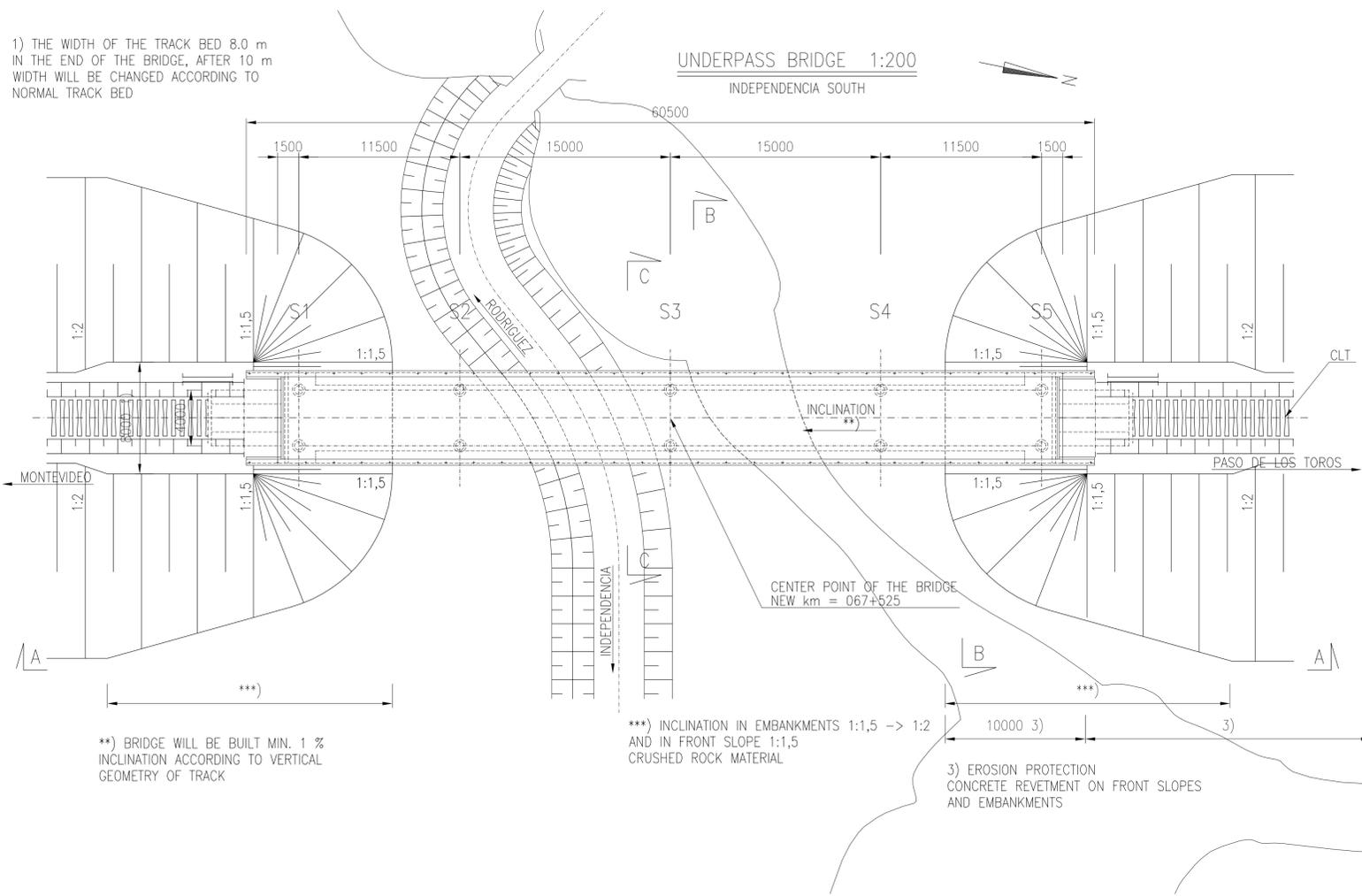


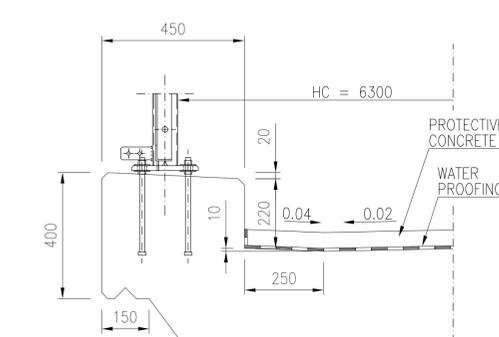
1) THE WIDTH OF THE TRACK BED 8.0 m
IN THE END OF THE BRIDGE, AFTER 10 m
WIDTH WILL BE CHANGED ACCORDING TO
NORMAL TRACK BED



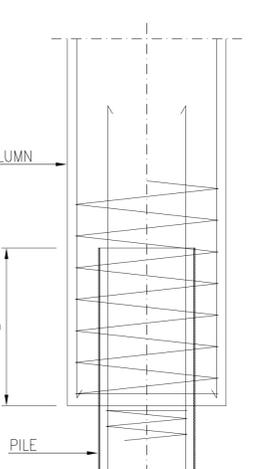
UNDERPASS BRIDGE 1:200
INDEPENDENCIA SOUTH

A - A 1:200

EDGE BEAM 1:10



DET 2 1:20
JOINTS PILE - COLUMN



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

ESTIMATED AMOUNT OF CONCRETE
PILES: 29 m³
COLUMNS: 41 m³
SUPERSTRUCTURE: 376 m³

ESTIMATED REINFORCING STEEL
PILES: 3000 kg
COLUMNS: 260 kg/m³ (CONCRETE)
SUPERSTRUCTURE: 180 kg/m³ (CONCRETE)
TRANSITION SLABS: 325 kg/m³ (CONCRETE)

PROTECTIVE CONCRETE: 3 kg/m²

CONCRETE: C35/45
C_{min}=40 mm

REINFORCING STEEL: B500B
REINFORCING MESH: B500K

PILES / FOUNDATION: DRILLED PILES D610x14,2 S355J2H

TRANSITION SLABS: PREFABRICATED TRANSITION SLABS
2 x 4 x 1.0 m x 5.0 m
OR CAST IN SITU 2 x 4.0 m x 5.0 m
CONCRETE C35/45

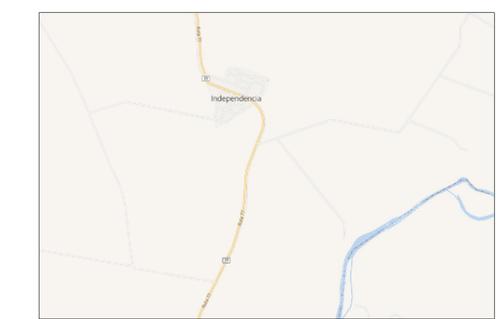
CONSTRUCTIONAL STEEL: S355 J2, HOT-DIP ZINC COATED

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

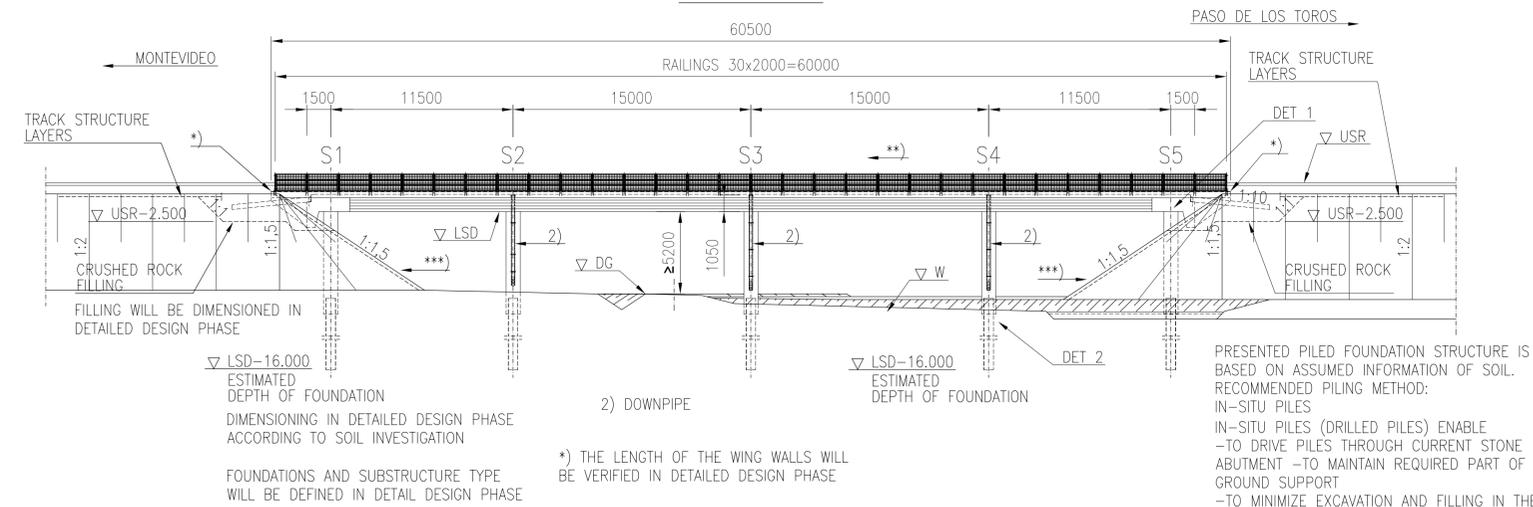
FILLING: REQUIREMENTS ACCORDING TO TRACK INTERMEDIATE LAYER

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



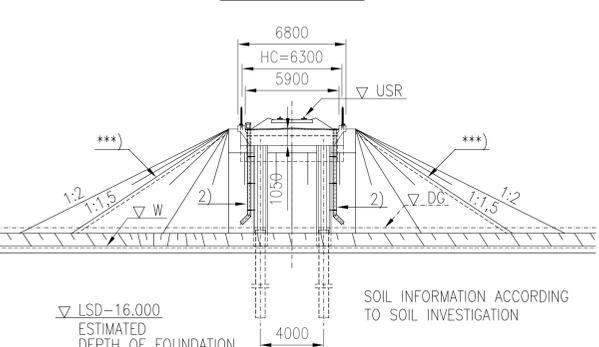
BRIDGE TYPE	REINFORCED CONCRETE BRIDGE
	CONTINUOUS CANTILEVER PLATE
SPANS	1.50m + 11.50m + 2x15.00m + 11.50m + 1.50m
HORIZONTAL CLEAR SPAN	—
VERTICAL CLEARANCE	—
HORIZONTAL CLEARANCE	6.30 m

VERSION
15.12.2017

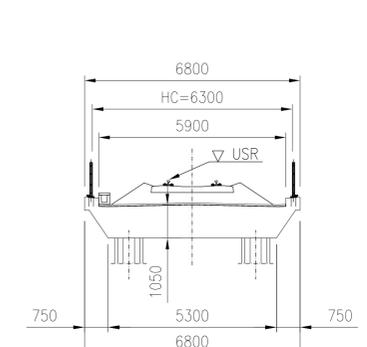


PRESENTED PILED FOUNDATION STRUCTURE IS
BASED ON ASSUMED INFORMATION OF SOIL.
RECOMMENDED PILING METHOD:
IN-SITU PILES
IN-SITU PILES (DRILLED PILES) ENABLE
-TO DRIVE PILES THROUGH CURRENT STONE
ABUTMENT -TO MAINTAIN REQUIRED PART OF
GROUND SUPPORT
-TO MINIMIZE EXCAVATION AND FILLING IN THE END
OF THE BRIDGE
-TO SHORTEN THE NEEDED CONSTRUCTION TIME

B - B 1:200



C - C 1:100



Revision	Explanation	Date	Designer	Date	Acceptor
Customer	Project: Railway Project				
		MINISTERIO DE TRANSPORTE Y OBRAS PÚBLICAS Design phase: Pre-engineering, Phase 2 Content: Underpass bridge Independencia South Preliminary general drawing Km+m 067+525			
		Supplier: VR TRACK Loading: LM71-25 Coordinate and elevation reference system: WGS 84 UTM 21 Railway line:			
Drawer	12.12.2017	Ilkka Tiito	Loading: LM71-25		
Designer	12.12.2017	Ilkka Tiito	Coordinate and elevation reference system: WGS 84 UTM 21		
Supervisor	12.12.2017	Reima Nikander	Railway line:		
Accept.	-	-	Archive	Type	Number
Cust. acc.	-	-	UP	xxxx	1