



Infraestruturas
de Portugal
Ligamos destinos

Ponte 25 de Abril

Empreitada de Trabalhos de Reparação e Conservação II
Contrato de Obras de Reparación y Conservación II

Pontes que unem Puentes

Seminário | Seminario

ORDEM DOS ENGENHEIROS

COLEGIO DE INGENIEROS DE CAMINOS CANALES Y PUERTOS

Bem vindos | Bienvenidos

ALMADA · 14 outubro 2022 | 14 de octubre de 2022

Pedro Abegão

Gestor Operacional

IP – Infraestruturas de Portugal, SA

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05

SUSPENSION BRIDGE - TALPROJECTO

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06

NORTH APPROACH VIADUCT - TALPROJECTO

Interventions 05, 06, 07, 08

Public tender – expenditure authorization
March 15, 2018

Announcement of the tender in Portugal
March 23, 2018

Announcement of the tender in the UE
March 27, 2018

Contract award
September 20, 2018

Contract signature
October 16, 2018

Award amount
12.600.000,10 €

Duration
720 days

Owner
Infraestruturas de Portugal

Designers
Parsons e Talprojecto

Works supervisor
VhM

Contractor
Sacyr Somague / SMM / STAP

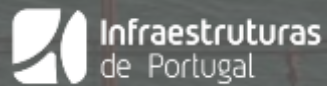
01

RELEVANT DATA

Milestones

Contract

Stakeholders



02

INTERVENTIONS

TYPOLGY, COSTS, SPATIAL LOCATION

INTERVENTIONS

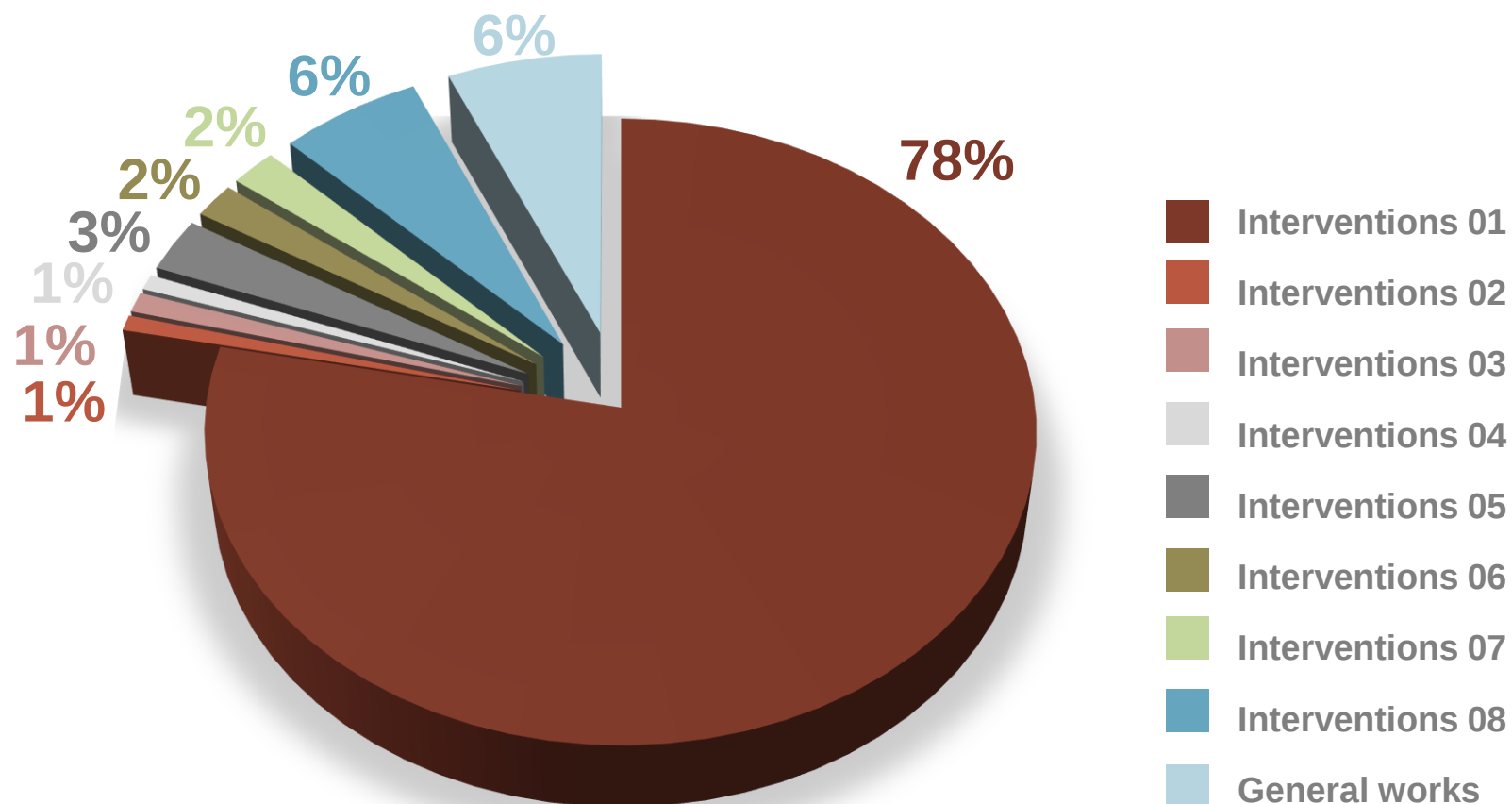
TYPOLOGY, COSTS

01	Repairs on the stiffness truss	9.850.000,00 €
02	Repairs on the pillar 3 foundation – concrete repair	100.000,00 €
03	Repairs on the south anchorage – rehabilitation of the metal walkway	130.000,00 €
04	Repairs on the walkways – partial replacement of the transverse walkways	100.000,00 €
05	Repairs on the A-21 abutment – bearings rehabilitation and reinforcement	350.000,00 €
06	Repairs on the rail deck – acoustic barriers sectioning for doors installation	230.000,00 €
07	Repairs on the road expansion joints – concrete and metal parts repairs	250.000,00 €
08	Repairs on the 2, 3 and 4 road joints – replacement of transverse displacement blockers	760.000,00 €
10	General works	830.000,00 €

INTERVENTIONS

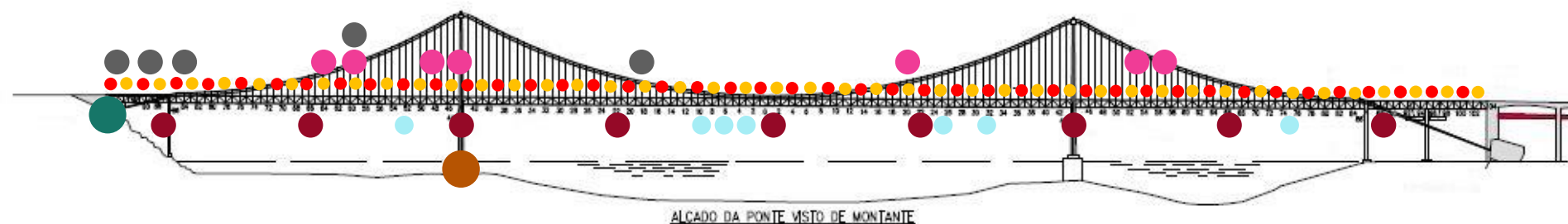
PARCIAL COSTS

PERCENTAGE DISTRIBUTION



INTERVENTIONS

SPATIAL LOCATION



01

I

II

III

IV

V

05

02

06

03

07

04

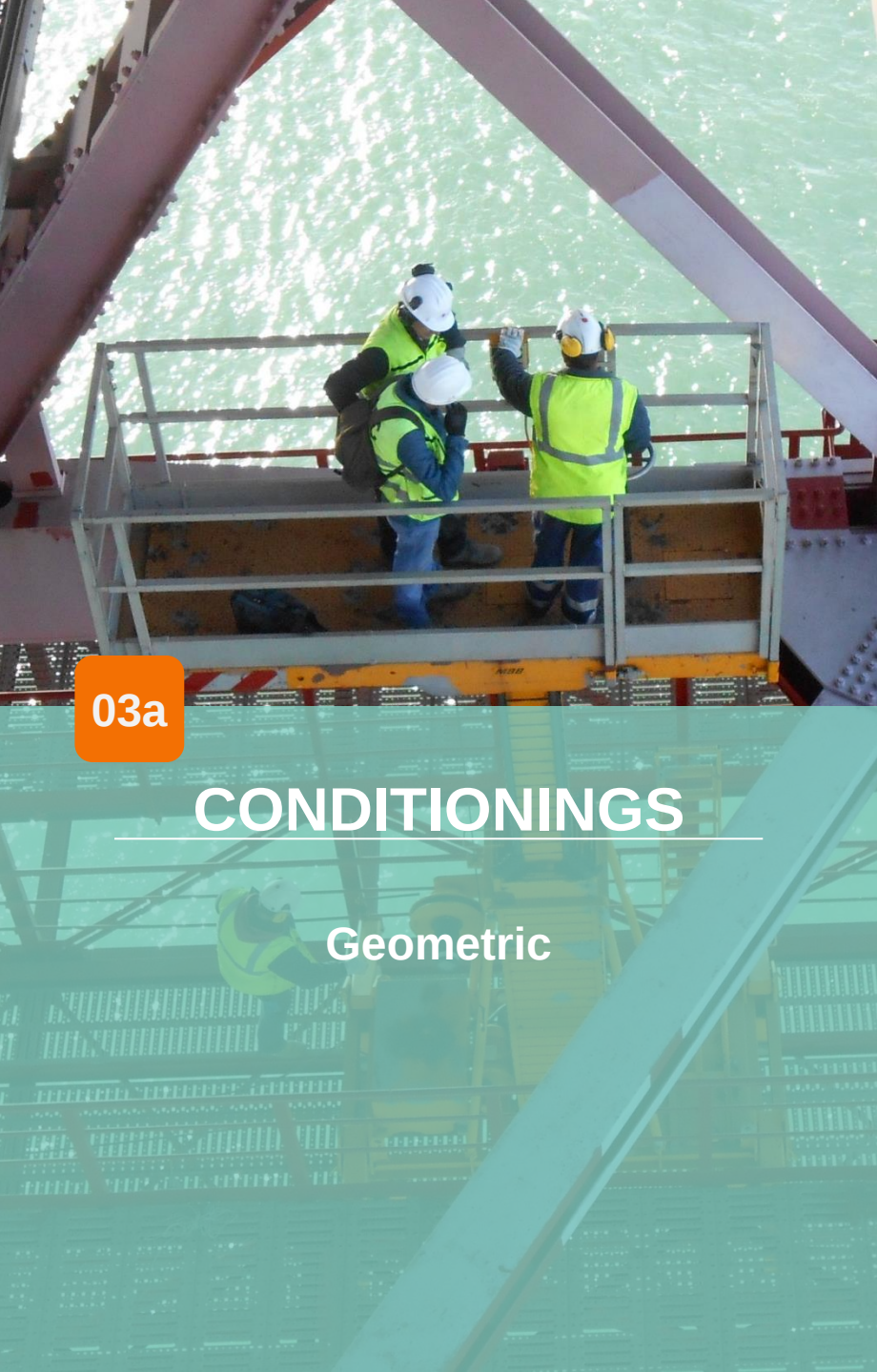
08



03

CONDITIONING

GEOMETRIC, ENVIRONMENTAL, ROAD, RAIL



03a

CONDITIONINGS

Geometric

- Reduced number of access
 - Confined spaces
 - Permanently unobstructed access
 - Permanent vibration of the structure
 - High ground / river clearance (30m to 70m)
 - Open structure configuration
 - Limited allowable loads
 - Areas with low light
 - Presence of electrical tension (25.000 V)
-

03b

CONDITIONINGS

Environmental

- Wind
 - Rainfall
 - Fog
 - High thermal amplitude
 - Noise
-



03c

CONDITIONINGS

Road

Two lanes cut (right and center lanes)

Monday to Thursday:

north – south and south – north: 2h00 – 6h00

Friday and Saturday:

north – south and south – north: 2h00 – 6h00

Sunday:

north – south and south – north: 2h00 – 6h00

4h00

One lane cut

Monday to Thursday:

north – south: 23h00 – 7h00

south – north: 22h00 – 6h00 (winter)

south – north: 00h30 – 6h00 (summer)

Friday and Saturday:

north – south: 1h00 – 7h00

south – north: 1h00 – 8h00

Sunday:

north – south: 1h00 – 7h00

south – north: 1h00 – 6h00

5h00 (mín) / 8h00 (máx)



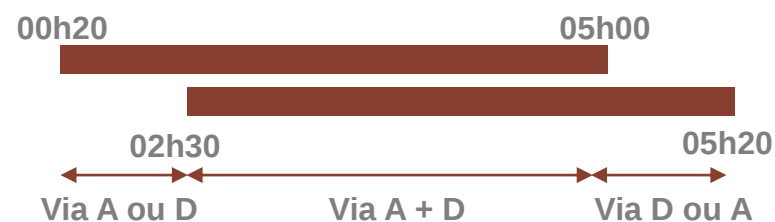
03d

CONDITIONINGS

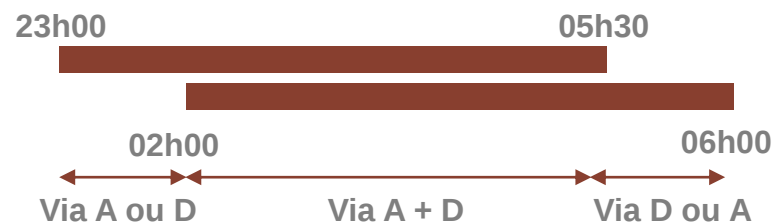
Rail

One or both tracks closed with or without electric power supply

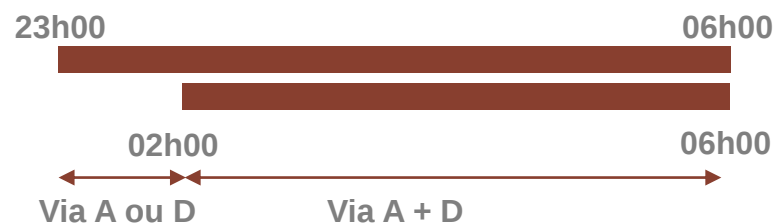
Monday to Friday:



Saturday:



Sunday:



2h30 (mín) / 7h00 (máx)



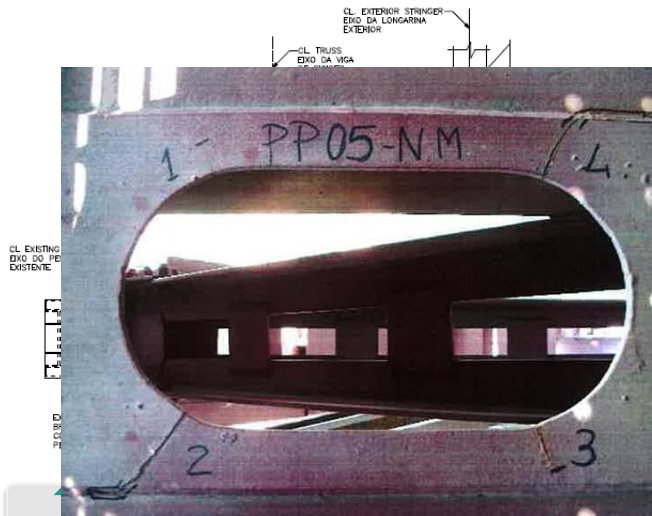
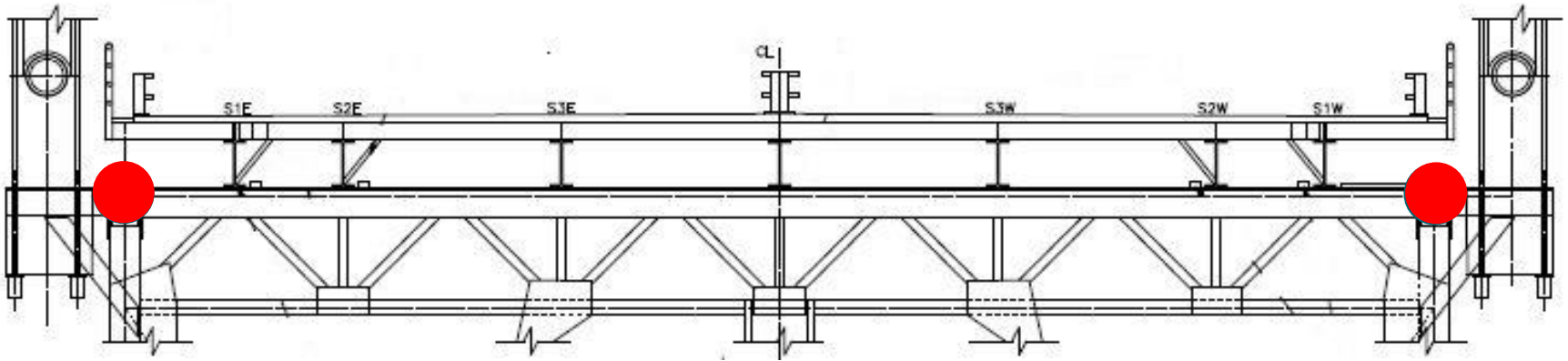
04

SUSPENSION BRIDGE – PARSONS

INTERVENTION 01 – TYPE I, II, III, IV, V

INTERVENTION 01 - PARSONS

TYPE I



**Reinforcement of the upper chord
of the top floor beam
Odd Panel Points**

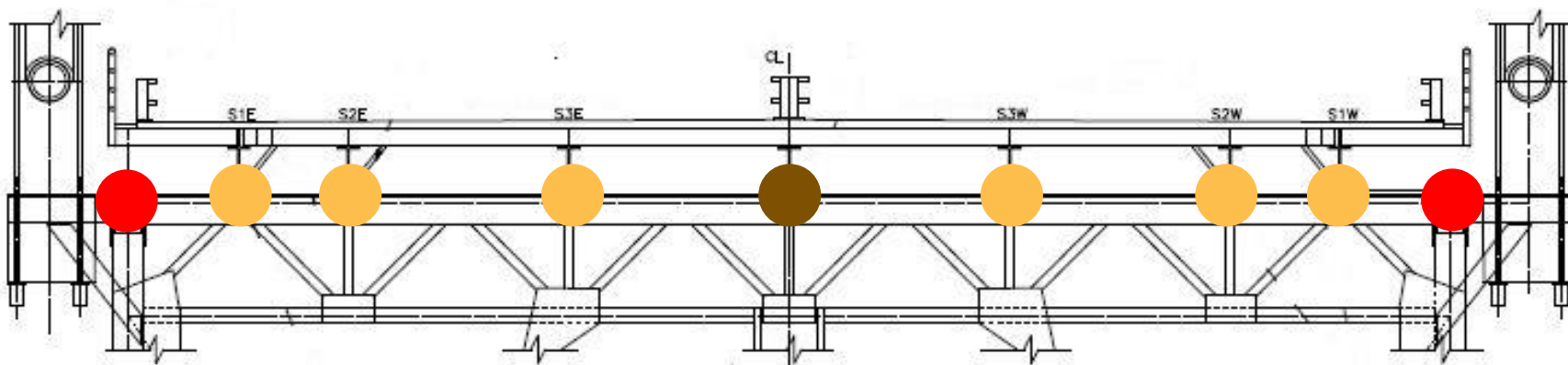
Main quantities:



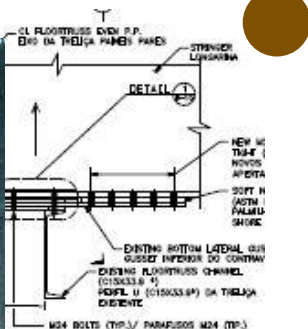
icture

INTERVENTION 01 - PARSONS

TYPE II



**Releasing the stringers ends
Even Panel Points**



Main quantities:



structure

Stainless steel plates 316L

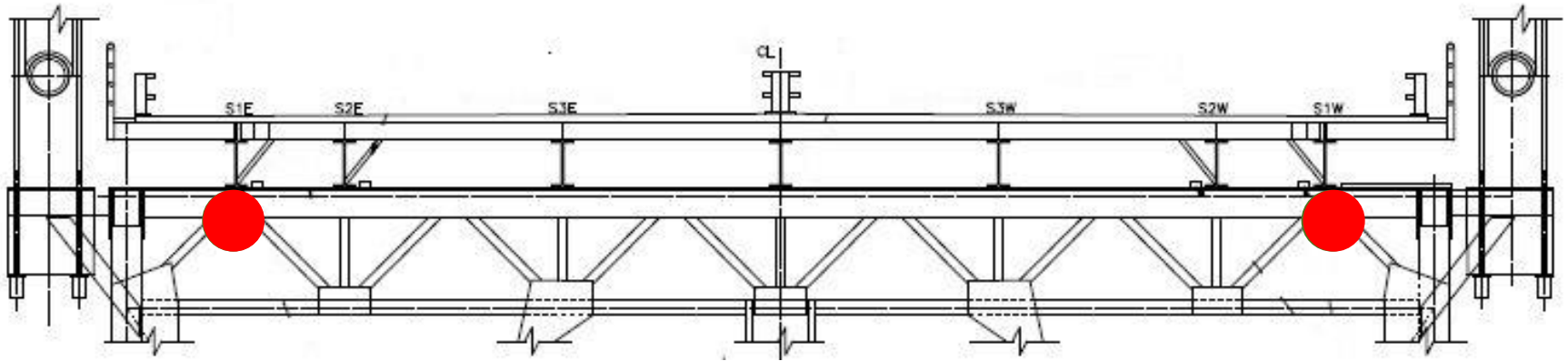
37.446 kg

Threaded holes

11.200 un

INTERVENTION 01 - PARSONS

TYPE III



Main quantities:



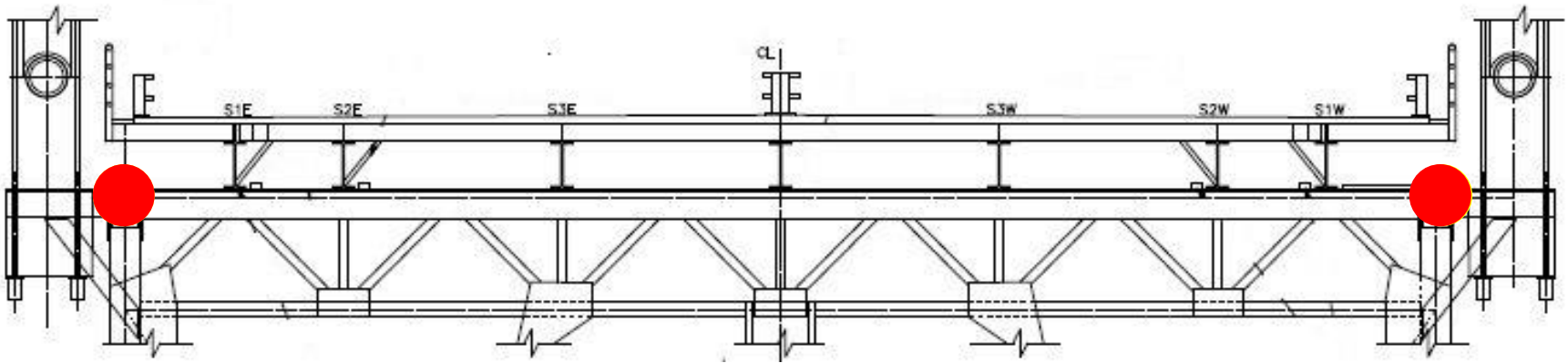
**Repair of cracks in the web
of "C" profiles
Odd and Even Panel Points**



cture

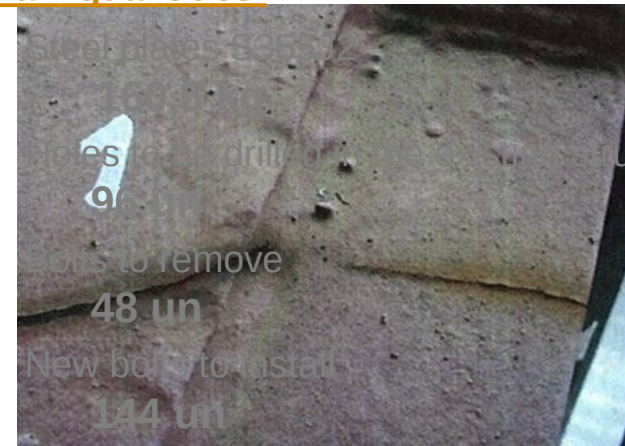
INTERVENTION 01 - PARSONS

TYPE IV



**Repair of cracks in the flange
of "C" profiles
Even Panel Points**

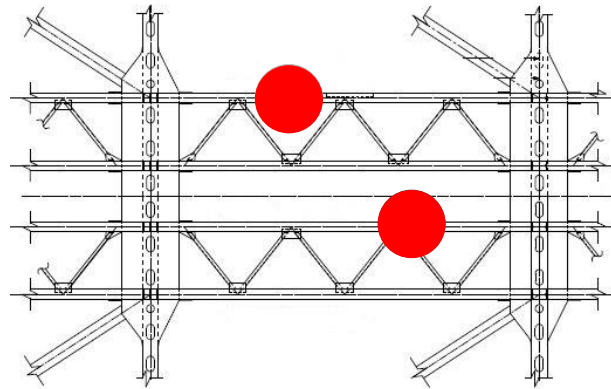
Main quantities:



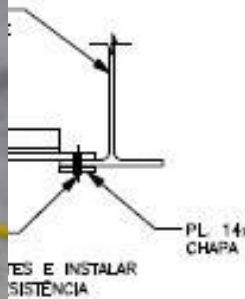
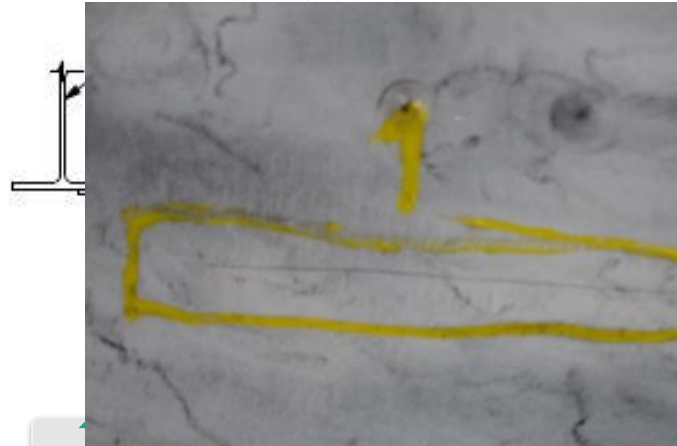
Steel plates S250 x 10
160 mm
Bore holes drill of 2" in steel structure
Bore holes
Bore holes to remove
48 un
New bore holes to install
144 un

INTERVENTION 01 - PARSONS

TYPE V



Main quantities:



cture

Repair of rolling defects in railway stringers

INTERVENTION 01 - PARSONS

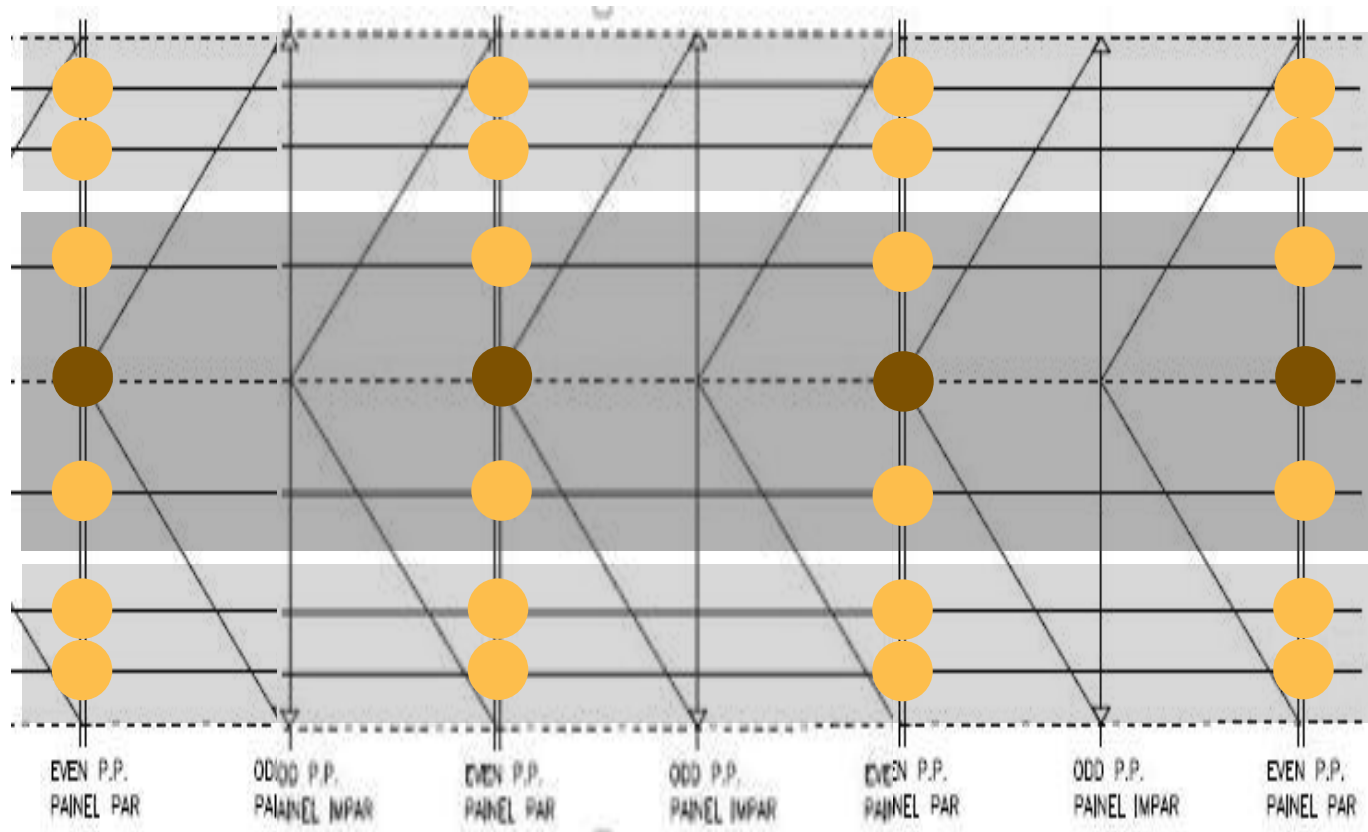
CONSTRUCTIVE PHASING (foreseen)

TYPE II

Phase 03

Phase 02

Phase 01



INTERVENTION 01 - PARSONS

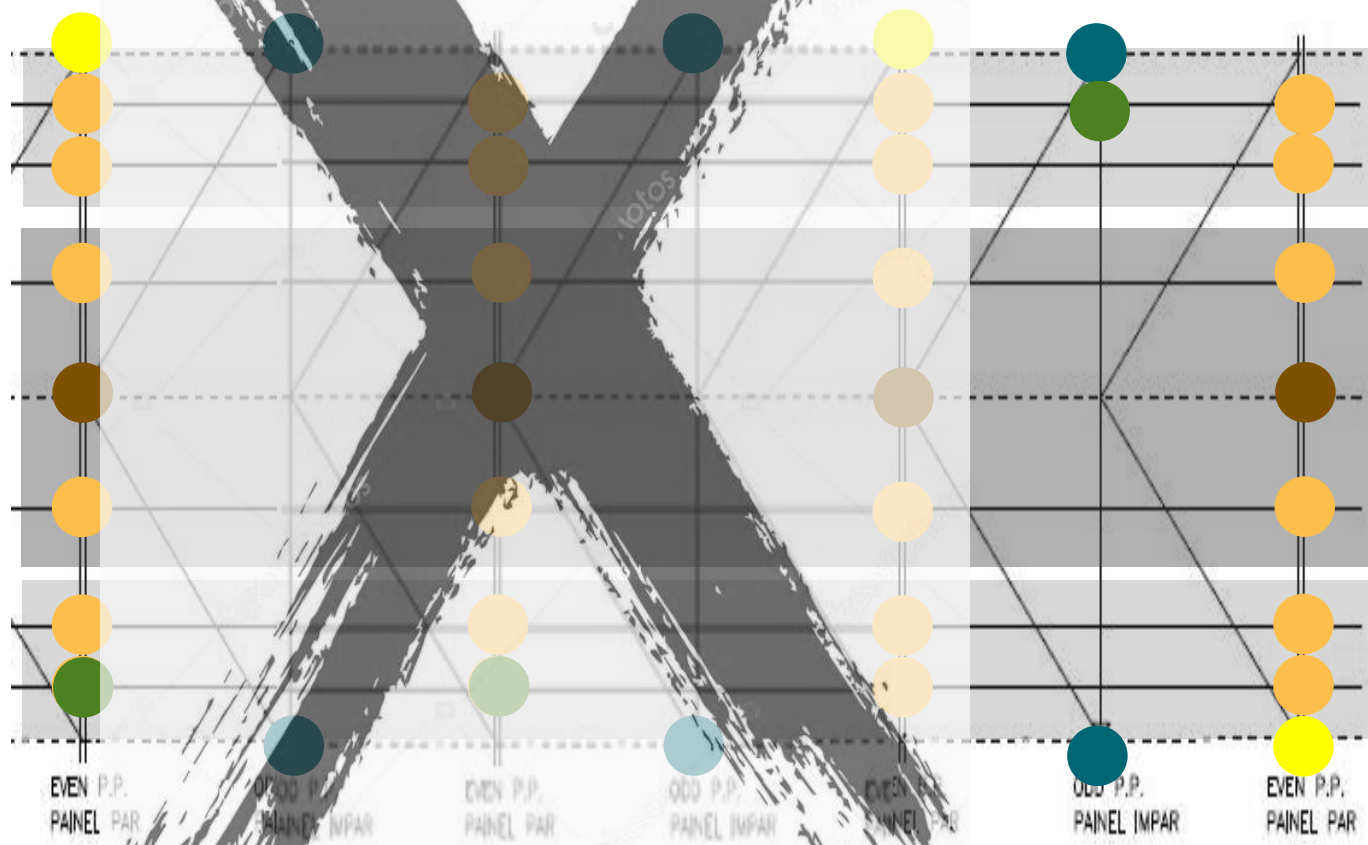
CONSTRUCTIVE PHASING
(foreseen)

TYPE I, III, IV

Phase 06

Phase 04

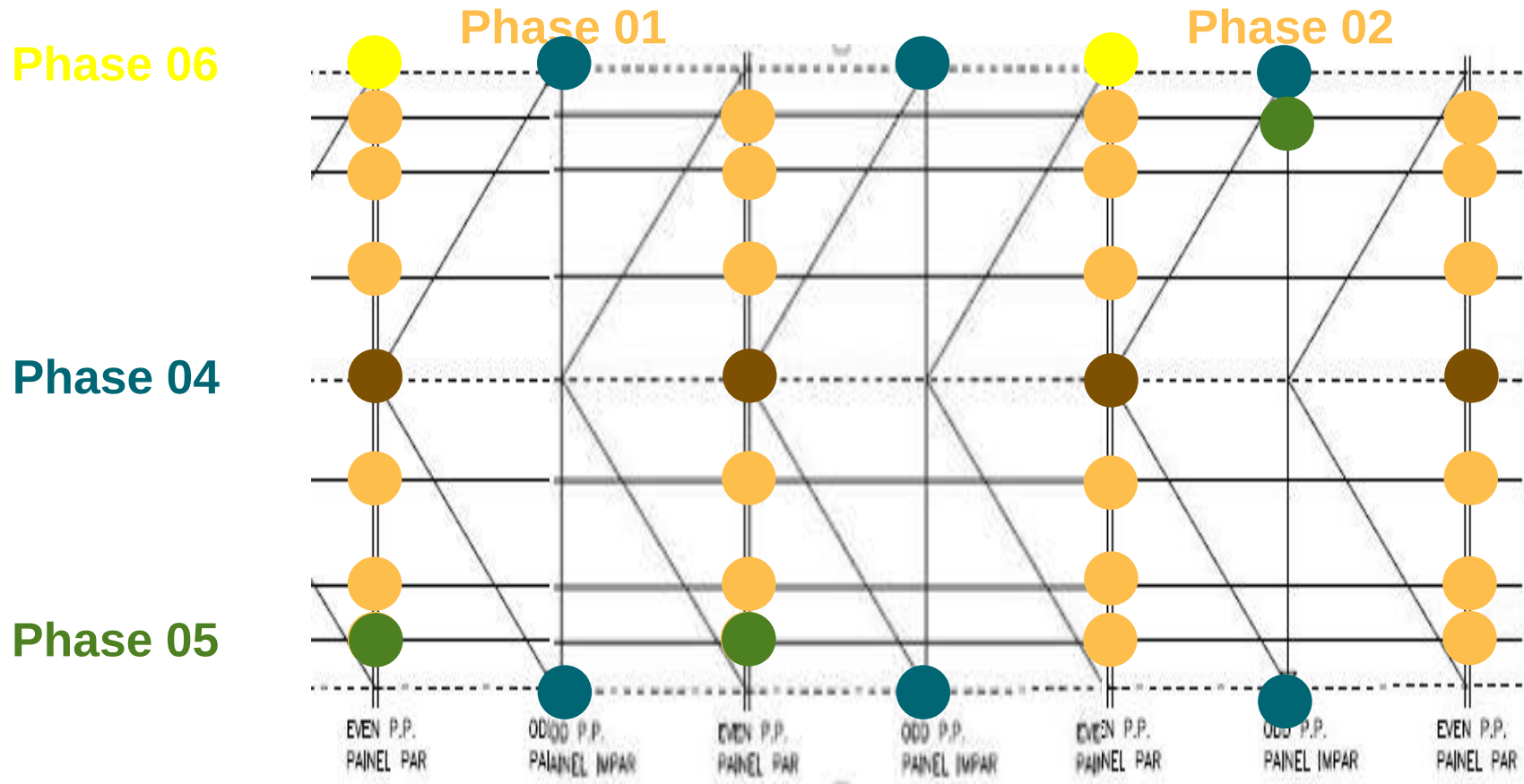
Phase 05



INTERVENTION 01 - PARSONS

CONSTRUCTIVE PHASING (performed)

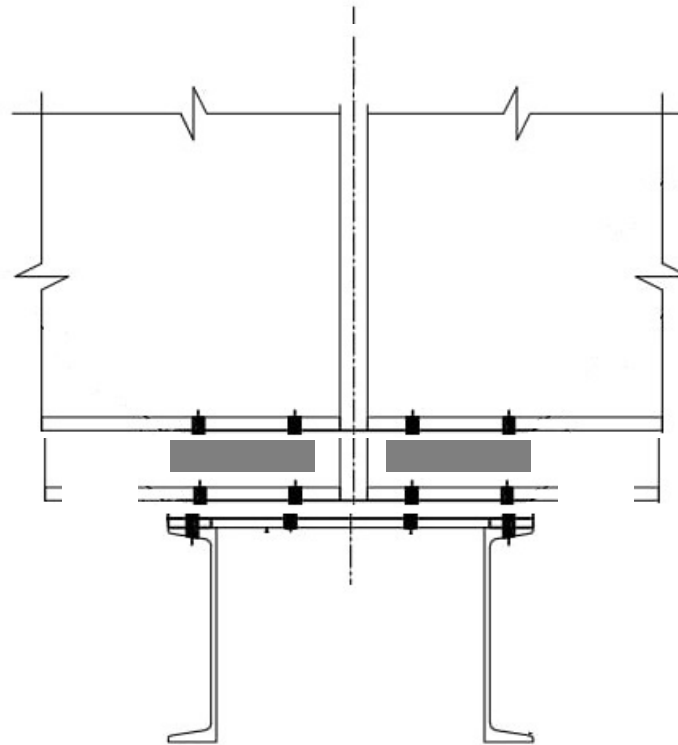
TYPE II



INTERVENTION 01 - PARSONS

CONSTRUCTIVE PHASING (initial execution)

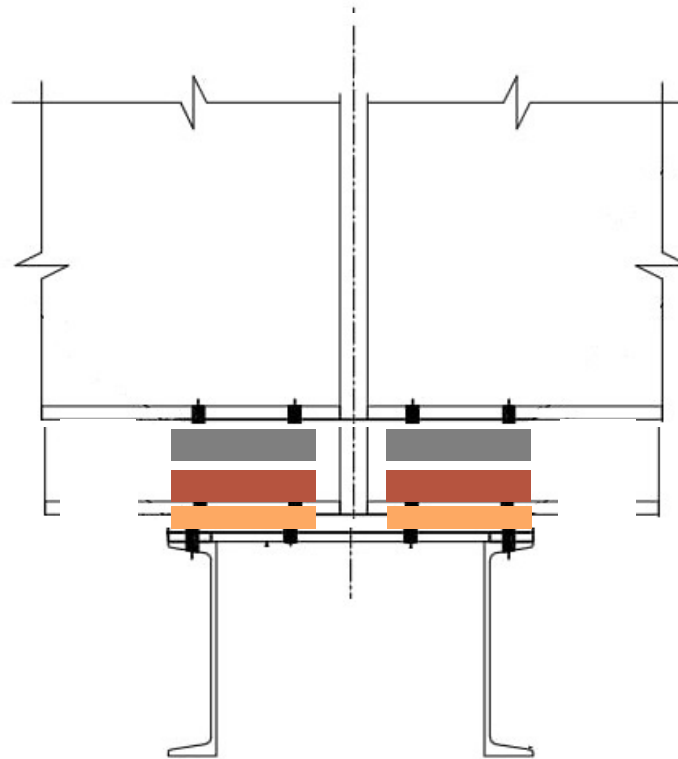
TYPE II



INTERVENTION 01 - PARSONS

CONSTRUCTIVE PHASING (current execution)

TYPE II





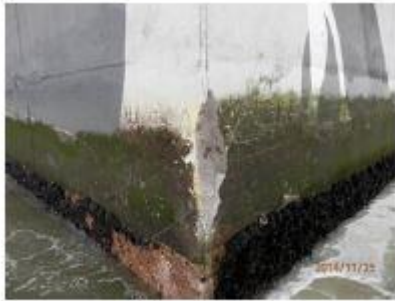
Infraestruturas
de Portugal

05

SUSPENSION BRIDGE – TALPROJECTO

INTERVENTIONS 02, 03, 04

INTERVENTION 02 - TALPROJECTO



PONTO DE COLISÃO PC.1
VISTA GERAL



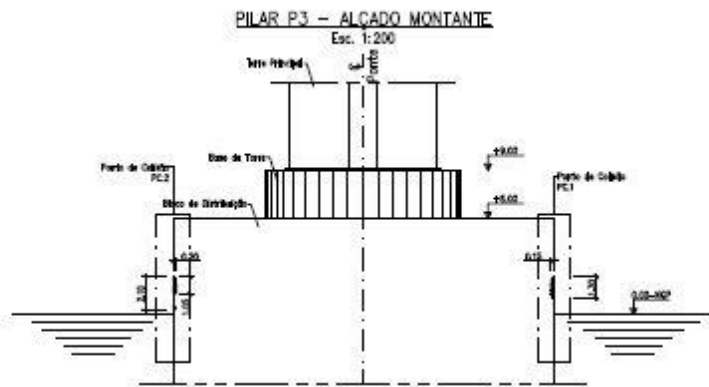
PONTO DE COLISÃO PC.1
PORMENOR



PONTO DE COLISÃO PC.2
PORMENOR



PONTO DE COLISÃO PC.2
VISTA GERAL



Intervention 02

Pillar 3 foundation concrete repair

Main quantities:

Concrete surface cleaning and preparation

5 m²

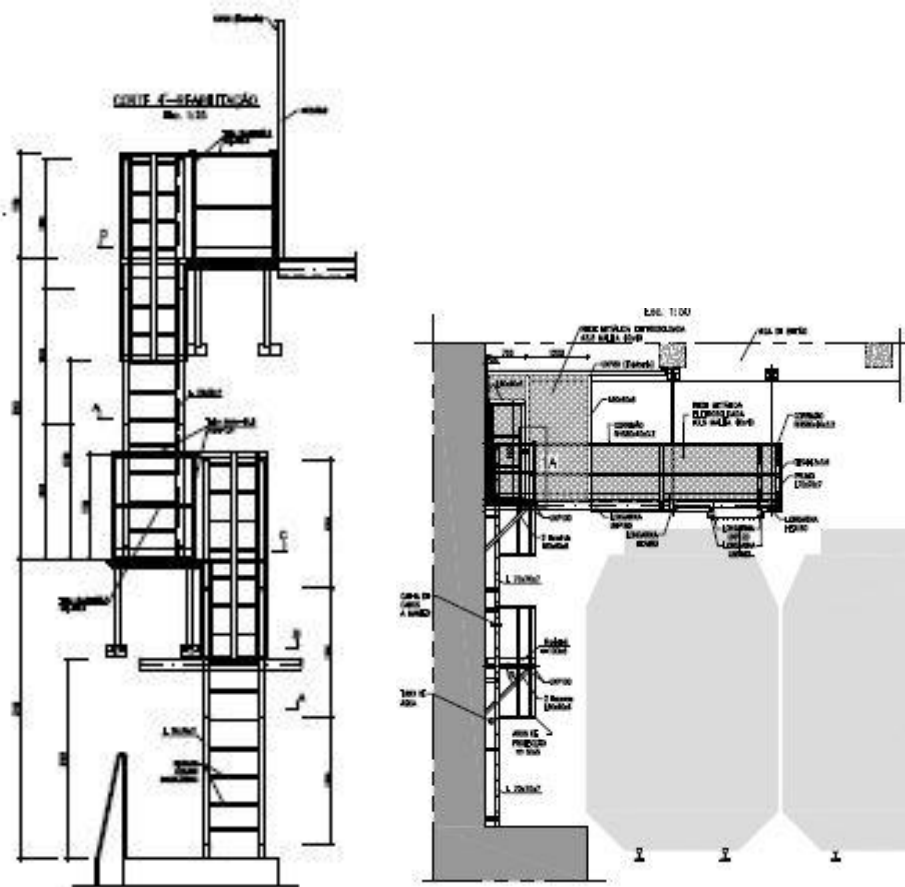
Concrete surface repair

2 m²

Painting

5 m²

INTERVENTION 03 - TALPROJECTO



Intervention 03

**Rehabilitation of the metal
walkway at the south anchorage**



Main quantities:

Removal of existing pavement

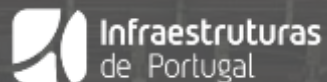
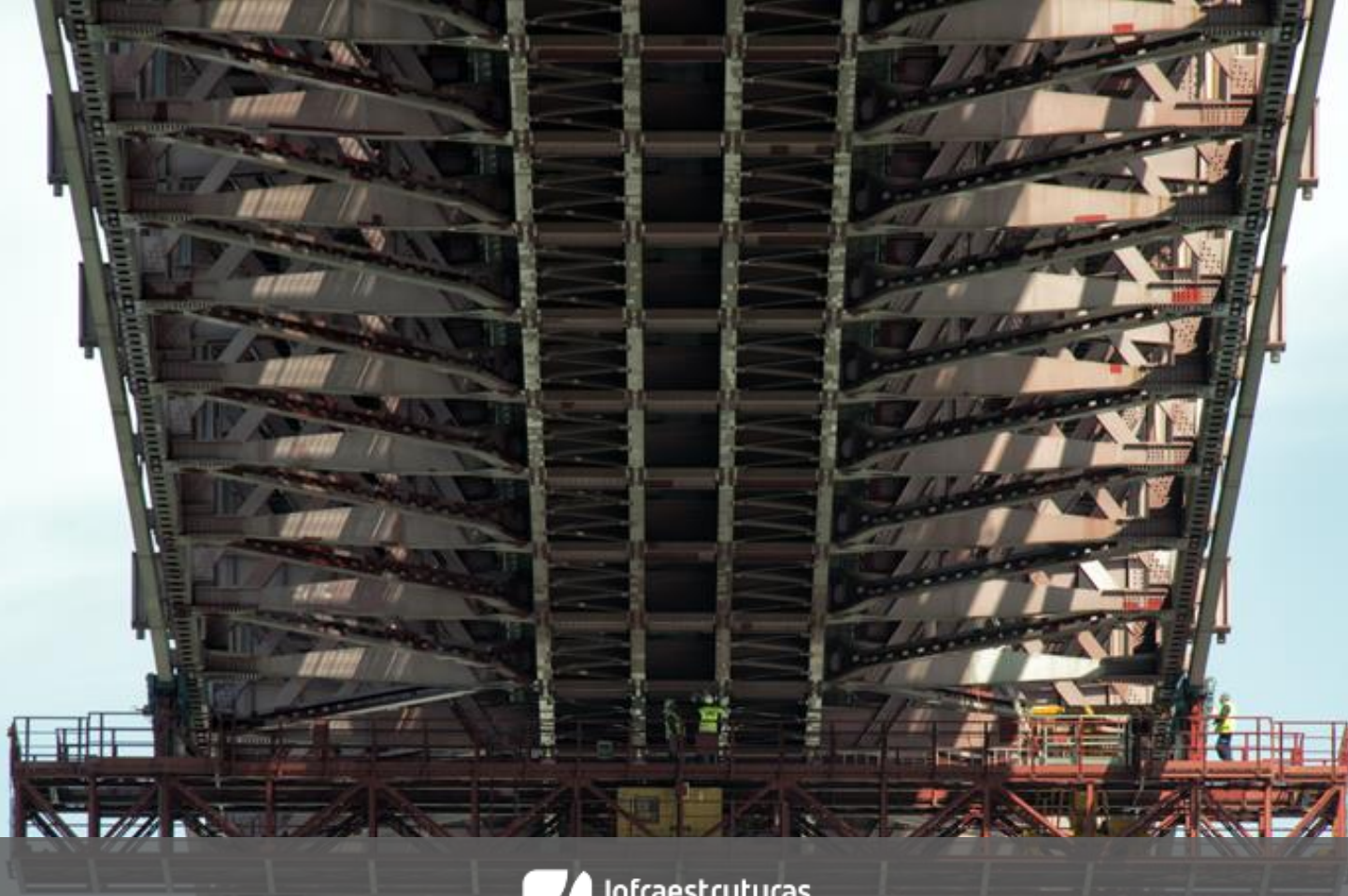
65 m²

Supply and assembly of guardrails

52 m

Supply of galvanized metal mesh

40 m²



06

NORTH APPROACH V. – TALPROJECTO

INTERVENTIONS 05, 06, 07, 08

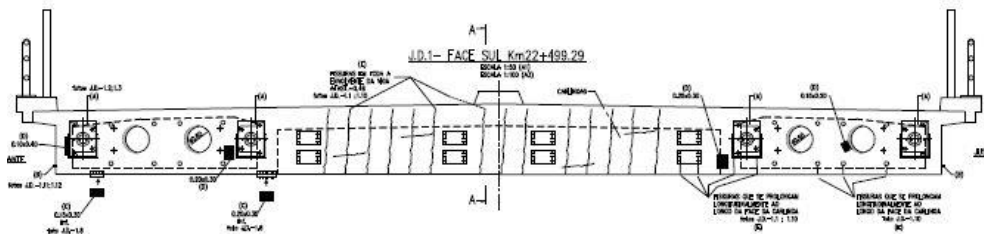
INTERVENTION 05 - TALPROJECTO



INTERVENTION 06 - TALPROJECTO



INTERVENTION 07 - TALPROJECTO



Intervention 07

concrete and metal parts repairs

Main quantities:

Cleaning and preparing concrete surfaces

Crack sealing < 0.3 mm

33 m

Crack sealing and injection > 0.3 mm
177 m

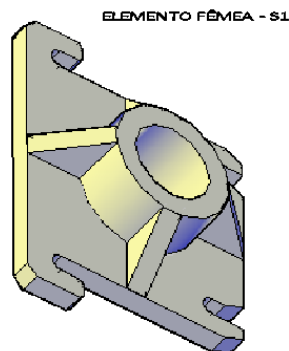
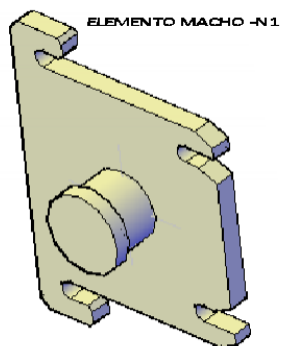
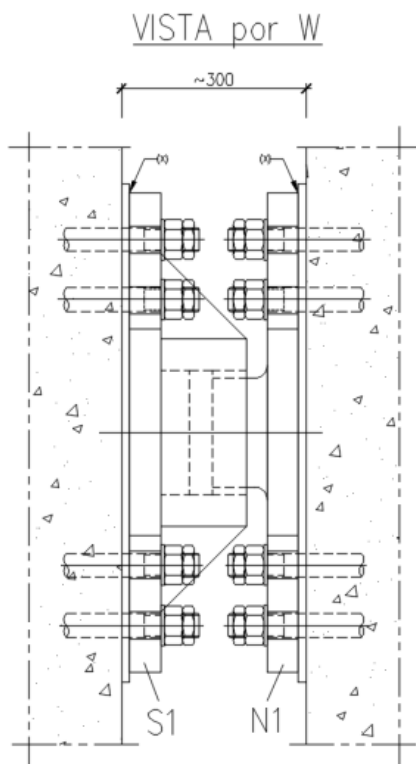
Painting concrete surfaces

540 m²

Coating metallic pieces

128 un

INTERVENTION 08 - TALPROJECTO



Main quantities:

Steel plates S355J2

6.262 kg

High strength steel bars, 25 mm diameter

236 un

Filling mortar

284,8 dm³

Supply and assembly of blockers

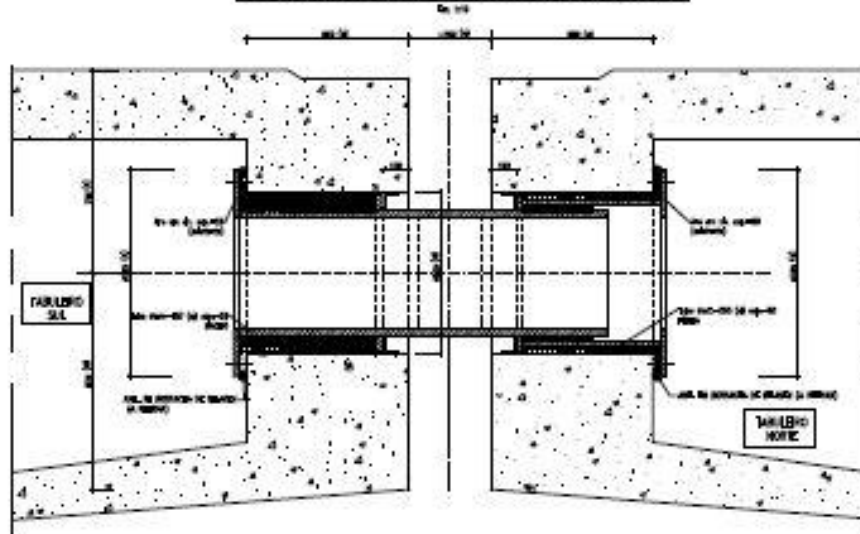
12 un

Intervention 08

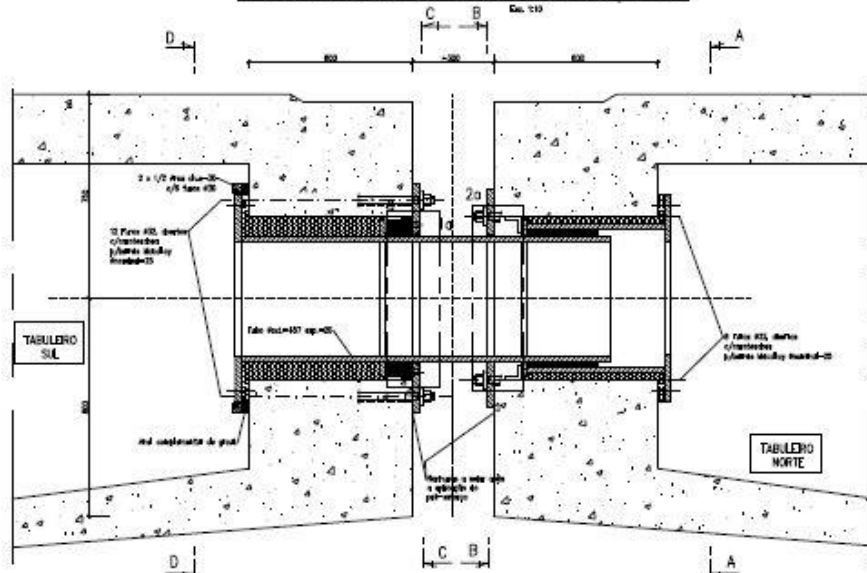
**Replacement of transverse
displacement blockers**

INTERVENTION 08 - TALPROJECTO

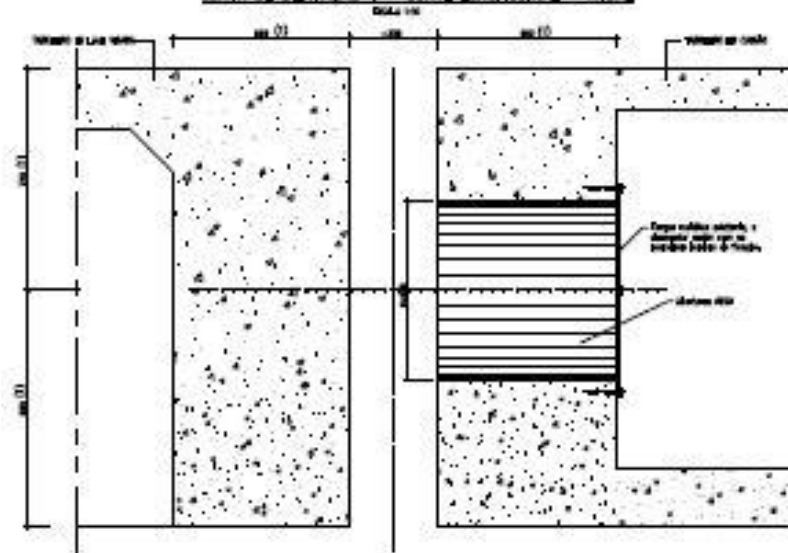
CORTE LONGITUDINAL - ATUAL - DAS JUNTAS DE DILATAÇÃO 2 e 3



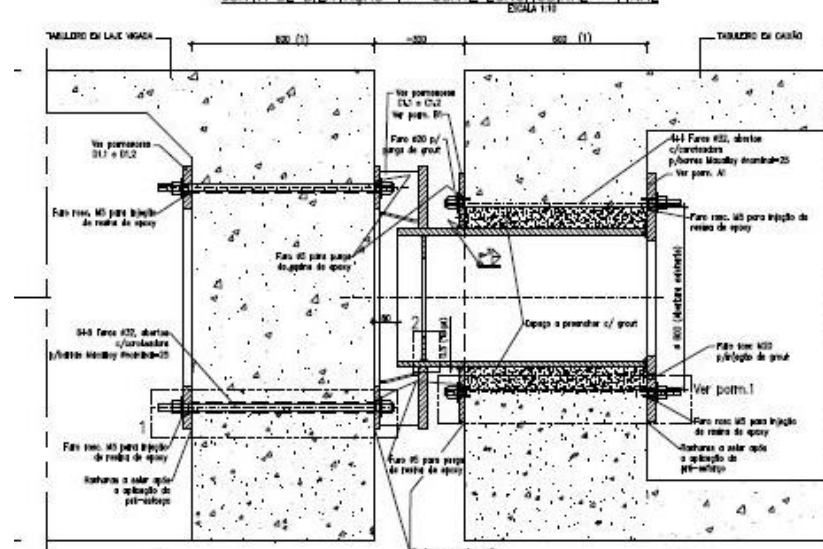
CORTE LONGITUDINAL - FINAL - DAS JUNTAS DE DILATAÇÃO 2 e 3



JUNTA DE DILATAÇÃO 4 - CORTE LONGITUDINAL - ATUAL



JUNTA DE DILATAÇÃO 4 - CORTE LONGITUDINAL - FINAL



Rodovia e Ferrovia.
Juntos encurtamos distâncias.
Viva a mobilidade.

OBRIGADO | GRACIAS

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