

# Frederiksbroen

## Dansk Ståldag 2021

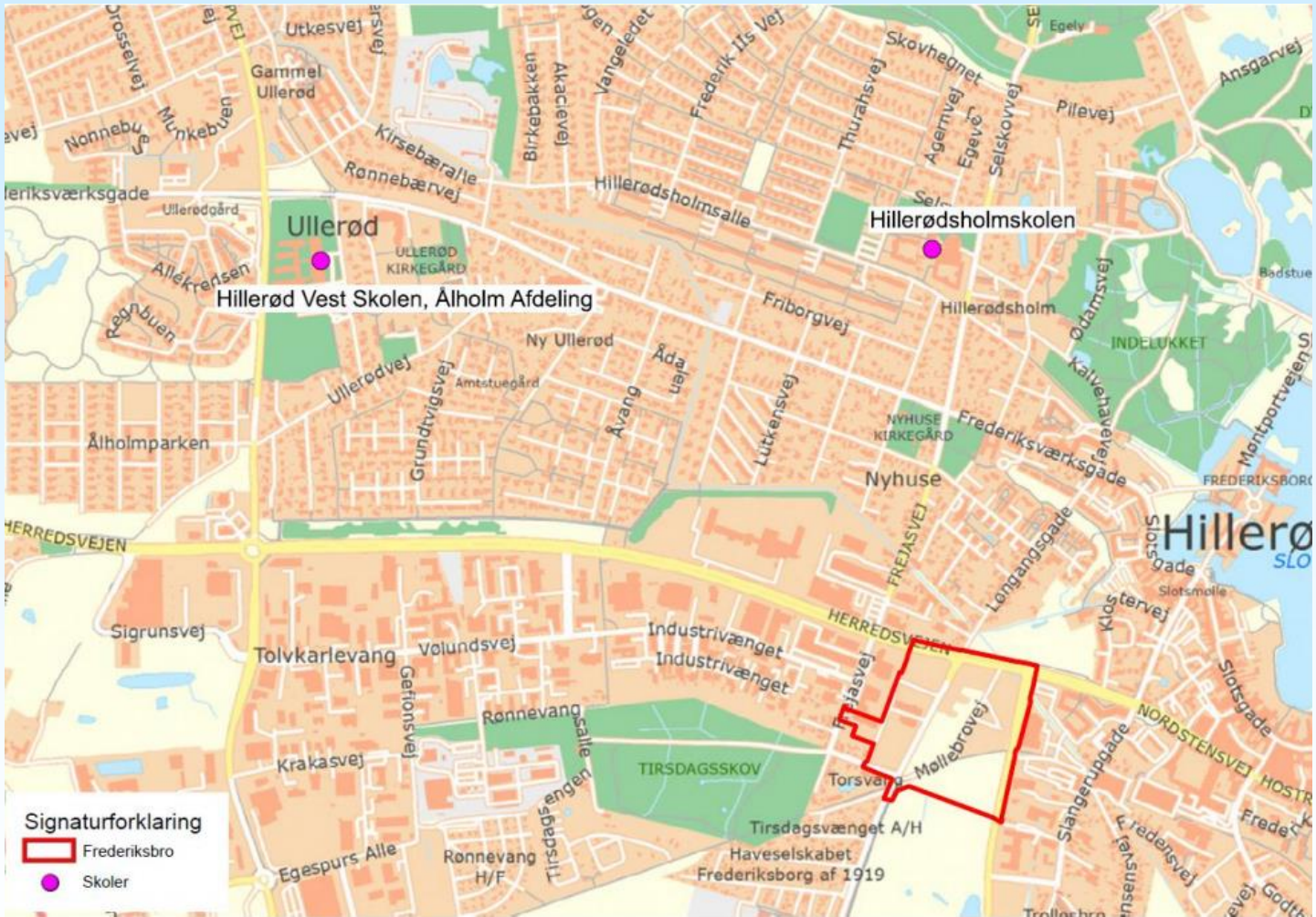
### Danmarks længste stibro i stål



Foto: M. Goldschmidt Holding A/S

Christian Riis Petersen, M.Sc.

# Frederiksbro - Frederiksbroen



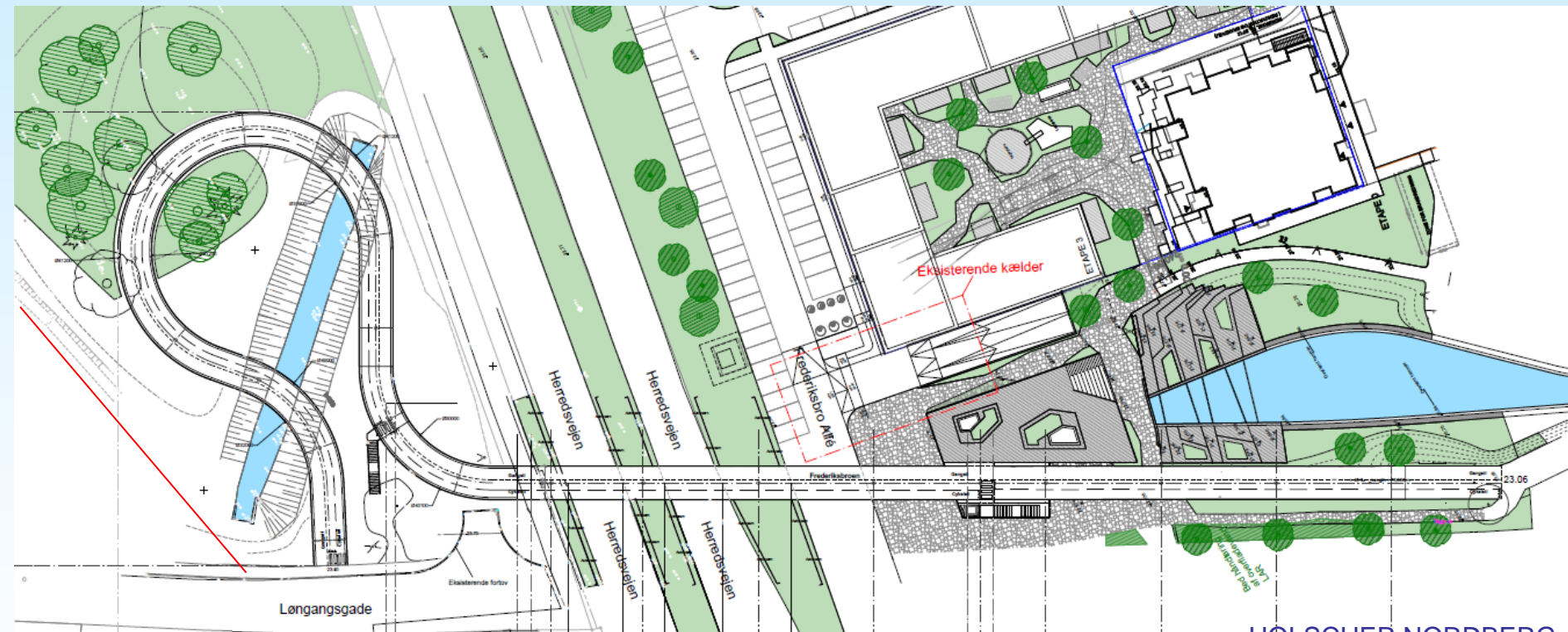
# Frederiksbro 23. okt. 2021



Foto: M. Goldschmidt Holding A/S

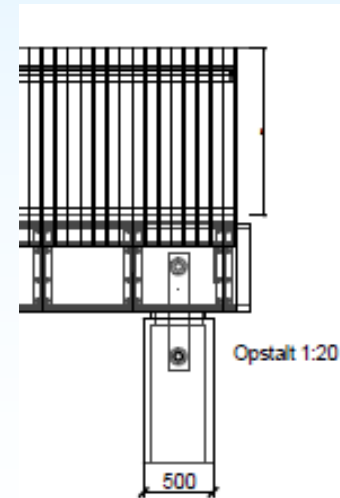
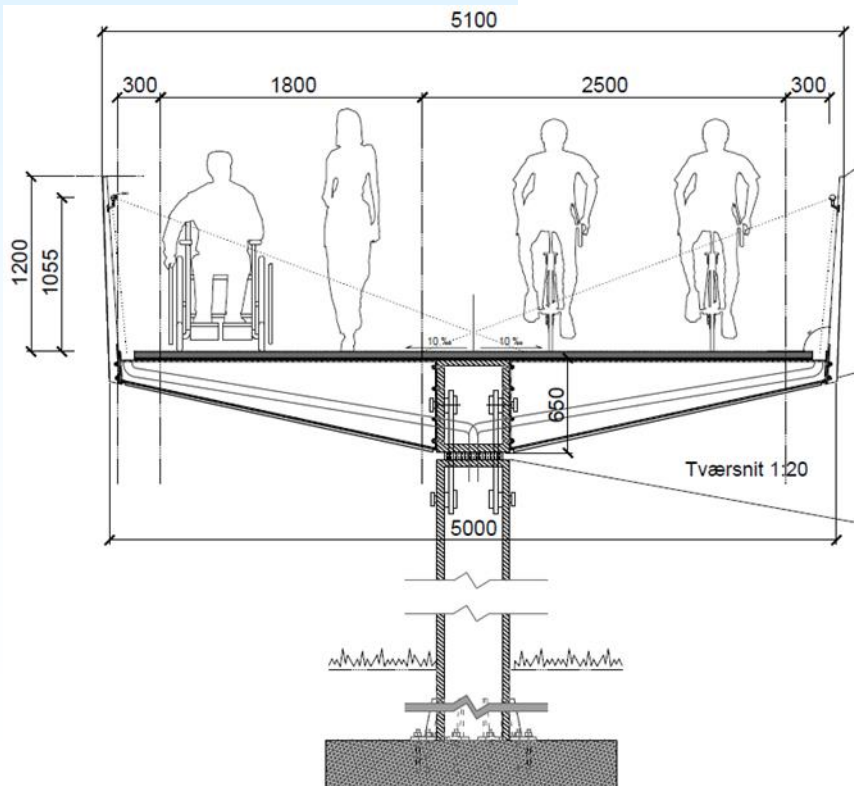
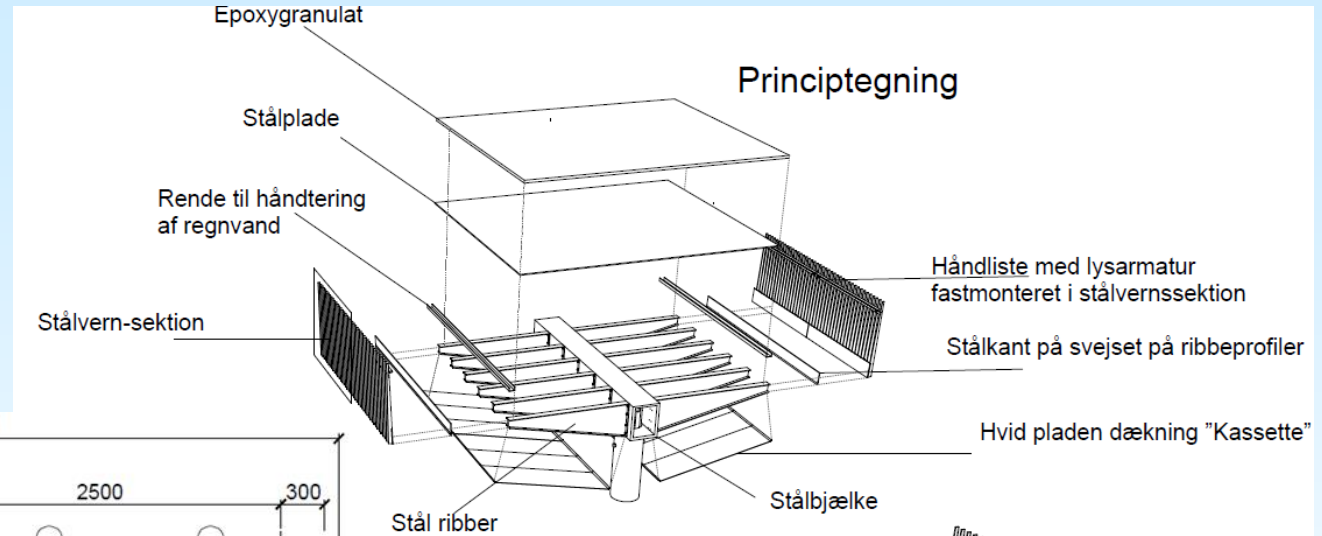
# Frederiksbroen

## Totalentreprise, design udbud

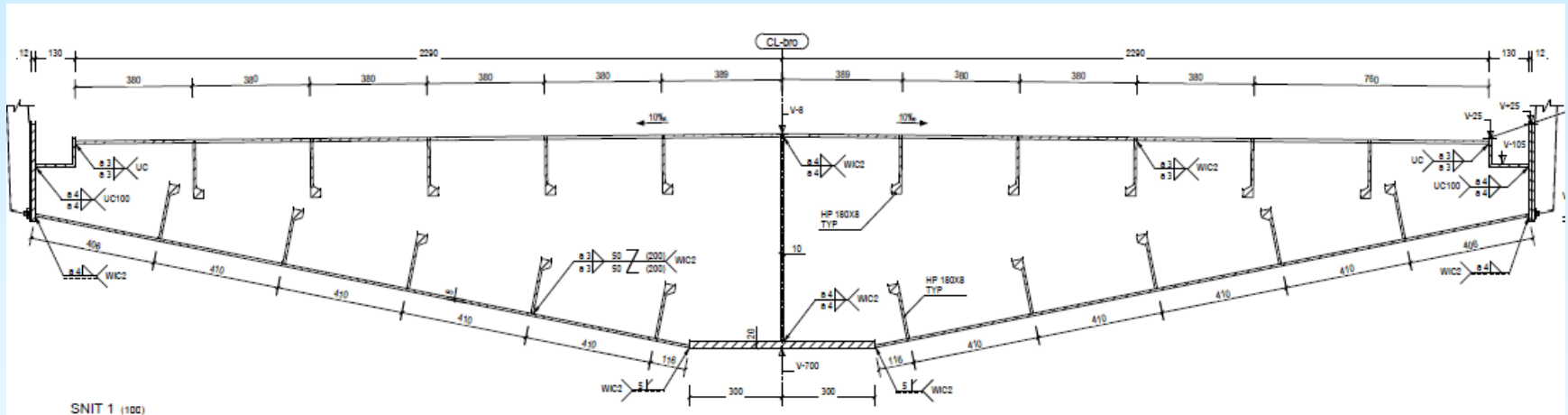


HOLSCHER NORDBERG  
ARCHITECTURE AND PLANNING

# Totalentreprise, design udbud



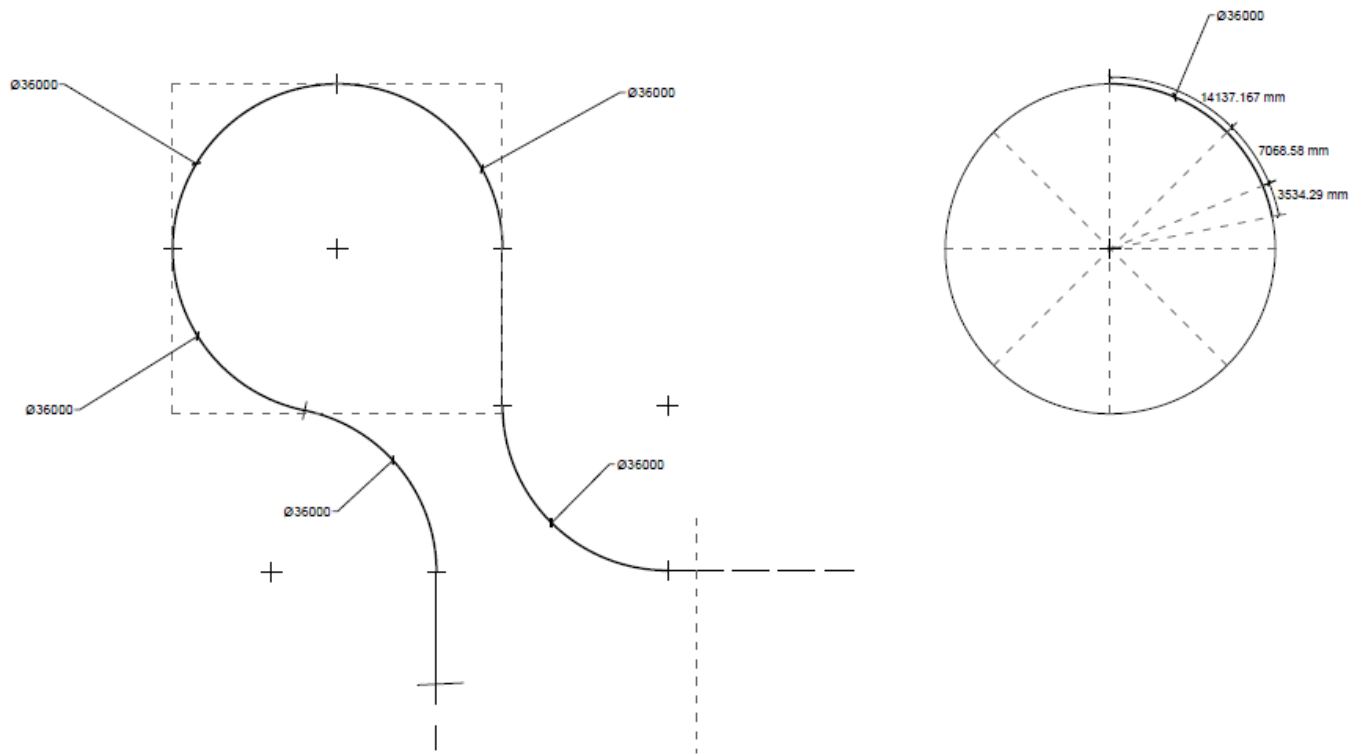
# Projektforslag, Tværsnit



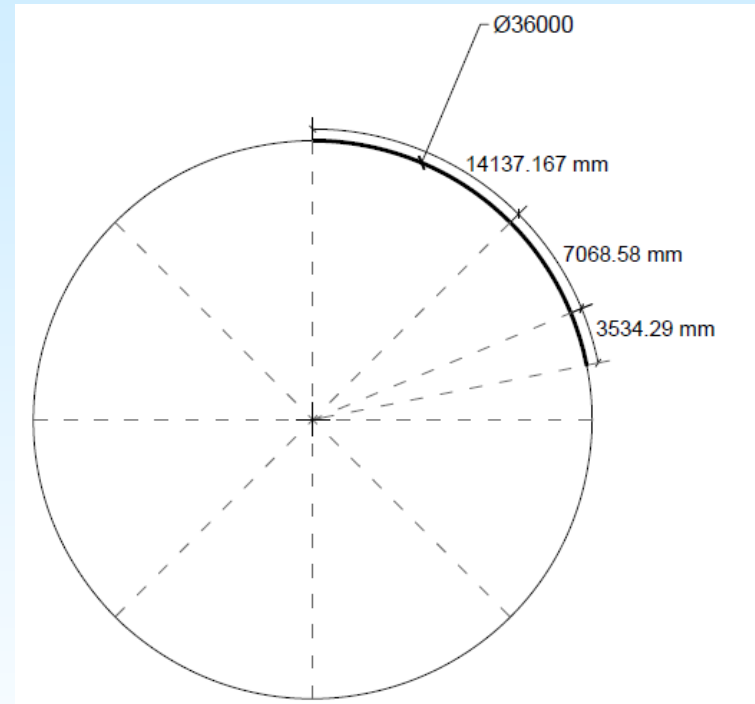
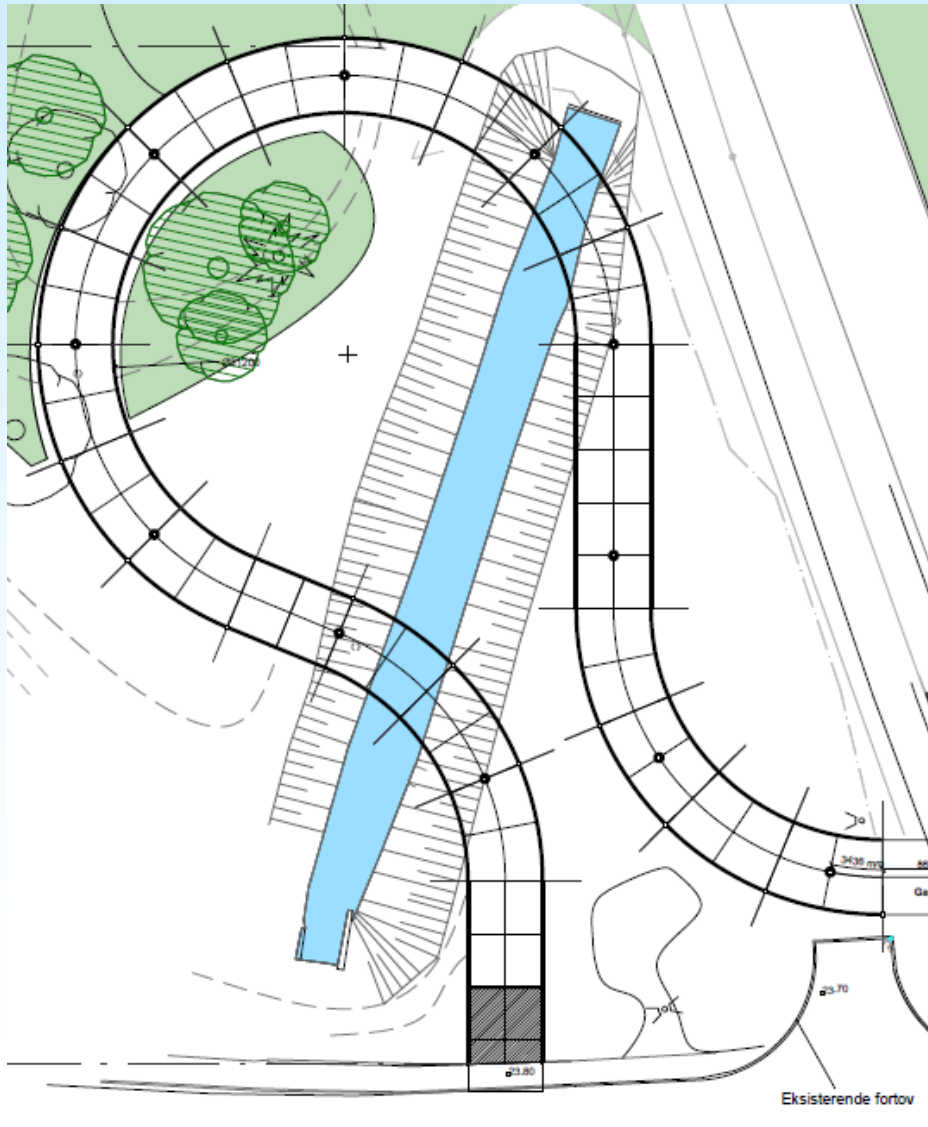
Dækplade	PL10
Bundflange	PL 20 x 600
Bundplade	PL 8
Sideplader	PL 12
Længdeskot	PL 10
Tværskot	PL 10 per ca 3400
Bulpprofiler	HP 180 x 8

**Stålvægt/m<sup>2</sup>      245 kg/m<sup>2</sup>**

# Geometristudie



# Geometri

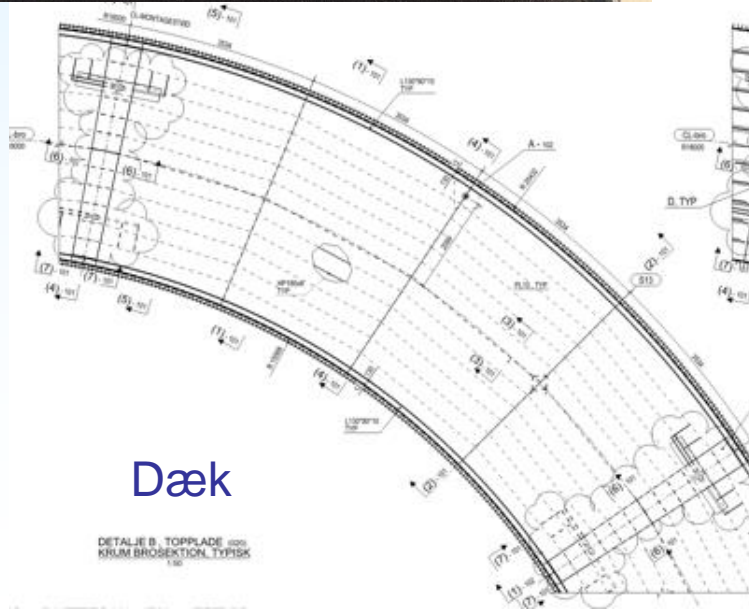


Skot-afstand 3534 mm

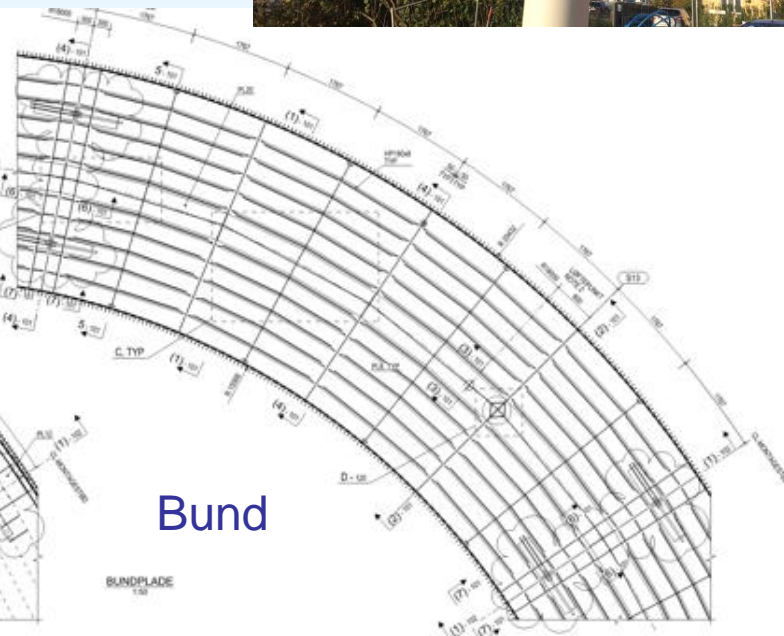
Søjleafstand 4 x 3534 mm



# Facettering af kurver



Dæk



Bund



# Statisk System, Bro 2

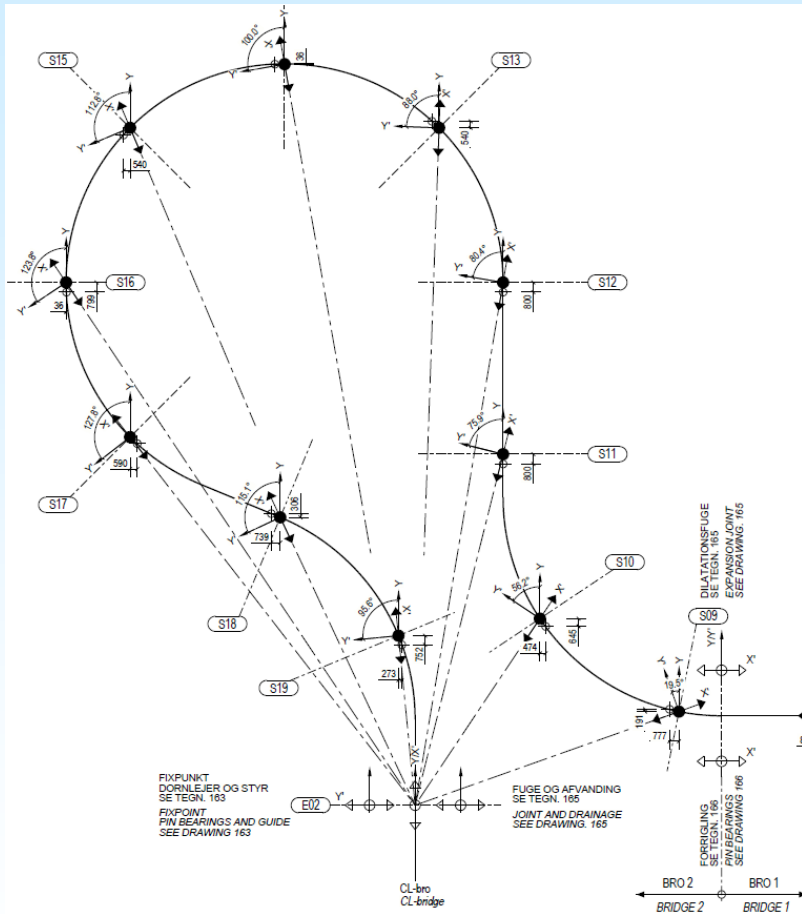
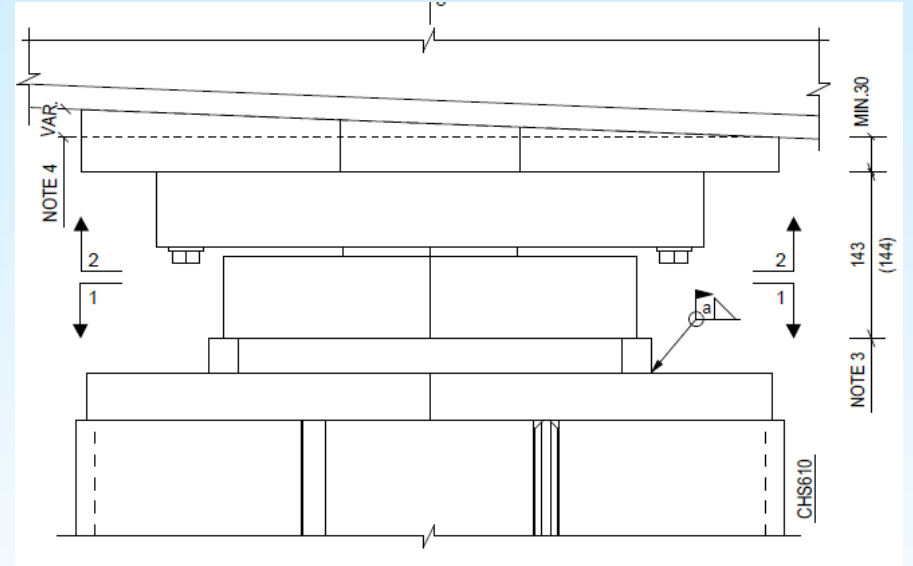


Foto: M. Goldschmidt Holding A/S

# Understøtninger, Søjler Ø610

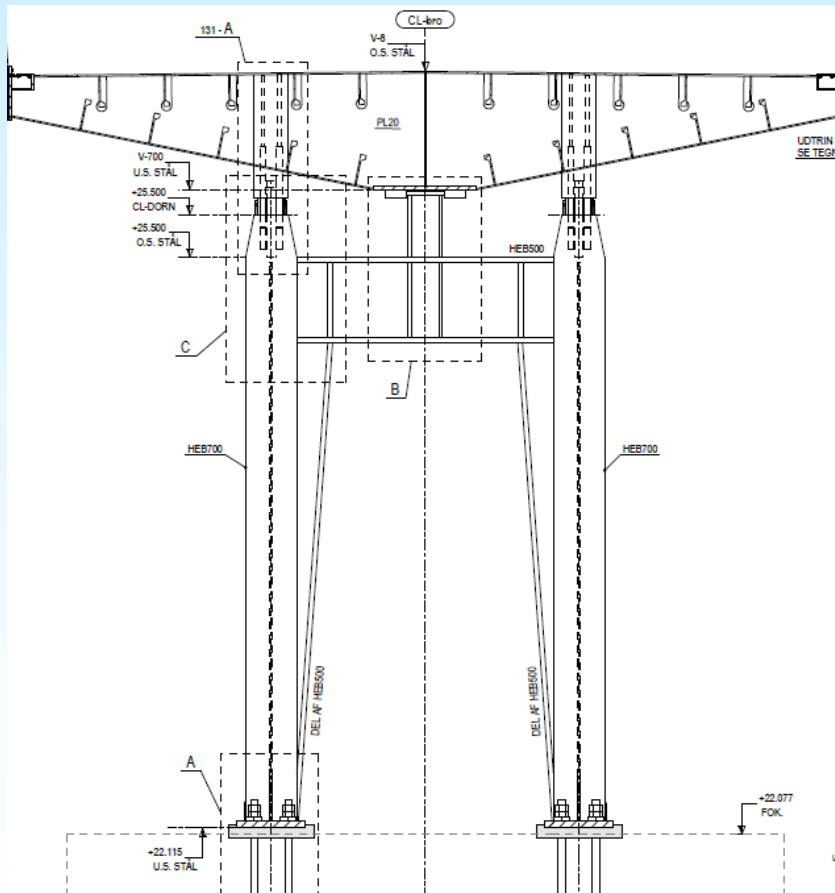


# Lejer, Sfæriske enkeltbevægelige

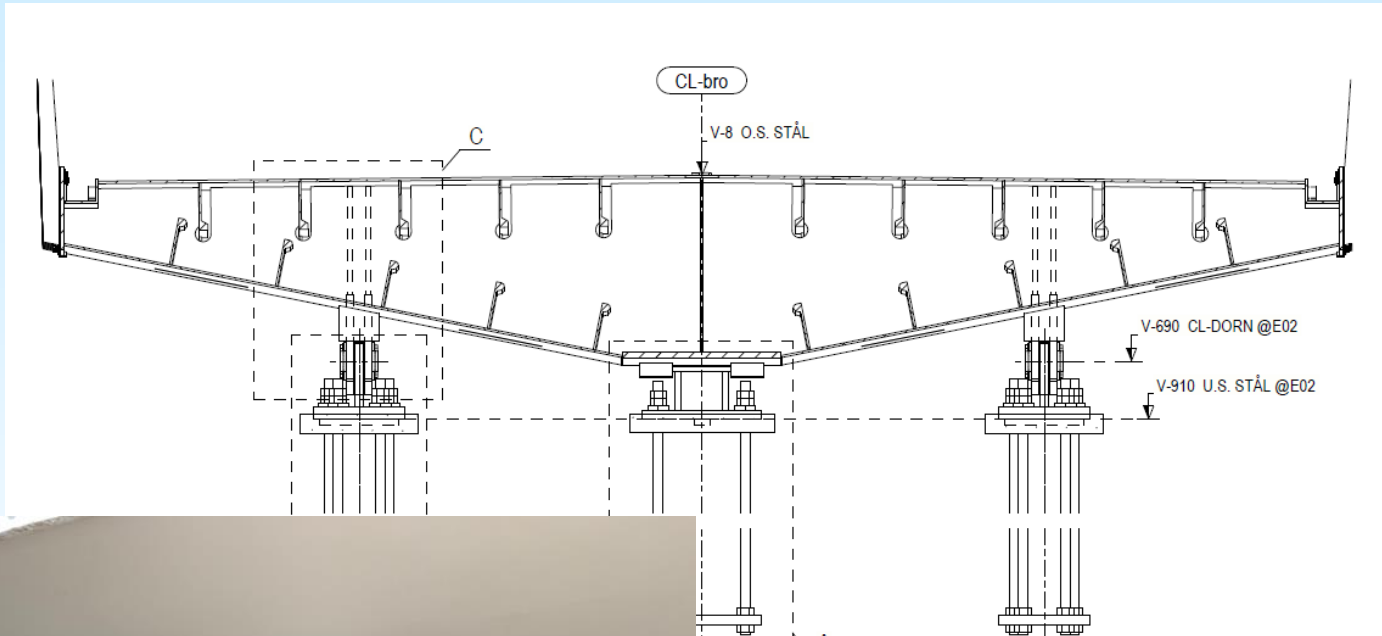


Max Lodret, ULS: 1170 kN  
Max Vandret, ALS: 440 kN

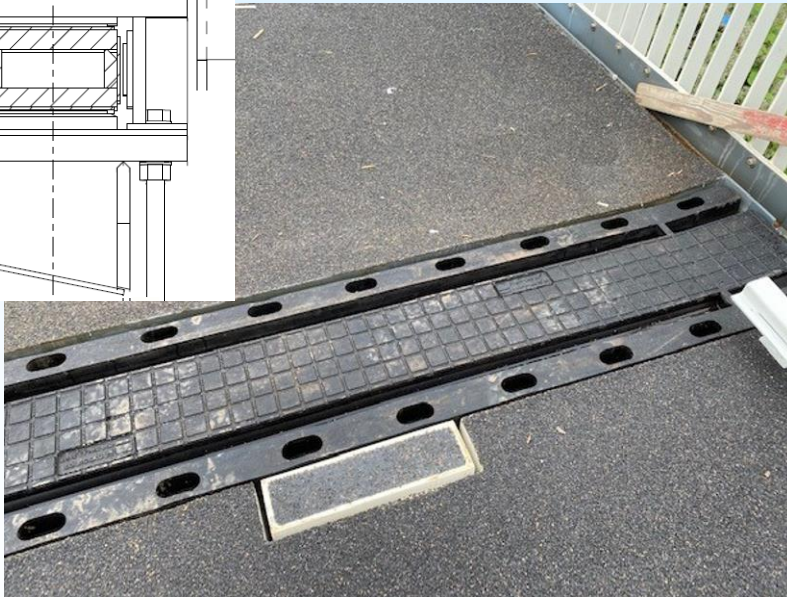
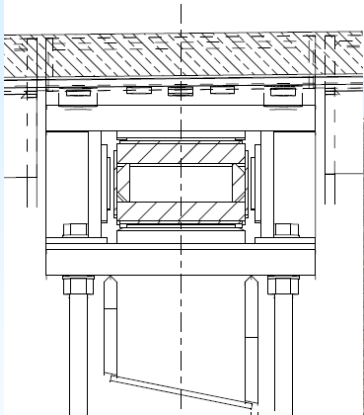
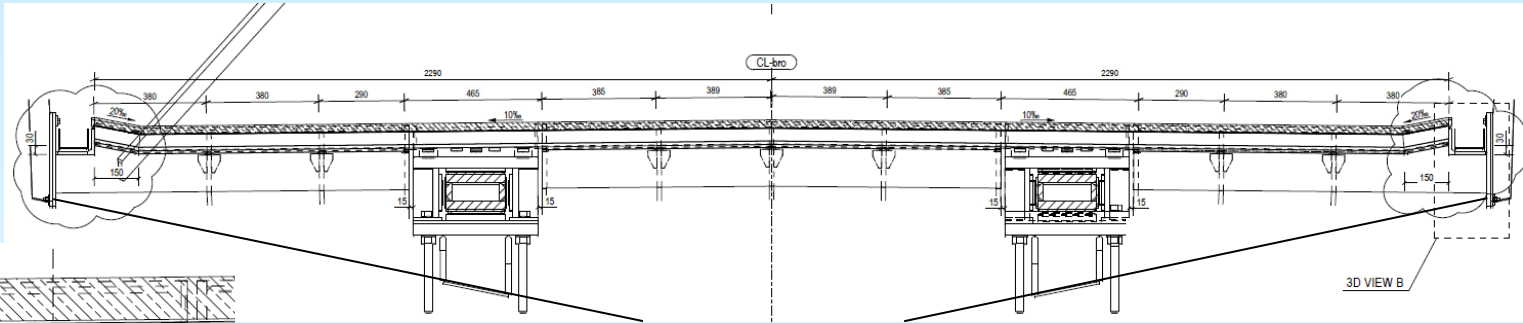
# Fikspunkt, Bro 1 ved S-04



# Fikspunkt, Bro 2 ved E-2,

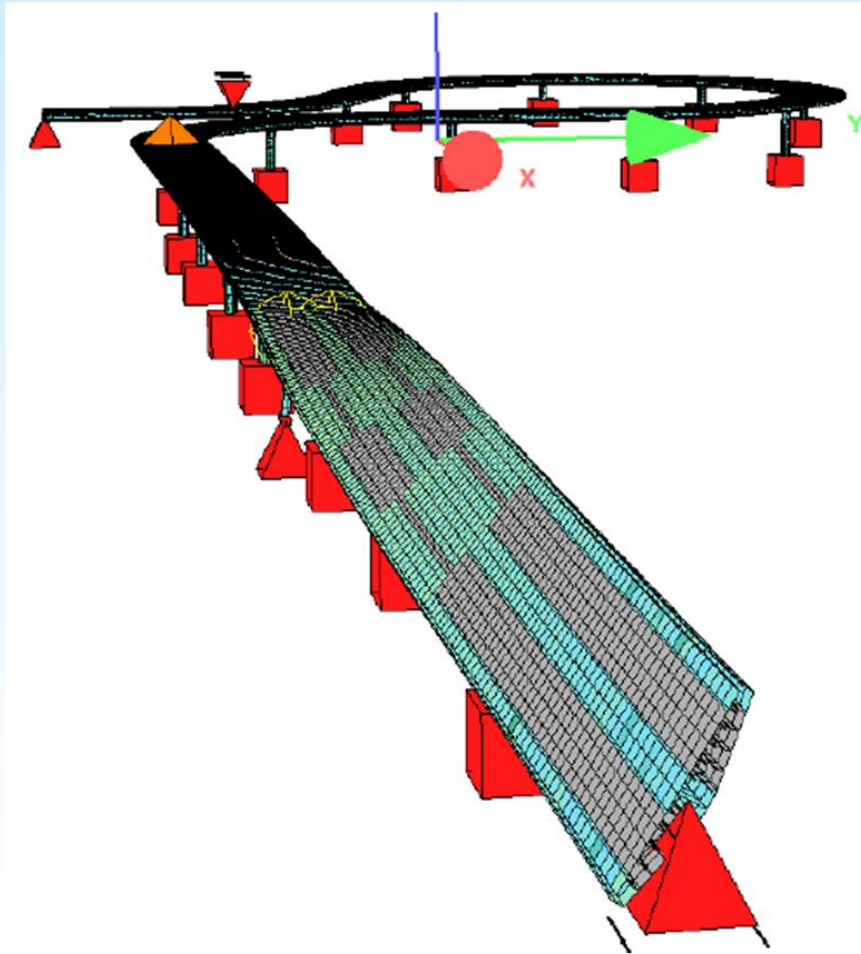


# Dilatation mellem Bro 1 & 2





# Dynamik, Komfort



Torsionssvingninger:

Egenfrekvens

2,84 Hz

Trafikklasse: Tæt

Vinkelacceleration

0,33 rad/s<sup>2</sup>

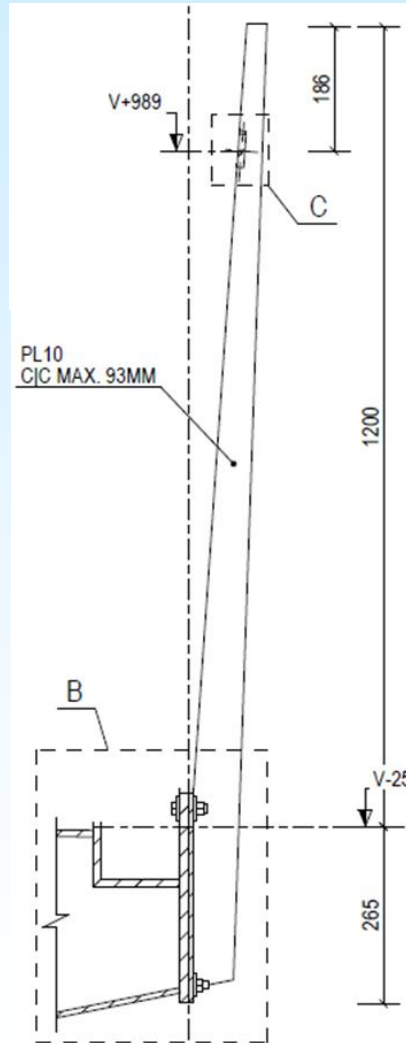
Lodret acceleration

0,83 m/s<sup>2</sup>

# Rækværker

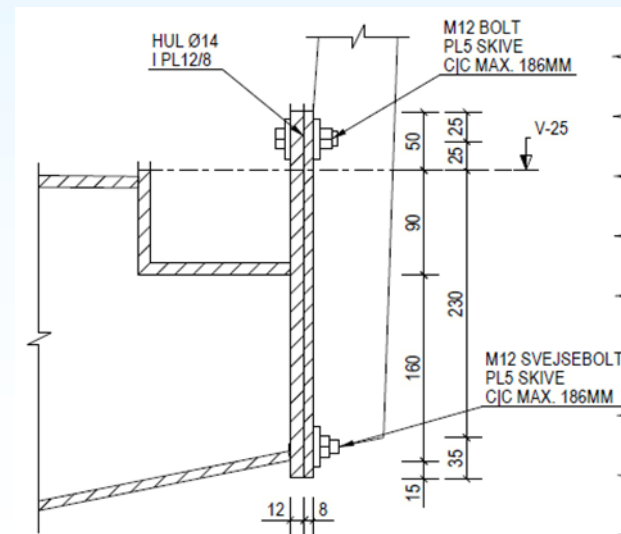


# Rækværk



Ca. 6300 lameller  
Samlet længde ca 9450 m

Ca 3000 stk M12 RF bolte  
Ca 3000 stk M12 RF svejsebolte



# Afvanding

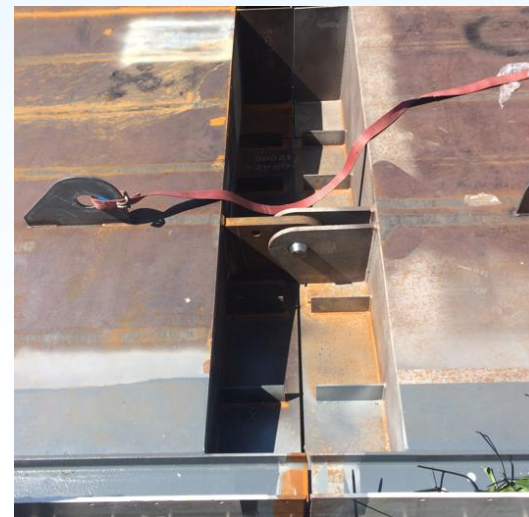
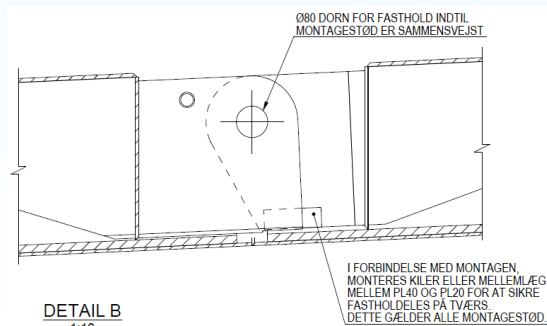
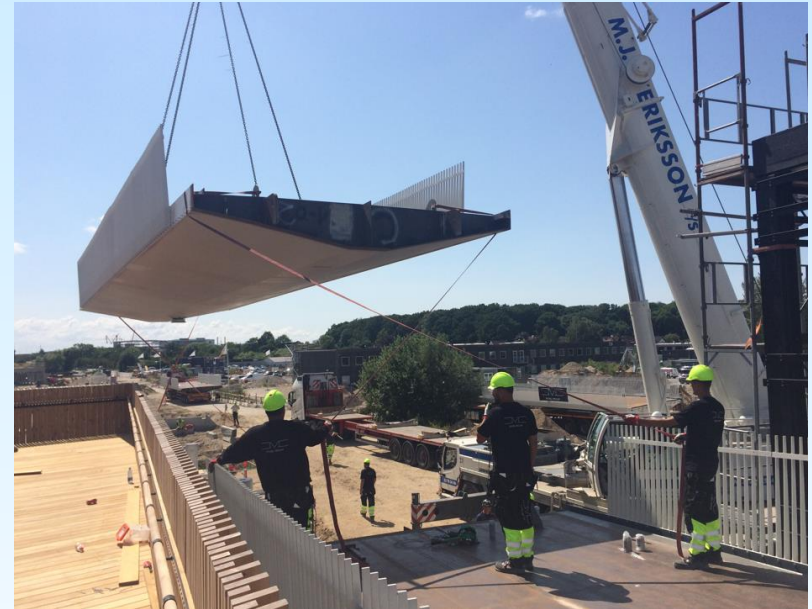
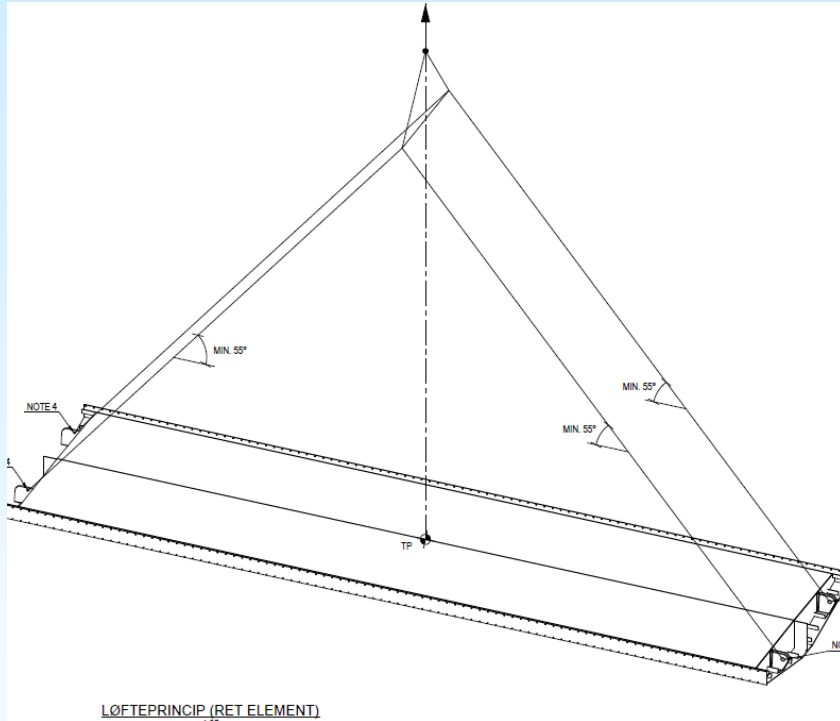


Nedløb ved endevederlag  
Max vandføring i rende 7,5 l/s

# Fabrikation, Szczecin, PL



# Montage



# Frederiksbros øvrige broer

”Frederiksbroen”

”Svanebroen”  
Vejbro

”Badebroen”  
Stibro



Foto: M. Goldschmidt Holding A/S

# Projektets parter

Bygherre	M. Goldschmidt Ejendomme A/S
Arkitekt	Holscher Nordberg Architecture and Planning
Bygherrerådgiver	Runesten Raadgivning ApS
3. Partskontrol	ES Consult
Totalentreprenør	Pihlkonsortiet
Underbygning	LM Byg /AFRY
Stålentreprenør	JMC Steel Group ApS
Stålprojekt	ISC Rådgivende Ingeniører A/S



# Frederiksbroen



Foto: M. Goldschmidt Holding A/S

Tak for opmærksomheden