

PIL/DVE30/AE/165/2021

Date: 03.11.2021

To,

Team Leader

M/s. L. N. Malivya Infra Project Pvt. Ltd.

100 B, Vittalesh Apartment,

Near Utsav Banglows,

Bamroli Road Area, Godhra

E-mail id: - Inmipplgodhra@gmail.com

**Project:** Construction of Eight Lane access-controlled expressway from junction with SH-175 near Baletiya village of Panchmahal district to junction with SH-63 near Pratap Nagar village of Vadodara district (Ch.803+420 to 824+920; design Ch.351+000 to Ch.372+500) section of Delhi-Vadodara Greenfield Alignment (NH-148N) on EPC Mode under Bharatmala Pariyojana in the State of Gujarat. Package-30.

**Subject:** Submission of Monthly Progress Report for the month of October 2021 of Pkg. DVE-30

**Ref:**

1. EPC Contract Agreement executed on date 11.12.2021
2. Article- 11.7 of EPC Contract Agreement

Dear Sir,

With reference to the above-cited subject and Contractual obligation of Article-11.7 of EPC contract agreement executed on date 11.12.2020, we are herewith submitting the monthly progress report for the month of October 2021 for your information & records Please.

Thanking you,

Yours faithfully,  
For, Patel Infrastructure Ltd.

Authorized Signatory

Encl.: Three Set MPR.

Copy to:- General Manager (T)/Project Director, NHAI, PIU – Godhra, 13, Haidry Society, Civil Lines Road, Godhra -389001, Panchmahal (Gujarat) - For your information, please.

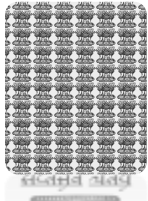
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CIN : U45201GJ2004PLC043955



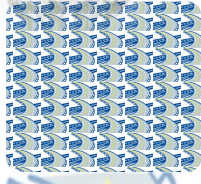
# सड़क परिवहन और राजमार्ग मंत्रालय MINISTRY OF ROAD TRANSPORT & HIGHWAYS

भारत सरकार

Government of India



BHARATMALA  
ROAD TO PROSPERITY



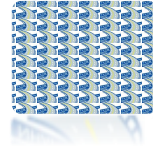
## National Highway Authority of India

(Ministry of Road Transport & Highways Government of India)

Construction of Eight Lane access-controlled expressway from junction with SH-175 near Baletiya village of Panchmahal district to junction with SH-63 near Pratap Nagar village of Vadodara district (Ch. 803+420 to 824+920; design Ch. 351+000 to Ch. 372+500) section of Delhi – Vadodara Greenfield Alignment (NH-148N) on EPC Mode under Bharatmala Pariyojana in the State of Gujarat Vadodara District [PKG-30]

### MONTHLY PROGRESS REPORT

OCTOBER'2021



Client

National Highway Authority of India



Authority Engineer

L.N.Malviya Infra Projects Pvt. Ltd

**PATEL**®

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EPC Contractor

**PATEL INFRASTRUCTURE LTD**



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## 1 Abbreviations

Abbreviations	Meaning
3A / 3D	Clause of Land Acquisition
AASHTO	American Association of State Highway and Transport Officials
Abt	Abutment
SMA	Stone Mastic Asphalt
DBM	Dense Bituminous Macadam
CBR	California Bearing Ratio Test
C&G	Clearing and Grubbing
Ch	Chainage
Cm	Centimeter
C/s	Cross-Section
Cum	Cubic Meter
CW	Carriageway
DFO	District Forest Officer
Dia	Diameter
DPR	Detailed Project Report
Emb	Embankment
EPC	Engineering Procurement Construction
Exc	Excavation
FST	Final Setting Time
GFC	Good for Construction
GSB	Granular Sub Base
HP	Hume Pipe
Ht	Height
Hyd	Hydraulic
AE	Authority Engineer
IS	Indian Standard



Abbreviations	Meaning
IST	Initial Setting Time
JV	Joint Venture
Kg	Kilogram
Km	Kilometer
LHS	Left Hand Side
LL	Liquid Limit
Ltr	Liter
M	Meter
M	Mix
M/s	Messer's
MB	Minor Bridge
MDD	Maximum Dry Density
Misc	Miscellaneous
Mm	Millimeter
MJB	Major Bridge
MNB	Minor Bridge
MORT&H	Ministry of Road Transport & Highways
NA	Not Applicable
NH	National Highway
NHAI	National Highway Authority of India
NOC	No Objection Certificate
Nos	Numbers
°C	Centigrade
OGL	Original Ground Level
OMC	Optimum Moisture Content
PCC	Plain Cement Concrete
PI	Plastic Index
PD	Project Director

**Project-**

Delhi – Vadodara Greenfield Alignment (Pkg. No-30) from Ch.351+000 to Ch. 372+500.

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Abbreviations	Meaning
PHE	Public Health and Environment
PL	Plastic Limit
PSC	Pre-stressed Concrete
PTR	Pneumatic Tyre Roller
PUP	Pedestrian Underpass
Pvt. Ltd.	Private Limited
QC	Quality Control
RBI	Reserve Bank of India
RE	Reinforced Earth
RCC	Reinforced Cement Concrete
RHS	Right Hand Side
ROB	Road over Bridge / Rail over Bridge
ROW	Right Of Way
Rs.	Rupees
Sec	Section
SG	Sub-Grade
T	Tonne
TMT	Thermo Mechanically Treated
TBM	Temporary Bench Mark
TPH	Tonnes Per Hour
VUP	Vehicular Underpass
W	Watt
WMM	Wet Mix Macadam

## 2 Salient Features of the Project

### 2.1 Introduction:-

Name of the Project	–	Construction of Eight Lane access-controlled expressway from junction with SH-175 near Baletiya village of Panchmahal district to junction with SH-63 near Pratap Nagar village of Vadodara district (Ch. 803+420 to Ch. 824+920; Design Ch. 351+000 to Ch. 372+500) section of Delhi - Vadodara Greenfield Alignment (NH-148N) on EPC Mode under Bharatmala Pariyojana in the State of Gujarat.(Pkg-30)
Name of Client	–	National Highway Authority of India
Name of Independent Engineer	–	L N Malviya Infra Projects Pvt.Ltd.
Name of EPC Contractor	–	M/S Patel Infrastructure limited
Design Consultant	–	<b>Highway Works-</b> Aartav Engineering Pvt.Ltd. <b>Structure Works-</b> Consulting Engineers Group Ltd.
Proof Consultant	–	Sparsh Engineering Co. (P) Ltd.
Safety Consultant	–	SES Pvt Ltd.
LOA Issued	–	05 <sup>th</sup> October,2020
Date of Signing of Concession Agreement	–	11 <sup>th</sup> December,2020
Appointed Date	–	08 <sup>th</sup> September,2021
Construction Period	–	24 Months
Schedule Completion Date	-	07 <sup>th</sup> September,2023
Maintenance Period	–	10 Years

**Project-**

Delhi – Vadodara Greenfield Alignment (Pkg. No-30) from Ch.351+000 to Ch. 372+500.

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Project Cost	–	Rs.850.79 Crores
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**2.2 Scope of work:-**

- a) Main Carriageway Length = 21.5 Km
- b) Service/Slip Road Length = 2.28 Km
- c) Major Bridge = 07 Nos. MJBs at:
1. 352+281  
(18x35+2x25+2x35+1x66+1x63+1x66+2x35+1x25+22x35+1x25+1x45&18x35+1x25+2x35+1x66+1x63+1x66+2x35+2x25+22x35+1x25+1x45=1880 mtr)
  2. 355+789 (3 x 35.0=105 mtr)
  3. 358+050 (4 x 25.0=100 mtr)
  4. 359+936 (5 x 25.0=125 mtr)
  5. 361+839 (1 x 62.0=62 mtr)
  6. 365+593 (2 x 50=100 mtr)
  7. 370+879 (1 x 40=40 mtr)
- d) Vehicular Underpass (VUP) = 01 Nos.
- e) Small Vehicular Underpass (SVUP) = 03 Nos.
- f) Light Vehicular Underpass (LVUP) = 06 Nos.
- g) Minor Bridge (MNB) = 03 Nos.
- h) Box Culverts (BC) = 54 Nos. (34 in CA, + 20 additional)
- i) Project Facilities (Schedule C) :
- i. Road Side Furniture = EPC contractor shall provide-Kilometer and hectometer Stones, Road Signs, Road Marking, Road Delineators, Solar Studs, Crash Barriers, Boundary Wall etc.as per schedule B and Schedule D.
  - ii. Wayside Amenities = 02 Nos.
  - iii. Truck Parking Area
  - iv. Pedestrian Facilities/Cattle Crossing
  - v. Lighting = EPC contractor shall provide lighting as per Schedule B.
  - vi. Environmental Management Plan
  - vii. Land Scaping & tree plantation = Contractor shall plant trees and shrubs Of required numbers and types at the appropriate locations within ROW and in land embarked by authority for afforestation as per Schedule B.
  - viii. ATMS = Advanced traffic management system shall be provided as per schedule D
  - ix. Utilities = In the locations where distance between two culverts is more than 1 Km utility duct will be provided.
  - x. Rain water harvesting = EPC contractor shall provide rain water Harvesting as per Schedule B.





### 3 Executive Summary

The Ministry of Road Transport & Highways through National Highways Authority of India is engaged in the development of National Highways and as part of this endeavor, it has been decided to undertake Construction of Delhi Mumbai Expressway total 1352 km of expressways and includes construction of about 844 km long Delhi - Vadodara Expressway proposed to be implemented under Engineering Procurement Construction mode (EPC) contracts. The proposed Main Expressway passes through the states of Haryana, Rajasthan, Madhya Pradesh and Gujarat. The total length of the proposed expressway is about 844 km is a Greenfield alignment.

**Project Network and Importance:-** The project corridor apart from connecting Madhya Pradesh Border, Garoth, Jaora, Ratlam, Pancherla, Godhra, and Mandasaur- Vadodara. It provides connectivity to the urban areas, tourist locations and Irrigation project along it. These centres are to become crucial given the likely high level of investments getting attracted in the future. The project corridor, which passes through and near from Delhi, Haryana, Rajasthan, Madhya Pradesh and Gujarat state are characterized by the presence of districts that are the major economic drivers of the state. Apart from connectivity considerations, the development of this corridor has been perceived to be important from the perspective of enhanced mobility levels of people, and with time more importantly in terms of direct benefits to the community by the way of Vehicle operating time and Vehicle operating cost savings, towards achieving development on our alignment.

M/S Patel Infrastructure Ltd (the "EPC Contractor") has been awarded the stretch "from junction with SH-175 near Baletiya village of Panchmahal district to junction with SH-63 near Pratap Nagar village of Vadodara district (Ch. 803+420 to 824+920; design Ch. 351+000 to Ch. 372+500) section of Delhi – Vadodara Greenfield Alignment (NH-148N) on EPC Mode under Bharatmala Pariyojana in the State of Gujarat ("the Project") through International Competitive Bidding.

The scope of work broadly construction of new 8 lane Expressway, Construction of Service Roads/Slip Roads/Connecting Roads, Construction of Major and Minor bridges, Vehicular Underpass, Culverts, Road Intersections, Drains, Road side facilities etc.

The project road is a section of Delhi-Vadodara Eight Lane access-controlled Expressway, which starts at design chainage 351+000 near Baletiya village and terminates at design chainage 372+500 near Pratap Nagar village. Total length of Project Road is 21.500 Km.

## 4 Technical Specification

- Pavement Width of Carriageway (8 lane) : 15.00 m
- Pavement Width of Carriageway (8lane) : 18.75m  
With paved shoulder
- Pavement Width of Slip road (in 2 lane) : 9.50 m  
With paved shoulder
- Thickness of Flexible Pavement : As per Approved Pavement Design
- Type of Foundation in Structures : Open Foundations/Pile Foundations
- Type of Super Structures : PSC Girder/Composite Steel Girders

## 5 Abstract of the progress report

### 5.1 Status of Highways:

Sl. No.	Work Activity	Unit	Total Qty.	Completed up to Previous month (Km.)	Completed during this month (Km.)	Completed till date (Km.)	In Progress to (Km.)	Balance to taken-up (Km.)	
1	C&G	MCW	Km	37.684	11.81	0.69	12.5	25.184	
		SR	Km	2.28			0	2.28	
2	Earthwork up to Subgrade top	MCW	Km	37.684		1.4	1.4	5.2	31.084
		SR	Km	2.28			0		2.28
3	Sub-Base Course	MCW	Km	37.684			0		37.684
		SR	Km	2.28			0		2.28
4	Non Bituminous Base	MCW	Km	37.684			0		37.684
		SR	Km	2.28			0		2.28
5	Bituminous Base Course	MCW	Km	37.684			0		37.684
		SR	Km	2.28			0		2.28
6	Wearing Coat	MCW	Km	37.684			0		37.684
		SR	Km	2.28			0		2.28

Summarized progress of highway works are as below: -

- \* Total Length of Project Road considering the work on LHS & RHS of the Road excluding the Length of Structures.

## 5.2 Status of Structures:-

Summarized Progress of Structure Work Is As Below–

Sr. No.	Description	Unit	Project Scope	Completed	Work in Progress	Yet to Start	Remarks
1	Major Bridge	Nos	7		2	5	
2	Minor Bridge	Nos	3			3	
3	SVUP	Nos	3			3	
4	LVUP	Nos	6		2	4	
5	VUP	Nos	1			1	
6	Box Culvert	Nos	54		10	44	
	<b>Total</b>	<b>Nos</b>	<b>74</b>	<b>0</b>	<b>14</b>	<b>60</b>	

\* Strip Chart Showing Progress in Highway and Structure work is attached.

## 5.3 Financial Progress:-

Sl. No.	Financial progress till last month	%age Financial progress till last month	Financial progress for this month	Cumulative financial progress up to this month	% age Cumulative Financial progress up to this month	Remarks
	(cr.)	(%)	(cr.)	(cr.)	(%)	
1	0	0	14.10	14.10	1.65%	Appointed date 08.09.2021

#### 5.4 Financial Planned Target/Achievement:-

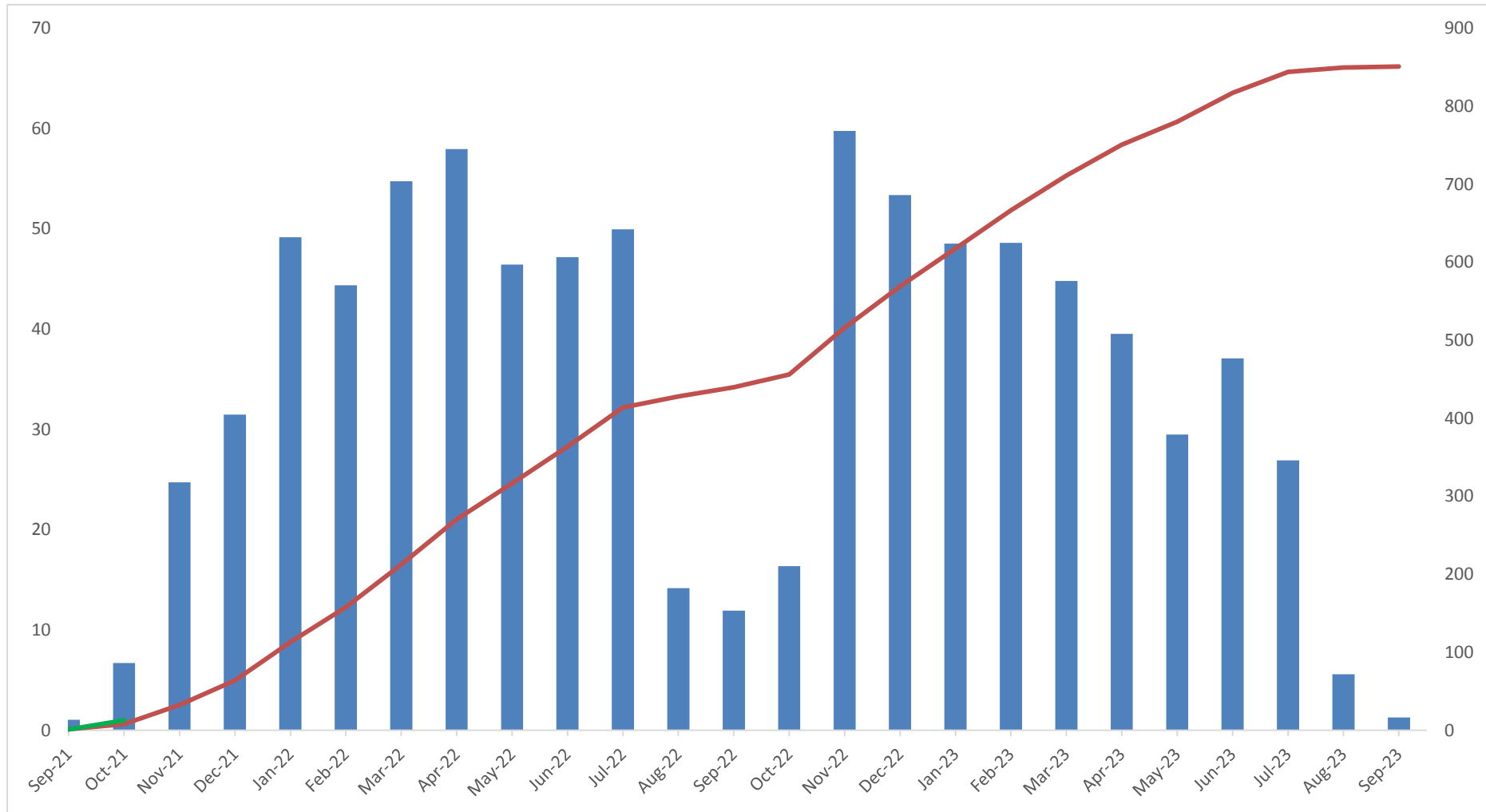
We have submitted the project construction program and cash flow. We are attaching the month wise target upto September 2023.

Sr No.	Months	Planned Value [ Cr ]	Cumulative Planned Value [ Cr ]	Achieved Value [ Cr ]	Cumulative Achieved Value [ Cr ]	Remarks
1	Sep-21	1.03	1.03	0.9	0.9	Ad 08.09.2021
2	Oct-21	6.7	7.72	13.20	14.10	
3	Nov-21	24.71	32.43			
4	Dec-21	31.46	63.89			
5	Jan-22	49.14	113.04			
6	Feb-22	44.36	157.4			
7	Mar-22	54.73	212.12			
8	Apr-22	57.94	270.06			
9	May-22	46.42	316.48			
10	Jun-22	47.16	363.65			
11	Jul-22	49.93	413.58			
12	Aug-22	14.16	427.74			
13	Sep-22	11.92	439.66			
14	Oct-22	16.35	456.01			
15	Nov-22	59.74	515.75			
16	Dec-22	53.34	569.09			
17	Jan-23	48.5	617.59			
18	Feb-23	48.59	666.19			
19	Mar-23	44.79	710.98			
20	Apr-23	39.52	750.51			
21	May-23	29.48	779.99			
22	Jun-23	37.07	817.06			
23	Jul-23	26.89	843.95			
24	Aug-23	5.58	849.53			
25	Sep-23	1.26	850.79			



### 5.5 S-CURVE:-

DELHI-VADODARA EXPRESSWAY PKG-30]-[S-CURVE-FINANCIAL PROGRESS AS PER SCH-H.



## 6 Status of Land Acquisition & Utility shifting

### 6.1 Details of Land Acquisition

Land Acquisition details of the project shown in attached strip chart.

### 6.2 Work Front Available Details

Front Available Details of the project shown in attached strip chart.

Sr. No.	Chainage		Unit	Total Scope Length (km.)	Hinderance 4 -Lane Length
	From	To			
1	351+000	356+000	Km	5000.000	1020.000
2	356+000	361+000	Km	5000.000	1690.000
3	361+000	366+000	Km	5000.000	5570.000
4	366+000	371+000	Km	5000.000	5674.000
7	371+000	372+500	Km	1500.000	800.000
<b>Total Km</b>				<b>43.000</b>	<b>14.754</b>

### 6.3 Utility Shifting:-

Sr. No.	Particulars	Unit	Total	Completed	Balance	Remarks
<b>A</b>	<b>Shifting of Electric Utilities</b>					
A1	Electric Poles	Nos.	198	27	171	
A2	Electric Cables	Meters	12790	805	11985	
A3	Transformer	Nos.	14	0	14	
<b>B</b>	<b>Shifting of Electric Utilities</b>					
B1	Water Supply	Meters	1228	0	1228	



## 6.4 Tree Cutting:

S. No.	Particular	Unit	Quantity as per CA	Completed as per site	Balance	Remark
1	Trees within ROW	Nos.	2734	4530		Additional tree cut 1796 nos.

## 7 Mobilization status

### 7.1 Manpower:-

SR. NO.	DESCRIPTION OF STAFF	NO	REMARK
<b>Project Management</b>			
1	General Manager	1	
2	Sr. Project Manager	1	
<b>Highway (Technical)</b>			
3	DPM(Highway)	1	
4	Sr. Engineer (Highway)	2	
5	Engineer (Highway)	3	
6	Asstt. Engg (Highway)	5	
7	Jr.Engineer(Highway)	4	
8	Sr.Sup(High)	10	
<b>Structure (Technical)</b>			
9	DPM(Structure)	3	
10	Sr.Engineer(Structure)	1	
11	Engineer Structure	2	
12	Asst. Engineer (structure)	2	
13	Jr. Engineer (Structure)	4	
14	Supervisor (Structure)	2	
<b>Planning &amp; Billing Dept.</b>			
15	Dy.Manager (Planning)	1	
16	Asst. Manager (Billing)	1	
17	Sr.Engineer(Planning)	1	
18	Engineer(Planning & Billing)	1	
19	Engineer QS	1	
<b>Survey Dept.</b>			
20	DPM	1	
21	Sr.Surveyor	1	
22	Surveyor	4	

**Project-**

Delhi - Vadodara Greenfield Alignment (Pkg. No-30) from Ch.351+000 to Ch. 372+500.

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SR. NO.	DESCRIPTION OF STAFF	NO	REMARK
23	Helper Survey	3	
<b>QA &amp; QC Dept.</b>			
24	Sr.Engineer (QA& QC)	1	
25	Engineer (QA& QC)	2	
26	Jr. Engineer (QA& QC)	3	
27	Lab Technician	4	
28	Helper-Lab	5	
<b>HR &amp; Admin Dept.</b>			
29	Dy. Manager (HR/Admin)	1	
30	Sr.Executive (HR/Admin)	1	
31	Executive (Admin)	1	
32	Camp Supervisor	1	
33	Office Assistant	1	
34	Office boy	2	
<b>Finance &amp; Accounts</b>			
35	Sr. Accountant	1	
36	Jr.Accountant	1	
<b>Liaison Dept.</b>			
37	Dy. Manager (Liaison)	1	
38	Sr.Executive(Liaison)	1	
39	Executive (Liaison)	1	
40	Jr. Executive (Liaison)	1	
<b>IT Dept.</b>			
41	Sr. Executive (IT)	1	
42	Executive (IT)	1	
<b>Store Dept.</b>			
43	Dy. Manager (Store)	1	
44	Sr. Executive (Store)	1	
45	Executive (Store)	4	
46	Jr. Executive (Store)	5	
<b>Purchase Dept.</b>			
47	Purchase Executive	1	
<b>HSE. Dept.</b>			
48	Sr.Officer Safety	1	
49	Executive Safety	1	
50	Male Nurse	1	
<b>S&amp;V Dept.</b>			
51	Sr.Officer (S&V)	2	
52	Officer (S&V)	1	



**Project-**

Delhi – Vadodara Greenfield Alignment (Pkg. No-30) from Ch.351+000 to Ch. 372+500.

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**Monthly Progress Report**

SR. NO.	DESCRIPTION OF STAFF	NO	REMARK
<b>Mechanical Dept.</b>			
53	Sr. Manager (Mech)	1	
54	Dy. Manager (P&M)	1	
55	Sr. Engineer (Mech)	2	
56	Engineer (Mech)	2	
57	Executive (Mech)	2	
58	Fleet Supervisor	1	
59	PLANT & MACHINERY OPERATORS/WELDER/TYRE FITTE/PLUMBER/HELPER/DRIVER	123	
<b>Grand Total&gt;&gt;</b>		<b>235</b>	

**7.2 List of Plant & Machinery**

SL. NO	PROJECT NAME	EQUIPMENT NAME	QTY	Remarks
1	DVE/30	WMM Plant-250TPH-Macadam	1	
2	DVE/30	Batch Mix Plant-MA-45-Macons	2	
3	DVE/30	Hot Mix Plant 200 TPH (Marini)	1	
4	DVE/30	LINNOF PLANT 160 TPH	1	
5	DVE/30	SCHNEEL PLANT	1	
6	DVE/30	PRE-CAST PLANT (PAKONA)	1	
7	DVE/30	GANTRY CRANE -	5	
8	DVE/30	PILING RIG MACHINE	3	
9	DVE/30	Weigh Bridge-	5	
10	DVE/30	Hydra Crane	4	
11	DVE/30	LMV	14	
12	DVE/30	Water Tanker-	3	
13	DVE/30	DG Set	15	
14	DVE/30	Baby Roller	1	
15	DVE/30	Water Tanker-	5	
16	DVE/30	Tandem Roller	3	
17	DVE/30	Excavator-	3	
18	DVE/30	Motor Grader-	6	
19	DVE/30	Loader	5	
20	DVE/30	HIGH MAST - TOWER LIGHT	4	
21	DVE/30	CONTAINER WORK SHOP	3	
22	DVE/30	TRACTOR	3	
23	DVE/30	Soil Compactor-	7	
24	DVE/30	Transit Mixer	8	
25	DVE/30	Concrete Pump	1	
26	DVE/30	Diesel Tanker	1	
27	DVE/30	SERVICE VAN	1	
28	DVE/30	TIPPER	16	
29	DVE/30	Trailer	1	

## 8 Quality Maintenance & Safety

---

- EPC contractor has established one No. laboratory at main camp at Chainage - 352+250 RHS near Khandoli village .
- All required tests as per the frequencies and requirements of IRC Code provisions are being carried out.
- Safety Officer along with supporting staff is deployed at Site to take care of Safety aspects.
- Regular Test conducted of Covid-19 precautionary with the all staff.
- Tool Box meeting to be conducted before starting the work.
- Induction training conducted regularly to all newly appointed staff and all the Workmen will follow the Safety Rules as per the CA.
- All Workers and Supervisory Staff at site shall wear Protective and Safety Gear (PPE) during execution
- First Aid facilities are available at site.
- Mock drill regularly conducted at site.
- Project Overviews given in subheading no.11.1.
- List of plant and machinery is given in 7.2.
- List of quality control equipment's is given in 11.8.
- Weather report for the month is given in 11.9.

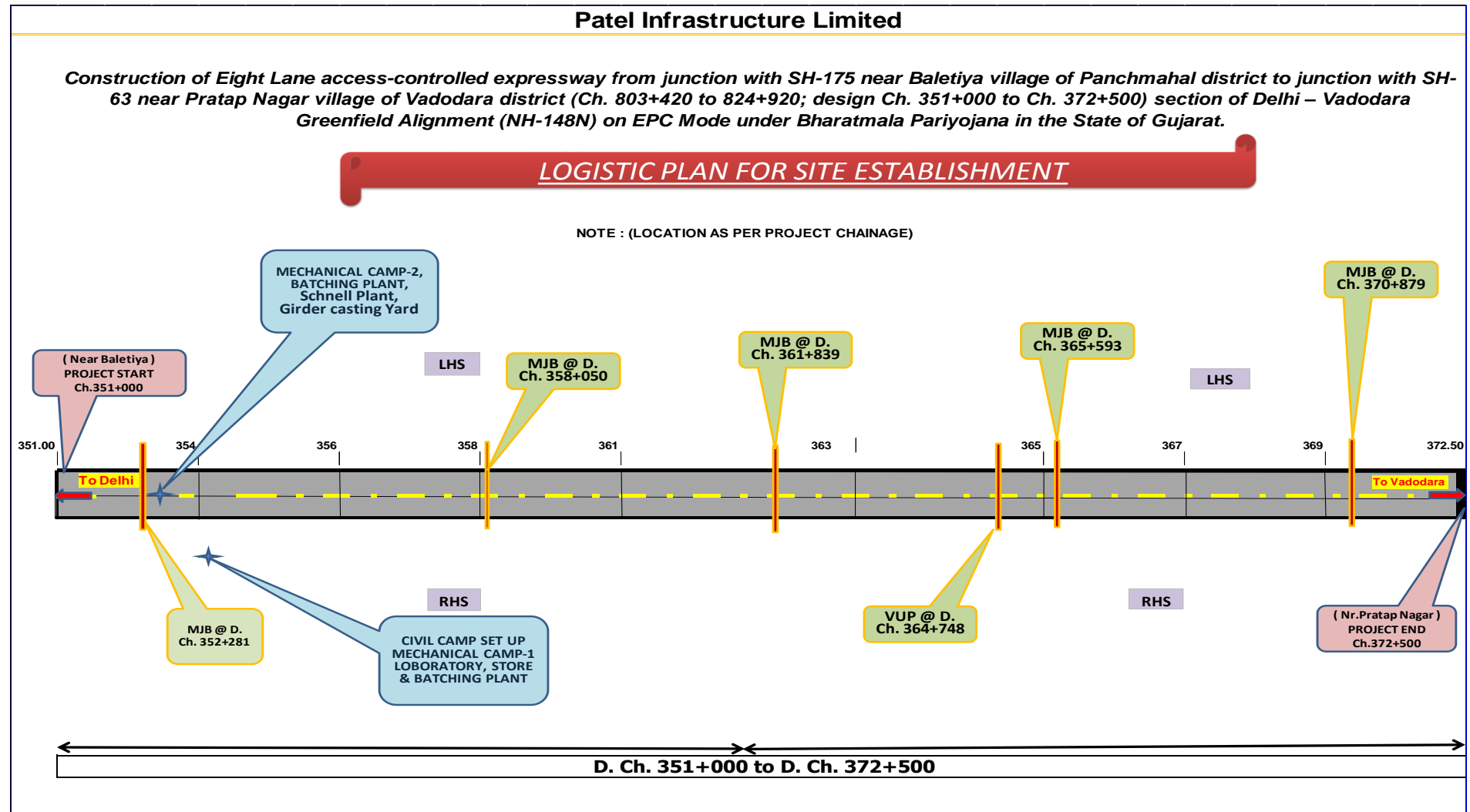
## 9 Milestone of the progress

Various project milestone laid down at schedule J of CA with respect to appointed date as follows: -

Sr. No.	Milestones	Target From Appointed Date	Scheduled Milestone Date	Description	Remarks
1	Milestone - I	256 days	21.05.2022	EPC Contractor has to complete minimum <b>10%</b> financial progress of the contract price within 256 days from appointed date to achieved 1 <sup>st</sup> milestone.	
2	Milestone - II	438 days	19.11.2022	EPC Contractor has to complete minimum <b>35%</b> financial progress of the contract price within 438 days from appointed date to achieved 2 <sup>nd</sup> milestone.	
3	Milestone - III	621 days	24.05.2023	EPC Contractor has to complete minimum <b>70%</b> financial progress of the contract price within 621 days from appointed date to achieved 3 <sup>rd</sup> milestone.	
4	Scheduled Completion Date	730 days	07.09.2023	EPC Contractor shall have to completed Construction of Eight laning Expressway within 730 days.	



## 10 Location Plan & Status of Camps







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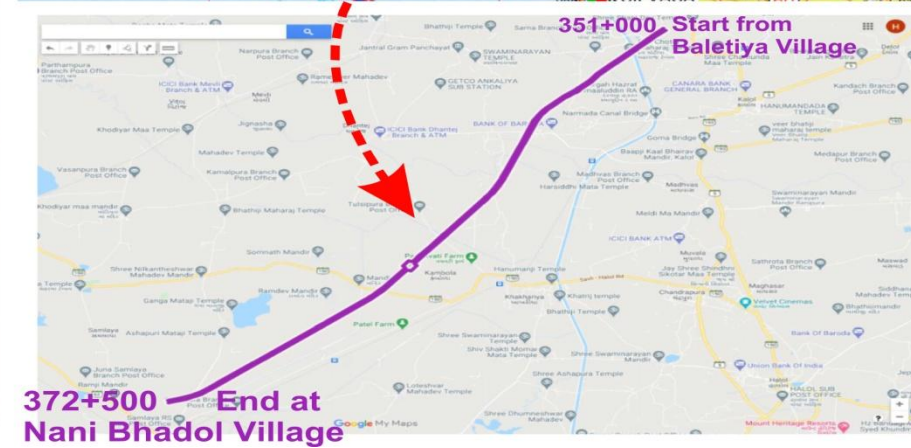
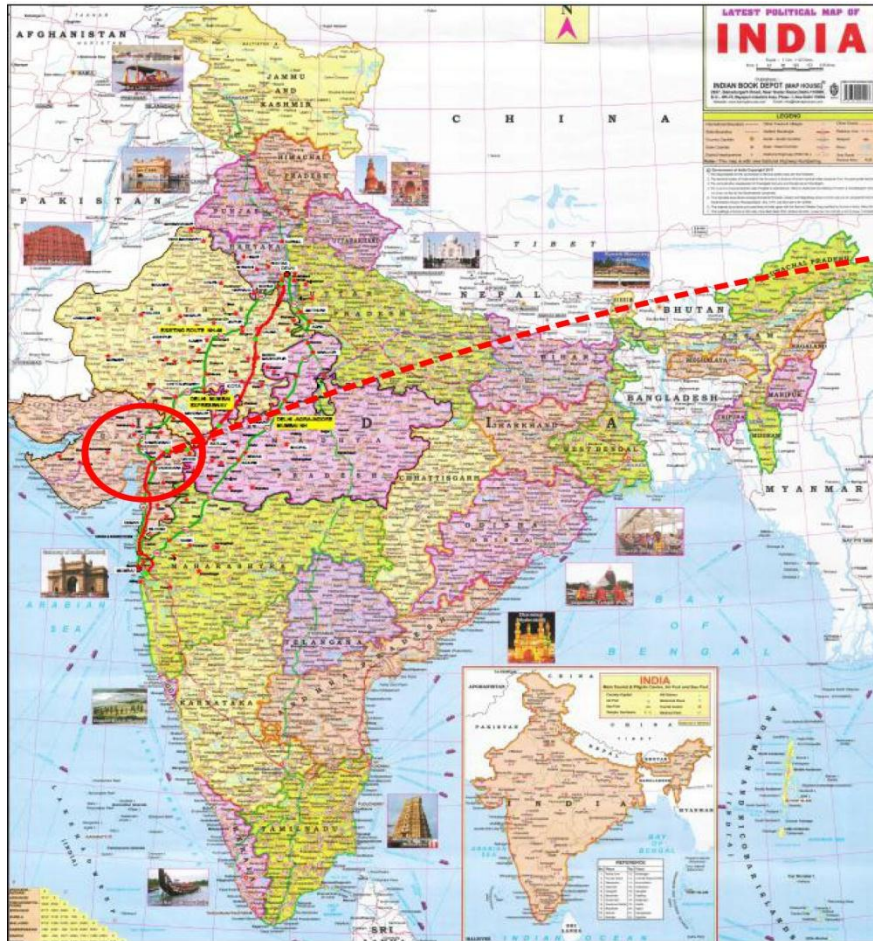
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## 11 Annexure: -

### 11.1 Project overview



## 11.2 Scope of Work

Sr. No	Component	Qty.	Remarks
1	Construction of Eight lane	21.5 Km	Development of the Project Highway shall include design and construction of the Project Highway as described in this Schedule-B and in Schedule-C. The alignment plans of the Project Highway are specified in Annex-III of Schedule A and shall be deemed to be part of this Schedule B.
2	Connecting Roads / Service Roads /Slip Roads	2.280 Km	Total Length of Slip Road – Wayside Amenities @ Ch. 363+440 and Ch. 363+460
3	SVUP	3 Nos.	3 Nos. Of RCC Box type SVUP having span arrangement= 1x7x3.5m shall be constructed.
4	LVUP	6 Nos.	5 Nos. Of RCC Box type LVUP having span arrangement 1x12x4.5m shall be constructed and 1 Nos. Of PSC Girder & Beam type LVUP having span arrangement 1x35.0x4.5m shall be constructed.
5	VUP	1 Nos.	1 Nos. Of VUP having span arrangement 1x30x5.5m shall be constructed.
6	RCC Box Culverts	54 Nos.	34 nos. of RCC Box Culverts having span between 1x2x2m to 1x5x3m shall be constructed as new. additional 20 nos. box culverts of size 2m x 2m shall be provided as per site requirements.
7	Major Bridge	7 Nos.	1 nos. of PSC I Girder & Steel Composite type Major Bridge over canal body having span from 18m to 66m and 6 Nos. of Major Bridge having span from 25m to 70m shall be constructed as new.
8	Minor Bridge	3 Nos.	3 Nos. of MNB having span between 6m to 40m shall be constructed as new.
9	Way side Amenities / Service Areas	2 No.	1 no at 363+440 RHS and 1 no at 363+460 LHS.
10	Retaining Wall & RE Wall	4.590Km	2.332 Km Retaining Wall and 2.258 Km RE Wall.
11	Diversion of Irrigation Canal	1.488 Km	As per cross-section in Appendix B-2a
12	Embankment Protection	0.280 km	-

### 11.3 Status of approval for Applicable Permits

The Concessionaire has obtained all the requisite permits and approvals required as per Concession Agreement Clause 4.1,3,

Sl.No.	Applicable Various Permits	Status as	Reference & Validity
1	Permission of the State government for extraction of boulders from quarry;	NA	
2	Permission of Village Panchayats and Pollution Control Board for installation of crushers;	NA	
3	License for use of explosives;	NA	
4	Permission of the State Government for drawing water from river/reservoir;	NA	
5	License from Inspector of Factories or other Competent Authority for setting up batching plant;	Obtained	
6	Clearance of Pollution Control Board for setting up batching plant;	Obtained	
7	Clearance of village Panchayats & Pollution Control Board for setting up Asphalt Plant;	Obtained	
8	Permission of Village Panchayats and State Government for borrow earth	Obtained	
9	Any other permits or clearances required under Applicable laws	Labour Licence	Submitted



### 11.4 Status of Drawings

S.No.	Drawing Description	Unit	D.Ch. 351+000 to 372+500				
			Scope	Submitted	Approved	Balance for Submission	Balance for Approval
<b>HIGHWAY</b>							
1	Plan & Profile MCW	Km.	43.000	43.000	43.000	0.000	0.000
2	Typical Cross - Section		43.000	43.000	43.000	0.000	0.000
3	Plan & Profile Slip Road		2.280			2.280	0.000
<b>STRUCTURE</b>							
1	Major Bridge	Nos.	7	7		0	7
2	Minor Bridge	Nos.	3	3	3	0	0
3	VUP	Nos.	1	1	1	0	0
4	LVUP	Nos.	6	6	6	0	0
5	SVUP	Nos.	3	3	1	0	2
6	Box Culverts pre-cast	Nos.	43	20	0	23	20
	Box Culverts Cast In Situ	Nos.	11	4		7	4
<b>Total&gt;&gt;</b>			<b>74</b>	<b>44</b>	<b>11</b>	<b>30</b>	<b>33</b>

\* Chainage 352+281- Only GAD & Foundation of Major Bridge Drawing Approved.

\* Chainage 357+312 – Test Pile of Minor Bridge drawing not approved.

The following drawings have been submitted to Authority Engineer / NHA for review:

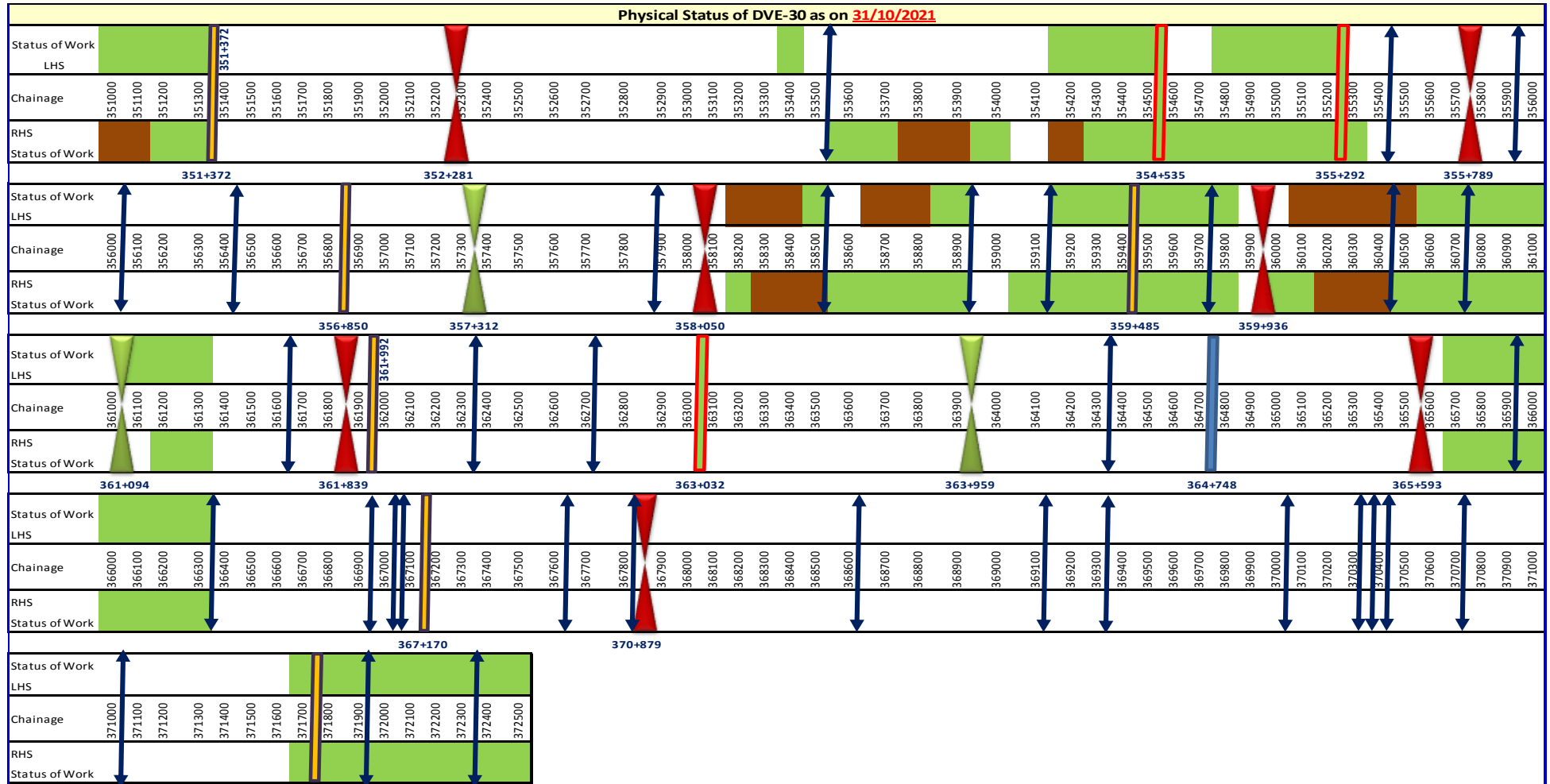






## 11.6 Progress Strip Chart of Road and Structure Work

### 11.6.1 Annexure-I-Highway:-



Highway progress & Legends					
Work In progress	Legends	Item	WIP in km	Out of km	Balance
		C&G	11.18	37.37	26.19
		EMB	2.40	37.37	34.97
	SG	1.52	37.37	35.85	

Structure's Details						
	MJB	MNB	VUP	LVUP	SVUP	BC
Scope	7	3	1	6	3	54
Complete	-	-	-	-	-	10
WIP	1	-	-	2	-	4

Structure's Legends						
DVE-30 Str	MJB	MNB	VUP	LVUP	SVUP	BC

Remarks	
20 Additional Culverts Location to be finalize	



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## 11.6.2 Annexure-II-Structure:-





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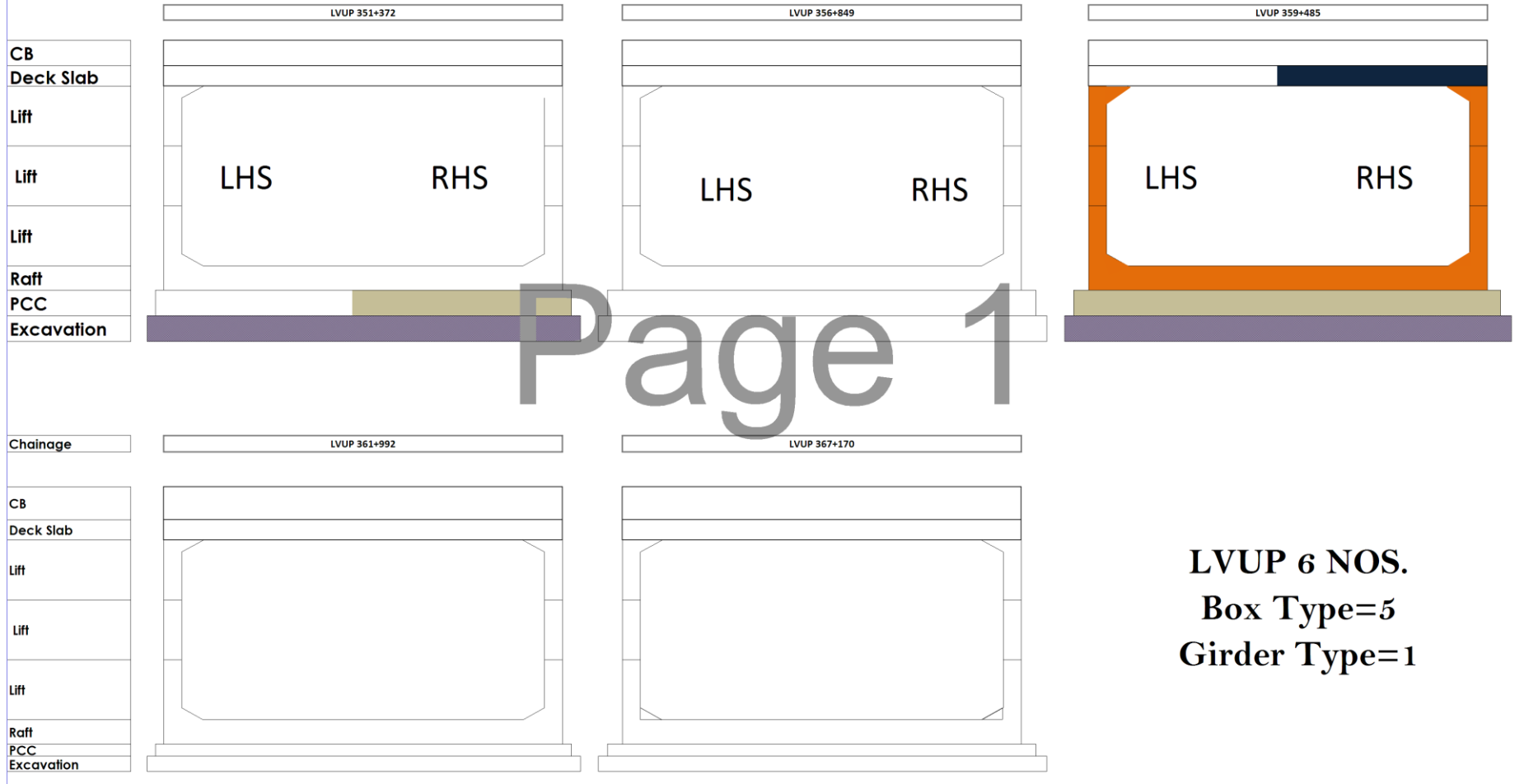
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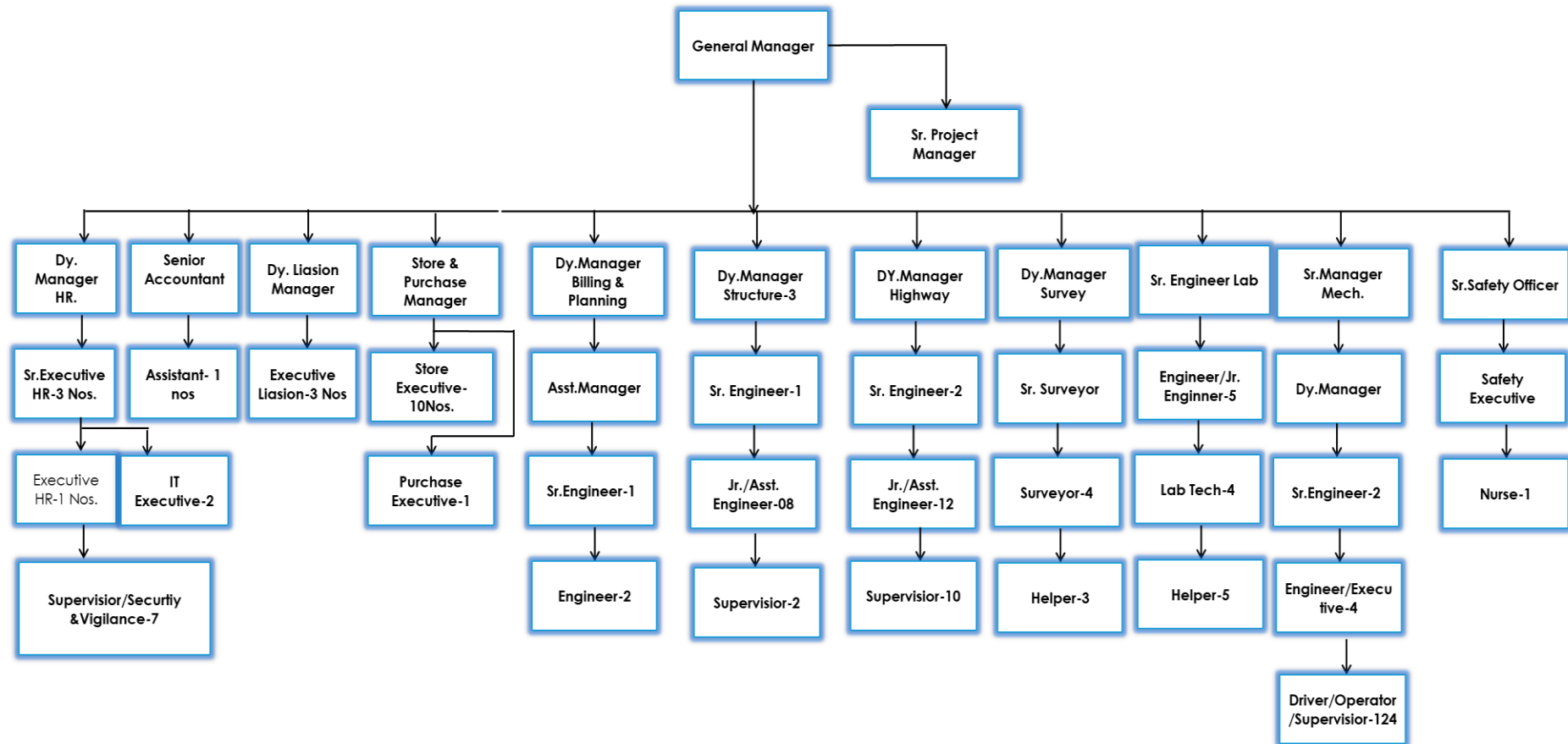
Construction of Eight Lane access-controlled expressway from junction with SH-175 near Baletiya village of Panchmahal district to junction with SH-63 near Pratap Nagar village of Vadodara district (Ch. 803+420 to Ch. 824+920; Design Ch. 351+000 to Ch. 372+500) section of Delhi - Vadodara Greenfield Alignment (NH-148N) on EPC Mode under Bharatmala Pariyojana in the State of Gujarat.(Pkg-30)





## 11.7 Organization Charts of EPC Contractor

### Orgainzation Chart







## 11.8 Quality Control Tests

Summary of Quality Control Report / Monthly Progress Report (QC) - MONTH : October-2021															
S. No.	Description	IS Specification Clause	Frequency of Tests	Test conducted upto Previous			Tests conducted during			Test conducted upto this month					
				No. of test Conduct ed	Passed	Failed	Nos. of test witness ed by	No. of test Conduct ed	Passed	Failed	Nos. of test witness ed by	No. of test Conduct ed	Passed	Failed	Nos. of test witness ed by
<b>1.0</b>	<b>Tests on OGL</b>														
i.	Grain size analysis	IS:2720 (Part4)	1 test / 250 meters	160	160	0	0	0	0	0	0	160	160	0	0
ii.	Atterberg Limits	IS:2720 (Part5)	1 test / 250 meters	160	160	0	0	0	0	0	0	160	160	0	0
iii.	Proctor	IS:2720 (Part8)	1 test / 250 meters	160	160	0	0	0	0	0	0	160	160	0	0
iv.	Free Swell index	IS:2720 (Part40)	1 test / 250 meters	160	160	0	0	0	0	0	0	160	160	0	0
v.	California bearing ratio	IS:2720 (Part16)	As required	0	0	0	0	0	0	0	0	0	0	0	0
<b>2.0</b>	<b>Cutting portion &amp; Existing for EMB/SG (MoRT&amp;H 305)</b>														
i.	Grain size analysis	IS:2720 (Part4)	1 test /1500 m <sup>3</sup>	0	0	0	0	0	0	0	0	0	0	0	0
ii.	Atterberg Limits	IS:2720 (Part5)	1 test /1500 m <sup>3</sup>	0	0	0	0	0	0	0	0	0	0	0	0
iii.	Proctor	IS:2720 (Part8)	1 test /1500 m <sup>3</sup>	0	0	0	0	0	0	0	0	0	0	0	0
iv.	Free Swell index	IS:2720 (Part40)	1 test /1500 m <sup>3</sup>	0	0	0	0	0	0	0	0	0	0	0	0
v.	California bearing ratio	IS:2720 (Part16)	1 test / 3000 m <sup>3</sup>	0	0	0	0	0	0	0	0	0	0	0	0
<b>3.0</b>	<b>Borrow Area for EMB/Subgrade (MoRT&amp;H 305)</b>														
i.	Grain size analysis	IS:2720 (Part4)	1 test /1500 m <sup>3</sup>	476	476	0	0	98	98	0	32	574	574	0	32
ii.	Atterberg Limits	IS:2720 (Part5)	1 test /1500 m <sup>3</sup>	476	476	0	0	98	98	0	32	574	574	0	32
iii.	Proctor	IS:2720 (Part8)	1 test /1500 m <sup>3</sup>	476	476	0	0	98	98	0	32	574	574	0	32
iv.	Free Swell index	IS:2720 (Part40)	1 test /1500 m <sup>3</sup>	476	476	0	0	98	98	0	32	574	574	0	32
v.	California bearing ratio	IS:2720 (Part16)	1 test / 3000 m <sup>3</sup>	43	43	0	0	49	49	0	16	92	92	0	16
vi.	Water Soluble Sulphate	IS:2720 (Part27)	As required	17	17	0	0	0	0	0	0	17	17	0	0
vii.	Angle of Internal Friction(ø)	IS:2720 (Part13)	As required	0	0	0	0	17	17	0	0	17	17	0	0
<b>4.0</b>	<b>Field Density Test (MORT&amp;H 305)</b>														
i.	Field density (OGL)	IS:2720 (Part28)	10 test /3000 sqm	28	28	0	0	0	0	0	0	28	28	0	0
ii.	Field density (EMB)	IS:2720 (Part28)	10 test /3000 sqm	480	474	6	0	17	7	0	10	480	481	6	10
iii.	Field density (SG)	IS:2720 (Part28)	10 test / 2000 sqm	0	0	0	0	38	16		22	38	16	0	22
iv.	Field density (Shoulder)	IS:2720 (Part28)	10 test / 2000 sqm	0	0	0	0	0	0	0	0	0	0	0	0



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Summary of Quality Control Report / Monthly Progress Report (QC) - MONTH : October-2021															
S. No.	Description	IS Specification Clause	Frequency of Tests	Test conducted upto Previous			Tests conducted during			Test conducted upto this month					
				No. of test Conduct ed	Passed	Failed	Nos. of test witness ed by	No. of test Conduct ed	Passed	Failed	Nos. of test witness ed by	No. of test Conduct ed	Passed	Failed	Nos. of test witness ed by
<b>5.0</b>	<b>Safe Bearing capacity of soil (Highway &amp; Structure)</b>														
i.	Grain size analysis	IS:2720 (Part40)	As required	0	0	0	0	0	0	0	0	0	0	0	0
ii.	Atterberg Limits	IS:2720 (Part4)	As required	0	0	0	0	0	0	0	0	0	0	0	0
iii.	Proctor	IS:2720 (Part5)	As required	0	0	0	0	0	0	0	0	0	0	0	0
iv.	Free Swell index	IS:2720 (Part8)	As required	0	0	0	0	0	0	0	0	0	0	0	0
v.	Bearing Capacity	IS:6403 / IS 1888	As required	0	0	0	0	0	0	0	0	0	0	0	0
vi.	Plate Load Test	IS:6403 / IS 1888	As required	0	0	0	0	0	0	0	0	0	0	0	0
<b>6.0</b>	<b>Filter Media &amp; Back filling MORT&amp;H 2500</b>														
i.	Gradation		As required	0	0	0	0	0	0	0	0	0	0	0	0
ii.	Backfilling field density		1 test /1000 m <sup>3</sup>	0	0	0	0	0	0	0	0	0	0	0	0
<b>7.0</b>	<b>Granular Bedding Material (For Structures-Ground Improvement)- Stock &amp; Site Testing</b>														
i.	Gradation	Table 400-1	As required	0	0	0	0	0	0	0	0	0	0	0	0
ii.	Atterberg Limits	IS:2720 (Part5)	As required	0	0	0	0	0	0	0	0	0	0	0	0
iii.	Proctor	IS:2720 (Part8)	As required	0	0	0	0	0	0	0	0	0	0	0	0
iv.	CBR Test	IS:2720 (Part16)	As required	0	0	0	0	0	0	0	0	0	0	0	0
v.	Aggregate Impact value	IS:2386 Part-4	As required	0	0	0	0	0	0	0	0	0	0	0	0
vi.	Field Density	IS:2720 (Part28)	As required	0	0	0	0	0	0	0	0	0	0	0	0
<b>8.0</b>	<b>CTSB /GSB</b>														
i.	Gradation	Table 400-4	1 test/400m <sup>3</sup>	13	12	0	1	5	0	0	5	18	12	0	6
ii.	Atterberg Limits	IS:2720 (Part5)	1 test/400m <sup>3</sup>	3	3	0	0	2	0	0	2	5	3	0	2
iii.	Proctor	IS:2720 (Part8)	As required	3	3	0	0	3	0	0	3	6	3	0	3
iv.	Aggregate Impact value	IS:2386 Part-4	As required	3	3	0	0	3	0	0	3	6	3	0	3
v.	Field Density	IS:2720 (Part28)	1 set of 2 Test per 500Sqm	0	0	0	0	0	0	0	0	0	0	0	0
vi.	Specific gravity& Water absorption	IS:2386 (Part2)	As required	0	0	0	0	3	0	0	3	3	0	0	3
vii.	Cubes casting& Testing(Sets)	IRC SP 89 (2010)	a set of 3 specimen	0	0	0	0	0	0	0	0	0	0	0	0
viii.	CBR Test	IS:2720 (Part16)	As required	0	0	0	0	2	0	0	2	2	0	0	2
<b>9.0</b>	<b>WMM</b>														
i.	Individual / Combined Gradation	Table 400-3	1 test/200m <sup>3</sup>	12	12	0	0	0	0	0	0	12	12	0	0
ii.	Aggregate Impact Value	IS:2386 Part-4	1 test/ 1000 m <sup>3</sup>	4	4	0	0	0	0	0	0	4	4	0	0
iii.	Flakiness & Elagation index	IS:2386 Part1	1 test/ 500 m <sup>3</sup>	3	3	0	0	0	0	0	0	3	3	0	0
iv.	Atterberg Limits	IS:2720 (Part5)	1 test/200m <sup>3</sup>	3	3	0	0	0	0	0	0	3	3	0	0
v.	Proctor	IS:2720 (Part8)	As required	0	0	0	0	0	0	0	0	0	0	0	0
vi.	CBR	IS:2720 (Part16)	As required	0	0	0	0	0	0	0	0	0	0	0	0
vii.	Field Density	IS:2720 (Part28)	1 set Test per 1000Sq.m / 3 pits	0	0	0	0	0	0	0	0	0	0	0	0
viii.	Water absorption	IS:2386 Part2	As required	2	2	0	0	0	0	0	0	2	2	0	0
ix.	Proctor	IS:2720 (Part8)	As required	0	0	0	0	0	0	0	0	0	0	0	0
x.	CBR	IS:2720 (Part16)	As required	0	0	0	0	0	0	0	0	0	0	0	0



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Summary of Quality Control Report / Monthly Progress Report (QC) – MONTH : October-2021															
S. No.	Description	IS Specification Clause	Frequency of Tests	Test conducted upto Previous			Tests conducted during			Test conducted upto this month					
				No. of test Conduct ed	Passed	Failed	Nos. of test witness ed by	No. of test Conduct ed	Passed	Failed	Nos. of test witness ed by	No. of test Conduct ed	Passed	Failed	Nos. of test witness ed by
<b>10.0</b>	<b>Dense Bituminous Macadam (Grade – I)</b>														
i.	Gradation	NORTH Section-500/Clause-507 & Table 500-10	One set for individual constituent and mixed aggregate from dryer for each 400 tonnes of mix subject to minimum of two Tests per day per plant	0	0	0	0	0	0	0	0	0	0	0	0
ii.	Flakiness & Elongation Index	IS: 2386 (Part 1)1963	1 Test for 350 m <sup>3</sup>	0	0	0	0	0	0	0	0	0	0	0	0
iii.	Aggregate Impact Value Test	IS: 2386 (Part 4)1963	1 Test for 350 m <sup>3</sup>	0	0	0	0	0	0	0	0	0	0	0	0
iv.	Binder content and grading of mix	IRC: SP 11-1988 (APP-5)	One Test for each 400 tonnes of mix produced subject to a minimum of two test per day per plant	0	0	0	0	0	0	0	0	0	0	0	0
v.	Marshall Stability of mix	ASTM D 2726/1188	3 Tests for stability flow value density and void contents for each 400 tonnes of mix subject to minimum of two Tests per plant per day	0	0	0	0	0	0	0	0	0	0	0	0
vi.	Core Cutting and Density Of Compacted Layer	Table 900-4 of Mor	1 set Test per 700 Sq.m / 1 pits	0	0	0	0	0	0	0	0	0	0	0	0
vii.	Sand Equivalent Test	IS: 2720 Part 37)1963	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
viii.	Los Angeles Abrasion Value	IS: 2386 (Part 3)1963	1 Test for 350 m <sup>3</sup>	0	0	0	0	0	0	0	0	0	0	0	0
ix.	Stripping	IS : 6241	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
x.	Retained stability	AASHTO 283	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
xi.	Retained Tensile Strength	AASHTO 284	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
xii.	Plasticity Index	IS: 2720( Part 5)	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
<b>11.0</b>	<b>Dense Bituminous Macadam (Grade – II)</b>														
i.	Gradation	NORTH Section-500/Clause-507 & Table 500-10	One set for individual constituent and mixed aggregate from dryer for each 400 tonnes of mix subject to minimum of two Tests per day per plant	0	0	0	0	0	0	0	0	0	0	0	0
ii.	Flakiness & Elongation Index	IS: 2386 (Part 1)1963	1 Test for 350 m <sup>3</sup>	0	0	0	0	0	0	0	0	0	0	0	0
iii.	Aggregate Impact Value Test	IS: 2386 (Part 4)1963	1 Test for 350 m <sup>3</sup>	0	0	0	0	0	0	0	0	0	0	0	0
iv.	Binder content and grading of mix	IRC: SP 11-1988 (APP-5)	One Test for each 400 tonnes of mix produced subject to a minimum of two test per day per plant	0	0	0	0	0	0	0	0	0	0	0	0
v.	Marshall Stability of mix	ASTM D 2726/1188	3 Tests for stability flow value density and void contents for each 400 tonnes of mix subject to minimum of two Tests per plant per day	0	0	0	0	0	0	0	0	0	0	0	0
vi.	Core Cutting and Density Of Compacted Layer	Table 900-4 of Mor	1 set Test per 700 Sq.m / 1 pits	0	0	0	0	0	0	0	0	0	0	0	0
vii.	Sand Equivalent Test	IS: 2720 Part 37)1963	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
viii.	Los Angeles Abrasion Value	IS: 2386 (Part 3)1963	1 Test for 350 m <sup>3</sup>	0	0	0	0	0	0	0	0	0	0	0	0
ix.	Stripping	IS : 6241	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
x.	Retained stability	AASHTO 283	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
xi.	Retained Tensile Strength	AASHTO 284	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
xii.	Plasticity Index	IS: 2720( Part 5)	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0





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**Monthly Progress Report**

Summary of Quality Control Report / Monthly Progress Report (QC) – MONTH : October-2021															
S. No.	Description	IS Specification Clause	Frequency of Tests	Test conducted upto Previous			Tests conducted during			Test conducted upto this month					
				No. of test Conduct ed	Passed	Failed	Nos. of test witness ed by	No. of test Conduct ed	Passed	Failed	Nos. of test witness ed by	No. of test Conduct ed	Passed	Failed	Nos. of test witness ed by
<b>10.0</b>	<b>Dense Bituminous Macadam (Grade – I)</b>														
i.	Gradation	NORTH Section-500/Clause-507 & Table 500-10	One set for individual constituent and mixed aggregate from dryer for each 400 tonnes of mix subject to minimum of two Tests per day per plant	0	0	0	0	0	0	0	0	0	0	0	0
ii.	Flakiness & Elongation Index	IS: 2386 (Part 1)1963	1 Test for 350 m <sup>3</sup>	0	0	0	0	0	0	0	0	0	0	0	0
iii.	Aggregate Impact Value Test	IS: 2386 (Part 4)1963	1 Test for 350 m <sup>3</sup>	0	0	0	0	0	0	0	0	0	0	0	0
iv.	Binder content and grading of mix	IRC: SP 11-1988 (APP-5)	One Test for each 400 tonnes of mix produced subject to a minimum of two test per day per plant	0	0	0	0	0	0	0	0	0	0	0	0
v.	Marshall Stability of mix	ASTM D 2726/1188	3 Tests for stability flow value density and void contents for each 400 tonnes of mix subject to minimum of two Tests per plant per day	0	0	0	0	0	0	0	0	0	0	0	0
vi.	Core Cutting and Density Of Compacted Layer	Table 900-4 of MORT	1 set Test per 700 Sq.m / 1 pits	0	0	0	0	0	0	0	0	0	0	0	0
vii.	Sand Equivalent Test	IS: 2720 Part 37)1963	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
viii.	Los Angeles Abrasion Value	IS: 2386 (Part 3)1963	1 Test for 350 m <sup>3</sup>	0	0	0	0	0	0	0	0	0	0	0	0
ix.	Stripping	IS : 6241	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
x.	Retained stability	AASHTO 283	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
xi.	Retained Tensile Strength	AASHTO 284	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
xii.	Plasticity Index	IS: 2720( Part 5)	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
<b>11.0</b>	<b>Dense Bituminous Macadam (Grade – II)</b>														
i.	Gradation	NORTH Section-500/Clause-507 & Table 500-10	One set for individual constituent and mixed aggregate from dryer for each 400 tonnes of mix subject to minimum of two Tests per day per plant	0	0	0	0	0	0	0	0	0	0	0	0
ii.	Flakiness & Elongation Index	IS: 2386 (Part 1)1963	1 Test for 350 m <sup>3</sup>	0	0	0	0	0	0	0	0	0	0	0	0
iii.	Aggregate Impact Value Test	IS: 2386 (Part 4)1963	1 Test for 350 m <sup>3</sup>	0	0	0	0	0	0	0	0	0	0	0	0
iv.	Binder content and grading of mix	IRC: SP 11-1988 (APP-5)	One Test for each 400 tonnes of mix produced subject to a minimum of two test per day per plant	0	0	0	0	0	0	0	0	0	0	0	0
v.	Marshall Stability of mix	ASTM D 2726/1188	3 Tests for stability flow value density and void contents for each 400 tonnes of mix subject to minimum of two Tests per plant per day	0	0	0	0	0	0	0	0	0	0	0	0
vi.	Core Cutting and Density Of Compacted Layer	Table 900-4 of MORT	1 set Test per 700 Sq.m / 1 pits	0	0	0	0	0	0	0	0	0	0	0	0
vii.	Sand Equivalent Test	IS: 2720 Part 37)1963	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
viii.	Los Angeles Abrasion Value	IS: 2386 (Part 3)1963	1 Test for 350 m <sup>3</sup>	0	0	0	0	0	0	0	0	0	0	0	0
ix.	Stripping	IS : 6241	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
x.	Retained stability	AASHTO 283	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
xi.	Retained Tensile Strength	AASHTO 284	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
xii.	Plasticity Index	IS: 2720( Part 5)	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0



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S. No.	Description	IS Specification Clause	Frequency of Tests	Test conducted upto Previous			Tests conducted during			Test conducted upto this month					
				No. of test Conduct ed	Passed	Failed	Nos. of test witness ed by	No. of test Conduct ed	Passed	Failed	Nos. of test witness ed by	No. of test Conduct ed	Passed	Failed	Nos. of test witness ed by
<b>12.0 Stone Matrix Asphalt – SMA (Grade – I)</b>															
i.	Gradation	NORTH Section-500/Clause-507 & Table 500-10	One set for individual constituent and sized aggregate from dryer for each 400 tonnes of mix subject to minimum of two Tests per day per plant	0	0	0	0	0	0	0	0	0	0	0	0
ii.	Flakiness & Elongation Index	IS: 2386 (Part 1)1963	1 Test for 100 m <sup>3</sup>	0	0	0	0	0	0	0	0	0	0	0	0
iii.	Aggregate Impact Value Test	IS: 2386 (Part 4)1963	1 Test for 100 m <sup>3</sup>	0	0	0	0	0	0	0	0	0	0	0	0
iv.	Binder content and grading of mix	IRC: SP 11-1988 (APP-5)	One Test for each 400 tonnes of mix produced subject to a minimum of two test per day per plant	0	0	0	0	0	0	0	0	0	0	0	0
v.	Air void and VMA analysis including Gmm	ASTM D 2726/1188	Three Tests per day	0	0	0	0	0	0	0	0	0	0	0	0
vi.	Core Cutting and Density Of Compacted Layer	Table 900-4 of Mor	1 Test per 250 Sq. m area	0	0	0	0	0	0	0	0	0	0	0	0
vii.	Sand Equivalent Test	IS: 2720 Part 37)1963	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
viii.	Los Angeles Abrasion Value	IS: 2386 (Part 3)1963	1 Test for 100 m <sup>3</sup>	0	0	0	0	0	0	0	0	0	0	0	0
ix.	Stripping	IS : 6241	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
x.	Retained stability	AASHTO 283	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
xi.	Retained Tensile Strength	AASHTO 284	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
xii.	Plasticity Index	IS: 2720( Part 5)	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
xiii.	Polished stone value test	BS:812(Part-114)	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
<b>13.0 Bituminous Concrete – BC (Grade –II)</b>															
i.	Gradation	NORTH Section-500/Clause-507 & Table 500-10	One set for individual constituent and sized aggregate from dryer for each 400 tonnes of mix subject to minimum of two Tests per day per plant	0	0	0	0	0	0	0	0	0	0	0	0
ii.	Flakiness & Elongation Index	IS: 2386 (Part 1)1963	1 Test for 350 m <sup>3</sup>	0	0	0	0	0	0	0	0	0	0	0	0
iii.	Aggregate Impact Value Test	IS: 2386 (Part 4)1963	1 Test for 350 m <sup>3</sup>	0	0	0	0	0	0	0	0	0	0	0	0
iv.	Binder content and grading of mix	IRC: SP 11-1988 (APP-5)	One Test for each 400 tonnes of mix produced subject to a minimum of two test per day per plant	0	0	0	0	0	0	0	0	0	0	0	0
v.	Marshall Stability of mix	ASTM D 2726/1188	3 Tests for stability flow value density and void contents for each 400 tonnes of mix subject to minimum of two Tests per plant per day	0	0	0	0	0	0	0	0	0	0	0	0
vi.	Core Cutting and Density Of Compacted Layer	Table 900-4 of Mor	1 set Test per 700 Sq.m / 1 pits	0	0	0	0	0	0	0	0	0	0	0	0
vii.	Sand Equivalent Test	IS: 2720 Part 37)1963	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
viii.	Los Angeles Abrasion Value	IS: 2386 (Part 3)1963	1 Test for 350 m <sup>3</sup>	0	0	0	0	0	0	0	0	0	0	0	0
ix.	Stripping	IS : 6241	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
x.	Retained stability	AASHTO 283	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
xi.	Retained Tensile Strength	AASHTO 284	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
xii.	Plasticity Index	IS: 2720( Part 5)	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0
xiii.	Polished stone value test	BS:812(Part-114)	One Test for each each source	0	0	0	0	0	0	0	0	0	0	0	0



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				No. of test Conducted	Passed	Failed	Nos. of test witness ed by	No. of test Conduct ed	Passed	Failed	Nos. of test witness ed by	No. of test Conduct ed	Passed	Failed	Nos. of test witness ed by
<b>14.0 Bitumen test</b>															
i.	Absolute Viscosity at 60°C poise, Minimum	IS: 1206-1978 part-2	As per table 2 of IS 73-2013	0	0	0	0	0	0	0	0	0	0	0	0
ii.	Penetration Test at 25°C, 100gr, 0.1mm, 5sec	IS: 1203-1978	As per table 2 of IS 73-2013	0	0	0	0	0	0	0	0	0	0	0	0
iii.	Softening point (R&B) Min	IS: 1205-1978	As per table 2 of IS 73-2013	0	0	0	0	0	0	0	0	0	0	0	0
iv.	Flash point (Cleveland open cup) °C, Min	IS: 1209-1978	1 Test per Lot	0	0	0	0	0	0	0	0	0	0	0	0
v.	<b>Test on Residue from TPOT</b>			0	0	0	0	0	0	0	0	0	0	0	0
vi.	Viscosity ratio at 60°C max	IS: 1206-1978 part-2	1 Test per Lot	0	0	0	0	0	0	0	0	0	0	0	0
vii.	Ductility at 25°C, cm, Min	IS: 1208-1978	1 Test per Lot	0	0	0	0	0	0	0	0	0	0	0	0
<b>15.0 EMULSION SS1 &amp; RS1</b>															
i.	Saybolt furol Viscosity	IS: 3117	1 Test per Lot	0	0	0	0	0	0	0	0	0	0	0	0
ii.	Residue on 600 micron is sieve	IS: 8887	1 Test per Lot	0	0	0	0	0	0	0	0	0	0	0	0
iii.	Water Content, Percent by mass	IS: 8887	1 Test per Lot	0	0	0	0	0	0	0	0	0	0	0	0
<b>16.0 EMULSION Prime coat &amp; Tack Coat</b>															
i.	Rate of Spread of Binder	IRC: SP 16	Three test per Day	0	0	0	0	0	0	0	0	0	0	0	0
<b>17.0 Coarse Aggregate MoRT&amp;H 1007</b>															
i.	Gradation	IS:2386 (Part2)	As required	30	29	0	1	31	16	0	15	61	45	0	16
ii.	Specific gravity & Water absorption	IS:2386 (Part3)	As required	11	7	0	4	1	0	0	1	12	7	0	5
iii.	Aggregate Impact Value	IS:2386 (Part4)	As required	10	10	0	0	6	2	0	4	16	12	0	4
iv.	Flakiness index	IS:2386 (Part1)	As required	5	5	0	0	5	3	0	2	10	8	0	2
v.	Soundness	IS:2386 (Part5)	As required	3	3	0	0	0	0	0	0	3	3	0	0
vi.	Alkali aggregate reactivity test	IS:2386 (Part-7) IS :	1 test per source	3	3	0	0	0	0	0	0	3	3	0	0
vii.	Deleterious constituents	IS:2386 (Part2)	1 test per source	3	3	0	0	0	0	0	0	3	3	0	0
viii.	Petrographic Examination	IS:2386 (Part8)	1 test per source	0	0	0	0	0	0	0	0	0	0	0	0
<b>18.0 Fine Aggregate MoRT&amp;H 1008</b>															
i.	Grade / Sieve analysis	IS:2386 (Part1)	As required	31	29	0	2	31	16	0	15	62	45	0	17
ii.	Specific gravity & Water absorption	IS:2386 (Part2)	As required	7	7	0	0	1	0	0	1	8	7	0	1
iii.	Fineness Modulus	WORTH Sec. 1008&383	As required	2	0	0	2	31	16	0	15	33	16	0	17
iv.	Alkali aggregate reactivity test	IS:2386 (Part-7) IS :	1 test per source	2	2	0	0	0	0	0	0	2	2	0	0



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<b>19.0</b>	<b>Cement MoRT&amp;H 1006</b>														
i.	Chemical test	IS:4031.4032	1 test per source	3	3	0	0	0	0	0	0	3	3	0	0
ii.	Fineness	IS:4031 (Part1)	500mt (or) Every week	52	52	0	0	28	18	0	10	80	70	0	10
iii.	Normal Consistency	IS:4031 (Part4)	500mt (or) Every week	52	52	0	0	28	18	0	10	80	70	0	10
iv.	Initial,Final setting time	IS:4031 (Part5)	500mt (or) Every week	52	52	0	0	28	18	0	10	80	70	0	10
v.	Soundness of Cement	IS:4031 (Part3)	500mt (or) Every week	3	3	0	0	0	0	0	0	3	3	0	0
vi.	Compressive Strength-set	IS:4031 (Part6)	500mt (or) Every week	0	0	0	0	0	0	0	0	0	0	0	0
	3 days		500mt (or) Every week	8	8	0	0	4	2	0	2	12	10	0	2
	7 days		500mt (or) Every week	7	7	0	0	4	2	0	2	11	9	0	2
	28 days		500mt (or) Every week	6	6	0	0	2	1	0	1	8	7	0	1
vii.	Chemical test	IS 2386	1 test per source	3	3	0	0	0	0	0	0	3	3	0	0
<b>20.0</b>	<b>Admixture</b>														
i.	Chemical Test	IS 9103	1 test per source	2	2	0	0	0	0	0	0	2	2	0	0
<b>21.0</b>	<b>Steel Third Party</b>														
i.	8 mm Dia	IS 1786	Physical &Chemical Properties (1) Test on first lot. (2) Further supply will be provided with mtc. (3) As required by engineer.	3	3	0	0	0	0	0	0	3	3	0	0
ii.	10 mm Dia	IS 1786		4	4	0	0	0	0	0	0	4	4	0	0
iii.	12 mm Dia	IS 1786		4	4	0	0	1	0	0	1	5	4	0	1
iv.	16 mm Dia	IS 1786		4	4	0	0	1	0	0	1	5	4	0	1
v.	20 mm Dia	IS 1786		2	2	0	0	0	0	0	0	2	2	0	0
vi.	25 mm Dia	IS 1786		8	8	0	0	4	0	0	4	12	8	0	4
vii.	32 mm Dia	IS 1786		1	1	0	0	0	0	0	0	1	1	0	0
<b>22.0</b>	<b>Concrete Cube Strength of Site Cubes</b>														
i.	<b>M15 PCC</b>														
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	2	1	0	1	9	4	0	5	11	5	0	6
	28Days Compressive Strength			0	0	0	0	11	4	0	7	11	4	0	7



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<b>ii. M20 PCC</b>															
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	0	0	0	0	0	0	0	0	0	0	0	0
	28Days Compressive Strength			0	0	0	0	0	0	0	0	0	0	0	0
<b>iii. M20 RCC</b>															
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	0	0	0	0	0	0	0	0	0	0	0	0
	28Days Compressive Strength			0	0	0	0	0	0	0	0	0	0	0	0
<b>iv. M20 KERB</b>															
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	0	0	0	0	0	0	0	0	0	0	0	0
	28Days Compressive Strength			0	0	0	0	0	0	0	0	0	0	0	0
<b>v. M25 RCC</b>															
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	0	0	0	0	0	0	0	0	0	0	0	0
	28Days Compressive Strength			0	0	0	0	0	0	0	0	0	0	0	0
<b>vi. M30 RCC</b>															
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	0	0	0	0	0	0	0	0	0	0	0	0
	28Days Compressive Strength			0	0	0	0	0	0	0	0	0	0	0	0
<b>vii. M30 RCC PUMPABLE</b>															
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	0	0	0	0	0	0	0	0	0	0	0	0
	28Days Compressive Strength			0	0	0	0	0	0	0	0	0	0	0	0
<b>viii. M35 RCC</b>															
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	0	0	0	0	4	2	0	2	4	2	0	2
	28Days Compressive Strength			0	0	0	0	0	0	0	0	0	0	0	0
<b>ix. M35 RCC PILING</b>															
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	74	68	0	6	56	23	0	33	130	91	0	39
	28Days Compressive Strength			0	0	0	0	288	115	0	173	288	115	0	173





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x.	<b>M35 RCC PUMPABLE</b>														
	7Days Compressive Strength	IS:516 / IS:456	1370	0	0	0	0	0	0	0	0	0	0	0	0
	28Days Compressive Strength			0	0	0	0	0	0	0	0	0	0	0	0
xi.	<b>M40 Prcast Sigment</b>														
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	12	8	0	4	23	10	0	13	35	18	0	17
	28Days Compressive Strength			0	0	0	0	105	45	0	60	105	45	0	60
xii.	<b>M40 RCC</b>														
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	0	0	0	0	0	0	0	0	0	0	0	0
	28Days Compressive Strength			0	0	0	0	0	0	0	0	0	0	0	0
xiii.	<b>M45 PUMP</b>														
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	0	0	0	0	0	0	0	0	0	0	0	0
	28Days Compressive Strength			0	0	0	0	0	0	0	0	0	0	0	0
xiv.	<b>M50 PUMP</b>														
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	0	0	0	0	0	0	0	0	0	0	0	0
	28Days Compressive Strength			0	0	0	0	0	0	0	0	0	0	0	0
xv	<b>Cement Grout</b>														
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	0	0	0	0	0	0	0	0	0	0	0	0
	28Days Compressive Strength			0	0	0	0	0	0	0	0	0	0	0	0
23.0	<b>BENTONITE</b>														
i.	Density	MORT&H Sec. 1115.2.3	As required	75	75	0	0	2	1	0	1	77	76	0	1
ii.	Marsh Cone Viscosity			2	2	0	0	3	1	0	2	5	3	0	2
iii.	pH Value			1	1	0	0	0	0	0	0	1	1	0	0
iv.	Silt Content			1	1	0	0	0	0	0	0	1	1	0	0
v.	Liquid Limit			1	1	0	0	0	0	0	0	1	1	0	0



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24.0	<b>Concrete Cube Strength of Mix Design Cubes</b>														
i.	<b>M15 PCC</b>														
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	18	18	0	0	0	0	0	0	18	18	0	0
	28Days Compressive Strength			18	18	0	0	0	0	0	0	18	18	0	0
ii.	<b>M20 PCC</b>														
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	3	3	0	0	0	0	0	0	3	3	0	0
	28Days Compressive Strength			3	3	0	0	0	0	0	0	3	3	0	0
iii.	<b>M20 RCC</b>														
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	0	0	0	0	0	0	0	0	0	0	0	0
	28Days Compressive Strength			0	0	0	0	0	0	0	0	0	0	0	0
iv.	<b>M20 KERB</b>														
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	0	0	0	0	0	0	0	0	0	0	0	0
	28Days Compressive Strength			0	0	0	0	0	0	0	0	0	0	0	0
v.	<b>M25 RCC</b>														
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	12	12	0	0	0	0	0	0	12	12	0	0
	28Days Compressive Strength			12	12	0	0	0	0	0	0	12	12	0	0
vi.	<b>M30 RCC</b>														
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	0	0	0	0	3	3	0	0	3	3	0	0
	28Days Compressive Strength			0	0	0	0	0	0	0	0	0	0	0	0
vii.	<b>M30 RCC PUMPABLE</b>														
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	30	30	0	0	0	0	0	0	30	30	0	0
	28Days Compressive Strength			30	30	0	0	0	0	0	0	30	30	0	0
viii.	<b>M35 RCC</b>														
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	0	0	0	0	0	0	0	0	0	0	0	0
	28Days Compressive Strength			0	0	0	0	0	0	0	0	0	0	0	0



**Project-**  
Delhi – Vadodara Greenfield Alignment (Pkg. No-30) from Ch.351+000 to Ch. 372+500.

REPORT #

MPR-02/Oct, 2021



**Monthly Progress Report**

Summary of Quality Control Report / Monthly Progress Report (QC) - MONTH : October-2021															
S. No.	Description	IS Specification Clause	Frequency of Tests	Test conducted upto Previous				Tests conducted during				Test conducted upto this month			
				No. of test Conduct ed	Passed	Failed	Nos. of test witness ed by	No. of test Conduct ed	Passed	Failed	Nos. of test witness ed by	No. of test Conduct ed	Passed	Failed	Nos. of test witness ed by
<b>ix. M35 RCC PILING</b>															
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	60	60	0	0	6	6	0	0	66	66	0	0
	28Days Compressive Strength			60	60	0	0	6	6	0	0	66	66	0	0
<b>x. M35 RCC PUMPABLE</b>															
	7Days Compressive Strength	IS:516 / IS:456	1370	36	36	0	0	0	0	0	0	36	36	0	0
	28Days Compressive Strength			36	36	0	0	0	0	0	0	36	36	0	0
<b>xi. M35 RE BLOCK</b>															
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	0	0	0	0	0	0	0	0	0	0	0	0
	28Days Compressive Strength			0	0	0	0	0	0	0	0	0	0	0	0
<b>xii. M40 RCC</b>															
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	36	36	0	0	0	0	0	0	36	36	0	0
	28Days Compressive Strength			36	36	0	0	3	3	0	0	39	39	0	0
<b>xiii. M45 PUMP</b>															
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	27	27	0	0	0	0	0	0	27	27	0	0
	28Days Compressive Strength			27	27	0	0	3	3	0	0	30	30	0	0
<b>xiv. M50 PUMP</b>															
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	96	96	0	0	3	3	0	0	99	99	0	0
	28Days Compressive Strength			96	96	0	0	12	12	0	0	108	108	0	0
<b>xv. M40 PRECAST</b>															
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	21	21	0	0	0	0	0	0	21	21	0	0
	28Days Compressive Strength			21	21	0	0	0	0	0	0	21	21	0	0
<b>xvi. Cement Grout</b>															
	7Days Compressive Strength	IS:516 / IS:456	MORT&H Sec. 1700	9	9	0	0	0	0	0	0	9	9	0	0
	28Days Compressive Strength			9	9	0	0	0	0	0	0	9	9	0	0



### 11.9 Laboratory Equipment's:-

Sl. No	Equipment Name	Reference Code	Qty	Remarks
<b>A</b>	<b>Balance</b>			
1	100 Kg capacity Semi-Self indicating type-Accuracy 2 gm electronic		2	
2	50 Kg capacity Semi-Self indicating type-Accuracy 1 gm electronic		2	
3	30 Kg capacity Semi-Self indicating type-Accuracy 1 gm Electronic		4	
4	20 Kg capacity Semi-Self indicating type-Accuracy 1 gm Electronic		1	
5	10 Kg capacity Semi-Self indicating type-Accuracy 0.5gm And 0.1gm Electronic		2	
6	7.5 Kg capacity Semi-Self indicating type-Accuracy 0.5gm Electronic		1	
7	6 Kg capacity Semi-Self indicating type-Accuracy 0.5 gm Electronic		1	
8	5 Kg capacity Semi-Self indicating type-Accuracy 0.5 gm and 1 gm Electronic		4	
9	600 gm capacity- semi-self indicating Type Accuracy .01 gm Electronic		2	
10	500 gm capacity- semi-self indicating Type Accuracy .01 gm Electronic		0	
11	<b>Ovens-electrically operated, thermostatically controlled (including thermometer), stainless steel interior</b>		2	
12	<b>Sieves: as per IS:2386 PART I</b>			
13	Test sieve set 450mm internal dia. As per IS complete with lid and pan	IS-460 & ISO-565		
14	100 mm		2	
15	90 mm		1	
16	80 mm		1	
17	75 mm		2	
18	63 mm		2	
19	53 mm		2	
20	50 mm		2	
21	31.5 mm		2	
22	16 mm		2	
23	14 mm		1	
24	11.2mm		2	
25	5.6 mm		2	
26	5.0 mm		2	
27	2.8 mm			



Sl. No	Equipment Name	Reference Code	Qty	Remarks
28	Test sieve set 450mm internal dia. As per IS complete with lid and pan	IS-460 & ISO-565		
29	45 mm		2	
30	40 mm		2	
31	37.5 mm		2	
32	26.5 mm		2	
33	25 mm		3	
34	22.4 mm		2	
35	20 mm		4	
36	19 mm		1	
37	13.2 mm		2	
38	12.5 mm		3	
39	10 mm		6	
40	9.5 mm		2	
41	6.3 mm		2	
42	4.75 mm		6	
43	2.36 mm		1	
44	Test sieve set 200mm internal dia( brass frameand brass wire cloth mesh) as per IS complete with lid and pan	IS-460 & ISO-565		
45	2.8mm		3	
46	1.40 mm		1	
47	0.850 mm		3	
48	0.710 mm		3	
49	0.355 mm		3	
50	0.250 mm		2	.
51	0.212 mm		2	.
52	0.125 mm		2	.
53	0.045 mm		4	.
54	0.015 mm		5	.
55	Test sieve set 200mm internal dia( brass frameand brass wire cloth mesh) as per IS complete with lid and pan	IS-460 & ISO-565	.	
56	4.75mm		2	
57	2.36 mm		10	
58	2.0 mm		2	
59	1.7 mm		3	
60	1.18 mm		6	
61	0.090 mm		5	



Sl. No	Equipment Name	Reference Code	Qty	Remarks
62	Test sieve set 200mm internal dia( brass frame and brass wire cloth mesh) as per IS complete with lid and pan	IS-460 & ISO-565	.	
63	1.00 mm		4	
64	0.432 mm		1	
65	0.600 mm		8	
66	0.425 mm		7	
67	0.300 mm		7	
68	0.180 mm		6	
69	0.150 mm		4	
70	0.075 mm		13	
71	0.015 mm		2	
72	2000 kN compression testing machine DIGITAL Electric operated	IS-516	1	
73	stop watches 1/5 sec. accuracy		2	
74	Flakiness and Elongation test gauges as per IS:2386, Part-1	IS:2386(part-1)	2	
75	Aggregate Impact Value Test apparatus as per IS 2386(part-iv)	IS:2386(part-4)	1	
76	Glass ware comprising beakers,pipettes,dishes, measuring cylinders(100 to 1000cc capacity glass rods and funnels, glass beakers)			
77	50ml		6	
78	100ml Graduation (0-100mm) - Borosil Make		33	
79	250ml		13	
80	500ml		10	
81	600ml			
82	1000ml		7	
83	Beaker - 1000 ml		3	
84	Beaker - 600 ml			
85	Beaker - 500 ml		13	
86	Beaker - 250 ml		9	
87	Glass rod		8	
88	Glass Funnel			
89	Pipettes			
90	Hot plates 200mm dia(1500watt)		2	
91	Riffle box of slot size 75mm as per ASTM C-136		1	
92	Riffle box of slot size 50mm as per ASTM C-136		1	
93	Spatula set of 100,200 and 300 mm long		10	5 Small, 5 Big



Sl. No	Equipment Name	Reference Code	Qty	Remarks
94	First aid box		2	
95	Enamel TRAYS (600 mm X 450 mm x 50 mm)		9	
96	Enamel trays (300 mm X 300 mm x 40 mm)		15	
97	Enamel trays (300 mm X 450 mm x 40 mm)		9	
98	GI Trays (600mm*600mm*50mm)		1	
99	GI Trays (900 mm X 600 mm x 50 mm)		4	
100	Enamel TRAYS (300 mm X 250 mm x 40 mm)		9	
101	Enamel trays (450 mm X 300 mm x 40 mm)		6	
102	GI Trays (1000 mm X 750 mm x 75 mm)		6	
103	GI Trays (600mm*450mm*50mm)		2	
104	GI Trays (2200 mm X 600 mm x 80 mm)		3	
105	Trays for Tackcoat		16	
106	Hygrometer (Max. / Min. Thermometer with Humidity meter)		4	
107	Rainfall Gauge		2	
108	Rainfall Gauge - Measures		4	
109	PVC WARES			
110	25ml		0	
111	50ml		0	
112	100ml		0	
113	250ml		1	
114	500ml		1	
115	1000ml		2	
116	Funnel		0	
117	Wash bottle		3	
118	Wind Velocity Meter(Amenometer)		0	
119	Scoop Small size (500 gm)		8	
120	Scoop large size (2.0 kg)		3	
121	Scoop Medium size (1.0 kg)		1	
122	Digital Thermometer range (0 <sup>0</sup> to 300 <sup>0</sup> )		7	
123	Dial Thermometer range (0 <sup>0</sup> to 300 <sup>0</sup> )		0	
124	Laser Thermometer range (0 <sup>0</sup> to 300 <sup>0</sup> )			
125	Glass Thermometer range (-10 <sup>0</sup> to 100 <sup>0</sup> )		2	
126	Glass Thermometer range (-10 <sup>0</sup> to 300 <sup>0</sup> )		1	
127	Vernier Callipers calibrated 200 mm (Digital Type)		1	
128	Vernier Callipers calibrated 45cm long Calibrated		1	
129	Steel Tape 5m and 30 meter		1	
130	Standard Weights Calibrated 2000kg, (0.5 kg to 50 kg)-Plant calibration	As required	0	
131	Standard Weights Box Calibrated (1gm to 200gm)		1	

**Project-**

Delhi – Vadodara Greenfield Alignment (Pkg. No-30) from Ch.351+000 to Ch. 372+500.

REPORT #

MPR-02/Oct, 2021



Every Milestone is our Value

**Monthly Progress Report**

Sl. No	Equipment Name	Referance Code	Qty	Remarks
132	Spirit Level		2	
133	Depth Gauge 300 mm		9	.
134	Liquid limit and plastic limit - IS-2720 (Part-5)		0	
135	a) Liquid limit device with Casagrande and grooving tools and as per IS:2720	IS-9259	1	
136	b) Single point LL device (Penetrometer)	IS : 11196	0	
137	c) Moisture content cantainers Aluminium 50 gm capacity		200	.
138	c) Moisture content cantainers Steel 50 gm capacity		25	
139	d) Moisture content cantainers Aluminium 100 gm capacity		130	.
140	e) Plastic Limit Apparatus	IS-2720 (Part-5)	1	
141	Sampling pipettes fitted with pressure and suction inlets, 10ml capacity			
142	Laboratory compaction as per IS-2720(Part-8)			
143	a) Compaction apparatus (heavy) 1000cc mould	IS : 10074	10	
144	b) Compaction apparatus (heavy) 2250cc Mould	IS : 10074	6	
145	c) Compaction hammer (heavy) 4.89 kg rammer	IS : 9198	5	
146	c) Compaction hammer (Light) 2.6 kg rammer	IS : 9198	3	
147	Sand pourig cylinder (100mm) with conical funnel and top and base plate as per IS:2720 (Part-28)			
148	100 mm dia	IS:2720 (Part-28)	4	
149	150 mm dia		5	
150	200 mm dia	IS:2720 (Part-28)	3	
151	Sand Pouring Trays 100 mm	IS:2720 (Part-28)	10	
152	Sand Pouring Trays 150 mm		9	
153	Sand Pouring Trays 200 mm	IS:2720 (Part-28)	8	
154	a) Floor mounted electro-mechanical load frame 5 tone capacity with automatic strain control CBR plunger with penetration dial gauge holder	IS : 9669	1	
155	b) CBR mould complete with collar, base plate, etc.	IS : 9669	61	
156	c) Swell stands for holding dial gauge with dial gauge	IS : 9669		
157	e) Surcharge weight with central hole of 2.5 kg. weight with central hole	IS : 9669	60	
158	e) Surcharge weight with central hole of 5 kg. weight with central hole		5	





Sl. No	Equipment Name	Reference Code	Qty	Remarks
159	e) Surcharge weight with central hole of 2.5 kg. weight with slotted hole		64	
160	e) Surcharge weight with central hole of 5 kg. weight with slotted hole		2	
161	f) Spacer disc with handle	IS : 9669	2	
162	g) Perforated brass swell plate with adjustable cap on handle	IS : 9669	63	
163	h) High tensile strain calibrated proving rings of 2.5 kN		1	
164	h) High tensile strain calibrated proving rings of 10 kN		2	
165	h) High tensile strain calibrated proving rings of 25 kN		1	
166	h) High tensile strain calibrated proving rings of 30 kN		1	
167	h) High tensile strain calibrated proving rings of 50 kN		1	
168	i) Dial gauge, 25mm travel-0.01mm/division		9	
169	Speedy moisture tester complete with carrying case and supply of reagent ( with 25% dial gauge)	IS:2720 (Part-2)	6	
170	Rubber/Wooden Mallet		7	
171	Cutting Edge 30 cm long		1	
172	FILTER PAPER 150 mm dia		4	
173	Hydrometer for Bentonite density test (graduation 1.00 to 1.2 g/cc)		5	
174	Hydrometer for Soil Grain Size Analysis		0	
175	Direct Shear Testing Machine		1	
176	<b>Nuclear gauge for density and moisture content determination to the requirements of AASHTO 238 AND 239</b>		0	
177	<b>Standard Penetration Test Equipment</b>		0	
178	<b>Unconfined Comprssion test Apparatus</b>		0	
179	Vicat needle apparatus for settintg time with plungers	IS : 5513	1	
180	Moulds		-	
181	a) 150mm x 150mm x 150mm cube moulds	IS:10086	184	
182	b) 70.6mm moulds ( each size) as per IS	IS:10080	18	
183	c) 50mm moulds ( each size) as per IS	IS:10086	6	
184	d) 100mm x 100mm x 100mm moulds	IS:10086	9	
185	e) 150x150x700mm Beam moulds	IS:10086	0	
186	e) 150x150x750mm Beam moulds		9	



Sl. No	Equipment Name	Reference Code	Qty	Remarks
187	f) 150 mm x 300 mm Height cylinder with Capping Set	IS:10086	0	
188	High frequency mortar cube vibrator for cement testing with poking Rod	IS:10080	1	
189	Concrete mixer (Drum Type ) power driven, 2 cu.ft. capacity		1	
190	Concrete mixer (Pan Type ) power driven, 150 kg. capacity		0	
191	Vibrating Table for PQC Beam Casting 1m X 1m as per relevant British standard		1	
192	Equipment for slump test(C-143)/compacting factor Apparatus complete	IS:1199	-	
193	Slump cone		7	
194	Slump Rod		5	
195	Flow table as per IS:712-1973	IS:1199	0	
196	Equipment for Determination of specific gravity for fine aggregate as per IS:2386(part-3)	IS-2386(Part-II)	7	
197	Equipment for Determination of specific gravity for coarse aggregate as per IS:2386(part-3)	IS-2386(Part-II)	2	
198	Le-chatelier Soundness testing apparatus for cement	IS : 5514	6	
199	Ennore Sand (grade-I,II & III) each	IS : 650	1	
200	Permeability Test Apparatus	For concrete	1	
201	Vibratory Hammer for DLC	MoRT&H	1	
202	Cement Gauging Trowel	IS:10086	4	
203	Temping bar square section with temping face 25 mm and 400 mm long with 2 kg weight.	IS:10086	1	
204	Standard measures of 30, 15, 3 litre capacity along with standard tamping rod	IS:10079	1	
205	Constant Water bath for Marshal test with Digital controller		2	
206	Core Cutting machine (Hilti Make) 150 mm dia for DLC and PQC		0	
207	Sand Patch test Apparatus (Tinning Measurement)	As per MoRT&H	0	
208	Marsh Cone Apparatus		1	
209	Diesel/Electrical Needle Vibrator with 25mm lead		0	
210	Concrete Penetrometer (Initial Setting Time)	IS:8142	0	
211	Bump Integrator (Roughometer)		0	
212	3 meter Straight edge and measuring wedge		0	



Sl. No	Equipment Name	Reference Code	Qty	Remarks
213	Constant temperature bath for accommodating bitumen test specimen , electrically operated, and thermostatically controlled, stainless steel interior, 50 litres capacity, ambient to 100 degree temperature range		0	
214	Bitumen penetrometer automatic type, including adjustable weight arrangement, and needles as per IS 1203	IS:1203	1	
215	PENETRATION CUP (Small)	IS:1203	2	
216	PENETRATION CUP (Big)		0	
217	Soxhlet Extraction or Centrifuge type motorized bitumen extraction apparatus to the requirement of AASHTO T164	AASHTO T164	1	
218	FILTER PAPER		6	
219	AUTOMATIC COMPACTOR FOR MARSHAL TEST-(4" AND 6" DIA. SPECIMEN)-(UNIVERSAL MODEL)		1	
220	a) Marshall compaction Testing apparatus as per ASTM 1559-62 T and complete with electrically operated automatic loading unit, compaction pedestal, breaking assembly for Marshall Stability & Retained tensile Strength (100mm & 150mm), flow meter, load transfer bar and Plate	MS-2, IRC-111-2009 and AASHTO T 283	1	
221	b) compaction pedestal 100 mm and 150mm dia - Each		1	
222	c) Specimen moulds 100 mmdia with base plate, collars		21	
223	c) Specimen moulds 150mm dia with base plate, collars		21	
224	d) compaction hammer 4.53 kgx457 mm fall 100mm		3	
225	d) compaction hammer 150 mm dia		3	
226	f) Distance Reading Digital Thermometer range (0 <sup>0</sup> to 300 <sup>0</sup> )		0	
227	h) Breaking Head 100mm		2	
228	h) Breaking Head 150mm		2	
229	Ring and ball Apparatus as per IS 1205 with stirrer and all Accessories	IS:1205	1	
230	Ring and ball - Accessories		2	
231	SAYBOLT Floro Viscometer for Emulsion	IS-3117	0	
232	SAYBOLT Emulsion - 60ml borosil		4	
233	Core cutting machine Diesel operated / Electrical operated (Hilti Preferably) with barrel (30mm long) and diamond cutting Bit		0	
234	Extra 10cm dia diamond cutting edge (Bit) without Barrel		0	
235	Extra 15cm dia diamond cutting edge (Bit) without barrel		0	



Sl. No	Equipment Name	Referance Code	Qty	Remarks
236	Apparatus for Determination of specific Gravity IS-1202 (50ml and 100ml)	IS:1208	5	
237	Maximum specific gravity Apparatus for - 5 lts bottle capacity	ASTM D2041 & IRC-111	1	
238	Maximum specific gravity Apparatus for - 2 lts bottle capacity		0	
239	Vaccum Pump		1	
240	Viscosity Test Apparatus including water bath and viscosity tubes for Absolute and Kinematic viscosity as per IS -1206(part-II & III) with calibration Certificate of Tubes (Micro cotroller)	IS - 1206(part-II & III)	0	
241	Viscosity Test Apparatus - Absolute viscosity Tube		0	
242	Viscosity Test Apparatus - Kinematic viscosity Tube		0	
243	Bitumen laboratory mixer including required accessories (20 litres.)		0	
244	Freeze Temperature Maintaining -25 <sup>0</sup> C to 50 <sup>0</sup> C		1	
245	Marshall mould demouder (Pressure type)		1	
246	Thin film oven test apparatus to the requirement of AASHTO T 179 including accessories (for Modified Bitumen)	AASHTO T 179	1	
247	Apparatus for Determination of ductility test as per IS 1208 with Elastic Recovery Mould (for Modified Bitumen)	IS:1208	0	
248	Ductility test -Mould		0	
249	Elastic Recovery test -Mould		0	
250	Flash Point Apparatus	IS:1209	0	
251	Soxhlet Bitumen Impurities test apparatus		0	
252	Calcium Carbide (Box)		4	
253	Gas Stove Single Burner		3	
254	Trowels Big and Medium		8	
255	Concrete Finisher		13	
256	Spade		0	
257	Crowbar and Gaity		1	
258	Ground glass plate with rounded edges 600mmx600mmx10mm		2	
259	Spoon Medium size		2	
260	Local Filter Paper		0	
261	French Curve		2	
262	Computer With Printer		1	
263	Stationeries, Almirah and Racks		2	Almirah
264	AC ( 2 tons capacity)		1	



Sl. No	Equipment Name	Reference Code	Qty	Remarks
265	Hand Gloves ( asbestos and Rubber)		4	
266	Gas Stove Double Burner		1	
267	Heating Pans		2	
268	density Spoon		4	
269	Spoons		2	
270	Emersion Rod		3	
271	Spirit level		2	
272	Chiesel		13	
273	Hammer		7	
274	Enamel Pot		5	
275	Blower Heater		0	
276	Green Net (Bundle)		0	
277	White Marker Board (2ft X 3ft)		1	
278	Metal ramp plate for core cutting machine Loading and unloading		0	
279	Water Heater		4	
280	PH Meter Range (0 to 14)		1	
281	MS Rack (Old)		3	
282	Cauldron (Kadai) Small Size		1	
283	Cauldron (Kadai) Big Size		1	



## 11.10 Weather Report

### WEATHER REPORT - October (2021) - Khandoli Camp

Sl. No.	Date	Temperature °C		Humidity (%)		Rainfall (mm)	Cum.Rainfall (mm)	Weather Condition
		Max	Min	Max	Min			
1	01-10-21	28.80	27.30	67.00	63.00	0.00	951.00	sunny
2	02-10-21	28.30	27.10	68.00	64.00	0.00	951.00	sunny
3	03-10-21	27.50	26.30	69.00	63.00	0.00	951.00	sunny
4	04-10-21	27.70	26.80	65.00	61.00	0.00	951.00	sunny
5	05-10-21	28.30	26.60	64.00	60.00	0.00	951.00	sunny
6	06-10-21	28.60	26.30	65.00	59.00	6.00	957.00	sunny
7	07-10-21	28.80	26.40	64.00	58.00	0.00	957.00	sunny
8	08-10-21	27.90	26.30	65.00	60.00	0.00	957.00	sunny
9	09-10-21	28.20	26.50	63.00	59.00	0.00	957.00	sunny
10	10-10-21	28.90	27.80	64.00	61.00	0.00	957.00	sunny
11	11-10-21	28.50	26.60	63.00	59.00	0.00	957.00	sunny
12	12-10-21	28.40	26.30	64.00	59.00	0.00	957.00	sunny
13	13-10-21	27.50	26.20	63.00	58.00	0.00	957.00	sunny
14	14-10-21	28.20	26.40	64.00	57.00	0.00	957.00	sunny
15	15-10-21	28.10	25.30	62.00	56.00	0.00	957.00	sunny
16	16-10-21	29.20	24.90	50.00	55.00	0.00	957.00	sunny
17	17-10-21	27.30	25.00	57.00	57.00	0.00	957.00	sunny
18	18-10-21	27.30	25.00	57.00	55.00	0.00	957.00	sunny
19	19-10-21	27.30	25.30	57.00	54.00	0.00	957.00	sunny
20	20-10-21	29.50	24.90	50.00	55.00	0.00	957.00	sunny



Sl. No.	Date	Temperature °C		Humidity (%)		Rainfall (mm)	Cum.Rainfall (mm)	Weather Condition
		Max	Min	Max	Min			
21	21-10-21	29.50	24.90	50.00	54.00	0.00	957.00	sunny
22	22-10-21	28.50	26.00	63.00	59.00	0.00	957.00	sunny
23	23-10-21	29.50	26.00	63.00	57.00	0.00	957.00	sunny
24	24-10-21	30.70	23.70	67.00	56.00	0.00	957.00	sunny
25	25-10-21	30.70	23.00	67.00	58.00	0.00	957.00	sunny
26	26-10-21	29.60	24.90	63.00	59.00	0.00	957.00	sunny
27	27-10-21	29.60	24.90	63.00	59.00	0.00	957.00	sunny
28	28-10-21	30.60	23.70	60.00	57.00	0.00	957.00	sunny
29	29-10-21	29.90	22.30	64.00	58.00	0.00	957.00	sunny
30	30-10-21	0.00		0.00	0.00	0.00	957.00	sunny
31	31-10-21							





### 11.11 Photographs

Site office , Camp & Plant & Machinery







**Project-**  
Delhi – Vadodara Greenfield Alignment (Pkg. No-30) from Ch.351+000 to Ch. 372+500.

REPORT #  
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**Monthly Progress Report**

**Site Photographs**







**Project-**  
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Site Photographs







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**Monthly Progress Report**

Girder Casting Yard/Pakona plant/batching plant

