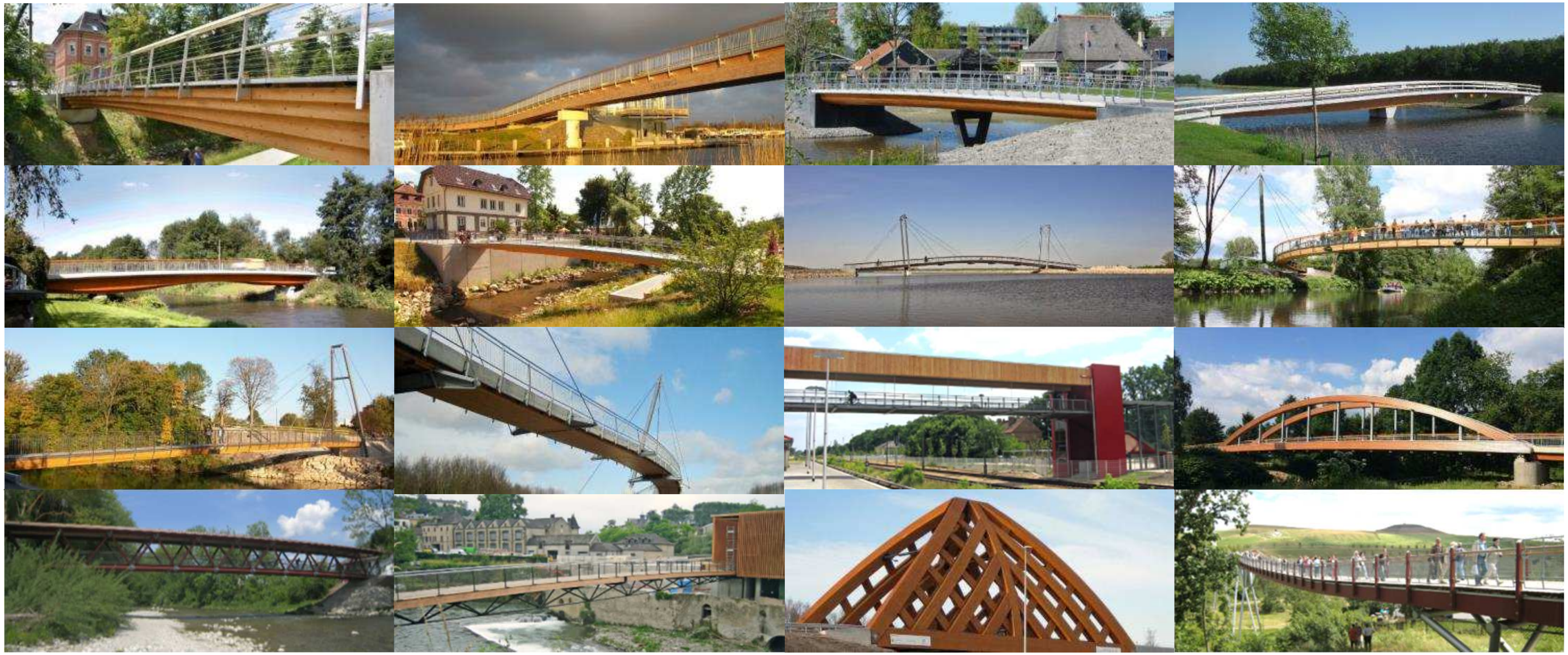
Latest Developments in timber bridge constructions

New design by block-gluing and timber-concrete-composite

Timber bridges



Ingenieurbüro Miebach - Timber Engineering
Haus Sülz 7, D-53797 Lohmar
Germany

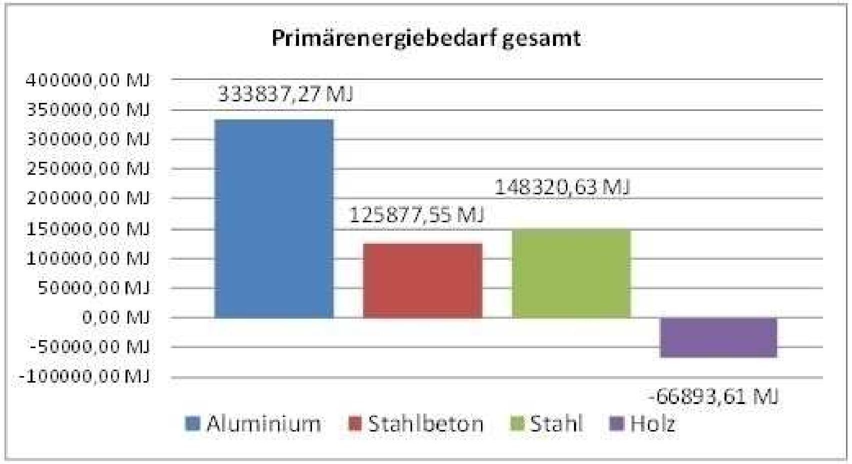
www.ib-miebach.de

Why timber bridges?

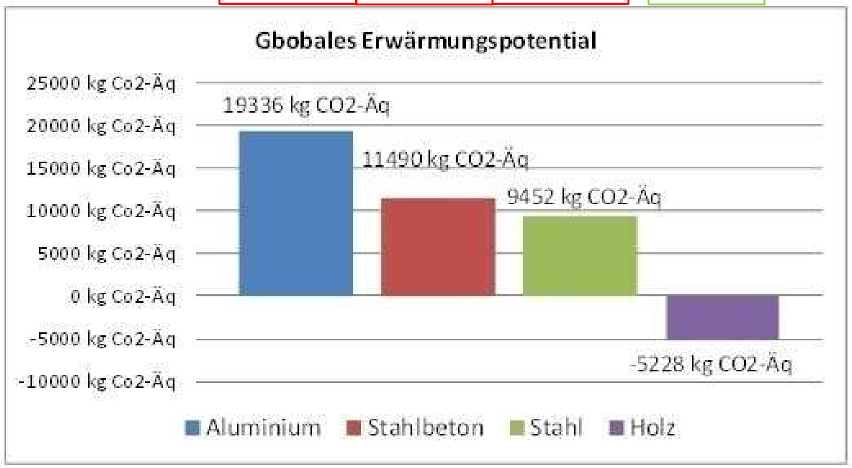
Ecobalance different materials in bridge constructions

reference bridge 25m span x 3m width

Input primary energy



-5,1	-3,0	-2,5	1,2



CO² Balance

Durability of block-laminated structures

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Design flexibility: Block-laminated-Timberbeam

Box girder bridge Ijsselstein, NL length: 117,00 m width: 3,00 m

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MIEBACH INGENIEURBÜRO

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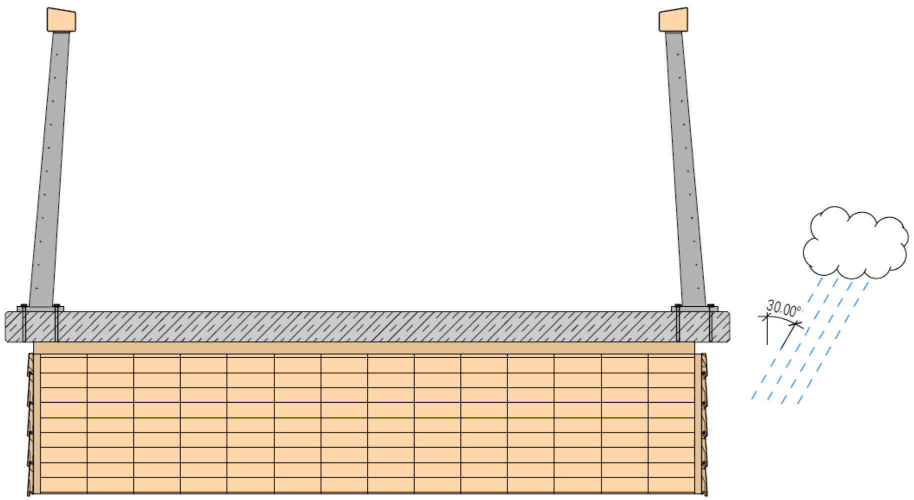
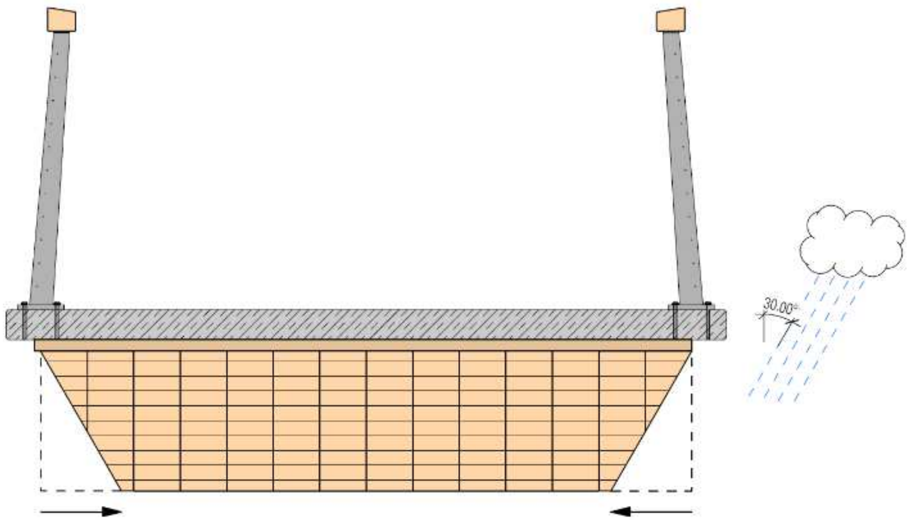
Two ways of constructional timber protection



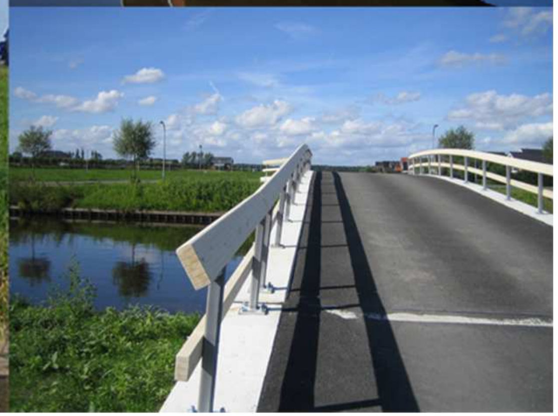
cladding on both sides of the cross section and waterproof decking



waterproof decking and 30° weatherprotection

MIEBACH INGENIEURBÜRO

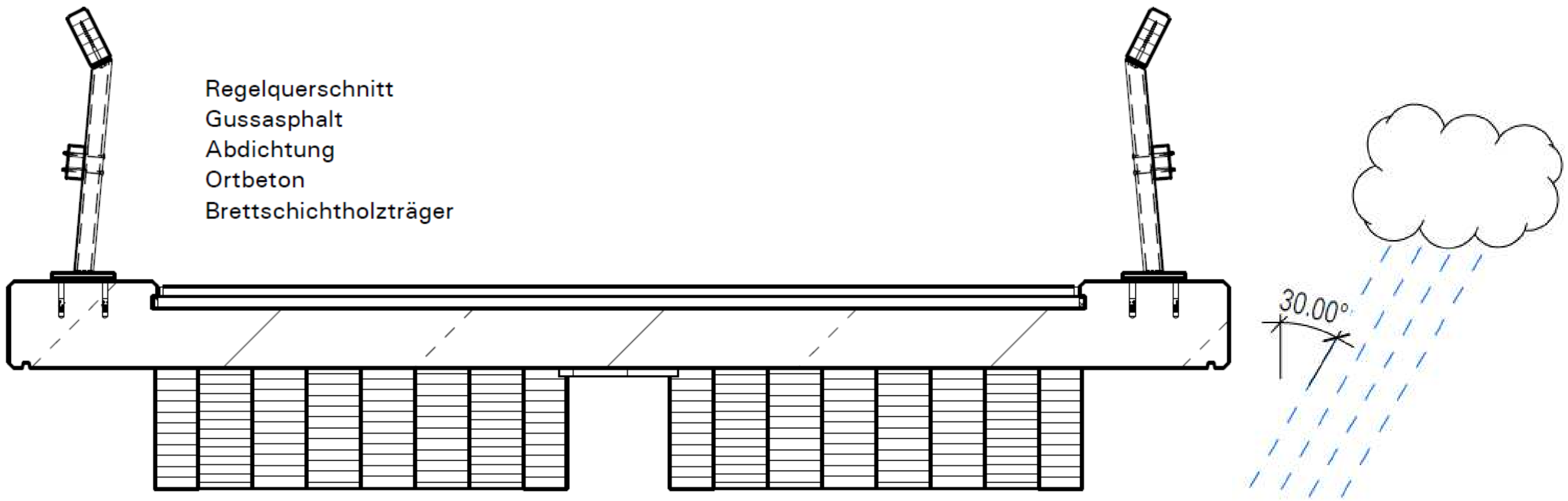
Timber-concrete-composite bridge Winschoten, NL Length: 40,00 m Width: 4,00 m



client:	Provincie Groningen
design:	IB-Miebach
year:	2012

TCC-bridge Winschoten, NL

Length: 40,00 m Width: 4,00 m



TCC-bridge Winschoten, NL | Length: 40,00 m Width: 4,00 m

TCC-bridge Winschoten, NL

Length: 40,00 m Width: 4,00 m

TCC-bridge Lohmar-Schiffarth, DE

Length: 39,00 m Width: 4,75 m

client: Stadt Lohmar

design: IB-Miebach

year: 2014

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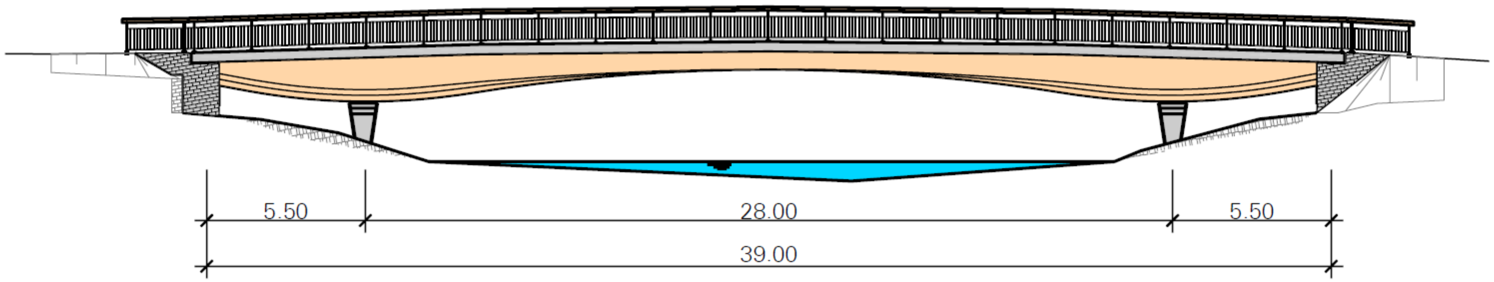
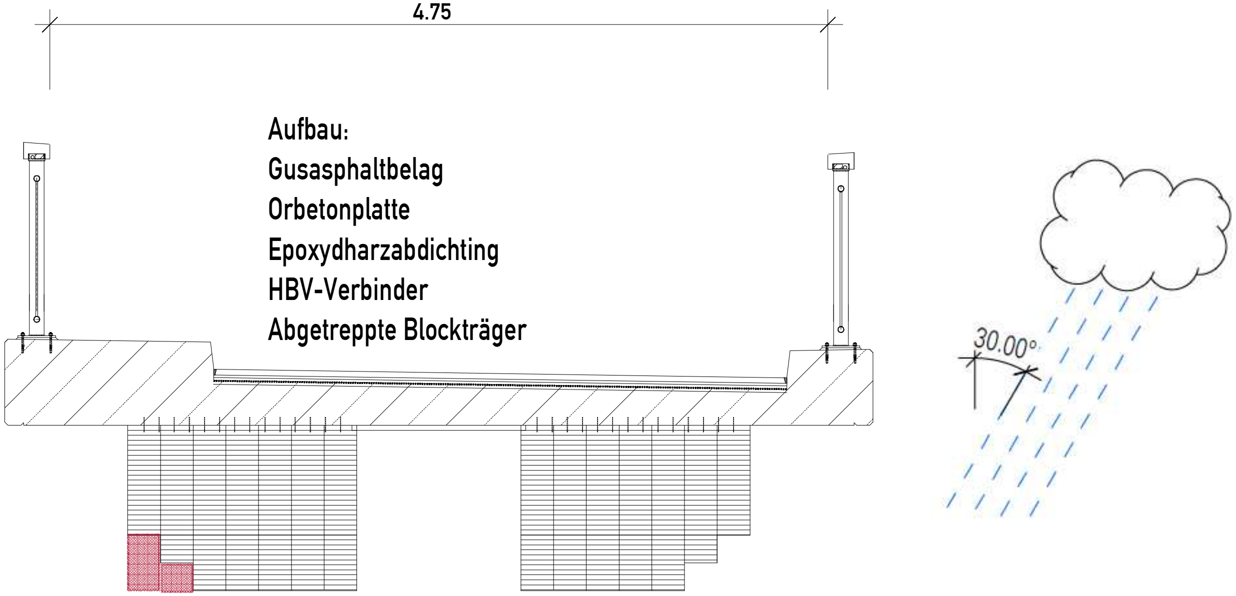
TCC-bridge Lohmar-Schiffarth, DE

Length: 39,00 m Width: 4,75 m





MIEBACH INGENIEURBÜRO

TCC-bridge Lohmar-Schiffarth, DE

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Timber-concrete-composite bridges

Advantages over standard timber :

- higher load capacity
- solid weather protection by concrete slab
- even load distribution of concentrated load
- easy cross bracing
- standadized details for connection details

Advantages over concrete bridges:

- lower weight
- high degree of prefabrication
- cheaper abutments
- better ecological balance and CO_2 storage

TCC-bridges Schwäbisch Gmünd, DE

Length: 27,66/25,29 m Width: 3,00/2,50 m

client:	LaGa Schwäbisch Gmünd GmbH
design:	Graf Ingenieure
year:	2012

TCC-bridges Schwäbisch Gmünd, DE

Length: 27,66/25,29 m Width: 3,00/2,50 m

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Length: 27,66/25,29 m Width: 3,00/2,50 m

Block girder bridge Schwäbisch Gmünd, DE

length: 27,10 m width: 2,50 m

MIEBACH INGENIEURBÜRO

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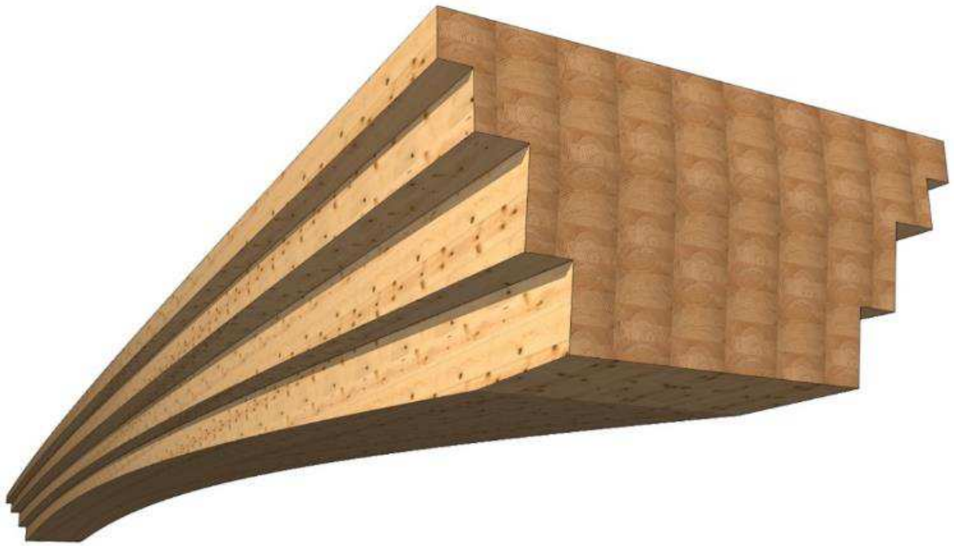

Block girder bridge Schwäbisch Gmünd, DE

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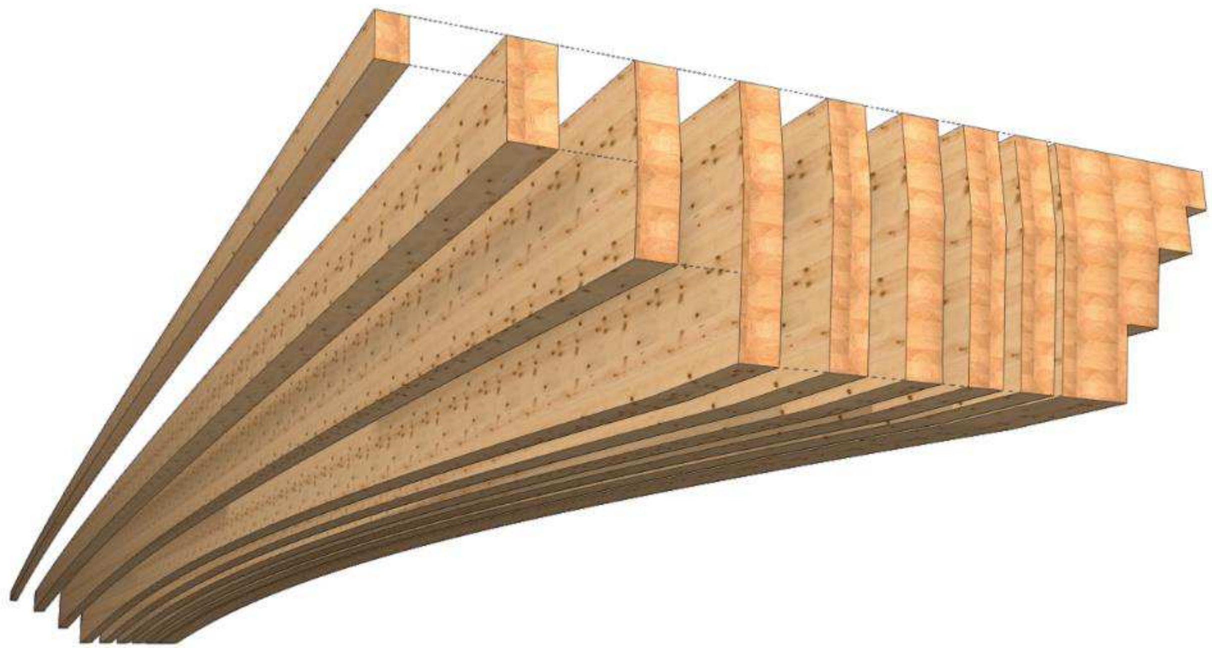
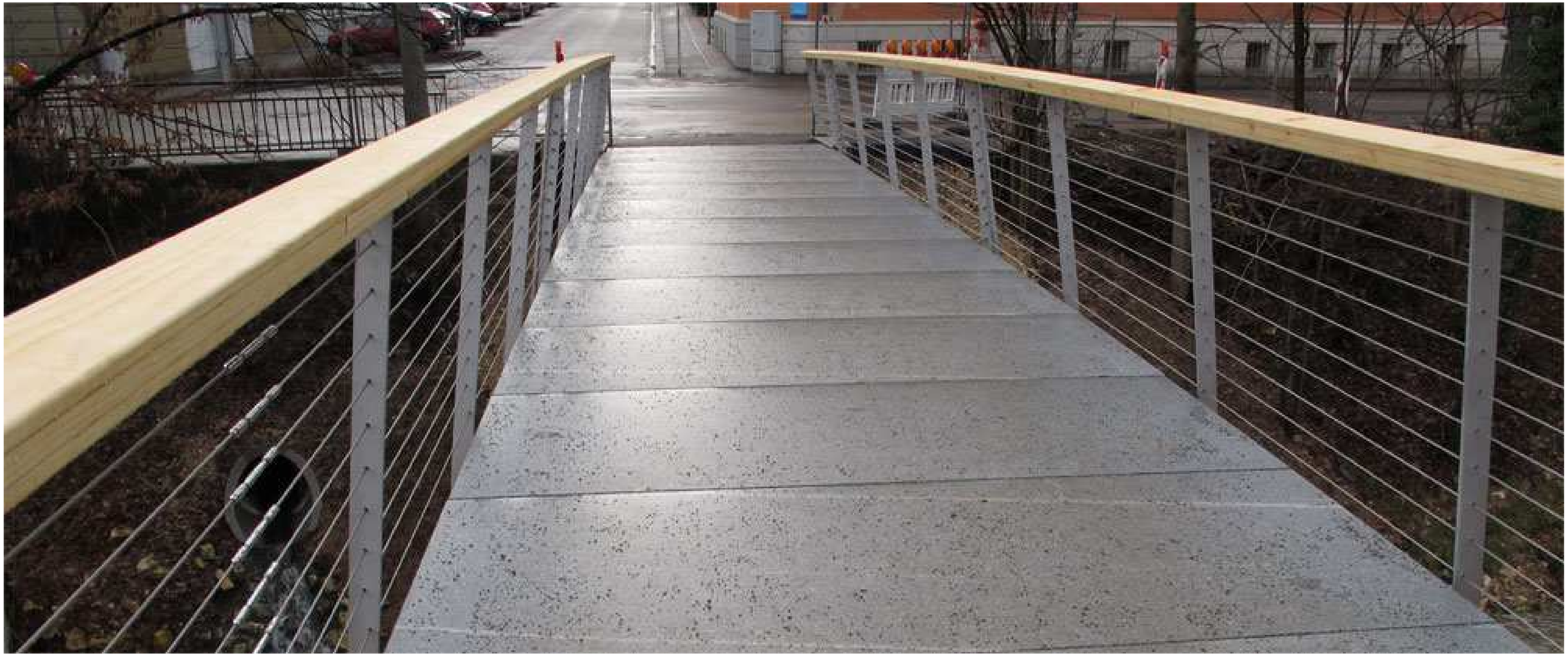


Block girder bridge Schwäbisch Gmünd, DE length: 27,10 m width: 2,50 m



Block girder bridge Schwäbisch Gmünd, DE length: 27,10 m width: 2,50 m

Block girder bridge Overath, DE

length: 20,00 m width: 1,00 m

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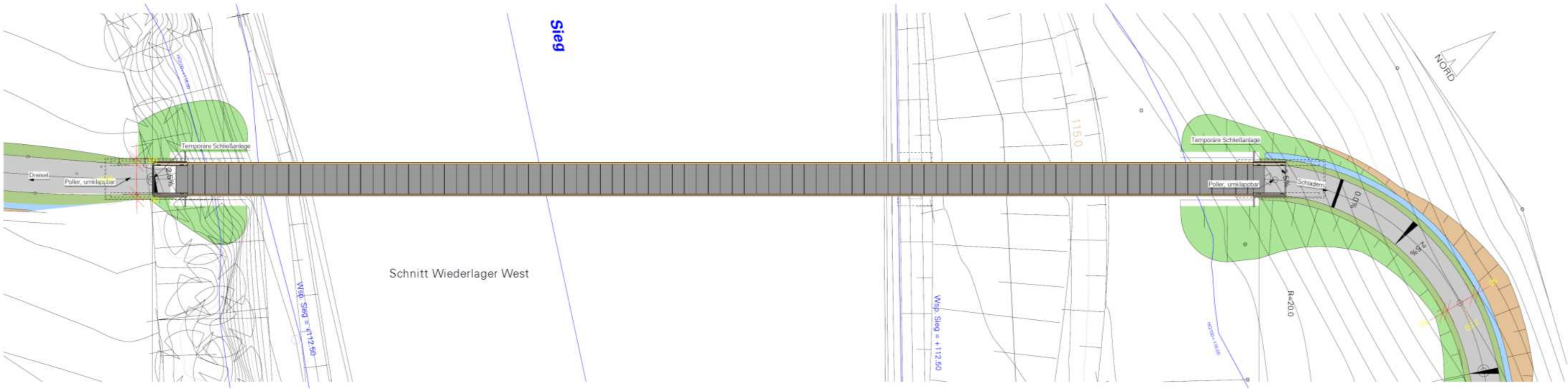
length: 20,00 m width: 1,00 m

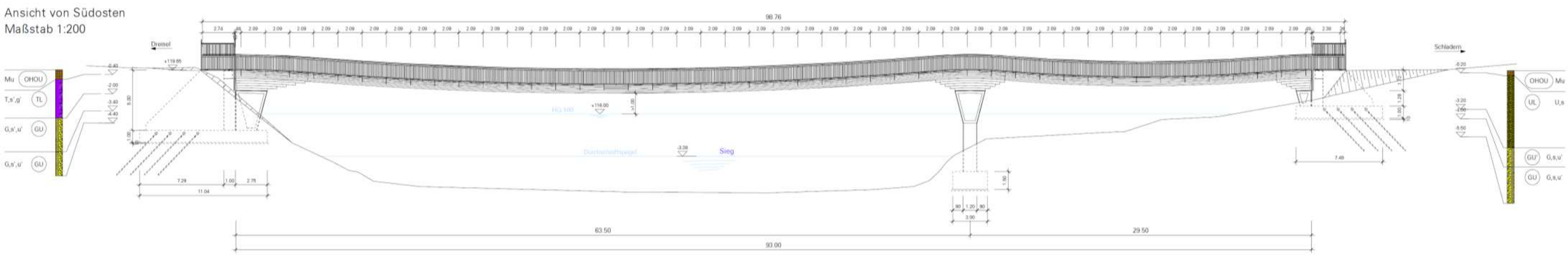
Design suspension bridge crossing the river Sieg

Length: 94,0m Width: 2,5m



Design suspension bridge crossing the river Sieg

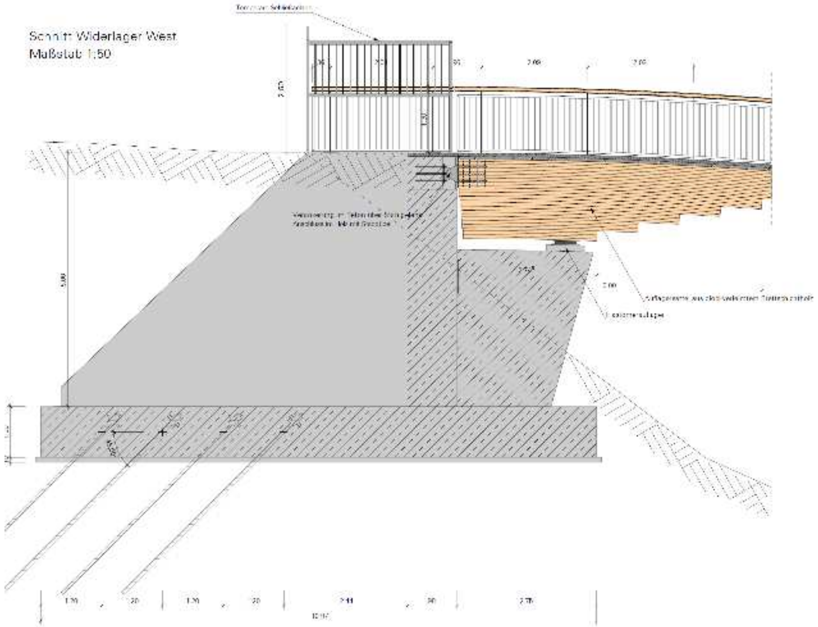
Length: 94,0m Width: 2,5m



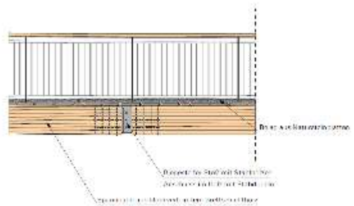
Design suspension bridge crossing the river Sieg

Length: 94,0m Width: 2,5m

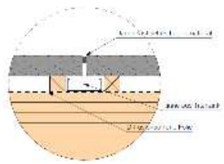
Schnitt Widerlager West
Maßstab 1:50



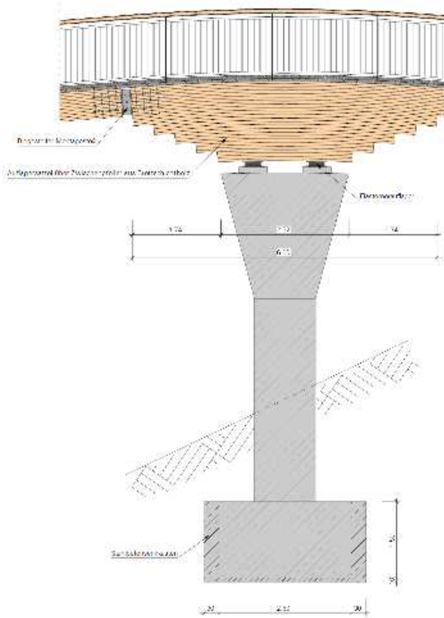
Schnitt Mitte großes Feld
Maßstab 1:50



Detail Plattenstoß
Maßstab 1:10

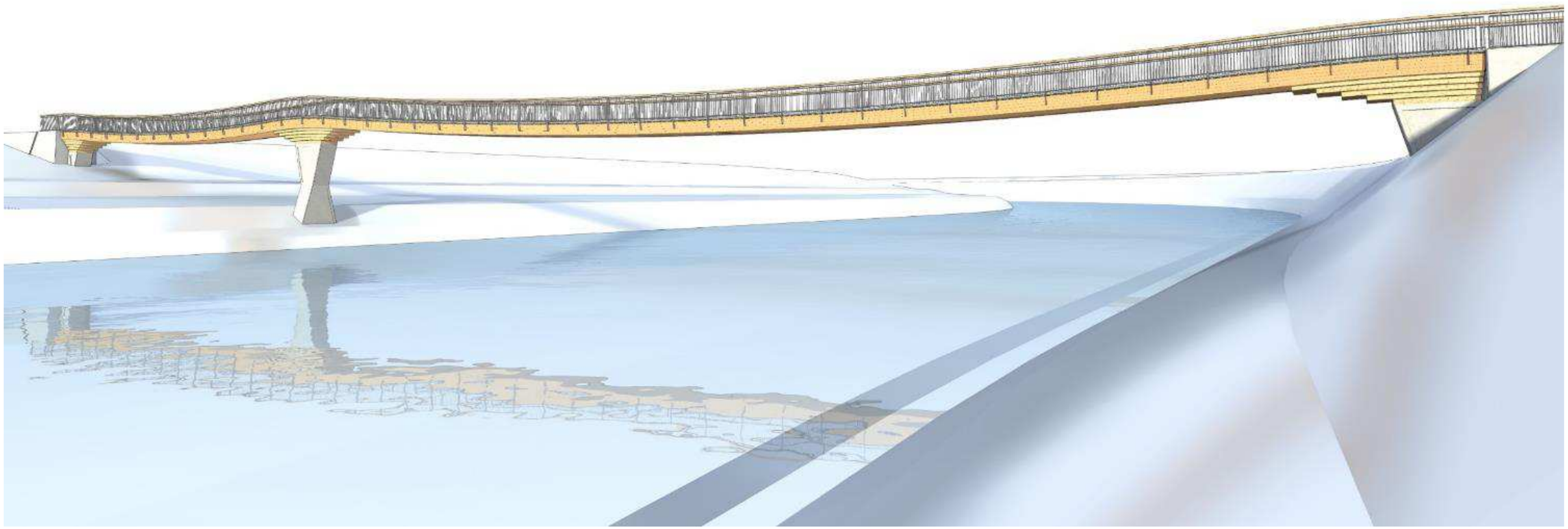


Schnitt Brückenteller
Maßstab 1:50



Design suspension bridge crossing the river Sieg

Length: 94,0m Width: 2,5m

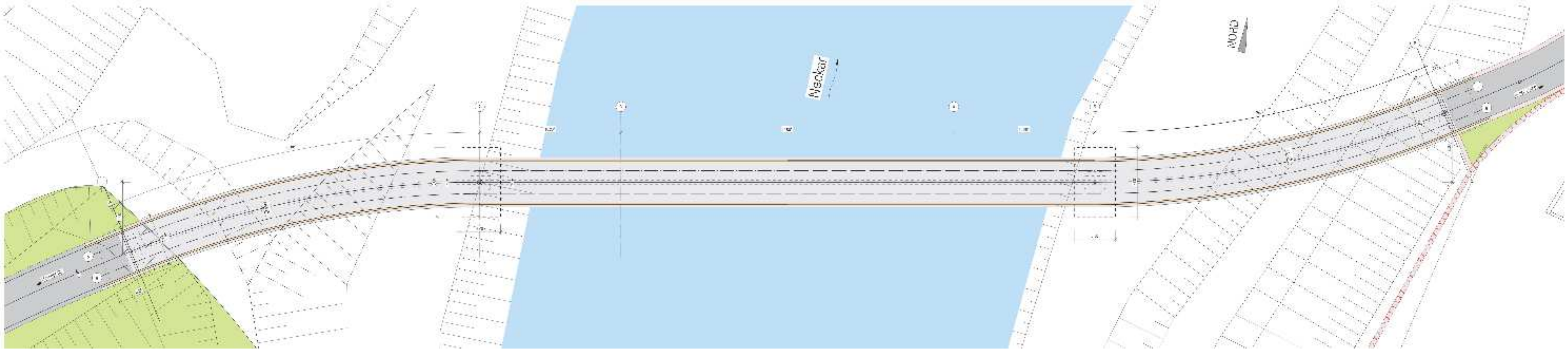


Design suspension bridge crossing the river Sieg

Length: 94,0m Width: 2,5m

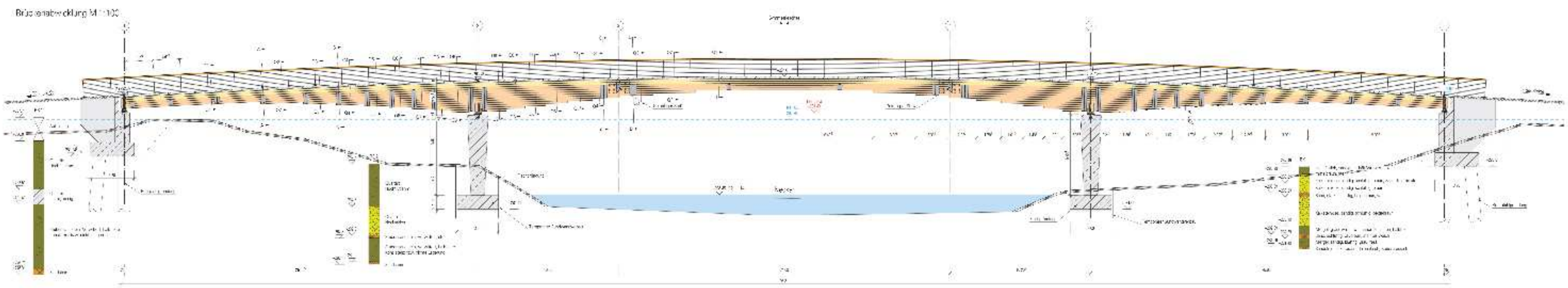
Design block girder bridge crossing the Neckar

Length: 96,0m Width: 3,0m



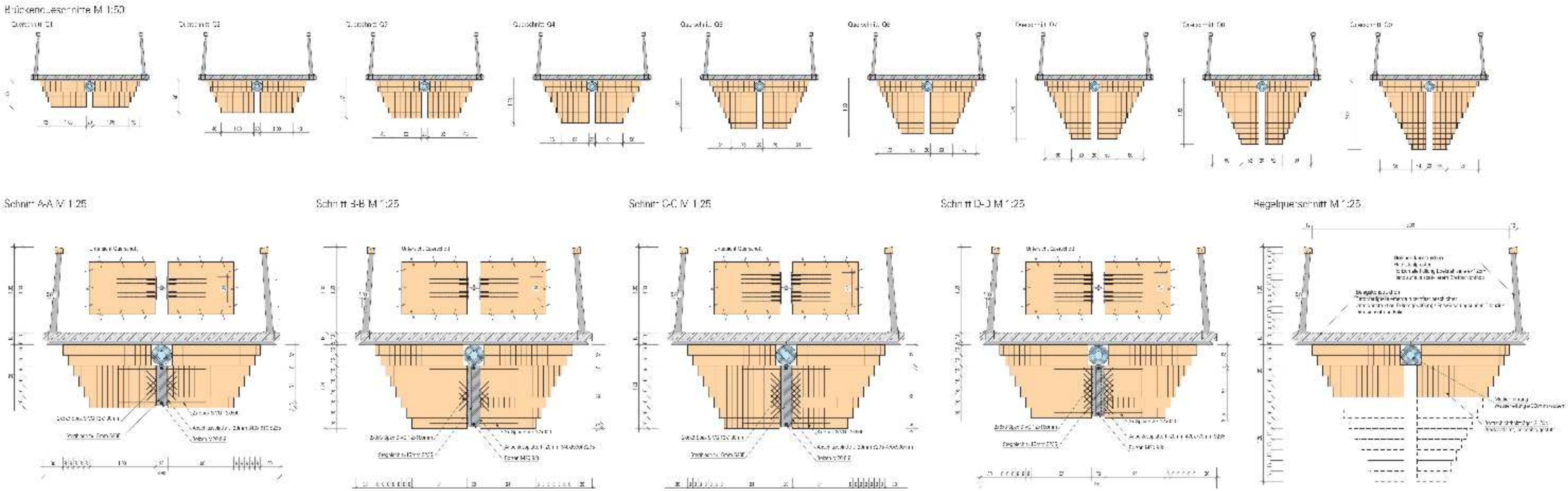
Design block girder bridge crossing the Neckar

Length: 96,0m Width: 3,0m



Design block girder bridge crossing the Neckar

Length: 96,0m Width: 3,0m



Design block girder bridge crossing the Neckar

Length: 96,0m Width: 3,0m

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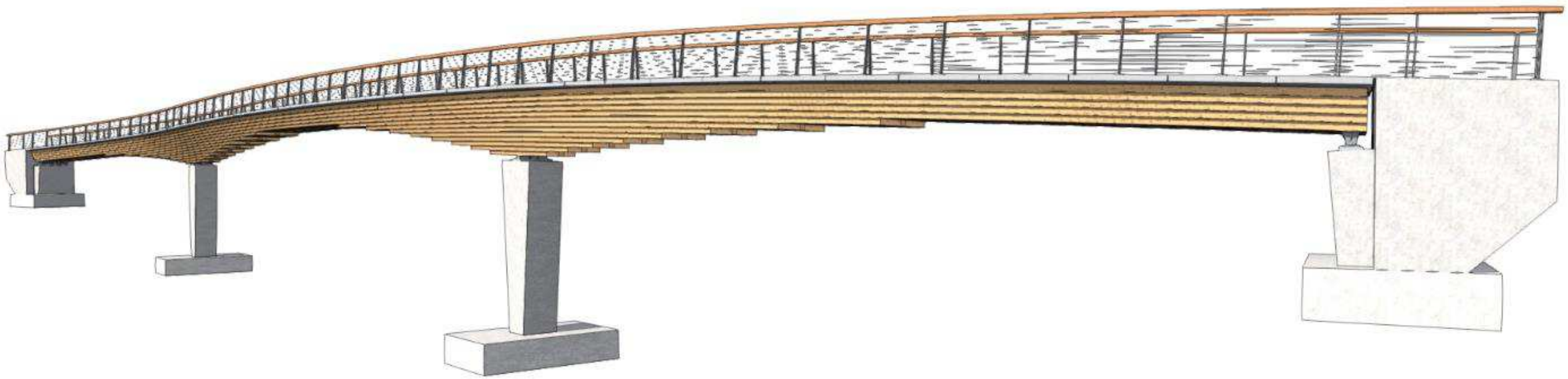

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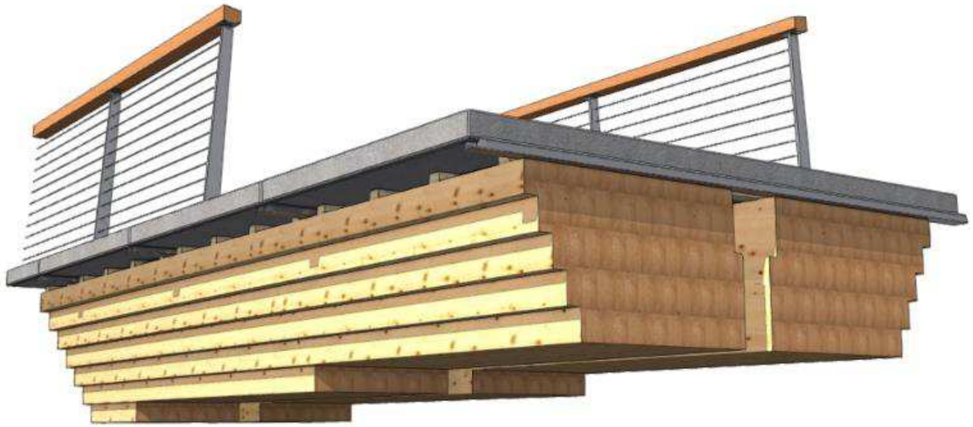

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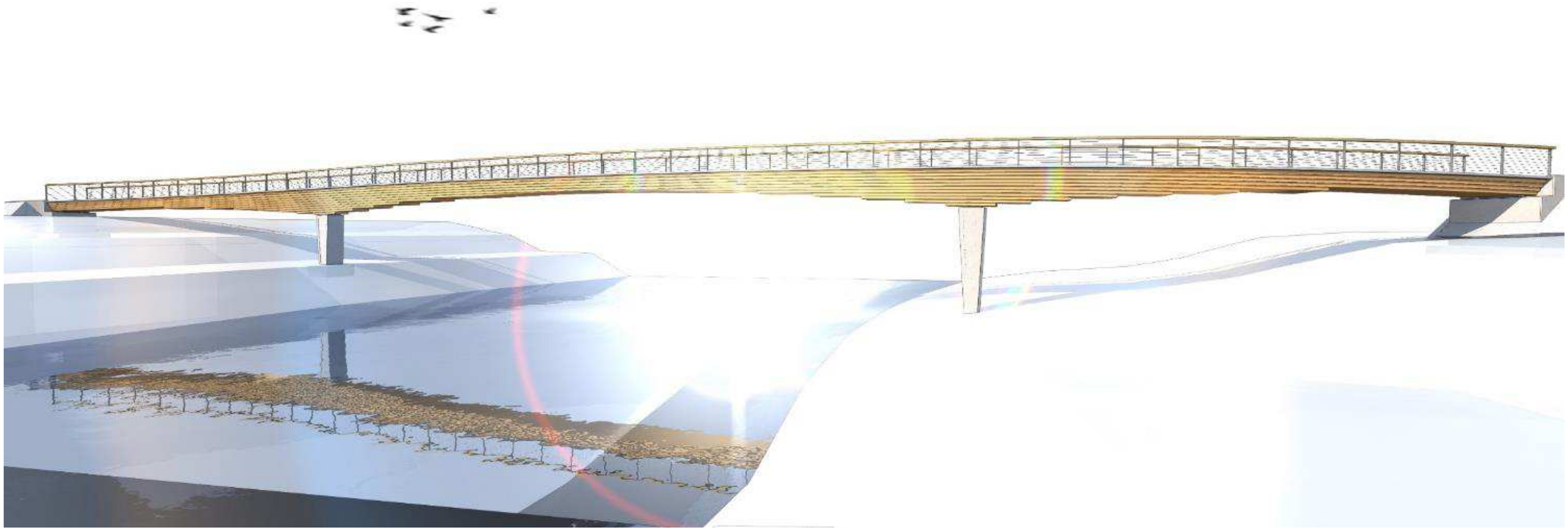
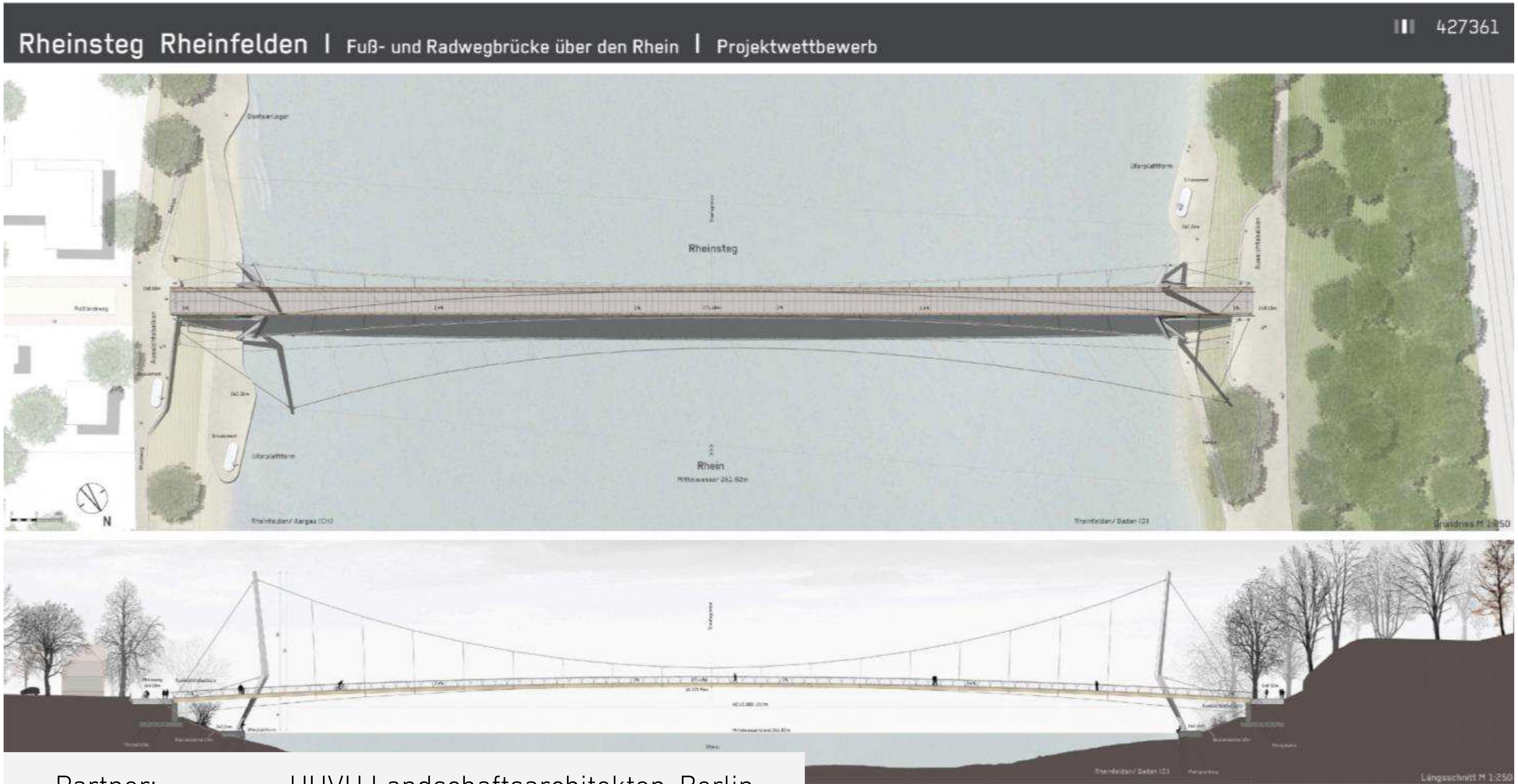


MIEBACH INGENIEURBÜRO

Planning Rhine bridge Rheinfelden, DE/CH

Length: 225,0m Width: 4,5m



Partner: HHVH Landschaftsarchitekten, Berlin
Swillus Architekten, Berlin

Planning Rhine bridge Rheinfelden, DE/CH

Length: 225,0m Width: 4,5m

1. Prize competition Rhine bridge Rheinfelden, DE/CH

Length: 225,0m   Width: 4,5m