



BRIDGE PROJECTS

PRECAST BRIDGES



Bridge Design & Engineering Services





BRIDGE PROJECTS

PRECAST BRIDGES

Wiecon Introduction

About Us

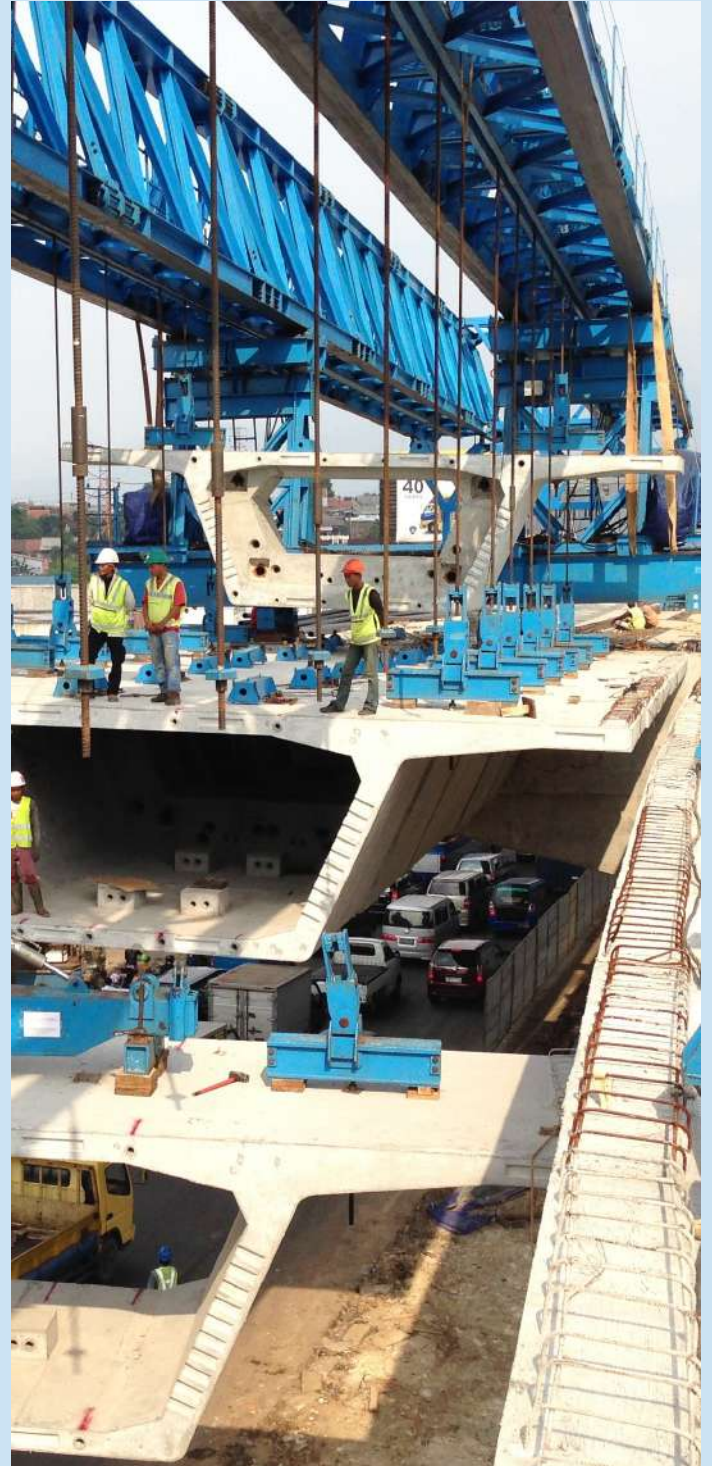
We don't just design bridges; we create engineering benchmarks that stand as testaments to innovation, precision, and excellence. With a legacy spanning three decades, we have emerged as leaders in the field of bridge engineering, driven by an unwavering commitment to pushing boundaries and exceeding expectations.

Our Approach

Our passion for bridge structures is matched only by our dedication to integrating cutting-edge designs and the latest technologies with our vast reservoir of experience and expertise. We provide comprehensive multi-disciplinary engineering consultancy services that encompass every facet of bridge engineering, construction processes, and project management.

30 Years of Excellence

With a rich portfolio spanning over 30 years, WIECON has been at the forefront of bridge engineering projects. Our in-house team of experts offers a diverse range of design services, including precast segmental, full-span erection, balanced cantilever, advanced shoring, incrementally launched, cable stay, suspension, and other specialized bridges. We handle projects from the initial preliminary studies and detailed design stages to the design of bridge construction equipment, major temporary works, and the supervision of the final erection stages.



Design & Engineering Services



Vikramshila Setu Extradosed Bridge, Bihar, Republic of India

Client:

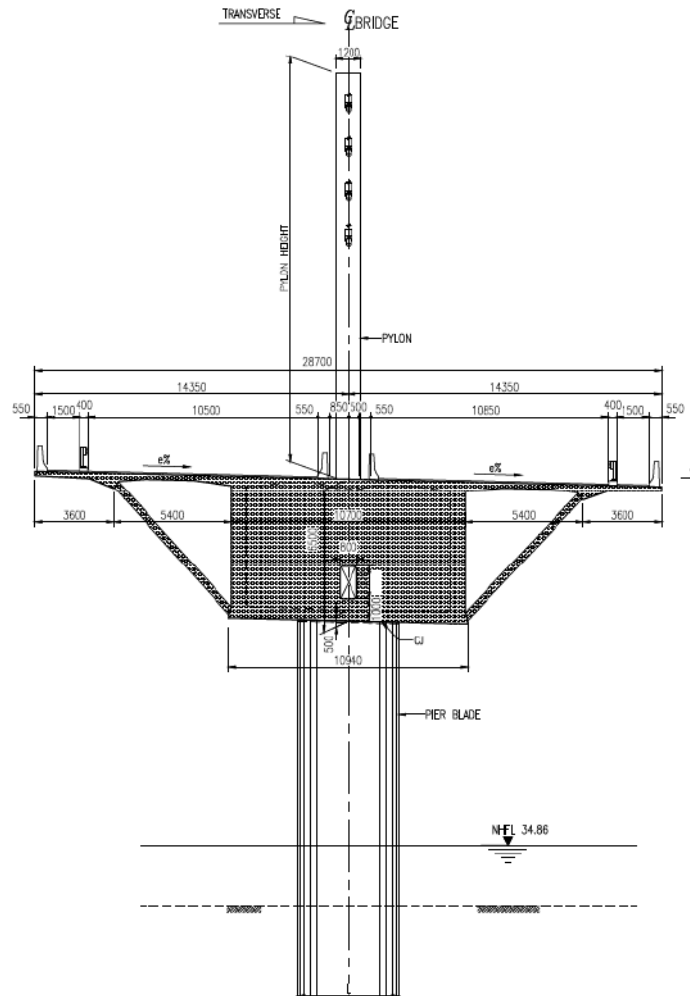
SP Singla Construction
EPC Project

Services:

- Construction Engineering
- Detail Design
- Shop Drawings
- Contractors Engineer

Specifications:

- **Precast Deck Segmental Construction**
- Total Bridge Length: 4298m (4.3km)
- Span Configuration:
57m+115.4m*16+121m+126m*8+135.3
m+120m*4+109m*2+142m+120m+104.4
m+64.8m
- Deck Width: 28.7m
- Max Pylon Height: 21.7m (From Deck Level).



Typical Deck Section At Pylons

Project Duration: 2023-2028



Tainan Ring Road Project, Tainan County, Taiwan

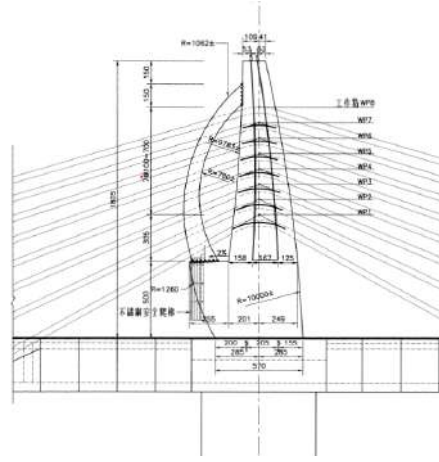
Client:
Raito Construction Company

Services:

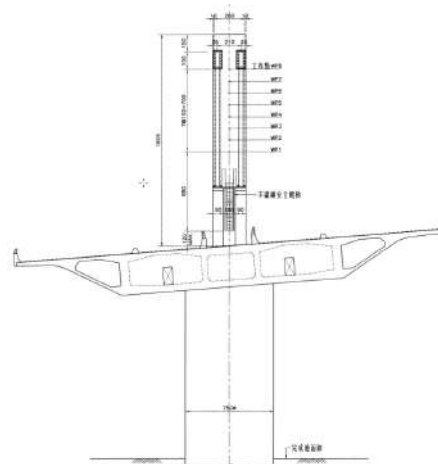
- Construction Engineering
- Contractors Engineer
- PT Shop Drawings

Specifications:

- 1 Signature Extradosed Bridge
- 5 Cast in Situ Bridges
- Max Deck Width: 36.8m
- Pylon Height: 18.05m (From Deck Level)
- Total Project Length: 850m



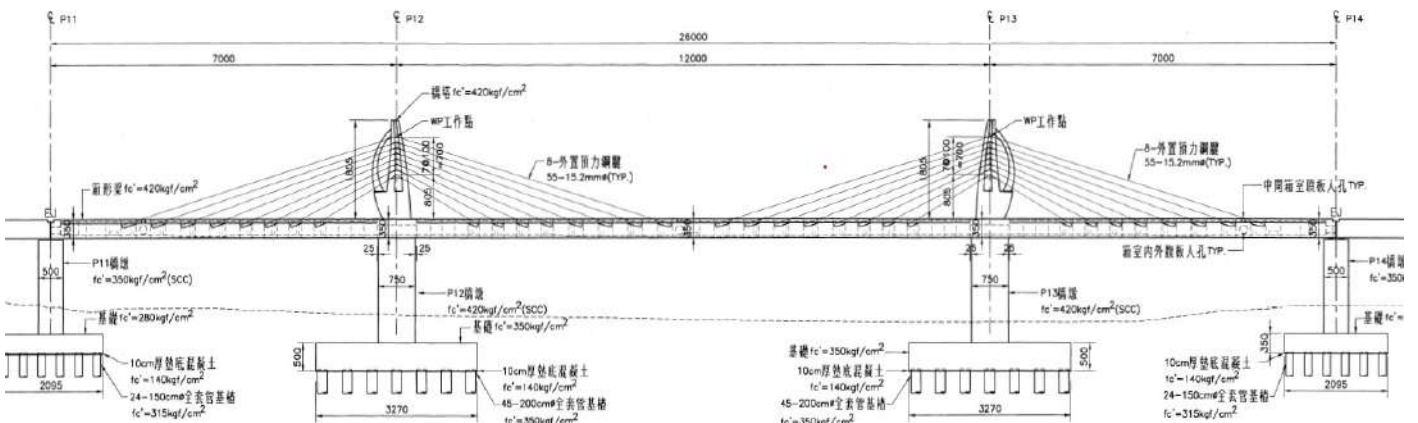
Pylon Elevation



Typical Section at Pylon

Main Bridge	Span Arrangement (m)	Construction Method	Total length (m)
UNIT-01	40+55+40	Cast in-situ	135
UNIT-02	3@40	Cast in-situ	120
UNIT-03	35+45	Cast in-situ	80
UNIT-04	2@40	Cast in-situ	80
UNIT-05	70+120+70	FCC EXTRADOSED	260
UNIT-06	2@67.5	Cast in-situ	135
Approach	Span Arrangement (m)	Construction Method	Total length (m)
B-01	30+40	Cast in-situ	70
B-02	35+40	Cast in-situ	80

Project Duration: 2023-2025



Extradosed Bridge Elevation

Sherpu to Dighwara Ganga River Bridge, Bihar, Republic of India

Client:

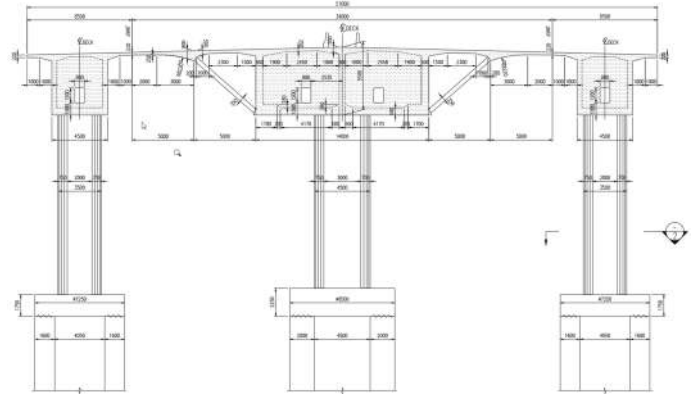
SP Singla Construction

Services:

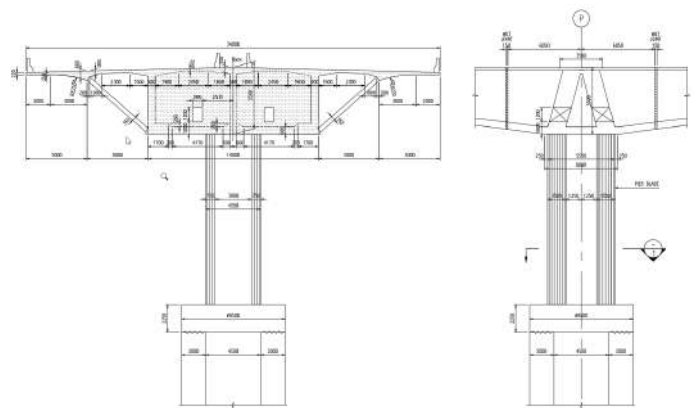
- Construction Engineering
- Detail Design
- Contractors Engineer

Specifications:

- **Precast Deck Segmental Construction**
- Constructed by Cantilever Method
- Total Bridge Length: 9.8km
- **Longest Bridge In India**
- Total Spans: 102
- Max Span: 95.5m
- First Span: 67m
- End Span: 61m
- Standard Deck Width: 34m
- Deck Width at Interchange: 51m
- Ramp Deck Width: 8.5m

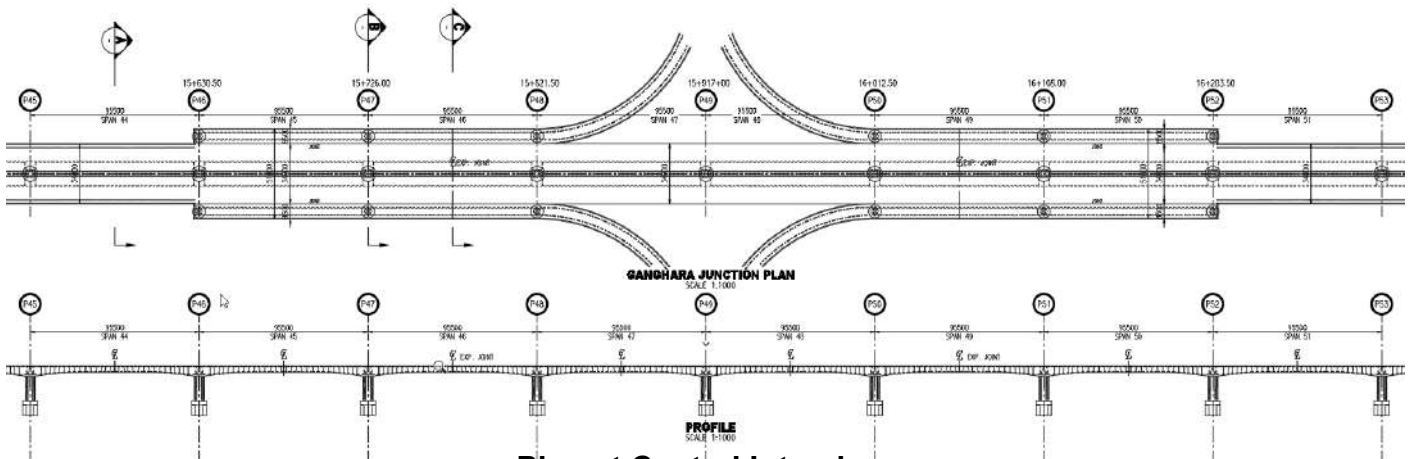


Section at Central Interchange
Total Deck Width: 51m. (8.5m+34m+8.5m)



Typical Pier Section
Deck Width : 34m

Project Duration: 2023-2025



Plan at Central Interchange

Precast I Beam Lifter, Kerala, Republic of India

Client:

Tech 9 Engineering Solutions

Services:

- Launching Gantry Detail Design
- Launching Gantry Shop Drawings
- Contractors Engineer

Specifications:

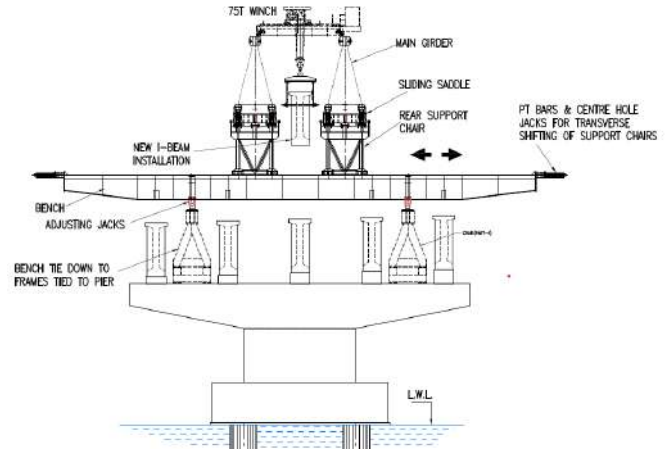
- **Precast I Beam Girders**
- **Mogral Bridge:**
- Total Bridge Length: 215m
- Span: 3*40 m + 2*27.5 m +40 m

- **Shriya Bridge:**
- Total Bridge Length: 329.6m
- Spans: 8*41.2 m = 329.6m

- **Upla Bridge:**
- Total Bridge Length: 146m
- Spans: 13 m + 3*40 m + 13 m

- **Kumpala Bridge:**
- Total Bridge Length: 266m
- Spans: 7* 38m

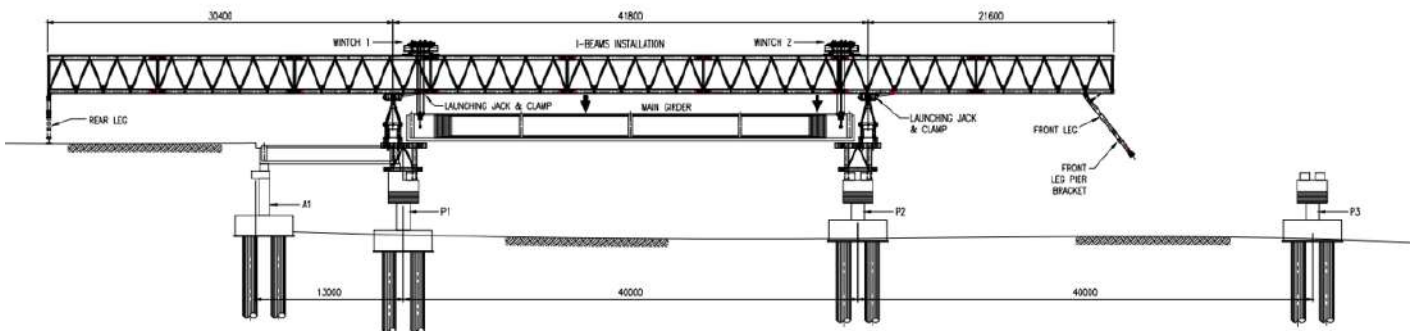
- Total Project Length: 957m
- Launching Gantry Length: 93.8m
- Maximum Lifting Capacity: 120t



Section of Launching Gantry



Project Duration: 2022-2023



Elevation of Launching Gantry

Vijayawada Bypass Bridge, Andhra Pradesh, Republic of India

Client:

Navayuga Group Company LTD
(NEC)

Services:

- Launching Gantry Detail Design
- Launching Gantry Shop Drawings
- Contractors Engineer
- Major Temporary Works Design

Specifications:

- **Precast Segmental Bridge Construction**
- Total Bridge Length: 3.5km
- Max Span: 60m
- Launching Gantry Weight: 1600 tons
- Deck Width: 17m

Project Duration:

2019-2023



MG Setu Extradosed Bridges, Bihar, Republic of India

Client:

SP Singla Construction

Services:

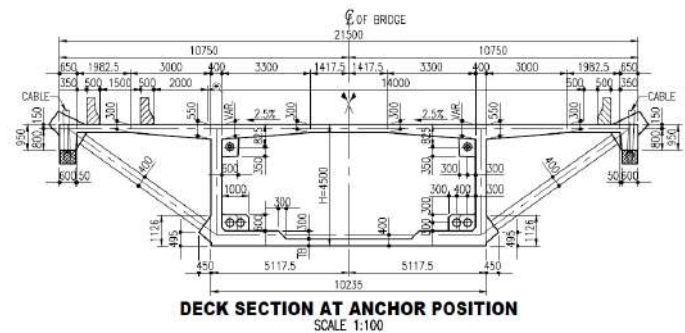
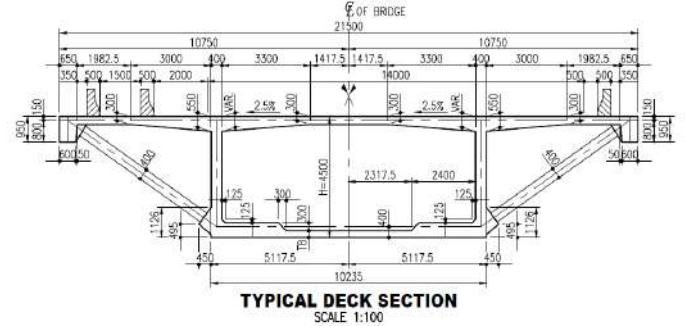
- Construction Engineering
- Detail Design
- Shop Drawings
- Contractors Engineer

Specifications:

- **Precast Deck Segmental Construction**
- Total Bridge Length: 5.634m
- Span configuration:
70.010m+116.065m+22*242.130m+121.065m
- Deck Width: 21.5m
- Pylon Height: 42m (From Deck Level)

Project Duration:

2021-2024



Phaphamau Prayagraj Extradosed Bridge, U.P., Republic of India

Client:

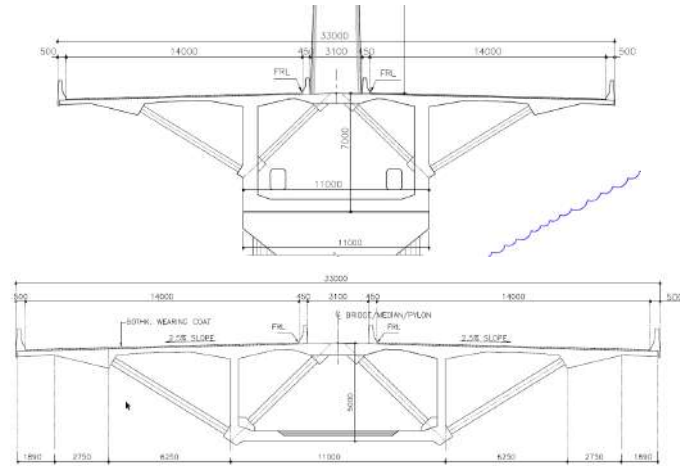
SP Singla Construction

Services:

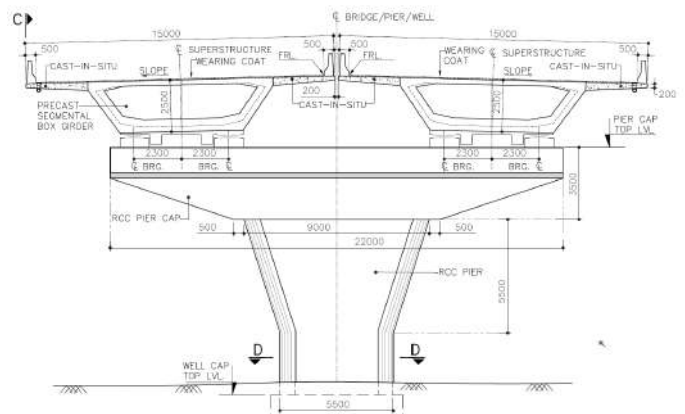
- (IPC) Independent Check Engineering

Specifications:

- **Total Project Length: 3.9km**
- **Extradosed Bridge:**
- Total Length: 860m
- Span Configuration: 130m+200m+200m+200m+130m
- **Approach Viaducts:**
- Pratapgarh side Total Length: 1.565km
- Span Configuration: 32.2m+32.2m+50m (30)
- Prayagraj side Total Length 1.465km:
- Span configuration: 50m(28 +32.2m+32.m
- Extradosed Bridge Deck Width: 33m
- Approach Viaducts Deck Width: 15+15m



Deck Sections of the Extradosed Bridge



Typical Approach Viaduct Section

Project Duration: 2021-2022



Guwahati / Brahmaputra C'Stay Bridge, Assam, Republic of India

Client:

SP Singla Construction Pvt Ltd.

Services:

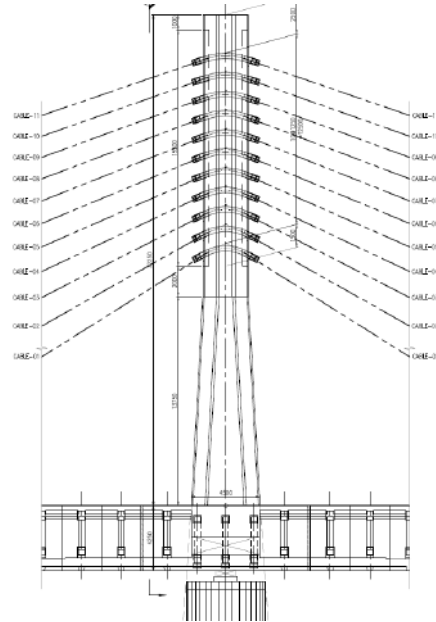
- Construction Engineering
- Detail Design
- Contractors Engineer

Specifications:

- **Precast Deck Segmental Construction**
- Total Bridge Length: 1.240km
- Span Configuration:
120m+200m*5+120m
- Deck Width: 33m
- Pylon Heights: 32.250 (From Deck Level)

Project Duration:

2019-2024



Elevation on Pylon



South Surra Road Interchange Upgrade Contract RA256, Kuwait

Client:

BBE

Services:

- Segment Lifter Detail Design
- Segment Lifter Shop Drawings
- Major Temporary Works
- Contractors Engineer

Specifications:

- **Precast Segmental Construction**
- 9 Interchange Flyover Bridges
- Total Project Length: 4.17km
- Max Span: 85m
- Min Span: 37m
- Max Deck Width: 9.8m

Project Duration:

2018-2019



Samaria Cable Stay Bridge, State of Bihar, Republic of India

Client:

Bridgecon

Services:

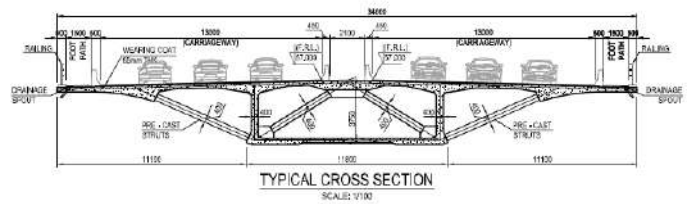
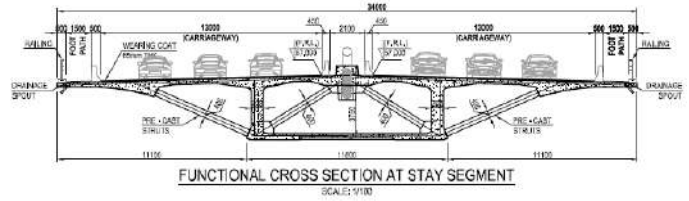
- (IPC) Independent Checking Engineering

Specifications:

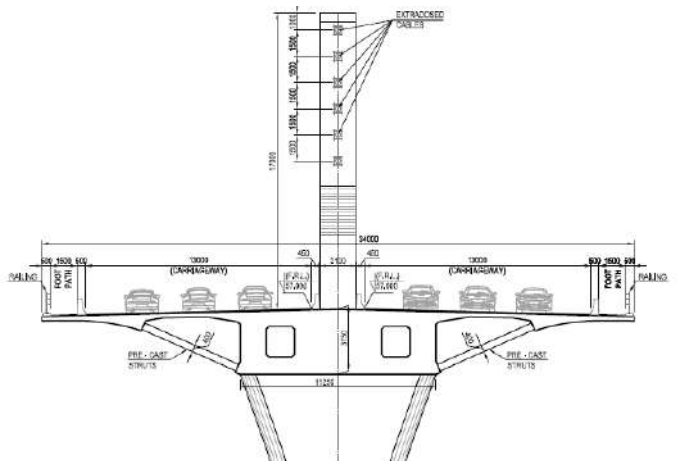
- **Precast Deck Segmental Construction**
- Total Bridge Length: 1.865km
- Span Configuration: 70m+1150*15+70m
- Pylon Height: 17m (From Deck Level)
- Deck Width: 34m

Project Duration:

2018



Typical Deck Sections



Typical Pylon Section



Kinmen Extradosed Bridge, Kinmen Island, Taiwan

Client:

Dong Pi

Services:

- Construction Engineering
- Deck Prestress Shop Drawings
- Contractors Engineer

Specifications:

- **Precast Deck Segmental Construction**
- Total Main Bridge Length: 1.05km
- Span Configuration:
125m+200m*4+125m
- Pylon Height: 31.5m (From Deck Level)
- Deck Width: 17.2m-18.8m

Project Duration:

2017-2022



Liman Precast I Beam Bridge V07 North Mamara, Republic of Turkey

Client:

Limak: Precast I Girder Section

Services:

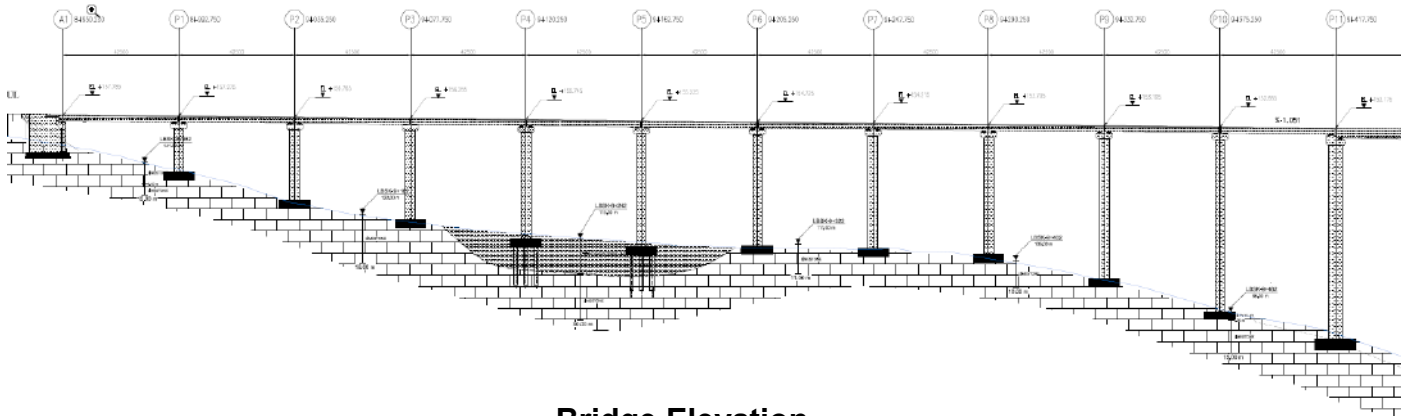
- Construction Engineering
- Detail Design
- Shop Drawings
- Contractors Engineer

Specifications:

- **Precast I Girder Section**
- Total Bridge Length: 467.5m
- Span Configuration: 42.5m x 11
- Deck Width: 17.7m*2 (Two Decks)
- Total Deck Width: 35.4m
- Max Pier Height: 81.6m

Project Duration:

2016-2019



Bridge Elevation

Sultanganj Cable Stay Bridge, Bihar, Republic of India

Client:

SP Singla Construction Pvt Ltd.

Services:

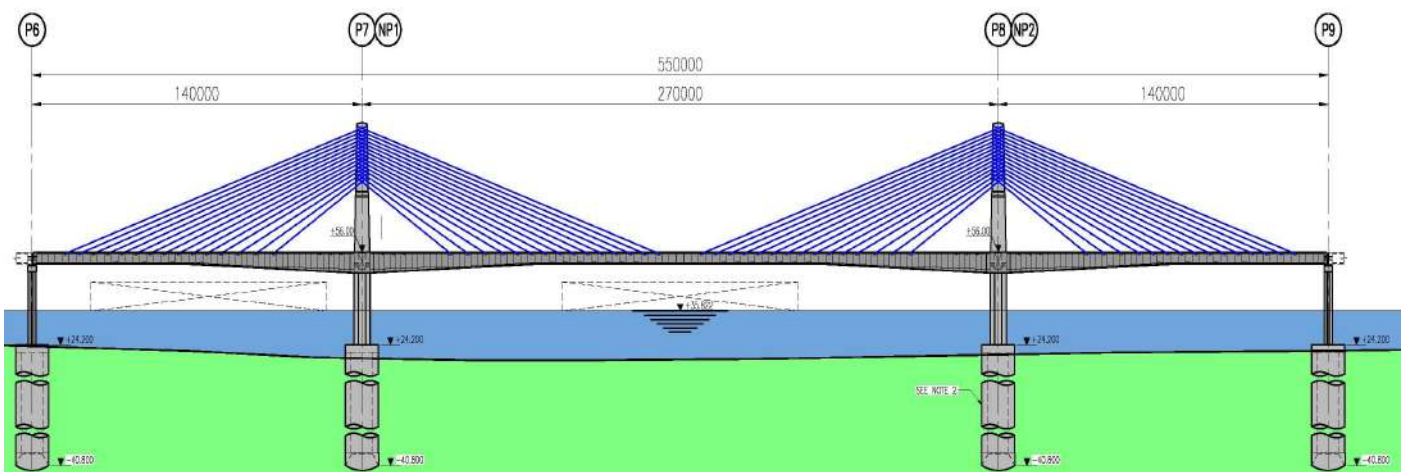
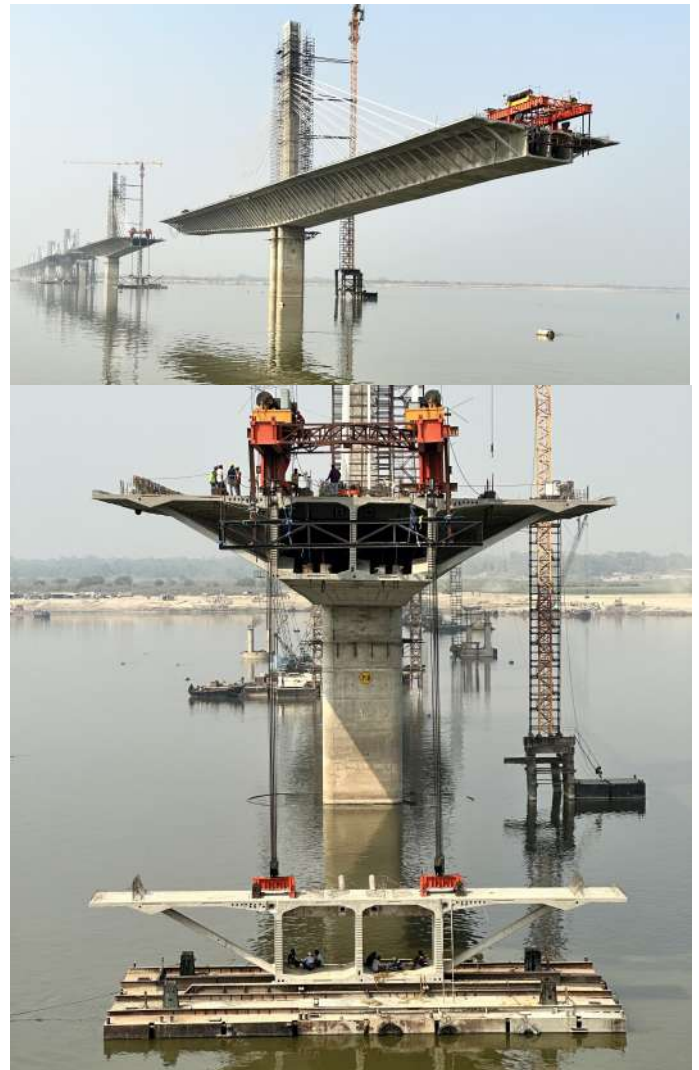
- Construction Engineering
- Detail Design
- Contractors Engineer
- Shop Drawings

Specifications:

- **Precast Deck Segmental Construction**
- Total Bridge Length: 550m
- Span Configuration: 140m+270m+140m
- Pylon Height: 44.5m (From Deck Level)
- Deck Width: 25.5m

Project Duration:

2016-2017



Cable Stay Bridge Elevation

West Coast Freeway No.61, Fangli~Daan, Taichung, Taiwan

Client:

Ta-Chen Construction Engineering

Services:

- Precast Segmental Equipment Detail Design
- Contractors Engineer
- Major Temporary Works Design

Specifications:

- **Precast Segmental Construction**
- Min Span: 40m
- Max Span: 55m
- Deck Width: 22.7m

Project Duration:

2014-2016



Paket~Seskoal, JL CMT MRT Project, Jakarta, Republic of Indonesia

Client:

Dywitech Systems, Indonesia

Services:

- Construction Engineering
- Precast Segmental Equipment Design
- Contractors Engineer
- Major Temporary Works Design
- PT Shop Drawings

Specifications:

- **Precast Segmental Construction**
- 9 Units
- Total Project Length: 1.435km
- Max Span: 45m
- Min Span: 21m
- Deck Width: 9m

Project Duration:

2014-2016



Macau Light Rail MRT, Contract C360, Macau

Client:

Continental Engineering Corporation, (CEC)

Services:

- Construction Engineering
- Independent Checking Engineering for the Precast Segmental Launching Gantry
- Contractors Engineer
- PT Shop Drawings

Specifications:

- **Precast Segmental Construction**
- 7 Precast Segmental Bridges
- Spans Vary:
- Max Span: 35.5m
- Min Span: 25m
- Deck Width: 9.55m

Project Duration: 2012-2017



Pembangunan Jalan Tol Bogor Ring Road Seksi II A, Indonesia

Client:

Wika Construction

Services:

- Construction Engineering
- Precast Segmental Equipment Design
- Contractors Engineer
- Major Temporary Works Design
- PT Shop Drawings

Specifications:

- **Precast Segmental Construction**
- Project with more than 1000 Segments
- Length of Launching Girder: 113m
- Typical Span Length: 50m
- Double Box Deck Width: 22m
- Single Box Deck Width: 11m

Project Duration: 2013-2015



Pembangunan Jalan Tol Bogor Ring Road Seksi II B, Indonesia

Client:

Wika Construction

Services:

- Construction Engineering
- Precast Segmental Equipment Design
- Shop Drawings
- Contractors Engineer
- Major Temporary Works Design
- PT Shop Drawings

Specifications:

- **Precast Segmental Construction**
- Project with more than 1000 Segments
- Length of Launching Girder: 113m
- Typical Span Length: 50m
- Double Box Deck Width: 22m
- Single Box Deck Width: 11m

Project Duration: 2013-2015



Freeway No.1, Contract C911, Taoyuan County, Taiwan

Client:

Huang Chung Construction

Services:

- Construction Engineering
- Precast Segmental Equipment Design
- Long Bed Deck Formwork Design
- Contractors Engineer

Specifications:

- **Precast Segmental Construction**
- Length of Launching Gantry: 160m
- Max Span: 75m
- Min Span: 40m
- Deck Width: 11.8m

Project Duration: 2010-2013



Outer Circular Highway Northern Section, Colombo, Sri Lanka

Client:

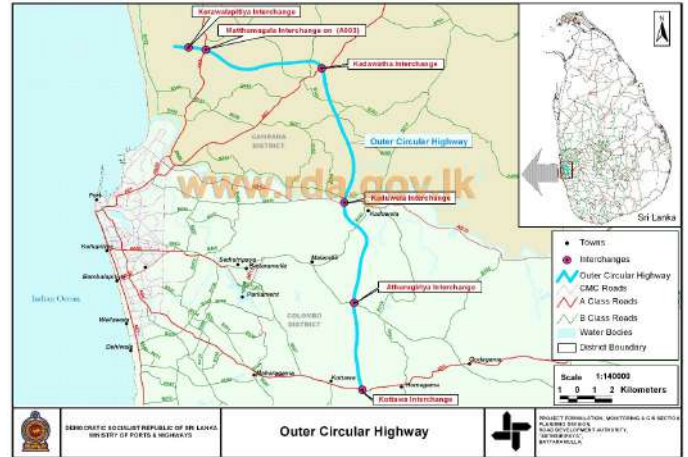
Taisei Corporation

Services:

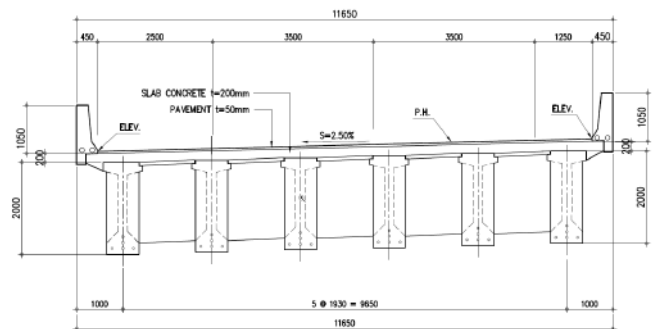
- Construction Engineering
- Detail Design
- Shop Drawings
- Contractors Engineer

Specifications:

- **Precast I Beam Bridges**
- Total Project Length: 29.2km
- No. of Viaducts: 22
- Max Bridge Length: 1.505km
- Min Bridge Length: 42m
- Max Bridge Width: 16m
- Min Bridge Width: 8.7m
- Max Span: 40m
- Min Span: 13m

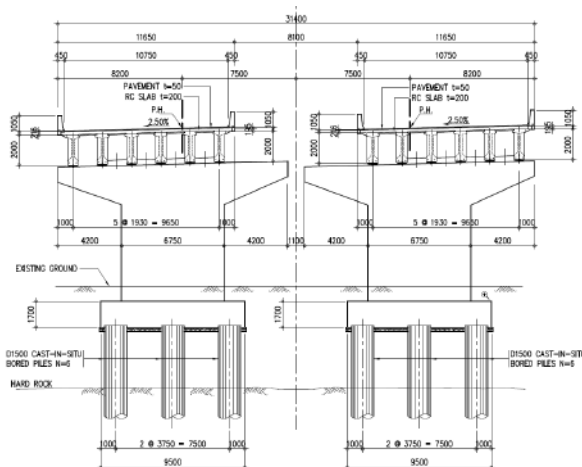


Highway Route Map

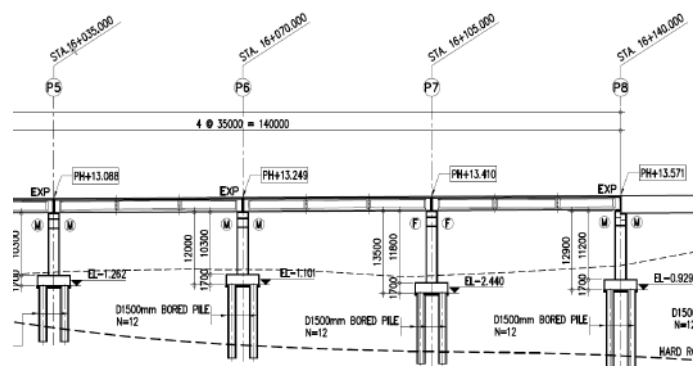


Typical Deck Section

Project Duration: 2009-2018



Typical Pier Section



Typical Span Arrgt

RA184 & RA186 6th & 7th Highway, South Jahara, Kuwait

Client:

MK4, MEPS, Kuwait

Services:

- Construction Engineering
- Precast Segmental Equipment Design
- Contractors Engineer
- Major Temporary Works Design
- PT Shop Drawings

Specifications:

- **Precast Segmental Construction**
- **RA186**
- **IC1A, IC3A, IC3B:**
- Span Configuration: 32m+47+32m
- Total Bridge Lengths: 111m
- **IC1B:**
- Span Configuration: 32m+42+32m
- Total Bridge Length: 106m
- **IC4N, IC4S:**
- Span Configuration: 32m+44m+32m
- Total Bridge Length: 108m
- **RA186**
- **IC1A:**
- Span configuration: 28m+39m+39m+28m
- Total Bridge Length: 134m
- **IC1B:**
- Span Configuration: 25m+35m+35m+25m
- Total Bridge Length: 120m
- **IC11:**
- 16 Spans: Max 55m / Min 32.5m
- Total Bridge Length: 761m
- Average Deck Width: 12m
- Total Project Length: 1.670km

Project Duration: 2012-2014



Qaisar to Laman Road Design, Badghis Viaducts, Afghanistan

Client:

Mega Yapi Construction & Trading Company

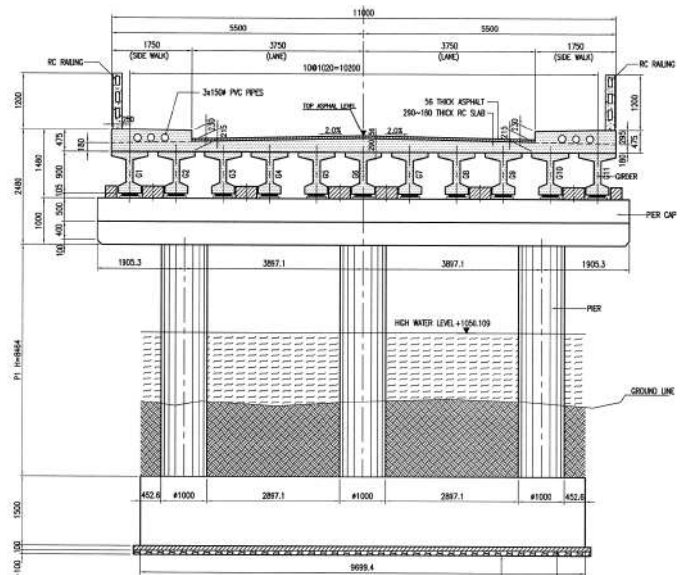
Services:

- Construction Engineering
- Detail Design
- Shop Drawings

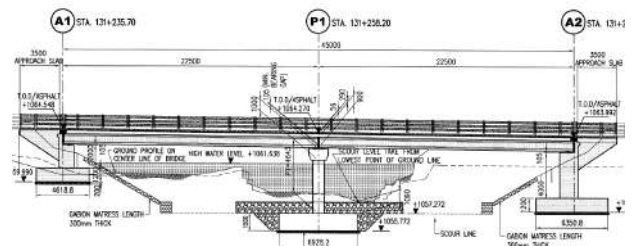
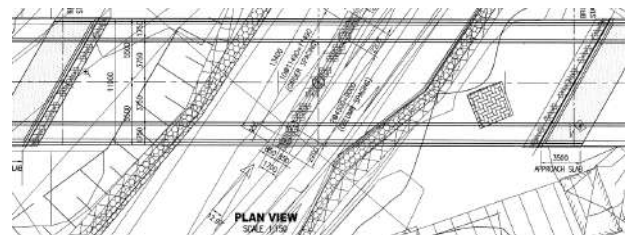
Specifications:

- **Precast I Beam Bridges**
- **Bridge 1:**
- Spans: 20m+20m+20m
- Total Bridge Length: 60m
- **Bridge 2:** Box culvert
- **Bridge 3:**
- Spans: 20m+20m+20m
- Total Bridge Length: 60m
- **Bridge 4:**
- Spans: 22.5m+22.5m
- Total Bridge Length: 45m
- **Bridge 5:**
- Spans: 22.5m+22.5m
- Total Bridge Length: 45m
- **Bridge 6:**
- Spans: 22.5m+22.5m
- Total Bridge Length: 45m
- **Bridge 7:**
- Spans: 22.5m+22.5m
- Total Bridge Length: 45m
- **Bridge 8:**
- Spans: 20m+20m+20m
- Total Bridge Length: 60m
- **Bridge 9:**
- Spans: 20m+20m+20m
- Total Bridge Length: 60m
- Deck Width: 11m
- Total Project Length: 420m

Project Duration: 2012-2014



Typical Deck Section



Typical Bridge Elevation



BRIDGE PROJECTS

PRECAST BRIDGES

Badghis Bridge, U.S.A Army Corps of Engineers, Afghanistan

Client:

Mega Yapi Construction & Trading Company

Services:

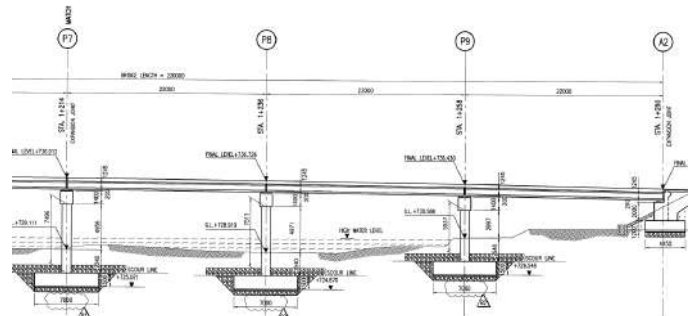
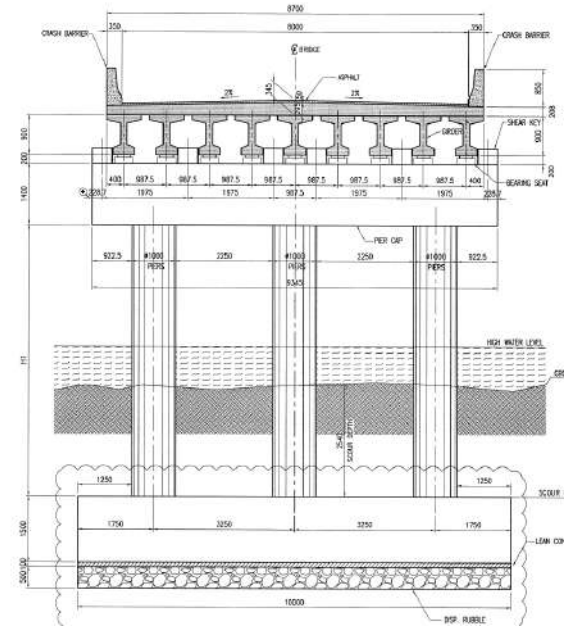
- Construction Engineering
- Detail Design
- Shop Drawings

Specifications:

- **Precast I Beam Bridge**
- Total Bridge Length: 220m
- Span Configuration: 10*22m
- Deck Width: 8.7m
- Designed For Heavy Military Transport Equipment, Tanks etc.

Project Duration:

2012-2014



Typical Span Arrgt



Gautrain High Speed Rail Project, Gauteng Province, South Africa

Client:

VKE, Bombela Consortium JV

Services:

- Construction Engineering
- Detail Design
- Shop Drawings
- Contractors Engineer

Specifications:

- **Precast Segmental Construction**
- Total Project Length: 80km
- Min Span: 40m
- Max Span: 55m
- V1: 5 Spans, Total Length: 230m
- V3: 13 Spans. Total Length: 638m
- V11: 5 Spans: Total Length: 230m
- V14: 15 Spans: Total Length: 638m
- Deck Width: 10.1m
- Total Contract Bridges Length: 1.736km



Project Duration: 2006-2010



Taipei Rapid Transit System, Neihu Line, Taiwan

Client:

Kung Shin Contractors

Services:

- Precast Pier Cap Mould Design
- Precast Segmental Mould Design
- Equipment Design for the Deck Segmental Erection
- Contractors Engineer

Specifications:

- Two Long Bed Casting Moulds Designed for the Production of over 400 Precast Segments
- Segment Erection Equipment Max Weight: 65t
- Four Short Bed Casting Moulds were Designed to Produce 227 Precast Pier caps

Project Duration: 2004-2006



Taiwan High Speed Rail C250, Overpass Bridges, Taiwan

Client:

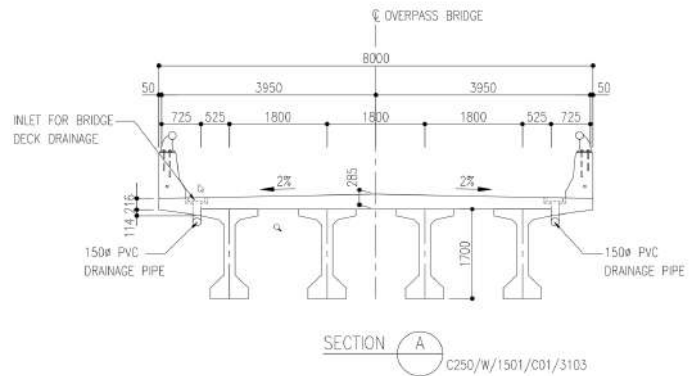
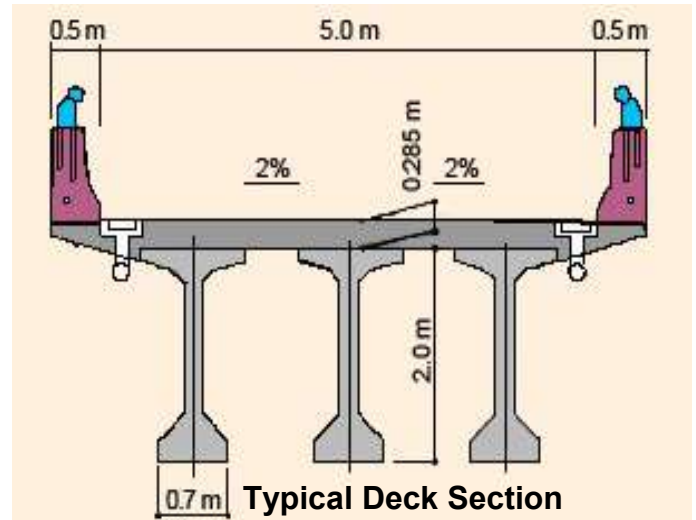
HBP Joint Venture

Services:

- Detail Design
- Construction Engineering
- Shop Drawings
- Contractors Engineer

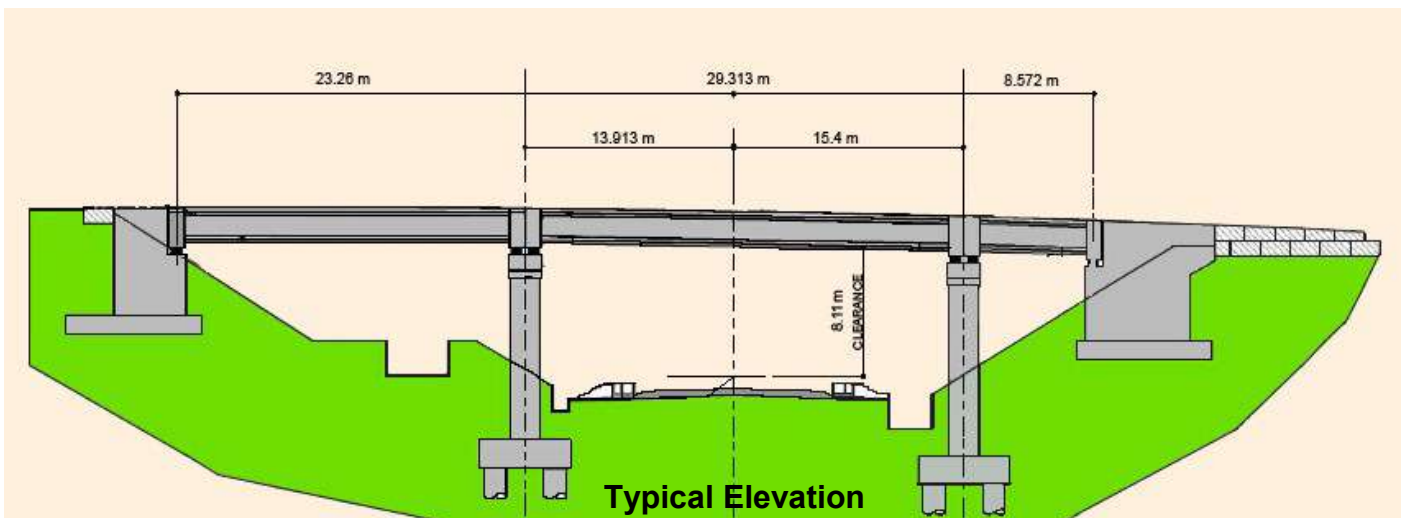
Specifications:

- **Precast I Beam Bridges**
- **DU 04.06**
- Span Arrangement: 25m*7
- Total Bridge Length: 175m
- Deck Width: 8m
- **DU 04.07**
- Span Arrangement:
23.26m+29.313m+8.572m
- Total Bridge Length: 61.145m



Typical Deck Section

Project Duration: 2004-2006



Contract C327, Second Freeway, Taiwan

Client:

Hwang Chang Construction

Services:

- Precast Segmental Erection Equipment
- Detail Design
- Construction Engineering
- Heavy Lifting Design
- Shop Drawings
- Major Temporary Works Design

Specifications:

- **Precast Segmental Construction**
- Total Project Length: 4.9km
- Min Span: 40m
- Max Span: 45m
- Deck width: 32m

Project Duration:

2001-2003



Expressway No.5, Taipei to Ilan, Contract C511, Taiwan

Client:

RSEA Engineering Corporation

Services:

- Construction Engineering
- Precast Segmental Equipment Design
- Precast Mould Design
- Precast Yard Design
- Fabrication Inspection
- Contractors Consultant

Specifications:

- **Precast Segmental Construction**
- Total Project Length: 30.8km
- Total Weight of Each Mould: 70t
- 7 Sets of Short Bed Casting Moulds
- 24mx2m Precast Segments

Project Duration: 2001-2006



Second Freeway, Contract C383A, Taiwan

Client:

Pan Asia Contractors

Services:

- Construction Engineering
- Precast Mould Design
- Detail Design Drawings
- Erection Equipment Design
- Precast Yard Design
- Fabrication Inspection
- Shop Drawings
- Heavy Lifting

Specifications:

- **Precast Segmental Construction**
- Total Project Length: 7.45km
- Max Span: 40
- Deck Width: 24m
- Erection Girders: 4 No.
- Long Bed Casting Moulds: 8 No.
- Short Bed Casting Moulds: 10 No.
- 80t Segment Placing Gantry: 4 No.
- Rebar Fixing Jigs: 5 No.

Project Duration:

1999-2002



Second Freeway, Contract C383B, Taiwan

Client:

Guo Tend Contractors

Services:

- Construction Engineering
- Precast Mould Design
- Detail Design Drawings
- Erection Equipment Design
- Precast Yard Design
- Fabrication Inspection
- Shop Drawings
- Heavy Lifting

Specifications:

- **Precast Segmental Construction**
- Total Project Length: 6.8km
- Max Span: 40
- Deck Width: 24m
- Erection Girders: 4 No.
- Long Bed Casting Moulds: 8 No.
- Short Bed Casting Moulds: 8 No.
- 80t Segment Placing Gantry: 4 No.
- Rebar Fixing Jigs: 5 No.

Project Duration:

1999-2002



Second Freeway, Contract C336, Taiwan

Client:

BES Contractors

Services:

- Construction Engineering
- Bridge Detail Design
- Precast Mould Design
- Detail Design Drawings
- Erection Equipment Design
- Precast Yard Design
- Fabrication Inspection
- Shop Drawings
- Site Supervision

Specifications:

- **Precast Segmental Construction**
- Total Project Length: 2.5km (x2)
- Max Span: 45m
- Deck Width: 16.1m (x2)
- Erection Girders: 3 No.
- Long Bed Casting Moulds: 8 No.
- 120t Segment Placing Gantry: 2 No.
- Rebar Fixing Jigs: 4 No.

Project Duration:

1996-2000



Second Freeway, Contract C376, Erection Gantries, Taiwan

Client:

Hwang Chang Construction

Services:

- Construction Engineering
- Detail Design Drawings
- Erection Equipment Design
- Fabrication Inspection
- Shop Drawings
- Site Supervision



Specifications:

- **Precast Segmental Construction**
- Total Project Length: 3.66km
- Spans: 40m~50m
- Deck Width: 16m



Project Duration: 1996-2000



Second Freeway C376 Short Bed Casting Moulds, Taiwan

Client:

Hwang Chang Construction

Services:

- Construction Engineering
- Short Bed Casting Mould Design
- Detail Design Drawings
- Precast Yard Design
- Fabrication Inspection
- Shop Drawings
- Site Supervision

Specifications:

- **Precast Segmental Construction**
- Total Project Length: 3.66km
- Spans: 40m~50m
- Deck Width: 16m
- 8 Short Bed Casting Moulds for over 1800 Single Cell Precast Segments
- Casting Yard Design

Project Duration: 1996-2000



Second Freeway Contract C376 Long Bed Casting Moulds, Taiwan

Client:

Hwang Chang Construction

Services:

- Construction Engineering
- Long Bed Casting Mould Design
- Detail Design Drawings
- Precast Yard Design
- Fabrication Inspection
- Shop Drawings
- Site Supervision

Specifications:

- **Precast Segmental Construction**
- Total Project Length: 3.66km
- Spans: 40m~50m
- Deck Width: 16m
- 8 Long Bed Casting Moulds for over 2300 Single Cell Precast Segments
- Casting Yard Design

Project Duration: 1996-2000



Second Freeway, Contract C393 Taiwan

Client:

Continental Engineering Corporation, (CEC)

Services:

- Construction Engineering
- Precast Mould Design
- Erection Equipment Design
- Precast Yard Design
- Fabrication Inspection
- Contractors Consultant
- Shop Drawings
- Site Supervision

Specifications:

- **Precast Segmental Construction**
- Short Bed Casting Moulds.

Project Duration:

1995-2000





wiecon

11 Floor, 866-3 Zhongzheng Rd
Zhonghe District, Taipei, 235,
Taiwan.

Tel: +886 (0)2 2221-3833
Web: www.wiecon.com.tw

Contact:
Mr. Boris Wiessler
President
wiecon@wiecon.com.tw

Bridge Design & Engineering Services

wiecon