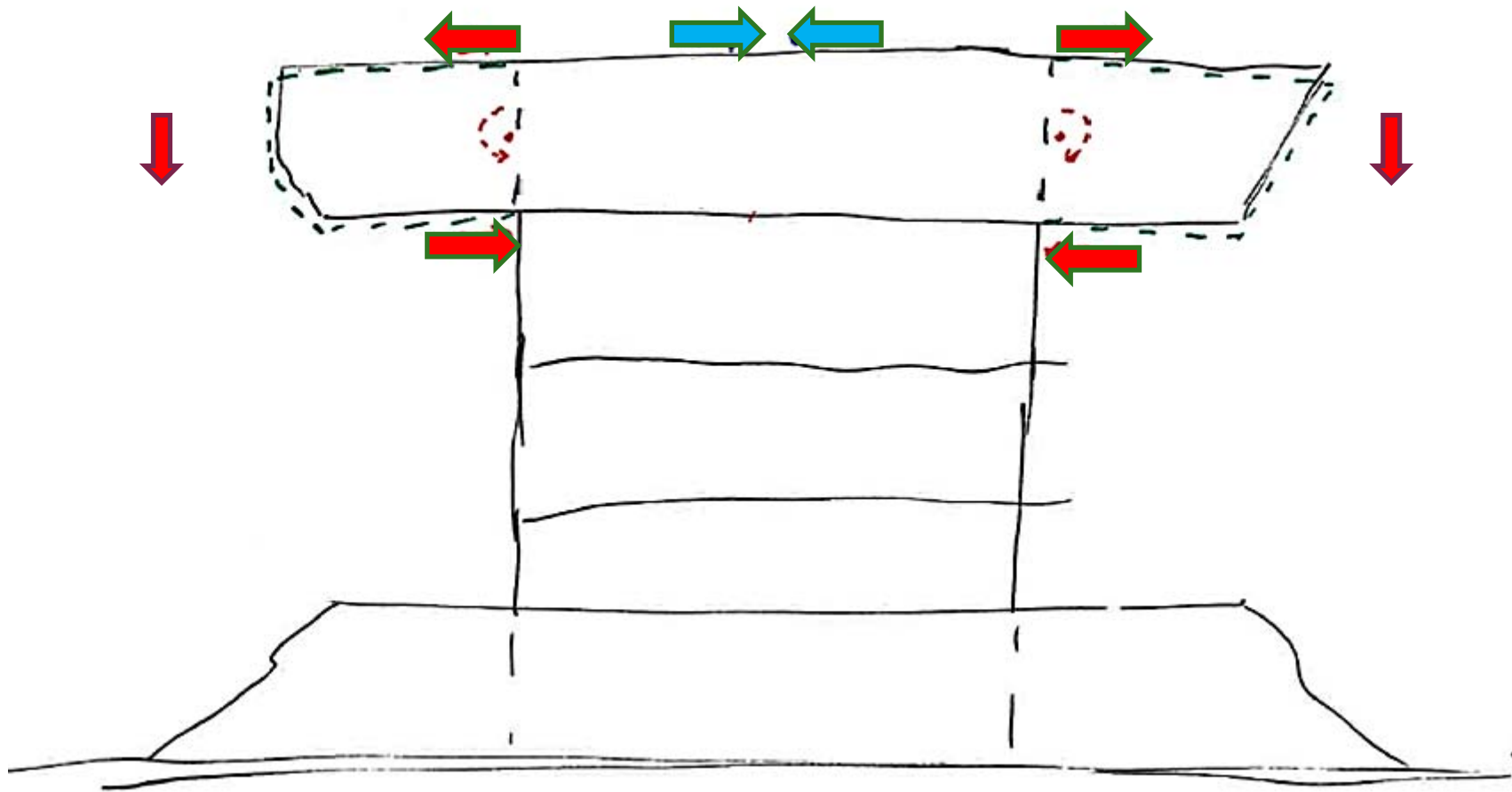
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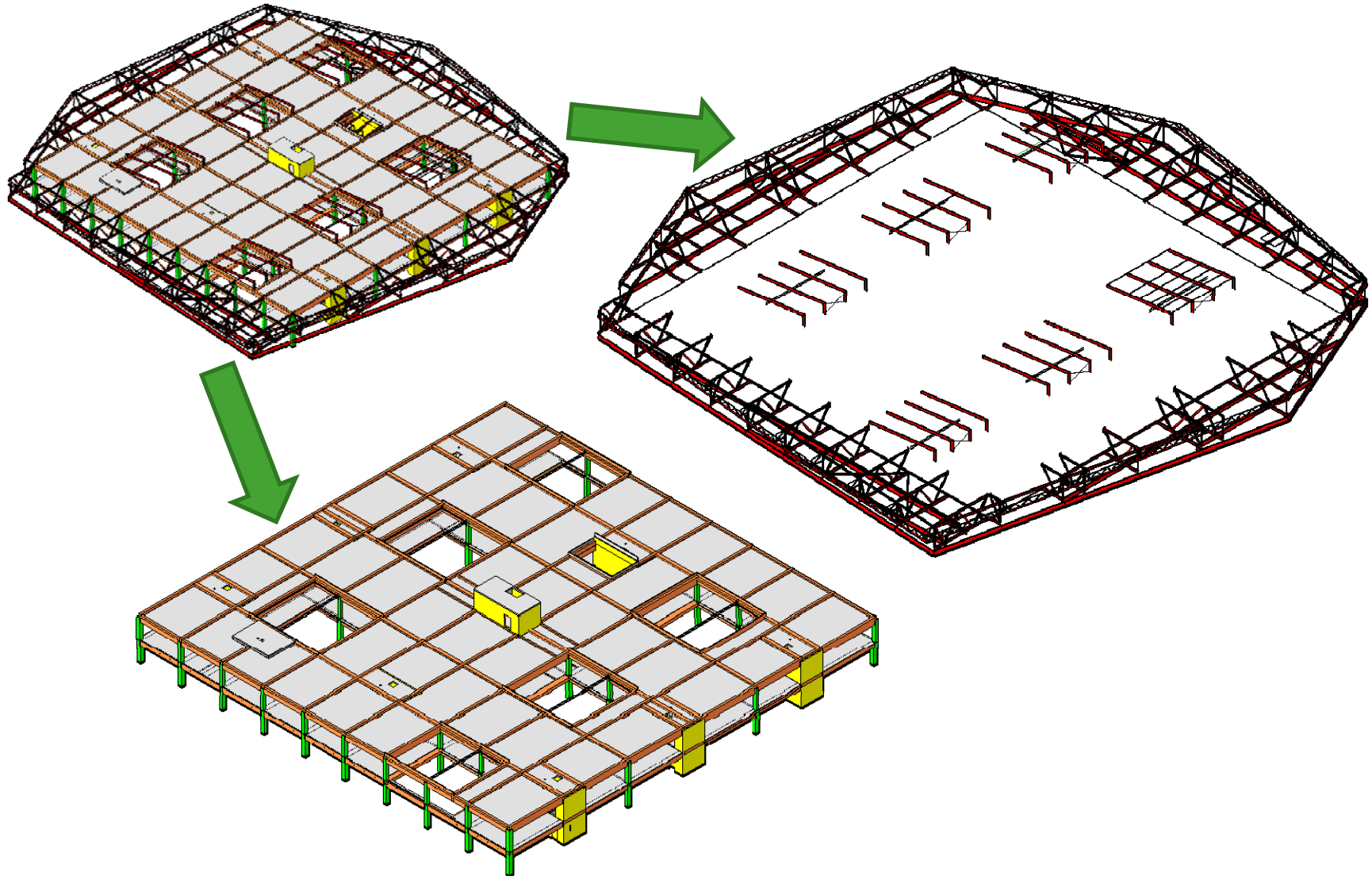
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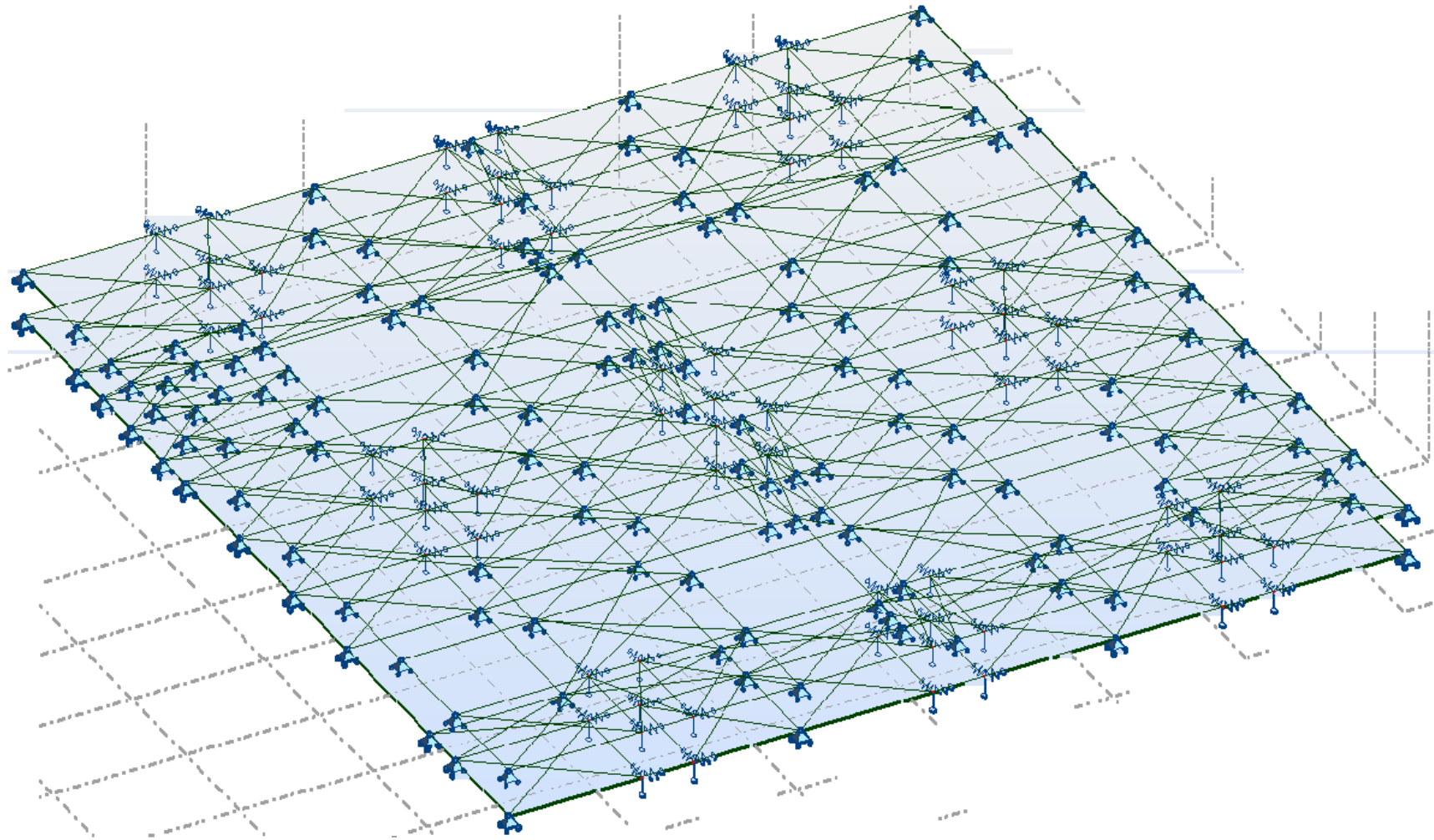
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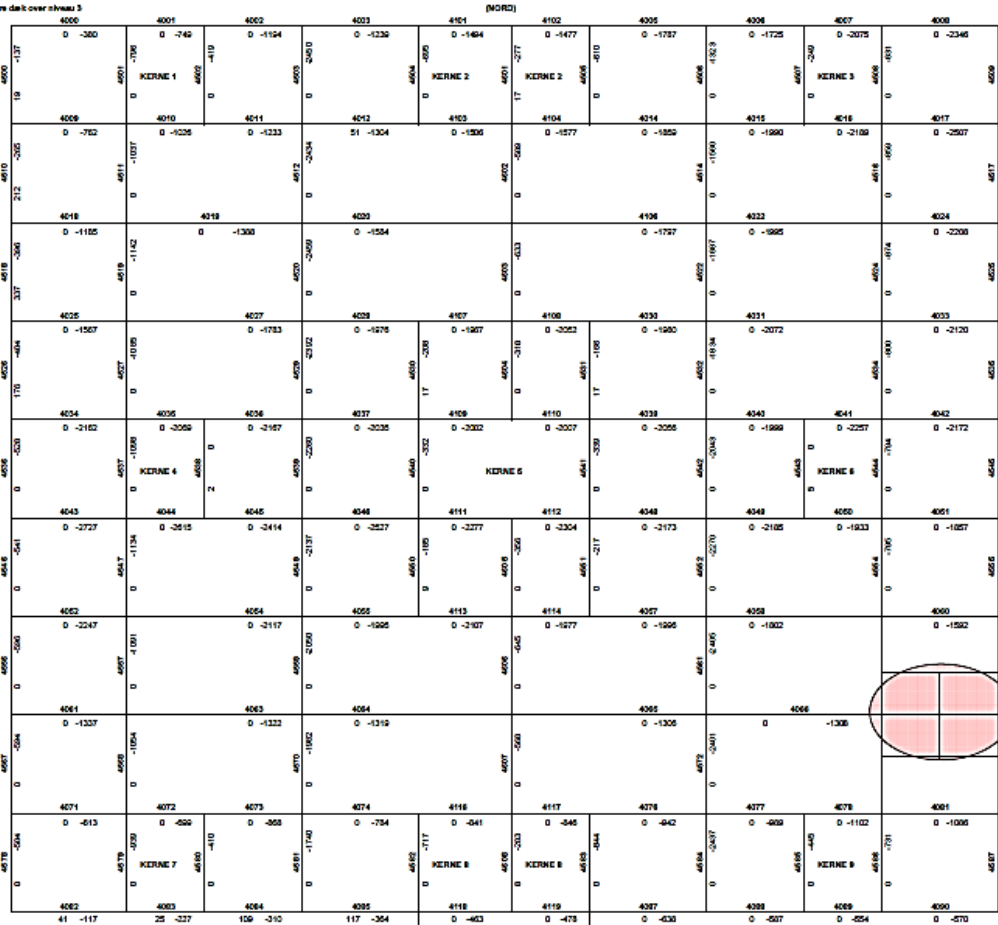
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EFTERSPÆNDT TAGSKIVE

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Sjögrens del över skiss 3
Kar.



regler: ...

erste regningsmassige last Værste karakteristiske last
 c (MAX) = -20 [kN] F_x (MAX) = -77 [kN]
 c (MIN) = -511 [kN] F_x (MIN) = -300 [kN]

tagningens væg last

utløsb 1 (MAX)

g	loef	q	v	loef	v	loef	Last
-141	0,9	46	1,65	36,7	0,435	9	0,435
-141	0,9	46	0,99	36,7	1,65	9	0
-141	1,32	46	0	36,7	0	0	0

utløsb 2 (MIN)

g	loef	q	v	loef	v	loef	Last
-218	1,1	-151	1,65	-32,3	0,435	-29	0,435
-218	1,1	-151	0,99	-32,3	1,65	-29	0
-218	1,32	-151	0	-32,3	0	-29	0

strukturel regningsmassige

utløsb 3 (MAX)

g	loef	q	loef (y)	Ad	loef	Last
-141	1	46	0,2	45,1	1	-67 [kN]

utløsb 4 (MIN)

g	loef	q	loef (y)	Ad	loef	Last
-218	1	-151	0,2	-45,1	1	-286 [kN]

strukturel last

utløsb 5 (MAX)

g	loef	q	v	loef	v	loef	Last
-141	1	46	0,6	36,7	0,9	0,3	-81 [kN]
-141	1	46	0,6	36,7	0,9	0	-77 [kN]
-141	1	46	0	36,7	0	0	-141 [kN]

utløsb 6 (MIN)

g	loef	q	v	loef	v	loef	Last
-218	1	-151	1	-32,3	0,3	-29	0,3
-218	1	-151	0,6	-32,3	1	-29	0
-218	1	-151	0	-32,3	0	-29	0

praktiske:

	Max > 0	Min < 0
anden egenlast	0,0	-157,1
egenlast	16,0	-53,5
anden anlægs last	4,3	-14,7
læns last	4,3	-14,7
støt last	45,4	-150,7

Karakteristiske:

	Max > 0	Min < 0
Vind_N1_1	0,0	-28,2
Vind_N1_2	0,0	-20,7
Vind_N2_1	0,0	-3,3
Vind_N2_2	4,0	0,0
Vind_S1_1	0,0	-23,0
Vind_S1_2	0,0	-17,7
Vind_S2_1	1,1	0,0
Vind_S2_2	7,0	0,0
Vind_V1_1	0,0	-15,4
Vind_V1_2	0,0	-9,2
Vind_V2_1	0,0	-15,3
Vind_V2_2	0,0	-8,4
Vind_VL1	29,0	0,0
Vind_VL2	29,7	0,0
Vind_V2_1	29,5	0,0
Vind_V2_2	30,6	0,0

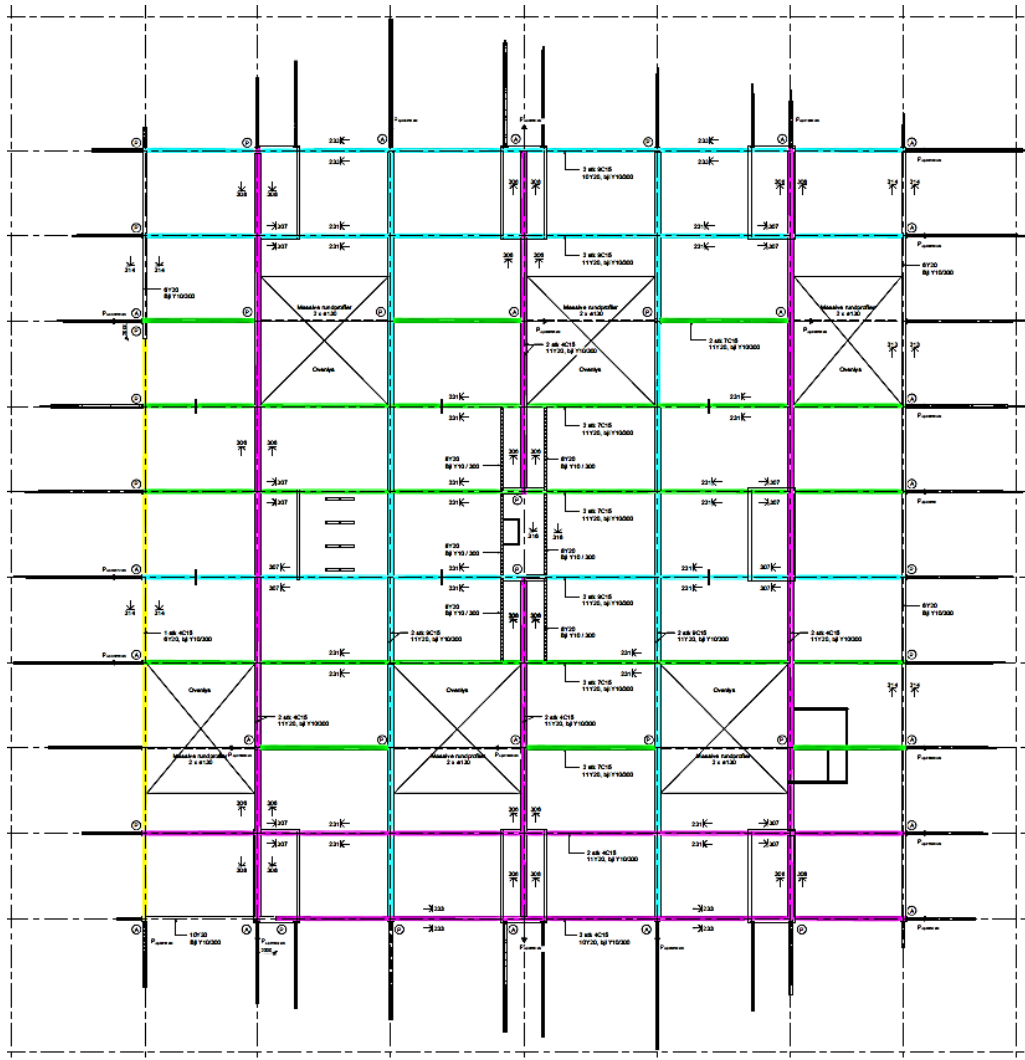
Regningsmassige:

	Max > 0	Min < 0
Mazestlast_V	45,1	0
Mazestlast_N	0,0	-12
Mazestlast_S	0,0	-45
Mazestlast_S	12,7	0

dr. Vind_sug 0,2 0,0
dr. Vind_syg 0,0 -4,1

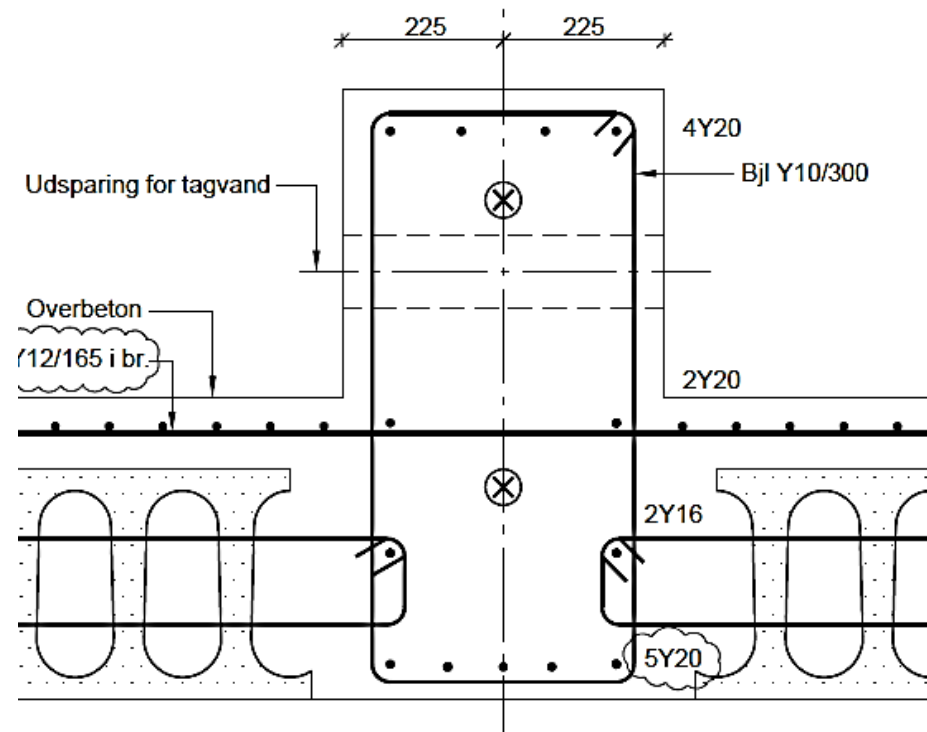
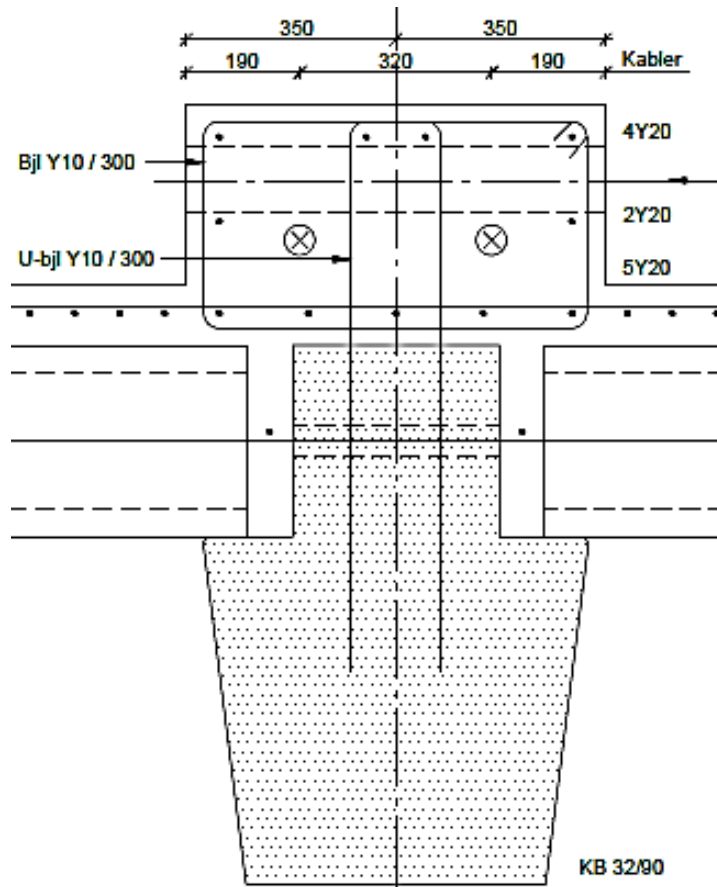
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2,5 KM SPÆNDKABLER

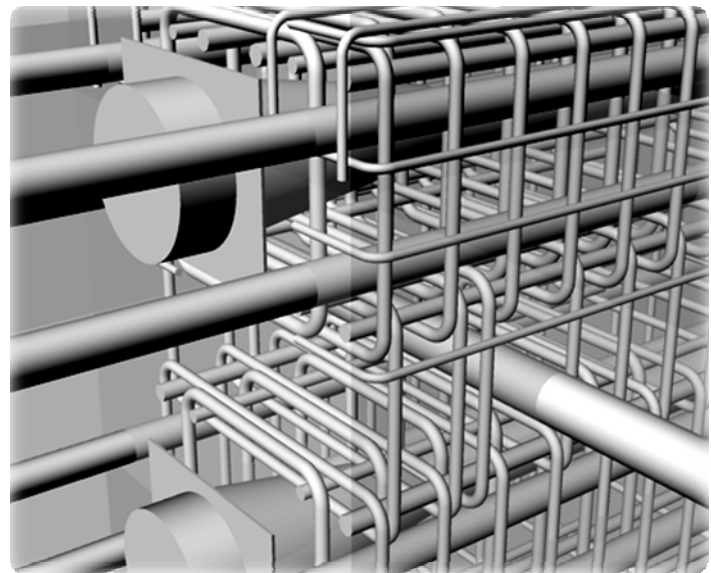
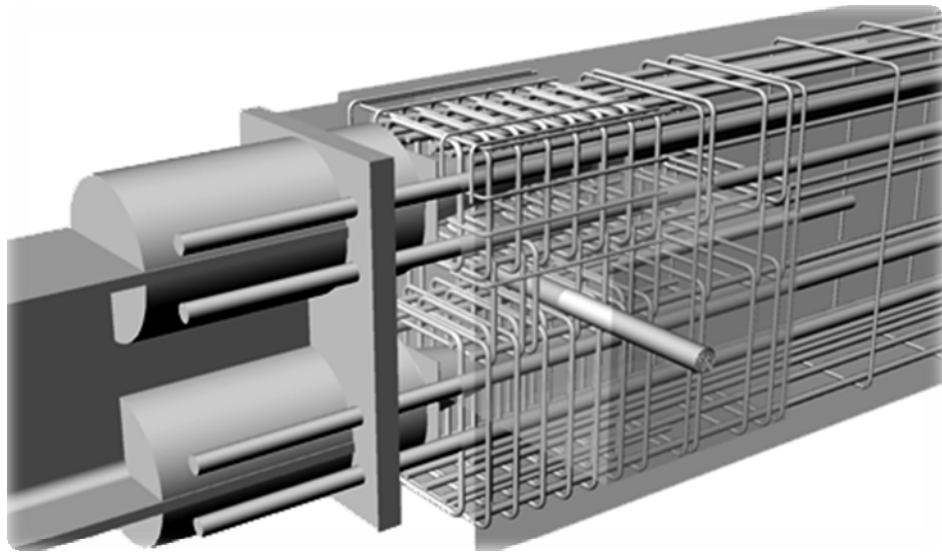


	Opspændingskraft
■ 2x9 C15	3672 kN
■ 2x7 C15	2856 kN
■ 2x4 C15	1632 kN
■ 1x4 C15	816 kN

Ved kernevægge hvor opspænding føres borte fra spær gennem vægge



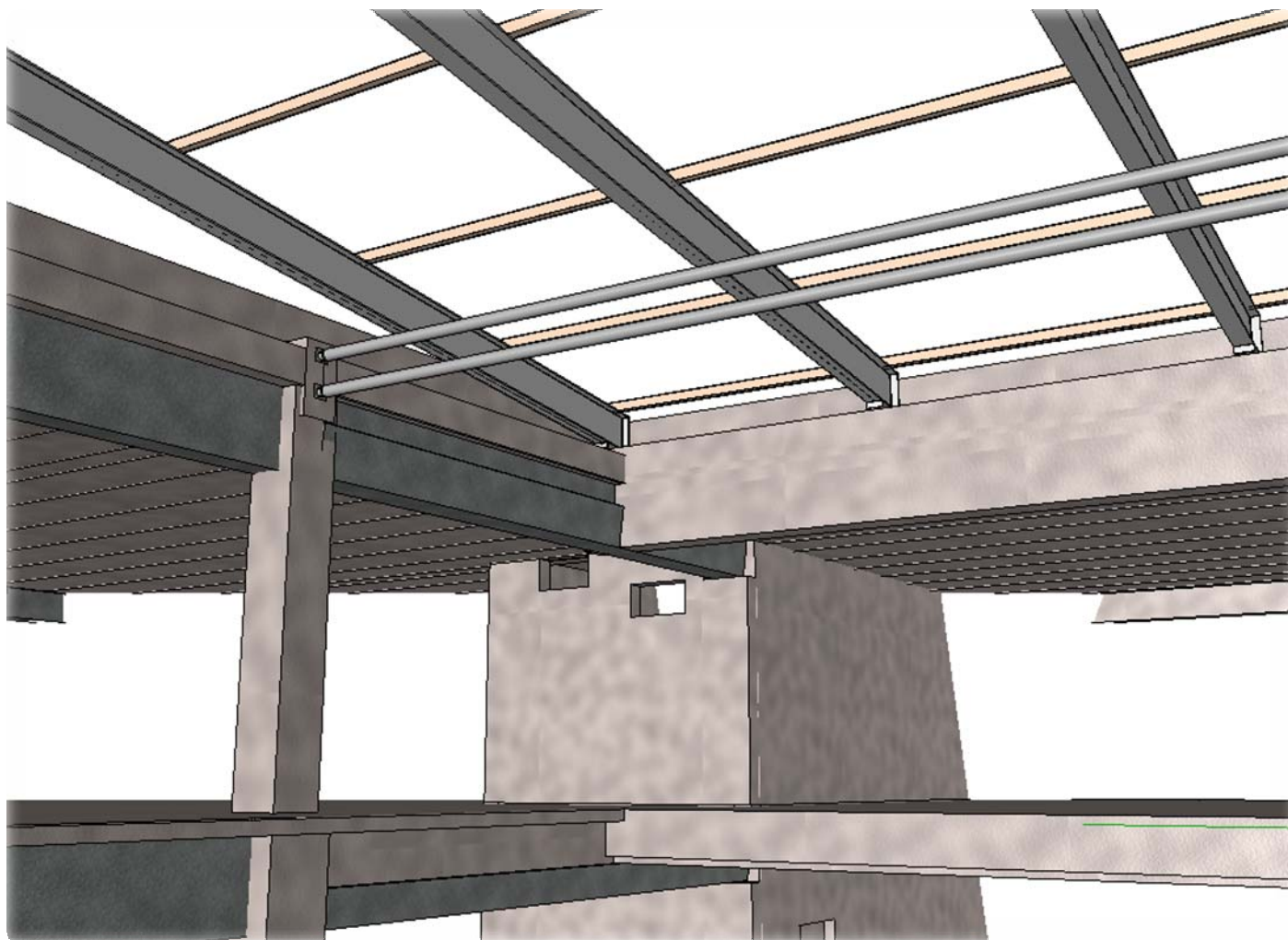
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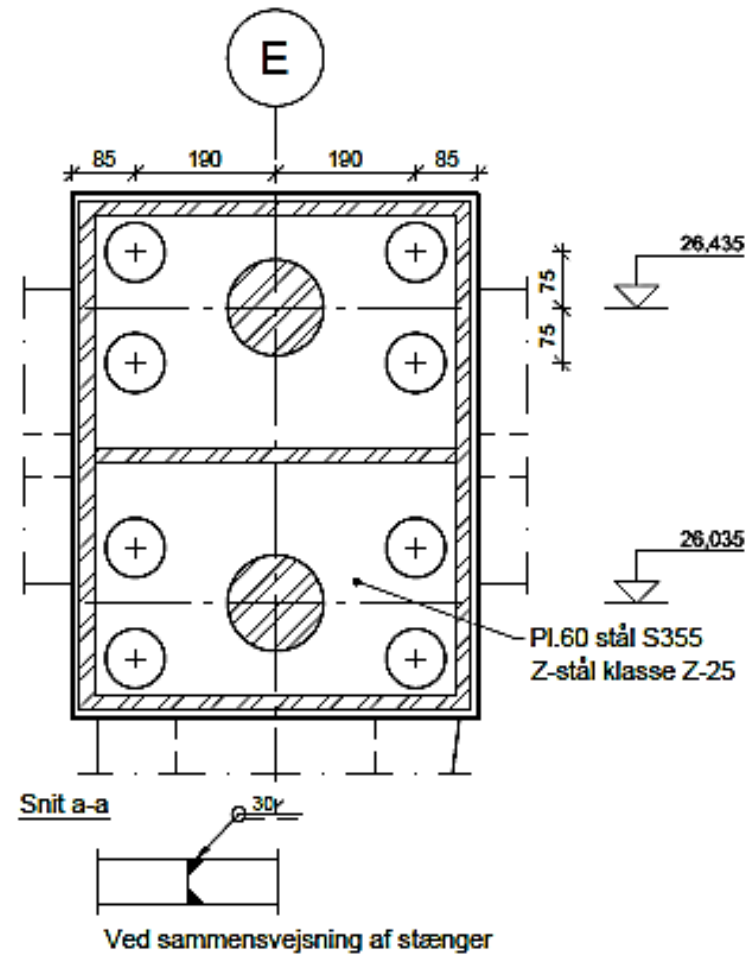
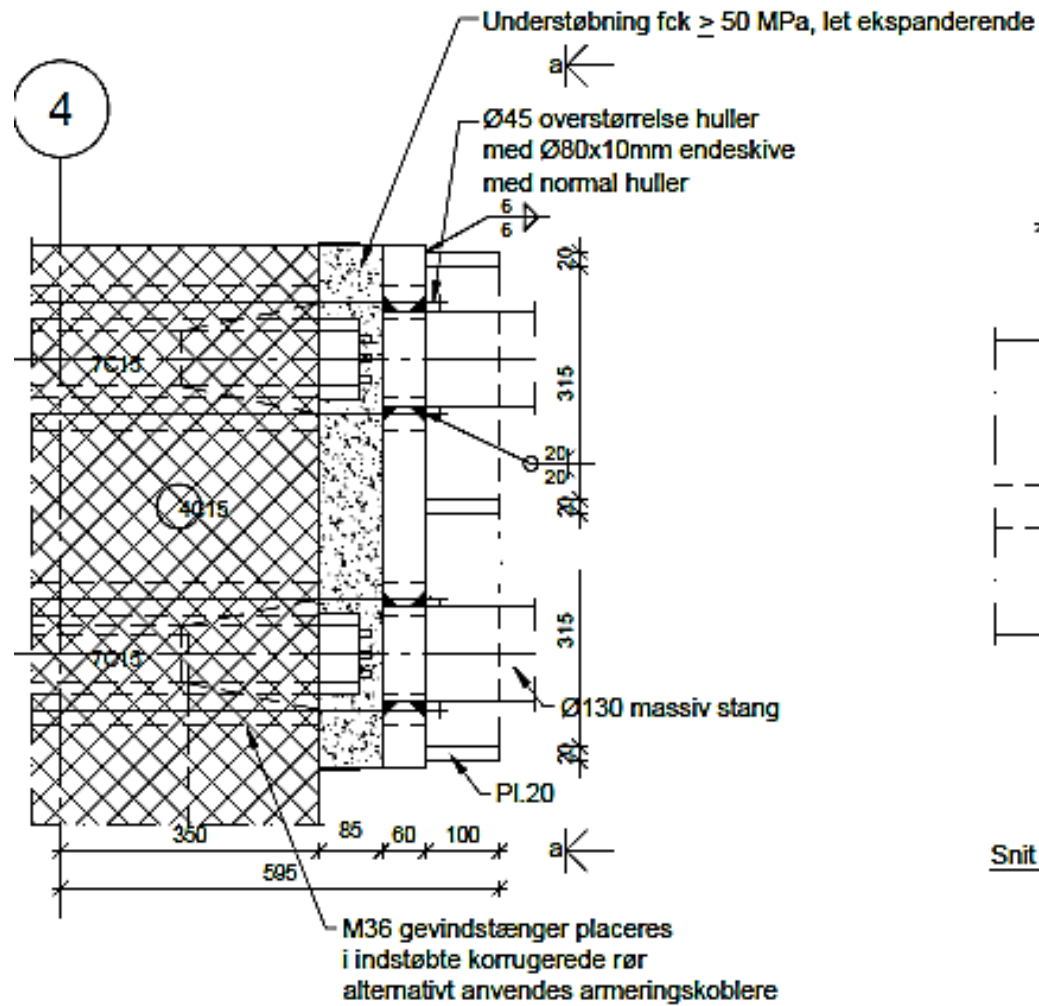


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SPÆNDKABLER I OVENLYS?

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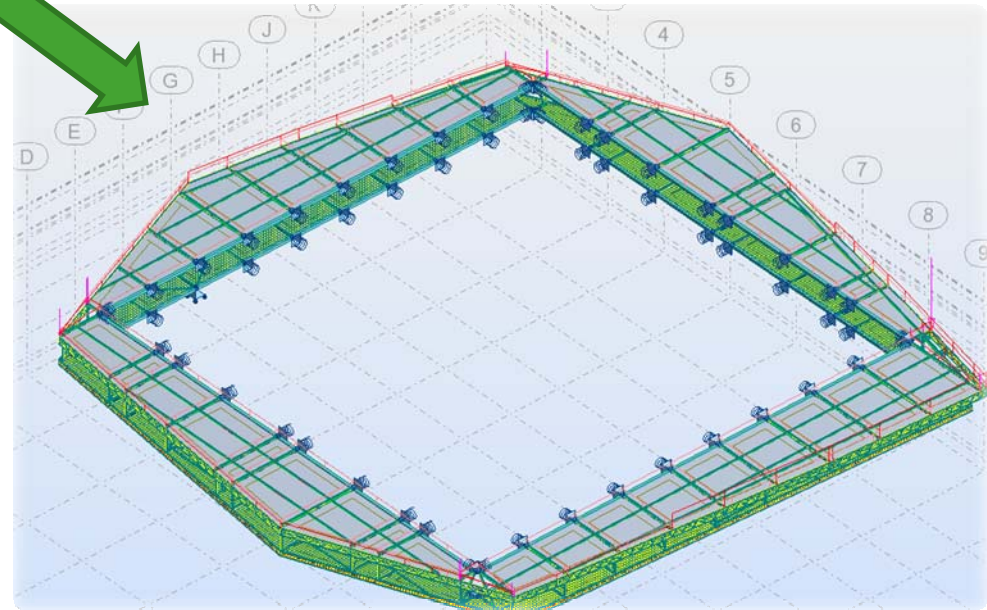
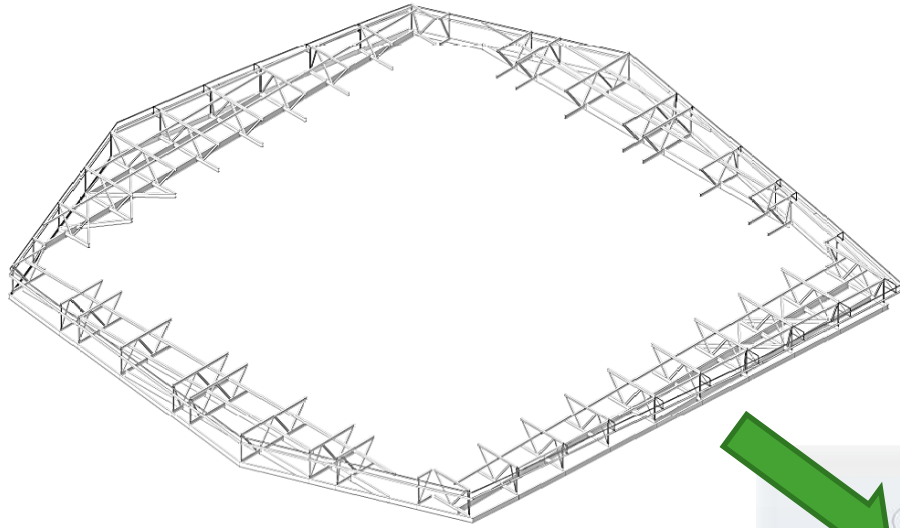


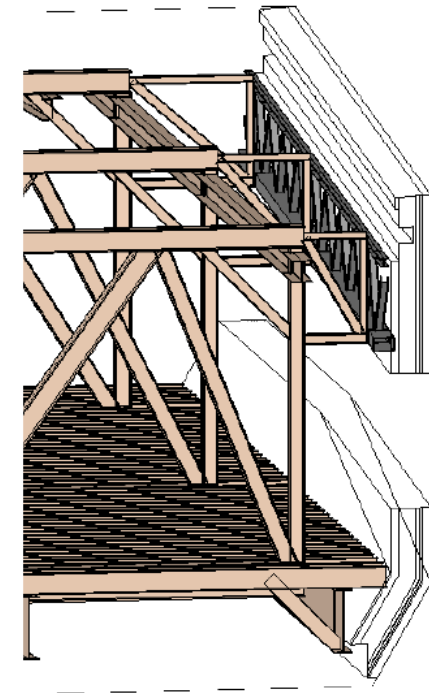
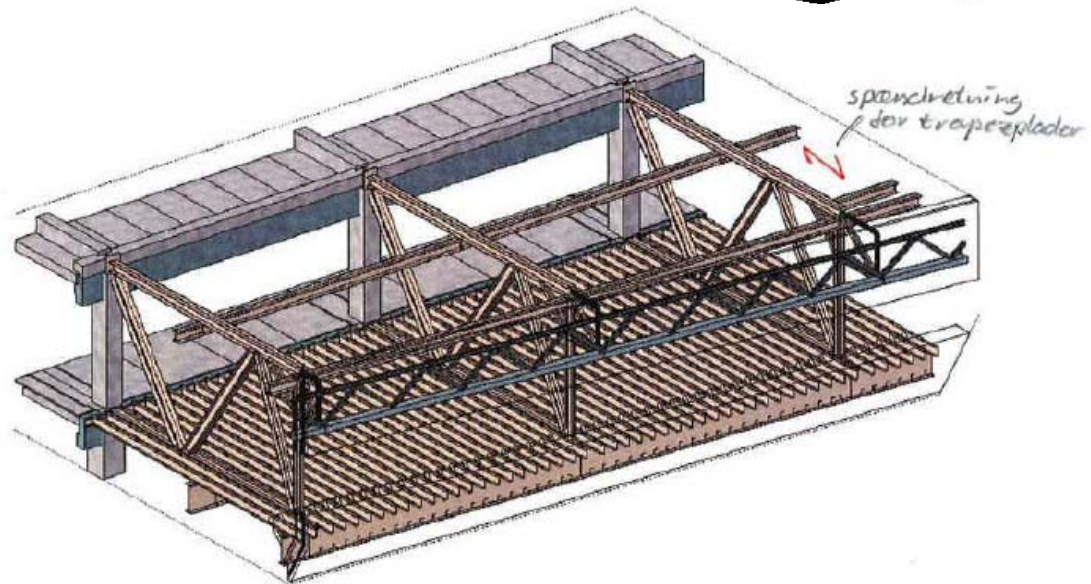
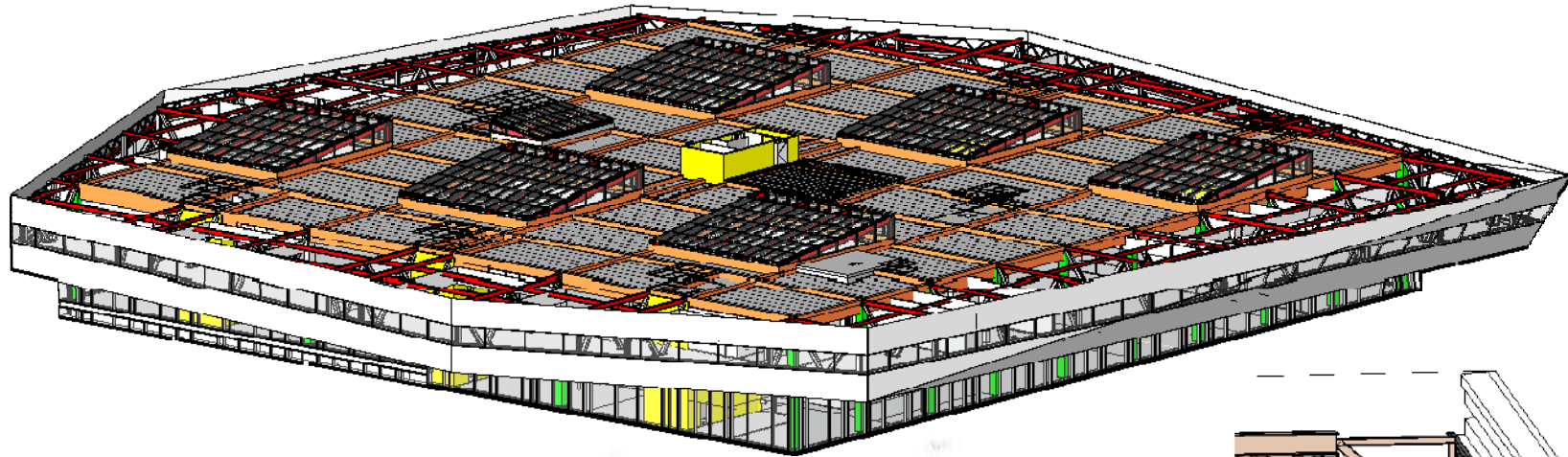


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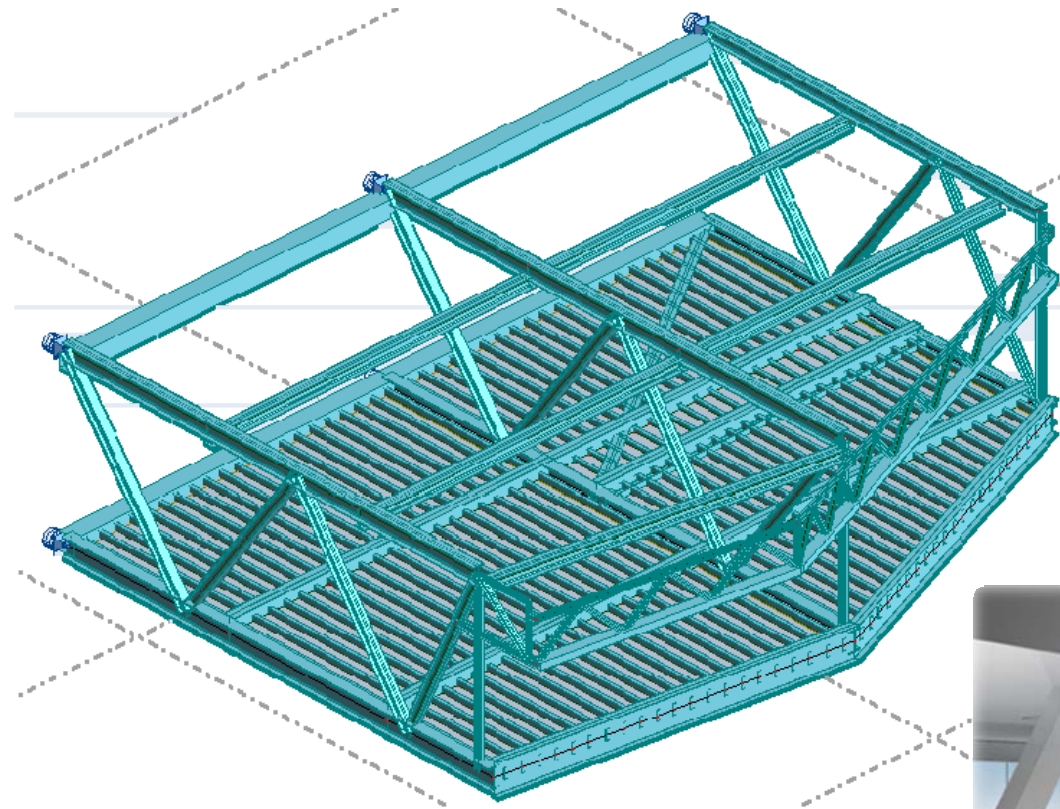
UDKRAGNINGEN

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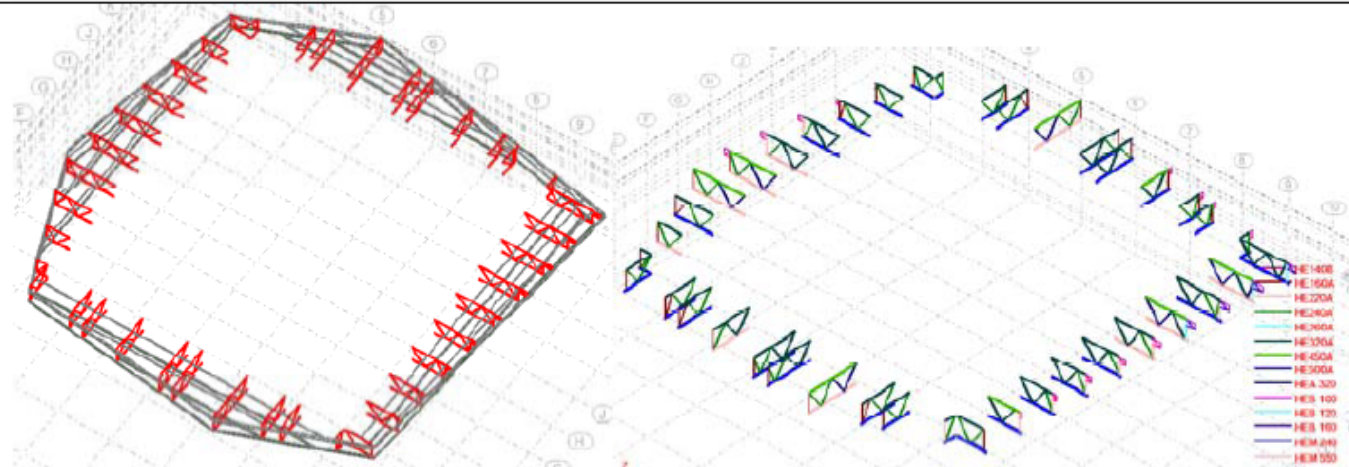




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Bæreevneeftersvisning i Robot af hovedspær



Bæreevneeftersvisning i Robot af topprofiler i hovedspær

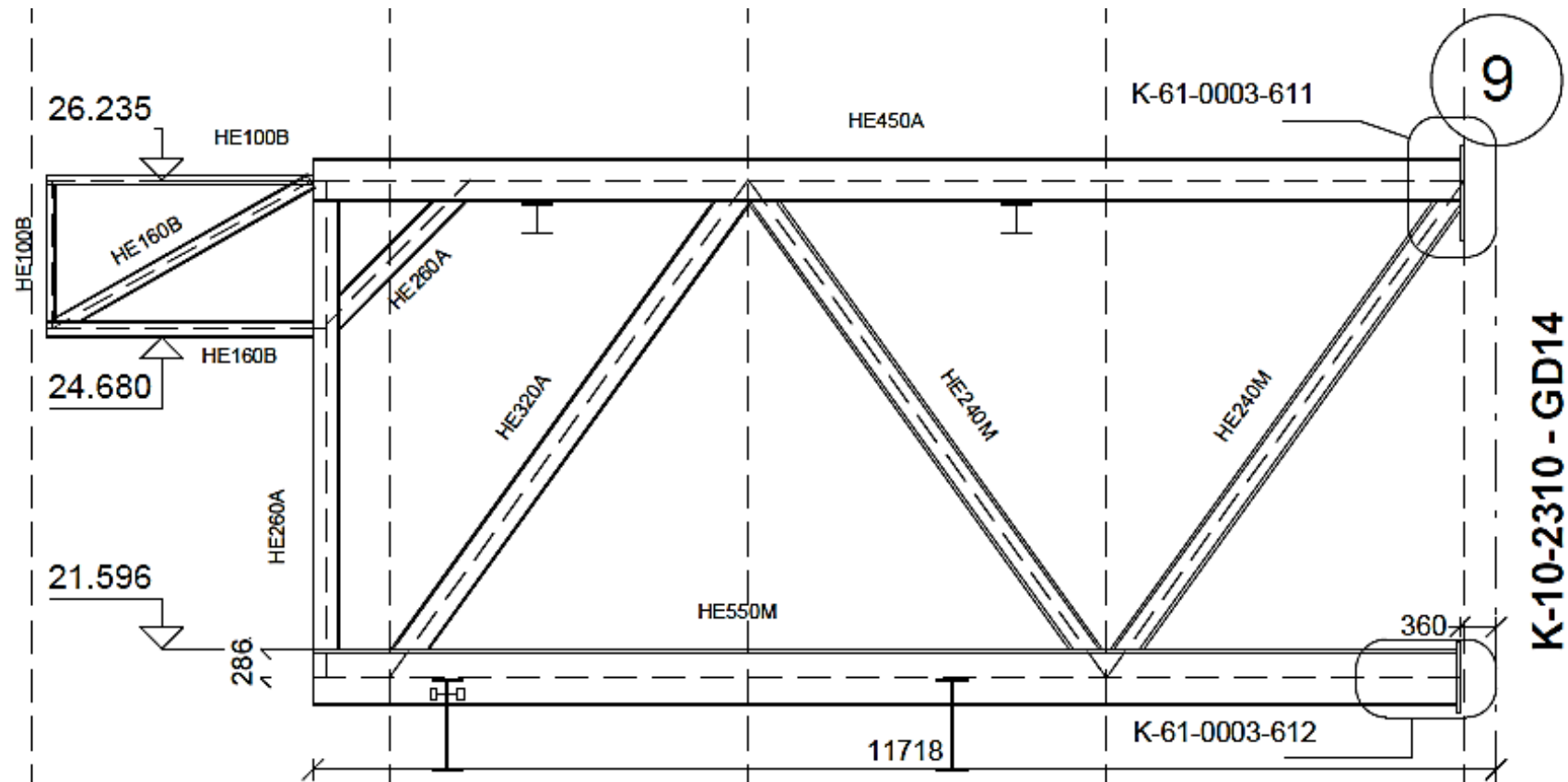
DS/EN 1993-1:2005/DK NA:2007/AC:2009 - Member Verification (ULS) 410 413 415 416 464to476By2 477 480to490By2 498to540By

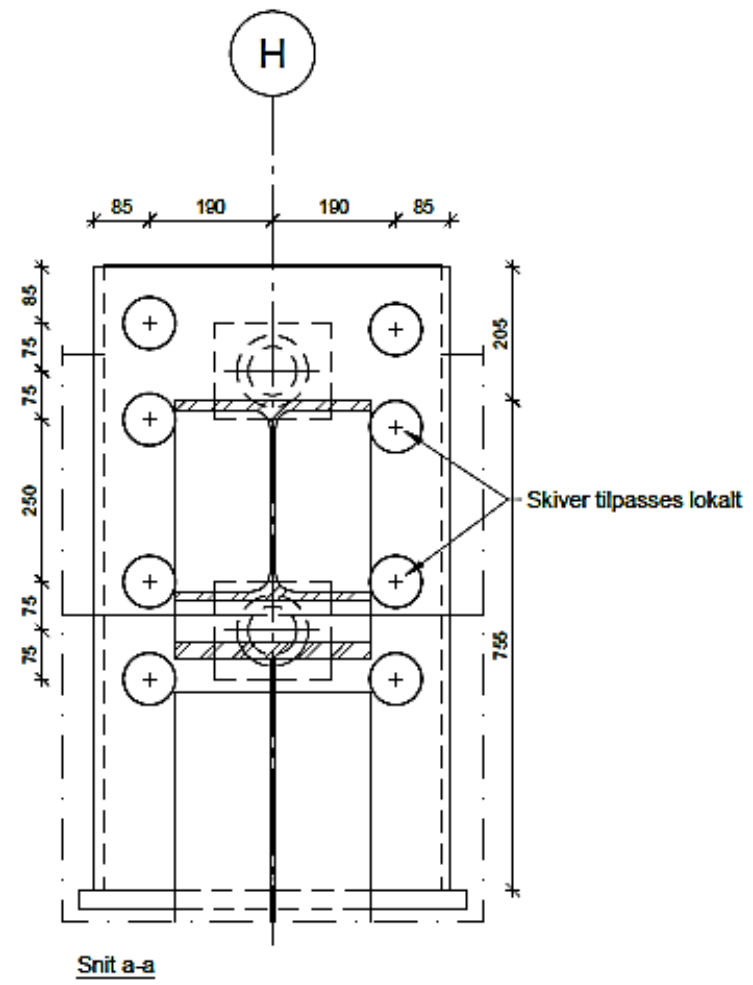
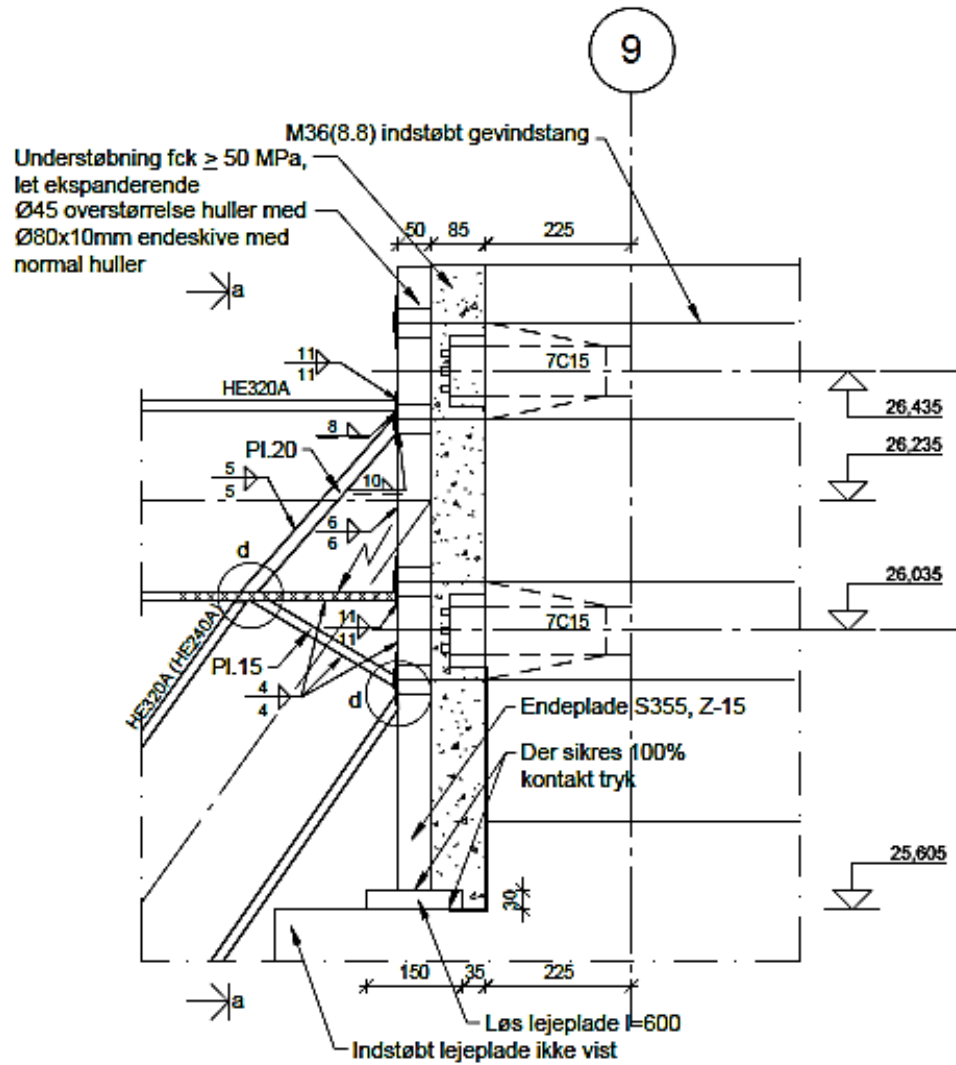
Results Messages

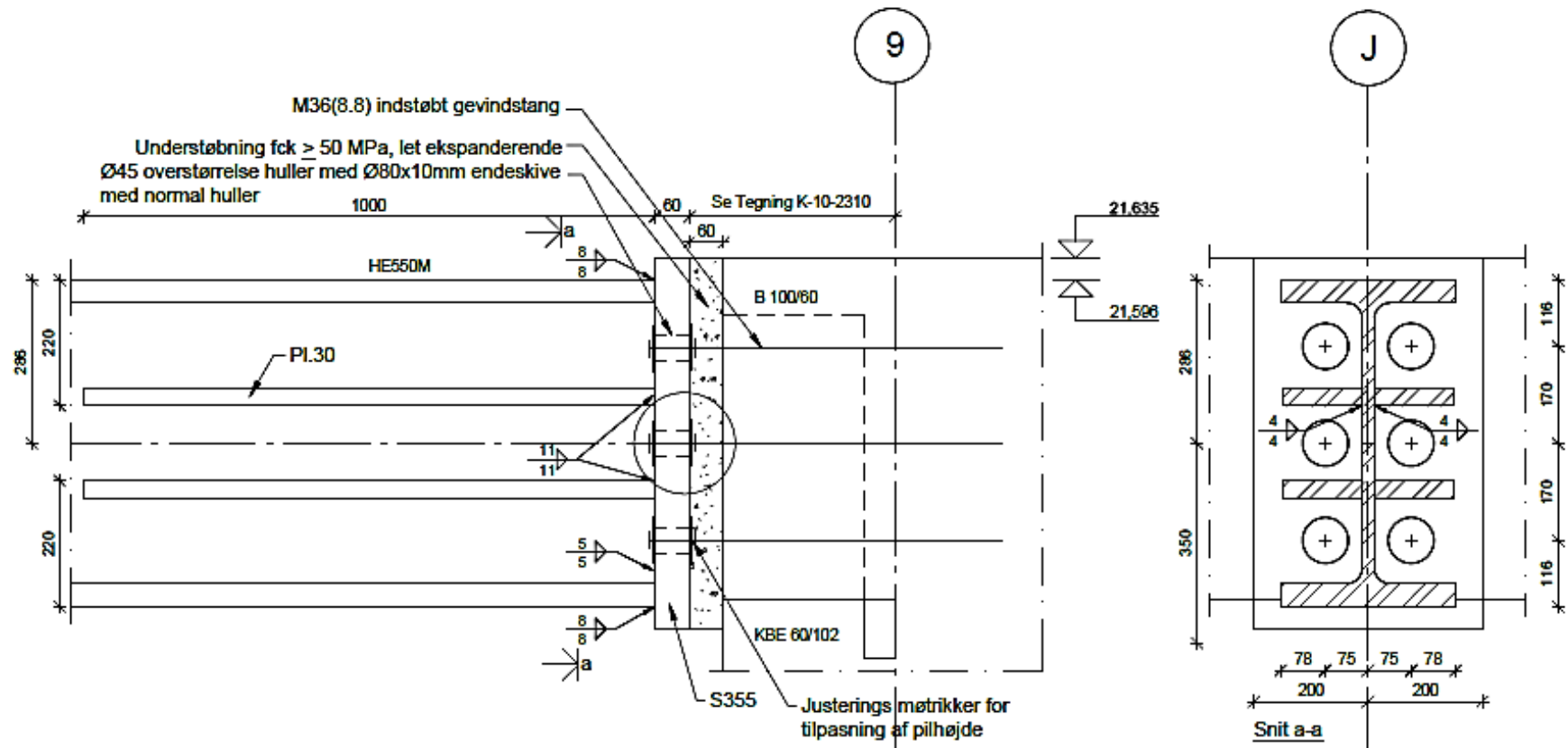
Member	Section	Material	Lay	Laz	Ratio ▲	Case
506	OK HE450A	S 275	4.51	112.17	0.71	101 Dom. nyttelast
538	OK HE450A	S 275	6.93	117.68	0.70	101 Dom. nyttelast
516	OK HE320A	S 275	6.55	108.88	0.49	101 Dom. nyttelast
490	OK HE320A	S 275	20.77	145.91	0.44	102 Dom. sneelast
524	OK HE450A	S 275	14.91	170.42	0.44	101 Dom. nyttelast
508	OK HE450A	S 275	14.91	196.81	0.41	101 Dom. nyttelast
410	OK HE450A	S 275	10.20	196.82	0.40	101 Dom. nyttelast
488	OK HE450A	S 275	14.91	196.86	0.40	101 Dom. nyttelast
528	OK HE450A	S 275	23.52	155.35	0.39	101 Dom. nyttelast
415	OK HE320A	S 275	20.77	153.90	0.39	101 Dom. nyttelast

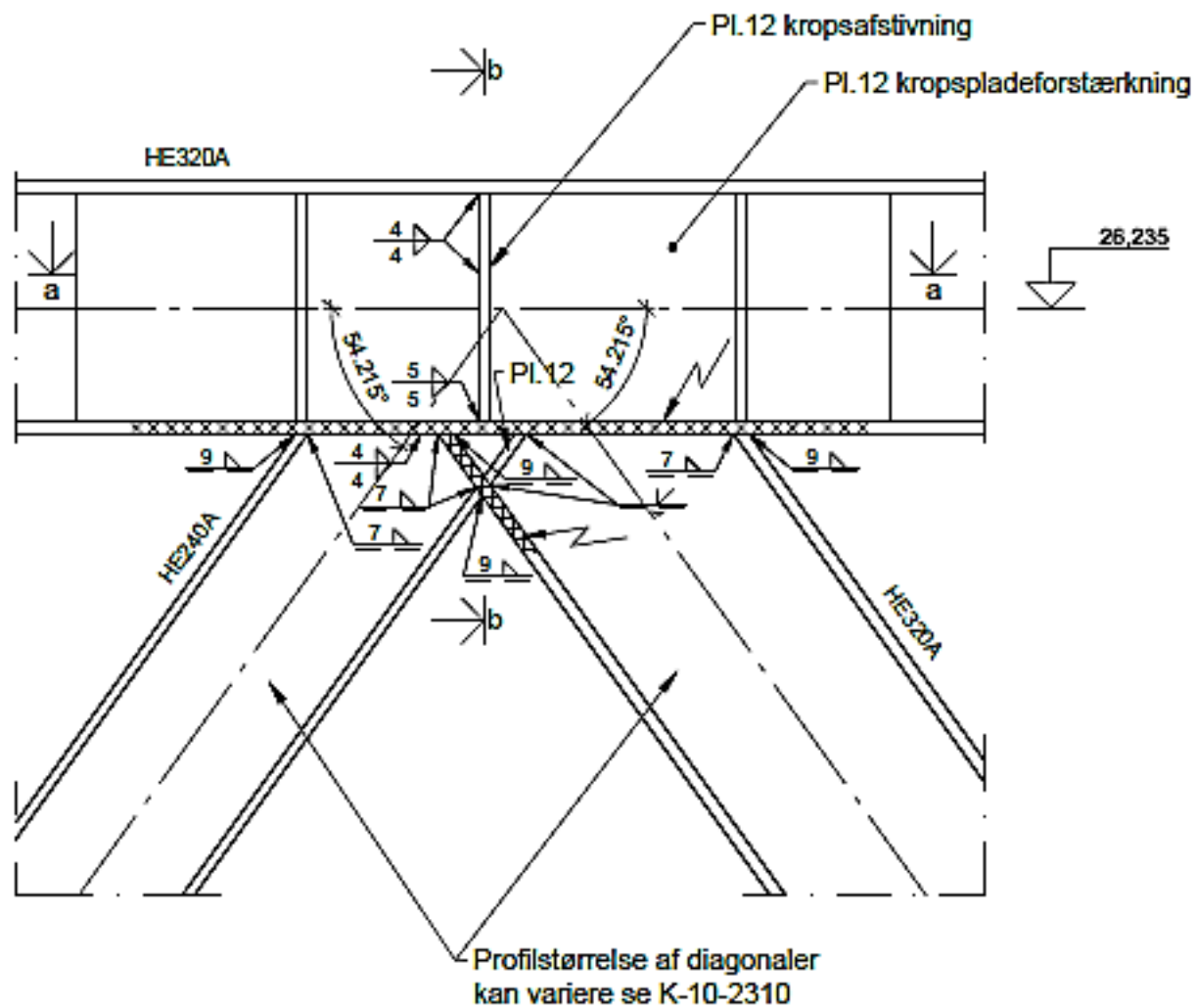
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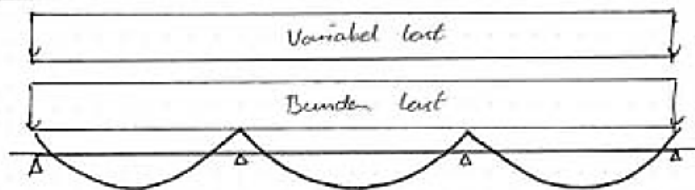
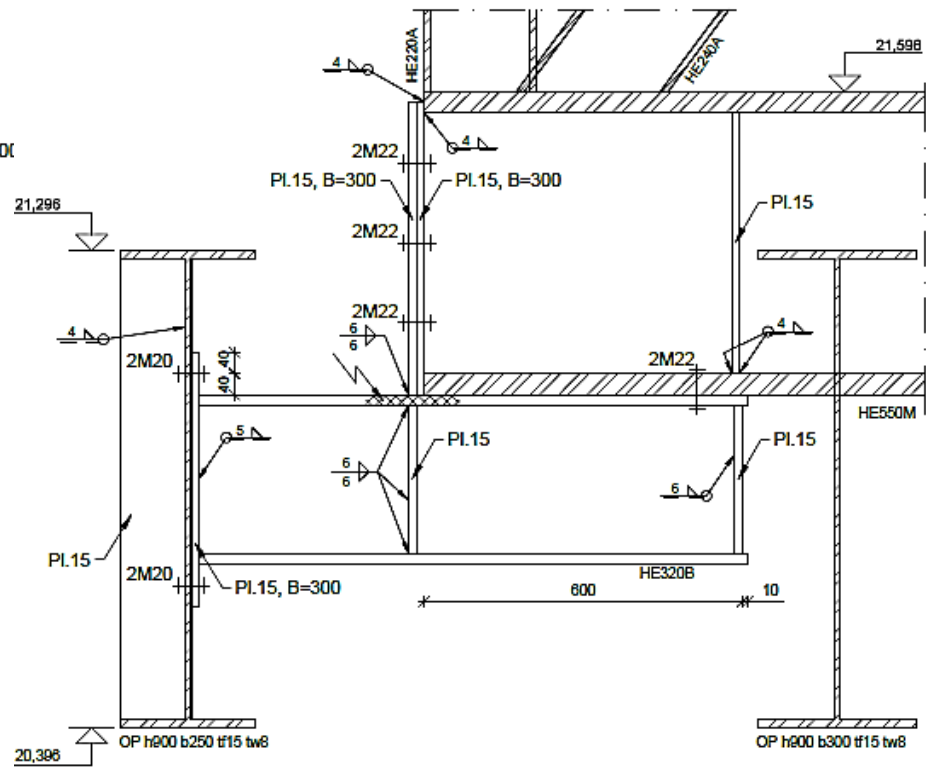
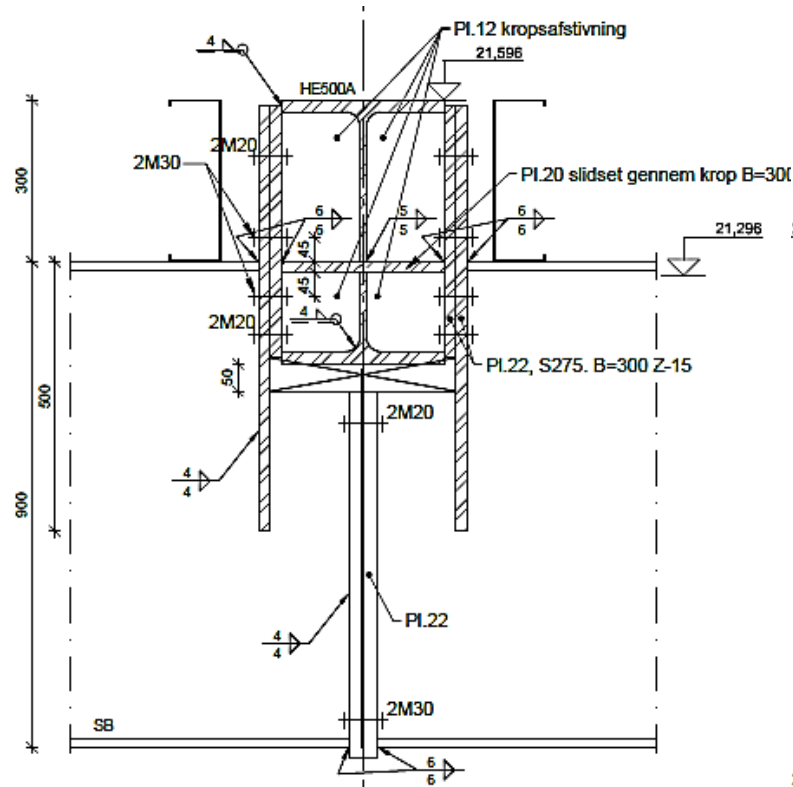
SAMLINGER







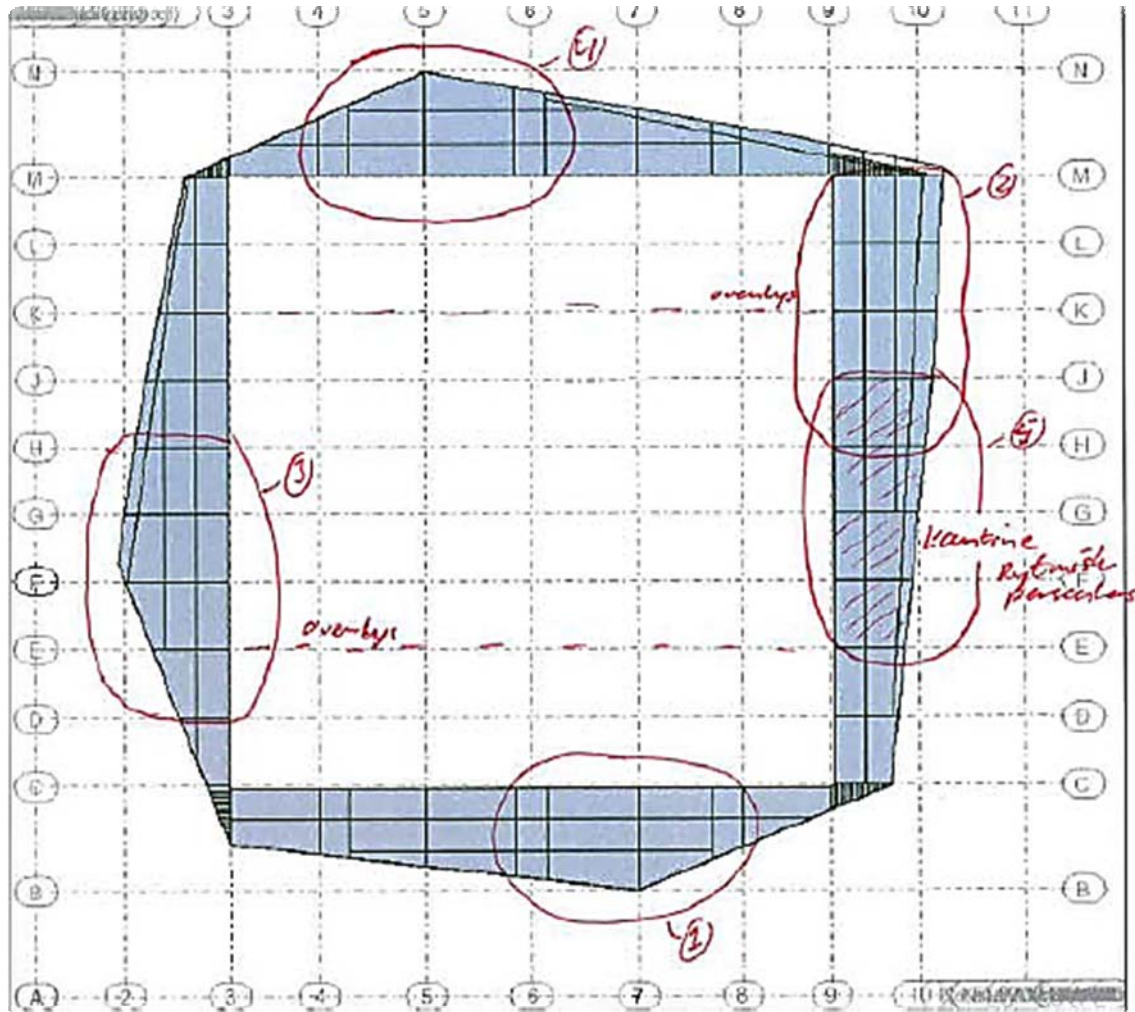


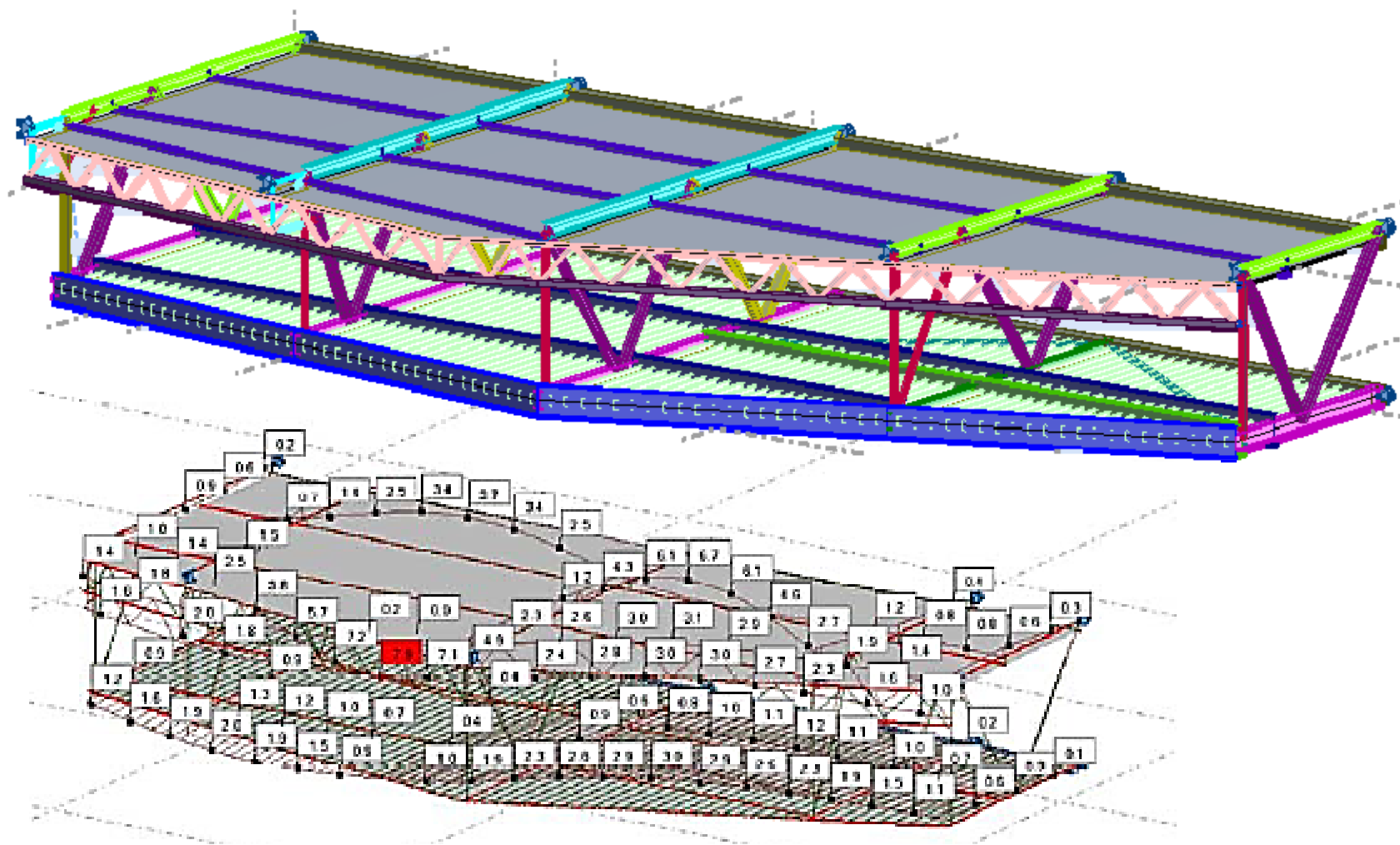


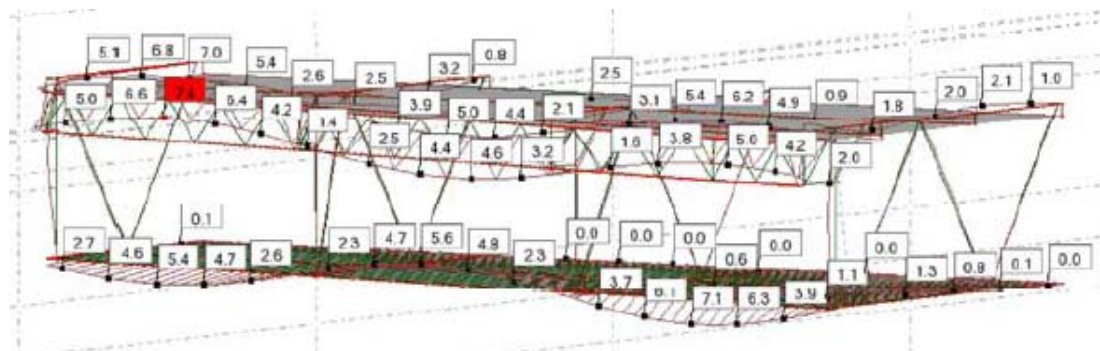
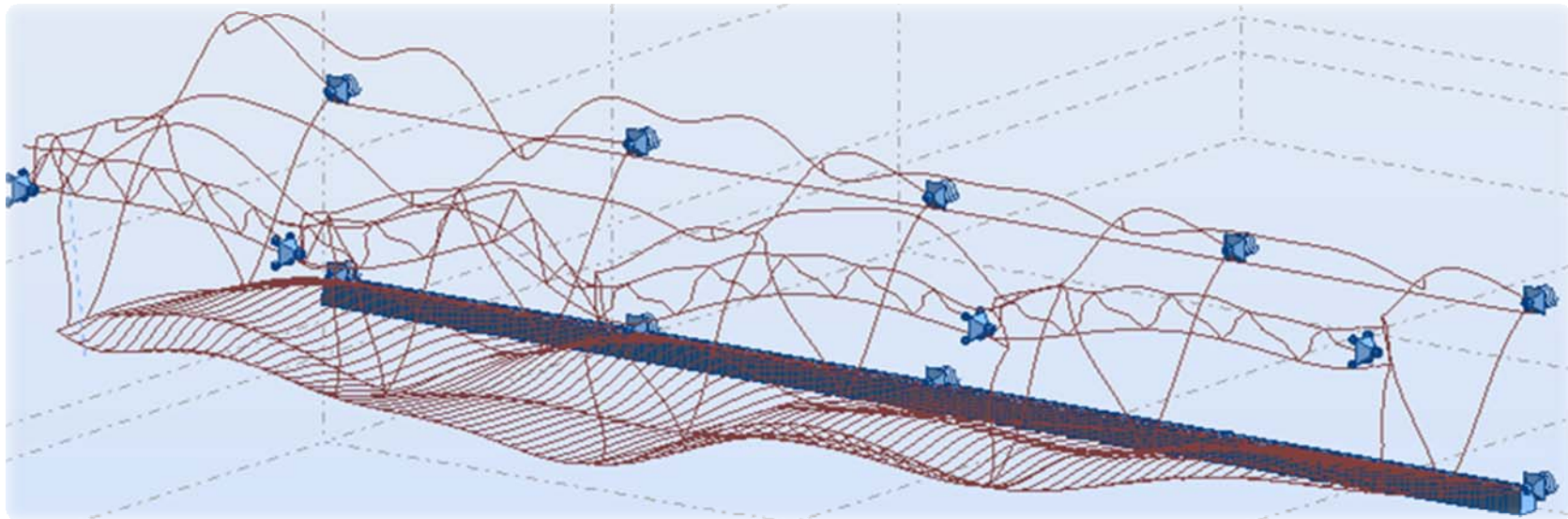
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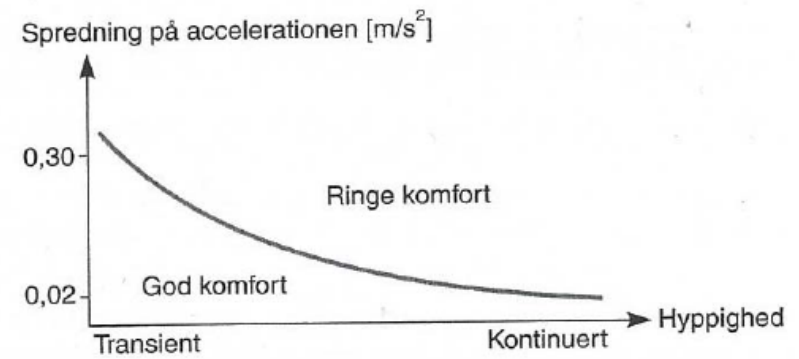
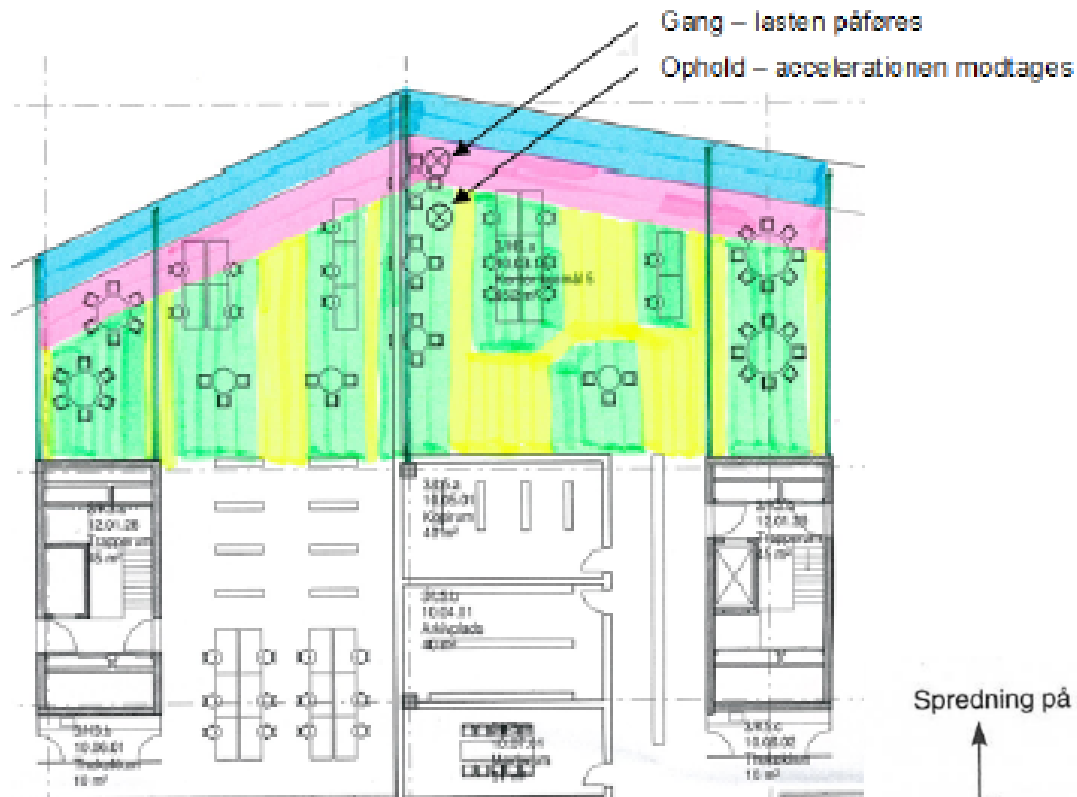
SVINGER DET?

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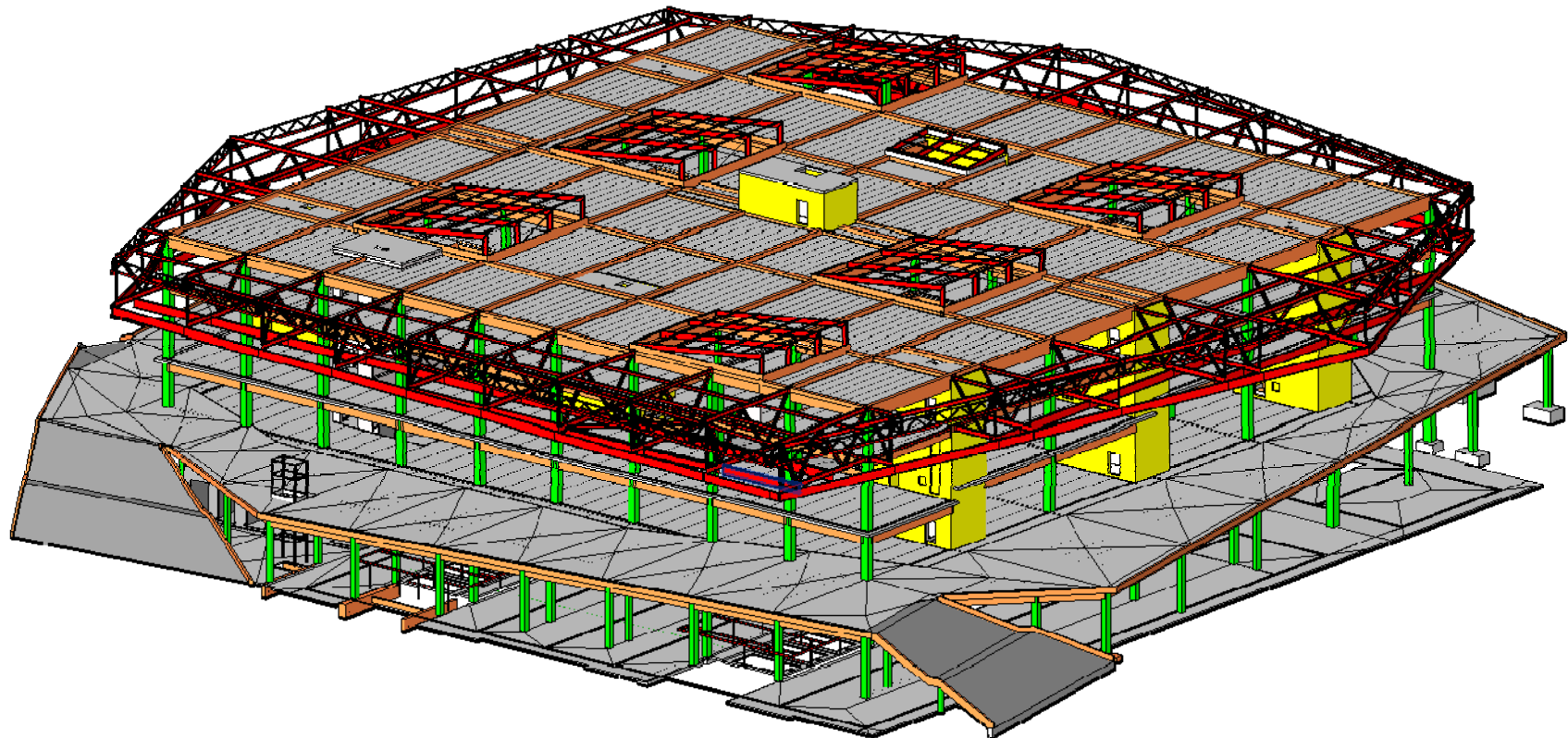




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**3D-PROJEKTERING
&
KOMMUNIKATION**

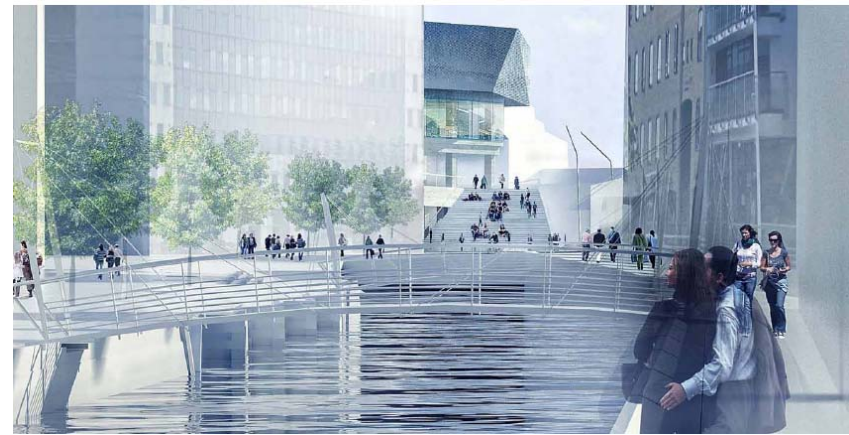
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