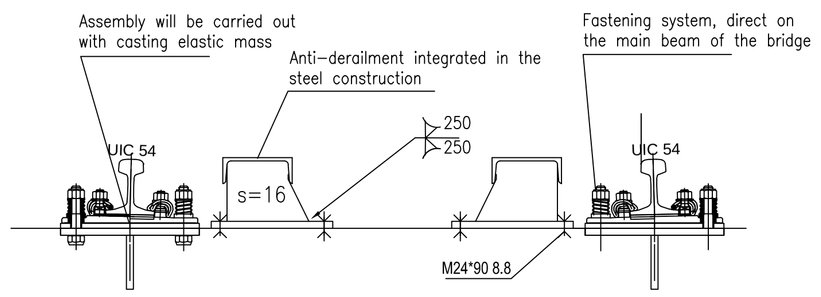
MVD - PdT

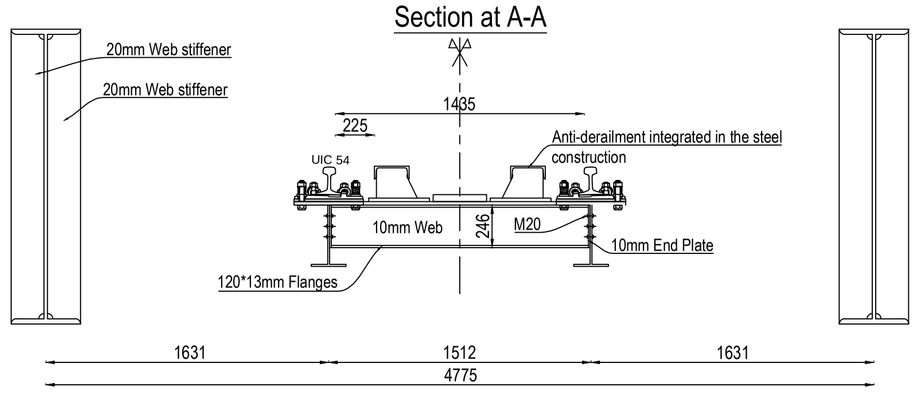
km 264+200

RIO NEGRO
STEEL GIRDER BRIDGE
17 m
PRELIMINARY GENERAL DRAWING

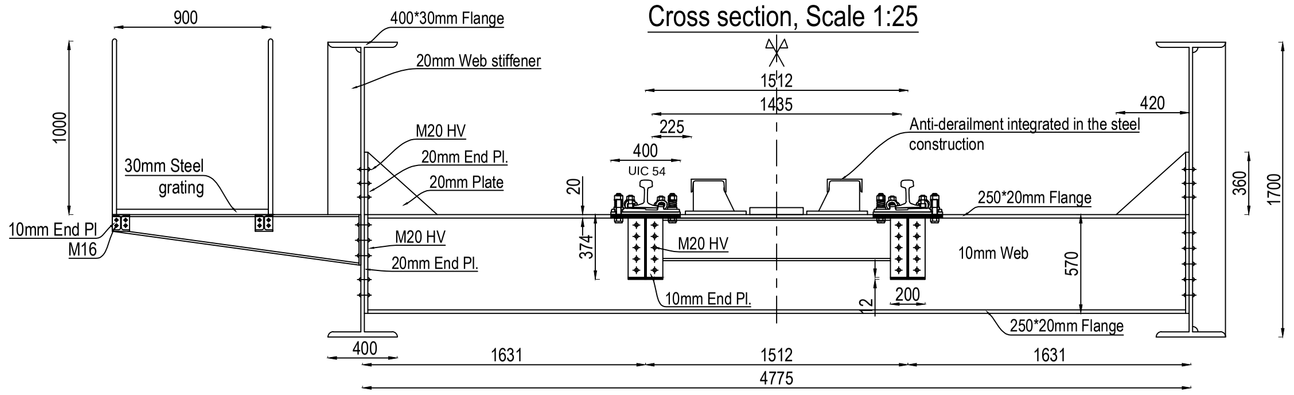
## Details of Rail System



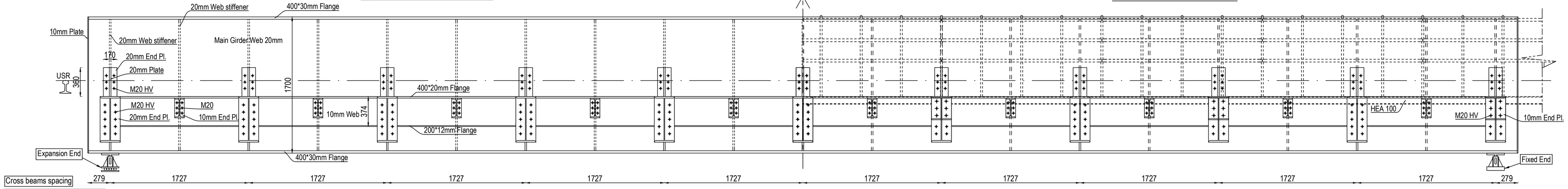

## Section at A-A




## Cross section, Scale 1:25



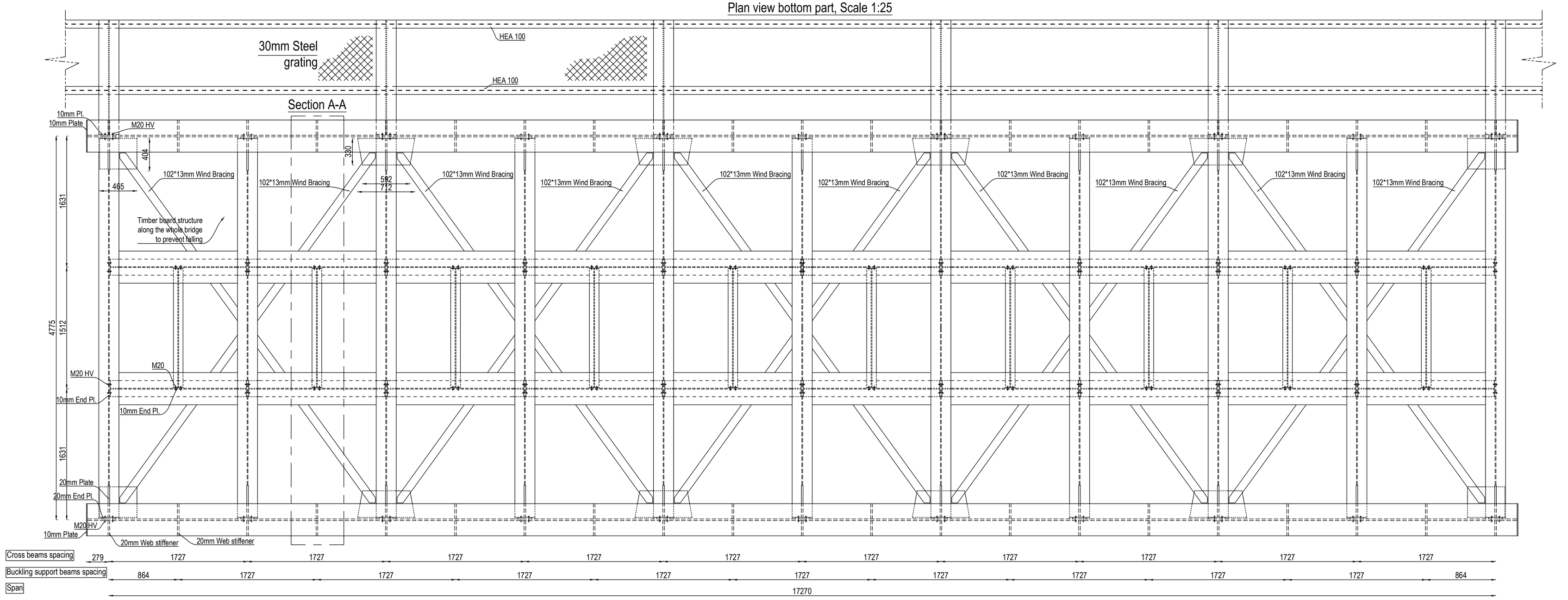

## Right side view, Scale 1:25




## Left side view, Scale 1:25




## Plan view bottom part, Scale 1:25




## MATERIALS:

| | | |
|---|---|---|
| PLATES | S355J2 +N | EN 10025-2 |
| HOLLOW SECTIONS | S355J2H | EN 10219 |
| HOT-ROLLED PROFILES | S355J2 | EN10025-1 |

ALL STEEL MATERIALS HOT-DIP GALVANIZED

FASTENING:
SHEAR / FRICTION CONNECTIONS: (HV BOLTS)

| | | |
|---|---|---|
| BOLTS | 10.9 HV | EN 14399-4 |
| NUTS | HV 10 | EN 14399-4 |
| WASHERS | HV | EN 14399-6 |

BOLTS ARE TO BE PRELOADED FOR $0,7*f_{ub}*A_s$
SURFACES SHALL BE CLEARED FOR FRICTION CONNETION

OTHER CONNECTIONS

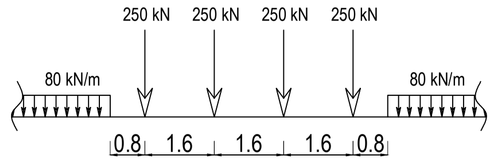
| | | |
|---|---|---|
| BOLTS | 8.8 | SFS-EN ISO 4014 |
| NUTS | GRADE 8 | SFS-EN ISO 4032 |
| WASHERS | GRADE 8 | SFS-EN ISO 7089 |

ALL FASTENING PRODUCTS HOT-DIP GALVANIZED

ESTIMATED WEIGHT OF STEEL DECK: 28000 KG X 11 PCS
SPHERICAL BEARINGS: 11PCS FIXED AND 11 PCS QUIDED SLIDING

DESIGN LOADS:
DEAD LOAD TOTAL WEIGHT 274,39 kN
+1kN/m2 ADDED FOR BRIDGE AREA

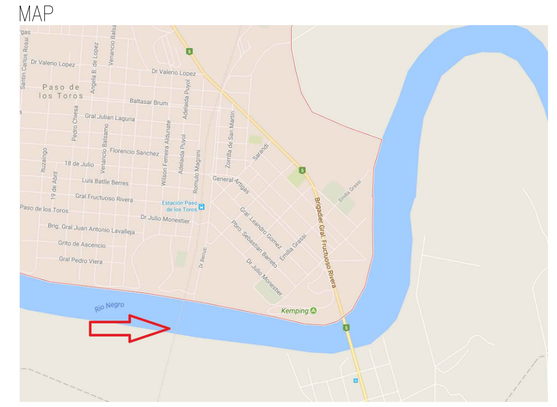
TRAIN AXLE LOAD 22,5 t = 225kN
LOAD DIAGRAM LM71-22,5




LIVE LOAD FOR WALKING PLATFORM 4kN/m2
HORIZONTAL LOAD FOR HANDRAILS 30kg/m OR POINT LOAD 1kN
WIND LOAD 1kN/m2

CLT = CENTER LINE of the TRACK
HC = HORIZONTAL CLEARANCE
LSD = LOWER SURFACE of the DECK
USR = UPPER SURFACE of the RAIL

MAP



| | | | |
|---|---|---|---|
| BRIDGETYPE | STEEL GIRDER BRIDGE | | |
| SPAN | 17,270m | | |
| HORIZONTAL CLEAR SPAN | — | VERTICAL CLEARANCE | — |
| HORIZONTAL CLEARANCE | — | | |

# Version 15.12.2017

| Revision | Explanation | Date | Designer | Date | Acceptor |
|---|---|---|---|---|---|

Owner: MINISTERIO DE TRANSPORTE Y OBRAS PÚBLICAS

Engineering: VR TRACK

Project: Railway Project

Design phase: Pre-engineering, Phase 2

Content: Rio Negro 17m
Preliminary general drawing
Km+m 264+200

| | | | |
|---|---|---|---|
| Drawer | 15.12.2017 | Vera Babiczky | |
| Designer | 15.12.2017 | Vera Babiczky | |
| Supervisor | 15.12.2017 | Mikko Ilvonen | |
| Accept. | | | |
| Cust. acc. | | | |

Loading: LM71-22,5

Coordinate and elevation reference system: -

Railway line: -

| Archive | Type | Number | Rev. | Sheet |
|---|---|---|---|---|
| - | | - | | 1 |