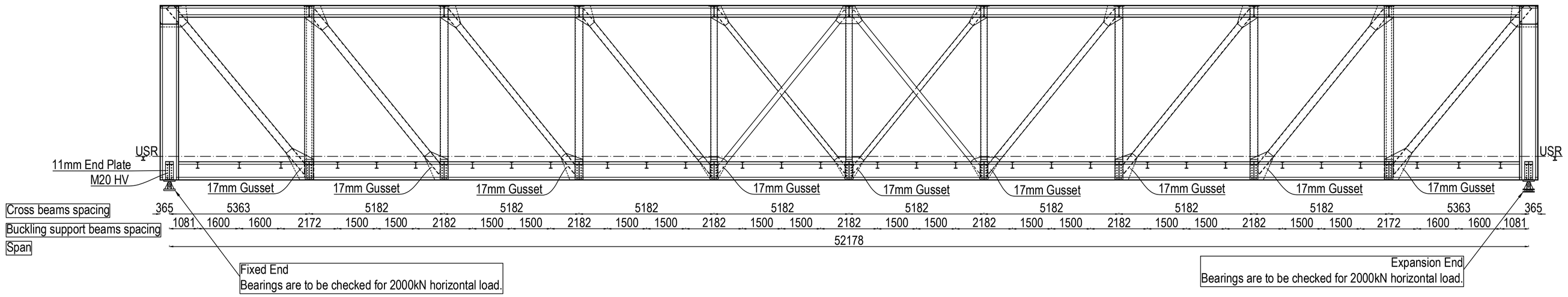
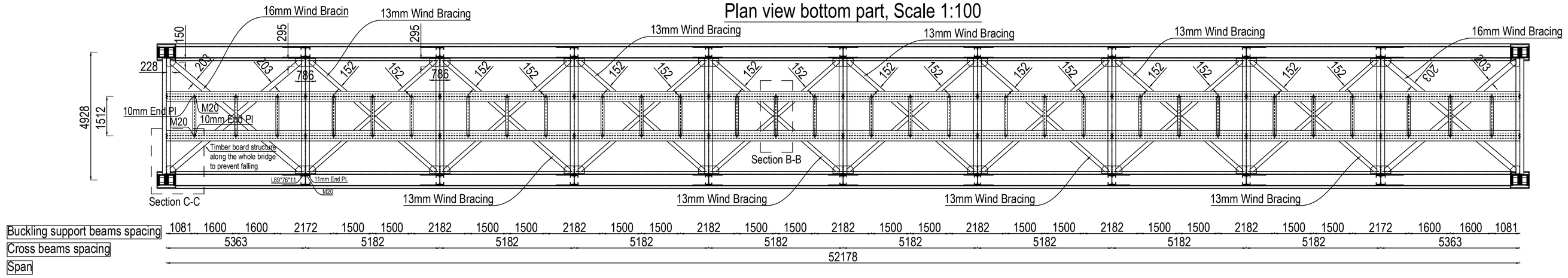
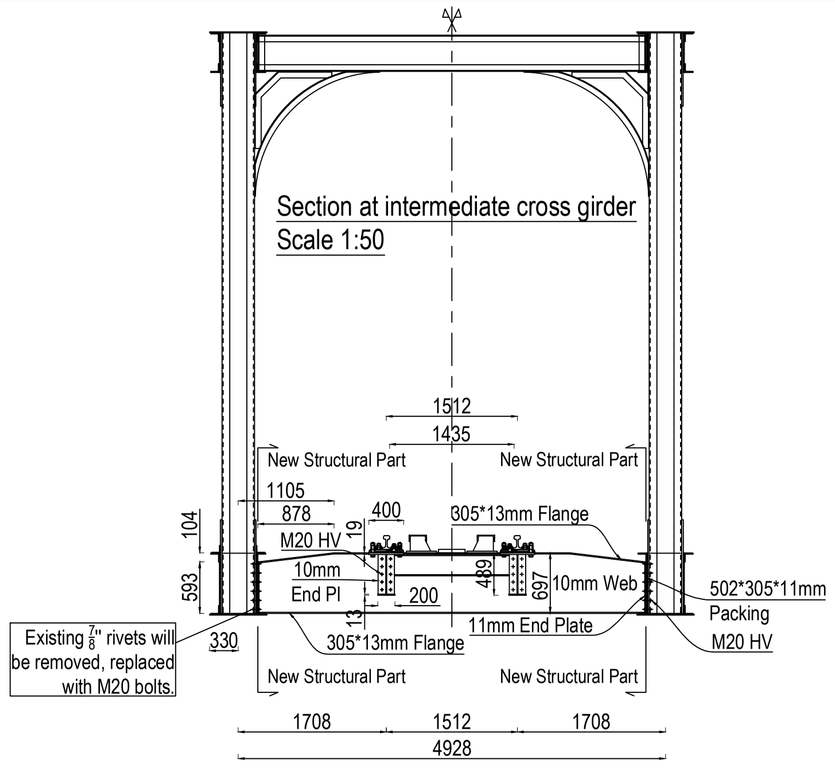
Side view, Scale 1:100



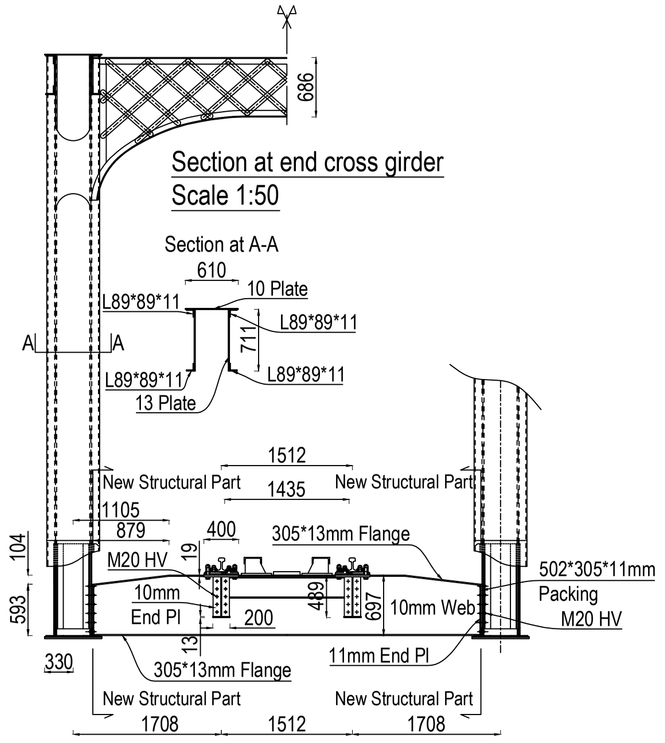
Plan view bottom part, Scale 1:100



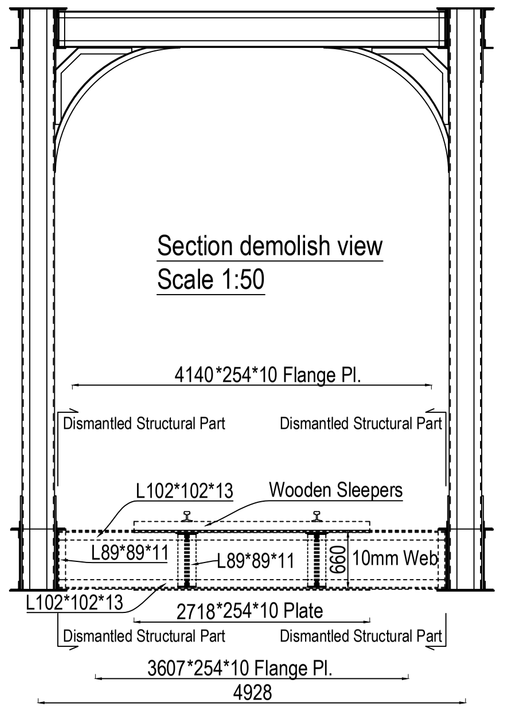
Section at intermediate cross girder
Scale 1:50



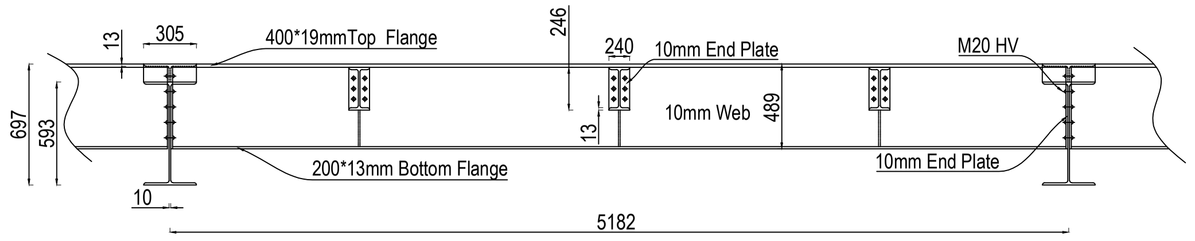
Section at end cross girder
Scale 1:50



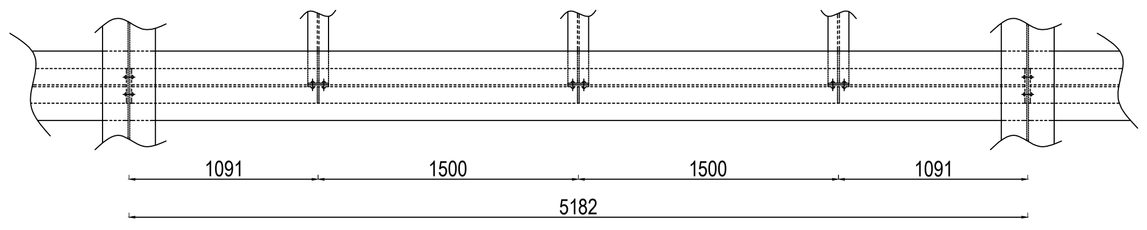
Section demolish view
Scale 1:50



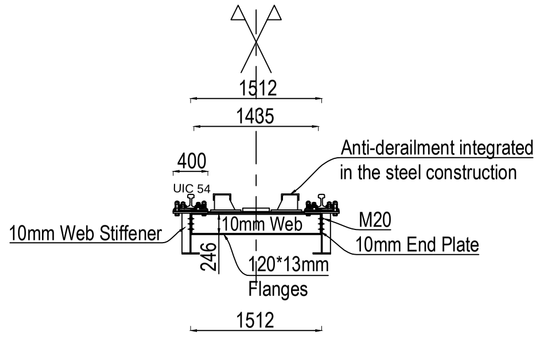
Secondary Girder - side view 1:25



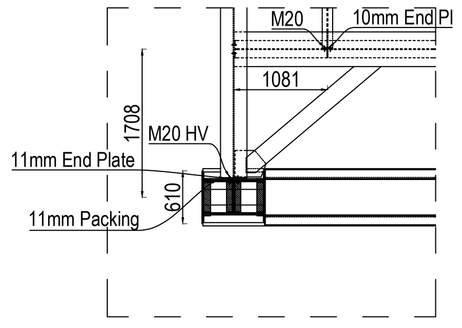
Secondary Girder - top view 1:25



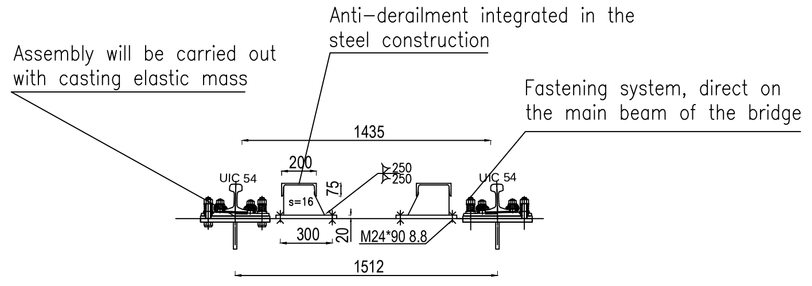
Section at B-B



Section C-C Scale 1:50



Details of Rail System



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

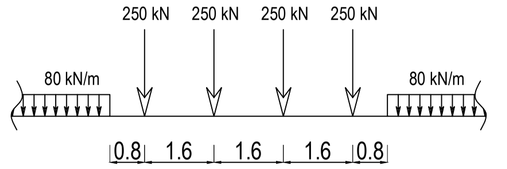
BOLTS	8.8	SFS-EN ISO 4014
NUTS	GRADE 8	SFS-EN ISO 4032
WASHERS	GRADE 8	SFS-EN ISO 7089

ALL FASTENING PRODUCTS HOT-DIP GALVANIZED

ESTIMATED WEIGHT OF NEW STEEL STRUCTURE: 20610 KG X 5 PCS
SPHERICAL BEARINGS: 5PCS FIXED AND 5 PCS QUIDED SLIDING

DESIGN LOADS:
DEAD LOAD NEW STRUCTURAL PART WEIGHT 202 kN
TOTAL WEIGHT 838.97 kN
+1kN/m2 ADDED FOR BRIDGE AREA

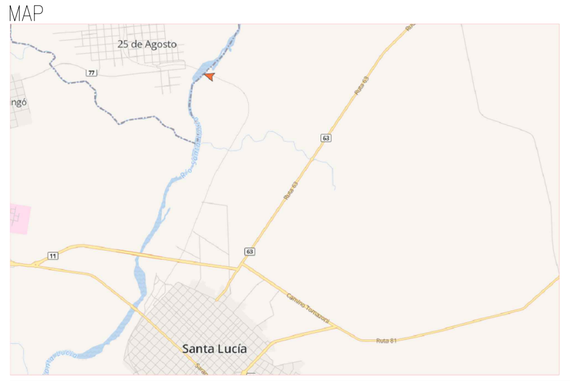
TRAIN AXLE LOAD 22,5 t = 225kN
LOAD DIAGRAM LM71-22,5



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 TRUSS BRIDGE
SPAN	52,178m
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: Santa Lucia 52m
Preliminary general drawing
Km+m 060+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