
D4R7
ferrovial
agroman
PORR
D4R7 Bratislava Bypass
D4 Highway Jarovce – Rača
R7 Expressway Bratislava Prievoz - Holice

Content

- Basic features of PPP Project and comparison with FIDIC projects in Slovakia

- Presentation of the scope of the project D4R7 and its basic technical parameters

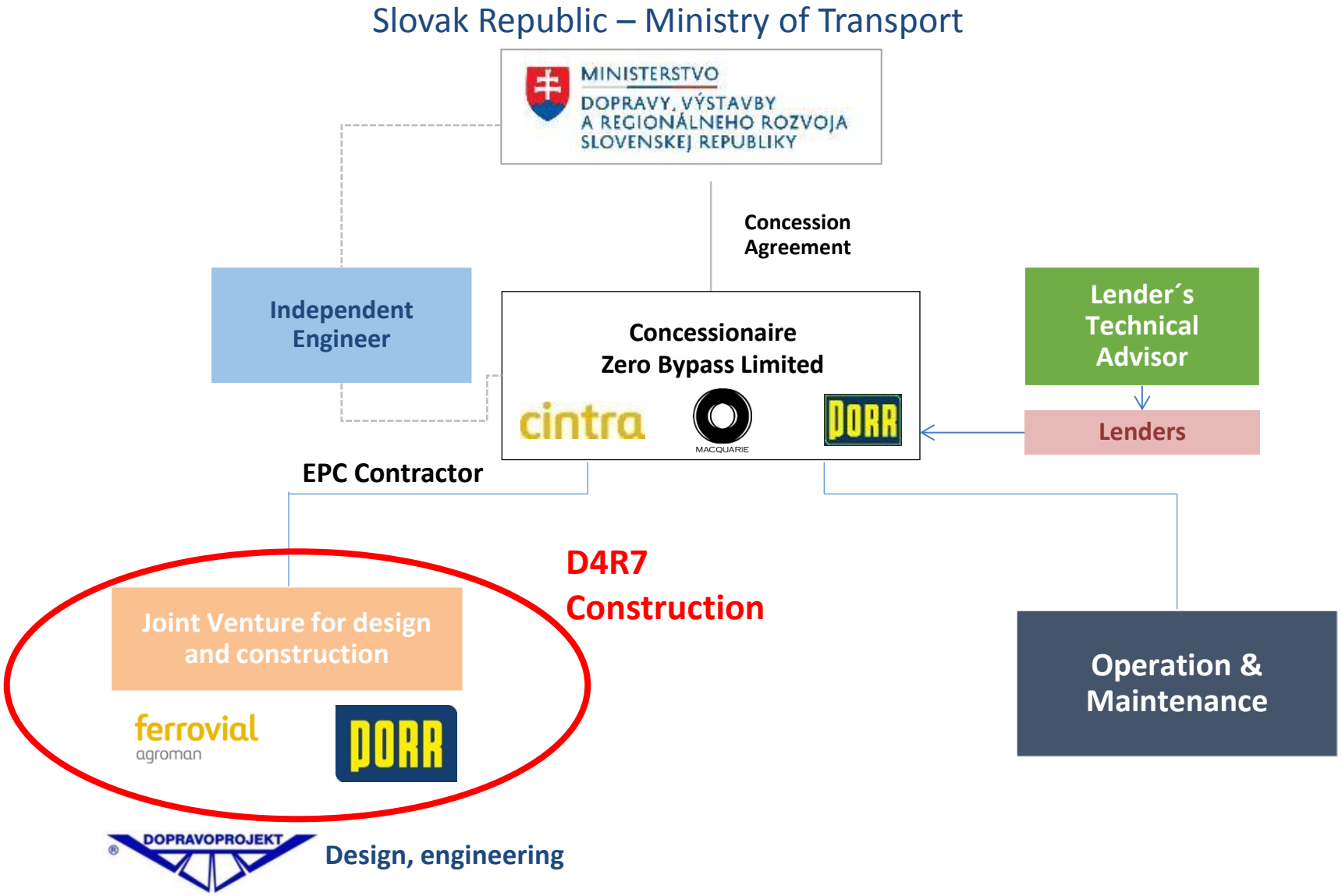
What is PPP

- public-private partnership

- a long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility, and remuneration is linked to performance

Source: https://ppp.worldbank.org/public-private-partnership/overview/what-are-public-private-partnerships

Scheme of the parties in the PPP project



PPP Project and comparison with FIDIC or other construction contracts

Financing

FIDIC

- construction works are paid by the Employer through public funds (state budget, EU-fund, etc...)

PPP

- construction works are financed by credit – loans, finance agreements closed between the Concessionaire and banks
- Redemption by state – through availability payments upon completion
- Exemption in Compensation Events – state pays during construction

PPP Project and comparison with FIDIC projects in Slovakia

Responsibility

FIDIC

- 5 years warranty from completion date
- FIDIC (red) – design documentation provided by Public Procurer
- Design, Construction + Warranty

PPP

- Responsibility not only for Construction but also for Design, Finance, Operation and Maintenance
- complete responsibility for the design documentation, including deficiency in the documents from Public Procurer

Project price and its components

Design & Construction

All design & construction & related costs (insurance, financing, administration, etc.)

Operation, maintanance, life cycle costs

Running costs, life cycle costs

Financing for construction and operation (ca. 35 yrs.)

Net value of project 1,050 bil. EUR

Reimbursement through Availability Payments of approx. 55 mil. EUR / over 30 year

2. Scope of the D4R7 project and its basic technical parameters

D4 R7

- **D4** Jarovce - Ivanka Sever
- **D4** Ivanka Sever - Rača
- **R7** Bratislava Prievoz - Ketelec
- **R7** Ketelec - Dunajská Lužná
- **R7** Dunajská Lužná - Holice

14 interchanges

122 bridge structures

Bridge crossing over the Danube river

New bridge near Slovnaft

Sections of the Project

Section 1

Jarovce – Ivanka Sever

Section 2

Ivanka Sever – Rača

Section 3:

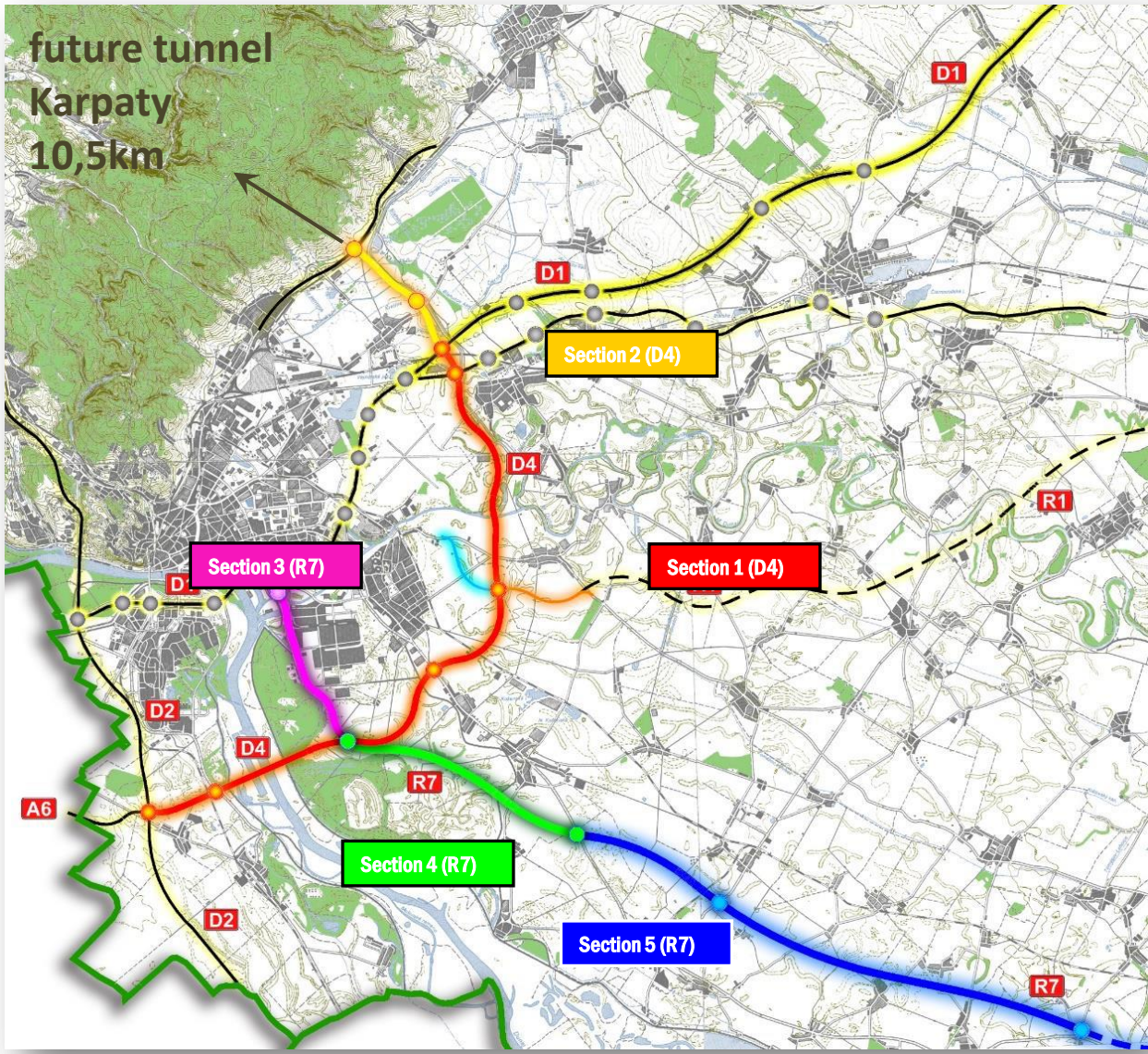
Prievoz – Ketelec

Section 4:

Keteleč – Dunajská Lužná

Section 5:

Dunajská Lužná – Holice



2+2 | The length **22.6km** | **45 bridges** (including the Dunaj river bridge) | **6 interchanges**

Main interchanges: Jarovce» | Rusovce» | Ketelec» | Rovinka» | Podunajské Biskupice»

Bratislava-Rača

Ivanka Sever

BRATISLAVA

Bratislava-Prievoz

Ketelec

Jarovce

Holice

INTERCHANGE IVANKA - SEVER

INTERCHANGE IVANKA - ZÁPAD

INTERCHANGE PODUNAJSKÉ BISKUPICE

INTERCHANGE ROVINKA

INTERCHANGE RUSOVCE

INTERCHANGE KETELEC

INTERCHANGE JAROVCE

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Bratislava-Rača

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Bratislava-Prievoz

Ketelec

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Bratislava-Rača

BRATISLAVA

Bratislava-Prievoz

Ketelec

Jarovce

Holice

INTERCHANGE IVANKA - SEVER

INTERCHANGE IVANKA - ZÁPAD

INTERCHANGE PODUNAJSKÉ BISKUPICE

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INTERCHANGE RUSOVCE

INTERCHANGE KETELEČ

INTERCHANGE JAROVCE

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Bratislava-Rača

Ivan

BRATISLAVA

Bratislava-Prievoz

Ketelec

Jarovce

Holice

INTERCHANGE VANKA - SEVER

INTERCHANGE IVANKA - ZÁPAD

INTERCHANGE PODUNAJSKÉ BISKUPICE

INTERCHANGE ROVINKA

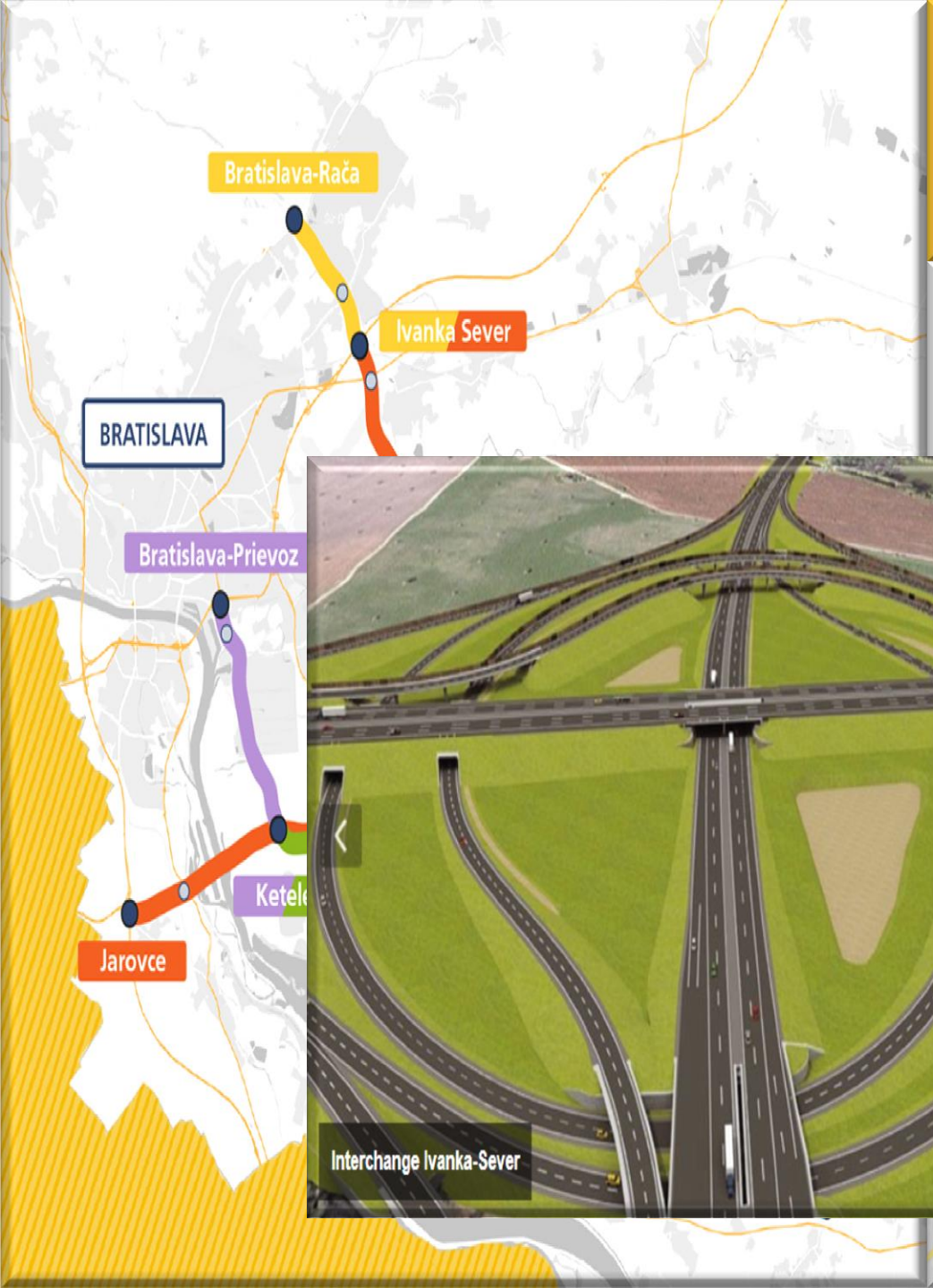
INTERCHANGE RUSOVCE

INTERCHANGE KETELEC

INTERCHANGE JAROVCE

2+2 / 2km 3+3 | The length **4.4 km** | **12 bridges** | **3 interchanges**

Interchanges: Ivanka Sever » | Čierna Voda » | Rača »



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Interchanges: Ivanka Sever » | Čierna Voda » | Rača »

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Interchanges: Ivanka Sever » | Čierna Voda » | Rača »

Interchange Rača

3+3 / 0.9 km 2+2 | The length 6.3 km | 15 bridges | 3 interchanges

Interchanges: Slovnaftská » | Prievoz » | Ketelec »

Bratislava-Rača

BRATISLAVA

Bratislava-Pr

Jarovce

Holice

INTERCHANGE PODUNAJSKÉ BISKUPICE

INTERCHANGE ROVINKA

INTERCHANGE JAROVCE

3+3 / 0.9 km 2+2 | The length **6.3 km** | **15 bridges** | **3 interchanges**

Interchanges: Slovnaftská » | Prievoz » | Ketelec »

Bratislava-Rača

Ivanka Sever

BRATISLAVA

Bratislava-Prievoz

Ketelec

Jarovce

Holice

Bratislava

INTERCHANGE PRIEVOZ

INTERCHANGE SLOVNAFTSKÁ

INTERCHANGE PODUNAJSKÉ BISKUPICE

INTERCHANGE ROVINKA

INTERCHANGE KETELEC

RUSOVCE

INTERCHANGE JAROVCE

2+2 | The length **8.4 km** | **10 bridges** | **2 interchanges**

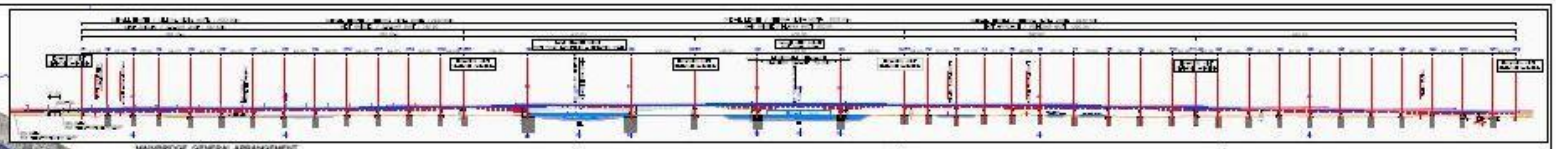
Interchanges: Ketelec » | Dunajská Lužná »

2.1. Danube Area & Danube Bridge

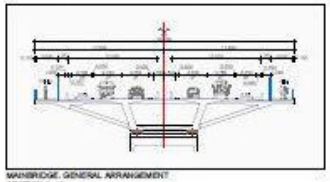
- **Project Chart – General Overview**
- **Aerial perspective**

D4R7

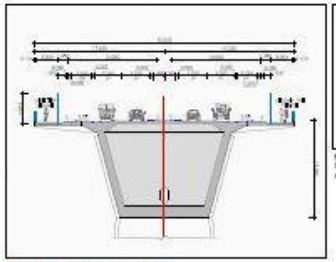
D4-R7 PROJECT
DRAFT



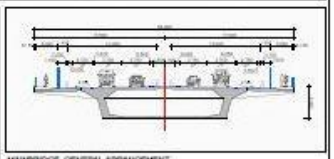
MAINBRIDGE, GENERAL ARRANGEMENT
ELEVATION
SCALE 1/2000



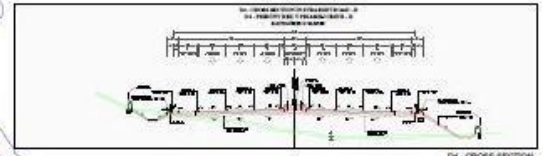
MAINBRIDGE, GENERAL ARRANGEMENT
SECTION A - A
SCALE 1/200



MAINBRIDGE, GENERAL ARRANGEMENT
SECTION B - B
SCALE 1/200



MAINBRIDGE, GENERAL ARRANGEMENT
SECTION C - C
SCALE 1/200



D4 - CROSS SECTION
SCALE 1/200

BRIDGE OVER MALY DUNAJ

INTERCHANGE VISUALIZATIONS IN ACCORDANCE
WITH ZONING PERMIT DOCUMENTATION

INTERCHANGE RACA

INTERCHANGE CIERNA VODA

INTERCHANGE IVANKA SEVER

INTERCHANGE ROVINKA

INTERCHANGE KETELEC

INTERCHANGE RUSOVCE

INTERCHANGE JAROVCE

INTERCHANGE DUNAJSKÁ LUŽNÁ

INTERCHANGE SLOVNAFSKA

INTERCHANGE PREVOZ

R7 - CROSS SECTION
SCALE 1/200

MAINBRIDGE, GENERAL ARRANGEMENT

D4R7 aerial perspective

D4R7 nahlad4.mp4

https://vimeo.com/294567502

Approach bridges

Construction method

Sectional scaffolding

Steel weight: ca. 1.000 t

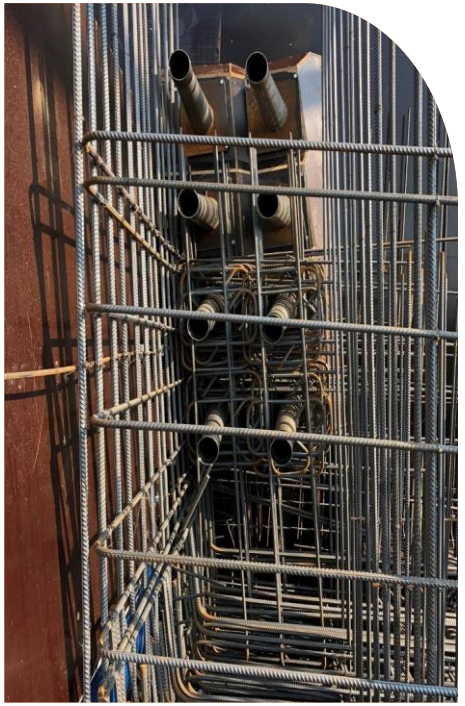
Lenght: 1.250 m

Width: 35 m

Total bridge surfacee: 43.750 m²

Span width: 70 m

Axes: 19



Cross section

The superstructure in 2 sections

- **1. Section**

  Core construction with MSS/FT

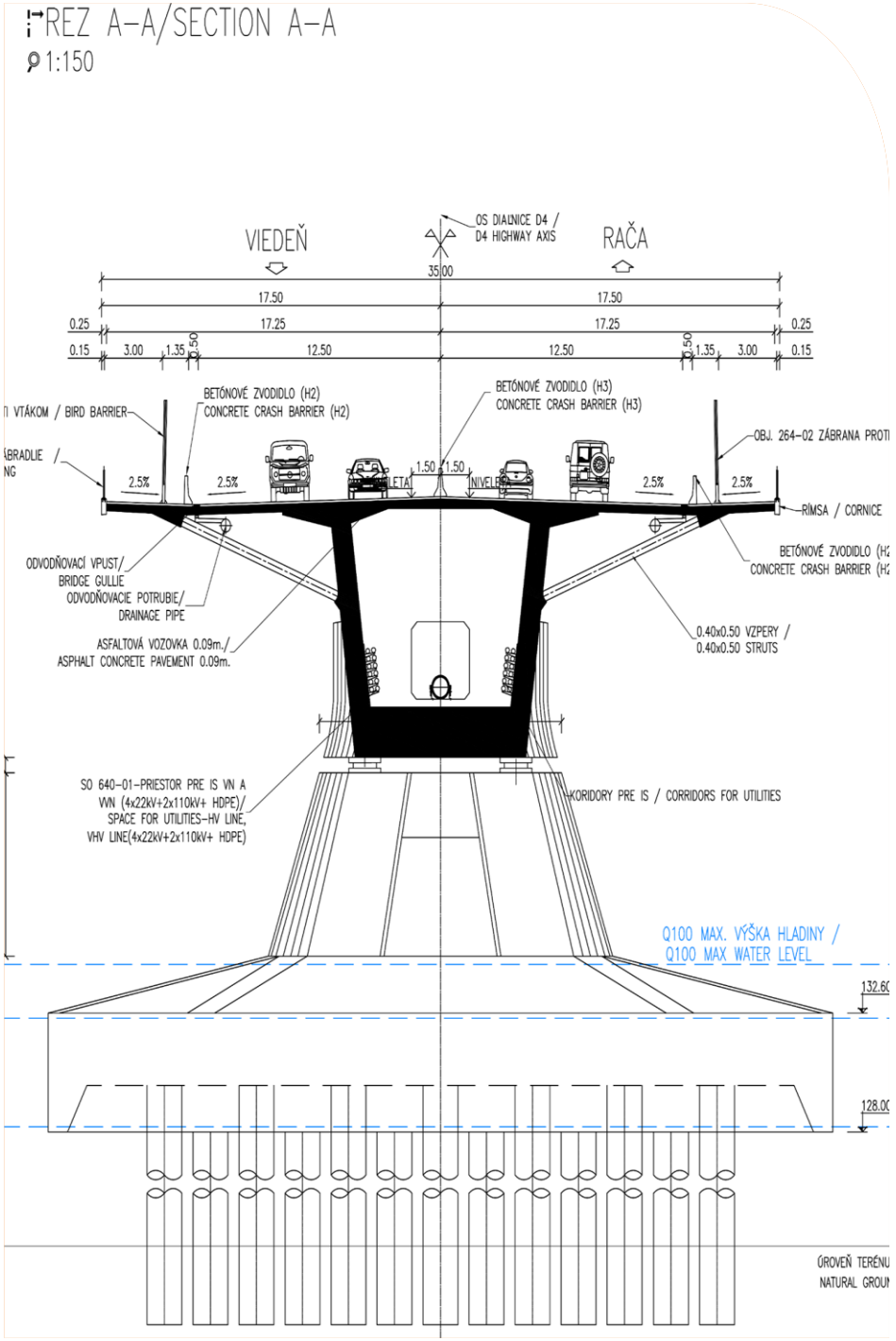
  MSS planned in 2 week cycles

  FT – planned in weekly cycles

- **2. Section**

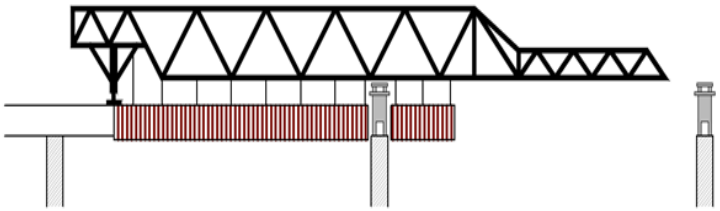
  Wing constructionand installation of struts with separat formwork carriages

  4 days cycle plan (l=25m)

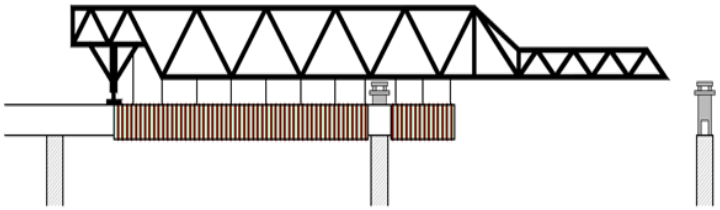


Moveable Scaffolding System with suspended formwork

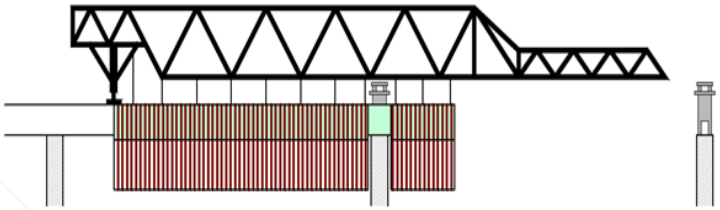
1. SCHALUNG GESCHLOSSEN, EINBAU DER BEWEHRUNG



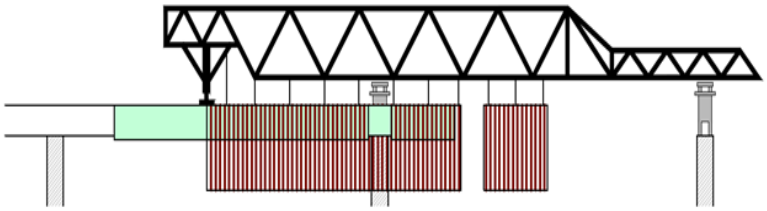
2. BETONEINBRINGUNG



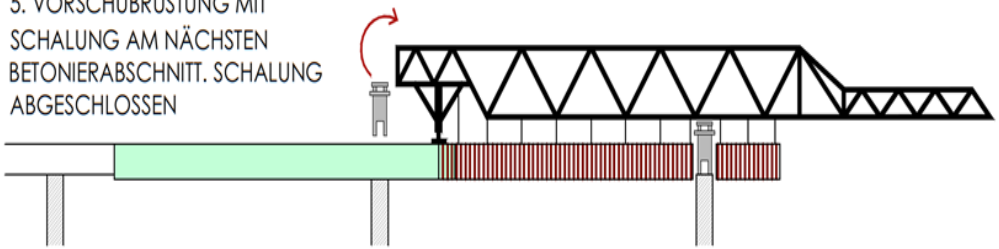
3. SCHALUNG ABGEKLAPPT, BEREIT ZUM VERFAHREN



4. VERFAHRZUSTAND



5. VORSCHUBRÜSTUNG MIT SCHALUNG AM NÄCHSTEN BETONIERABSCHNITT. SCHALUNG ABGESCHLOSSEN



Kayak Channel

Construction method

Free cantilever method

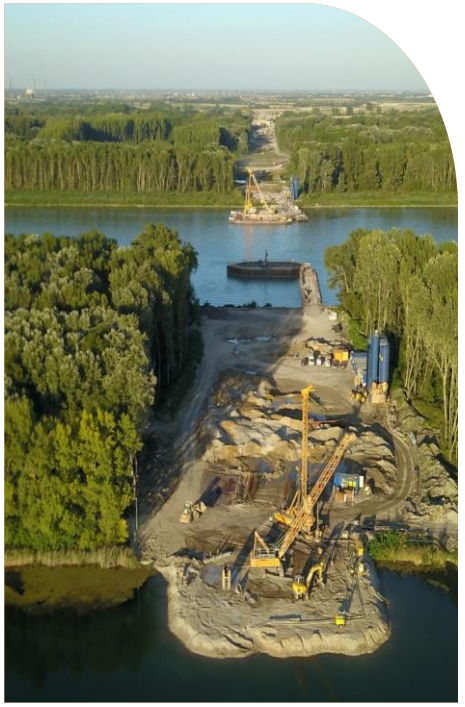
Lenght: 470 m

Width: 35 m

Total bridge surface: 16.450 m²

Length main span: 210 m

Beton weight: 430 t



Danube Bridge

Construction method

Free cantilever method

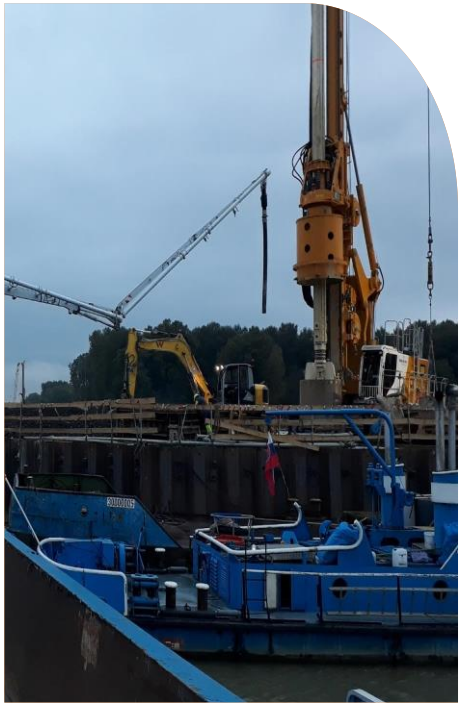
Lenght: 430 m

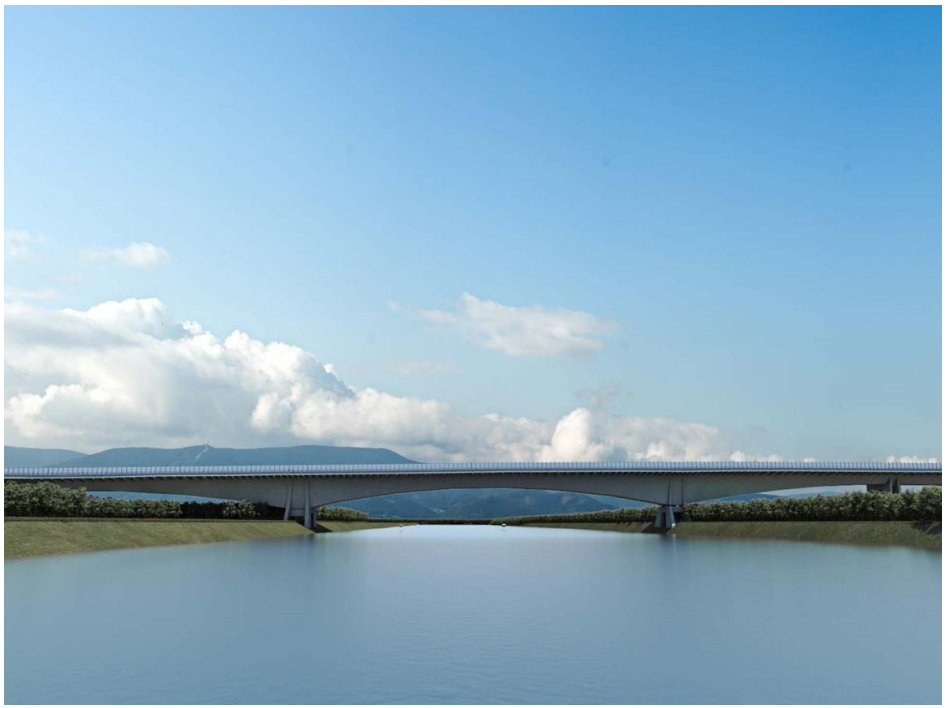
Width: 35 m

Total bridge surface: 15.050 m²

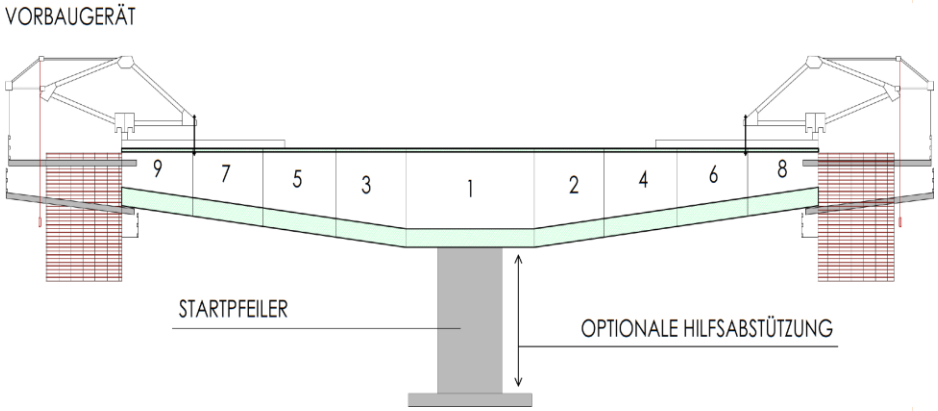
Length main span : 170 m

Beton weight: 430 t

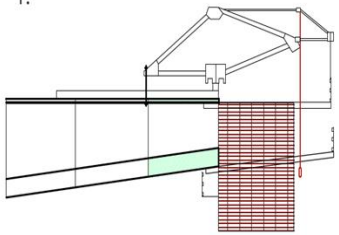




Free cantilever method

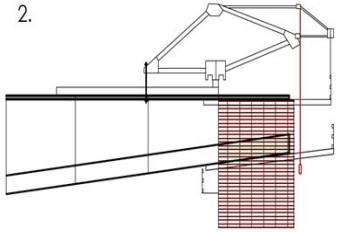


1.



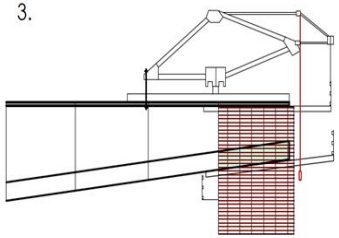
SCHALUNG BEREIT ZUM BEWEHREN

2.



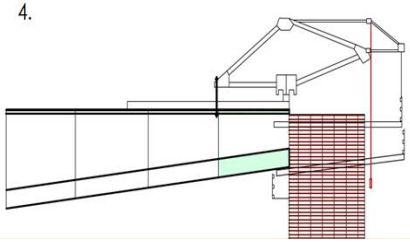
BETONEINBAU, FÜR GESAMTEN QUERSCHNITT I.A. IN EINEM GUSS

3.



FAHRSCHIENE WIRD UM EINEN ABSCHNITT VERFAHREN

4.

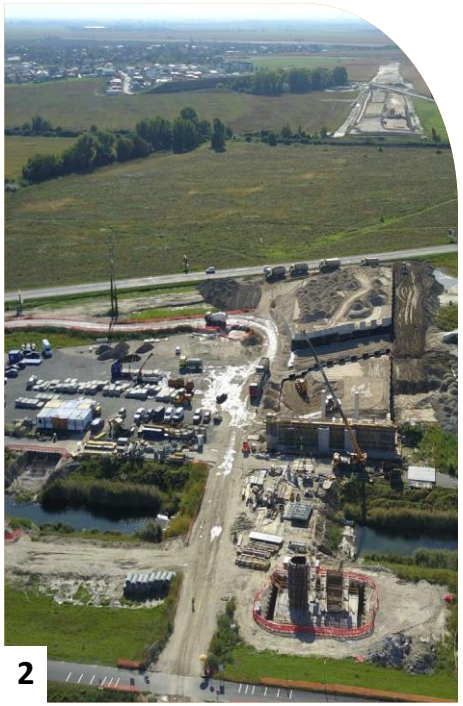


SCHALWAGEN INKL. SCHALUNG FÄHRT AUF DER FAHRSCHIENE ZUM NÄCHSTEN ABSCHNITT

3. Foundation Engineering

Intersection Rusovce

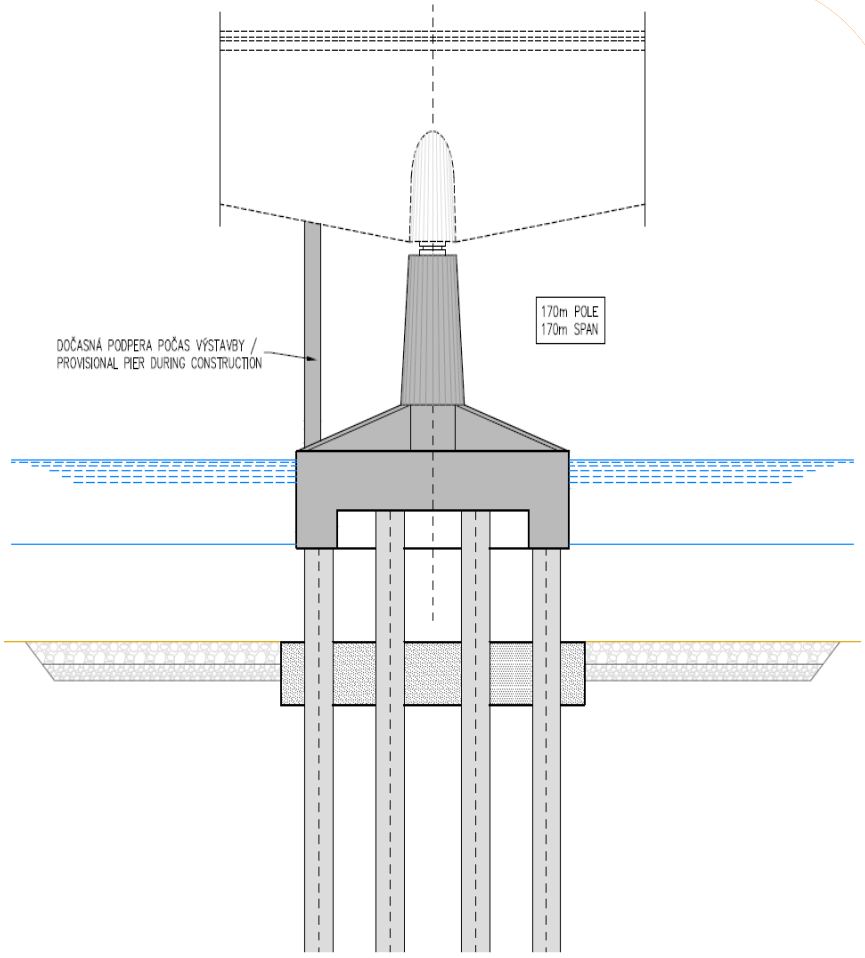

1


2


3

Construction phases Danube Bridge

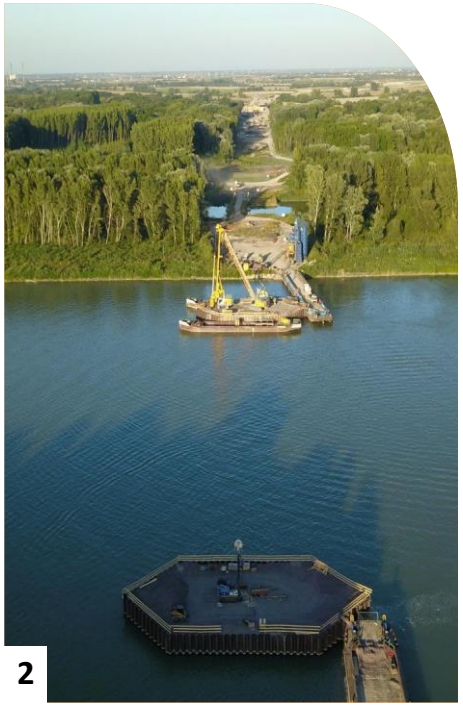
- Sheet Pile wall, Rip Rap as scour protection
- Jet Grouting plug
- 26 pcs. d1800 foundation piles, at 40 m each
- Excavation and Pile Head Preparation, levelling concrete
- Pile Cap up to 132,60 m
- Completion of Pile Cap Pier
- Temporary Pier, Superstructure



Danube Bridge Foundations

1. Piling works axis E3 at the east approach
2. Aerial images Danube Bridge Axis E2 and E3, view eastwards
3. First Axis E3
   Look eastbound
   Pilling machine, Barges, Access-Pontoon Bridge and Tug-Boat.
   In the background bentonite silos, storage for cage piles


1


2

3