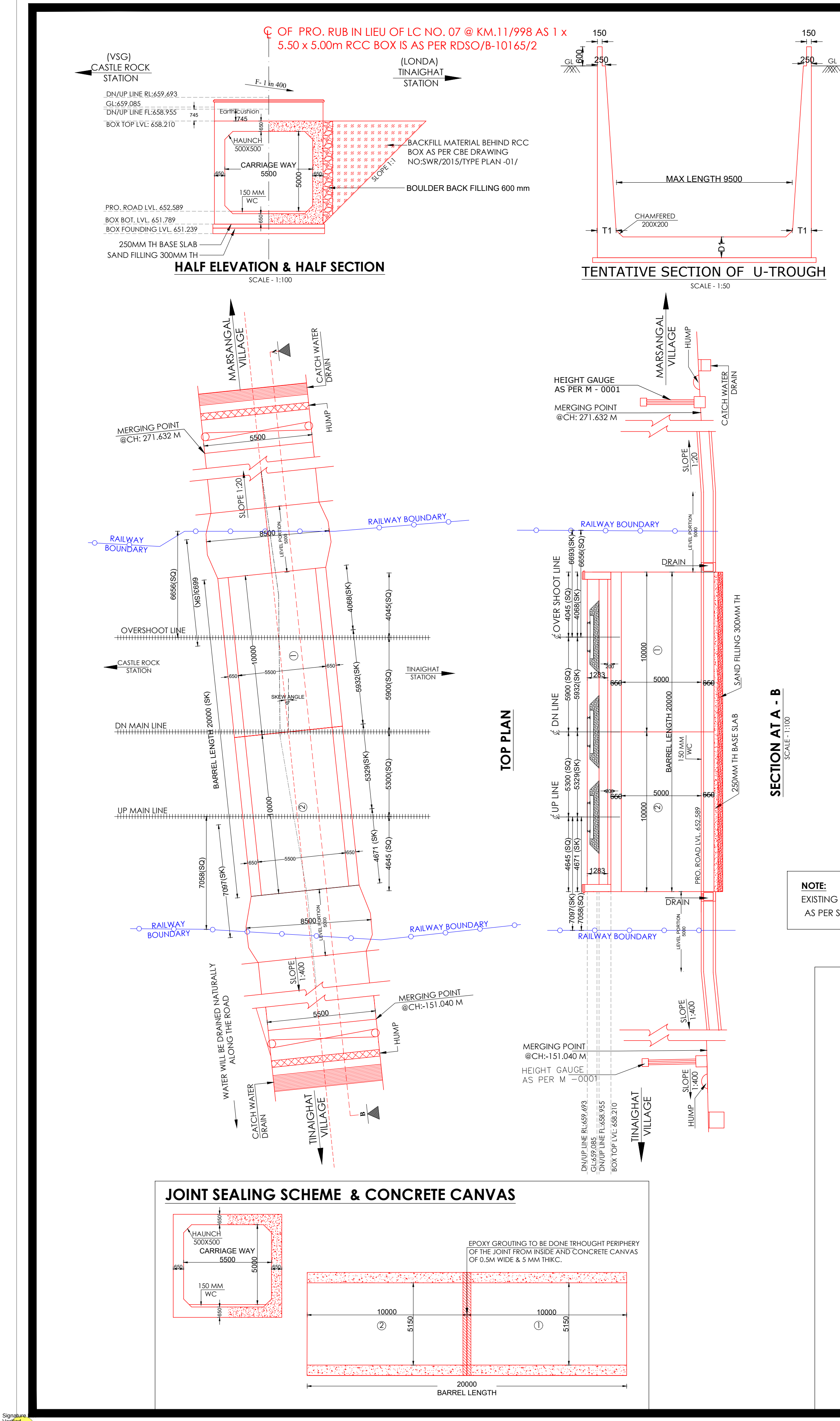
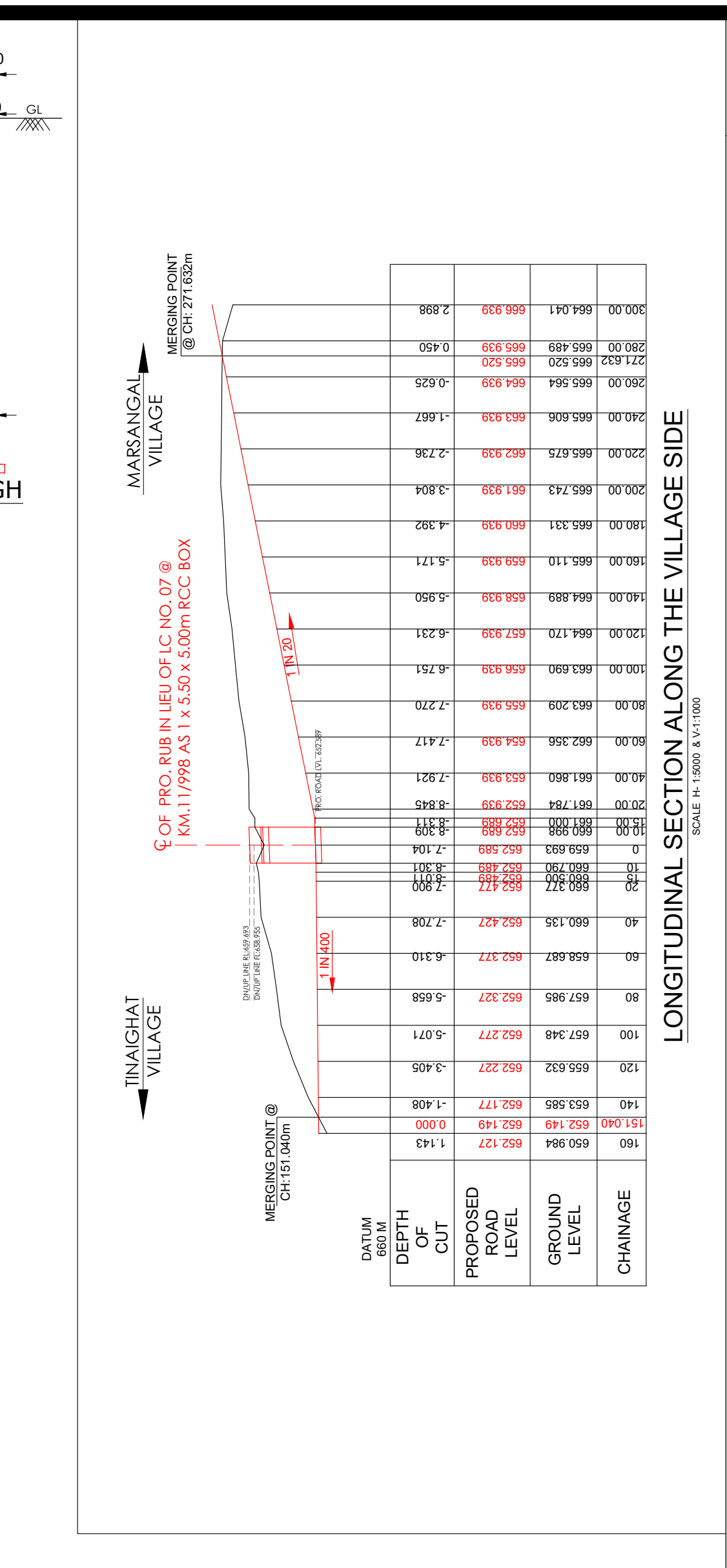
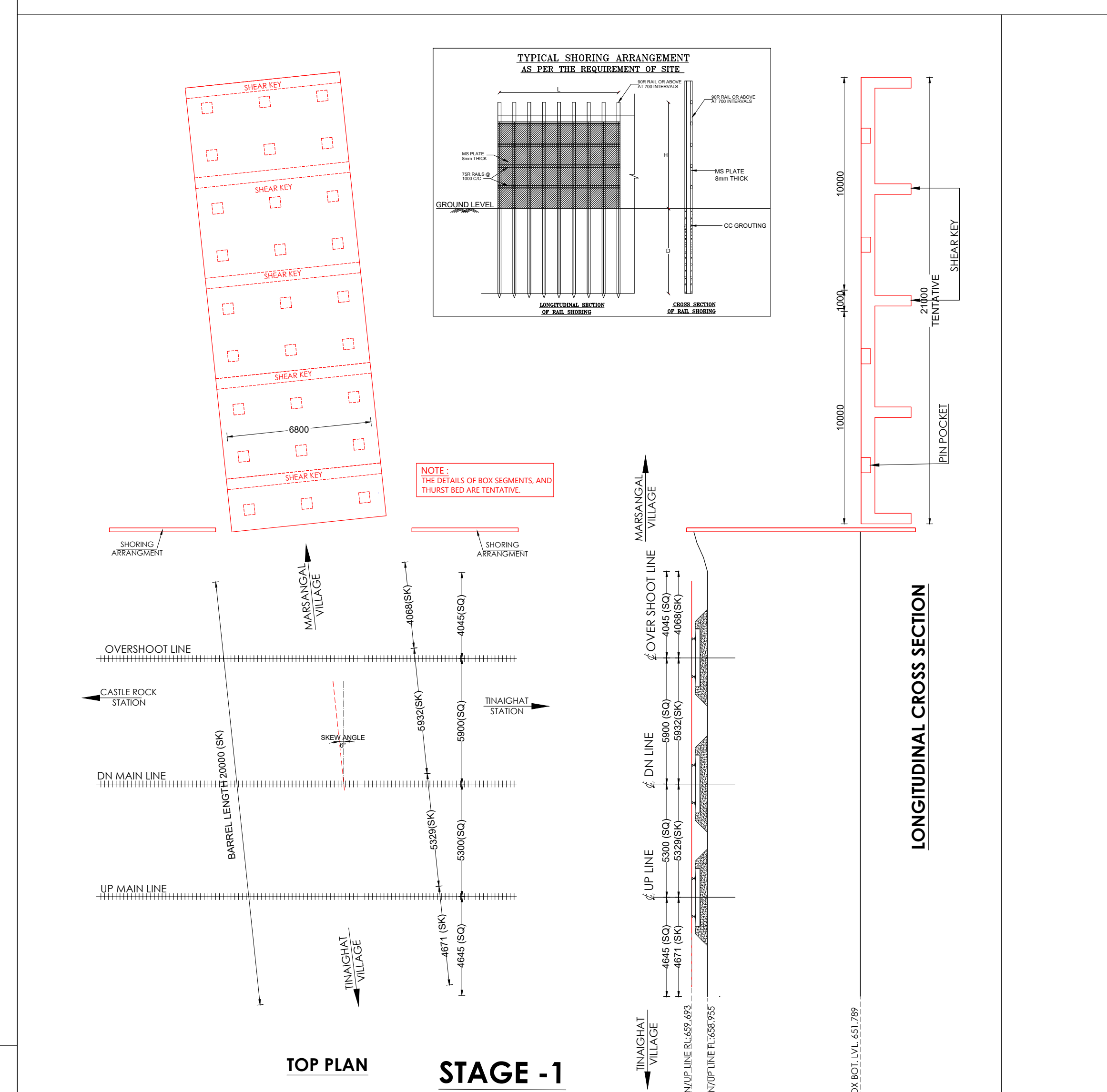
TEMPORARY ARRANGMENT DRAWING - BOX PUSHING METHOD


HALF ELEVATION & HALF SECTION
TENTATIVE SECTION OF U-TROUGH
TOP PLAN
SECTION AT A - B
JOINT SEALING SCHEME & CONCRETE CANVAS

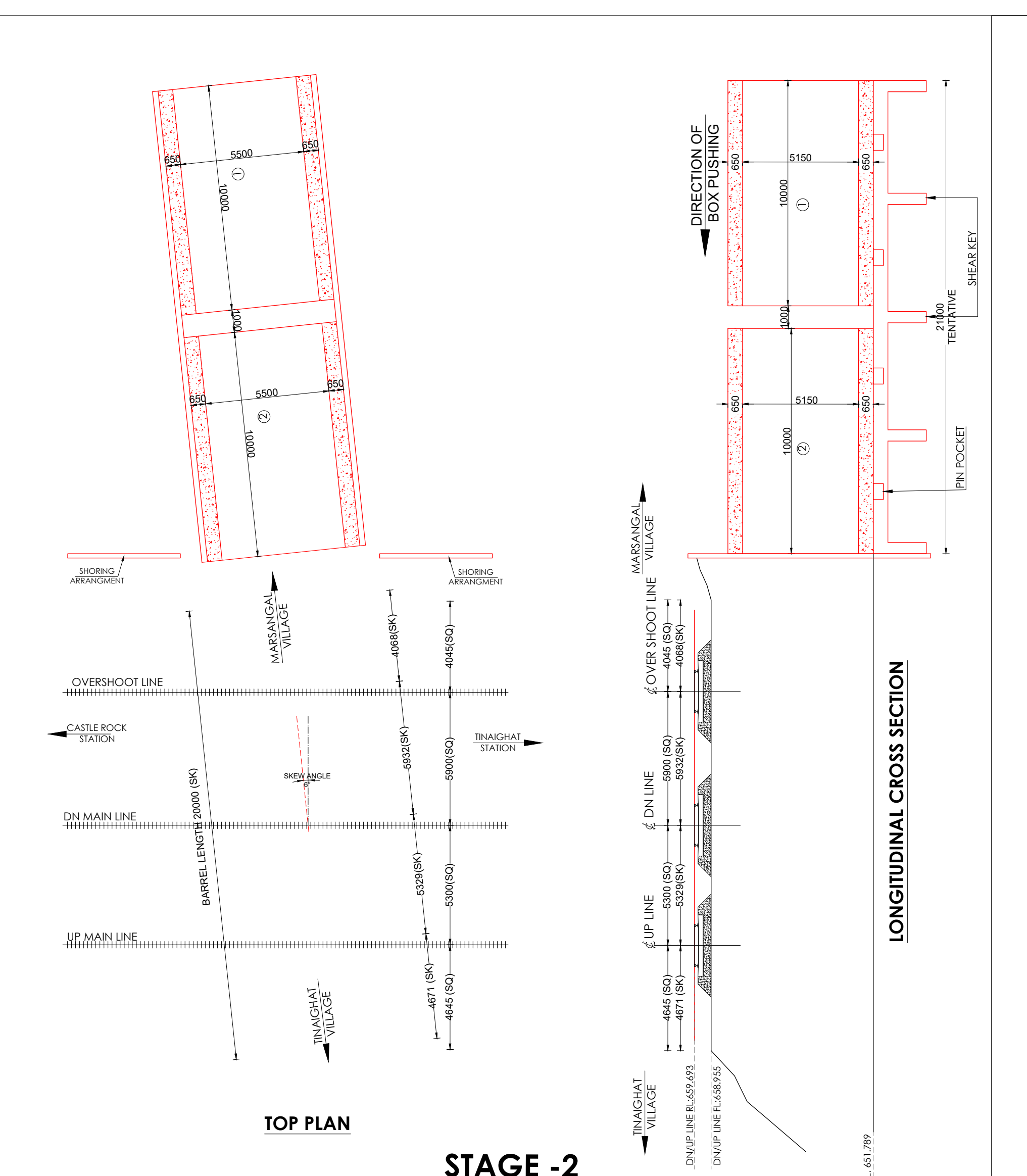


NOTE:
EXISTING UP AND DN LINE DETAILS WITH TRACK CENTER HAS BEEN INCORPORATED AS PER SITE DETAILS



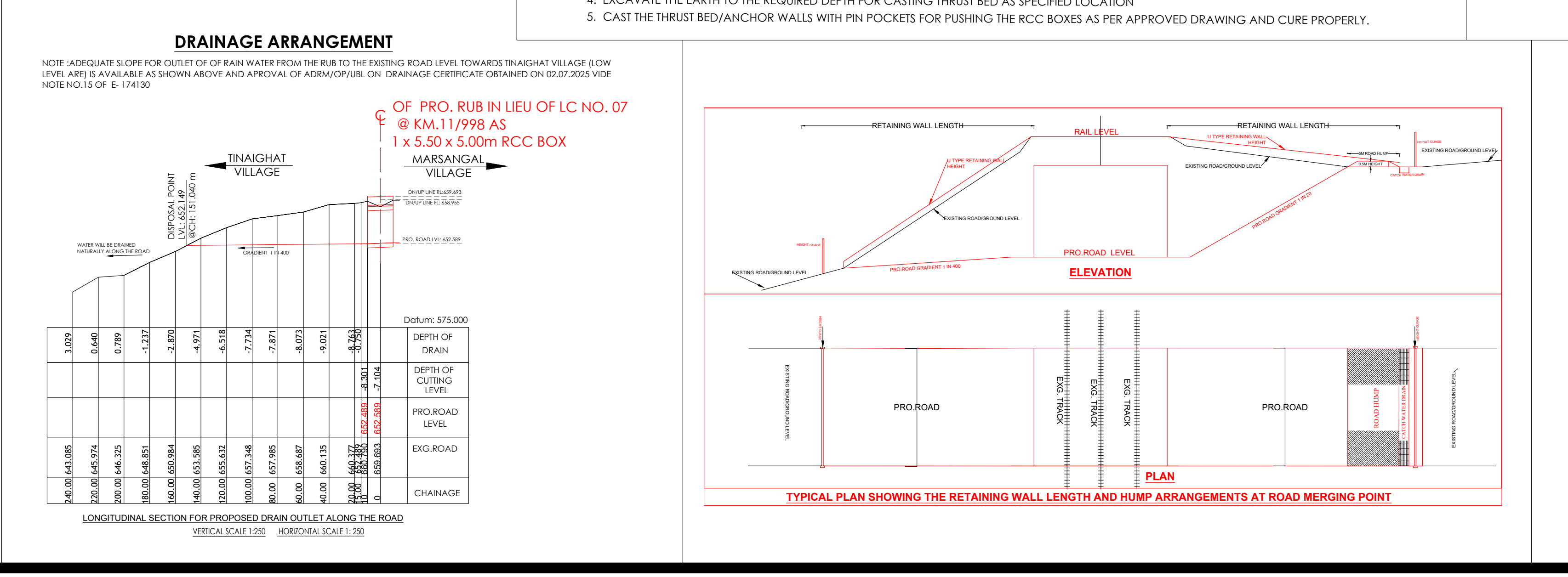
STAGE -1

STAGE-1: PRELIMINARY :
1. RAIL TRAFFIC ON SHUNING NECK TO BE SUSPENDED TILL COMPLETION OF BOX PUSHING WORK.
2. ROAD TRAFFIC WILL BE DIVERTED THROUGH LC No.06 TILL THE COMPLETION OF RUB WORK AT LC No.07.
3. ERECT THE TEMPORARY ENGG INDICATOR AS PER SKETCH AND IMPOSE NON-STOP 20 KMPH SPEED RESTRICTION FOR BOTH THE LINES.
4. EXCAVATE THE EARTH TO THE REQUIRED DEPTH FOR CASTING THRUST BED AS SPECIFIED LOCATION
5. CAST THE THRUST BED/ANCHOR WALLS WITH PIN POCKETS FOR PUSHING THE RCC BOXES AS PER APPROVED DRAWING AND CURE PROPERLY.



STAGE -2

STAGE-2: BETWEEN TRAIN TIMINGS :
1. ENGINEER IN CHARGE SHOULD BE ENSURE THAT SUFFICIENT OILS, TOOLS AND PLANTS ARE AVAILABLE BEFOR COMMENCEMENT OF WORK.
2. CAST THE PRE-CAST RCC BOX OF REQUIRED SIZE OVER THRUST BED AND CURE PROPERLY.


TINAIGHAT VILLAGE
MARSANGAL VILLAGE
OF PRO. RUB IN LIEU OF LC NO. 07 @ KM.11/998 AS 1 x 5.50 x 5.00m RCC BOX
DN/UP LINE RL:659.693
DN/UP LINE FL: 658.955
TYPICAL PLAN SHOWING THE RETAINING WALL LENGTH AND RAMP ARRANGEMENTS AT ROAD MERGING POINT

DRAINAGE ARRANGEMENT

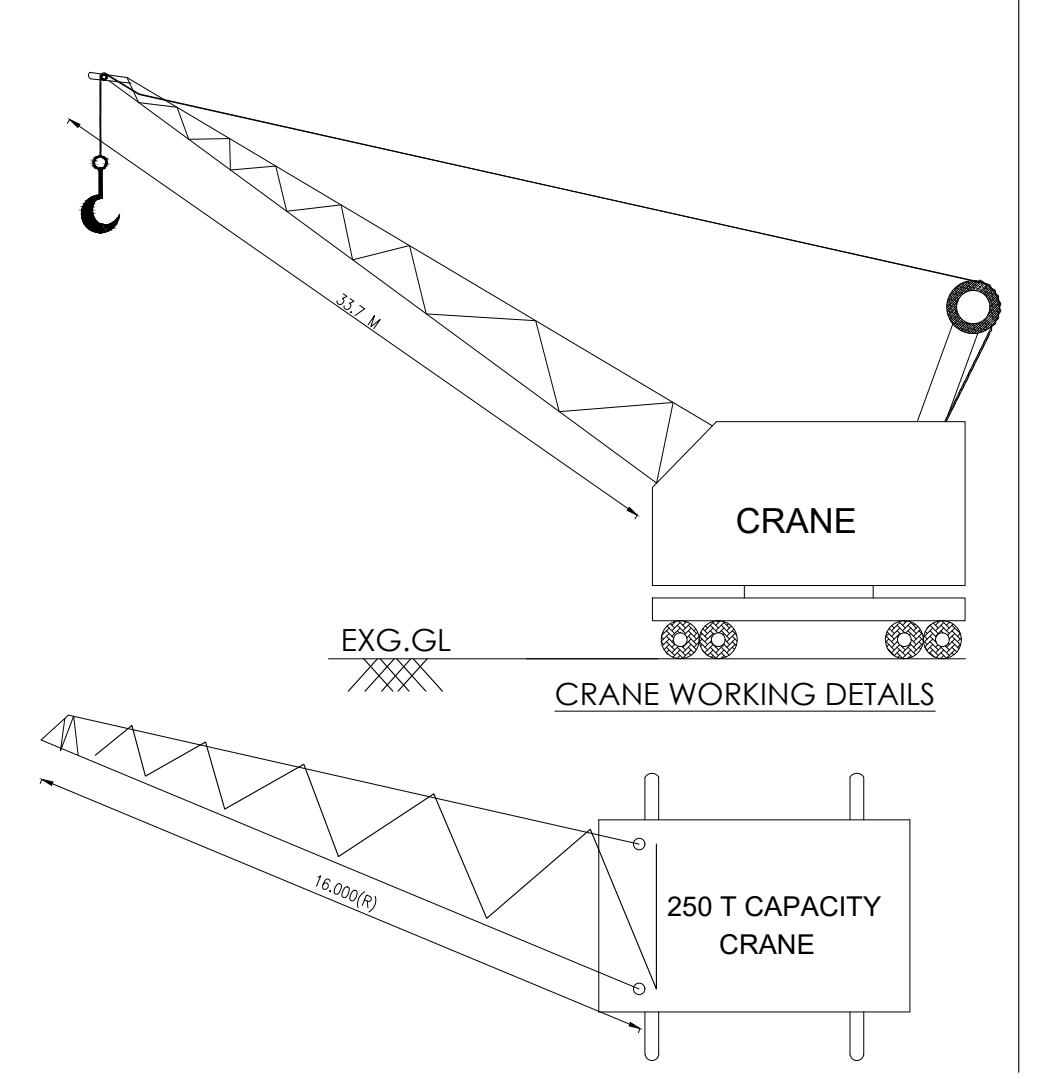
NOTE :ADEQUATE SLOPE FOR OUTLET OF OF RAIN WATER FROM THE RUB TO THE EXISTING ROAD LEVEL TOWARDS TINAIGHAT VILLAGE (LOW LEVEL ARE) IS AVAILABLE AS SHOWN ABOVE AND APROVAL OF ADRM/OP/UBL ON DRAINAGE CERTIFICATE OBTAINED ON 02.07.2025 VIDE NOTE NO.15 OF E- 174130

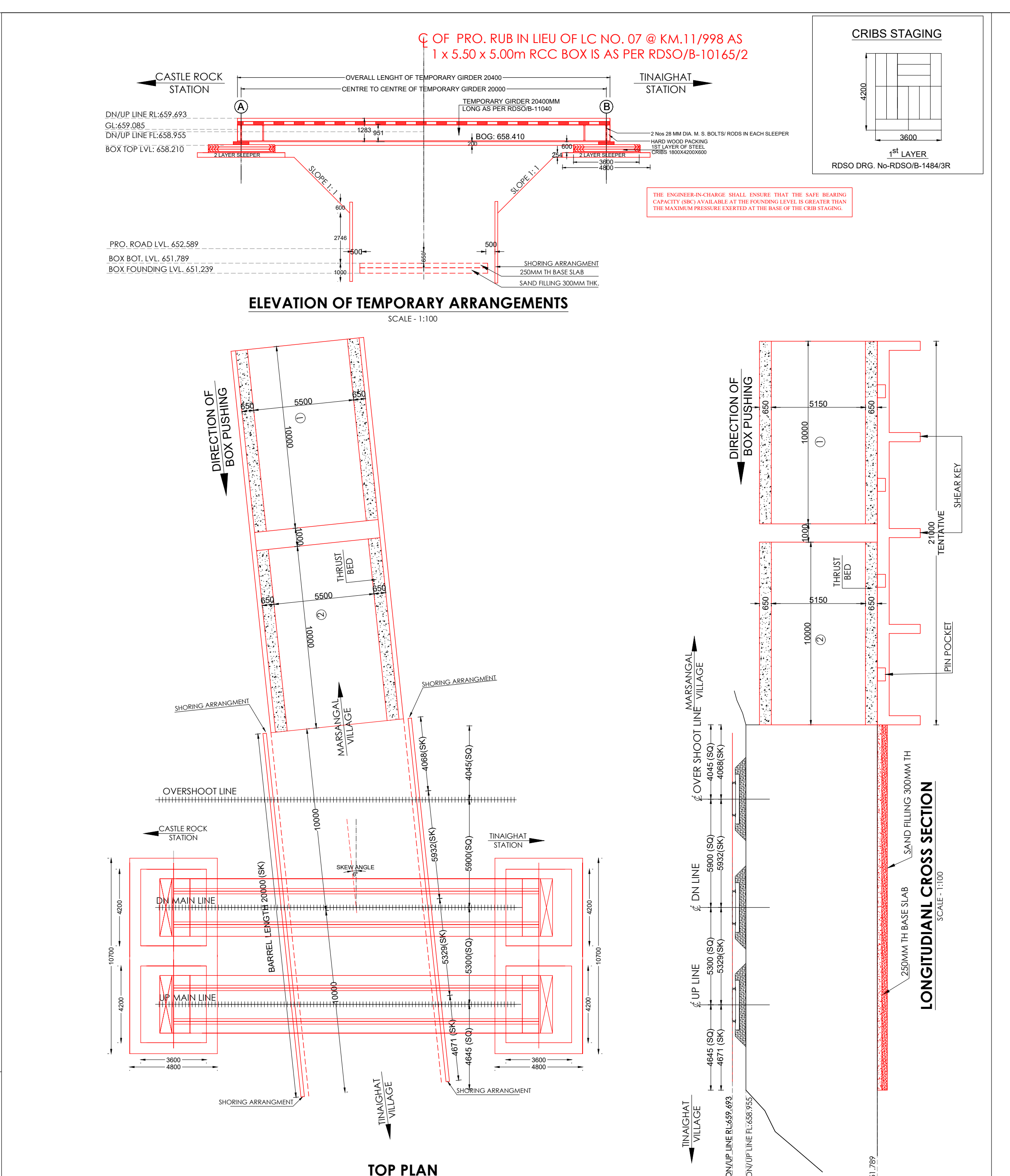
LOAD CHART FOR 250T CRANE (CRANE CAPACITY IN MT)							
WORKING RADIUS(M)	MAIN BOOM LENGTH						
	14.5M	19.3M	24.1M	28.9M	33.7M	38.5M	43.3M
3	155.0	147.5	-	-	-	-	-
3.5	155.0	147.5	-	-	-	-	-
4	155.0	147.5	146.0	-	-	-	-
4.5	155.0	144.5	146.0	-	-	-	-
5	146.5	144.5	143.0	134.5	-	-	-
6	129	129	126	124	106.5	-	-
7	115	115	114	110.5	101	81.1	-
8	104	104	103	100	94.8	78.1	60.6
9	94.4	94.7	94.0	91.1	88.8	74.9	58.7
10	84.4	86.6	86.2	83.6	82.9	71.7	57.0
12	50.8	73.7	73.2	71.3	70.9	64.8	53.6
14	-	61.4	61.9	60.9	61.7	57.7	49.8
16	-	45.9	53.3	52.2	53.0	51.5	46.0
18	-	-	46.9	46.6	45.6	46.7	42.2
20	-	-	37.1	39.8	38.9	39.8	39.3
22	-	-	-	34.5	35.4	34.4	35.5
24	-	-	-	31.6	31.1	30.8	31.3

CRANE DETAILS			
CAPACITY OF CRANE	250 T	MAX RADIUS	22
MAX BOOM LENGTH	33.7M	WEIGHT OF TY.GIRDER	30.5 T

"IT IS CERTIFIED THAT WEIGHT OF TEMPORARY GIRDER IS 30.5 T. HENCE BY USING 250 T CAPACITY CRANE WITH DULY ADOPTING 16 M RADIUS & 33.7 M BOOM LENGTH, THE WEIGHT LIFTING CAPACITY OF CRANE WILL BE 53.0 T. WHICH IS GREATER THAN THE 1.5 TIMES THE WEIGHT OF TEMPORARY GIRDER".

Sr.DEN/WEST/UBL



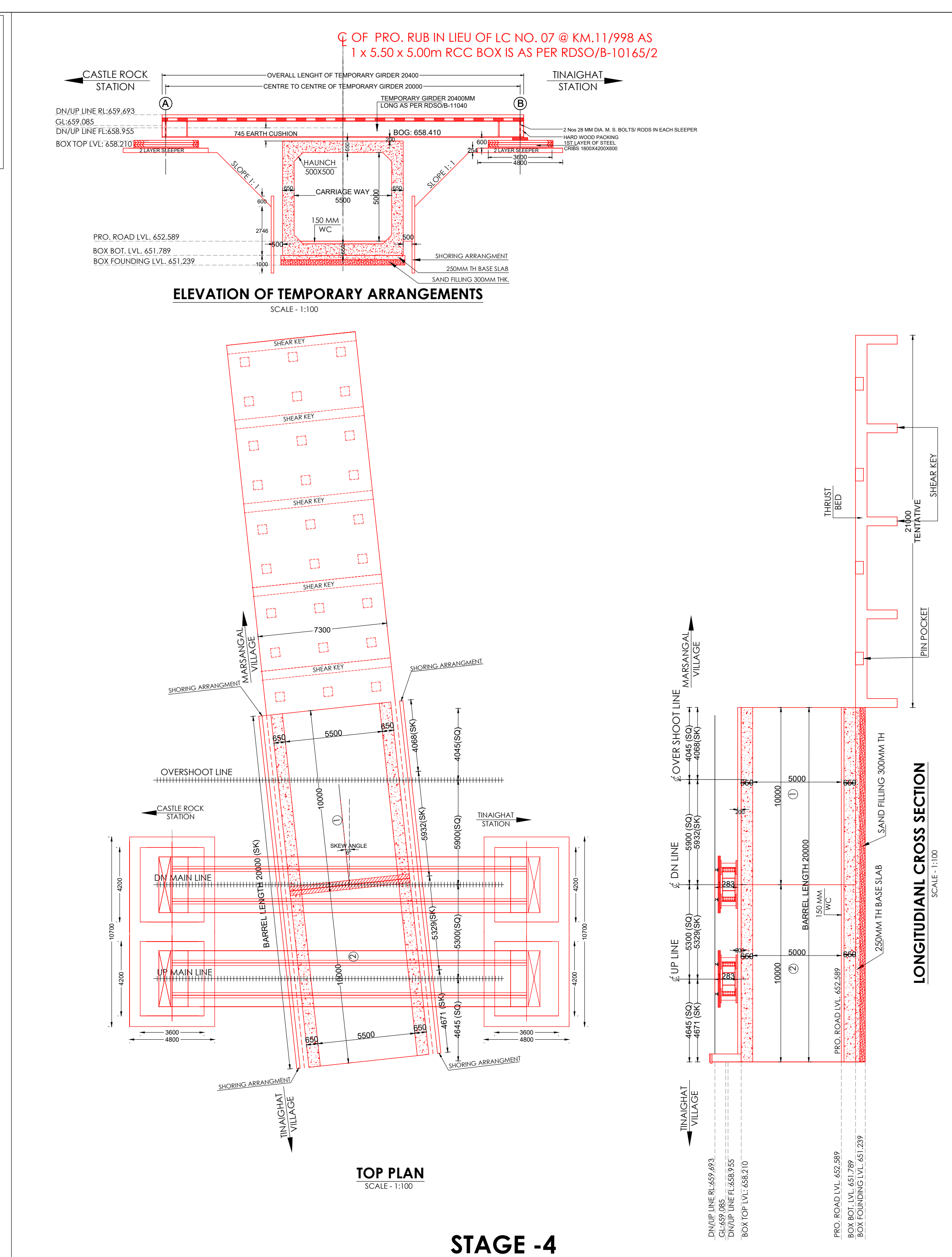

ELEVATION OF TEMPORARY ARRANGEMENTS
TOP PLAN
SCALE - 1:100
SHORING ARRANGMENT
TINAIGHAT VILLAGE
LONGITUDINAL CROSS SECTION

STAGE -3

PRILIMINARY : (BETWEEN TRAIN TIMINGS)
1. SUITABLE LAUNCHING CRANE (PREFERABLY MINIMUM 250 T CAPACITY) WITH ONE SPARE CRANE OF SAME CAPACITY SHALL BE ARRANGED. ENGINEER-IN-CHARGE SHOULD ENSURE PROPER WORKING OF CRANES WELL IN ADVANCE OF THE COMMENCEMENT OF WORK. ALSO, THE POSITION OF RH GIRDER, AND CRANE SHOULD BE SO PLANNED THAT WITH MINIMAL TIME, WORK SHOULD BE COMPLETED.
2. RAILS SHOULD BE CUT AND FISH PLATED AT THE REQUIRED LOCATION DULY MARKING IN ADVANCE.

DURING LINE BLOCK AND POWER BLOCK FOR BOTH UP & DOWN LINE (04 HRS)
1. DISCONNECT THE P-WAY OF BOTH UP & DOWN LINE SIMULTANEOUSLY.
2. RH GIRDER ALONG WITH CRIB ARRANGEMENT TO BE INSERTED.
3. ENSURE THAT THERE IS NO INFRINGEMENT AND LOOSE MATER ON THE TRACK.
4. ENSURE THAT THERE IS NO INFRINGEMENT TO IRSOD AND NO LOOSE MATERIAL ON THE TRACK AND LINE THE P.WAY AND ALLOW THE TRAFFIC AT RESTRICTED SPEED OF 20KMPH.

BETWEEN TRAIN TIMINGS (FOR BOX)
1. EXCAVATE THE EARTH TO THE REQUIRED DEPTH AT THE BOX PORTION, AND PROVIDE THE SHORING TO MAINTAIN REQUIRED EARTH SLOPE, SPREAD OF THE SAND TO MAKE EVEN SURFACE, CASTING OF THE PRECAST RCC BASE SLAB.


ELEVATION OF TEMPORARY ARRANGEMENTS
TOP PLAN
SCALE - 1:100
SHORING ARRANGMENT
TINAIGHAT VILLAGE
LONGITUDINAL CROSS SECTION

STAGE -4

STAGE - 4 :PUSHING OF BOX SEGMENTS, (UNDER LINE BLOCK AND POWER BLOCK)
1. WHILE PUSHING THE BOX SEGMENTS SEPERATE LINE BLOCK WILL BE TAKEN FOR EACH LINE & PROCEDURE WILL BE REPEATED TILL THIS BOX SEGMENTS ARE PUSHED TO ITS POSITION AS PER THE REQUIREMENT SHOWN IN THE DRAWING.

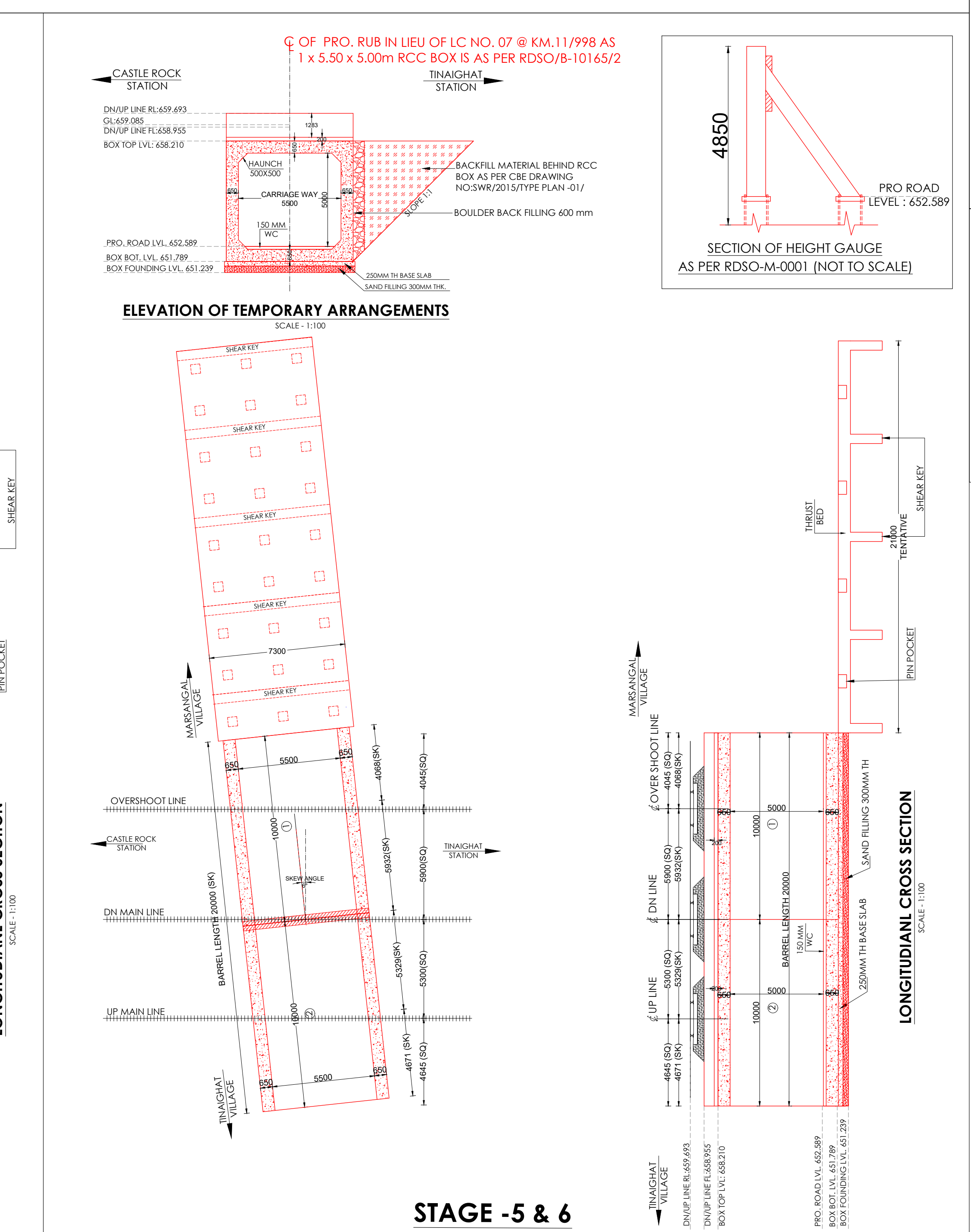
GRADE OF CONCRETE

No. DESCRIPTION	GRADE	AGGREGATE *
RCC BOX	M30	20
WEARING COURSE	M25	20
LEVELLING COURSE	M20	20
WING & RETURN WALL, COPING	M30	20

* mm MAXIMUM SIZE GRADED HARD STONE AGGREGATE OF APPROVED QUALITY.

BASE PRESSURE AT FOUNDATION LEVEL

STRUCTURE	MAXIMUM	UNIT
RCC BOX	15.6	T/M²
RETAINING WALL	15.0	T/M²


ELEVATION OF TEMPORARY ARRANGEMENTS
TOP PLAN
TINAIGHAT VILLAGE
LONGITUDINAL CROSS SECTION

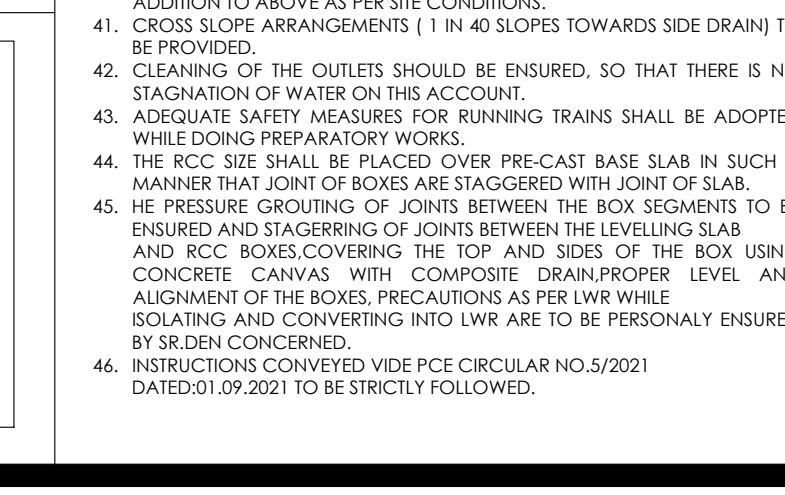
STAGE -5 & 6

STAGE -5 : DURING LINE BLOCK AND POWER BLOCK FOR BOTH UP & DOWN LINE (04 HRS)
1. REMOVE THE RH GIRDER AND CRIB ARRANGEMENTS.
2. FILL THE SOIL AND MAKE THE FORMATION GOOD, PLACE THE BALLAST TO THE REQUIRED LEVEL AND ALLOW THE TRAFFIC AT RESTRICTED SPEED OF 20KMPH AND SHUNTING NECK SUSPENSION TO BE REMOVED.

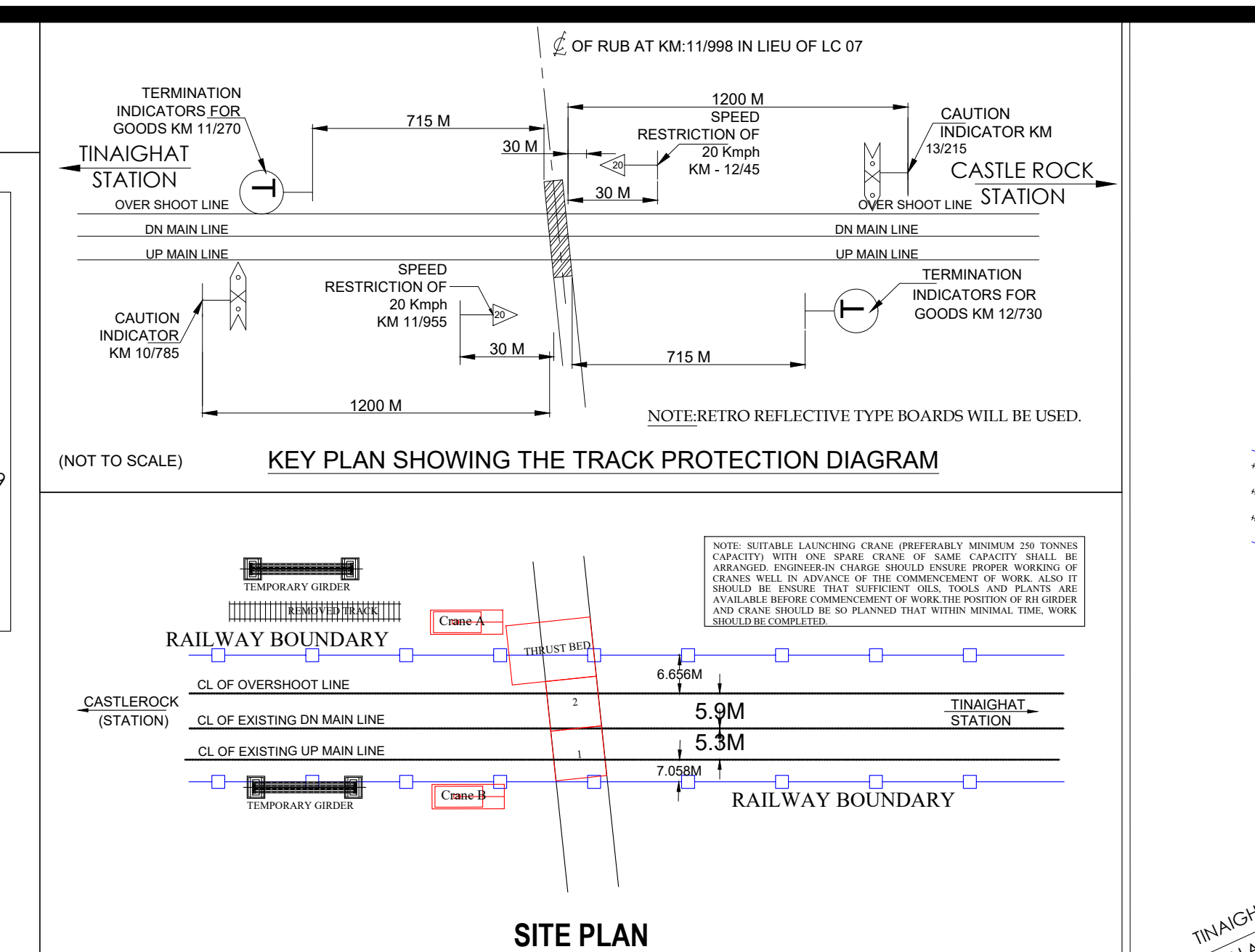
STAGE -6 : (BETWEEN TRAIN TIMINGS)
1. COMPLETE THE WORK IN ALL RESPECTS SUCH AS CONSTRUCTION OF WING/RETURN WALLS, PARAPET WALLS, APPROACH ROAD/U TYPE RETAINING WALL, ROOF SHEETS, SIDE DRAIN, ETC.
2. RESTORE NORMAL SPEED IN STAGES GRADUALLY AS PER PARA 637(1)F OF IRPWM.

DEPTH OF CONSTRUCTION FOR UP AND DN TRACK	
RAIL	172
RUBBED PAD	06
SLEEPER	210
BALLAST CUSHION	350
EARTH CUSHION	745
TOP BOX THICKNESS	650
VERTICAL HT. OF BOX	5000
WEARING COAT	150
BOT. BOX THICKNESS	650
TOTAL	7933

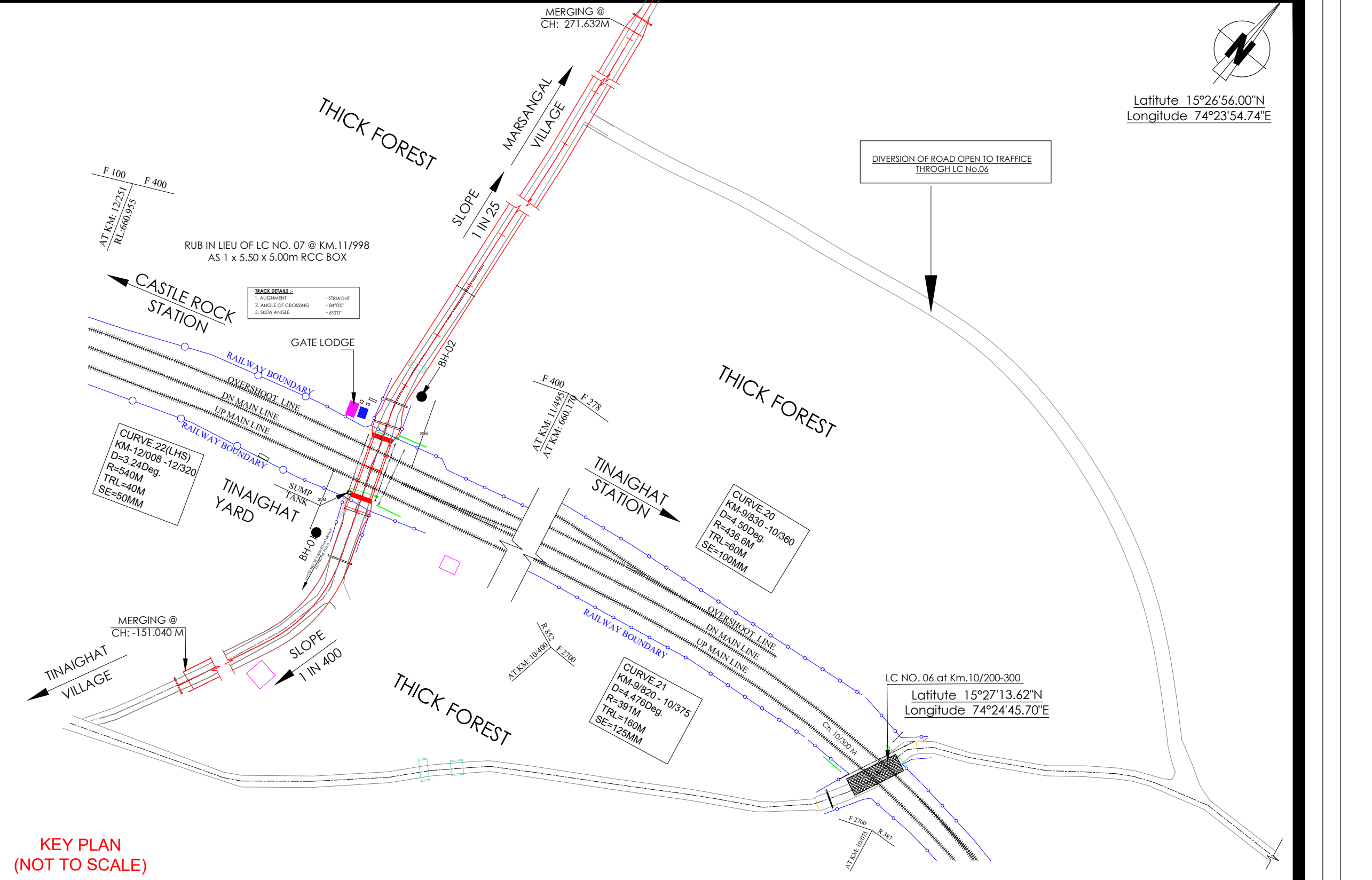
TRACK DETAILS :-
1. ALIGNMENT - STRIAGHT
2. ANGLE OF CROSSING - 84°0'0"
3. SKEW ANGLE - 6°0'0"
4. DN/UP RAIL LEVEL - 659.693 M
5. DN/UP FORMATION LEVEL - 658.955 M
6. PRO. ROAD LEVEL - 652.589 M
7. CLEAR SPAN OF BOX - 5.50 M
8. VERTICAL HEIGHT - 5.0 M
9. RAILWAY LOADING - 25 T -2008.
10. GRADIENT - F - 400.



GRATING DRAWING FOR ROAD CROSS DRAIN (NOT TO SCALE)


KEY PLAN SHOWING THE TRACK PROTECTION DIAGRAM
SECTION OF HEIGHT GAUGE AS PER RDSO/M-0001 (NOT TO SCALE)
CL OF EXISTING UP MAIN LINE
TEMPORARY GIRDER
Crane B
7.058M
5.3M
RAILWAY BOUNDARY

SITE PLAN



KEY PLAN
(NOT TO SCALE)

GENERAL NOTES :

1. PROPOSED ARE SHOWN IN RED IN KEY PLAN.
2. ALL DIMENSIONS SHOWN IN THIS GAD ARE IN MM AND REDUCED LEVELS (W.R.T MSL) ARE IN M UNLESS OTHERWISE SPECIFIED.
3. DO NOT SCALE THE DRAWING. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
4. EXPOSURE CONDITION IS MODERATE.
5. STANDARD OF RAILWAY LOADING : 25T AXLE LOADING - 2008 STANDARD.
6. CONTROLLED CONCRETE WITH WEIGH BATCHING SHOULD BE USED AND THE WORK SHALL BE SUPERVISED BY SECTIONAL ADEN/AXEN.
7. CONCRETE SHOULD BE MIXED BY APPROVED POWER DRIVEN MECHANICAL MIXTURE.
8. NECESSARY SLUMP TEST SHOULD BE FREQUENTLY CARRIED OUT DURING CONCRETING.
9. NO CONSTRUCTION JOINTS SHALL BE ALLOWED IN THE RCC BOX, CURING OF RCC CONCRETE AND MASONARY WORKS AS PER BRIDGE CODE OF PRACTICE SHALL BE ENSURED.
10. MAXIMUM PRESSURE AT THE BOTTOM OF THE U-TYPW RETAING WALL ISA AS PER 15.0 T/Sqm.
11. MAXIMUM PRESSURE DEVELOED AT FOUNDATION LEVEL BOX IS 15.6 T/SQM.
12. SBC AT 6.0 m DEPTH IS 27.3 T/Sqm.
13. INSTRUCTION CONVEYED VIDE PCE CIRUCULAR No. 01/2015 DATED 09.03.2015 REGARDING WORK DISCIPLINE AT SITE AND AS PER PCE CIRCULAR NO.01/2021 DATED.22.06.2021 REGARDING ENSURING QUALITY OF WORK AND MAINTAINING SITE RECORDS IN WORKS CONTRACTS TO BE STRICTLY FOLLOWED.
14. BEFORE AND DURING EXECUTION OF WORK, CONCERNED STATE GOVERNMENT OFFICIAL SHOULD BE CONTACTED IN CONNECTION WITH CLOSURE OF LC AFTER COMPLETION OF SUBWAY WORK.
15. ALL THE PRECAUTIONARY MEASURES TO BE TAKEN BEFORE EXECUTING THE WORK.
16. **GEO-COMPOSITE DRAIN** SHALL BE PROVIDE ALONG SIDE OF RCC BOXES.
17. WORK SHOULD BE EXECUTED AFTER TAKING OF A**PPROVAL OF DISTRICT COMMISSIONER** FOR CLOSING OF LC.
18. GAP BETWEEN THE SEGMENTAL BOXES TO BE COVERED WITH CONCRETE CANVAS SHEETS.
19. HEIGHT GAUGE WILL BE PROVIDED AT THE BEGINNING OF APPROACH ROAD .
20. INN ADDITION TO STEEL SHEET STRIPS (AS GIVEN IN CCRS LETTER) CONCRETE CANVAS OF 0.5M WIDE & 5MM THICK TO BE PROVIDED.
21. DURING EXECUTION OF WORK, MEASURES ADVISED BY CCRS/LUCKNOW VIDE LETTER No.-M.15013/01/2017-18-T.N, DATED: 27.04.2018 & COMMUNICATED BY CRS/SBC VIDE LETTER NO-Q.2201/1/2013-14-SWR, DATED: 09.05.2018 SHALL BE ADOPTED.
22. AS PER LETTER NO.SWR-/W.70/POLICY VIL-IV DATED:17.02.2014, DURING CONSTRUCTION OF APPROACH ROAD, IF ANY CUTTING INFRINGES THE SLOPE 2:1 LINE OF EMBANKMENT (EXISTING AS WELL AS EXTENDED)SUITABLE PROTECTION BY CONSTRUCTING OF TOE WALL OR ANY MEANS TO BE ENSURED BY ENGINEER-IN-CHARGE.
23. THE RCC BOX SEGMENTS SHALL BE PLACED OVER PRE CAST BASE SLAB IN SUCH A MANNER THAT JOINTS OF BOXES ARE STAGGERED WITH JOINTS OF SLAB.
24. FOR ALL CONCRETE WORKS, RMC SHALL BE USED.
25. THE INSTRUCTION CONVEYED VIDE CBE's LETTER NO.SWR/W.70/POLICY, DATED:15.12.2020 TO BE STRICTLY FOLLOWED.
26. DURING EXECUTION OF WORK THE MATERIALS EQUIPMENT SUCH AS RELEASED MATERIAL ETC, SHOULD NOT INFRINGES THE TRAIN TRAFFIC ALL THE SAFETY MEASURES TO BE TAKEN BY ENGINEER IN CHARGE.
27. FOR SEALING OF JOINTS OF BOX SEGMENTS CBE'S LETTER NO. SWR/W.70/POLICY/2020 DATED 12.07.2021 SHALL BE FOLLOWED.
28. PROPER DRAINAGE ARRANGEMENTS TO BE PROVIDED DULY ASSESSING CATCHMENTS AREA INCLUDING HIGHEST RAINFALL INCURRED DURING PAST 20 YEARS IN AND AROUND THE RUB/SUBWAY LOCATION.
29. COVER SHED SHOULD BE DESIGNED ON RAMP/APPROACHES WHERE EVER APPROVED.
30. RAIN WATER HARVESTING SHOULD BE PLANNED AS PER SITE CONDITION.
31. DRAINAGE ARRANGEMENTS SHOULD BE MADE INTEGRAL PART OF THE CONSTRUCTION OF THE RUB/SUBWAY (SUCH AS PROVISION OF CROSS DRAIN, CATCH WATER DRAINS AT APPROACHES WITH GRATING ARRANGEMENTS BEFORE HUMP, SIDE DRAINS, SOAK PIT/COLLECTION WEE/INJECTION WELL, ETC).
32. ON THE APPROACH ROAD THERE SHOULD BE A PROPER HUMP.
33. RETAINING WALL OF ADEQUATE HEIGHT SHOULD BE CONTINUED FOR A SUFFICIENT LENGTH, PREFERABLY UPTO THE HUMP TO AVOID FLOODING OF WATER FROM SIDES.
34. JOINT BETWEEN RCC BOX SEGMENTS IN RUB/SUBWAY SHOULD BE PROPERLY SEALED TO PREVENT SEEPAGE OF WATER.
35. BACK-FILL MATERIAL SHOULD BE AS PER CLAUSE 7.5 OF IRS BRIDGE SUB-STRUCTURE AND FOUNDATION CODE IN LIEU OF GRADED FILTER (IN THE FORM OF BOULDER/COBBLES) ON THE VERTICAL BARS.
36. HUMP ON ROAD SIDE OR PROVISION OF REVERSE SLOPE OF ROAD BEFORE START OF DOWNWARDS RAMP TO RUB/SUBWAY TO AVOID INGRESS OF WATER THROUGH RAMP AND SIDE RETAINING WALL SHOULD CONTINUE ALONG THE APPROACH SLOPE UPTO THE HUMP FROM WHERE THE RIVER SLOPE STARTS.
37. ELABORATE DRAINAGE ARRANGEMENT SHOULD BE DONE TO DIVERT SURROUNDING WATER.
38. WHERE EVER THE GROUND WATER TABLE WILL BE LOW INJECTION RECHARGEABLE WELLS ARE TO BE PROVIDED.
39. NO WEEP HOLES TO BE PROVIDED IN THE RETAINING WALLS.
40. ENGINEER-IN-CHARGE SHOULD DECIDE THE PROPER ARRANGEMENTS IN ADDITION TO ABOVE AS PER SITE CONDITIONS.
41. CROSS SLOPE ARRANGEMENTS (1 IN 40 SLOPES TOWARDS SIDE DRAIN) TO BE PROVIDED.
42. CLEANING OF THE OUTLETS SHOULD BE ENSURED, SO THAT THERE IS NO STAGNATION OF WATER ON THIS ACCOUNT.
43. ADEQUATE SAFETY MEASURES FOR RUNNING TRAINS SHALL BE ADOPTED WHILE DOING PREPARATORY WORKS.
44. THE RCC SIZE SHALL BE PLACED OVER PRE-CAST BASE SLAB IN SUCH A MANNER THAT JOINT OF BOXES ARE STAGGERED WITH JOINT OF SLAB.
45. HE PRESSURE GROUTING OF JOINTS BETWEEN THE BOX SEGMENTS TO BE ENSURED AND STAGERRING OF JOINTS BETWEEN THE LEVELLING SLAB AND RCC BOXES,COVERING THE TOP AND SIDES OF THE BOX USING CONCRETE CANVAS WITH COMPOSITE DRAIN,PROPER LEVEL AND ALIGNMENT OF THE BOXES, PRECAUTIONS AS PER LWR WHILE ISOLATING AND CONVERTING INTO LWR ARE TO BE PERSONALY ENSURED BY SR.DEN CONCERNED.
46. INSTRUCTIONS CONVEYED VIDE PCE CIRCULAR NO.5/2021 DATED:01.09.2021 TO BE STRICTLY FOLLOWED.
47. UNDERGROUND CABLE ETC. IF ANY, SHALL BE REMOVED AND RE -ALIGNED BEFORE THE EXECUTION OF WORK STARTS. S&T CABLES SHALL BE PROTECTED AT SITE BY EXECUTING AGENCY. ALL PRECAUTIONARY STEPS MUST BE TAKEN ACCORDING TO TELECOMMUNICATION CIRCULAR NO.17/2013 ISSUED BY RAILWAY BOARD VIDE LETTER NO.2003/TELE/RCIL/I PT ,IX, DATED:24.06.2013.
48. RETAINING WALL / U-TYPE RETAINING WALL OF ADEQUATE HEIGHT SHOULD BE CONTINUED FOR A SUFFICIENT LENGTH, PREFERABLY UP TO THE HUMP TO AVOID FLOODING OF WATER FROM SIDES.
49. "ENGINEER IN-CHARGE SHALL ENSURE THAT PROPER DRAINAGE ARRANGEMENTS SHALL BE PROVIDED, SO THAT RUNOFF FROM NEARBY CATCHMENTS AREA SHALL NOT ENTER THE APPROACHES OF THE RUB".
50. MAXIMUM SPEED ON THE TEMPORARY ARRANGEMENT SHALL NOT EXCEED 20KMPH.
51. THE TEMPORARY ARRANGEMENT SHALL BE KEPT UNDER CLOSED OBSERVATION BY ADEN CONCERNED, ESPECIALLY DURING THE FIRST WEEK OF INSERTION AND ALSO IF THE ARRANGEMENT IS IN USE DURING TRAINS.
52. GAP BETWEEN RCC SEGMENTAL BOXES TO BE COVERED WITH CONCRETE CANVAS SHEETS.
53. BEFORE EXECUTION OF THE WORK, ENGINEER IN-CHARGE SHALL ENSURE THAT THE MAXIMUM BASE PRESSURE AT FOUNDATION LEVEL FOR EACH ELEMENT OF BRIDGE IS LESS THAN THE SAFE BEARING CAPACITY OF SOIL AT THAT LOCATION.
54. BEFORE EXECUTION OF THE WORK, ENGINEER IN-CHARGE SHALL ENSURE THAT THE MAXIMUM BASE PRESSURE AT BOTTOM LEVEL OF THE SLEEPER MATING IS LESS THAN THE SAFE BEARING CAPACITY OF SOIL AT THAT LOCATION.
55. THIRD PARTY INSPECTION (TPI) OF THE WORKING CRANE, SPARE CRANE, AND ALL OTHER LIFTING EQUIPMENT & TOOLS SHALL BE CARRIED OUT PRIOR TO THE LAUNCHING OF GIRDERS TO ENSURE THEIR GOOD WORKING CONDITION. A CERTIFICATE OF INSPECTION SHALL BE DISPLAYED AT THE SITE.
56. A SUITABLE LAUNCHING CRANE OF 250T CAPACITY, ALONG WITH ONE SPARE CRANE OF THE SAME CAPACITY (250 T), SHALL BE ARRANGED WELL IN ADVANCE.
57. THE ENGINEER-IN-CHARGE SHALL ENSURE THE PROPER FUNCTIONING OF CRANES WELL BEFORE THE COMMENCEMENT OF WORK. IT SHALL ALSO BE ENSURED THAT SUFFICIENT OILS, TOOLS, AND PLANTS ARE AVAILABLE BEFORE THE COMMENCEMENT OF THE LAUNCHING WORK.
58. THE GUIDELINES ISSUED BY RAILWAY BOARD VIDE LETTER NO. 2015/CE-IV/RUB/206,DATED 15.02.2016 AND 11.08.2016 SHALL BE STRICTLY FOLLOWED.
59. ALL TEMPORARY WORKS FORMING PART OF THE LAUNCHING SCHEME SHALL BE SUITABLY DESIGNED AND APPROVED BY THE ENGINEER-IN-CHARGE.
60. BEFORE UNDERTAKING THE WORK, ALL THE CONTRACTOR'S SUPERVISOR AND STAFF SHALL BE ADEQUATELY TRAINED REGARDING ALL SAFETY PROCEDURES AND MEASURES TO BE FOLLOWED AT SITE DURING EXECUTION OF THE WORKS, ENSURING THE HIGHEST SAFETY STANDARDS.
61. ENGINEER-IN-CHARGE SHALL ENSURE THE PROPER WORKING OF THE CRANES AND ALL MACHINERY AND TOOLS DEPLOYED FOR EXECUTION OF THE WORK WELL IN ADVANCE BY DULY CONDUCTING A MOCK DRILL FOR LAUNCHING OF GIRDER.

SPECIFICATIONS :

1. ALL CIVIL WORKS HAVE TO BE CARRIED OUT AS PER THE FOLLOWING:
   - 1.1. INDIAN RAILWAY UNIFIED STANDARD SPECIFICATIONS FOR WORKS AND MATERIALS 2010.
   - 1.2. IRS CONCRETE BRIDGE CODE 2014 AND RELEVANT IS SPECIFICATIONS.
   - 1.3. IRS BRIDGE SUBSTRUCTURE & FOUNDATION CODE 2013.
   - 1.4. IRS BRIDGE RULES 2014.
   - 1.5. IRS SCHEDULE OF DIMENSIONS 2004(READ WITH UPDATED CORRECTION SLIP.
2. FOUNDATION:-OPEN FOUNDATION, RCC BOX, CONCRETE MIX OF M35 GRADE.
3. COPING:- PCC, CONCRETE MIX M30.
4. PITCHING: STONE.
5. LEVELING COURSE:- 150 MM THICK CC M20 USING 40MM MAX SIZE GRADED HARD STONE AGGREGATE OF APPROVED QUALITY.
6. TOE WALL:- MASS CONCRETE M25.
7. RCC RETAINING WALL:- M35
8. COMPONENTS AND GRADE OF CONCRETE :

DISCRIPTION	GRADE	AGGREGATE
RCC BOX	M 35	20mm
RETAINING WALL RCC	M35	20mm
WEARING COAT	M30	20mm
LEVELING COURSE	M20	20mm

9. RCC:- MINIMUM GRADE OF CONCRETE FOR RCC WORKS IS M35 GRADE FOR RCC BOX USING 20MM MAXIMUM SIZE GRADED HARD STONE AGGREGATE OF APPROVED QUALITY.
10. GEO COMPOSITE DRAIN AS PER SPECIFICATION NO. RDSO/2018/GE:IRS-006.
11. BACKFILL: BEHIND THE GEOCOMPOSITE DRAIN, BACKFILL MATERIALS SHALL CONSIST OF GRANULAR MATERIALS OF GW, GP, SW GROUPS AS PER IS: 1498-1970.
12. HIGH STRENGTH DEFORMED BARS(TOR) SHALL CONFORM TO IS:1786-2008 (FE 500). BAR BENDING SHALL BE CONFORM TO IS : 2502.

1. PROPOSED RUB IS SUITABLE FOR 25 T-2008 LOADING
2. ROAD LOADING AS PER TABLE 2 OF IRC-6

LEGEND	DEPTH (m)	SOIL STRATA DESCRIPTION	N VALUES	SBC T/Sqm
	1.5	Whitish/Yellowish Brown Clayey Silt/Sand	18	10.30
	2.0 3.0	Whitish/Yellowish Brown Clayey Silt/Sand	22	15.80
	4.5	Whitish/Yellowish Brown Clayey Silt/Sand	24	20.50
	6.0	Whitish/Yellowish Brown Clayey Silt/Sand	38	29.30
	7.5	Brownish Grey Silty Sand	56	29.30
	9.0	Brownish Grey Soft Disintegrated Weathered Rock	>100	29.30
	10.5	Brownish Grey Soft Disintegrated Weathered Rock	>100	29.30

GL 657.520 m
Foundation Level 651.239

BH-1 @ KM: 11/998 @20.00m
LEFT SIDE OF THE TRACK

LEGEND	DEPTH (m)	SOIL STRATA DESCRIPTION	N VALUES	SBC T/Sqm
	1.5	Brownish Grey Clayey Silty/Sand	17	10.00
	2.0 3.0	Brownish Grey Clayey Silty/Sand	19	12.80
	4.5	Whitish/Yellowish Brown Clayey Silt/Sand	24	20.00
	6.0	Whitish/Yellowish Brown Clayey Silt/Sand	35	27.30
	7.5	Brownish Grey Silty Sand	55	27.30
	9.0	Brownish Grey Soft Disintegrated Weathered Rock	>100	27.30
	10.5	Brownish Grey Soft Disintegrated Weathered Rock	>100	27.30

GL 659.245 m
Tentitive F.L 651.239 m

BH-2 @ KM: 11/998 @20.00m
RIGHT SIDE OF THE TRACK

	ALTERATION TABLE
ALT NO	DESCRIPTION

LC DETAILS :-
1. KM: 11998
2. BETWEEN STATIONS: TGT - CLR
3. MANNED - TRAFFIC GATE.
4. CLASS : B1 CLASS
5. LIFTING BARRIER GATE.
6. TVUs : 29409 AS ON OCT/2021
7. TYPE OF ROAD : PAVERS
8. EXG.ROAD WIDTH: 3.05M

IT IS CERTIFIED THAT SUFFICIENT LAND IS AVAILABLE FOR THE CONSTRUCTION OF THE RUB APPROACH ROADS ON BOTH SIDES

(SR.DEN/WEST/UBL)

BRIDGE STRENGTH CERTIFICATE

CERTIFIED THAT THE PRO. SEGMENTAL BOX OF SIZE 1 x 5.50 x5.00m AS PER RDSO/B-10165/2 TO BE CONSTRUCTED IS OF SUCH DESIGN, DIMENSIONS AND CONSTRUCTIONS AS WILL ENABLE IT TO CARRY THE DEAD LOAD OF THE STRUCTURE ITSELF (INCLUDING P-WAY COMPLETE) AND IN ADDITION TO THE EQUIVALENT OF 25 T - 2008 LOADING PRESCRIBED IN THE BRIDGE RULES CHAPTER VII OF THE RULES FOR THE OPENING OF RAILWAYS AT FULL SPEED.

ALSO CERTIFIED THAT THE HEAVIEST LOADS WHICH THE BRIDGE WILL HAVE TO CARRY WILL NOT BE IN EXCESS OF THE ABOVE STANDARDS OF LOADING AT THE STIPULATED SPEED AND WILL NOT CAUSE ANY STRESS IN ANY MEMBERS OR PORTION OF THE STRUCTURE IN EXCESS OF MAXIMUM PERMISSIBLE STRESSES LAID DOWN IN THE INDIAN RAILWAY STANDARD CODE OF PRACTICE.

Dy.CE/BRIDGE/SWR
CBE/SWR

CERTIFICATE OF DRAINAGE ARRANGEMENTS

IT IS CERTIFIED THAT THE DRAINAGE ARRANGEMENTS FOR PROPOSED CONSTRUCTION OF LHS IN LIEU OF LC No.07 AT KM.11/998 BETWEEN TGT CLR SECTION HAS BEEN THOROUGHLY CHECKED BY ME AND THERE WILL BE NO PROBLEM OF DRAINAGE AT THIS LOCATION IN FUTURE.

ELISHA N G Digitally signed by ELISHA N G Date: 2026.05.07 13:29:44 +5'30'
SSE/W/CLR/UBL

MAHESH BARALE Digitally signed by MAHESH BARALE Date: 2026.05.07 13:30:35 +5'30'
ADEN/CLR /UBL

VAMSHIKRISHNA REDDY KESIREDDY Digitally signed by VAMSHIKRISHNA REDDY KESIREDDY Date: 2026.05.07 19:02:35 +5'30'
Sr.DEN/WEST /UBL

VISHNU BHUSHAN THUMMALLA Digitally signed by VISHNU BHUSHAN THUMMALLA Date: 2026.05.08 10:38:01 +5'30'
ADRM/OP/UBL

SIGNATURE BLOCK		
SSE/W/CLR	ELISHA N G	Digitally signed by ELISHA N G Date: 2026.05.07 13:30:10 +5'30'
ADEN/CLR/UBL	MAHESH BARALE	Digitally signed by MAHESH BARALE Date: 2026.05.07 13:31:02 +5'30'
JE/DRG/BR/UBL	KUMARA N	Digitally signed by KUMARA N Date: 2026.05.07 18:48:44 +5'30'
Sr.DEN/WEST /UBL	VAMSHI KRISHNA REDDY KESIREDDY	Digitally signed by VAMSHIKRISHNA REDDY KESIREDDY Date: 2026.05.07 19:01:38 +5'30'
Sr.DEN/Co-ord/UBL	RAVINDRA BIRADAR	Digitally signed by RAVINDRA BIRADAR Date: 2026.05.08 12:41:28 +5'30'
Sr.DEE/TRD/UBL	ANANTHA GURUSWAMY ANUMALA	Digitally signed by ANANTHA GURUSWAMY ANUMALA Date: 2026.05.08 16:07:57 +5'30'
Sr.DSTE/UBL	PRAVEEN S P	Digitally signed by PRAVEEN S P Date: 2026.05.08 16:48:34 +5'30'
Sr.DOM/UBL	SATISH V	Digitally signed by SATISH V Date: 2026.05.09 10:40:34 +5'30'
ADRM/T/UBL	VISHNU BHUSHAN THUMMALLA	Digitally signed by VISHNU BHUSHAN THUMMALLA Date: 2026.05.08 10:36:51 +5'30'
DRM/UBL	BELA MEENA	Digitally signed by BELA MEENA Date: 2026.05.12 10:50:55 +5'30'
SSE/BRIDGE/HQ		
AXEN/BRIDGE/HQ		
DYCE/BRIDGE/HQ		
CBE/SWR		

SAFETY NOTES:
1. ADEQUATE SAFETY MEASURES FOR RUNNING TRAINS SHALL BE ADOPTED WHILE DOING PREPARATORY WORKS.
2. DURING LAUNCHING OF GIRDERS, THE EXISTING TRACK SHALL BE PROTECTED SUITABLY BY IMPOSING NECESSARY SPEED RESTRICTIONS BY PROVIDING TEMPORARY ENGINEERING INDICATORS.
3. GRADUAL RELEASE OF SPEED RESTRICTIONS SHALL BE AS PER PARA 637(1)(F) OF IRPWM.
4. NECESSARY SHORING ARRANGEMENTS TO BE MADE TO PROTECT EXISTING BRIDGE STRUCTURE WHERE EVER NECESSARY.
5. JOINT PROCEDURE ORDER FROM SAFETY RELATED ISSUES PERTAINING TO WORK SITE IN CONSTRUCTION PROJECT (LR. NO.W339/SAFETY PRECAUTION DT:18.02.2011) VIDE CTE LETTER NO.SWR/W.247/SAFETY AT WORK SPOT DT:20.06.2017 IS TO BE STRICTLY FOLLOWED.
6. DURING EXECUTION OF WORK THE MATERIALS SUCH AS RELEASED MATERIAL ETC., SHOULD NOT INFRINGE RUNNING TRAINS.ALL SAFETY MEASURES TO BE TAKEN BY ENGINEER-IN-CHARGE DURING LAUNCHING.
7. SAFETY PRECAUTIONS MUST BE ENSURED AS PER ABOVE RELEVANT JPOs ZONAL RAILWAY AND INSTRUCTIONS OF RAILWAY BOARD.
8. WORKING AREA SHALL BE BARRICADED TO ENSURE SAFETY OF TRACK OPERATION ON RUNNING LINES.
9. ERECTION/LAUNCHING WORK OVER RUNNING LINE SHALL BE CARRIED OUT UNDER TRAFFIC BLOCK,UNDER SUPERVISION OF CONCERNED SR.DEN.
10. GIRDER MUST BE ADEQUATELY SECURED IMMEDIATELY AFTER LAUNCHING.
11. WORK HAS TO BE EXECUTED UNDER SUPERVISION OF AN EXPERIENCED AND COMPETENT CONTRACTORS/RAILWAY ENGINEER.
12. ADHERENCE OF PROVISION OF SOD TO BE ENSURED AND VISIBILITY OF SIGNAL TO BE CHECKED AFTER COMPLETION OF WORK.

SPECIAL NOTES FOR 25 KV A.C. TRACTION SYSTEM :
1. NECESSARY PROTECTIVE ARRANGEMENTS SHALL BE MADE BY UBL DIVISION IN CONSULTATION WITH ELECTRICAL TRD/BRANCH TO AVOID AN ELECTRICAL INDUCTION DURING LAUNCHING OF SEGMENTS AND EXECUTION OF PROPOSED WORK.
2. WHILE EXECUTION OF WORK ABOVE OHE AND ALSO DURING ANY WORK INVOLVING LESS THAN 2.0M WORKING CLARENCE FROM THE OHE. THE WORK SHALL BE CARRIED OUT ONLY UNDER PROPER BLOCK CONDITION BY OBTAINING PERMISSION TO WORK, FROM AUTHORIZED TRD BRANCH OFFICIALS.
3. ALL STEEL STRUCTURES OR EXECUTION OF PROPOSED WORK INVOLVING THE ABOVE WORKS SHALL BE SUITABLY EARTHEN TO THE TRACTION RAILS/SEPARATE EARTH PIPE FOR SAFETY OF WORKING STAFF.
4. RCC SEGMENTAL BOXES LAUNCHING AND EXECUTION OF PROPOSED WORK TO BE DONE WITHOUT DISTURBING OHE.
5. OHE TRACTION CONDUCTORS SHALL BE PROFILED TO GET MAXIMUM CONTACT WIRE HEIGHT WITH NORMAL ELECTRICAL CLEARANCES AFTER THE COMPLETION OF WORK BY OL/TRD.
6. ALL OHE PROFILING WORKS, LAUNCHING OF RCC SEGMENTAL BOXES AND EXECUTION OF PROPOSED WORK WILL BE DONE UNDER THE SUPERVISION OF ENGINEER-IN-CHARGE, SSE/TRD/OPEN LINE AND SSE / PWAY OPEN LINE UNDER POWER BLOCK CONDITION.

REFERENCE:
1. RCC BOX (GAD) :AS PER DRG NO. RDSO/B-10165
2. REINFORCEMENT DETAILS : AS PER DRG NO.RDSO/B-10165/2.(REF: RCC BOX SIZE-6.0x6.0m)
3. RETAINING WALL : AS PER DRG NO. HQ DRG NO. SWR/2022/TYPE PLAN -02/U-TYPE RETAINING WALL PROVISION/ALT-1
4.TEMPORARY GIRDER : AS PER RDSO/B-11040.
5.CRIBS STAGING : AS PER DRG NO. RDSO/B 1484 /3R and 1484/1R
6.HEIGHT GAUGE : AS PER DRG NO.RDSO/M-0001.
7.HEIGHT GAUGE FOUNDATION : AS PER DRG NO.SWR/2023/TYPE PLAN-05/FOUNDATION OF HEIGHT \GAUGE(RDSO/M.0001).
8.THRUST BED : AS PER DESIGN

SOUTH WESTERN RAILWAY

HUBBALLI DIVISION

LONDA- VASGO SECTION

PROPOSED CONSTRUCTION OF RUB AT KM: 11/998 IN LIEU OF LC NO. 07 WITH RCC BOX OF SIZE 1 x 5.50m x 5.00m (CLEAR SPAN) BETWEEN TINAIGIHAT STATION AND CASTLE ROCK STATIONS BY AIR PUSHING METHOD)

GENERAL ARRANGEMENT DRAWING AND
TEMPORARY ARRANGEMENT DRAWING

PID NO.14.02.30.25.3.51.009

SCALE : 1:100

HQ DRG.NO.SWR/