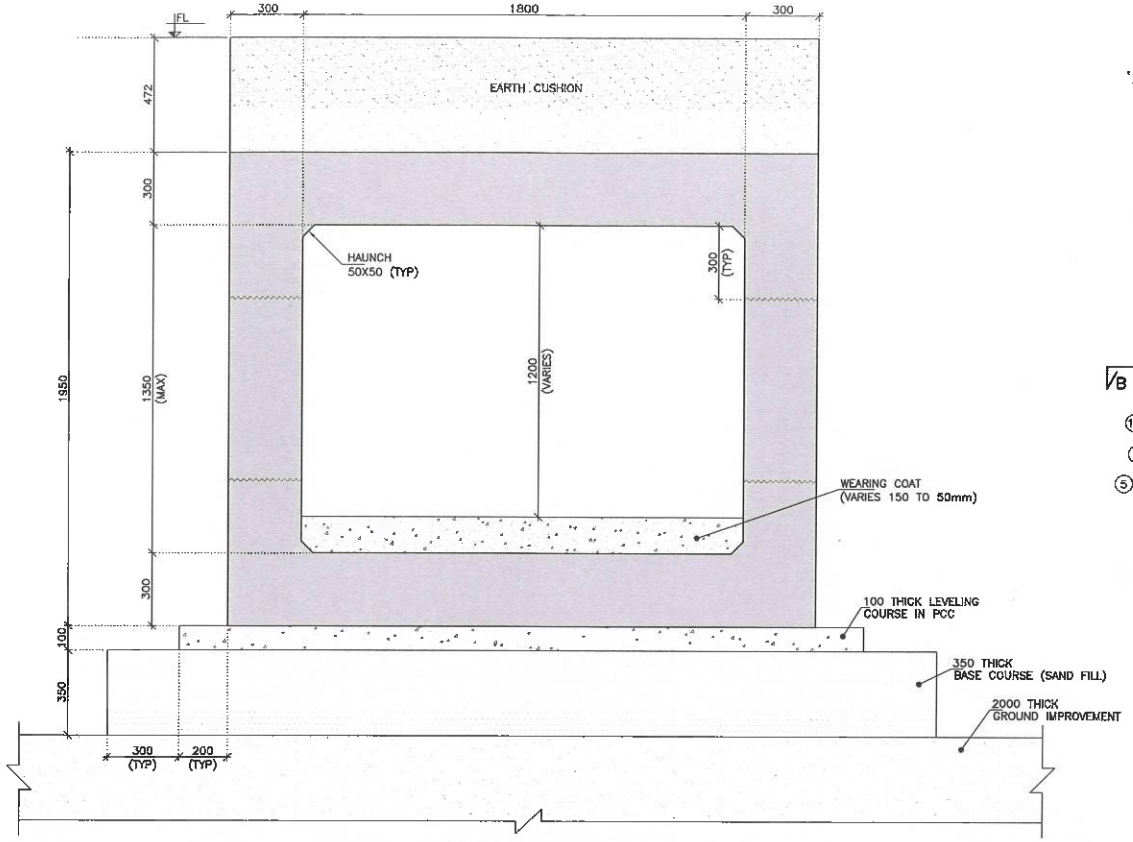
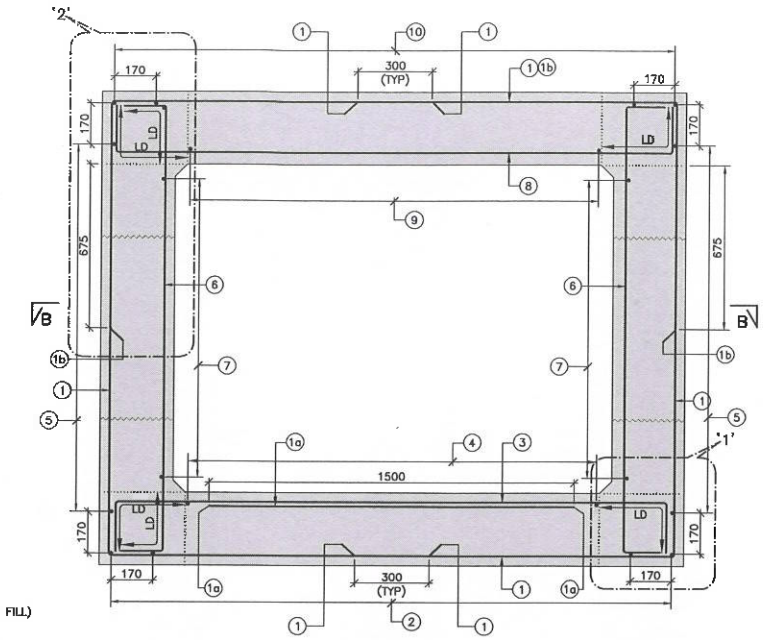
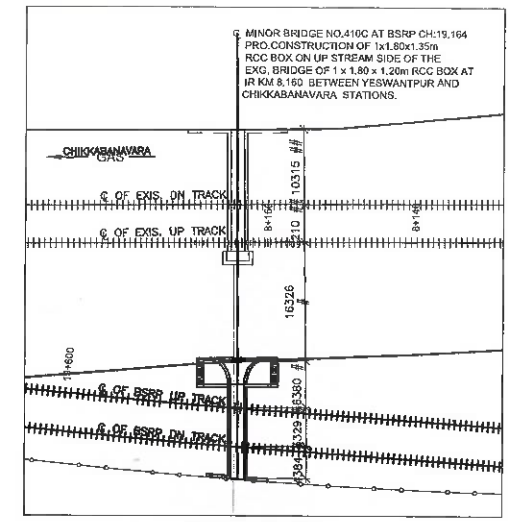


SECTION A–A
DIMENSIONAL DETAILS
(SCALE 1:15)



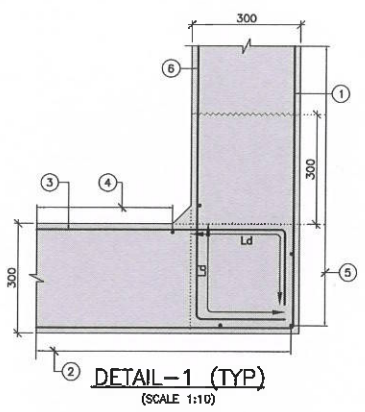
SECTION A–A
REINFORCEMENT DETAILS
(SCALE 1:15)



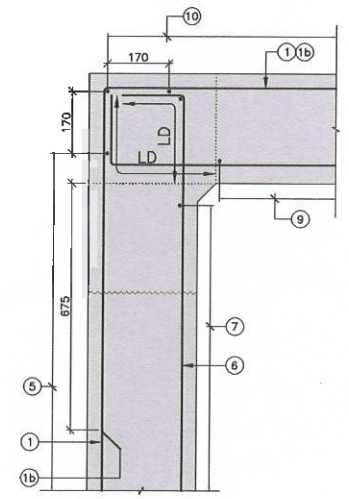
KEY PLAN
(SCALE 1:500)

Structural Design Proof - Checked and Found Satisfactory

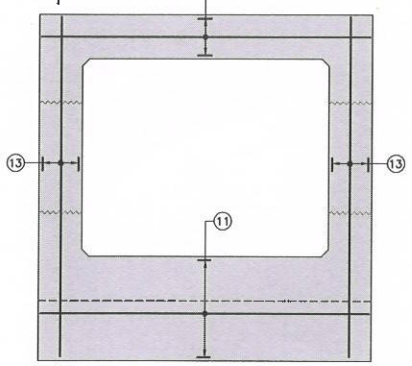
Dr. A. MEHER PRASAD
Professor
Department of Civil Engineering
Indian Institute of Technology Madras
Chennai - 600 036, India



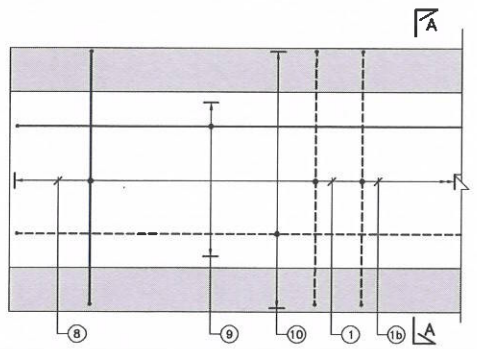
DETAIL–1 (TYP)
(SCALE 1:10)



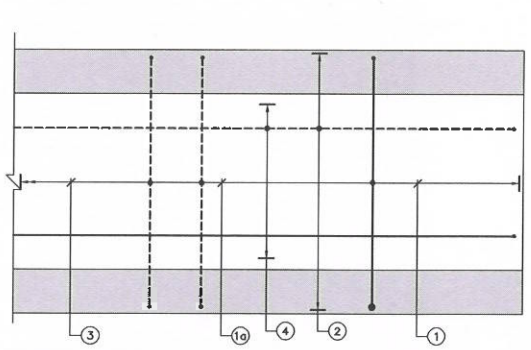
DETAIL–2 (TYP)
(SCALE 1:10)



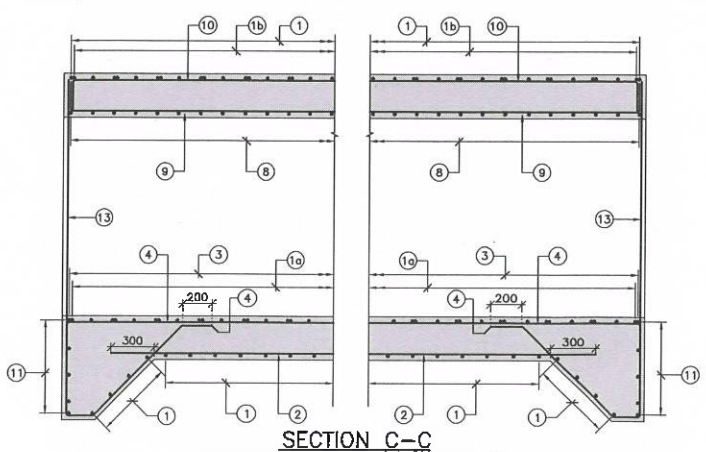
END FACE VIEW
REINFORCEMENT DETAILS
(OTHER REINF. NOT SHOWN FOR CLARITY)
(SCALE 1:25)



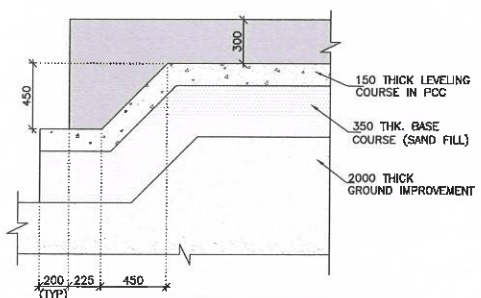
PLAN SHOWING TOP SLAB REINFORCEMENT
(SCALE 1:25)
(ONLY TOP SLAB REINFORCEMENT SHOWN FOR CLARITY)



PLAN SHOWING BOTTOM SLAB REINFORCEMENT
(SCALE 1:25)
(ONLY BOTTOM SLAB REINFORCEMENT SHOWN FOR CLARITY)



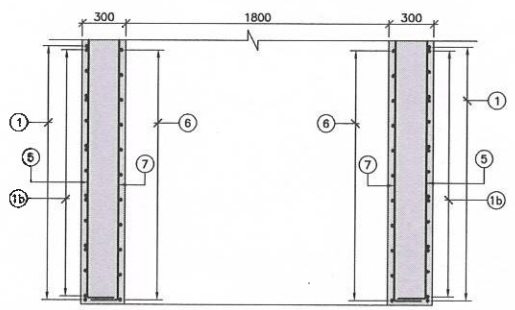
SECTION C–C
REINFORCEMENT DETAILS OF
SHEAR KEY AT BASE SLAB
(SCALE 1:25)



DIMENSIONAL DETAILS
OF SHEAR KEY AT BASE SLAB
(SCALE 1:25)

SCHEDULE OF REINFORCEMENT

ITEM	BAR MARK	BAR DIA.	SHAPE	TOTAL NOS./ SPACINGS	REMARKS
	①	ϕ12		@ 170 c/c	
	⑩	ϕ12	1500	@ 340 c/c	ALT. BUNDLED WITH ③
	⑪	ϕ10		@ 340 c/c	ALT. BUNDLED WITH ①
	②	ϕ8	M	@ 170 c/c	M = 150
	③	ϕ12		@ 170 c/c	
	④	ϕ8		@ 170 c/c	
	⑤	ϕ8	M	@ 170 c/c	M = 150
	⑥	ϕ12		@ 170 c/c	
	⑦	ϕ8	M	@ 170 c/c	M = 150
	⑧	ϕ16		@ 170 c/c	
	⑨	ϕ8	M M	@ 170 c/c	M = 150
	⑩	ϕ8	M M	@ 170 c/c	M = 150
	⑪	ϕ12		@ 170 c/c	
	⑫	ϕ10		2x3 NOS.	EACH FACE
	⑬	ϕ10		2x2x3 NOS.	EACH FACE



PART SECTIONAL PLAN B–B
(SCALE 1:25)

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES. LEVELS AND CHAINAGE ARE IN METRES UNLESS SPECIFIED OTHERWISE.
2. FOLLOW FIGURED DIMENSIONS ONLY DO NOT SCALE THE DRAWING.
3. GRADE OF CONCRETE SHALL BE – M30 FOR BOX ; M15 FOR PCC.
4. GRADE OF STEEL SHALL BE Fe–500 CONFORMING TO IS:1786–2008.
5. MINIMUM CLEAR COVER TO REINFORCEMENT SHALL BE 50MM
6. DEVELOPMENT LENGTH REPRESENTED BY Ld SHALL BE EQUAL TO 46 TIMES THE DIA OF BAR
7. LAP LENGTH SHALL BE EQUAL TO 64 TIMES THE DIA OF BAR.
8. LAPPING OF BARS SHALL BE SUITABLY STAGGERED AND IN NO CASE MORE THAN 50% BARS SHALL BE LAPPED AT ANY SECTION.
9. PARAMETERS CONSIDERED FOR DESIGN:–
   a) ANGLE OF INTERNAL BACKFILL — ϕ = 30°
   b) COHESION OF BACKFILL — C = 0
   c) WALL FRICTION ANGLE — δ = 10°
   d) SATURATED DENSITY OF BACKFILL — γ = 20kN/m³
   e) FRICTION COEFFICIENT BETWEEN SOIL AND CONCRETE — μ = TAN ϕ
   f) DESIGNED FOR 25T AXIAL LOAD 2008 – STD
10. NECESSARY SOIL STABILISATION SHALL BE DONE CONSIDERING ACTUAL TYPE OF SOIL BELOW BASE OF BOTTOM SLAB.
11. MATTER SHALL BE REFERRED TO CONSULTANT IN CASE THE STRATUM OBSERVED AT BOTTOM SLAB IS DIFFERENT THAN THAT MENTIONED IN CORRESPONDING BORE LOG.
12. LAP SHALL BE PROVIDED AS PER CL.16.9.6.5 OF IRS CBC CODE.

LEGEND:

THK. — THICKNESS
PCC — PLAIN CEMENT CONCRETE
TYP — TYPICAL
℄ — CENTER LINE
FL — FORMATION LEVEL
– – – – TOP REINFORCEMENT
——— BOTTOM REINFORCEMENT

REFERENCE:

1. DESIGN DOCUMENT NO :– DOC–BSRP–CR2–AG–DGN–BR–20–1559
2. GENERAL ARRANGEMENT DRAWING No:– 022077–BSRP–CR2–C–NB–0–20–1186
3. GIR NO. :– DOC–BSRP–CR2–AG–DGN–BR–20–1156

SI NO	ALTERATION NO	DESCRIPTION	SIGNATURE OF OFFICER

DETAILED DESIGN CONSULTANT (DDC)		
PREPARED BY	CHECKED BY	APPROVED BY
SSD	BYM	ADR

HQ/SWR/UBL	
JE/BRIDGE/HQ	
AXEN/BRIDGE/HQ	
Dy.CE/BR/HQ	
CBE/SWR	

SBC DIVISION	
Sr.DEN/N/SBC	Sri.PUSHPENDRA KUMAR
Sr.DEN/SBC	Sri.RAJIVE SHARMA
ADRM/T/SBC	Sri.LAKSHMAN SINGH
DRM/SBC	Sri.SHYAM SINGH

DESIGN DIRECTOR (L&T)	
PROJECT MANAGER (L&T)	
PROJECT DIRECTOR (GC)	
Add.GM/Civil/PROJECTS (K RIDE)	
GM/CIVIL/PROJECTS (K RIDE)	

EMPLOYER :
RAIL INFRASTRUCTURE DEVELOPMENT COMPANY (KARNATAKA) LIMITED

GENERAL CONSULTANTS:
EGIS-AECOM-WSP

CONTRACTOR :
L&T CONSTRUCTION

PROOF COUNSULTANT :
INDIAN INSTITUTE OF TECHNOLOGY MADRAS
IIT P.O., Chennai 600 036,
INDIA

DETAILED DESIGN CONSULTANT (DDC) :
L&T CONSTRUCTION
EDRC-SPECIAL BRIDGES - TIIC

STUP Consultants Pvt. Ltd.
JP & Devi Ambalalbhai Arcade
80, 4th Floor,
Millers Road, Bangalore-560052.
Tel.: 080-49397979
Email : bangalore@assystem.com
www.assystem.com

LOADING STANDARD
A) PRO.BRIDGE:25T–AXLE LOAD 2008 STD

DIMENSIONAL AND REINFORCEMENT DETAILS

BENGALURU SUBURBAN RAILWAY PROJECT(BSRP)
BETWEEN STATIONS YESHWANTPUR AND CHIKKABANAVARA

PRO. CONSTRUCTION OF MINOR BRIDGE No. 410 C
AT CH:19.164 OF 1 x 1.80 X 1.35m

HQ.DRG.NO:

SCALE - AS SHOWN

O22077-BSRP-CR2-C-NB-0-20-1187-A