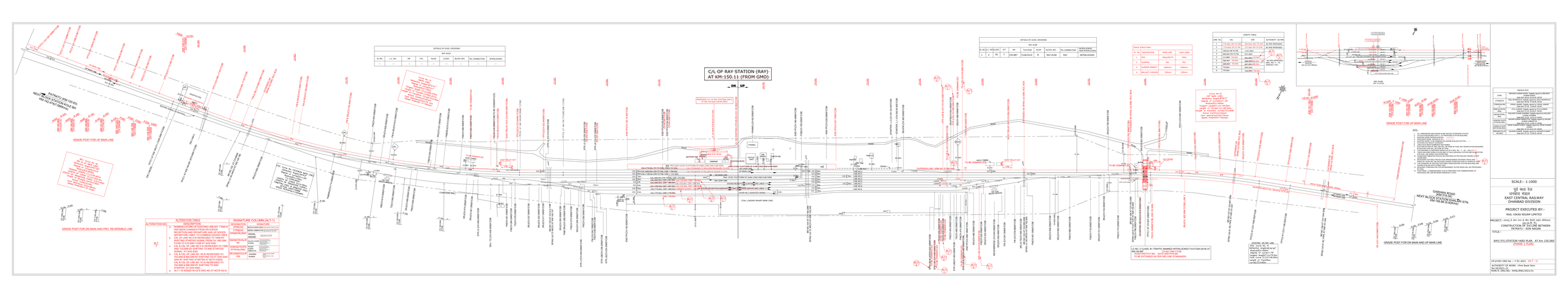

C/L OF RAY STATION (RAY)
AT KM:150.11 (FROM GMO)
DN
UP
PROPOSED C/L OF RAY STATION (RAY) AT KM:150.060 (FROM GMO)
CL OF NEW STN BLDG CH:0.000
CL OF EXISTING STN BLDG (CH: 50.0M)F/CSB
PATRATU (KM:120.83)
NEXT BLOCK STATION KOLE BH
KM:142.474(7.586Kms)
GARHWA ROAD (KM:319.04)
NEXT BLOCK STATION KHALARI STN.
KM:156.88 (6.82Kms)
UP MAIN LINE
REVERSIBLE LINE
DN MAIN
BACHRA SIDING (TO BUFFER)
132/25 KV/TSS
BOUNDARY TO BE SHIFTED
GANTRY
HPL
ROAD
EAST CABIN
TO BE DISMANTLED
EAST RELAY HUT
WEST CABIN
WEST RELAY HUT
G/LODGE
DG ROOM
BLDG
100 TON WEIGH BRIDGE
COMPOUND WALL
SHED
PANNEL
OFFICE SM'S
RM RNNG
GNRTR RM
BATTERY RM
GDWN
PS RM
NEW STN. BLDG.
DAMAGE
HLL WTNG
STATION BLDG
TMPL
PMP HS
WTR TNK
DRAIN
PWR HS
PRO.HIGH LEVEL PLATFORM OF 400M LONG AND 9.5M WIDE
HIGH LEVEL PLATFORM OF 310M LONG AND 9.5M WIDE
RAIL LEVEL PLATFORM OF 244M LONG AND 8.5M WIDE
UP LOOP LINE
UP MAIN LINE
DN MAIN LINE
DN LOOP LINE
GOODS RECEPTION & DEPARTURE LINES
~~DN GOODS RECEPTION & DEPARTURE AND UP GOODS DEPARTURE LINES~~
COMMON GOODS LINES
CHURI NO.2 ASSISTED SIDING
COAL LOADING WHARF 650M LONG
LINE NO.1
LINE NO.2
LINE NO.3
LINE NO.4
LINE NO.5
LINE NO.6
LINE NO.7
LINE NO.8
LINE NO.9
OVERRUN LINE 120M NO STABLING
CAL=779.00m (TS TO SRJ), CSR= 741.50m
CAL=779.00m(SRJ TO SRJ),CSR=766.00m(SRJ TO STR)
CAL=829.55m (FM TO FM), CSR = 759.00m
CAL=779.00m(FM TO FM),CSR=757.00m(FM TO STR)
CAL=1165.0m (FM TO FM), CSR = 1141.00m
CAL=958.00m (FM TO FM), CSR = 872.68m
~~CAL=694.00m, CSR = 691.00m~~ CAL=730.00m, CSR = 723.00m
~~CAL=689.00m, CSR = 668.00m~~ CAL=703.00m, CSR = 694.50m
~~CAL= 690.00m CSR = 687.00m~~ CAL=704.00m, CSR = 698.00m
CAL=716.00m, CSR = 699.00m
~~CAL=776.00m, CSR = 716.00m~~ CSR = 750.00m
ALT1 a
ALT1 b
ALT1 c
ALT1 d
ALT1 e
TPTC1 CH:1357.626M F/CSB.
TPCC1 CH:1317.626M F/CSB.
TPCC2 CH:1298.813M F/CSB.
TPTC2 CH:1258.813M F/CSB.
TPTC1 CH:1208.813M F/CSB.
TPCC1 CH:1168.813.0M F/CSB.
TPCC2 CH:1150.0M F/CSB.
TPTC2(CH:1110.0M F/CSB
TPTC1(CH:985.171M F/CSB
TPCC1(CH:935.171M F/CSB
FM & SRJ CH:909.578M F/CSB
EXTENDED AS SPAN,1x2.00M, RCC BOX
FM & SRJ(CH:812.00M F/CSB)
FM & SRJ(CH:799.00M F/CSB)
FM & SRJ(CH:705.00M F/CSB)
FM(CH:644.00M)F/CSB
SRJ(CH:628.00M)F/CSB
FM & SRJ(CH:613.00M)F/CSB
SRJ(CH:531.00M)F/CSB
FM&SRJ(CH:513.00M)F/CSB
FM(CH:480.00M)F/CSB
FM(CH:466.55M)F/CSB
TS(CH:416.00M)F/CSB(TO BE DISMANTLED)
FM & SRJ(CH:416.00M)F/CSB
EAST RELAY HUT (CH:400.00M F/CSB)
TPCC2(CH:372.940M F/CSB)
TPCC2 AT KM:149.691(369M F/CSB)
TPTC2(CH:322.940M(F/CSB)
STR L4 (CH:315.00M)F/CSB
TPTC2 AT KM:149.771(289.00M F/CSB)
STR L5 (CH:255.00M)F/CSB
STR L6 (CH:237.00M)F/CSB
END PF(CH:162.16 M)F/CSB
END PF(CH:90.00M)F/CSB
END PF(CH:84.00M)F/CSB
PANNEL(CH:65.00M)F/CSB
END PF(CH:160.49M)F/CSB
FOB(CH:165.50M)F/CSB
END PF(CH:220.00M)F/CSB
END PF(CH:237.73M)F/CSB
STARTER, L-2 (CH:341.00 M)F/CSB
STARTER, L-1 (CH:350.00 M)F/CSB
SRJ/FM (CH:363.00M)F/CSB
STR (L06 & L07) CH:442.00M F/CSB
SRJ/FM(CH:454.00M)F/CSB
STR (L05) CH:468.00M F/CSB
DE(CH:468.00M)F/CSB
TO BE DISMANTLED
TS (L05) CH:475.00M F/CSB
TS(CH:483.00M)F/CSB
WEST RELAY HUT (CH:560.00M)F/CSB
EXTENDED AS SPAN,1x2.00M, RCC BOX
SRJ(CH:758.00M)F/CSB
TPTC(CH:792.36M)F/CSB
SRJ(CH:822.00M)F/CSB
TPCC1(CH:852.36M F/CSB)
TPCC1(CH:897.00M)F/CSB
TO RANCHI
FM AT CH:924.00M(F/CSB)
FM AT CH:974.00M(F/CSB)
SRJ(CH:1014.00M)F/CSB
TPCC2(CH:1036.00M F/CSB)
TPTC2(CH:1096.00M)F/CSB
TS(CH:1134.00M)F/CSB
TEMPORARY DE(CH:2634.00M)F/CSB
1500 M TEMPORARY ENGG. SIDING
SHUNTING NECK CAL- 600.00 M TS TO DE.
SHUNTING NECK(CH:810.00M)F/CSB
TPTC1 AT CH:837.00M(F/CSB)
TS(CH: 840M)F/CSB, (KM:150.900)
SRJ(CH: 902.00M F/CSB) LINE 3
BR NO.102 AT CH:894M SPAN,1x1.83 ARCH AT KM:149.166
BR NO.103 AT CH:312.77M SPAN,1x3.72 ARCH AT KM 149.747
BR NO.104 AT CH:185.00M SPAN,1x3.72 ARCH AT KM :150.245
BR NO.105 AT CH:595.00M SPAN,1x1.83 ARCH AT KM:150.655
BR NO.106 AT CH:795.00M SPAN,1x0.91 FLAT TOP AT KM:150.855
BR NO.107 AT CH:997.00M SPAN,1x0.91 RC PIPE AT KM:151.057
BR NO.108 AT CH:1344.00M SPAN,1x0.91 RC PIPE AT KM:151.404
DE (CH:1440.00M)(F/CSB)
TPTC1 AT KM:149.011 (1049.00M F/CSB)
TPCC1 AT KM:149.081 (979.00M F/CSB)
EM (148/29)
EM (149/1)
SRJ(CH:855.00M)F/CSB
FM&SRJ(CH:714.00M)F/CSB
WB(CH:610.00M)F/CSB
TS(CH:595.00M)F/CSB
SRJ(CH:566.00M)F/CSB
FM(CH:556.00M)F/CSB
FM(CH:540.00M)F/CSB
SRJ(CH:474.00M)F/CSB
SRJ(CH:461.00M)F/CSB
STR L3 (CH:456.00M)F/CSB
SRJ / TS (CH:426.00M)F/CSB
FM(CH:401.00M)F/CSB
FM(CH:384.00M)F/CSB
TS(CH:378.00M)F/CSB
SRJ(CH:337.00M)F/CSB
SRJ(CH:322.00M)F/CSB
SRJ(CH:317.00M)F/CSB
SRJ(CH:293.00M)F/CSB
FM& SRJ(CH:288.00M)F/CSB
FM(CH:275.50M)F/CSB
SRJ(CH:259.00M)F/CSB
FM(CH:258.00M)F/CSB
STR L7(CH:256.00M)F/CSB
FM (CH:245.75M)F/CSB
TS(CH:238.00M)F/CSB
STR L08(CH:236.00M)F/CSB
STR L9(CH:234.00M)F/CSB
END PF(CH:163.92M)F/CSB
STR L06 & L07(CH:431.00M)F/CSB TO BE DISMANTLED
STR L05(CH:436.00M)F/CSB TO BE DISMANTLED
TS(CH:434.00M)F/CSB TO BE DISMANTLED
TS(CH:439.00M)F/CSB TO BE DISMANTLED
FM(CH:454.00M)F/CSB
STR L08(CH:463.00M)F/CSB
TS(CH:466.00M)F/CSB
FM(CH:474.28M)F/CSB
TO BE DISMANTLED STR L09 & FM(CH:482.00M)F/CSB
END PF(CH:486.18M)F/CSB
SRJ(CH:489.00M)F/CSB
STR L09 (CH:516.00M)F/CSB
FM(CH:520.00M)F/CSB
SRJ(CH:524.00M)F/CSB
WEIGHBRIDGE (CH:540.00M)F/CSB
SRJ(CH:555.0M)F/CSB
FM (CH:557.00M)F/CSB
FM (CH:578.68M)F/CSB
SRJ & TS(CH:590.00M)F/CSB
FM(CH:601.00M)F/CSB
SRJ(CH:648.00M)F/CSB
SRJ(CH:663.00M)F/CSB
FM(CH:685.00M)F/CSB
FM(CH:718.00M)F/CSB
SRJ(CH:741.00M)F/CSB
SRJ(CH:745.00M)F/CSB
FM(CH:774.00M)F/CSB
FM(CH:796.00M)F/CSB
TPCC2 AT (CH:1046.00)F/CSB
TPTC2 AT (CH:1106.00)F/CSB
F600 LEVEL KM:149.010 CH:1050M
R300 R 200 KM:145.840 CH:4220.00
R200 R 280 KM:146.460 CH:3600.00
R280 R 180 KM:146.660 CH:3400.00
R180 R 200 KM:147.360 CH:2700.00
R 200 F350 KM:148.020 CH:2040M
F350 F200 KM:148.280 CH:1780M
F200 F600 KM:148.500 CH:1560M
GRADE POST FOR UP MAIN LINE
R 238 R 200 CH: 3460.00M F/CSB
R 200 L CH: 2460.00M F/CSB
L F 666 CH: 2190.00M F/CSB
GRADE POST FOR DN MAIN AND PRO. REVERSIBLE LINE
LEVEL R1200 KM:151.160 CH:1100M
R1200 F 1000 KM:152.080 CH:2020M
F 1000 R225 KM:152.260 CH:2200M
R225 R190 KM:152.680 CH:2620M
R190 R235 KM:153.800 CH:3740M
R235 R180 KM:154.600 CH:4540M
GRADE POST FOR UP MAIN LINE
R 200 CH: 1942.00M F/CSB
R 200 R 238 CH: 2140.00M F/CSB
R 238 R 200 CH: 2340.00M F/CSB
R 200 R 217 CH: 3070.00M F/CSB
GRADE POST FOR DN MAIN AND UP MAIN LINE
KEY PLAN
NOT TO SCALE
UP LOOP LINE
UP MAIN LINE
DN MAIN LINE
DN LOOP LINE
BACHRA SIDING (TO BUFFER)
PATRATU
KOLE BH
KM:142.474(7.586Kms)
GARHWA ROAD (KM:319.04)
KHALARI STN.
KM:156.88 (6.82Kms)
COAL LOADING WHARF 650M LONG
CHURI NO.2 ASSISTED SIDING
1500 M TEMPORARY ENGG SIDING

DETAILS OF LEVEL CROSSING

RAY-KOLE

SL NO.	L.C. NO	KM	TVU	M/UM	CLASS	BLOCK SEC.	TEL CONNECTION	INTERLOCKED
--	--	--	--	--	--	--	--	--

DETAILS OF LEVEL CROSSING

RAY-KLRE

SL NO.	L.C. NO	CLASS	E/T	KM	TVU/YEAR	M/UM	BLOCK SEC.	TEL CONNECTION	INTERLOCKED/ NON-INTERLOCKED
1	2	B1	T	150.887	7228/2019	M	RAY-KLRE	RAY	INTERLOCKED

TRACK STRUCTURE:-

Sr. No.	DESCRIPTION	MAIN LINE	LOOP LINES
1.	RAIL	60Kg/90UTS	60Kg
2.	SLEEPER	PSC	PSC
3.	SLEEPER DENSITY	1660/Km	1540/Km
4.	BALLAST CUSHION	350mm	250mm

LENGTH TABLE

LINE. No.	CAL	CSR	AUTHORITY AS PER
1	779.00m SRJ TO SRJ	766.00m SRJ TO STR	AS PER PROPOSED
2	779.00m FM TO FM	757.00m FM TO STR	AS PER PROPOSED
3	1165.00m FM TO FM	1141.00m	AS PER APPROVED DRG. NO. Y - 76 - 2005(ALT-III)
4	958.00m FM TO FM	872.68m	
5	~~711.50m~~ 730.00m	~~691.00m~~ 723.00m	
6	~~706.10m~~ 703.00m	~~668.00m~~ 694.50m	
7	~~690.00m~~ 704.00m	~~687.00m~~ 698.00m	
8	716.00m	699.00m	
9	776.00m	~~716.00m~~ 750.00m	

ALT1 c

ALT1 d

ALT1 b

Curve No.-5
(MAIN LINE)
Deflection Angle=20°2'41"
Degree of curve(D)=1°
Radius(R)=1750m
Tangent length (T.L)=309.276m
Length of Curve(C.L)=562.231m
Length of transition Curve(LTC)=50m
Actual Cant(Ca)=20mm
Cant Deficiency(Cd)=75 mm
Speed Potential =110kmph

Curve No-6
(UP MAIN LINE)
Deflection Angle=8°55'2"
Degree of Curve(D)=1.25°
Radius(R)=1400m
Tangent Length(T.L)=109.83m
Length of Curve(C.L)=183.64m
Length of transition curve(LTC)=60M
Actual Cant(Ca)=44mm
Cant deficiency(Cd)=75mm
Speed Potential=110kmph

REV. Curve No 4A
(RH & LH MAIN LINE)
Deflection Angle=0°57'46"
Degree of Curve(D)=0.5°
Radius(R)=3500m
TANGENT LENGTH (T.L)=29.407m
LENGTH OF CURVE (C.L)=18.813m
LENGTH OF TRANSITION CURVE (LTC)=40m
Length of Straight portion=50m
Actual Cant(Ca)=NIL
Cant Deficiency (Cd)=48mm
Speed Potential=110 kmph

EXG. Curve No.-5(UP&DN MAIN LINE)
Deflection Angle=20°4'9"
Degree of curve(D)=1.00°
Radius(R)=1750m
T.L=309.650m
LENGTH OF CURVE (CL)=760m
LENGTH OF TRANSITION CURVE=
70M(PTRU END) & 80M(GHD END)
ACTUAL CANT=35MM
SPEED POTENTIAL=100KMPH

EXISTING UP/DN LINE
EXG. Curve No. 6
Deflection Angle=8°34'43"
Radius(R)=1000m
Degree of curve=1.75°
Tangent length(T.L)=75.0m
Total Curve (C.L)=149.00m
Length of Transition curve(LTC)=60m

LC NO. 2 CLASS- B1 TRAFFIC MANNED INTERLOCKED TVU=7228 (2019) AT KM:150.887 CH:827.00M F/CSB
ROAD WIDTH=7.5M GATE WIDTH=9.5M
TO BE EXTENDED AS PER 3RD LINE STANDARDS

NOTE:-

1. ALL DIMENSIONS ARE SHOWN IN MM UNLESS OTHERWISE STATED.
2. CH:0.00 IS RECKONED FOR C.L OF PROPOSED STATION BUILDING.
3. EXISTING WORK SHOWN IN BLACK.
4. PROPOSED WORK SHOWN IN RED.
5. EXISTING WORK TO BE DISMANTLED SHOWN IN BLACK DOTTED. - - - - -
6. STATION IS IN "NSG-6" CATEGORY.
7. LINES HAVE BEEN NUMBERED AND NAMED
8. ELECTRIFICATION OF 3RD LINE WILL BE DONE BY RVNL.ANY MODIFICATION REQUIRED IN EXISTING OHE WILL BE DONE BY RVNL.
9. THIS DRAWING IS PREPARED BASED ON CE'S DRG. NO - Y - 69 - 2021(ALT-1)
10. TRACK MACHINE SIDING IS AVAILABLE AT McCLUSKIGANJ STATION AND RAY STATION FOR DUAL USE (ENGG CUM OPERATING)
11. PASSENGER AMENITIES SHOULD BE PROVIDED AS PER RAILWAY BOARD LATEST GUIDELINES.
12. NECESSARY SUITABLE PROTECTION ARRANGEMENT BETWEEN TRACK AND PARALLEL ROAD WILL BE PROVIDED DURING CONSTRUCTION OF WORKS IN YARD.
13. THE CHAINAGE OF EXISTING FEATURES FROM EXISTING STATION BUILDING ARE SHOWN IN BLACK WITH STRIKE FONT.
14. REQUIRED CONDONATION FOR INFRINGEMENT AS PER IRSOD WILL BE PROCESSED BY RVNL.
15. THIS PHASE -I COMMISSIONING PLAN IS PREPARED FOR COMMISSIONING OF PROPOSED 3RD LINE BETWEEN HENDEGIR TO RAY.

ALT1 e

ALTERATION TABLE

ALTERATION NO.	DESCRIPTION
ALT 1	a. NOMENCLATURE OF EXISTING LINE NO 7 AND 8 HAS BEEN CHANGED FROM DN GOODS RECEPTION AND DEPARTURE AND UP GOODS DEPARTURE LINES TO COMMON GOODS LINES. b. CSL OF LINE NO 9 IS INCREASED TO 750M BY SHIFTING STARTER SIGNAL FROM CH: 482.00M F/CSB TO 516.00M F/CSB AT GHD END. c. CAL & CSL OF LINE NO 5 IS INCREASED TO 730M AND 723.00M BY SHIFTING TS AND STARTER SIGNAL AT GHD END. d. CAL & CSL OF LINE NO. 06 IS INCREASED TO 703.00M & 694.50M BY SHIFTING TS AT GHD END AND BY SHIFTING STARTER AT BOTH ENDS. CAL & CSL OF LINE NO. 07 IS INCREASED TO 704.00M & 698.00M BY SHIFTING TS AND STARTER AT GHD END. e. ALT-1 IS ADDED IN CE'S DRG NO AT NOTE NO 8.

SIGNATURE COLUMN (ALT-1)

DESIGNATION	SIGNATURE
CPDE/HQ	BRIJESH KUMAR SINGH Date: 2022.03.04 16:02:54 +05'30'
CTPM/HQ	NEERAJ AMBASTHA Digitally signed by NEERAJ AMBASTHA Date: 2022.03.04 16:11:48 +05'30'
CPM/RVNL/RNC	VISHAL ANAND Digitally signed by VISHAL ANAND
GM/S&T/RVNL/RNC	KAILASH CHAND SHARMA
AGM/S&T/EXPERT/RVNL/RNC	ANJANI KUMAR AMBASTHA
SR.DGM/CIVIL/RVNL	ASHWINI KUMAR Digitally signed by ASHWINI KUMAR

Signature block

CPDE	BRIJESH KUMAR SINGH Digitally signed by BRIJESH KUMAR SINGH Date:2021.08.03 02:22:25 +05'30'
CTPM/ECR	ANUJ BHARGAVA Digitally signed by ANUJ BHARGAVA Date:2021.08.05 01:59:46 +05'30'
CPM/RVNL/RNC	VISHAL ANAND Digitally signed by VISHAL ANAND Date:2021.07.05 12:39:52 +05'30'
GM/ELEC/RVNL/RNC	ATUL KUMAR Digitally signed by ATUL KUMAR Date:2021.07.03 02:46:57 +05'30'
GM/S&T/RVNL/RNC	KAILASH CHAND SHARMA Digitally signed by KAILASH CHAND SHARMA Date:2021.07.03 12:22:13 +05'30'
AGM/S&T/EXPERT/RVNL/RNC	ANJANI KUMAR AMBASTHA Digitally signed by ANJANI KUMAR AMBASTHA Date:2021.07.03 12:09:13 +05'30'
AGM/ELEC/EXPERT/RVNL/RNC	DIPAK KUMAR KUNDU Digitally signed by DIPAK KUMAR KUNDU Date:2021.07.03 02:41:03 +05'30'
SRDGM/CIVIL/RVNL/RNC	ASHWINI KUMAR Digitally signed by ASHWINI KUMAR Date:2021.07.03 12:06:53 +05'30'

SCALE:- 1:1000

पूर्व मध्य रेल
धनबाद मंडल
EAST CENTRAL RAILWAY
DHANBAD DIVISION

PROJECT EXECUTED BY:-
RAIL VIKAS NIGAM LIMITED

PROJECT:-पतरातू से सोन नगर के बीच तीसरी लाईन परियोजना
(291.00 कि. मि.)
CONSTRUCTION OF 3rd LINE BETWEEN
PATRATU - SON NAGAR

TITLE:-
RAY(राय) STATION YARD PLAN AT Km 150.060
(PHASE-1 PLAN)

CE's/HJP/ DRG No :- Y-91-2021 (ALT - 1)

AUTHORITY OF WORK :-Pink Book Item No.50/2021-22

RVNL'S .DRG.NO.- RVNL/RNC/2021/31