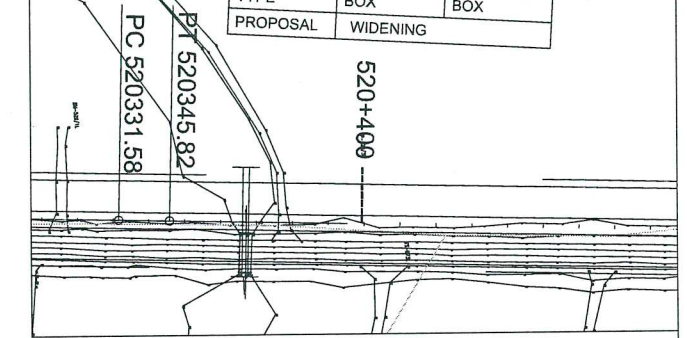


GOOD FOR CONSTRUCTION

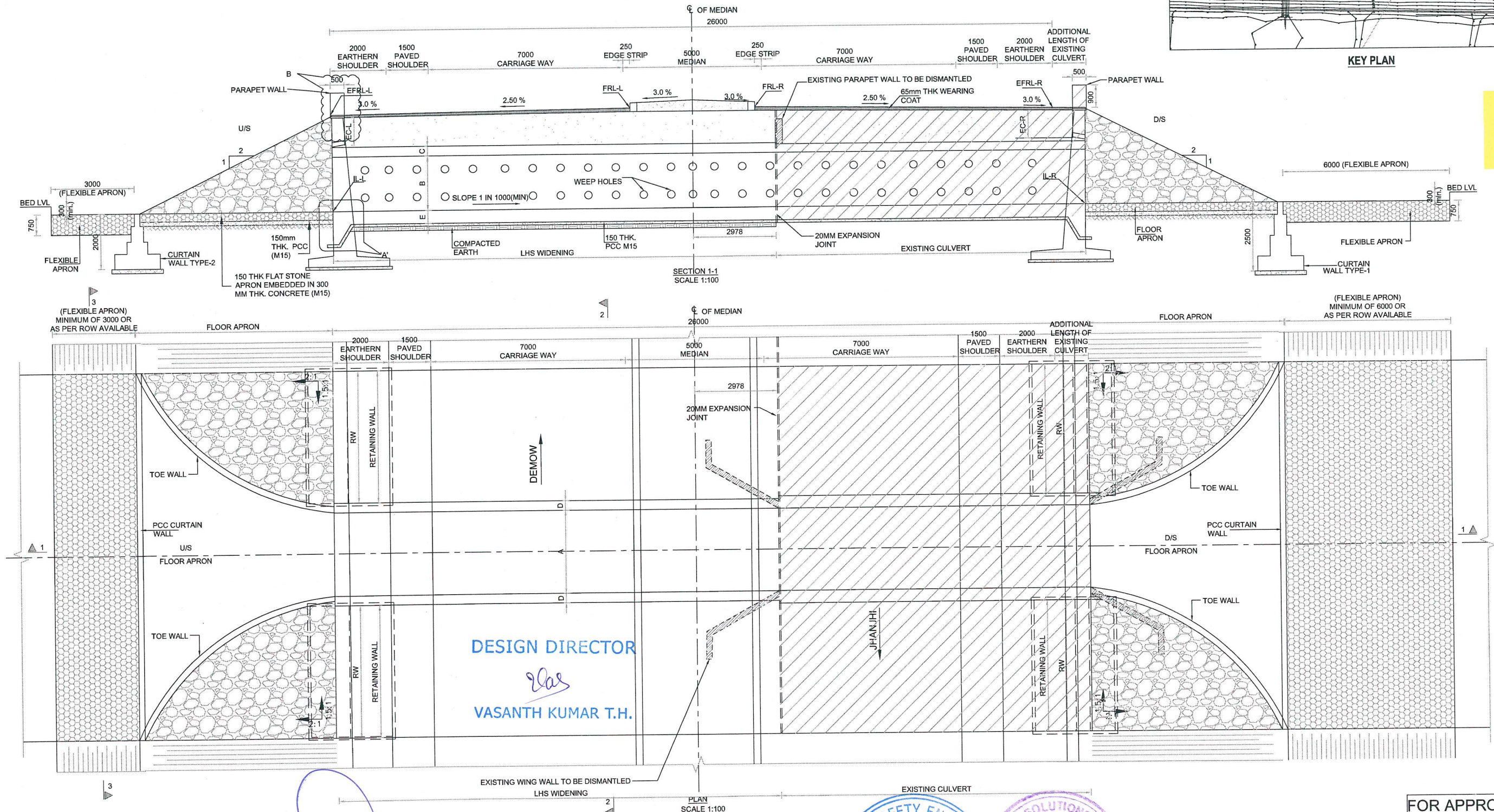
Details Of Box culvert:

EXISTING CHAINAGE	DESIGN CHAINAGE	SPAN	FRL-L	FRL-R	EFRL-L	EFRL-R	EC-L	EC-R	IL-L	IL-R	CLEAR WIDTH (A)	CLEAR HEIGHT (B)	TOP SLAB THICKNESS (C)	WALL THICKNESS (D)	BOTTOM RAFT THICKNESS (E)	RW	FLOW DIRECTION	LHS WIDENING
520+752	520+367	1X3.0X2.255	92.110	92.110	91.838	91.838	1.398	1.398	88.109	88.083	3.000	2.255	0.35	0.35	0.35	5.6	L-R	15.978

STRUCTURE NO.	32
DESCRIPTION	EXISTING PROPOSED
CHAINAGE	520752 520367
SPAN	1X3.0X2.255 1X3.0X2.255
TYPE	BOX BOX
PROPOSAL	WIDENING



KEY PLAN



DESIGN DIRECTOR
Vas
 VASANTH KUMAR T.H.

PROJECT
 FOUR LANE OF JHANJHI TO DEMOW
 SECTION OF NH-37 FROM EXISTING CH. Km
 491+050 TO Km 535+250 (DESIGN CH. Km
 490+800 TO Km 534+800) IN THE STATE OF
 ASSAM UNDER EPC MODE.

CLIENT
 National Highways Infrastructure
 Development Corporation Ltd.
 Ministry of Road Transport &
 Highways, Government of India
 Branch office : House No.1, Panipath,
 Ambikagiri Nagar, Zoo road,
 Guwahati-24

CONTRACTOR
 Cannon Dunkerley & Co. Ltd.
 86A, TOPSIA ROAD (SOUTH)
 HATE STREET, 7TH FLOOR
 KOLKATA - 700046

DESIGN CONSULTANT
 PROFESSIONAL CIVIL INFRA PVT. LTD.
 # 163B, GROUND FLOOR,
 SIR. MVISVESWARAYA LAYOUT,
 NAGADEVANAHALLI,
 BANGALORE - 560 056

PROOF CONSULTANT
 CHETAN INFRA TECH
 CONSULTANTS (P) LTD.
 7/11, 1ST FLOOR,
 13TH MAIN, SRINAGAR,
 OPP. PES COLLEGE
 BANGALURU - 560030

SAFETY CONSULTANT
 SMART SAFETY SERVICES
 # 3-45 & 7, HARI HARA NIVAS,
 SUMMARANDA COLONY,
 HYDERABAD - 500048

AUTHORITY ENGINEER
 VOYANTS SOLUTIONS PVT. LTD.
 408, 4th Floor, BPTP Park
 Centra, Block A, Jal Vayu
 Vihar, Sector 30
 Gurgaon, Haryana 122001

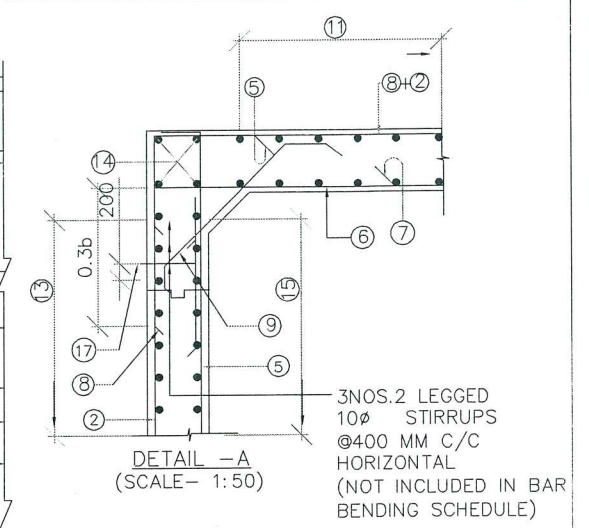
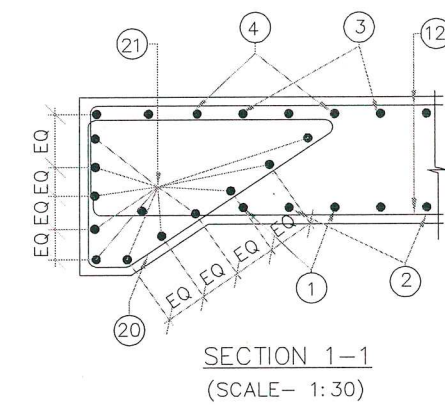
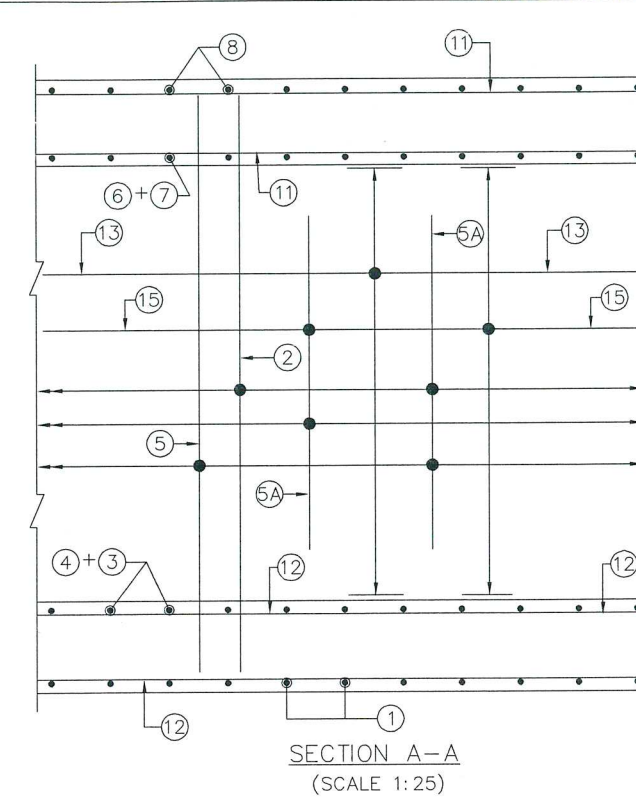
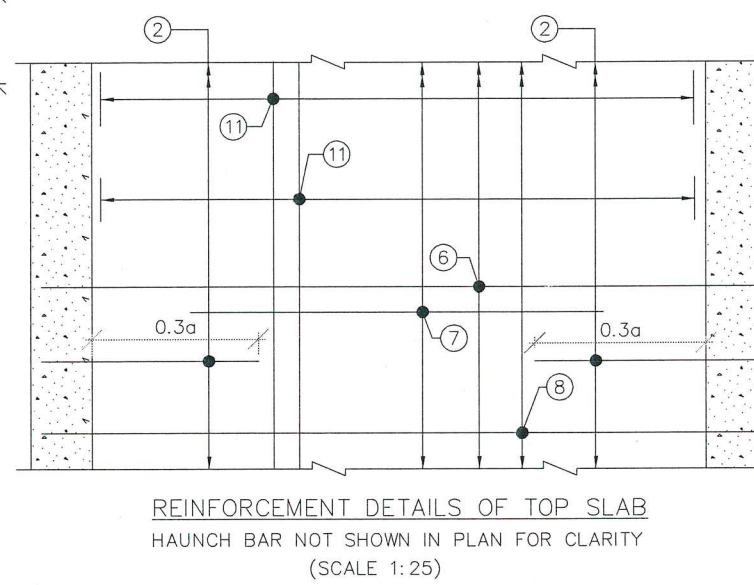
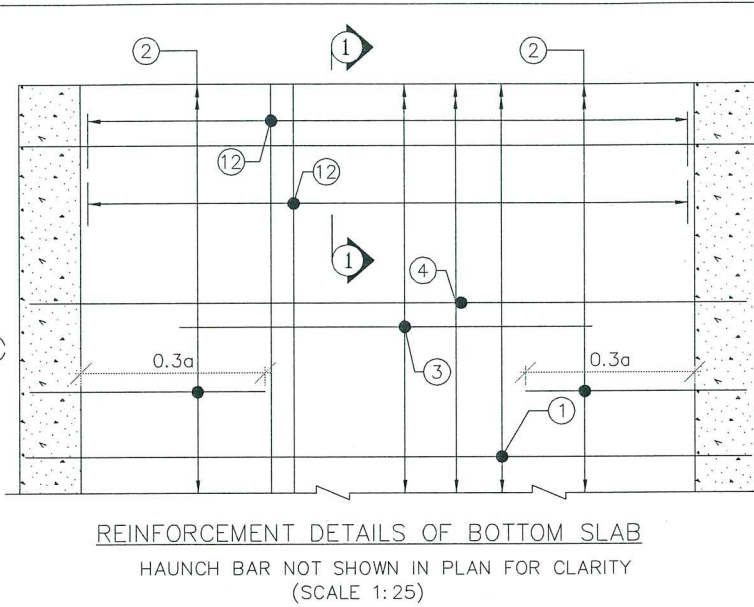
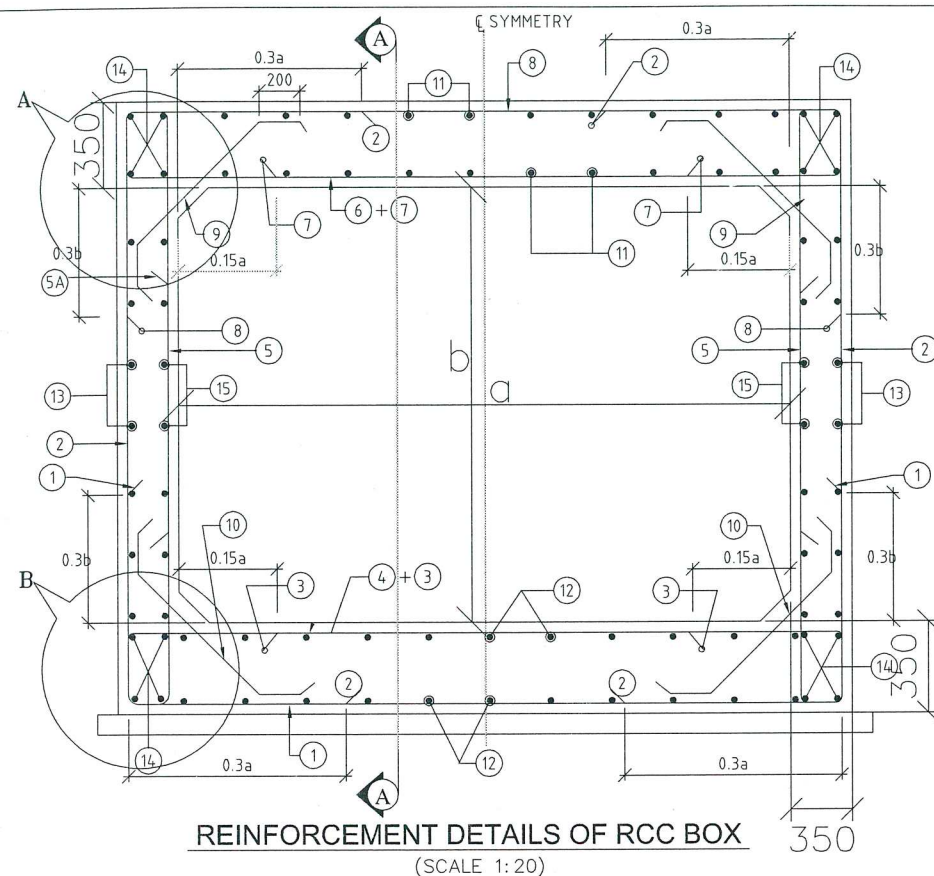
NAME	SHEET SIZE
DESIGN DIRECTOR	A2
PROOF CONSULTANT	SCALE
SAFETY CONSULTANT	AS SHOWN
AUTHORITY CONSULTANT	SHEET No.
	01 OF 02

TITLE: GENERAL ARRANGEMENT
 DRAWING OF BOX CULVERT
 (WIDENING) AT DESIGN CH 520+367
 (EXISTING CH 520+752)

DRAWING No. PC/PL/NH-37/J-D/STR/BC/17
 REV. 00

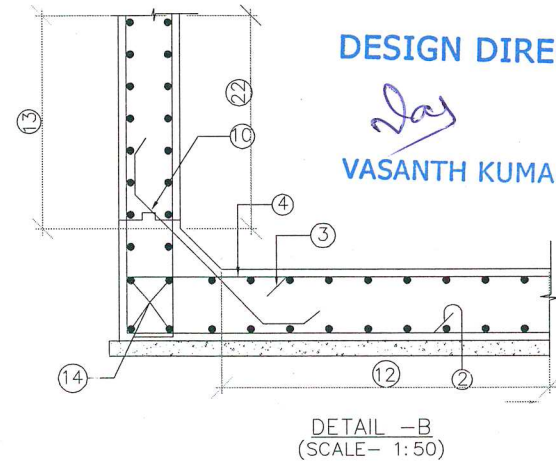
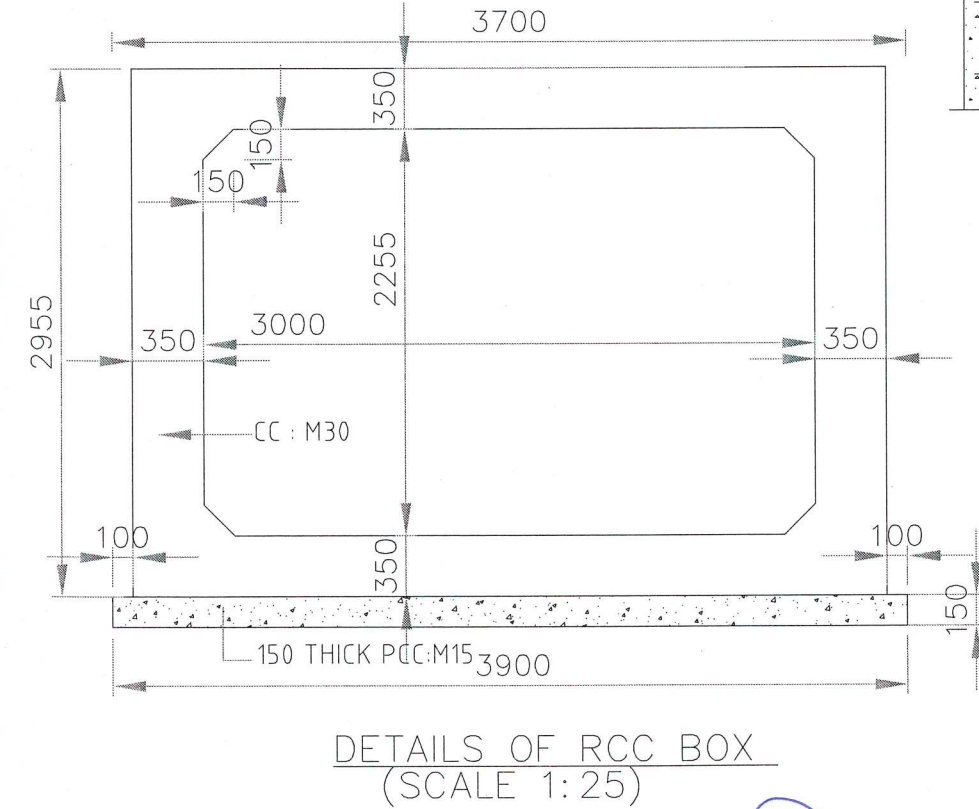
FOR APPROVAL

GOOD FOR CONSTRUCTION



DESIGN CH: 520+367
SCHEDULE OF REINFORCEMENT

BAR MARK	SHAPE OF BARS (NOT TO SCALE)	BAR DIA IN mm	SPACING OR NO. OF BAR
1		12	175 C/C
2		12	175 C/C
3		10	150 C/C
4		12	150 C/C
5		12	200 C/C
5A		10	150 C/C
6		12	200 C/C
7		10	200 C/C
8		12	175 C/C
9		10	200
10		10	200
11		10	200
12		10	200
13		10	200
14		10	16 NOS.
15		10	200
16			NOT USED
17		10	250
18			NOT USED
19			NOT USED
20		10	150
21		10	20 NOS.



NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS & LEVELS ARE IN METERS.
- DIMENSIONS ARE NOT TO BE SCALED, ONLY WRITTEN DIMENSIONS TO BE FOLLOWED.
- GRADE OF CONCRETE : M30 FOR BOX.
- GRADE OF STEEL : Fe500.
- CLEAR COVER TO REINFORCEMENT SHALL BE AS FOLLOWS.
TOP SLAB = 75mm (TOP FACE); 50mm (BOTTOM FACE)
BOTTOM SLAB = 50mm (TOP FACE); 75mm (BOTTOM FACE)
OUTER WALL = 75mm (EARTH FACE); 50mm (WATER FACE).
- ANCHORAGE LENGTH SHALL BE 40x BAR DIA (ϕ)
- LAP LENGTH OF THE STEEL SHALL BE PROVIDED AS BELOW.
LAP LENGTH = $K \times l$
 $K = 1.00$ (<25% LAPPED BAR RELATIVE TO TOTAL CROSS SECTIONAL AREA.)
 $K = 1.15$ (33% LAPPED BAR RELATIVE TO TOTAL CROSS SECTIONAL AREA.)
 $K = 1.40$ (50% LAPPED BAR RELATIVE TO TOTAL CROSS SECTIONAL AREA.)
ALTERNATIVELY BAR SPLICE COUPLER CAN BE USED FOR REBAR LAPPING AND SPLICING.
- NOT MORE THAN 50% OF BARS CAN BE LAPPED AT A SECTION AND LAPS SHALL BE STAGGERED.
- FOR DETAILS OF APPROACH SLAB, HAND RAILING RETAINING WALL, REFER SEPARATE MISCELLANEOUS DRAWINGS.
- SBC OF SOIL BELOW THE BOX STRUCTURE SHALL NOT BE LESS THAN 12.0 T/Sq.m

DESIGN DIRECTOR
VASANTH KUMAR T.H.

PROJECT	CLIENT	CONTRACTOR	DESIGN CONSULTANT	PROOF CONSULTANT	SAFETY CONSULTANT	AUTHORITY ENGINEER	NAME	SHEET SIZE	TITLE: REINFORCEMENT DETAILS OF BOX CULVERT (1X3X2.25) AT DESIGN CHAINAGE 520+367 (EXISTING CHAINAGE 520+752)
FOUR LANING OF JHANJHI TO DEMOW SECTION OF NH-37 FROM EXISTING CH. Km 491+050 TO Km 535+250 (DESIGN CH. Km 490+800 TO Km 534+800) IN THE STATE OF ASSAM UNDER EPC MODE.	National Highways Infrastructure Development Corporation Ltd. Ministry of Road Transport & Highways, Government of India Branch office : House No.1, Panipath, Ambikagiri Nagar, Zoo road, Guwahati-24	Ganesh Dinkar & Co. Pvt. Ltd. 66A, TOPSA ROAD (SOUTH), HAUTE STREET, 7th FLOOR, KOHAATA - 700046	PROFESSIONAL CIVIL INERA PVT. LTD. 1838, GROUND FLOOR, SIR M. VISVESWARAYA LAYOUT, NAGADEVANAHALLI, BANGALORE - 560 056	CHETANINERA-TECH CONSULTANTS (P) LTD. 7th, 1st FLOOR, 11th MAIN, SRINAGAR, OPP. PES COLLEGE, BANGALURU - 560 050	SMART SAFETY SERVICES #35-6 & 7, HARI HARA NIVAS, GURUMARANDA COLONY, HYDERGUDA, DIST. HYDERABAD - 500048	VOYANTS SOLUTIONS PVT. LTD. 403, 4th Floor, BPTP Park Centre, Block A, Jal Vayu Vihar, Sector 30, Gurgaon, Haryana 122001	DESIGN DIRECTOR PROOF CONSULTANT SAFETY CONSULTANT AUTHORITY ENGINEER	A2 SCALE AS SHOWN SHEET No. 01 OF 01	DRAWING No. PCIP/NH-37/JD/BC/STR/REIN/17 REV. 00

FOR APPROVAL