

# Railway Line Doubling Project from Jhansi to Bhimsen in the North South Railway Division in the State of Uttar Pradesh (India)

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## Abstract:-

Timetric's "MoR – Jhansi-Bhimsen Rail Track Doubling – Uttar Pradesh" is a crucial resource for industry executives. construction of roadbed, important, major & minor bridges, track linking, civil engineering works, S&T works, OHE, TSS & general electrical works in connection with doubling between Jhansi and Bhimsen stations. The total work is divided into four packages. The detail of the four packages is as below- Package No. 1 – Jhansi - Erich Road, Package No. 2 – Erich Road – Usargaon, Package No. 3 – Usargaon – Bhimsen, Package No. 4 Orai - Bridge Package.

development opportunities. The Doubling of Bhimsen-Jhansi railway line in length of 206 km is help in transportation sector , some subsector like Railway track, tunnel, viaducts, bridges also involved in it, the project is located in Uttar Pradesh. This paper is focus on the study and preparation of physical progress work like Filling in bank, Cutting excluding rock, Cutting in rock not requiring blasting, Blanketing, Safety Fencing/ Barricading. Track linking (Main Line, Loop Line, Laying of ballast, Laying PSC T.O, Laying Glued Joint, Laying T.O in Traffic Block, Laying SEJ in Traffic Block..etc)

**Keywords:** -physical progress report, Major& minor2. Bridges, Minor Bridges, weather report, Track Linking etc.

## 1. Introduction:-

Bhimsen-Jhansi DL Railway Line Project in uttar Pradesh play vital role in one of the rail project over the India which provide the wide business

## 2. Objectives of Paper:-

- To study & prepare the physical progress of work
- To study & prepare the progress work of major and minor bridges
- To study & prepare weather report
- To upgrade of single line to double line

## 3. Physical Progress of Works

Sr No	Description	Unit	Scope	Progress				Remarks
				Up to Previous month	For the month	Up to this month	Balance	
I	Formation Works							
II	Earthwork							
A	Filling in bank	Cum	588257	68000	9300	77300	510957	Based on Daily Progress Report
B	Cutting excluding rock	Cum	170650	5000	-	5000	165650	Based on Daily Progress Report
C	Cutting in rock not requiring blasting	Cum	3800	0	0	0	0	Work not started
D	Blanketing	Cum	531500	4500	9000	13500	518000	Based on Daily Progress Report

E	Safety Fencing/ Barricading	M	67000	37610	-	37610	29390	Based on Daily Progress Report
F	Construction of drain							
F1	Side Drain	M	-	-	-	-	-	Work not started
F2	Yard Drain	M	-	-	-	-	-	-
<b>II</b>	<b>Bridges</b>							
A	Minor Bridges	Nos.	91	-	-	-	-	Work started at eight minor bridges
B	Major Bridges	Nos.	3	-	-	-	-	1325/1 Piling in progress
<b>III</b>	<b>Supply of P-Way Materials</b>							
A	Rails	TKm	-	-	-	-	-	-
B	PRC Sleepers	Nos.	-	-	-	-	-	-
C	T/O Sleepers	Sets	-	-	-	-	-	-
D	Spl Sleepers	Nos.	-	-	-	-	-	-
E	Switches 60 Kg I in 12	Sets	-	-	-	-	-	-
F	Switches 60 Kg I in 8.5	Sets	-	-	-	-	-	-
G	Switches 52 Kg I in 12	Sets	-	-	-	-	-	-
H	Switches 52 Kg I in 8.5	Sets	-	-	-	-	-	-
I	CMS X-ings 60 Kg	Nos.	-	-	-	-	-	-
J	CMS X-ings 52 Kg	Nos.	-	-	-	-	-	-
K	ERC-T3701	Nos.	-	-	-	-	-	-
L	Liners-T3706	Nos.	-	-	-	-	-	-
M	Rubber Pads-T3711	Nos.	-	-	-	-	-	-
N	Supply of Ballast	Cum	125918	14706	290	14996	110922	-
O	Flash Butt Welding	Nos.	-	-	-	-	-	-
<b>IV</b>	<b>Track Linking</b>							
A	Main Line	TKm	-	-	-	-	-	-
B	Loop Line	TKm	-	-	-	-	-	-
C	Laying of ballast	TKm	-	-	-	-	-	-
D	Laying PSC T.O	Nos.	-	-	-	-	-	-
E	Laying D.S	Nos.	-	-	-	-	-	-
F	Laying Glued Joint	Nos.	-	-	-	-	-	-
G	Laying T.O in Traffic Block	Nos.	-	-	-	-	-	-
H	Laying SEJ in Traffic Block	Nos.	-	-	-	-	-	-
I	Pulling rail Panels	Nos.	-	-	-	-	-	-
<b>V</b>	<b>OHE</b>	RKm	-	-	-	-	-	-
A	Foundations	Nos.	-	-	-	-	-	-
<b>VI</b>	<b>S&amp;T</b>							
A	No. of Stations	Nos.	10	NIL	NIL	NIL	10	-
B	Outdoor Cabling	Km	66	NIL	NIL	NIL	66	-
C	Indoor Cabling	Km	10	NIL	NIL	NIL	10	-
D	Cable shifting	Km	5	NIL	NIL	NIL	5	-
E	Laying of cables	Km	66	NIL	NIL	NIL	66	-
<b>VII</b>	<b>Buildings</b>							
A	No. of Station Buildings	Nos.	10	-	1	-	-	Excavation for Foundation in progress at chaunrah Station
B	S&T Buildings (RH)	Nos.	21	-	3	-	21	In progress at LC Gate no 201, 234, & 235
C	Other than S&T Building	Nos.	2	-	1	-	-	-

Sr.NO	Block Section	Bridge No.	Chainage	Spans	Superstructure			Substructure			Remark
					Type	During the month	Up to the month	Type	During the month	Up to the month	
1	MLS-LLR	1301/1	1301/5-6	3/18.3m+ 2/12.2m	Steel Girder	-	-	-	-	-	Pile Load Test Done

2	RPGU-BNR	1325/1	1325/4-5	3/18.3m	Steel Girder	-	-	-	-	-	Piling Work In Progress.
3	RPGU-BNR	1327/1	1327/13-14	6/3.66m+2/3.05m	BOX	-	-	-	-	-	-

#### 4. Progress Report of Major Bridge:-

#### 5. Progress Report of Minor Bridges:-

Following is the progress work for minor bridges in package-III, for the better understanding and less availability of space in the below table, some abbreviations need to use, are-

#### Abbreviations:-

GC	Grade of Concrete
QC	Quantity of concrete (Mt3)

Sr No.	Block Section	Bridge No.	Chainage	Prop. Span	Type	Progress					Remarks
						PCC Qty. (m3)	GC	QC (m3)	GC	QC(m3)	
1	Usargaon-KPI	1265/1	1265/13-14	1/3.0x3.0m	RCC Box	-	-	-	-	-	-
2	Usargaon-KPI	1266/1	1266/7-8	1/1.5 X 1.5m	RCC Box	-	-	-	-	-	-
3	Usargaon-KPI	1267/1	1267/0-1	1/3.0x3.0m	RCC Box	-	-	-	-	-	-
4	Usargaon-KPI	1267/2	1267/6-7	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
5	Usargaon-KPI	1270/1	1270/3-4	1/3.0x3.0m	RCC Box	-	-	-	-	-	-
6	Usargaon-KPI	1270/2	1270/11-12	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
7	Usargaon-KPI	1271/1	1271/2-3	1/3.0x3.0m	RCC Box	-	-	-	-	-	-
8	Usargaon-KPI	1271/2	1271/11-12	1/2.50x2.50 m	RCC Box	-	-	-	-	-	-
9	Usargaon-KPI	1273/1	1273/8-9	3/4.5 x4.5m	RCC Box	-	-	-	-	-	-
10	Usargaon-KPI	1273/2	1273/10-11	1/6.10m	PSC Slab	-	-	-	-	-	-
11	Usargaon-KPI	1274/1	1274/4-5	2/4.5x4.5m	RCC Box	-	-	-	-	-	-
12	Usargaon-KPI	1274/2	1274/12-13	1/5.0 X 5.0m	RCC Box	-	-	-	-	-	-
13	KPI-CNH	1278/1	1278/5-6	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
14	KPI-CNH	1279/1	1279/3-4	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
15	CNH-PHN	1281/1	1281/9-10	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
16	CNH-PHN	1282/1	1282/8-9 820	1/3.0x3.0m	RCC Box	-	-	-	-	-	(Sand Filling 23.658)
17	CNH-PHN	1282/2	1282/14-15	1/2.50x2.50 m	RCC Box	-	-	-	-	-	-
18	CNH-PHN	1283/1	1283/11-12	1/2.50x2.50 m	RCC Box	-	-	-	-	-	-
19	CNH-PHN	1284/1	1284/1-2	2/3.0x3.0m	RCC	-	-	-	-	-	-

20	CNH-PHN	1284/2	1284/10-11	1/5.0 X 5.0m	Box RCC Box	-	-	-	-	-	-
21	CNH-PHN	1284/3	1284/13-14	1/3.0x3.0m	RCC Box	-	-	-	-	-	-
22	CNH-PHN	1285/1	1285/0-1	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
23	CNH-PHN	1285/2	1285/4-5	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
24	CNH-PHN	1286/1	1286/8-9	1/2.50x2.50 m	RCC Box	-	-	-	-	-	-
25	PHN-MLS	1289/1	1289/12-13	2/3.0x3.0m	RCC Box	-	-	-	-	-	-
26	PHN-MLS	1291/1 A	1292+228	1/1.5 X 1.5m	RCC Box	6.00	M- 25	7.9	M-25	1.53	1 <sup>ST</sup> LIFT COMPLETED
27	PHN-MLS	1292/1	1293+053	1/1.5 X 1.5m	RCC Box	2.736	M- 25	1.071	-	-	1 <sup>ST</sup> LIFT COMPLETED
28	PHN-MLS	1292/2	1293+414	1/1.5 X 1.5m	RCC Box	2.90	M- 25	8.340	-	-	Retaining wall raft completed
29	PHN-MLS	1292/3 A	1292/15- 1293/0	1/1.5 X 1.5m	RCC Box	3.00	M- 25	2.66	-	-	Retaining wall raft completed
30	PHN-MLS	1293/1 A	1294+097	1/3.0x3.0m	RCC Box	-	-	-	-	-	-
31	PHN-MLS	1295/1	1295/7-8	2/1.5x1.5m	RCC Box	-	-	-	-	-	-
32	PHN-MLS	1296/1	1296/1-2	1/2.0x2.0m	RCC Box	-	-	-	-	-	-
33	PHN-MLS	1296/2	1296/12-13	1/1.5 X 1.5m	RCC Box	-	-	-	-	-	-
34	PHN-MLS	1297/1	1297/5-6	1/1.5 X 1.5m	RCC Box	-	-	-	-	-	-
35	MLS-LLR	1300/1	1300/3-4	1/3.0x3.0m	RCC Box	-	-	-	-	-	-
36	MLS-LLR	1300/2	1300/10-11	1/3.0x3.0m	RCC Box	-	-	-	-	-	-
37	MLS-LLR	1302/1	1302/6-7	2/3.0x3.0m	RCC Box	-	-	-	-	-	-
38	MLS-LLR	1302/2	1302/12-13	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
39	LLR-TLNH	1304/1	1304/10-11	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
40	LLR-TLNH	1304/2	1304/11-12	1/1.5 X 1.5m	RCC Box	-	-	-	-	-	-
41	LLR-TLNH	1304/3	1304/13-14	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
42	LLR-TLNH	1305/1	1305/1-2	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
43	LLR-TLNH	1305/2	1305/2-4	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
44	LLR-TLNH	1305/3	1305/10-11	1/6.10m	PSC Slab	-	-	-	-	-	-
45	LLR-TLNH	1306/1	1306/9-10	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
46	LLR-TLNH	1306/2	1306/12-13	1/1.5 X 1.5m	RCC Box	-	-	-	-	-	-
47	LLR-TLNH	1307/1	1307/2-3	1/1.5 X 1.5m	RCC Box	-	-	-	-	-	-
48	LLR-TLNH	1308/1	1308/5-6	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-

49	LLR-TLNH	1308/2	1308/5-6	2/3.5×3.5m	RCC Box	-	-	-	-	-	-
50	LLR-TLNH	1308/3	1308/6-7	1/6.10m	PSC Slab	-	-	-	-	-	-
51	LLR-TLNH	1308/4	1308/7-8	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
52	LLR-TLNH	1308/5	1308/12-13	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
53	LLR-TLNH	1308/6	1308/13-14	1/2.0×2.0m	RCC Box	-	-	-	-	-	-
54	TLNH-PMN	1309/1	1309/3-4	1/2.0×2.0m	RCC Box	-	-	-	-	-	-
55	TLNH-PMN	1309/2	1309/8-9	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
56	TLNH-PMN	1310/1	1310/8-9	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
57	TLNH-PMN	1310/2	1310/11-12	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
58	TLNH-PMN	1310/3	1310/14-15	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
59	TLNH-PMN	1311/1	1311/3-4	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
60	TLNH-PMN	1311/2	1311/9-10	3/1.5 ×1.5m	RCC Box	-	-	-	-	-	-
61	TLNH-PMN	1312/1	1312/6-7	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
62	TLNH-PMN	1312/2	1312/12-13	1/1.5 X 1.5m	RCC Box	-	-	-	-	-	-
63	TLNH-PMN	1313/1	1313/3-4	1/1.5 X 1.5m	RCC Box	-	-	-	-	-	-
64	TLNH-PMN	1313/2	1313/11-12	1/1.5 X 1.5m	RCC Box	-	-	-	-	-	-
65	TLNH-PMN	1314/1	1314/4-5	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
66	TLNH-PMN	1314/2	1314/11-12	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
67	TLNH-PMN	1315/1	1315/1-2	1/2.0×2.0m	RCC Box	-	-	-	-	-	-
68	TLNH-PMN	1315/2	1315/6-7	5/3.05m	PSC Slab	-	-	-	-	-	-
69	TLNH-PMN	1315/3	1315/13-14	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
70	TLNH-PMN	1316/1	1316/6-7	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
71	TLNH-PMN	1317/1	1317/12-13	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
72	PMN-RPGU	1320/1	1320/8-9	2/1.5 X 1.5m	RCC Box	-	-	-	-	-	-
73	PMN-RPGU	1321/1	1321/1-2	2/1.5 X 1.5m	RCC Box	-	-	-	-	-	-
74	PMN-RPGU	1321/2	1321/10-11	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
75	PMN-RPGU	1322/1	1322/1-2	1/1.0 X1.0m	RCC Box	3.9	M-25	3.6	-	-	Retaining wall raft completed
76	PMN-RPGU	1322/2	1322/4-5	1/1.0 X1.0m	RCC Box	3.89	M-25	3.6	M-25	1.40	R/WALL 1 <sup>st</sup> lift completed (Earthwork in Excavation 6.095 & Sand Filling 1.579)

77	RPGU-BNR	1322/3	1322/7-8	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
78	RPGU-BNR	1322/4	1322/14-15	2/1.5 X 1.5m	RCC Box	-	-	-	-	-	-
79	RPGU-BNR	1323/1	1323/4-5	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
80	RPGU-BNR	1323/2	1323/8-9	2/6.10m	PSC Slab	-	-	-	-	-	-
81	RPGU-BNR	1324/1	1324/3-4	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
82	RPGU-BNR	1324/2	1324/6-7	1/1.5 X 1.5m	RCC Box	-	-	-	-	-	-
83	RPGU-BNR	1324/3	1324/10-11	1/3.0x3.0m	RCC Box	-	-	-	-	-	-
84	RPGU-BNR	1326/1	1326/3-4	1/3.0x3.0m	RCC Box	-	-	-	-	-	-
85	RPGU-BNR	1326/2	1326/12-13	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
86	BNR-BZM	1329/1	1329/3-4	3/1.5 x1.5m	RCC Box	-	-	-	-	-	-
87	BNR-BZM	1329/2	1329/8-9	1/2.0 X2.0m	RCC Box	-	-	-	-	-	-
88	BNR-BZM	1330/1	1330/6-7	2/1.5x1.5m	RCC Box	-	-	-	-	-	-
89	BNR-BZM	1331/1	1331/3-4	1/3.0x3.0m	RCC Box	-	-	-	-	-	-
90	BNR-BZM	1331/2	1331/13-14	1/2.0x2.0m	RCC Box	-	-	-	-	-	-
91	BNR-BZM	1332/1	1332/2-3	1/1.0 X1.0m	RCC Box	-	-	-	-	-	-
92	BNR-BZM	1332/2	1332/11-12	2/1.5x1.5m	RCC Box	-	-	-	-	-	-

### 6. Weather Report:-

Dates	Min.	Max.	Min.	Max.	Sunny	Cloudy	Rainy	Mm	Remarks
01.05.2015	25.3	43.5	-	-	Sunny	-	-	-	-
02.05.2015	24.5	42.3	-	-	Sunny	-	-	-	-
03.05.2015	22.6	43.4	-	-	Sunny	-	-	-	-
04.05.2015	24.3	45.5	-	-	Sunny	-	-	-	-
05.05.2015	23.4	45.2	-	-	Sunny	-	-	-	-
06.05.2015	26.2	46.0	-	-	Sunny	-	-	-	-
07.05.2015	24.8	45.2	-	-	Sunny	-	-	-	-
08.05.2015	25.9	45.8	-	-	Sunny	-	-	-	-
09.05.2015	24.5	45.8	-	-	Sunny	-	-	-	-
10.05.2015	25.4	47.2	-	-	Sunny	-	-	-	-
11.05.2015	25.5	45.8	-	-	Sunny	-	-	-	-
12.05.2015	27.1	42.7	-	-	Sunny	Cloudy	Rainy	0.20	Night
13.05.2015	22.3	40.6	-	-	Sunny	-	Rainy	1.8	Morning
14.05.2015	25.6	40.1	-	-	Sunny	-	-	-	-
15.05.2015	25.0	43.9	-	-	Sunny	-	-	-	-
16.05.2015	24.7	41.5	-	-	Sunny	-	-	-	-
17.05.2015	26.3	44.0	-	-	Sunny	-	-	-	-
18.05.2015	28.1	45.1	-	-	Sunny	-	-	-	-
19.05.2015	22.6	45.1	-	-	Sunny	-	-	-	-
20.05.2015	26.3	45.0	-	-	Sunny	-	-	-	-
21.05.2015	28.3	45.9	-	-	Sunny	-	-	-	-
22.05.2015	25.4	47.0	-	-	Sunny	-	-	-	-

23.05.2015	26.9	46.4	-	-	Sunny	-	-	-	-
24.05.2015	28.5	47.2	-	-	Sunny	-	-	-	-
25.05.2015	27.9	46.5	-	-	Sunny	-	-	-	-
26.05.2015	26.8	45.8	-	-	Sunny	-	-	-	-
27.05.2015	25.9	44.2	-	-	Sunny	-	-	-	-
28.05.2015	25.0	48.9	-	-	Sunny	-	-	-	-
29.05.2015	29.4	47.1	-	-	Sunny	-	-	-	-
30.05.2015	28.2	48.0	-	-	Sunny	-	-	-	-
31.05.2015	27.1	47.5	-	-	Sunny	-	-	-	-

### 7. Scope of Project (Jhansi-Bhimsen Rail Track Doubling):-

- Developing Project Management Plan
- Developing systems and procedures to administer the construction contracts and ensure that the contractual requirements, with respect to both quality and quantity of work, are respected and the works are constructed in accordance with the provisions of the construction contract.
- Project Planning, Project coordination, Project interfacing
- Supervision of construction work.
- Making all necessary measurements and certifying payments
- One level of checking of various drawings, plans, designs, documents prepared by construction contractor
- Ensuring compliance to all safety requirements while progressing the work.



Image: Project in Progress



Image: -Jhansi-Kanpur double track

### 8. Photographs:-



I Image: Jhansi-Manikpur and Bhimsen-Khairar



Image: - Railway Line from Bhimsen





Image: - Railway Station Bhimsen

### Conclusion: -

The work includes construction of roadbed, Earth work (Filling in bank, Cutting excluding rock, Cutting in rock not requiring blasting, Blanketing, Safety Fencing/ Barricading), Construction of drains (side drain, yard drain etc.), Supply of P way materials (Rails, PRC Sleepers, T/O Sleepers, Spl Sleepers, Switches, ERC-T3701, Liners-T3706, Rubber Pads-T3711, Supply of Ballast, Flash Butt Welding etc.), Major & Minor bridges (i.e. Chainage, Span, type of substructure and superstructure), track linking, S&T works (No. of Stations, Outdoor Cabling, Indoor Cabling, Cable shifting, Laying of cables), weather report with dates has been studied.

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