

ESTIMATED AMOUNT OF CONCRETE

PILES:	20 m <sup>3</sup>
COLUMNS:	59 m <sup>3</sup>
SUPERSTRUCTURE:	512 m <sup>3</sup>

ESTIMATED PRESTRESSING STEEL

SUPERSTRUCTURE:	23 kg/m <sup>3</sup> (CONCRETE)
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ESTIMATED REINFORCING STEEL

PILES:	2400 kg
COLUMNS:	260 kg/m <sup>3</sup> (CONCRETE)
SUPERSTRUCTURE:	125 kg/m <sup>3</sup> (CONCRETE)
TRANSITION SLABS:	325 kg/m <sup>3</sup> (CONCRETE)

PROTECTIVE CONCRETE: 3 kg/m<sup>2</sup>

CONCRETE: C35/45  
C<sub>min</sub>=40 mm

REINFORCING STEEL: B500B  
REINFORCING MESH: B500K

PILES / FOUNDATION: DRILLED PILES D610x14,2 S355J2H

TRANSITION SLABS: PREFABRICATED TRANSITION SLABS  
4 x 1.0 m x 5,0 m  
OR CAST IN SITU 4,0 m x 5,0 m  
CONCRETE C35/45

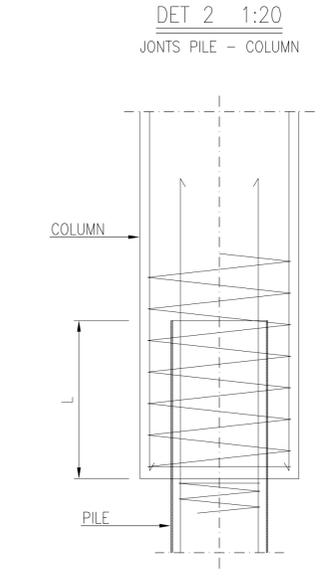
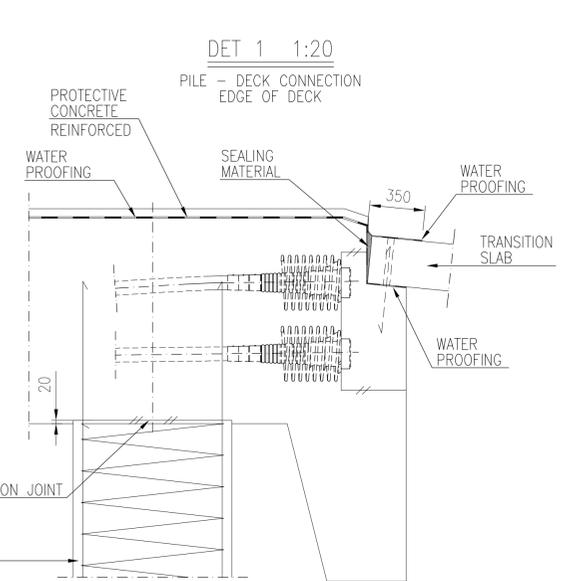
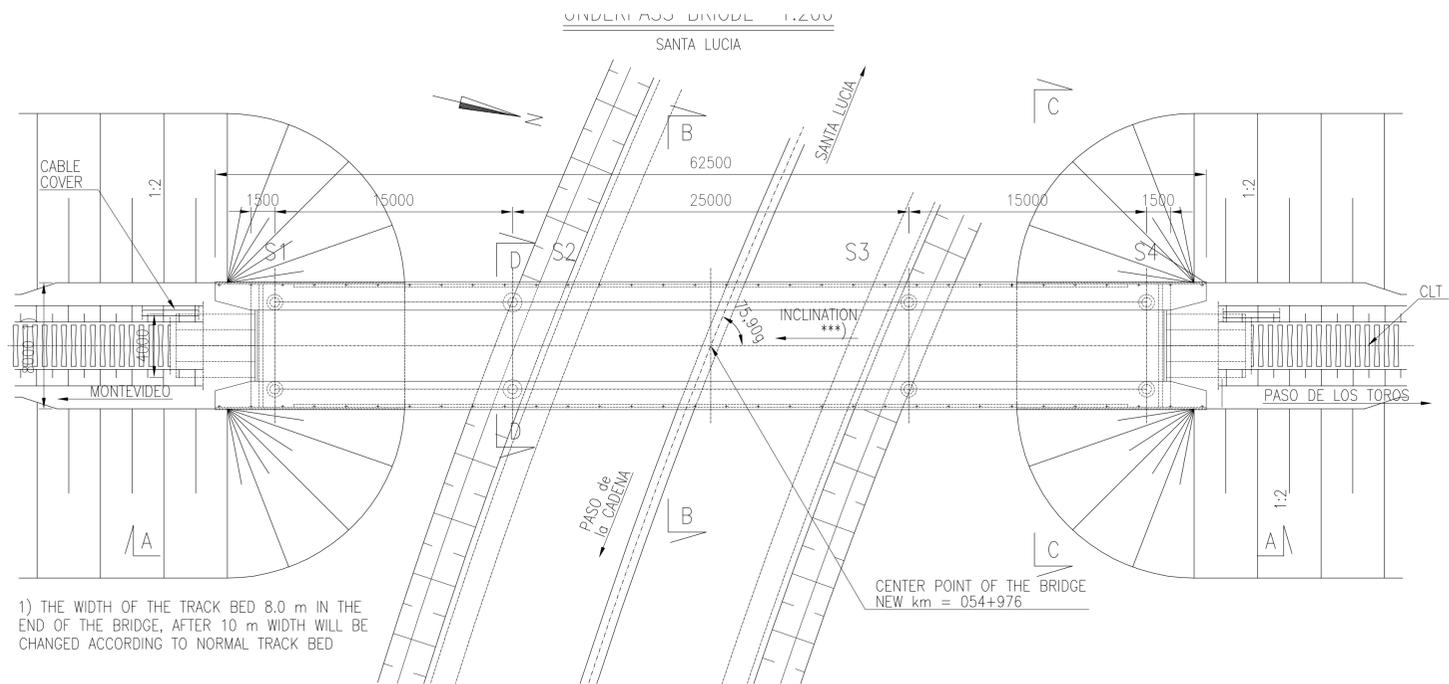
CONSTRUCTIONAL STEEL: S355 J2, HOT-DIP ZINC COATED

RAILING / FENCE: h = 1.1 m  
S355J2H  
HORIZONTAL LINE LOAD 1,0 KN/m  
VERTICAL POINT LOAD 1,0 KN

SURFACE STRUCTURE: WATER PROOFING MATERIAL 10 mm  
PROTECTIVE CONCRETE 50 mm  
BALLAST 550 mm

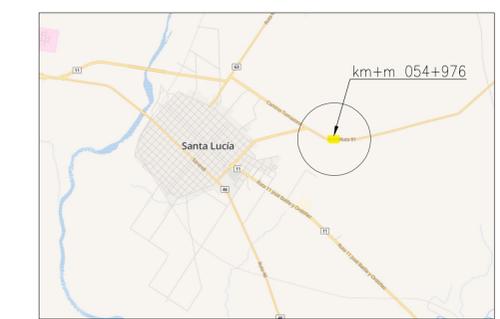
FILLING: REQUIREMENTS ACCORDING TO TRACK INTERMEDIATE LAYER

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



REINFORCING IN DECK AND PILES WILL BE DIMENSIONED IN DETAILED DESIGN PHASE

REINFORCING AND L (LENGTH OF SPLICE) WILL BE DIMENSIONED IN DETAILED DESIGN PHASE



BRIDGE TYPE	PRESTRESSED CONCRETE BRIDGE	
	CONTINUOUS CANTILEVER GIRDER	
SPANS	1.50m + 15.00m + 25.00m + 15.00m + 1.50m	
HORIZONTAL CLEAR SPAN	7.60 m	VERTICAL CLEARANCE -
HORIZONTAL CLEARANCE	7.60 m	

DRAFT  
23.10.2017

Revision	Explanation	Date	Designer	Date	Acceptor		
Customer	<b>MINISTERIO DE TRANSPORTE Y OBRAS PÚBLICAS</b>	Project <b>Railway Project</b>					
Supplier		Design phase <b>Pre-engineering, Phase 2</b>					
Drawer		Content <b>Underpass bridge Ruta 81 Preliminary general drawing Km+m 054+976</b>					
Designer		Loading LM71-25					
Supervisor		Coordinate and elevation reference system WGS 84 UTM 21					
Accept.	-	-	Archive	Type	Number	Rev.	Sheet
Cust. acc.	-	-	UP	xxxx	-	1	