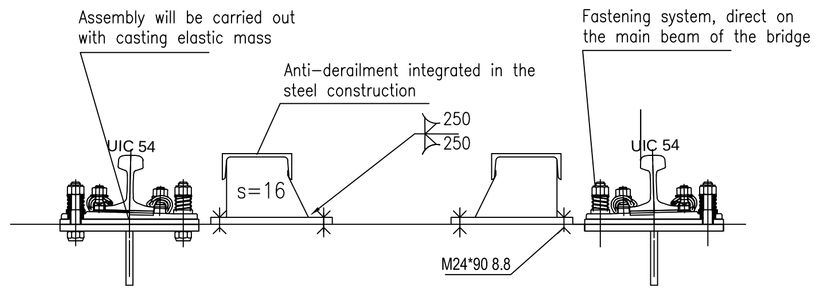
MVD - PdT

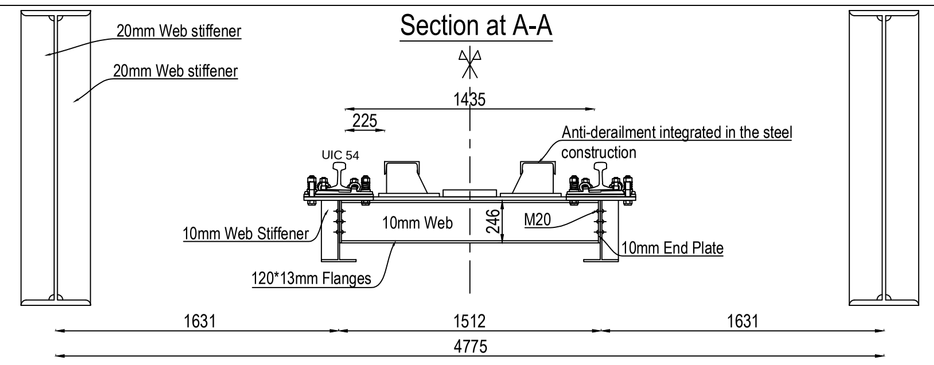
km 264+200

RIO NEGRO
STEEL GIRDER BRIDGE
18 m
PRELIMINARY GENERAL DRAWING

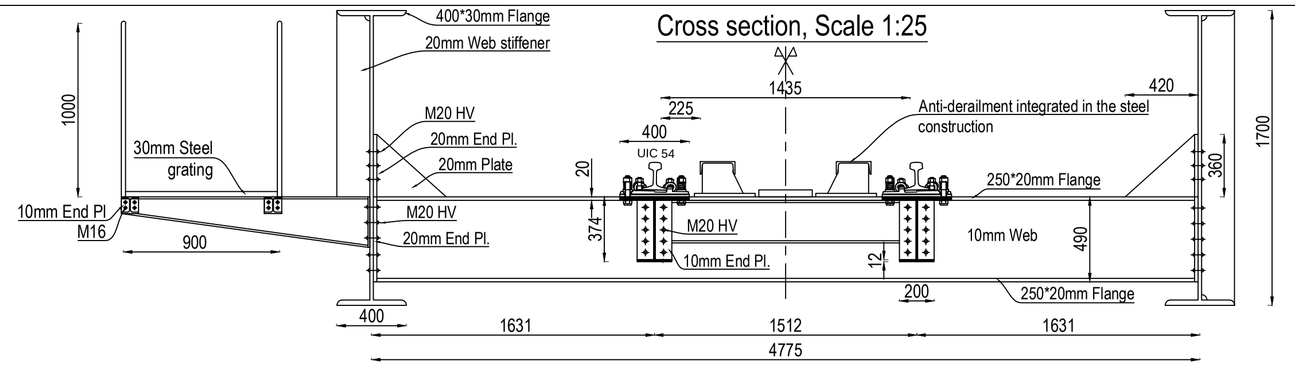
Details of Rail System



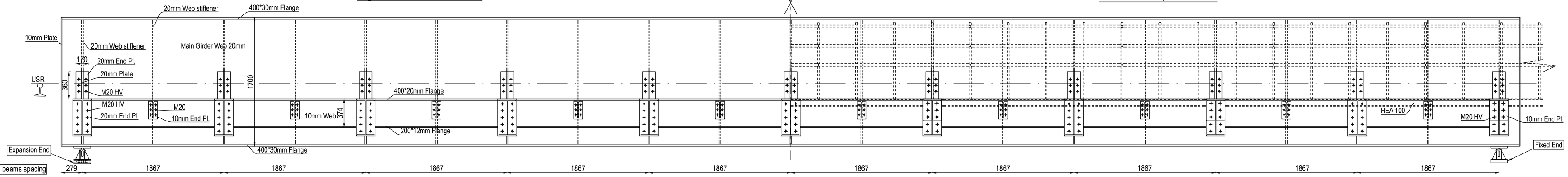
Section at A-A



Cross section, Scale 1:25



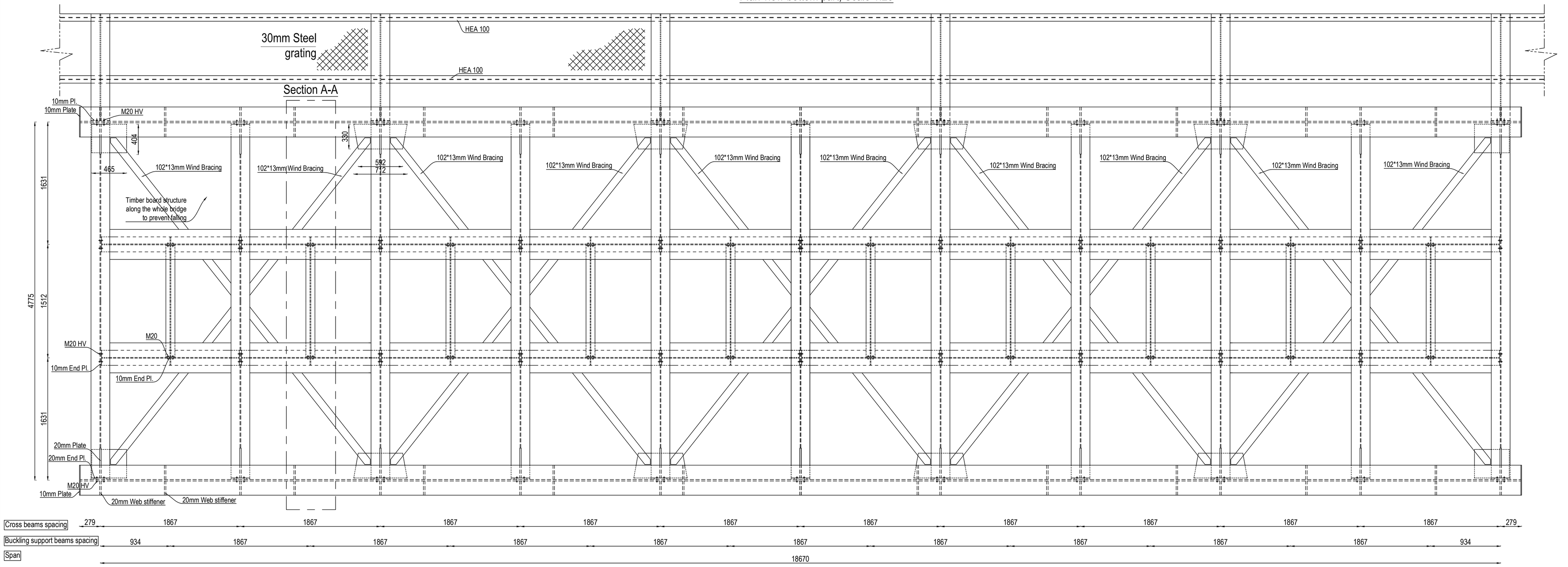
Right side view, Scale 1:25



Left side view, Scale 1:25

Cross beams spacing	279	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	
Buckling support beams spacing	934	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	934	
Span	18670																		
Full structure length	19228																		

Plan view bottom part, Scale 1:25



Cross beams spacing	279	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	279	
Buckling support beams spacing	934	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	1867	934	
Span	18670																		

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

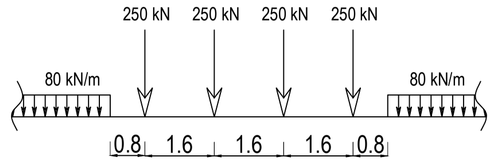
BOLTS	8.8	SFS-EN ISO 4014
NUTS	GRADE 8	SFS-EN ISO 4032
WASHERS	GRADE 8	SFS-EN ISO 7089

ALL FASTENING PRODUCTS HOT-DIP GALVANIZED

ESTIMATED WEIGHT OF STEEL DECK: 29350 KG X 11 PCS
SPHERICAL BEARINGS: 11PCS FIXED AND 11 PCS QUIDED SLIDING

DESIGN LOADS:
DEAD LOAD TOTAL WEIGHT 287.62 kN
+1kN/m2 ADDED FOR BRIDGE AREA

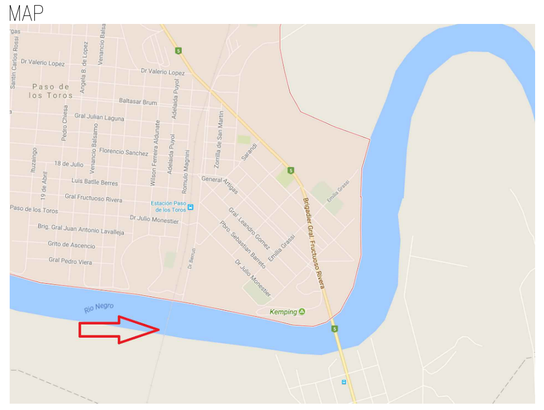
TRAIN AXLE LOAD 22,5 t = 225kN
LOAD DIAGRAM LM71-22,5



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	18,670m
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 18m
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:

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