

4. ALL DIMENSIONS ARE IN MILLIMETERS, LEVELS ARE IN METRE AND CHANGES ARE IN MM UNLESS OTHERWISE MENTIONED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED. DRAWING SHALL NOT BE CALLED.
5. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS.
6. GRADE OF CONCRETE FOR VARIOUS STRUCTURES SHALL BE AS FOLLOWS:

FOUNDATION	M25
BOX CELL & ITS FOUNDATION	M35
BOX CELL STRUCTURES	M40
APPROACH SLAB	M40
CURTAIN WALLS	M25
CC L/S	LEAN CONCRETE
7. ALL REINFORCEMENTS SHALL BE OF TYPING MECHANICALLY TREATED (TR) OR HIGH TENSILE STEEL (HTS) DEFORMED BARS (GRADE DESIGNATION IS-505). CONFORMANCY IS TO : IS: 1786-1987.
8. THE SELECTED FATH PILING SHALL HAVE FOLLOWING PROPERTIES:

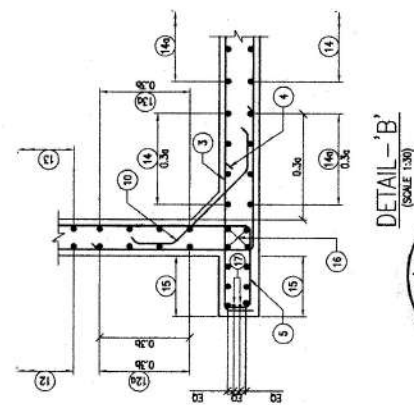
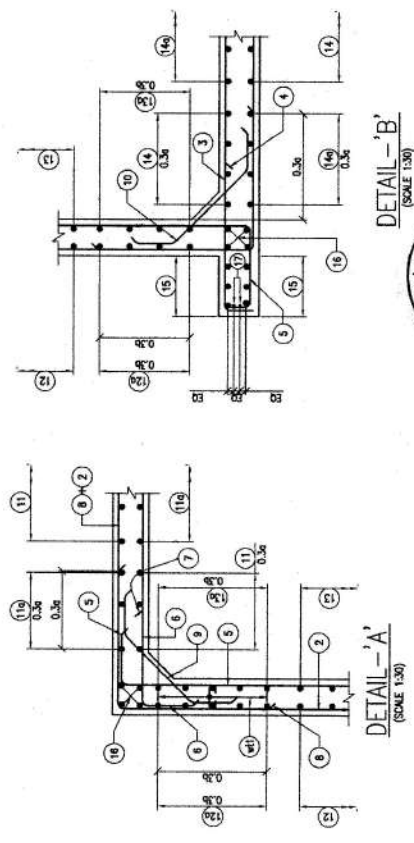
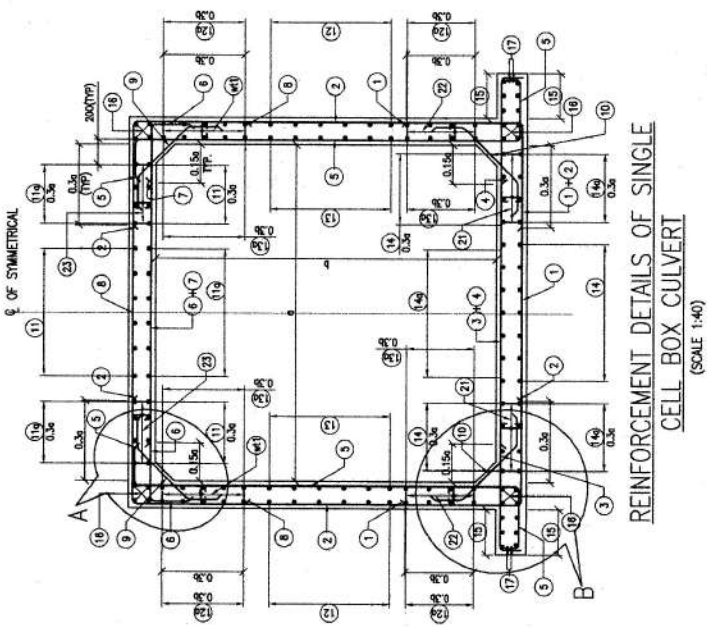
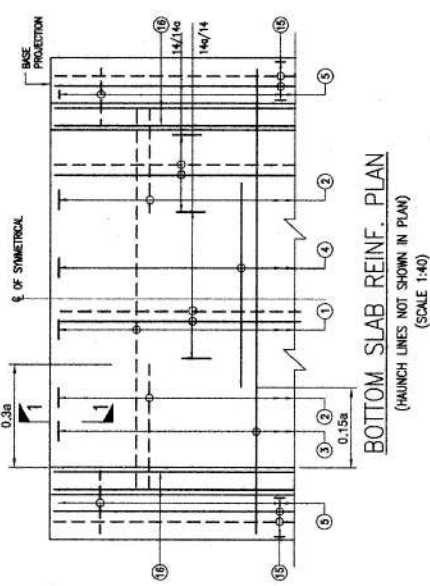
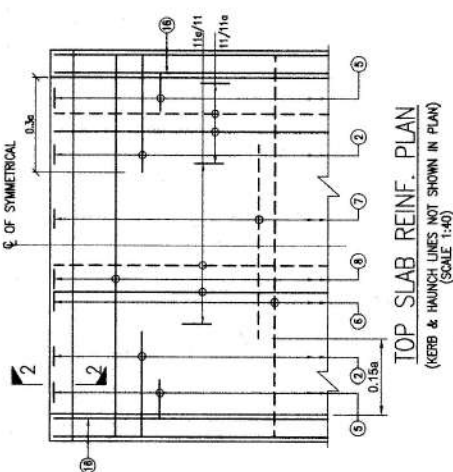
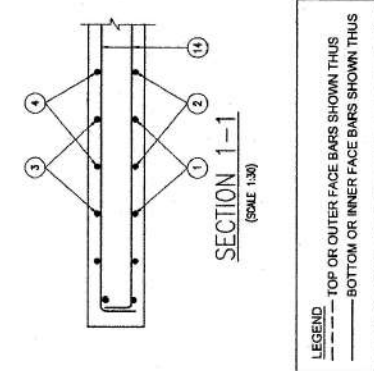
$\phi = 22$ cm	$\rho = 7850$ kg/m <sup>3</sup>
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9. BACKFILL BEHIND BOTH SIDE WALLS AND ON BOTH SIDES OF CURTAIN WALL SHALL BE DONE SIMULTANEOUSLY.
10. THE SAFE BEARING CAPACITY CONSIDERED IN DESIGN IS  $\sigma_{\text{net}} = 0.75 \sigma_{\text{net}}^{\text{DESIGN}}$ . EARTH SHALL BE COMPACTED TO PROCTOR DENSITY 95% TO THE FULL DEPTH OF BEARING CAPACITY OF FOUNDATION STRATA.

7. THE SAFE BEARING CAPACITY CONSIDERED IN DESIGN IS 10704 N/CM<sup>2</sup>. EARTH SHALL BE COMPACTED TO PROCTOR DENSITY 95% TO ENHANCE THE BEARING CAPACITY OF FOUNDATION STRATA.
8. LOWEST RED LEVEL SHALL BE VERIFIED PRIOR TO COMMENCEMENT OF CONSTRUCTION. VARIATION IF ANY SHALL BE REPORTED TO THE ENGINEER FOR APPROPRIATE ACTION.
9. U/S IS SHOWN IN RIGHT SIDE OF THE DRAWING. EXISTING DRAINAGE, A GULLY AND IN ROAD DRAINAGE IS TO BE TAKEN AS PER U/S SHOWN IN DRAWING.
10. PROVIDE 100 X 100 STEEL BOLTS & 600 THICK FILTER MEDIA @ 1000mm PER SQ. METRE AREA. INACCURACY OF BOLT/THROUGHT IS MORE THAN 2.5M.

i) PCL - PROPOSED CENTRE LINE  
ii) FRL - FINISHED ROAD LEVEL  
iii) LBL - LOWEST BED LEVEL  
iv) FL - FLOODING LEVEL

REGIONAL GOVERNMENT		PROJECT: FOUR LANE OF JALAN DENSON SECTION FROM KEMAS TO GEDONG BONG ROAD TO KEMAS BONG ROAD TO KEMAS BONG	DESIGN OFFICE: <i>Park</i>	ARCHITECT: <i>SKA</i> 	SURVEY CONSULTANT: <i>SKA</i> 	ARCHITECT: <i>Van Leader</i> Vinyan P. O. H. N. P. L. Singapore, Assam	AS SHOWN:	DATE: JUNE 2003 REVISION: 01
							PREPARED: <i>Van Leader</i> DESIGNED: <i>Van Leader</i> CHECKED: <i>Van Leader</i> APPROVED: <i>Van Leader</i>	TITLE: GENERAL ARRANGEMENT DRAWING SINGLE CELL ROY ROY CULVERT ATCH. 310-310

SCHEDULE OF REINFORCEMENT		
RCC BOX CULVERT		
BAR MARK	PROPOSED CHANGE OF BOX CULVERT	WITH 2.5M COUSION
REINFORCEMENT DETAILS	SHAPE OF BARS (NOT TO SCALE)	
1	12 $\phi$ 200 C/C	
2	12 $\phi$ 200 C/C	
3	12 $\phi$ 200 C/C	
4	12 $\phi$ 200 C/C	
5	12 $\phi$ 200 C/C	
6	12 $\phi$ 200 C/C	
7	10 $\phi$ 200 C/C	
8	12 $\phi$ 200 C/C	
9	10 $\phi$ 200 C/C	
10	10 $\phi$ 200 C/C	
11	8 $\phi$ 200 C/C	
12	8 $\phi$ 150 C/C	
13	8 $\phi$ 200 C/C	
14	8 $\phi$ 150 C/C	
15	8 $\phi$ 200 C/C	
16	8 $\phi$ 150 C/C	
17	4X4=16Nos. 10 dia	
18	2X2=4Nos. 10 dia	
19	NOT USED	
20	16 $\phi$ 200 C/C	
21	8 $\phi$ 200 C/C	
22	NOT USED	
23	8 $\phi$ 200 C/C	



- NOTES**
1. ALL DIMENSIONS ARE IN METERS, LEVELS ARE IN METRE AND CHANGES ARE IN KM UNLESS OTHERWISE MENTIONED. ONLY
  2. UNLESS OTHERWISE SPECIFIED, ALL REINFORCEMENT SHALL BE IN ACCORDANCE WITH IS 456:2000 AND IS 1786:1985.
  3. GRADE OF CONCRETE FOR VARIOUS STRUCTURES SHALL BE AS FOLLOWS:
  4. APPROACH SLAB
  5. CURB WALL
  6. RCC LEAN CONCRETE BELOW FOUNDATION
  7. ALL REINFORCEMENTS SHALL BE OF THERMO MECHANICALLY TREATED (TMT) OR HYDROCHLORIC ACID TREATED (HAT) BARS (GRADE AS PER IS 1786:1985) CONFORMING TO IS: 1786-1985.
  8. THE SELECTED EARTH FILLING SHALL HAVE FOLLOWING PROPERTIES:  $\rho > 37$ ,  $c = 0.4$ ,  $\phi = 18^\circ$ ,  $\gamma = 18$  kN/m<sup>3</sup>.
  9. THE SAFE BEARING CAPACITY SHOWN IN TABLE. EARTH SHALL BE COMPACTED TO PROCTOR DENSITY 95% TO ENHANCE THE BEARING CAPACITY OF FOUNDATION STRATA. IT NEED TO BE CONFIRMED AT SITE BEFORE CONSTRUCTION.
  10. MINIMUM ANCHORAGE LENGTH OF REINFORCEMENT SHALL BE 34d, WHERE d IS THE DIAMETER OF THE BAR.
  11. MINIMUM LAP LENGTH OF REINFORCEMENT SHALL BE 34d, WHERE d IS THE DIAMETER OF THE BAR.
  12. REINFORCEMENT SHALL BE LAPPED AT ANY LOCATION UNLESS OTHERWISE SHOWN.
  13. CLEAR COVER TO REINFORCEMENT SHALL BE AS FOLLOWS:
 

FOUNDATION	75mm
WALL	40mm
SLAB	25mm
TOP OR BOTTOM FACE	40mm
TOP OR BOTTOM FACE	40mm
  14. LOWEST BED LEVEL SHALL BE VERIFIED PRIOR TO COMMENCEMENT OF CONSTRUCTION. VARIATION OF ANY SHALL BE REPORTED TO THE ENGINEER FOR MODIFICATION OF DESIGN.
  15. PROVIDE GEOTECHNICAL DRAWING & 100M DEEP HOLES  $\phi$  1 HOLE PER 50M AREA IN STAGGERED MANNER IN RCC SOLID ABUTMENT, RETURN WALLS IN ONE OR TWO LAYERS ABOVE LEL.
  16. THE REINFORCEMENT SHALL BE PROVIDED FOR DRAINAGE AND BACK FILLING BEHIND ABUTMENTS/RETURN WALLS SHALL BE DONE.
  17. EXPOSURE CONDITION-SEVERE.

**bridge Engineer**  
**VSPL, Sivasegar**



