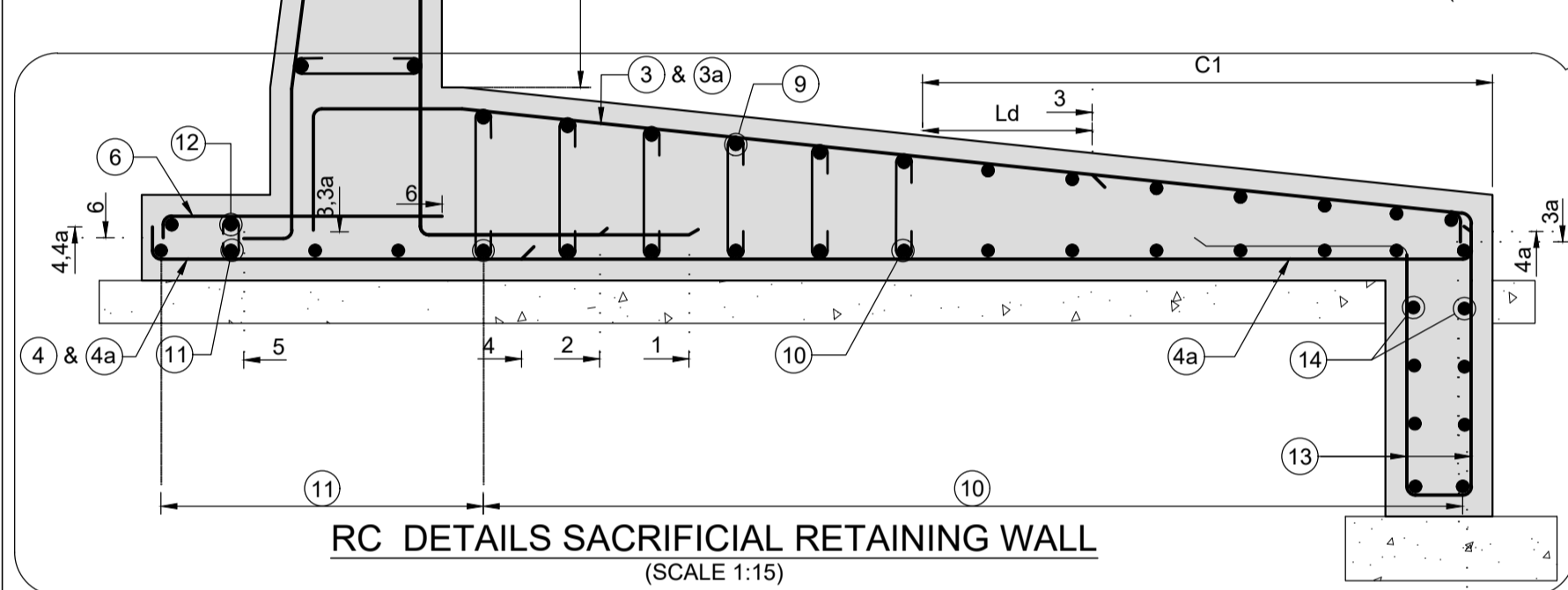
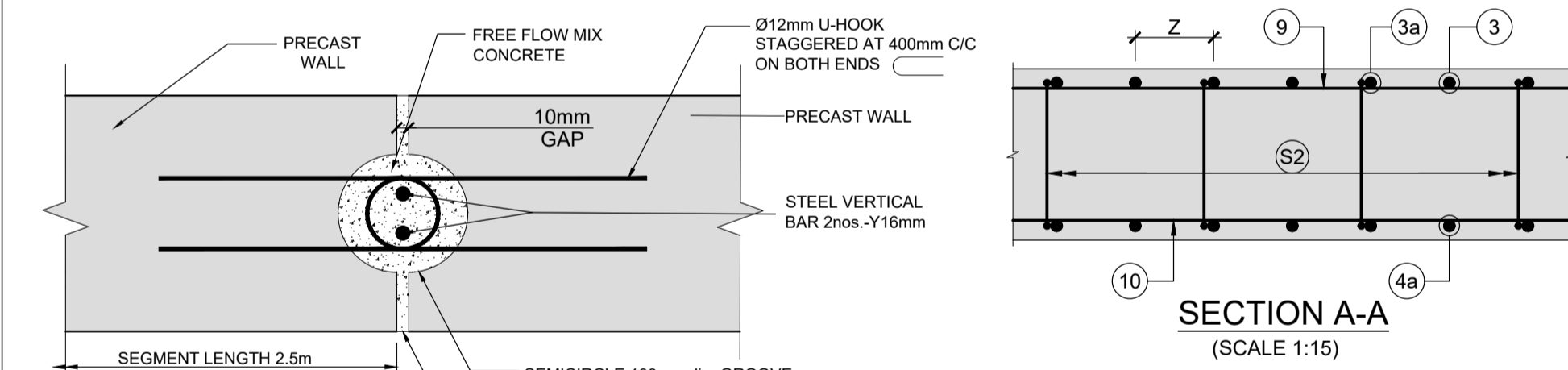


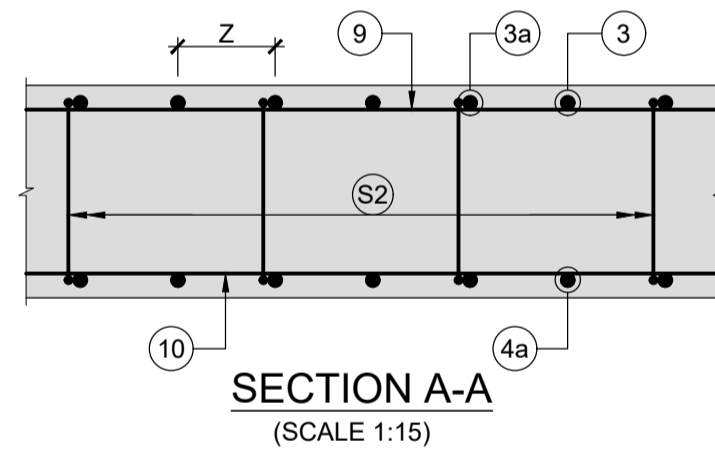
DETAILS OF SACRIFICIAL RETAINING WALL (WITH SLOPE)



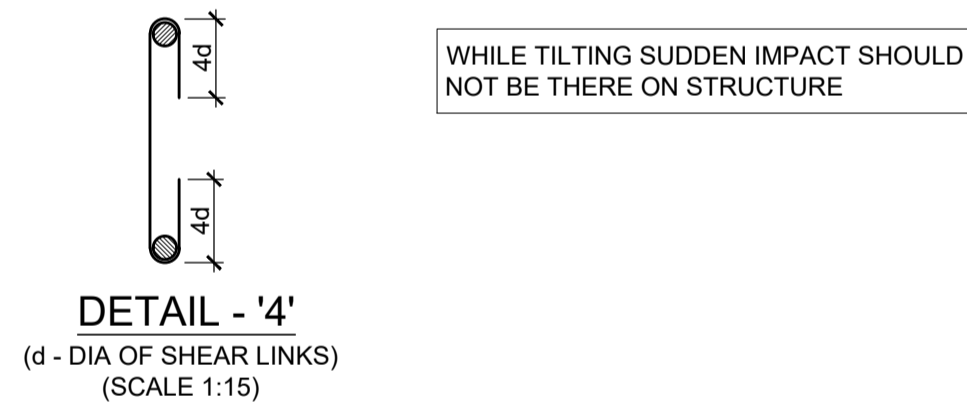
RC DETAILS SACRIFICIAL RETAINING WALL



SEGMENT JOINING DETAILS
(SCALE 1:5)
(APPLICABLE FOR PRECAST CONSTRUCTION ONLY)



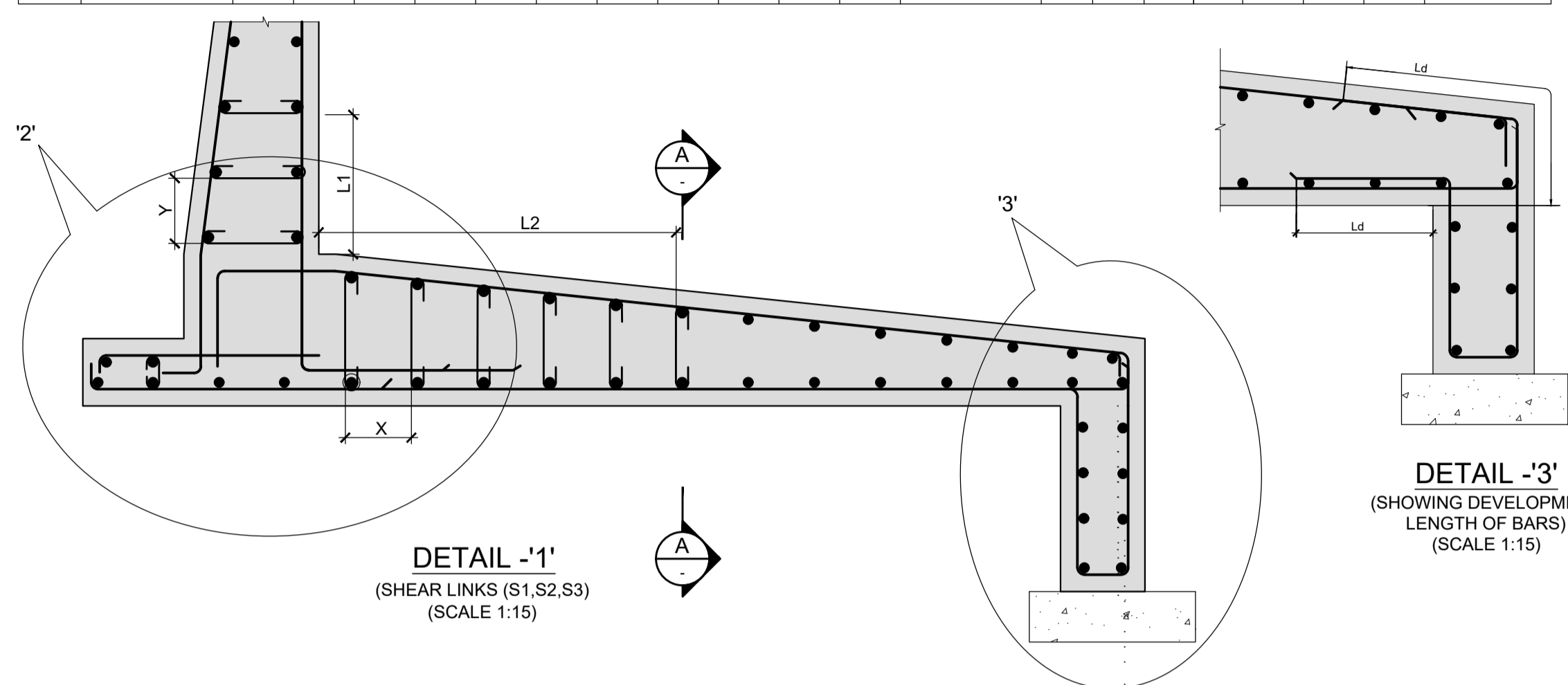
SECTION A-A
(SCALE 1:15)



DETAIL - '4'
(d - DIA OF SHEAR LINKS)
(SCALE 1:15)

TYPICAL ARRANGEMENT OF SACRIFICIAL RETAINING WALL
(SCALE 1:100)

SCHEDULE OF DIMENSIONS FOR RETAINING WALL																					
GEOMETRIC PROPERTY																					
SL.NO	TOTAL HEIGHT (H) (m)	h1 mm	h2 mm	a mm	b mm	c mm	d1 mm	d2 mm	d3 mm	d4 mm	e1 mm	e2 mm	D ^(#) mm	Y1 mm	X1 mm	Y2 mm	L1 mm	L2 mm	L3 mm	C1 mm	MAXIMUM BASE PRESSURE t/m ²
1	1.51 TO 2.00	1000	1000	1600	300	1100	200	200	200	200	200	200	4000 TO 12200	1000	200	250	-	-	-	-	8.52
2	2.01 TO 2.50	1500	1000	2000	300	1450	300	200	200	200	250	200	4000 TO 12200	1500	250	350	-	-	-	-	10.90
3	2.51 TO 3.00	2000	1000	2600	300	2000	350	200	200	200	300	200	4000 TO 12200	1500	250	450	-	-	-	-	12.59
4	3.01 TO 3.50	2500	1000	3150	300	2450	450	200	200	200	400	200	4000 TO 12200	1500	250	550	-	-	-	-	14.15



DETAIL -'1'
(SHEAR LINKS (S1,S2,S3)
(SCALE 1:15)

DETAIL -'3'
(SHOWING DEVELOPMENT
LENGTH OF BARS)
(SCALE 1:15)

DETAIL -'2'
(SHOWING DEVELOPMENT LENGTH OF BARS)
(SCALE 1:15)

ADDITIONAL NOTES:

7. DEVELOPMENT LENGTH $L_d = 48$ TIMES DIA OF BAR.
8. LAP LENGTH SHALL BE 64 TIMES DIA OF BAR. NOT MORE THAN 50% OF BARS ARE LAPPED IN SAME PLACE.
9. SAFE BEARING CAPACITY AT BOTTOM OF SAME SLAB SHALL BE CONFIRMED BY DOING PLATE LOAD TEST AND SBC CONFIRMED SHALL BE GREATER THAN THE BEARING PRESSURE.
10. IN CASE OF ANY EXCAVATION TO BE CARRIED OUT IN THE FRONT SIDE OF RETAINING WALL AT NEAR TOE SLAB, PRIOR APPROVALS AND PERMISSIONS BE OBTAINED FROM RELEVANT AUTHORITY AND WALL STABILITY NEED TO BE RECHECKED.
11. HEDGE 'H/2' NEED TO BE MAINTAINED IN FRONT OF RETAINING WALL FOR ITS INTENDED LIFE AND FOR CONSIDERATION OF PASSIVE PRESSURE.
12. SOIL WITH INTERNAL FRICTION $\phi \geq 30^\circ$ IS CONSIDERED IN DESIGN.
13. BACKFILL MATERIAL SHALL CONSIST OF GRANULAR MATERIAL OF GW, GP, SW, GROUPS AS PER IS:1498-1970.
14. IF REQUIRED, DURING CONSTRUCTION ADDITIONAL LINKS TO BE PROVIDED TO PLACE THE VERTICAL BARS IN POSITION.
15. THE COMPACTION FACTOR OF 0.95 OR ABOVE HAS TO BE ENSURED AT THE BASE OF PCC.
16. STRICTLY, FOR THE FULL DEVELOPMENT OF PASSIVE EARTH PRESSURE, IT IS NECESSARY THAT DURING THE CONSTRUCTION OF THE WALL, THERE SHOULD BE NO DISTURBANCE TO THE SOIL AGAINST WHICH THE CONCRETE IN THE TOE SLAB IS PLACED.
17. ALL RCC SURFACES COMING IN CONTACT WITH SOIL SHOULD BEPAINTED WITH BITUMEN OR COAL TAR OF APPROVED QUALITY @ 1.45kg/sqm.
18. IF ANY AMBIGUITY IS FOUND IN DRAWINGS OR AT SITE, THE SAME SHALL BE BROUGHT TO DESIGNER'S ENGINEER'S NOTICE BEFORE EXECUTION
19. PRECAST SEGMENT SHALL BE LIFTED AFTER 7 DAYS FROM THE DAY OF CASTING OR AFTER ATTAINMENT OF CHARACTERISTIC COMPRESSIVE STRENGTH OF 28 MPa WHICHEVER IS GREATER.
20. SBC CONSIDERED IN THE DESIGN IS 20 mm^2

ABBREVIATIONS :

CL	-	CENTER LINE
TYP	-	TYPICAL
THK.	-	THICKNESS
DN	-	DOWN

SCHEDULE OF REINFORCEMENT FOR RETAINING WALL

S.NO	TOTAL HEIGHT (H) (m)	REINFORCEMENT DETAILS																					
		① [⊗]	②	③	③a	④	④a	⑤	⑤a	⑥	⑦	⑦a	⑧	⑧a	⑨	⑩	⑪	⑫	⑬	⑭	①1 X X Z	①2 X X Z	①3 X X Z
1	1.51 TO 2.00	Y12 AT 230	-	-	Y16 AT 230	-	Y10 AT 230	Y10 AT 230	Y10 AT 230	Y10 AT 230	Y10 AT 250	Y10 AT 250	Y8 AT 250	Y8 AT 250	Y10 AT 250	Y8 AT 250	Y10 AT 250	Y8 AT 250	Y10 AT 230	Y10 AT 250	-	-	-
2	2.01 TO 2.50	Y12 AT 200	-	-	Y16 AT 200	-	Y10 AT 200	Y10 AT 200	Y10 AT 200	Y10 AT 250	Y10 AT 250	Y8 AT 250	Y8 AT 250	Y10 AT 250	Y8 AT 250	Y10 AT 250	Y8 AT 250	Y10 AT 200	Y10 AT 250	-	-	-	
3	2.51 TO 3.00	Y12 AT 260	Y12 AT 260	Y16 AT 260	Y16 AT 260	-	Y10 AT 260	Y10 AT 260	Y10 AT 260	Y10 AT 260	Y10 AT 250	Y10 AT 250	Y8 AT 250	Y8 AT 250	Y12 AT 250	Y8 AT 250	Y10 AT 250	Y8 AT 250	Y12 AT 260	Y10 AT 250	-	-	-
4	3.01 TO 3.50	Y12 AT 260	Y12 AT 260	Y16 AT 260	Y20 AT 260	-	Y10 AT 260	Y10 AT 260	Y10 AT 260	Y10 AT 260	Y12 AT 230	Y10 AT 230	Y8 AT 230	Y8 AT 230	Y12 AT 230	Y10 AT 230	Y10 AT 230	Y8 AT 230	Y12 AT 260	Y10 AT 230	-	-	-
	SHAPE OF BARS																						

* - IF BAR MARK (2) IS NOT USED, THEN BAR MARK (1) SHOULD GO UPTO THE TOP OF RETAINING WALL.

NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. DIMENSIONS ARE NOT TO BE SCALED, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. CONCRETE GRADE SHALL BE M35
4. REINFORCEMENT GRADE SHALL BE Fe500.
5. CLEAR COVER TO ANY REINFORCEMENT SHALL BE 50mm.

NOTES :	
6. PARAMETERS CONSIDERED FOR DESIGN:-	
a) ANGLE OF INTERNAL BACKFILL	- $\phi = 30^\circ$
b) COHESION OF BACKFILL	- $C = 0$
c) WALL FRICTION ANGLE	- $\delta = 10.0^\circ$
d) SATURATED DENSITY OF BACKFILL	- $\gamma = 20 \text{ kN/m}^3$

LEGEND :

REFERENCE DRAWINGS :

REFERENCE DOCUMENTS :
DESIGN NOTE FOR TYPICAL PRECAST SACRIFICIAL RETAINING WALL DOCUMENT NO.: DOC-BSRP-CR2-AG-DGN-GEN-20-1145

KEY PLAN











STATION BOX KEY PLAN

EMPLOYER :

[illegible]

REVISIONS		
B	10.04.2024	FOR GFC
A	20.03.2024	FOR APPROVAL
REV	DATE	BRIEF DESCRIPTION

CONTRACTOR :			
	TRANSPORTATION INFRASTRUCTURE IC EDRC-SPECIAL BRIDGES		
DETAILED DESIGN CONSULTANT (DDC) :	STUP Consultants Pvt. Ltd.	PROOF CONSULTANT (PC) :	
	STUP Consultants Pvt. Ltd. 406, 4th Floor, Regent's Arcade Midtown, New Regent's Extension Tel: 240-099731 Email: stupsales@stupconsultants.com www.stupconsultants.com		Indian Institute of Technology MT P.O., Chennai 600 036 INDIA
	L&T CONSTRUCTION EDRC-SPECIAL BRIDGES - TIC		

QUALITY ASSURANCE					
The responsibility of control, check and verification of accuracy, correctness completeness, integration and full compliance of Contract provisions is respect of design analysis and drawing rests with Design & Build Contractor					
DDC			PC		Contractor
SIGN					
DATE	10.04.2024	10.04.2024	10.04.2024		10.04.2024
NAME	NSB	RIAL	GG		S.K SHARMA
PREPARED BY		CHECKED BY	APPROVED BY	APPROVED BY	ISSUED BY

GENERAL CONSULTANTS					
CHECKED	NAME	SIGN			
CIVIL & STRUCTURAL			SIGN		
GEO-TECHNICAL					
			NAME		
			DATE		

EMPLOYER :	 RAIL INFRASTRUCTURE DEVELOPMENT COMPANY (KARNATAKA) LIMITED
GENERAL CONSULTANTS :	   AECOM-EGIS-WSP

PROJECT :		BENGALURU SUBURBAN RAILWAY PROJECT (BSRP)	
		K-RIDE CORRIDOR - 2	
DRAWING TITLE :			
NUMERATION AND RC DETAILS FOR TYPICAL PRECAST SACRIFICIAL RETAINING WALL WITH SLOPED EARTH FILL FOR HEIGHT h1=1000 TO 2500mm AND h2=1000mm			
DRAWING NO. :		Q20777-BSRP-CR2-C-AG-PSRW-20-1347	
SCALE : AS SHOWN		DATE : 10.04.2024	
PRELIMINARY DWG (P), DEFINITIVE DWG (D), CONSTRUCTION DWG (C), AS BUILT DWG (B), SHOP DWG (S), MANUFACTURED DWG (M)		B	D
SHEET SIZE : A			