



SHREM FINANCIAL PRIVATE LIMITED

**Four Laning of Yavatmal to Wardha Package III) section of
NH-361 from Km.400.575 to Km.465.500 (design Length 64.925
Km) in the State of Maharashtra under NHDP Phase IV on
Hybrid Annuity Mode**

TECHNICAL DUE DILIGENCE REPORT



FEBRUARY, 2021

SUBMITTED BY



RUKY PROJECTS PRIVATE LIMITED

Hyderabad – 500 072

www.rukyprojects.com



Four Lanning of Yavatmal to Wardha Package III) section of
NH-361 from Km.400.575 to Km.465.500 (design Length 64.925
Km) in the State of Maharashtra under NHDP Phase IV on
Hybrid Annuity Mode

This document has been issued and amended as follows:

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CHAPTER 1. INTRODUCTION

1.1 General

DBL YAVATMAL WARDHA HIGHWAYS PRIVATE LIMITED (herein after referred to as the “Concessionaire”) had augmented the existing two lanes road “Yavatmal Wardha section of NH361 in the State of Maharashtra, in accordance with the provisions of the Concession Agreement executed with National Highways Authority of India (herein after referred to as the “Authority”) on 9th June, 2017 on Design, Build, Operate and Transfer (DBOT) on Hybrid Annuity Mode (HAM).

The Project Highway starts at Km. 400+575 (Near Yavatmal) and ends at Km. 465+500 (Near Wardha) on NH 361. It passes through settlements namely kamatwada, Galamgaon, Sirpur, Bhidi and Selsura. Project location map is provided at Figure 1.1.

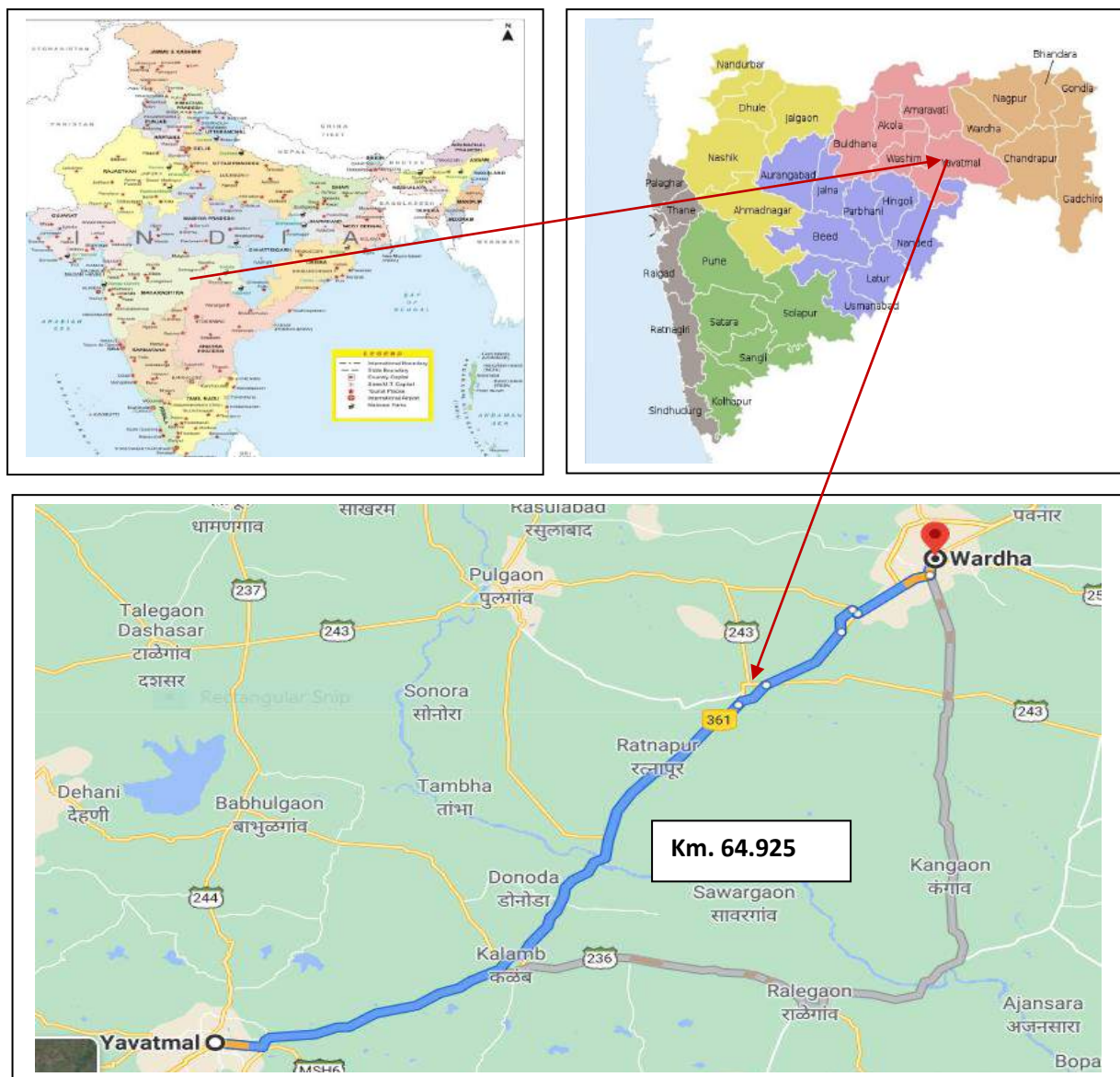


Figure 1-1: Project Location Map

SHREM INFRAVENTURE PRIVATE LIMITED (SRPL) acquired DBL YAVATMAL WARDHA HIGHWAYS PRIVATE LIMITED vide agreement dated 26.03.2018

SHREM FINANCIAL PRIVATE LTD (SFPL) appointed RUKY PROJECTS PVT LTD as consultant for detailed Technical Due Diligence services of the above Road Project to know-how the present condition of Carriageway and Structures, probable costs of Operations and Maintenance during balance Concession period, additional road safety requirements if any and to review the annuity payments received and future schedule of annuity payments.

1.2 The Project Data

Table 1-1: Project Data

S No.	Particulars	Details
1	Name of the project	Four Laning of Yavatmal-Wardha Section of NH-361 From Km. 400+575 to Km.465.500 (Design Length Km. 64+925) in the State of Maharashtra on Hybrid Annuity Mode
2	Road Type	National Highway
3	Name of the Authority	National Highways Authority of India
4	Name of the Concessionaire	DBL YAVATMAL WARDHA HIGHWAYS PRIVATE LIMITED
5	Name of the EPC Contractor	Dilip Buildcon Limited
6	Date of LOA	28.03.2017
7	Date of Agreement	09.06.2017
8	Design Length as per Schedule B of CA	64.925 Km
9	Project Lane Configuration	Four Lane
10	Bid Project Cost	1046.28Cr
11	EPC Cost	756.17 Cr
12	Nature of contract	Hybrid Annuity Mode
13	Toll collected by	The Authority
14	Concession Period	15 years from the Commercial Operation Date (COD)
15	Appointed date	05.02.2018
16	Concession End Date	01.08.2034
17	Construction Period	910 days from the Appointed Date
18	Schedule Completion Date	02.08.2020
19	Bonus on early completion	Applicable as per Cl.23.5 of CA
20	Date of issuance of Provisional Certificate (COD)	02.08.2019
21	Date of issuance of Completion Certificate	---
22	Annuity Amount (every six months)	As per Cl.23.4 & Cl.23.6.3 of CA
23	Total Number of Annuities payable	30 Nos.
24	First Annuity Payment Date	02.02.2020
25	Total Number of Annuity Payments received as on date.	2 No.

1.3 Scope of Consultancy Services

The scope of work includes providing Technical Due Diligence of the Project Highway and providing estimate of the anticipated maintenance works. Scope of the work as defined in the consultancy work order is listed below:

- Review of various contractual documents
- Carryout detailed assessment of pavement condition and propose maintenance plan along with BOQ.
- Review of latest BBD/BI test report
- Carrying out inventory & condition survey of all elements of road like embankment slope, plantation, road furniture of the project.
- Carrying out inventory & condition survey of all structures (Major Bridges, Minor Bridges, ROB, RE Wall, Flyovers, VUPs, PUPs, Culverts etc.), suggest any rehabilitation & maintenance requirements along with BOQ.
- Carryout out road safety audit on Project highway and provide suggestions for improvement.
- Assess and Provide BOQ and cost estimate for routine & periodic maintenance including O&M.
- Review of punch list items, NCR's to identify any uncompleted works as on date of submission of report.
- Review of validity of insurance and statutory compliances related to Project.
- Review of correspondences exchanged between parties on contract related issues and claims etc.
- Submission of detailed report on technical due diligence of the project.

CHAPTER 2. PROJECT DESCRIPTION & TECHNICAL DETAILS

2.1 Salient Features of the Project

The salient features of the Project as per schedule B and Schedule C of Concession Agreement (CA) including Change of scope are listed in the following Table 2-1.

Table 2-1: Salient Features

S. No.	Particulars	As per CA	As per COS	As per Site
1	Total Length of the Project Highway	64.925 Kms.	---	64.925 Kms.
2	Widening	47.115 Kms.	---	47.115 Kms.
3	New Alignmnet including bypass	6.995 Kms.	---	6.995 Kms.
4	Approaches to undepasses	10.815 Kms.	---	10.815 Kms.
5	No of Bypass Roads	2 Nos.	---	2 Nos.
6	Service Roads with 7.5 m Width	9.490 Kms.	---	9.490 Kms.
7	Slip Roads with 5.5 m Width	13.470 Kms.	---	13.470 Kms.
8	Toll Plaza	1 No.	---	1 No.
9	Bus Bays / Bus Shelters	32 Nos.	---	32 Nos.
10	Truck Lay Bays	1 No.	---	1 No.
11	Rest Area	1 No.	---	1 No.
12	Major Junction	3 Nos.	---	3 Nos.
13	Minor Junctions	26 Nos.	---	26 Nos.
14	Vehicle Underpass	3 Nos.	---	3 Nos.
15	Light Vehicle Underpass	6 Nos.	---	6 Nos.
16	Pedestrian Underpass	2 Nos.	---	2 Nos.
17	Cattle Underpass	1 No.	---	1 No.
18	Vehicle Overpass	1 No. with 4 Lane Width	Reduced to 2 Lane width	1 No. with 2 Lane Width
19	Flyover	2 Nos.	---	2 Nos.
20	Major Bridges	3 Nos.	---	3 Nos.
21	Minor Bridges for Main Carriageway	30 Nos.	---	30 Nos.
22	Box/Slab Culverts	31 Nos.	+1 No.	32 No.
23	Pipe Culverts	83 Nos.	---	83 Nos.

2.2 Typical Cross Section (TCS) Schedule

The Concessionaire has followed the Typical Cross Section Schedule, shown below as per Schedule B of CA during the Construction.

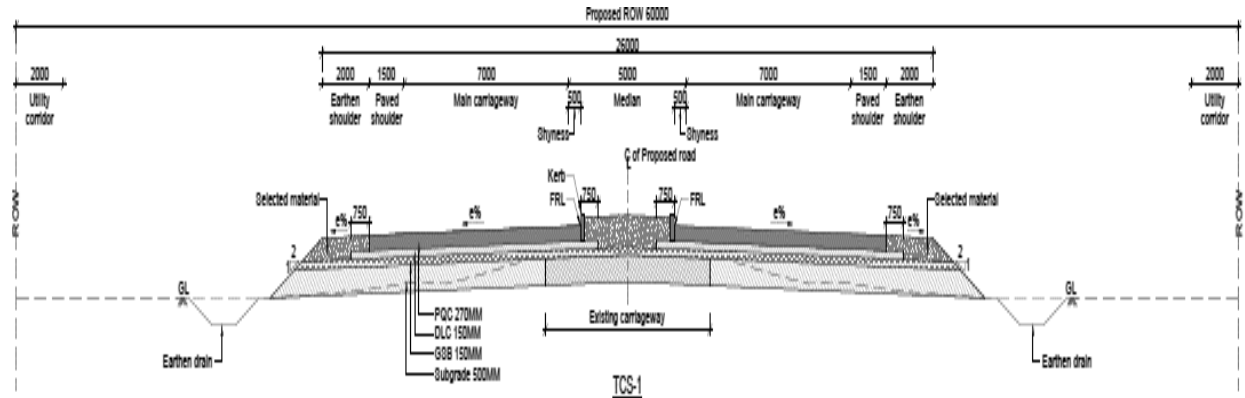


Figure 2-1: (TCS-1) 4-Laning By Concentric Widening With 4.0m Raised Median

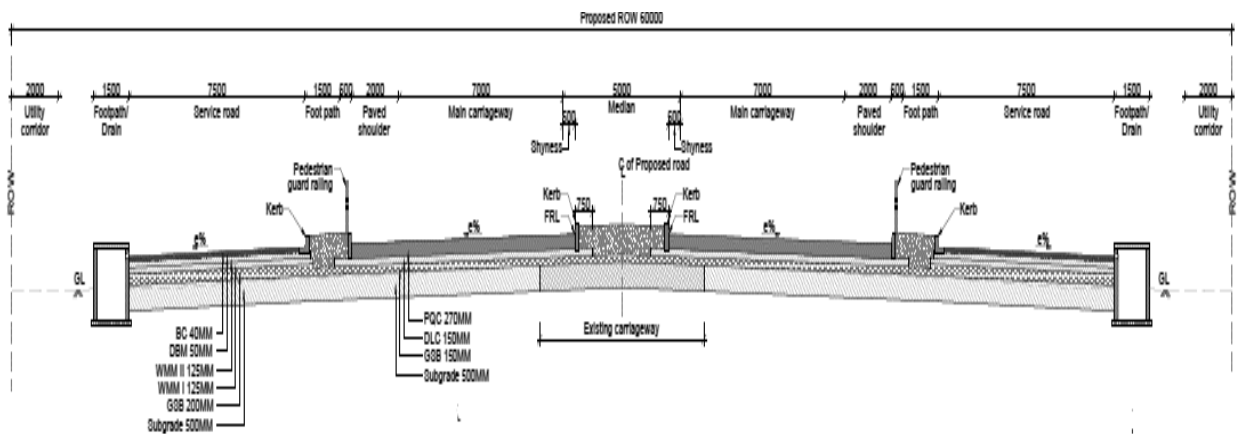


Figure 2-2: (TCS-2) Built-Up Section-Plain /Rolling Terrain With Service Roads

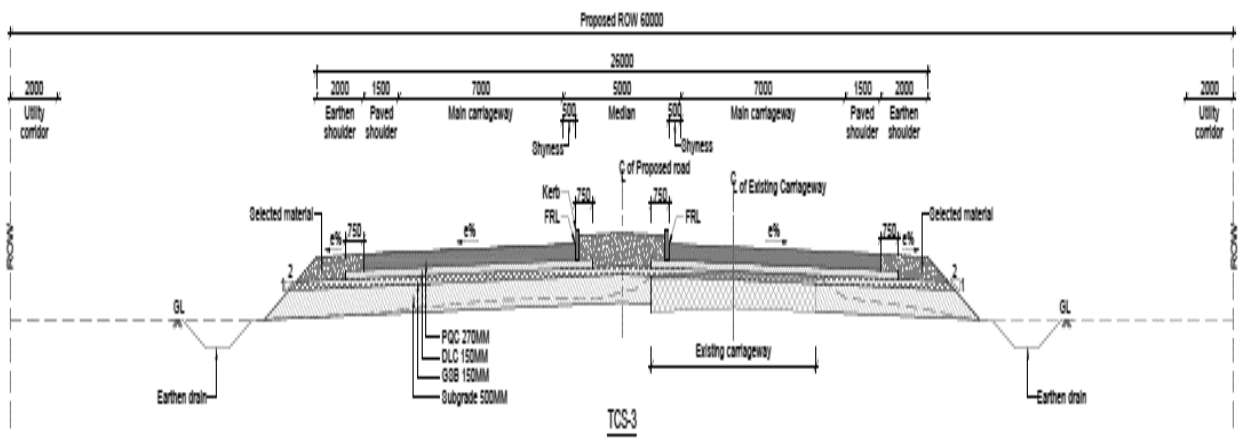


Figure 2-3: (TCS-3) 4-Laning By Eccentric Widening (LHS) With 4.0m Raised Median

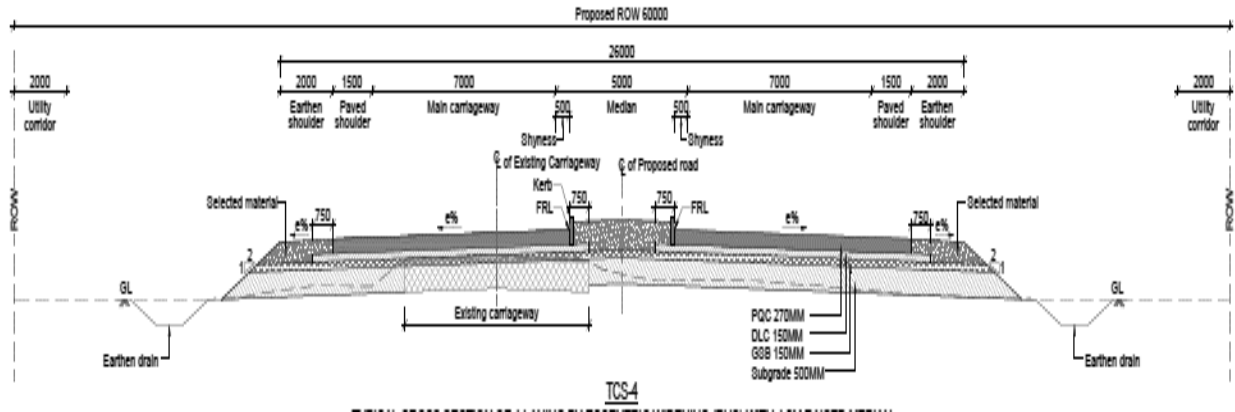


Figure 2-4: (TCS-4) 4-Laning By Eccentric Widening (RHS) With 4.0m Raised Median

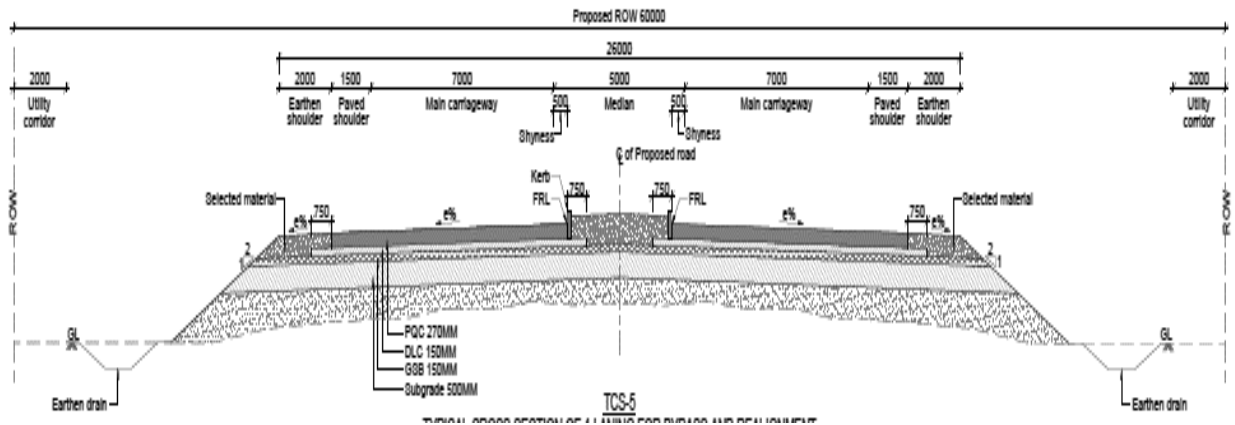


Figure 2-5: (TCS-5) 4-Laning For Bypass and Realignment

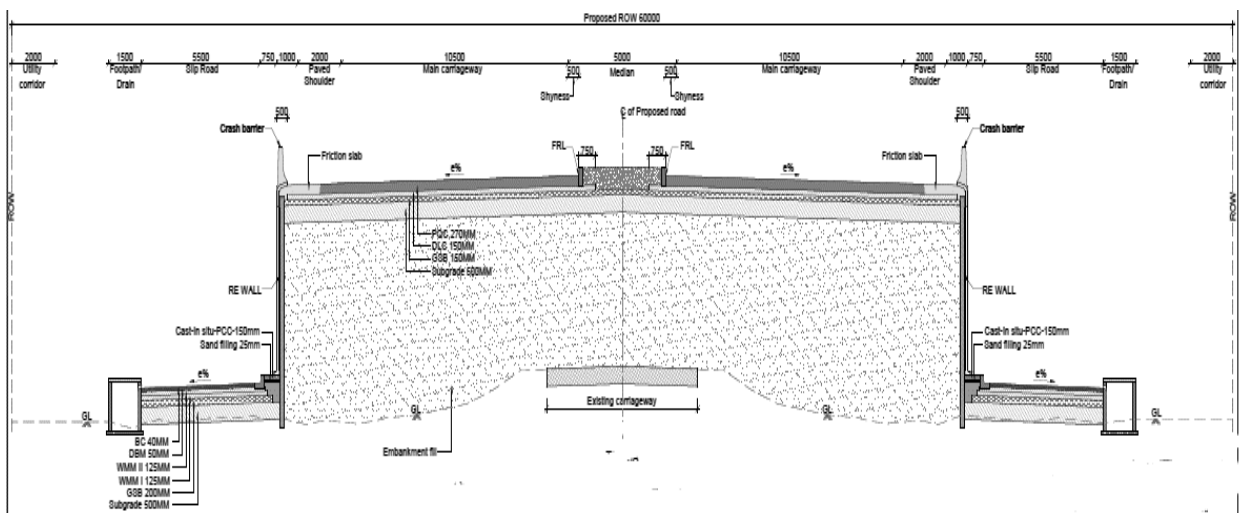


Figure 2-6: (TCS-6A) 4 Lane Underpass Cross Section With Slip Roads In The Existing Road

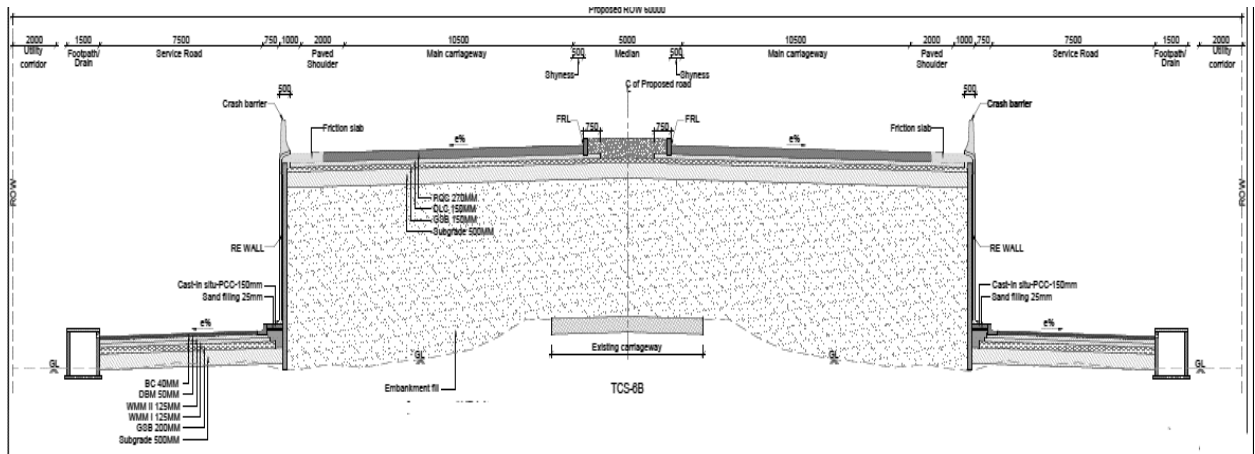


Figure 2-7: (TCS-6B) 4 Lane Underpass Cross Section With Service Roads In The Existing Road

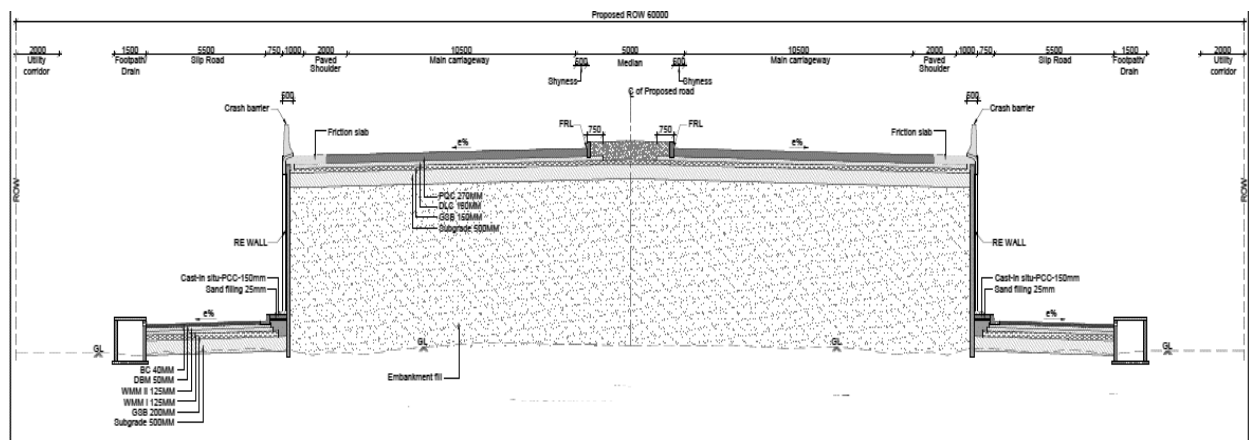


Figure 2-8: (TCS-6C) 4 Lane Underpass Cross Section With Slip Roads In Bypass & Realignment

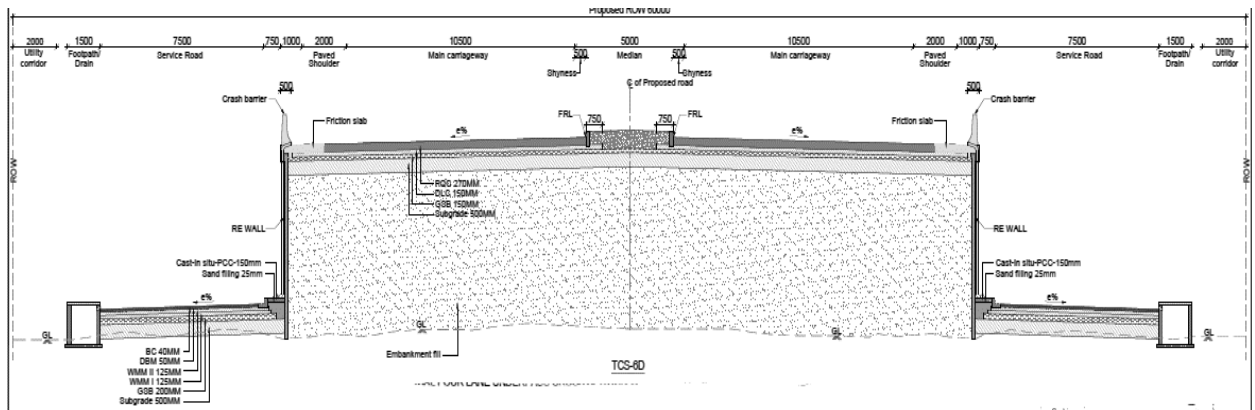


Figure 2-9: (TCS-6D) 4 Lane Underpass Cross Section With Service Roads In Bypass & Realignment

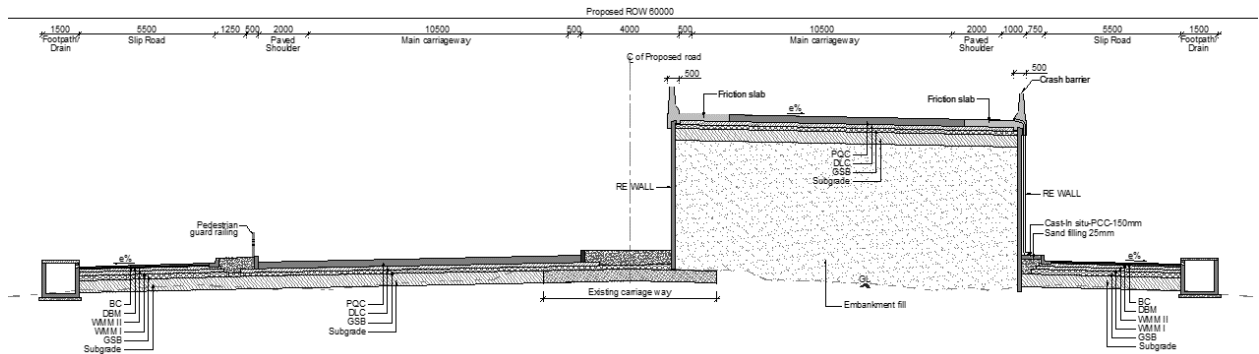


Figure 2-10: (TCS-6E) 4-Laning Unidirectional Vup With Slip Roads

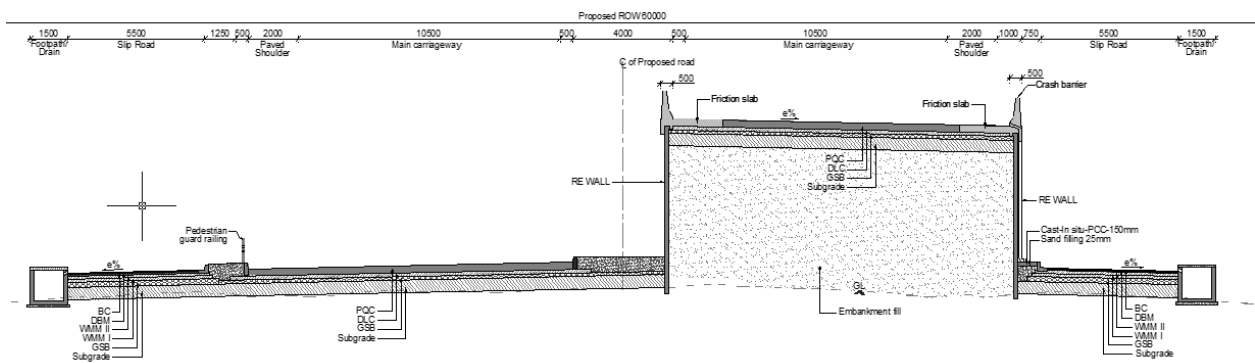


Figure 2-11: (TCS-6F) 4-Laning Unidirectional Vup With Slip Roads At Bypass & Realignment

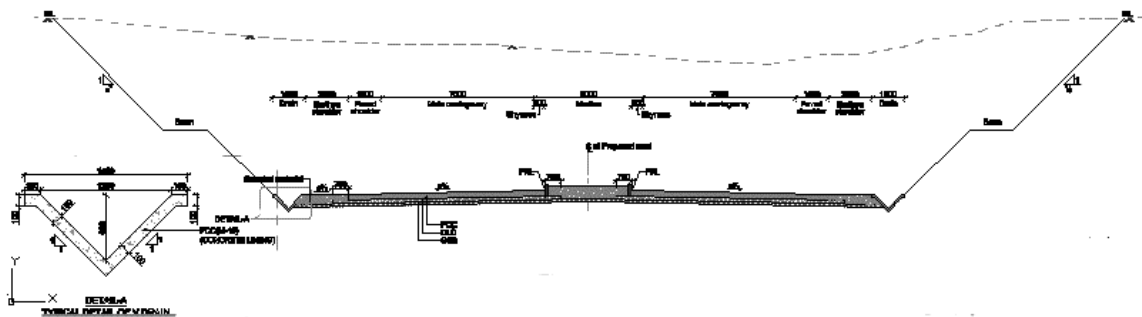


Figure 2-12: TCS-7 4-Lane Carriage Way (Both Side Cutting)

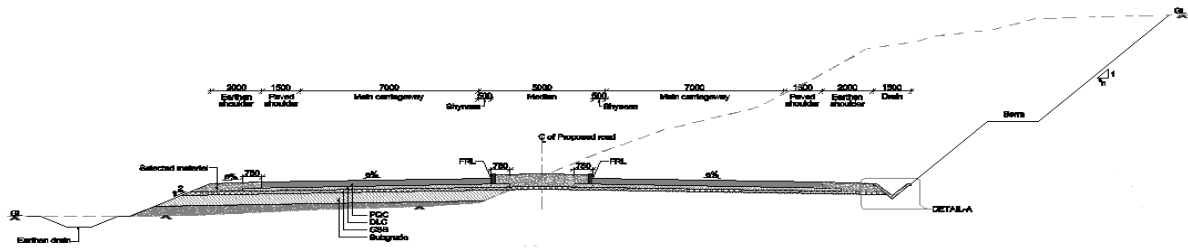


Figure 2-13: TCS-7A 4-Lane Carriage Way(Right Side Cutting)

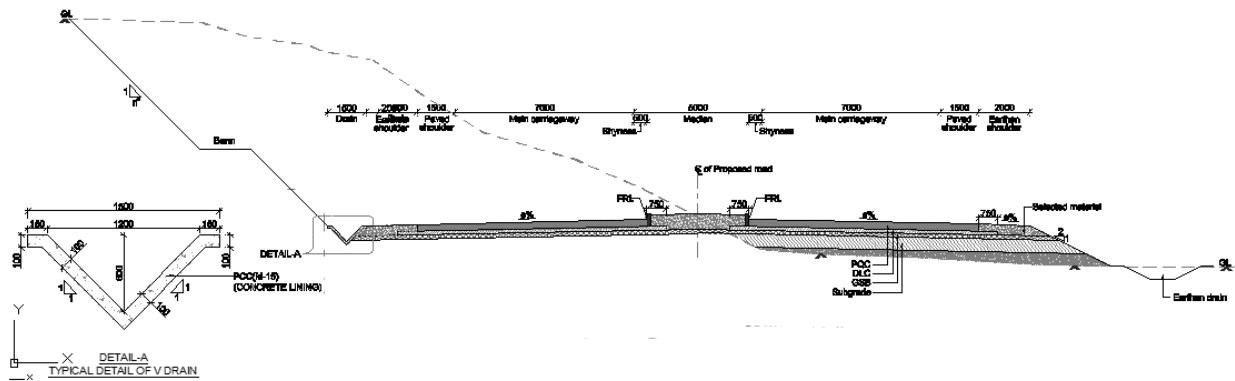


Figure 2-14: TCS-7B 4-Lane Carriage Way(Left Side Cutting)

TCS Schedule is provided below.

Table 2-2: TCS Schedule

S. No.	From (Km.)	To (Km.)	Length (m)	TCS TYPE
1	400+575	400+630	55	2
2	400+630	400+700	70	1
3	400+700	400+830	130	5
4	400+830	401+000	170	1
5	401+000	401+150	150	4
6	401+150	401+250	100	7B
7	401+250	401+630	380	7
8	401+630	402+050	420	7B
9	402+050	402+200	150	3
10	402+200	402+370	170	7B
11	402+370	403+110	740	7
12	403+110	403+170	60	7A
13	403+170	403+930	760	4
14	403+930	404+300	370	7
15	404+300	404+500	200	7A
16	404+500	404+690	190	7
17	404+690	406+330	1640	4

S. No.	From (Km.)	To (Km.)	Length (m)	TCS TYPE
18	406+330	406+390	60	7A
19	406+390	406+470	80	7
20	406+470	406+600	130	7A
21	406+600	407+500	900	7
22	407+500	407+700	200	5
23	407+700	408+200	500	4
24	408+200	408+400	200	7
25	408+400	409+050	650	3
26	409+050	409+250	200	7B
27	409+250	409+450	200	3
28	409+450	409+600	150	1
29	409+600	410+210	610	2
30	410+210	410+460	250	1
31	410+460	410+920	460	5
32	410+920	412+400	1480	1
33	412+400	412+600	200	3
34	412+600	413+800	1200	4
35	413+800	413+950	150	3
36	413+950	414+800	850	4
37	414+800	415+650	850	3
38	415+650	415+800	150	1
39	415+800	416+190	390	5
41	416+190	416+470	280	7
42	416+470	416+540	70	7B
43	416+540	416+600	60	5
44	416+600	416+870	270	7
45	416+870	416+900	30	7A
46	416+900	417+450	550	5
47	417+450	417+600	150	1
48	417+600	417+700	100	3
49	417+700	417+770	70	7
50	417+770	417+950	180	3
51	417+950	418+100	150	4
52	418+100	419+130	1030	3
53	419+130	419+350	220	7
54	419+350	420+000	650	4
55	420+000	420+230	230	3
56	420+230	420+330	100	7B
57	420+330	420+750	420	3
58	420+750	420+950	200	7B
59	420+950	421+300	350	3
60	421+300	421+500	200	4

S. No.	From (Km.)	To (Km.)	Length (m)	TCS TYPE
61	421+500	421+610	110	3
62	421+610	421+850	240	7A
63	421+850	421+950	100	4
64	421+950	422+100	150	1
65	422+100	423+450	1350	4
66	423+450	423+700	250	1
67	423+700	423+900	200	4
68	423+900	424+400	500	5
69	424+400	424+550	150	4
70	424+550	424+800	250	1
71	424+800	424+950	150	3
72	424+950	425+760	810	4
73	425+760	426+850	1090	3
74	426+850	427+350	500	4
75	427+350	427+800	450	1
76	427+800	427+870	70	6A
77	427+870	428+650	780	6C
79	428+650	429+950	1300	5
80	429+950	430+550	600	6F
81	430+550	430+750	200	6E
82	430+750	431+000	250	4
83	431+000	431+250	250	3
84	431+250	431+850	600	4
85	431+850	433+500	1650	3
86	433+500	433+700	200	6B
87	433+700	434+140	440	6D
88	434+140	434+650	510	4
89	434+650	434+760	110	3
90	434+760	435+560	800	6A
91	435+560	436+150	590	3
92	436+150	436+400	250	4
93	436+400	436+600	200	3
94	436+600	438+350	1750	4
95	438+350	438+580	230	6D
96	438+580	439+160	580	6B
97	439+160	439+290	130	6D
98	439+290	439+450	160	3
99	439+450	440+300	850	4
100	440+300	441+000	700	6B
101	441+000	441+590	590	1
102	441+590	442+450	860	6A
103	442+450	444+150	1700	4

S. No.	From (Km.)	To (Km.)	Length (m)	TCS TYPE
104	444+150	444+500	350	3
105	444+500	444+680	180	4
106	444+680	445+140	460	5
107	445+140	445+640	500	3
108	445+640	446+620	980	6B
109	446+620	448+000	1380	4
110	448+000	448+300	300	3
111	448+300	449+250	950	4
112	449+250	449+930	680	6A
113	449+930	454+700	4770	4
114	454+700	455+350	650	3
115	455+350	455+900	550	4
116	455+900	456+340	440	3
118	456+340	456+390	50	6A
119	456+390	457+060	670	6C
120	457+060	457+640	580	5
121	457+640	458+900	1260	6C
122	458+900	459+665	765	6A
123	459+665	461+900	2235	3
124	461+900	462+550	650	6B
125	462+550	462+720	170	6D
126	462+720	465+100	2380	3
127	465+100	465+300	200	1
128	465+300	465+500	200	4

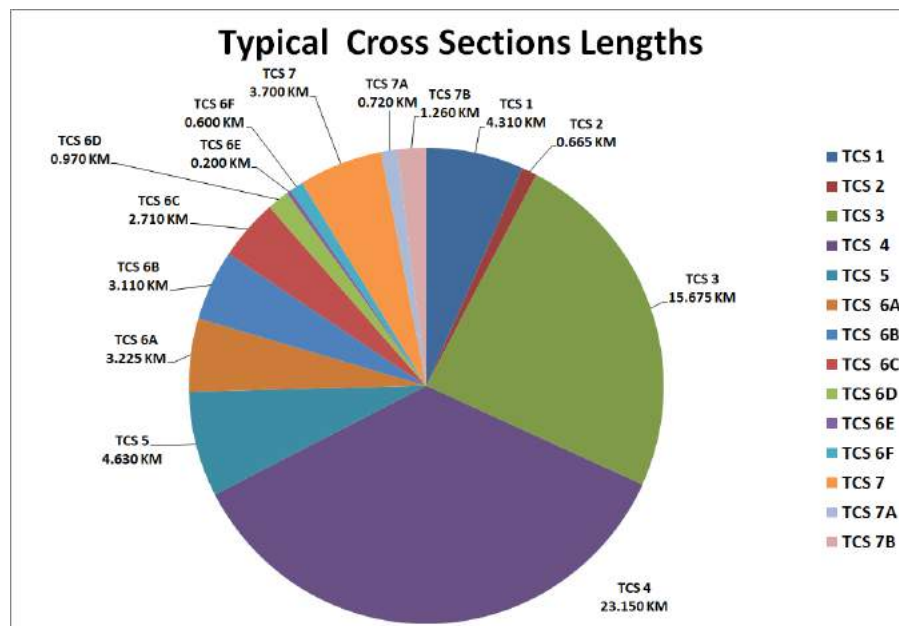


Figure 2-15: Pictorial Diagram of TCS Lengths.

2.3 Road Side Drainage

To facilitate quick disposal of storm water from the Carriageway and to avoid accumulation of drainage from road side community on the Carriageway, RCC side drains are constructed along the main carriage way on both flanks as specified in Schedule B of CA in strict adherence to the Standard Specifications set forth in Schedule D of CA.

The Concessionaire has provided RCC covered drains with footpath in built up areas while earthen drains are constructed in open and rural areas.

2.4 Service Roads

Service Roads and Slip Roads are provided as per the provisions of Schedule B of the Concession Agreement. The details are provided below.

Table 2-3: List of Service Road locations

S. No.	Design Chainage		Length (m)	Carriageway Width (m)
	From (Km.)	To (Km.)		
1	400+575	400+630	55	7.5
2	409+860	410+470	610	7.5
3	433+220	433+860	640	7.5
4	438+400	439+340	940	7.5
5	440+300	441+000	700	7.5
6	445+600	446+580	980	7.5
7	461+900	462+720	820	7.5
	Total length		4745	

Table 2-4: List of Slip Road locations

S. No.	Design Chainage		Length (m)	Carriageway width(m)
	From (Km.)	To (Km.)		
1	427+800	428+650	850	5.5
2	429+860	430+660	800	5.5
3	434+800	435+600	800	5.5
4	441+640	442+500	860	5.5
5	449+300	449+980	680	5.5
6	456+340	457+060	720	5.5
7	457+725	459+750	2025	5.5
	Total Length		6735	

2.5 Bypass/Realignment

As per the provisions of Schedule B of the Concession Agreement Realignment is provided at the following locations.

Table 2-5: Realignment stretches

S. No.	Design Chainage		Length (m)
	From (Km.)	From (Km.)	
1	400+710	400+830	120
2	401+820	402+030	210

S. No.	Design Chainage		Length (m)
	From (Km.)	From (Km.)	
3	406+990	407+770	780
4	410+47	410+930	460
5	415+860	417+170	1310
6	419+260	419+500	240
7	421+540	421+770	230
8	423+940	424+590	650
9	433+750	434+300	550
10	438+420	438+630	210
11	439+210	439+480	270
12	444+740	445+180	440
13	462+550	462+820	270
	Total Length		5740

2.6 Intersections

Tentative locations of 3 Major junctions and 26 Minor junctions are provided in Schedule B of the Concession Agreement. However, one Major Jn. At Km. 405+400 was not developed due to site condition. Details are given below.

Table 2-6: List of Major Junctions

S. No.	Design Chainage (Km.)	Type of Junction	Remarks
1	405+400	+Junction	Not Developed
2	410+700	T-Junction	
3	427+800	T-Junction	

Table 2-7: List of Minor Junctions

S. No.	Design Chainage (Km.)	Type of Junction	Side	Remarks
1	400+600	Y-Junction	To Korisin Pump	
2	400+730	Y-Junction	To Banzara city	
3	407+640	T-Junction	To Chapdoh	
4	407+650	X-Junction	To Jam	
			To Yavatmal	
5	408+280	T-Junction	To Village	
6	413+800	T-Junction	To B T Road	
7	414+190	T-Junction	To Factory	
8	415+000	X-Junction	To Jawahar Nagar	
			To Pannerkavla	
9	420+880	Y-Junction	To Belona village	
10	422+440	X-Junction	To Medhala	
			To Chaprada	
11	424+660	T-Junction	To Goti	

S. No.	Design Chainage (Km.)	Type of Junction	Side	Remarks
12	433+800	X-Junction	To Netaji Village	
			To Singunapur	
13	435+128	+ Junction	Kutala	
			Songam	
14	437+000	Y-Junction	To Gangadevi Billage	
15	437+100	Y-Junction	To Mankapur	
16	438+060	Y-Junction	To Hirapur	
17	439+300	Y-Junction	To Sathepal	
18	400+675	+ Junction	To Agricultural land	
			To Bopapur	
19	440+900	T-Junction	To Sirpur village	
20	443+500	X-Junction	To Kolhapur Village	
			To Malapur	
21	446+000	T-Junction	To Bhidi	
22	446+400	T-Junction	To Bidhi village	
23	446+880	Y-Junction	To Fathepur	
24	451+715	X-Junction		
			To BT Road	
25	454+280	Y- Junction	To Isapur	
26	456+000	Y-Junction	To Andelgao	

2.7 Grade Separated Structures and underpasses

As per the provisions of Schedule B of the Concession Agreement 2nos. of Pedestrian Underpass, 1 cattle underpass, 6 nos. of Light Vehicular Underpass, 1No. Over Pass with four lane width, 2 flyovers and 3 nos. of Vehicular Underpass structures are provided in the Project Corridor. Details are provided in **Chapter 4**.

2.8 Road Over Bridge (ROB)

ROB is not proposed in the project road as per provisions of Schedule B of CA.

2.9 Pavement Details

Summary of Pavement Details is given below:

Table 2-8: Summary of Pavement Details

S. No.	Description	Flexible (Kms.)	Rigid (Kms.)
1	2 Lane with Earthen shoulder	---	---
2	2 Lane with Paved shoulder	---	---
3	4 Lane Rigid Pavement	---	64.925
4	Total Length of the Project	---	64.925

S. No.	Description	Flexible (Kms.)	Rigid (Kms.)
TYPE OF ALIGNMENT			
5	Widening	---	47.115
6	Realignment	---	6.995
7	Flyover approaches	---	10.815
8	Total Length of the Project	---	64.925

2.10 Summary of Structures

Summary of Structures as per provisions of schedule B of the CA is given below.

Table 2-9: Summary of Structures

S. No.	Description	Major Bridges	Minor Bridges	Pipe Culverts	Box/Slab Culverts
1	Retained				
2	Widening	3	16	20	7
3	Reconstruction		7	26	15
4	New		7	37	9
5	Improvement				
	Total	3	30	83	31

2.11 Toll Plazas

One toll Plaza is provided on the project road at Km. 443+180, which comprises of 8 lanes.

- The width of each toll lane is provided 3.2 m, except for the lane for over dimensional vehicles, where it is 4.5 m.
- Between each toll lane of the toll plaza, traffic islands are constructed to accommodate tollbooth.
- Protective barriers of reinforced concrete and traffic impact attenuators are placed in the front of each island to prevent out of control approaching vehicles crashing into the tollbooth.
- The canopy is provided for weather protection to toll operators, drivers and facilities. The canopy is designed aesthetically pleasing with cylindrical support columns located at traffic island so that there is no restriction on visibility and traffic movement.
- Total 7 Nos. toll booths are provided in toll plaza.
- Toll Plaza is updated to ETC Lane system as per the Change of Scope Order issued to the Concessionaire.
- List of tolling equipment provided at site is furnished in the Detailed Report.



Figure 2-16: Toll Plaza at Km. 443+000

2.12 Bus bays/Bus shelters

As per provisions of Schedule C of CA, Bus shelters are provided at 32 locations. Details are provided below.

Table 2-10: List of Bus bays/Bus shelters

S. No.	Design Chainage (Km.)	Side
1	405.100	LHS
2	405.650	RHS
3	409.600	LHS
4	410.200	RHS
5	414.850	LHS
6	415.150	RHS
7	422.300	LHS
8	422.700	RHS
9	424.550	LHS
10	424.800	RHS
11	427.550	RHS
12	427.600	LHS
13	428.900	LHS
14	429.950	RHS
15	433.400	LHS
16	433.600	RHS
17	434.950	LHS
18	435.250	RHS
19	438.850	LHS
20	438.900	RHS
21	440.800	RHS
22	440.820	LHS
23	446.150	LHS
24	446.200	RHS
25	449.500	RHS

S. No.	Design Chainage (Km.)	Side
26	449.520	LHS
27	454.350	RHS
28	454.400	LHS
29	458.000	LHS
30	458.100	RHS
31	462.100	RHS
32	462.650	LHS

2.13 Other Project Facilities Provided as per Schedule C of CA

- Roadside furniture: Sign Boards Kilometer stones, Road Marking and object/hazard markers are provided in accordance with IRC-SP: 84-2014.
- Traffic safety devices: W Beam Crash barriers, parapet walls are provided as per the provisions of Schedule C of CA.
- Landscaping: Provided at Toll Plaza location and being maintained
- Tree Plantation: Median plantation and Avenue plantation on both sides of the Project Corridor is provided all along the way and is being maintained.
- Medical Aid Post: Provided at Toll Plaza location and is operational.
- Highway Lighting: Highway lighting is provided at Toll Plaza, Bus bays and Truck Lay byes and is functional.

CHAPTER 3. ROAD INVENTORY & PAVEMENT CONDITION

3.1 General

Road Inventory and pavement condition surveys were carried out by a team of Engineers and the features noted at site are presented in the sections provided below

3.2 Road Inventory

Inventory of the project road was carried out physically and the same is summarized in the following Table 3-1. Few representative photographs are presented below.

Table 3-1: Road Inventory

S. No.	Features	Remarks
1	Terrain	Plain rolling Terrain
2	Land Use	Agriculture and forest
3	Four lane length	64.925 Kms.
4	Earthen shoulder	1.0 m to 1.5m Width on site
5	Junctions	28 Nos.
6	Toll Plazas	At Km. 443+180
7	Sign boards	Sign boards are provided as per Highway requirements
8	Road Markings	Lane markings are provided as per Highway requirement
9	Bus Bays /shelters	32 Nos.
10	Highway Lighting	Provided as per requirement
11	Avenue plantation	Provided



Figure 3-1: Existing Road Features

3.3 Pavement Condition

Pavement condition survey was carried out on the project road based on visual observations. The criteria adopted for the classification of condition of the pavement is as per of IRC 83-2018.

Table 3-2: Pavement condition summary

From (Km.)	To (Km.)	Length (Kms.)	Condition
400+575	465+500	64.925	Good



Figure 3-2: Representative Photos of Pavement Condition.

CHAPTER 4. INVENTORY AND CONDITION OF STRUCTURES

4.1 General Assessment and Condition of the structures

Inspection of existing structures on the project section was carried out, detailed inventory and condition is examined during the site visit as per the guide lines provided in IRC SP: 52-1999 & IRC SP: 35-1990.

4.2 Inventory of Structures

There are 03 Nos Major Bridge, 30 Nos Minor Bridges, 13 Nos Underpasses, 02 Nos Flyovers, 76 Nos Pipe culverts and 39 Nos Slab/ Box culverts are there along this project road.

Table 4-1: List of Structures

S. No.	Type of Structure	Numbers
1	Major bridges	03
2	Minor Bridge	30
3	Underpasses	12
4	Flyovers	02
5	Pipe culverts	83
6	Slab/Box Culverts	32
7	Vehicle Overpasses 2-Lane width	1

For Major bridges, Superstructure is of RCC/PSC Girder/Solid slab resting on RCC wall type piers and abutments with open foundation. For Minor bridges, the Superstructure is of RCC solid slab/RCC Girder and the substructures are of PCC/RCC conventional wall type supported on open foundations. Detailed inventory and condition survey of bridges are given in **ANNEXURE 1**. The culverts observed along the project road are mainly of two types Viz. pipe culverts and RCC slab/box culverts. Structural condition of most of the culverts is fair except in few locations. Detailed inventory and condition survey of culverts are given in **ANNEXURE 2**.

4.3 Details of Major Bridges

The total length of the major bridge at Km. 439+813 is 270.0m with 8 spans. The superstructure consists of PSC/RCC Girder. Each Pier and Abutment has regular RCC wall/circular type. Open foundations have been constructed for all Piers and Abutments. Superstructure is seated on Elastomeric bearings. Expansion joints are of Strip seal type. RCC railings have been provided on both sides of the deck.

The total length of the major bridge at Km. 456+162 is 80.0m with 5 spans. The superstructure consists of RCC Girder/RCC solid slab. Each Pier and Abutment is regular RCC wall type. Open foundations have been constructed for all Piers and Abutments. Superstructure is seated on Elastomeric bearings. Expansion joints are of Strip seal type. RCC Crash barrier have been provided on both sides of the deck.

The total length of the Major bridge at Km 462+906 is 100.0m with 5 spans. The superstructure consists of RCC Girder/RCC solid slab. Each Pier and Abutment has regular RCC wall/circular type. Open foundations have been constructed for all Piers and Abutments. Superstructure is seated on Elastomeric bearings. Expansion joints are of Strip seal type. RCC railings have been provided on both sides of the deck.

Table 4-2: List of Major Bridge

S. No.	Chainage (Km.)	Span	Total Length of Bridge (m)
1	439+813	7 x 36.00 + 1 x 18.00	270.0
2	456+162	3 x 20.00 + 2 x 10.00	80.0
3	462+906	5x20.0	100.0

The condition of the superstructure and substructure is good. Certain minor maintenance operations such as quadrant pitching, reflector plates, Clearance of drainage spouts are to be carried out.



Figure 4-1: Overall view of the Major Bridge at Km. 438+813

4.4 Details of Minor Bridges

There are 30 minor bridges in the project stretch. The type of superstructure for minor bridges is RCC solid slab, RCC Box type & RCC Girder type and the substructure is PCC/RCC conventional wall/circular type supported on open foundations. Expansion joints are buried type/Strip seal and bearings are tar paper and elastomeric bearings. RCC crash barriers are provided for most of the structures.

Table 4-3: Inventory of Minor Bridges

S. No.	Chainage (Km.)	Span	Total Length of Bridge (m)	Description
1	402+112	1 x 19.21	19.21	Minor Bridge Consists of RCC Girder structure. Other feature includes RCC Railing/crash barrier, bituminous wearing coat, Strip seal expansion joints.

S. No.	Chainage (Km.)	Span	Total Length of Bridge (m)	Description
2	404+995	1 x 9.20	9.2	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.
3	405+519	2x 5.50	11	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.
4	408+564	1 x 6.80	6.8	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.
5	417+884	2 x 5.25	10.5	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.
6	419+702	3 x 6.90	20.7	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.
7	420+998	4 x 7.70	30.8	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.
8	424+213	2 x 8.00	16	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.
9	429+371	4 x 11.625	46.5	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.
10	433+858	2 x 13.0	26	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.
11	436+290	4x8.2	32.8	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.
12	440+455	3x6.0	18	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.
13	441+756	2 x 5.00	10	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.
14	442+772	3x4.5	13.5	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.
15	444+842	3 x 7.35	22.05	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.
16	445+373	1 x 6.282+ 1 X 6.706 + 1x 6.282	19.27	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.
17	447+790	1x6.0	6	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash

S. No.	Chainage (Km.)	Span	Total Length of Bridge (m)	Description
				barrier/Railing, bituminous wearing coat.
18	448+124	1x10.0	10	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.
19	449+776	3x4.45	13.35	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.
20	450+824	1x20.7	20.7	Minor Bridge Consists of RCC Girder structure. Other feature includes RCC Railing/ crash barrier, bituminous wearing coat, Strip seal expansion joints.
21	454+011	1x9.5	9.5	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.
22	455+220	2x4.5	9	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.
23	455+971	1x8.0	8	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.
24	456+296	1x7.8	7.8	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.
25	456+747	2x6.50	13	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.
26	457+521	1 x 5.85+ 1 X 5.80 + 1x 5.85	17.5	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.
27	457+776	4 x 4.125	16.5	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.
28	460+145	1x7.00	7	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.
29	462+422	4x5.2	20.8	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.
30	463+126	1x6.2	6.2	Minor Bridge Consists of RCC Box structure. Other feature includes RCC crash barrier/Railing, bituminous wearing coat.

The condition of the superstructure and substructure of Minor Bridges is good. Certain minor maintenance operations such as quadrant pitching, reflector plates, Clearance of drainage spouts, Vent clearance etc. are to be carried out.



Figure 4-2: Representative photos of Minor Bridges.

4.5 Details of Underpass

There are 12 Underpasses, 1 Vehicle Overpass and 2 Flyovers in the project stretch. The type of superstructure for underpass/Flyover is PSCI Girder/RCC Box type and the substructure is PCC/RCC conventional wall type supported on open foundations. Expansion joints are buried type/Strip seal and bearings are tar paper and elastomeric bearings. RCC crash barriers are provided on all structures.

Table 4-4: Inventory of Under pass/Vehicle Overpass/Flyovers

S. No.	Chainage (Km.)	Type of Structure	Span	Total Length of Bridge (m)	Description
1	428+123	Flyover	1 x 30.00	30	Structure consists of PSC I Girder type. Other feature includes RCC crash barrier, bituminous wearing coat, Strip seal expansion joints.
2	459+124	Flyover	2 x 41.80	83.6	Structure consists of PSC I Girder type. Other feature includes RCC crash barrier, bituminous wearing coat, Strip seal expansion joints.
3	409+966	VOP	1 x 30.00	30	Structure consists of PSC I Girder type. Other feature includes RCC crash barrier, bituminous wearing coat, Strip seal expansion joints.
4	430+298	VUP	1 x 12.00	12	Structure consists of RCC Box structure. Other feature includes RCC crash barrier, bituminous wearing coat.
5	441+979	VUP	1 x 12.00	12	Structure consists of RCC Box structure. Other feature includes RCC crash barrier, bituminous wearing coat.
6	458+16	VUP	1 x 12.00	12	Structure consists of RCC Box structure. Other feature includes RCC crash barrier, bituminous wearing coat.
7	435+064	LVUP	1 x 10.50	10.5	Structure consists of RCC Box structure. Other feature includes RCC crash barrier, bituminous wearing coat.
8	440+607	LVUP	1 x 10.50	10.5	Structure consists of RCC Box structure. Other feature includes RCC crash barrier, bituminous wearing coat.
9	446+337	LVUP	1 x 10.50	10.5	Structure consists of RCC Box structure. Other feature includes RCC crash barrier, bituminous wearing coat.
10	449+572	LVUP	1 x 10.50	10.5	Structure consists of RCC Box structure. Other feature includes RCC crash barrier, bituminous wearing coat.
11	456+599	LVUP	1 x 10.50	10.5	Structure consists of RCC Box structure. Other feature includes RCC crash barrier, bituminous wearing coat.
12	462+241	LVUP	1 x 10.50	10.5	Structure consists of RCC Box structure. Other feature includes RCC

S. No.	Chainage (Km.)	Type of Structure	Span	Total Length of Bridge (m)	Description
					crash barrier, bituminous wearing coat.
13	433+78	PUP	1 x 7.00	7	Structure consists of RCC Box structure. Other feature includes RCC crash barrier, bituminous wearing coat.
14	438+675	PUP	1 x 7.00	7	Structure consists of RCC Box structure. Other feature includes RCC crash barrier, bituminous wearing coat.
15	458+365	CUP	1 x 7.00	7	Structure consists of RCC Box structure. Other feature includes RCC crash barrier, bituminous wearing coat.

4.6 Details of Culverts

The culverts observed along the project road are mainly of two types' viz. RCC Slab/Box culverts and Pipe culverts. The condition of culverts is generally good. For some of the pipe culverts vegetation and vent cleaning is required. In general, the condition of all the structures is found good. The detailed condition of the same are given the following sections. Detailed inventory and condition survey of culverts are given in **ANNEXURE 2**.

4.6.1. Slab/Box Culverts

There are 32Nos. of slab/Box culvert in the project stretch. The details of the culverts are as given below.

Table 4-5: List of Slab/Box Culverts

S. No.	Chainage (Km.)	Span (m)	Vent Size (m)
1	410+532	1 x 5.00	1.6
2	412+074	1 x 4.00	2.5
3	416+042	1 x 4.00	4.1
4	416+119	1 x 7.00	1.5
5	417+014	1 x 4.00	1.5
6	417+074	1 x 4.00	2.5
7	417+220	1 x 4.00	3.4
8	418+221	1 x 5.00	5
9	421+428	1 x 4.50	2.5
10	422+330	1 x 6.00	1.2
11	426+891	1 x 6.00	1.5
12	427+332	1 x 1.50	1.5
13	427+408	1 x 2.00	2.5
14	427+724	1 x 2.00	3.4
15	427+961	2 x 3.00	2.5
16	428+581	1 x 4.00	4.1
17	428+676	1 x 2.00	1.5
18	429+309	1 x 4.00	1.5

S. No.	Chainage (Km.)	Span (m)	Vent Size (m)
19	429+609	1 x 3.00	2.5
20	434+246	2 x 3.00	1.6
21	441+318	1 x 1.90	2.8
22	444+027	1 x 1.50	2.5
23	447+556	1 x 1.50	4.1
24	448+227	1 x 2.437	1.5
25	448+604	1 x 2.40	1.5
26	451+095	1 x 2.80	2.5
27	451+498	1 x 2.00	3.4
28	452+639	1 x 4.122	2.8
29	452+898	1 x 5.80	3.7
30	459+315	1 x 5.00	4.6
31	463+819	1 x 4.00	3.1
32	464+815	1 x 3.50	2.3

4.6.2. Condition of the Slab/Box Culverts:

The general condition of above Box/slab culverts is good. Maintenance is to be carried out before monsoon for vent clearance, Protection works etc.



Figure 4-3: Representative photos of Slab Culverts

4.6.3. General Description of the Pipe Culverts

There are 83 Nos. of pipe culverts in the project stretch. The details of the culverts are as given below.

Table 4-6: List of Pipe Culverts

S. No.	Chainage (Km.)	No. of Rows X Dia (m.)	S. No.	Chainage (Km.)	No. of Rows X Dia (m.)
1	400+940	1 x 1.20	44	425+575	2 x 0.90
2	402+172	1 x 1.20	45	425+966	1 x 1.20
3	403+232	3 x 1.00	46	426+805	3 x 1.20
4	403+501	3 x 1.20	47	428+076	1 x 1.20
5	403+878	3 x 1.20	48	429+870	1 x 1.20
6	404+280	2 x 0.90	49	430+076	1 x 1.20
7	404+479	1 x 1.20	50	430+505	2 x 1.20
8	405+178	1 x 0.90	51	430+665	1 x 1.20
9	406+014	3 x 1.20	52	432+539	1 x 1.20
10	407+247	1 x 1.20	53	433+589	1 x 1.20
11	408+703	1 x 1.20	54	434+724	1 x 1.20
12	408+847	1 x 0.90	55	435+414	1 x 0.90
13	409+029	1 x 0.90	56	436+050	1 x 1.20
14	409+296	1 x 1.20	57	436+515	1 x 1.20
15	409+633	1 x 1.20	58	436+694	1 x 1.20
16	409+760	1 x 0.90	59	437+374	1 x 1.20
17	409+981	1 x 1.00	60	438+031	1 x 1.20
18	410+685	2 x 1.20	61	438+959	1 x 1.20
19	410+760	1 x 1.20	62	439+196	1 x 1.20
20	411+339	2 x 1.20	63	442+324	1 x 1.20
21	411+885	1 x 1.20	64	443+479	1 x 1.20
22	412+149	1 x 1.20	65	444+48	1 x 1.20
23	412+525	1 x 1.20	66	445+019	1 x 1.20
24	412+950	1 x 1.20	67	445+629	1 x 1.20
25	413+517	1 x 1.20	68	446+639	1 x 1.20
26	414+454	1 x 1.20	69	446+789	1 x 1.20
27	414+956	1 x 0.90	70	448+879	1 x 1.20
28	416+590	2 x 1.20	71	449+414	1 x 1.20
29	417+290	1 x 1.20	72	451+709	1 x 1.20
30	417+415	1 x 1.20	73	453+509	1 x 1.20
31	417+640	1 x 1.20	74	454+149	1 x 1.20
32	418+560	2 x 1.20	75	454+756	1 x 1.20
33	418+806	2 x 1.20	76	457+049	2 x 1.20
34	419+073	1 x 1.20	77	457+479	2 x 1.20

S. No.	Chainage (Km.)	No. of Rows X Dia (m.)	S. No.	Chainage (Km.)	No. of Rows X Dia (m.)
35	419+990	1 x 0.90	78	458+881	2 x 1.20
36	420+233	1 x 0.90	79	459+72	1 x 1.20
37	420+573	3 x 1.20	80	460+592	1 x 1.20
38	421+933	1 x 1.20	81	461+073	2 x 1.20
39	422+571	1 x 1.20	82	462+832	10 x 1.20
40	423+373	1 x 1.20	83	465+298	2 x 1.20
41	423+865	1 x 1.20			
42	424+484	1 x 1.20			
43	424+950	1 x 1.20			

4.6.4. Condition of the Pipe Culverts

The general condition of above pipe culverts is good. Maintenance is to be carried out before monsoon for vent clearance, Protection works etc.





Figure 4-4: Representative photos of Pipe Culverts

The culverts are in good condition and can be retained in the present condition with following repairs/rehabilitation measures before on set of monsoon.

- Chocked culverts must be cleared.
- Debris and garbage near outside the vents must be removed.
- Slope protection works to be repaired / provided.

CHAPTER 5. PAVEMENT DESIGN VALIDATION AND OVERLAY SCHEDULES

5.1 General

Review of Pavement design report includes providing insights on design life of pavement, crust thickness, pavement condition and CA provisions.

5.2 Pavement design crust thickness

The Pavement Design shall be carried out in accordance with Indian Roads Congress guide lines. The pavement is designed in accordance with IRC: 58 -2015 “Guidelines for the Design of Plain Jointed Rigid Pavements for highways”, IRC: SP 84-2014, IRC: 15-2011 “Construction Concrete Road (FOURTH REVISION)” and relevant clauses of schedule B of the EPC agreement. Pavement crust thickness for main carriageway as per pavement design report summarized below.

Table 5-1: Rigid Pavement Design for Main carriageway

Description	Design/Adopted Parameters
CBR of sub grade	6 %
Two-way commercial traffic volume per day	1717
Design life in years	30
Pavement Quality Concrete (PQC) – (mm)	260
Dry Lean Concrete (DLC) – (mm)	150
Drainage Layer (GSB) - (mm)	150
Diameter of Dowel Bar (mm)	36
Length of Dowel Bar (mm)	450
Spacing of Dowel Bars (mm)	300
Diameter of Tie Bar (mm)	12 (Deformed)
Length of Tie Bar (mm)	640
Spacing of Tie Bars (mm)	580

As per schedule D, (Annexure-I), clause 2, pavements for Slip road/Service road shall be flexible pavement and designed as per provision of design manual IRC: SP: 84:2014. The design traffic in case of service road shall be ten million standard axles as per Cl:5.5.5 of IRC: SP: 84:2014. The crust composition shall be designed in accordance with the IRC:37. “Guidelines for the Design of Flexible Pavements”.

Table 5-2: Flexible Pavement for service road

S. No	Description/ Pavement layer	Design/Adopted Parameters
1	Sub Grade CBR (%)	9 %
2	Design Life (Years)	15 years for non-bituminous
3	Design Traffic (MSA)	10 MSA
4	Surface course (BC)	40mm
5	Binder course (DBM)	50 mm
6	Base course (WMM)	250 mm
7	Sub Base course (GSB)	200 mm

The Pavement crust has been designed according to IRC specification and found in order, the adopted/ Constructed pavement layer thickness is adequately provided than actual/ designed thickness.

5.3 Maintenance/ Overlay schedule

Periodic Maintenance includes Profile corrective course overlaid with the periodic renewal of the wearing course of BC for service roads. The detail maintenance schedule is summarized below.

Routine maintenance - Every year

Periodic Renewal for Flexible Pavement– Next Proposed overlay on or before 2027

Periodic Maintenance for Rigid Pavement – Re-texturing shall be done at least once in 10 years from construction. (As per IRC 58-2015).

CHAPTER 6. SAFETY AUDIT OF ROAD

6.1 General

Road Safety Audit (RSA) is defined as “the formal safety performance examination of an existing or future road or intersection by an independent, multidisciplinary team. It qualitatively estimates and reports on potential road safety issues and identifies opportunities for improvements in safety for all road users”.

Road Safety is a multi- sectorial and multi- dimensional issues. It incorporates the development and management of road infrastructure, provisions of safer vehicles, legislations and law enforcements, mobility planning, provisions of health and hospital services, child safety, urban land use planning.

A Key feature of a road safety audit is the use of a team of professionals with varied expertise. The team shall include highway safety engineers, highway design engineers, maintenance personal, and law enforcement. Additional specialties shall be added to the team as needed.

Central Road Research Institute (CRRI) has studied road safety elements extensively in the past and has come up with various manuals such as manual for safety in road design (1998), Road safety Audit Manual (2003) and Revised Road Safety Audit manual (2010). Indian Road Congress (IRC) has published Special publication SP-88, Manual on road Safety Audit. The methodology used for the design stage audit process is based on these manuals like Type Designs for Intersections on National Highways, 1992.

Table 6-1: Referred IRC Publications

IRC Code No.	IRC Code Name
IRC: 35	Code of Practice for Road Markings
IRC: 38	Guidelines for Design of Horizontal curves for highways and Design tables
IRC: 67	Code of Practice for Road signs
IRC: 73	Geometric Design standards for rural highways (non-urban)
IRC:103	Guidelines for Pedestrian Facilities
IRC: SP-15	Ribbon Development along highways and its prevention
IRC: SP-23	Vertical curves for highways
IRC: SP-41	Guidelines on design of at-grade intersections in Rural and Urban areas
IRC: SP-55	Guidelines for safety in construction zones
IRC: SP- 88	Manual of Road Safety Audit

6.2 Existing Road Safety Audit

During the site visit it is observed that all safety items are provided as shown in the following Table 6-2.

Table 6-2: Safety Items

S. No.	Item Description	Status	Condition	
Road Furniture				
1	Sign Boards	Chevron Signs	Available as per site requirement	Good
		Village sign boards	Available as per site requirement	Good

S. No.	Item Description	Status	Condition
		Information Boards	Available as per site requirement Good
		Other Sign Boards	Available as per site requirement Good
		Gantry Sign Boards	Available as per site requirement Good
2	Road Marking	Studs & Lane marking	Available as per site requirement Good
3	Metal Beam Crash Barriers	At High embankments & Bridge Approaches	Available as per site requirement Good
4	Median kerb	Along the Project Highway	Provided as per IRC SP:84-2014 Good
5	Road studs & Solar Blinkers	Along the Project Highway	Provided as per IRC SP:84-2014 Good

This Project Section is part of an important corridor. It is the Concessionaire’s duty and responsibility to provide safe road for the commuters by assuring safe and hindrance free movement for both Traffic and Pedestrians along urban locations & habitations.

The Concessionaire is maintaining the safety features in good condition from time to time in accordance with the provisions of Schedule K of the Concession Agreement.



Km.430+810



Km.441+600



Km.441+850

Figure 6-1: Representative photos during road safety audit

6.3 Conclusion

Safety arrangements are made for road users along the Project road are found to be in conformity with project road requirements and good industry practice. However, a continuous monitoring on safety arrangements is highly necessary, during the maintenance period.

CHAPTER 7. TOLL PLAZA & HTMS

7.1 General

There is one toll Plaza on the project road at Km. 443+180. The width of each toll lane is provided 3.2 m, except for the lane for over dimensional vehicles, where it is 4.5 m. between each toll lane of the toll plaza, traffic islands is constructed to accommodate tollbooth. Protective barriers of reinforced concrete and traffic impact attenuators is placed in front of each island to safeguard Toll booth from crashing by Vehicles approaching out of control. The canopy is provided for weather protection to toll operators, drivers and facilities. The canopy is designed aesthetically pleasing with cylindrical support columns located at traffic island so that there is no restriction on visibility and traffic movement. Total 7 Nos. toll booths are provided in toll plaza.

Toll Plaza is updated to ETC Lane system as per the Change of Scope Order issued to the Concessionaire.

7.2 Tolling Equipment and Control Room Equipment

List of equipment provided at toll plaza and control room is given below.

Table 7-1: List of Equipment at Toll Plaza and Control Room

S. No.	Particulars	Quantity
1	Toll plaza Building	1
2	Toll Booths	7
3	Electrical Room	1
4	Generator Room	
5	Generators	1
6	ETC RFID Transverse near pay axis mounted on canopy	12
7	Electronic Enclosure	8
8	Lane Controller with industrial PC	8
9	AVC including sensor loop detector	10
10	Used fare display with mounting pole	10
11	Automatic Barrier Gate	8
12	Overhead Lane Status	10
13	Customized Industrial Grade Keyboard	8
14	Thermal receipt Printer	8
15	Barcode Reader with Stand	8
16	Violation light & alarm (on Existing Pole) and Foot switch in Booth	1
17	Booth CCTV camera with Voice Recording	10
18	Intercom slave Unit in booth	8
19	Medium speed weight in Motion	10

S. No.	Particulars	Quantity
	Control Room	
1.	Plaza Servers in Hot standby Configuration	1
2.	Static Weight Bridge	2
3.	Network Printer	1
4.	8 port Network switches (Layer 1)	12
5.	28 Port Network Switch (Layer 2)	2
6.	Internet router for Connection to the CCH	1
7.	UPS system as require for Complete Hybrid ETC Toll Plaza System	3
8.	55" LED Display for CCTV Monitoring	1
9.	Network Video Recorder (NVR) for CCTV recording	1
10.	CCTV Cameras for plaza building surveillance (server from, control room, Cash Up Room Admin)	5
11.	Intercom Master Unit in Control room-10 Channel (For<=8 Lanes)	1

7.3 Vehicles

Few vehicles are required for operation of the highway as per IRC and as per Contract document of the project. The list of vehicles provided at Toll Plaza is given below.

Table 7-2: List of Vehicles

S. No.	Vehicle Type	Toll Plaza
1	Patrol Vehicle	1 No
2	Ambulance	1 No.

CHAPTER 8. SCHEDULE OF ANNUITY PAYMENTS

8.1 Hybrid Annuity Model (HAM)

Hybrid annuity model is the PPP model in which Authority makes payment of 40% of the Bid Project cost during construction period based on progress milestones set forth in Concession Agreement. Payment of the balance 60% of the Bid Project Cost is made in form of bi-annual annuities with interest during the operational phase of concession.

8.2 Payment during Construction

As per the provisions of Article 23 of the Concession Agreement, 40% of the Bid Project Cost adjusted with Price Index in accordance with Clause 23.2.3 of the CA, shall be paid during the Construction Period. Amount payable during construction period shall be paid in five equal installments upon achieving the following payment Milestones.

Table 8-1: Schedule of Payment Milestones

S. No.	Payment Milestone No	Criteria for releasing the Payment
1	Milestone I	On Achievement of 10% of Physical Progress
2	Milestone II	On Achievement of 30% of Physical Progress
3	Milestone III	On Achievement of 50% of Physical Progress
4	Milestone IV	On Achievement of 75% of Physical Progress
5	Milestone V	On Achievement of 90% of Physical Progress

During the Operation Period, remaining 60% of the balance Completion Cost shall be paid in 30 Annuities each Annuity payable biannually. Each Annuity amount shall be based on the percentages of the balance Completion Cost mentioned in 23.6.3 of the Concession Agreement. During the Operation Period following payment components are payable.

- Annuity Payment as per the Annuity Payment Schedule provided in 23.6.3 of the Concession Agreement.
- Interest on the balance amount to be paid at the rate equal to the applicable Bank Rate Plus 3%
- O&M Payment as a lump sum amount as per Clause 23.7.1 of the Concession Agreement.

8.3 Schedule of Annuity Payments

Details of Annuity payments Schedule are given below.

Table 8-2: Schedule of Annuity Payments

S. No.	Following the COD	Percentage of Completion Cost remaining	Annuity due Date	Annuity paid Date
1	Annuity No 1	2.10%	29.01.2020	20-Feb-20
2	Annuity No 2	2.17%	29.07.2020	17-Aug-20
3	Annuity No 3	2.24%	29.01.2021	
4	Annuity No 4	2.31%	29.07.2021	
5	Annuity No 5	2.38%	29.01.2022	
6	Annuity No 6	2.45%	29.07.2022	

S. No.	Following the COD	Percentage of Completion Cost remaining	Annuity due Date	Annuity paid Date
7	Annuity No 7	2.52%	29.01.2023	
8	Annuity No 8	2.60%	29.07.2023	
9	Annuity No 9	2.68%	29.01.2024	
10	Annuity No 10	2.76%	29.07.2024	
11	Annuity No 11	2.84%	29.01.2025	
12	Annuity No 12	2.93%	29.07.2025	
13	Annuity No 13	3.02%	29.01.2026	
14	Annuity No 14	3.11%	29.07.2026	
15	Annuity No 15	3.20%	29.01.2027	
16	Annuity No 16	3.30%	29.07.2027	
17	Annuity No 17	3.40%	29.01.2028	
18	Annuity No 18	3.50%	29.07.2028	
19	Annuity No 19	3.61%	29.01.2029	
20	Annuity No 20	3.72%	29.07.2029	
21	Annuity No 21	3.83%	29.01.2030	
22	Annuity No 22	3.94%	29.07.2030	
23	Annuity No 23	4.06%	29.01.2031	
24	Annuity No 24	4.18%	29.07.2031	
25	Annuity No 25	4.25%	29.01.2032	
26	Annuity No 26	4.25%	29.07.2032	
27	Annuity No 27	4.44%	29.01.2033	
28	Annuity No 28	4.71%	29.07.2033	
29	Annuity No 29	4.75%	29.01.2034	
30	Annuity No 30	4.75%	29.07.2034	

CHAPTER 9. OPERATION AND MAINTENANCE

9.1 General

As per Article 17 of CA, the Concessionaire will operate and maintain the Project roads by itself or through O & M Contractors and comply with specification and standards, and other requirements set forth in the Agreement, Good Industry Practice, Applicable Laws, applicable permits and manufacturer guidelines and instructions with respect to toll system.

9.2 Inspection

Inspection system followed is illustrated as divided into the following 3 types.

- **Visual Inspection:** Visual inspections are done at frequent intervals, and are intended to determine any potential traffic hazards to the road user or hampering the aesthetics of the project stretch. Visual Inspections are meant to identify defects that constitute an imminent or immediate hazard to the public.
- **Detailed Inspection:** Detailed Inspections often require some measuring instruments, are done less frequently and are intended more towards determining performance and behavior of various elements. These inspections also indicate if there is any need for thorough inspections. Detailed inspections are carried out primarily to establish programs of periodic or major maintenance tasks, and enhancement requirements not requiring urgent execution
- **Thorough Inspection:** Thorough Inspections are aimed at finding the cause and remedy of specific problems and at specific locations. Specialist's inspections are required once in a while. Thorough Inspections shall be carried out with highly sophisticated instruments

The inspection procedures will assist in identifying the need for replacement or renewal under planned program of maintenance and rehabilitation. The elements viz. pavement, drainage, shoulders / slopes / Earthworks, structures and buildings are covered.

Maintenance program will be submitted to authority not later than 45 days prior to each accounting year.

9.3 Operations

9.3.1. Traffic Flow Operation & Traffic Management Plan

Following are the obligations of the Concessionaire for the regular and emergency operations of the Project road and Project Facilities.

- i. Permitting smooth and uninterrupted flow of traffic during normal operating conditions.
- ii. Carrying out preventive and periodic maintenance of the Project road;
- iii. undertaking routine maintenance including prompt repairs of potholes, cracks, joints, drains, embankments, structures, pavement markings, lighting, road signs and other traffic control devices;
- iv. Undertaking major maintenance such as resurfacing of pavements, repairs to structures, and repairs and refurbishment of tolling system and other equipment;
- v. Functioning of the lighting system;
- vi. Functioning of the Patrolling System

- vii. Functioning of rescue and medical aid services
- viii. Ambulance as and when required
- ix. Functioning of the Project Facilities
- x. Administrative, Operational and Maintenance Base Camp
- xi. Truck Lay byes
- xii. Pickup Bus stops / Bus Bays
- xiii. protection of the environment and provision of equipment and materials therefore;
- xiv. Operation and maintenance of all communication, control and administrative systems necessary for the efficient operation of the Project road
- xv. complying with Safety Requirements in accordance with Article 18.

9.4 Maintenance of Project road

The maintenance methodology and yearly maintenance programme will guide the Maintenance team to undertake the routine & periodic maintenance works of the Project Facilities. This programme is the basic indicator of the intended works to be carried out by the Maintenance Team over a period of one year.

Road maintenance can be carried out in four ways as listed below.

- i. Preventive Maintenance
- ii. Routine Maintenance
- iii. Periodic Maintenance
- iv. Special repairs

9.4.1. Preventive Maintenance

Preventive maintenance is an organized, systematic process of applying a series of preventive treatments over the life of the pavement to minimize life cycle costs.

The strategy of applying periodic treatments at appropriate times in a pavement's life is economical than applying treatment at the end of pavement's life. Preventive maintenance is designed to retard pavement deterioration. Regular preventive maintenance will be carried out to ensure adherence to the Design Requirements and specifications throughout the Concession period.

The flexible pavement is in good condition and hence does not require any immediate or preventive interventions.

9.4.2. Routine Maintenance

Routine maintenance, which involves repairing of cracks, replacement of safety girders along the highway, clearance of debris following accidents, ensuring functionality of sign posts, maintenance of a security set-up, and such other activities.

9.4.3. Periodic Maintenance

In contrast to preventive maintenance treatments, periodic maintenance treatments are ideally applied on pavements to improve surface integrity and waterproofing, or to improve skid resistance, without increasing the strength of the pavement significantly. They are sometimes referred to as "functional overlays," as they are intended to restore or enhance the ability of the roadway to serve its purpose (function), but do not increase the load-carrying capabilities. If the pavement failure is more and

demands for a “structural overlay” they are intended to increase load-carrying capabilities of the project road. The details of periodic maintenance schedule are given below.

Table 9-1: Schedule and status of for Periodic Maintenance

Description	Schedule of Major Maintenance	Status of Major Maintenance
1 st Periodic Maintenance	2027	Planned to execute
2 nd Periodic Maintenance	2033	Planned to execute

9.4.4. Special Repairs

The group of activities performed to restore the roadway following damage due to natural calamities such as heavy floods, sand storms, hurricanes, cyclones, earthquakes or landslides which shall be unpredictable. The affected Project road shall be rectified, and the system shall be restored to function as per programme prepared in consultation with Independent Engineer. Typical activities include,

- a. Culvert and bridge repairs
- b. Retaining wall repairs and construction;
- c. Construction of Diversions;
- d. Floodway repairs; and
- e. Flood damage restoration works, etc.

9.5 Review of Test Reports

9.5.1. Bump Integrator Test:

Maintenance of road is dependent on several factors, one of which is the condition of Pavement surface. As such Roughness is the measurement of the riding quality, which in turn is the effect of total surface deterioration. Bump Integrator (BI) is one of the equipment needed for roughness measurement. The roughness of pavement surface is designated as uneven index value and expressed as surface roughness from which the condition of the road can be assessed.

Further it is to be noted that during O&M period, the permissible limit of the test given as 2750 mm/Km. in accordance with Schedule K(a)(ii). Based on the documents reviewed, it is noticed that no NCRs are issued pertinent to riding quality of Project Road.

9.6 O&M Forecast

The O&M costs were estimated based on various parameters of CA, design reports and BBD/BI test results. The cost summary is given below, and detailed cost estimations are given in **ANNEXURE 5**.

Table 9-2: Proposed Plan for Future Operation & Maintenance Cost (In Crores)

Year	Routine maintenance	Incidental maintenance	Periodic / Major maintenance	Operational Expenses	Total cost per year
	(In crores)	(In crores)			
2020	2.147	3.204		2.53	7.88
2021	2.211	3.300		2.61	8.12
2022	2.278	3.399		2.68	8.36
2023	2.346	3.501		2.77	8.61

Project: Four Laning of Yavatmal to Wardha section of NH-361 from Km.400.575 to Km.465.500(design Length 64.925 Km) in the State of Maharashtra under NHDP Phase IV on Hybrid Annuity Mode.



**TECHNICAL DUE DILIGENCE
REPORT**

Year	Routine maintenance	Incidental maintenance	Periodic / Major maintenance	Operational Expenses	Total cost per year
	(In crores)	(In crores)			
2024	2.416	3.606		2.85	8.87
2025	2.489	3.715		2.93	9.14
2026	2.564	3.826		3.02	9.41
2027	2.640	3.941	26.58	3.11	36.27
2028	2.720	4.059		3.21	9.98
2029	2.801	4.181		3.30	10.28
2030	2.885	4.306		3.40	10.59
2031	2.972	4.435		3.50	10.91
2032	3.061	4.568		3.61	11.24
2033	3.153	4.705	31.92	3.72	43.49
2034	3.247	4.847		3.83	11.92
2035	1.127	1.682		1.33	4.14
Total	41.057	61.276	58.5	48.40	209.23

CHAPTER 10. REVIEW OF CONCESSION AGREEMENT

10.1 General: Scope of Work (Article 2)

Article 2 of the CA provides the scope of work, which includes the following.

- Operation and Maintenance of the Project Highway on the Site set forth in Schedule A and as specified in Schedule B together with provision of Project Facilities as specified in Schedule C, and in conformity with the Specifications and Standards set forth in Schedule D;
- collection of Fee from the Users of the Project; subject and in accordance with the provisions of the Concession Agreement;
- performance and fulfillment of all other obligations of the Contractor in accordance with the provisions of this Agreement and matters incidental thereto or necessary for the performance of any or all of the obligations of the Contractor under this Agreement

10.2 Letter of Award

After evaluation of the bids received, Authority will select one bidder considering their score in technical and financial bids. Further Authority will issue a Letter called LOA (Letter of Award) to the selected bidder requiring the execution of agreement within stipulated time. The issued LOA copy given in **ANNEXURE 4**.

10.3 Conditions precedent (Article 4)

Conditions precedent to be fulfilled by the Authority

- Providing adequate Right of Way
- Providing necessary approvals as per the Concession Agreement

Conditions precedent to be fulfilled by the Concessionaire

- Provide performance security to the Authority
- Executed and procured Escrow Agreement & Substitution Agreement
- Procured all applicable permits specified in Schedule E of CA
- Executed financing Agreements and delivering 3 copies of Financial Package
- Delivered to the Authority confirmation in original of the correctness of their representations and warranties set forth in Agreement and a legal opinion from the legal counsel of the Concessionaire

10.4 Major Obligations of the Concessionaire (Clause 5.1)

- The Concessionaire shall obtain necessary permits in conformity with the applicable laws
- Procure appropriate rights for obtaining materials
- Perform and fulfill its obligations under financing Agreements
- To make reasonable efforts to facilitate the acquisition of land required for execution
- Transfer the Project road upon termination of the Concession Agreement

10.5 Performance Security (Article 9)

- The Concessionaire shall submit the Performance security to the Authority within 30 days from the date of the Agreement,

- The Performance security shall remain in force and effect for a period of one year from the Appointed Date
- Performance Security shall be released upon the Concessionaire expending on Project Construction an Aggregate sum that is not less than 30% of the Total Project Cost.

10.6 Tests (Clause 13.3)

For determining that the Project, confirms to the Maintenance Requirements, the Independent Engineer shall require the Concessionaire (Concessionaire shall in turn require the Contractor) to carry out, or cause to be carried out, tests specified by it in accordance with Good Industry Practice. One half of the costs incurred on such tests, and to the extent certified by the Independent Engineer as reasonable, shall be reimbursed by the Authority to the Concessionaire

10.7 Provisional Certificate (Clause 14.3)

- Upon completion of works in accordance with the specifications and standards set forth in the Schedule B, C and D of CA after determining the tests on completion successful the Independent engineer shall issue the Completion Certificate in the form set forth in Schedule J of CA.
- A copy of PCOD is enclosed at **ANNEXURE 5**.

10.8 Completion Certificate (Clause 14.4)

- Upon completion of Punch list items appended to the Provisional Completion Certificate within 90 days of issuance of Provisional Complete Certificate, Completion Certificate shall be issued to the Concessionaire.

10.9 Commercial Operation Date (COD) (clause 15.1)

- COD shall be the date on which the Provisional Completion Certificate is issued by the Independent Engineer.
- With COD the Project shall enter into commercial service and the Concessionaire is entitled to demand and collect Fee.

10.10 Change of scope (Article 16)

Change of scope proposals that were initiated during construction period and consented by the HAI are provided in **ANNEXURE 7**.

10.11 O&M Obligations of the Concessionaire (Clause 17.1)

- Permitting safe, smooth and uninterrupted flow of traffic on the Project road
- Collecting and appropriating the Fee
- Minimizing the disruption to traffic in the event of accidents
- Undertaking routine maintenance including prompt repairs of pot holes, cracks, joints, drains, embankments, structures, pavement markings, lighting, road signs and other traffic control devices
- Undertaking major maintenance such as resurfacing of pavements, repairs and refurbishments of tolling system and other equipment
- Preventing any unauthorized use of the Project road.

- Protection of environment and provision of equipment and materials
- Complying with safety Requirements in accordance with the provisions of the CA.

10.12 Maintenance Requirements (Clause 17.2)

The Contractor shall procure that at all times during the Operations period; the Project road conforms to the maintenance requirements set forth in Schedule K of CA (The “**Maintenance Requirements**”).

10.13 Maintenance Manual (Clause 17.3)

No later than 90 (ninety) days prior to the Scheduled Two Laning Date, the Contractor shall, in consultation with the Independent Engineer, evolve a repair and maintenance manual (the “**Maintenance Manual**”) for the regular and preventive maintenance of the Project in conformity with the Specifications and Standards, Maintenance Requirements, Safety Requirements and Good Industry Practice, and shall provide 5 (five) copies thereof to the Authority and 2 (two) copies to the Independent Engineer. The Maintenance Manual shall be revised and updated once every 3 (three) years and the provisions of this Clause shall apply, mutatis mutandis, to such revision.

10.14 Maintenance Programme (Clause 17.4)

- On or before COD and no later than 45 days prior to the beginning of each Accounting year during the Operation Period as the case may be the Concessionaire shall provide to the Authority and Independent Engineer its proposed annual Programme of preventive, urgent and the schedule maintenance.
- The Concessionaire has been submitting the Annual Maintenance Programme regularly as per the above clause.

10.15 Damages for breach of Maintenance Obligations (Clause 17.8)

- In the event that the Contractor fails to repair or rectify any defect or deficiency set forth in the Maintenance Requirements within the period specified therein, it shall be deemed to be in breach of the Agreement and the Concessionaire shall be entitled to recover Damages, to be calculated and paid for each day of delay until the breach is cured, at the higher of the following.
- 2% (two percent) of the performance security, and
- 0.1% (zero decimal one per cent) of the cost of such repair or rectification as estimated by the Independent Engineer.

10.16 Monthly status reports (Clause 19.1)

During the Operation Period, the Contractor shall, no later than 7 (seven) days after the close of each month, furnish to the Concessionaire, the Authority and the Independent Engineer a monthly report stating in reasonable detail the condition of the Project including its compliance or otherwise with the Maintenance Requirements, Maintenance Manual, Maintenance Program and Safety Requirements, and shall promptly give such other relevant information as may be required by the Concessionaire, Independent Engineer or the Authority. In particular, such report shall separately identify and state in reasonable detail the defects and deficiencies that require rectification.

10.17 Payment of Bid Project Cost (Article 23)

The Authority agrees to pay 40% of the Bid Project Cost in five installments against the achievement of Project Milestones specified in Clause 23.4 of the Concession Agreement and the amount shall be adjusted with Price index.

Remaining balance completion cost shall be paid as per the % of balance completion cost biannually from the date of COD. Percentage of amounts payable for each Annuity is specified in 23.6.3 of the Concession Agreement.

10.18 Change in Law (Article 35)

Increase in costs

If as a result of Change in Law, the Concessionaire suffers an increase in costs or reduction in net after-tax return or other financial burden, the aggregate financial effect of which exceeds the higher of Rs.2.20 Crore(Rupees two crore twenty lakhs) or 2%(two percent) of the total Annuity payments in any Accounting Year, the Concessionaire may so notify the Authority and propose amendment to this Agreement so as to place the Concessionaire in the same financial position as it would have enjoyed had there been no such Change in Law resulting in increased costs, reduction in return or other financial burden as aforesaid. Upon notice by the Concessionaire, the Parties shall meet, as soon as reasonably practicable as but no later than 30 (Thirty) days from the date of notice and either agree on amendments to this Agreement or on any other mutually agreed arrangement.

Reduction in costs

If as a result of Change in Law, the Concessionaire benefits from a reduction in costs or increase in net after-tax return or other financial gains, the aggregate financial effect of which exceeds the higher of Rs.2.20 crore(Rupee two crore twenty Lakhs) or 2% (Two percent) of the total Annuity Payment in any Accounting year, the Authority may so notify the Concessionaire and propose amendments to this Agreement so as to place the Concessionaire in the same financial position as it would have enjoyed had there been no such Change in Law resulting in decreased costs, increase in return or other financial gains as aforesaid. Upon notice by the Authority, the parties shall meet, as soon as reasonably practicable as but no later than 30 (thirty) days from the date of notice and either agree on such amendments to this Agreement or on any other mutually agreed arrangement.

CHAPTER 11.INSURANCE

11.1 Details of Insurance

As per clause 26.1 of the CA, the Concessionaire shall effect and maintain at its own cost during the Operation Period such insurances for such maximum sums as may be required under the Financing Agreements and the Applicable laws, and such insurances as may be necessary or prudent in accordance with Good Industry Practice.

Accordingly, the Concessionaire has procured the following insurances for mitigating the risks. Copy of insurances are enclosed at **ANNEXURE 6**.

Table 11-1: Insurance Details

Name of the Policy	Insurance Company	Policy No	Effective Period		Description of Property
			From	To	
Civil Engineering Completed Risk	National Insurance Company Ltd	321300441910 001998	27.3.2020	26.3.2021	Roads & Structures
Electronic Equipment Insurance Policy	Oriental Insurance Company Ltd	171200/44/20 21/43	17.9.2020	16.09.2021	Electronic equipment provided for Road and Bridges stretch connection from Yavatmal to Wardha
Employees Compensation Insurance Policy	HDFC ERGO General Insurance Co Ltd	311420338410 8600000	2.5.2020	1.5.2021	All Categories employees of DBL & Sub-Contractor engaged in DBL

CHAPTER 12. CONCLUSION

12.1 General

Based on detailed site inspection, review of various documents and reports as described in the preceding chapters technical over view of the Project is provided below.

12.2 Pavement Condition

The Pavement condition for the overall project is good. RCC drains are constructed in Built up locations and earthen drains in rural locations which facilitate, effective drainage system along the project road. Shoulder condition is fair.

12.3 Condition of Structures

General condition of Bridges is good. Structural defects were not noticed. General condition of Culverts is good. Observed vegetation growth in vent ways of Box and Hume Pipe culverts and they are being cleared during regular maintenance period.

12.4 Project Facilities

One Toll Plaza is constructed one at Km443+180. Bus bays are in fair condition. Medical Aid posts found functional. Avenue plantation and landscaping at Toll Plaza is provided and being maintained well. Highway lighting is provided at toll plaza locations and the same is found functional.

12.5 Road safety

Pavement marking is in fair condition and number of sign boards are provided as per IRC SP: 84-2014. The condition of sign boards & other road appurtenances like metal beam crash barriers is fair.

12.6 Maintenance

- Routine maintenance is being carried out by O&M contractor effectively, based on documents reviewed, time-to-time observations made by client/Authority are being complied and no outstanding NCR's are to be attended as on date.
- Major maintenance (MM) /Periodic maintenance was carried recently and next MM is scheduled in the year 2027 and 2033.

12.7 Epilogue

The project is designed and constructed as per the stipulated specifications besides maintenance work, being carried out timely and effectively to keep the road in traffic worthy and safe at all times.

Project: Four Laning of Yavatmal to Wardha (Package III) section of NH-361 from Km.400.575 to Km.465.500(design Length 64.925 Km) in the State of Maharashtra under NHDP Phase IV on Hybrid Annuity Mode.

Annexure 1: Condition of structures

S. No.	Chainage (Km.)	Type of Structure	Substructure	Superstructure	Crash barrier	Wearing coat	Bearings	Quadrant Pitching	Toe wall	Aprons
1	402+112	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
2	404+995	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
3	405+519	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
4	408+564	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
5	417+884	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
6	419+702	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
7	420+998	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
8	424+213	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
9	429+371	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
10	433+858	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
11	436+290	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
12	439+813	Major bridge	Good	Good	Good	Good	-	Good	Good	-
13	440+455	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
14	441+756	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
15	442+772	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
16	444+842	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
17	445+373	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
18	447+790	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
19	448+124	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
20	449+776	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
21	450+824	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
22	454+011	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
23	455+22	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
24	455+971	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
25	456+162	Major bridge	Good	Good	Good	Good	-	Good	Good	-

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S. No.	Chainage (Km.)	Type of Structure	Substructure	Superstructure	Crash barrier	Wearing coat	Bearings	Quadrant Pitching	Toe wall	Aprons
26	456+296	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
27	456+747	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
28	457+521	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
29	457+776	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
30	460+145	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
31	462+422	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
32	462+906	Major bridge	Good	Good	Good	Good	-	Good	Good	-
33	463+126	Minor bridge	Good	Good	Good	Good	-	Good	Good	-
34	409+966	VOP	Good	Good	Good	Good	-	Good	Good	-
35	428+123	Flyover	Good	Good	Good	Good	-	Good	Good	-
36	430+298	VUP	Good	Good	Good	Good	-	Good	Good	-
37	433+78	PUP	Good	Good	Good	Good	-	Good	Good	-
38	435+064	LVUP	Good	Good	Good	Good	-	Good	Good	-
39	438+675	PUP	Good	Good	Good	Good	-	Good	Good	-
40	440+607	LVUP	Good	Good	Good	Good	-	Good	Good	-
41	441+979	VUP	Good	Good	Good	Good	-	Good	Good	-
42	446+337	LVUP	Good	Good	Good	Good	-	Good	Good	-
43	449+572	LVUP	Good	Good	Good	Good	-	Good	Good	-
44	456+599	LVUP	Good	Good	Good	Good	-	Good	Good	-
45	458+160	VUP	Good	Good	Good	Good	-	Good	Good	-
46	458+365	CUP	Good	Good	Good	Good	-	Good	Good	-
47	459+124	Flyover	Good	Good	Good	Good	-	Good	Good	-
48	462+241	LVUP	Good	Good	Good	Good	-	Good	Good	-

Annexure 2: Condition of Box/Slab/Hume Pipe Culverts

Condition of Hume Pipe Culverts

S. No.	Chainage (Km.)	Hume Pipe	Head wall	Quadrant pitching	Toe wall
1	400+940	Good	Good	Good	-
2	402+172	Good	Good	Good	-
3	403+232	Good	Good	Good	-
4	403+501	Good	Good	Good	-
5	403+878	Good	Good	Good	-
6	404+280	Good	Good	Good	-
7	404+479	Good	Good	Good	-
8	405+178	Good	Good	Good	-
9	406+014	Good	Good	Good	-
10	407+247	Good	Good	Good	Good
11	408+703	Good	Good	Good	Good
12	408+847	Good	Good	Good	-
13	409+029	Good	Good	Good	-
14	409+296	Good	Good	Good	Good
15	409+633	Good	Good	Good	Good
16	409+760	Good	Good	Good	Good
17	409+981	Good	Good	Good	Good
18	410+685	Good	Good	Good	Good
19	410+760	Good	Good	Good	Good
20	411+339	Good	Good	Good	Good
21	411+885	Good	Good	Good	Good
22	412+149	Good	Good	Good	Good
23	412+525	Good	Good	Good	Good
24	412+950	Good	Good	Good	Good
25	413+517	Good	Good	Good	Good
26	414+454	Good	Good	Good	Good
27	414+956	Good	Good	Good	Good
28	416+590	Good	Good	Good	-
29	417+290	Good	Good	Good	-
30	417+415	Good	Good	Good	Good
31	417+640	Good	Good	Good	-
32	418+560	Good	Good	Good	Good
33	418+806	Good	Good	Good	Good
34	419+073	Good	Good	Good	-
35	419+990	Good	Good	Good	-
36	420+233	Good	Good	Good	-
37	420+573	Good	Good	Good	Good
38	421+933	Good	Good	Good	Good

S. No.	Chainage (Km.)	Hume Pipe	Head wall	Quadrant pitching	Toe wall
39	422+571	Good	Good	Good	Good
40	423+373	Good	Good	Good	-
41	423+865	Good	Good	Good	-
42	424+484	Good	Good	Good	-
43	424+950	Good	Good	Good	Good
44	425+575	Good	Good	Good	Good
45	425+966	Fair	Fair	Good	Good
46	426+805	Good	Good	Good	Good
47	428+076	Fair	Fair	Good	Good
48	429+870	Good	Good	Good	Good
49	430+076	Good	Good	Good	Good
50	430+505	Good	Good	Good	Good
51	430+665	Good	Good	Good	Good
52	432+539	Good	Good	Good	Good
53	433+589	Good	Good	Good	Good
54	434+724	Good	Good	Good	Good
55	435+414	Good	Good	Good	Good
56	436+050	Good	Good	Good	Good
57	436+515	Good	Good	Good	Good
58	436+694	Good	Good	Good	Good
59	437+374	Good	Good	Good	Good
60	438+031	Good	Good	Good	Good
61	438+959	Good	Good	Good	Good
62	439+196	Good	Good	Good	Good
63	442+324	Good	Good	Good	Good
64	443+479	Good	Good	Good	Good
65	444+480	Good	Good	Good	Good
66	445+019	Good	Good	Good	Good
67	445+629	Good	Good	Good	Good
68	446+639	Good	Good	Good	Good
69	446+789	Good	Good	Good	Good
70	448+879	Good	Good	Good	Good
71	449+414	Good	Good	Good	Good
72	451+709	Good	Good	Good	Good
73	453+509	Good	Good	Good	Good
74	454+149	Good	Good	Good	Good
75	454+756	Good	Good	Good	Good
76	457+049	Good	Good	Good	Good
77	457+479	Good	Good	Good	Good
78	458+881	Good	Good	Good	Good

S. No.	Chainage (Km.)	Hume Pipe	Head wall	Quadrant pitching	Toe wall
79	459+720	Good	Good	Good	Good
80	460+592	Good	Good	Good	Good
81	461+073	Good	Good	Good	Good
82	462+832	Good	Good	Good	Good
83	465+298	Good	Good	Good	Good

Box /Slab Culverts

S. No.	Chainage (Km.)	Condition	Return wall	Quadrant pitching	Toe wall	Parapet wall
1	410+532	Good	Good	Good	Good	Good
2	412+074	Good	Good	Good	Good	Good
3	416+042	Good	Good	Good	Good	Good
4	416+119	Good	Good	Good	Good	Good
5	417+014	Good	Good	Good	Good	Good
6	417+074	Good	Good	Good	Good	Good
7	417+220	Good	Good	Good	Good	Good
8	418+221	Good	Good	Good	Good	Good
9	421+428	Good	Good	Good	Good	Good
10	422+330	Good	Good	Good	Good	Good
11	426+891	Good	Good	Good	Good	Good
12	427+332	Good	Good	Good	Good	Good
13	427+408	Good	Good	Good	Good	Good
14	427+724	Good	Good	Good	Good	Good
15	427+961	Good	Good	Good	Good	Good
16	428+581	Good	Good	Good	Good	Good
17	428+676	Good	Good	Good	Good	Good
18	429+309	Good	Good	Good	Good	Good
19	429+609	Good	Good	Good	Good	Good
20	434+246	Good	Good	Good	Good	Good
21	441+318	Good	Good	Good	Good	Good
22	444+027	Good	Good	Good	Good	Good
23	447+556	Good	Good	Good	Good	Good
24	448+227	Good	Good	Good	Good	Good
25	448+604	Good	Good	Good	Good	Good
26	451+095	Good	Good	Good	Good	Good
27	451+498	Good	Good	Good	Good	Good
28	452+639	Good	Good	Good	Good	Good
29	452+898	Good	Good	Good	Good	Good
30	459+315	Good	Good	Good	Good	Good
31	463+819	Good	Good	Good	Good	Good
32	464+815	Good	Good	Good	Good	Good

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Annexure 3: Operation & Maintenance cost

Routine Maintenance cost for 1 year

Item		Unit	No	Frequency per year	Quantity	Rate	Amount	Remarks
General Cleaning in Carriageway & Shoulders Rural area	Monthly	Km	60.18	12	4	350	10,11,024	04 nos of Labour
General Cleaning in Carriageway & Shoulders Urban area	Twice in a month	kms	4.745	24	4	350	1,59,432	04 nos of Labour
Watering in Median Plants	Once in Week	Km	64.925	52	1	1939	65,46,258	01 nos of Labour
Watering in Avenue plants	Once in Week	Km	60.18	52	60	1939	60,67,829	
Median Maintenance (Grass cutting and plant trimming)	Once in Month	Km	60.18	12	12	21000	2,52,000	02 nos of Labour - 2 x 350 = 700 x 30 = 2,52,000
ROW Cleaning	Half yearly	Km	45.4475	2	10	350	3,18,133	10 Nos of labour per KM (70% of the Project length)
Cleaning of Culverts	Half yearly	Nos	114	2	3	650	4,44,600	3 nos of Labour along with JCB or Excavator
Road Furniture Cleaning	Quarterly	Km	64.925	4	2	350	1,81,790	02 nos of Labour
Maintenance of Bus shelters	Monthly	Nos	32	12	2	350	2,68,800	2 nos/ Bus shelter/month
General Cleaning in Building & Facilities	Daily	Nos	4.00	12	60	350	10,08,000	02 nos of Labour for 30 days
Bridges	Half yearly	Nos	41	2	4	350	1,14,800	04 nos of Labour for removal of vegetation/Structure
Carriageway Maintenance (Pot Holes etc)	Yearly	Sq.m	15	1	574	124	10,67,640	2.5% of CW area considered 22.0x1000x2.5%
							1,74,40,305	

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EQUIPMENT SUPPLY								
TRUCK TIPPER 6-8 CUM CAPACITY	Monthly	Nos		12	1	400000	4,00,000	(2000000 is the cost of vehicle, considering 20% Rental per year) including maintenance
Water Tanker Cap 12 KL for Median	Monthly	Nos	64.9 25	12	0	440000	-	(2200000 is the cost of vehicle, considering 20% Rental per year) including maintenance
Tractor Mounted Water tanker Cap 6 KL for RoW	Monthly	Nos		12		160000	-	(800000 is the cost of vehicle, considering 20% Rental per year) including maintenance
Mechanical Sweeper	Monthly	Nos		12		500000	5,00,000	(2500000 is the cost of vehicle, considering 20% Rental per year) including maintenance
Grass cutter	Monthly	Nos	64.9 25	12	3	12000	38,955	(12000/year)
Manhoise/ Skyscraper	Monthly	Nos		12		4,00,000	4,00,000	(2000000 is the cost of vehicle, considering 20% Rental per year) including maintenance
Bikes	Monthly	Nos	64.9 25	12	4	2500	1,29,850	Per Supervisor/Per Month
Building Maintenance	Yearly			12	1	25000	3,00,000	25000/ month
Toll plaza AMC	Yearly	Nos		12	1	100000	12,00,000	100000/month
							29,68,805	
Patrolling vehicle	Monthly	Nos	12		1	300000	300000	(1500000 is the cost of vehicle, considering 20% Rental per year) including maintenance
Ambulance	Monthly	Nos	12		1	240000	240000	(1200000 is the cost of vehicle, considering 20% Rental per year) including maintenance (1

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								Ambulance/toll plaza)
Tow away trucks and Crane	Monthly	Nos	12		1	400000	400000	(2000000 is the cost of vehicle, considering 20% Rental per year) including maintenance
Consumables for Medical Aid Post and Ambulance	Monthly	Nos	12		1	5000	60000	5000 Per month for per set (Per set - Per toll plaza)
Consumables for Route Patrolling & Crane	Monthly	Nos	12		1	5000	60000	5000 Per month for per set (Per set - Per toll plaza)

10,60,000

2,14,69,110.00

Incidental cost for 1 Year									
	Item		Unit	No	Frequency	Quantity	Rate	Amount	Remarks
1	Road marking	Half yearly	Sqm	1	1	15566	516	80,32,056	33 % of Total Project length on B/S for 1 year
2	Carriageway Maintenance (Pot Holes etc.)	Yearly	Sq.m	1	1	186	168	31,248	2% of Flexible Pavement (changed quantities to only Service road portion)
3	Maintenance of Earthen Shoulder	Half yearly	Cum	1	3	1947.75	225	13,14,731	10% of total Shoulder length throughout the project
4	Sign Board	Quarterly	Km	1	4	88	4000	14,08,000	5 % of Total sign boards per half year (considered 1750 nos)
5	MBCB	Monthly	RMT			1250	2400	30,00,000	5% of Total qty per year - (considered 2400 per number)
6	Mile Stone (KM Stone/ HM Stone / ROW stone etc.)	Quarterly	Nos	64.925	4	16	2250	1,44,000	5 % of total stones per year (unable to understand the

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Incidental cost for 1 Year									
	Item		Unit	No	Frequency	Quantity	Rate	Amount	Remarks
									backup)
7	ROW Fencing (Ifavailable)	Quarterly	Km		4			-	10 % of total ROW fencing per year
8	Kerb	Yearly	Km	64.925	1	2597.0	250	6,49,250	2 % of total Kerbings per year
9	Electrical Poles	Yearly	Nos	1382.3	1	41	5500 0	22,55,000	3 % of total poles per year
10	Replacement of Rigid pavement Panels	Yearly	Ls	1	1	3505.95	4000	1,40,23,800	Considered 1% of the total volume
11	Providing Reinforced cement concrete crash barrier at the edges of the bridge structures constructed with M-40 grade concrete with HYSD-Fe 500 TMT reinforcement concrete per Rmt conforming to IRC:21 and fixing with dowel bars 16 mm dia to old concrete using epoxy grout as per drawing and Technical Specifications and as directed by the Engineer.	Yearly	Rmt	9897		297	3985	11,83,545	3% of Length replacement in every 5 years (Quantity to be estimated)
Total amount for 1 Year								3,20,41,630	

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Operational Expenses

S. No.	PARTICULARS	Amount
1	Man Power	₹ 96,00,000
2	Fuel for Generator & Vehicles	₹ 1,13,64,000
3	Electricity	₹ 26,40,000
4	Stationary	₹ 1,00,000
5	Replacement of Electrical Fixtures	₹ 10,03,340
6	Refurbishment of Toll Plaza Equipment	₹ 6,00,000
	Total Amount	₹ 2,53,07,340

Major Maintenance Summary

Description	Due date	Base cost	Esc Period	Escalation Rate per Year	Cost of MMR on due date @ 5% Escalation	In crores
Date of Estimation	01-06-2019					
1st Major Maintenance - Highway	01-06-2026	20,23,31,078	7.00	3.0%	24,48,20,604	24.48
1st Major Maintenance - Structures	01-06-2026	1,73,28,751	7.00	3.0%	2,09,67,789	2.10
2nd Major Maintenance - Highways	01-06-2032	20,47,98,418	13.00	3.0%	28,46,69,801	28.47
2nd Major Maintenance - Structures	01-06-2032	2,48,31,802	13.00	3.0%	3,45,16,205	3.45
				Total	₹ 58,49,74,399	58.50

Major Maintenance BOQ

S. No.	DESCRIPTION	Unit	QUANTIT Y	RATE	AMOUNT	QUANTIT Y	RATE	AMOUNT
Chapter 4. Pavement (Asphalt & Concrete)								
1	Providing and applying tack coat with Rapid Setting Bitumen Emulsion using emulsion pressure distributor on the prepared bituminous/granular surface cleaned with mechanical broom, Ref. to Technical specification 503.			-			-	
(a)	On Bituminous surface @ 2.0 kg to 3.0 kg/10 sq.m.	Sqm	1,60,720.0 0	14.00	22,50,080	1,60,720.0 0	14.00	22,50,080
2	Providing and laying bituminous concrete using a batch type Hot Mix Plant using crushed aggregates of size (table 500-17), premixed with VG Grade Bitumen and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers, Pneumatic Tyre Rollers to achieve the desired compaction as per Technical specification clause No. 507 and mix design conforming the IRC -111 and IRC 37.	Cum	6,428.80	7,682.00	4,93,86,042	6,428.80	7,682.00	4,93,86,042
3	Repair of joint Grooves with Epoxy Mortar Repair of spalled joint grooves of contraction joints, longitudinal joints and expansion joints in concrete pavements using epoxy mortar or epoxy concrete)	MTR S	1,55,821.6 0	250.00	3,89,55,400	1,55,821.6 0	250.00	3,89,55,400
4	Texturing of Rigid pavement (considering 50% for 7 years)	Sqm	6,13,297.5 0	130.00	7,97,28,675	6,13,297.5 0	130.00	7,97,28,675
5	Earthern shoulder @ service roads	cum			11,48,000			11,48,000

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S.	DESCRIPTION	Unit		RATE	AMOUNT		RATE	AMOUNT
			4,592.00	250.00		4,592.00	250.00	
	Total				17,14,68,197			17,14,68,197
	Chapter 9 Junctions, Traffic Signs Marking and Other Appurtenances			-			-	
1	Providing and laying of cement concrete kerb without channel (M-20 Grade) over WMM foundation using kerb laying machine & proper curing complete, as per drawing & technical specification clause no.409, 1700 and as per the instructions of Employer's representative. - Consider 5% for construction period.	Rmt	-	380.00		6,493.00	380.00	24,67,340
2	Providing and laying lane markings of hot applied thermoplastic compound 2.5 mm thick including reflectorizing glass beads @ 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35. The finished surface to be level, uniform and free from streaks and holes, Ref. to Technical specification 803.	Sqm	54,244.93	516.00	2,79,90,381	54,244.93	516.00	2,79,90,381
3	Road Studs	Nos	3,830.00	750.00	28,72,500	3,830.00	750.00	28,72,500
	Total Chapter 9				3,08,62,881		-	3,33,30,221
	Grand Total				20,23,31,078			20,47,98,418

Annexure 4: Letter of Award



भारतीय राष्ट्रीय राजमार्ग प्राधिकरण
(सड़क परिवहन और राजमार्ग मंत्रालय)
National Highways Authority of India
(Ministry of Road Transport and Highways)
जी-5 एव 6, सेक्टर-10, द्वारका, नई दिल्ली-110075
G-5 & 6, Sector-10, Dwarka, New Delhi-110075

दूरभाष / Phone : 91-11-25074100/25074200
फैक्स / Fax : 91-11-25093507 / 25093514

NHAI/Tech/01/EFC/Yavat.-Wardha/2014/MAH/97371

28th March 2017

To,

M/s Dilip Buildcon Limited
Plot No. 5, inside Govind Narayan Singh Gate
Chuna Bhatti, Kolar Road
Bhopal - 462 016
Phone No.: 09300948396
Fax: 0755 4029998
Email: db@dilipbuildcon.co.in; dilipb_99@rediffmail.com

(Kind Attention: Mr. Kundan Kumar Das, AGM – Business Development)

Subject: Four laning of Yavatmal to Wardha (Package III) section of NH-361 from km 400.575 to km 465.500 (design Length 64.925 km) in the State of Maharashtra Under NHDP Phase - IV on Hybrid Annuity Mode -Letter of Award - Reg.

Ref: 1. Your Proposal submitted on 15.02.2017
2. Opening of Financial proposal on 22.03.2017

Sir,

With Reference to NHA's Request for Proposal for "Four laning of Yavatmal to Wardha (Package III) section of NH-361 from km 400.575 to km 465.500 (design Length 64.925 km) in the State of Maharashtra Under NHDP Phase - IV on Hybrid Annuity Mode" and considering your proposal in this regard submitted on 15.02.2017 vide reference no. (i), NHA hereby accepts your proposal quoting Bid Project Cost of **Rs. 1043.28 crore (Rupees One Thousands Forty Three Crore Twenty Eight Lakh Only)** and first year O&M cost of **Rs. 3.00 Crore (Rupees Three Crore Only)** as included in Appendix- 1B of your document and declares you as the "Selected Bidder" as per the provisions of RFP Documents.

2. In accordance with the clause 3.8.4 of the RFP document, you are requested to sign the duplicate copy of the LOA and return the same as your acknowledgement within 7 (Seven) days of the receipt of the LOA. Thereafter you are required to execute the concession Agreement within 45 (Forty five) days from the date of issue of LOA as specified in Clause 1.3 of RFP.

3. Further, As per RFP document, you are required to incorporate a Special Purpose Vehicle solely for the purpose of domiciling the project (the "Concessionaire"). The Concessionaire For due and faithful performance of its obligations during the Concession Period shall furnish a Performance Security by way of irrecoverable and unconditional Bank guarantee of **Rs 52.17 Crores (Rupees Fifty Two Crore Seventeen Lakh only)** within a period of the 30 days from the date of signing of the Concession Agreement. Till the time the Concessionaire provides NHA with the performance Security the Bid Security shall remain in full Force and Effect (refer Clause 4.1.2 and Clause of Article 9 of RFP).

4. You are required to comply with all the terms and conditions set forth in the RFP Documents. In case of any default on your part, you shall be liable for action as stated in the Bid Documents.



(Ashish Asati)
General Manager (Tech)
(Maharashtra Division)

Annexure 5: Provisional Certificate



LION ENGINEERING CONSULTANTS
"Contributing in Building the Infrastructure of the Nation"

Letter No. LION/IE-0317/2019/NHAI/Yavat-War/6806

Date: 02.08.2019

To,
The Authorized Signatory,
DBL Yavatmal Wardha Highways Limited,
Reg. Office: Plot No.5,
Inside Govind Narayan Singh Gate,
Chuna Bhatti, Kolar Road,
Bhopal-462016 (MP).
Email- gisrishtalwar@dilipbuildcon.co.in

Sub : Four Laning of Yavatmal to Wardha (Package III) section of NH-361 From KM 400+575 to KM 465+500 (Design Length 64.925 Km) in the state of Maharashtra under NHDP Phase on Hybrid Annuity Mode.

Issuance of Provisional Completion Certificate under Clause 14.3 of Concession Agreement. Reg.

Ref:

1. Concession Agreement dtd: 09.06.2017.
2. Concessionaire Lr. No. DBL/YWHPL/IE/2019/462; dtd: 23.04.2019.
3. Concessionaire Lr. No. DBL/YWHPL/IE/2019/465; dtd: 02.05.2019.
4. Inspection of IE dated. 25.05.2019 & 14.06.2019.
5. IE letter no. LION/IE-0317/2019/NHAI/Yavat-War/6484; dtd: 14.06.2019.
6. Concessionaire Lr. No. DBL/YWHPL/IE/2019/501; dtd: 29.06.2019.
7. Inspection of IE dated 01.07.2019 & 02.07.2019.
8. IE letter no. LION/IE-0317/2018/NHAI/Yavat-War/6624; dtd:04.07.2019.
9. IE Inspection dtd: 08.07.2019 & 09.07.2019.
10. This office Lr. No. LION/IE-0317/2019/NHAI/Yavat-War/6655; dtd: 10.07.2019.
11. PD-Yavatmal Lr. No. NHAI/PIU/YTL/NH361/PCOD/2019/1470; dtd: 05.07.2019.
12. RO-Nagpur Lr. No. NHAI/RO-NAG/4/7/Yavatmal-Wardha/PCOD/2019/1132; dtd: 25.07.2019.
13. Concessionaire letter no. DBL/YWHPL/IE/2019/519; dtd: 29.07.2019

Dear Sir,

The Concession Agreement for the above project was signed between M/s DBL Yavatmal Wardha Highways Private Limited (hereinafter referred as "Concessionaire") and National Highways Authority of India (hereinafter referred as "Authority") on 09.06.2017 and the Appointed Date was declared as 05.02.2018.

2. As per clause 14.3.2 of the Concessionaire Agreement wherein mentioned "The Parties hereto expressly agree that a Provisional Certificate under this clause 14.3 may, upon request of the Concessionaire to this effect, be issued for operating part of the Project, if the Concessionaire has completed construction of 100% of the Site made available to the Concessionaire up to 182 days from the Appointed Date. Upon issue of such Provisional Certificate, the provisions of Article 15 shall apply to such completed part, and the rights and obligations of the Concessionaire for and in respect of such completed part of the Project shall be construed accordingly"

Corporate office : "LION TOWER", Plot No. 97, Elegant Estate, Near Mother Teresa School, Behind Petrochemicals, Bhopal - 462012 (M.P.)
Regional Office : Mumbai | Gurgaon | Raipur
Tele / Fax : +91 755 2879499 E-mail : corporate@liongroup.in, info@liongroup.in
Website : www.liongroup.in






Page 1 of 4

3. Hence, in view of above and according to clause 14.3.2 of the CA, the status of project work in accordance with schedule-B, C & D of CA is herein under:

S.No.	Section (km)		Side	Length (km)	Remark
	From	To			
1	400+575	406+750	BHS	6.175	This section is considered in Pre-COD. Balance work highlighted in Punch List A.
2	406+750	407+250	BHS	0.500	This section is not considered in Pre-COD. Work is in progress due to delay in Forest Clearance. Balance work is highlighted in List-B
3	407+250	465+500	BHS	58.250	This section is considered in Pre-COD. Balance work highlighted in Punch List A.
Total 4-lane length (km)					64.925
4-lane length (km) for Pre-COD					64.425

4. As per NHAI Policy circular dated 21.12.2015, the Independent Engineer vide letter no. 6655; dtd: 10.07.2019, has submitted proposal for concurrence for issuance of Provisional Completion Certificate under clause 14.3 of the Concession Agreement.
5. In this regard, the RO-Raipur, further vide letter no 1132; dtd: 25.07.2019 has issued requisite concurrence with instructions to Independent Engineer to assure followings before issuance of provisional certification:
- i. The following item of List-C shall be completed before issuance of PCOD:
 - a. Flyover at Km 459+182 is opened for traffic at both levels.
 - b. Bridge at Km. 439+883 including rehabilitation of existing 2-lane Bridge.
 - c. Metal Beam Crash Barrier.
 - d. New Jersey Crash Barrier.
 - e. Casting of curbs including painting.
 - f. Finishing work around Toll Booths.
 - g. Road Marking and sign Boards.
 - ii. Maintain the smooth movement and traffic in the section Km. 406+750 to Km. 407+250, especially at Km. 409+981.
6. Further, Concessionaire vide letter no. 519; dtd: 29.07.2019, has confirmed compliance of above mentioned works and requested to issuance of provisional completion certificate in pursuant to article 14 of CA. In this continuation, the Independent Engineer has inspected project highway and all pending works have been completed satisfactory by the Concessionaire.
7. In view of above, the Independent Engineer is of opinion that the Concessionaire is now eligible for issuance of provisional completion certification in pursuant to article 14 of CA. Hence, the Independent Engineer is herewith issue **Provisional Completion Certificate** (enclosed in **Appendix-I**) in pursuant to clause 14.3 of the Concession Agreement along with followings:
- a. The Project Highway has been constructed as per scope defined under Schedule B & C, in conformity with the technical specifications and standards set forth in Schedule-D of the Concession Agreement. The detailed summary against each item of the Schedule B & C is shown in **Annexure-I**. The List of minor outstanding works of Pre-COD section (forming "PUNCH LIST-A") is attached as **Appendix-II**. As per clause 14.4.1 of the Concession Agreement, the works in PUNCH LIST-A have to be completed by the Concessionaire within 90 days of issuance of Provisional Certificate. Also, the list outstanding works for section not considered in Pre-COD, is annexed as LIST-B of **Appendix-II**.



- b. The Concessionaire has carried out successfully all tests in accordance with clause 2 of schedule-I & clause 14.1 of the CA in presence of Independent Engineer and the representative of Authority. The Concessionaire vide letter no: DBL/YWHPL/IE/2019/504; dtd:30.06.2019, has submitted test reports as annexed in Annexure-II (a), Annexure-II (b), Annexure-II (c), Annexure-II (d), Annexure-II (e).
- c. The Environmental Audit as per the provisions of clause 2.9 of Schedule-I, has been conducted by Environmental Expert and they have found that Concessionaire has complied with the Applicable Law and Permits and the same conforms to Good Industry Practice. The Concessionaire vide letter no: DBL/YWHPL/IE/2019/505; dtd: 30.06.2019, has submitted Environmental Audit Report which annexed as Annexure-II (f).
- d. In the event of non-appointment of Safety Consultant by the Authority as per Schedule-L of CA, the Concessionaire has carryout Safety Audit through MANIT-Bhopal after recommendation of the Independent Engineer for meeting obligations of CA. The Final Safety Audit report is enclosed as Annexure-II (g) and all recommendations of Safety Consultant have been successfully completed.
- e. The Independent Engineer has issued total 18 nos. of Non-Conformance Reports during the construction period and the Concessionaire has been satisfactorily complied and rectified all deficiencies highlighted in NCRs issued by the Independent Engineer. Accordingly, all NCRs were closed by the Independent Engineer. Copy of all NCRs with summary is annexed as Annexure-V.
- f. The Concessionaire has achieved Project Mile Stone-I, II & III well in advance before schedule date in accordance with Schedule-G of CA. (Refer Annexure-III).
- g. The Concessionaire has submitted the consolidated Change of Scope proposal for works completed / under progress / to be taken up and all COS proposals were reviewed by the Independent Engineer as per Article-16 of the Concession Agreement. The summary & Status of COS proposals with all correspondences are enclosed as Annexure-IV.
- h. The Concessionaire has mobilised incident management vehicles i.e. Ambulance, Patrolling Vehicle & Crane at toll plaza. It is pertinent to mention herein that the Concessionaire has undertaken to mobilised incident management vehicle as per NHAI policy circular no. 12.19; dtd: 20.03.2018 within period of 90 days.
- i. The Concessionaire has applied for electrical connections at all such locations where work is in progress by the Electricity Department. However, Concessionaire has undertaken for lightening at completed section through DG set. (refer Annexure-VI)
- j. It is pertinent to mention herein that the Concessionaire has undertaken to ensure followings till & at time of handing over toll plaza to toll operation agency (to be appointed by NHAI):
- To calibrate Static Weigh Bridge (SWB) & Medium Speed Weigh in Motion (MS WIM) by Weight & Measurement Department.
 - To keeping watch and ward of equipment and system installed at the Toll Plazas. To conduct all requisite tests as per NHAI Policy/Guidelines, once it introduced by the Authority.
- k. As per clause 17.3.1 of the Concession Agreement, the Concessionaire vide letter no: DBL/YWHPL/IE/2019/506.; dtd: 30.06.2019 has submitted Maintenance Manual which has been reviewed by IE. (Refer Annexure-VII)
- l. After issuance of Provisional Certificate, the Concessionaire shall ensure followings with immediate effect:
- As per clause 17.1.2 of the Concession Agreement "The Concessionaire shall remove promptly from the Project Highway all surplus construction machinery and material, waste materials (including hazardous materials and waste water), rubbish and other debris (including without limitation, accident debris) and keep the Project Highway in a clean, tidy and orderly condition and in conformity with Applicable Laws, Applicable Permits and Good Industry Practice. For Avoidance of doubt, it is agreed that the debris and material excavated shall be carried to and deposited



- at a place to be decide in consultation with Authority/Independent Engineer”
- ii. In pursuant to Article-17 of the Concession Agreement, the Concessionaire, during the O&M Period, shall operate and maintain the project highway in accordance with Concession Agreement, applicable laws and applicable permits, and confirm to specification & standards and good industry practices.
 - iii. In pursuant to clause 10.5 of the Concession Agreement, “The Concessionaire, during Concession Period, shall protect the site from any and all occupations, encroachment or Encumbrance and shall not place or create nor permit any Contractor or other person claiming through or under the Concessionaire to place or create any Encumbrance or security interest over all or any part of the site or project assets or on any rights of the Concessionaire therein or under this Agreement, save and except as otherwise expressly set forth in the Concession Agreement.”
 - iv. As per clause 17.16 of the Concession Agreement, “The Concessionaire shall not undertake or permit any form of commercial advertising, display or hoarding at any place on the site.
 - v. All obligations pertaining to operation & maintenance of the project highway as per relevant provisions of the Concession Agreement.

Therefore, in the view of the above and as per the provisions of clause 14.3 of the Concession Agreement, the Independent Engineer herewith issue Provisional Completion Certificate to the Concessionaire in the format annexed as Appendix-I.

This is being forwarded for your kind perusal and necessary action.

Thanking You,
Yours sincerely,
For & On Behalf of M/s Lion Engineering Consultants,




(Sushil Nimbark)
Sr. Chief General Manager (Tech/BD) cum Authorized Representative

Encl:

1. Appendix-I and II.
2. Annexure-I to VII.

Copy for information:

1. The Regional Officer, Narang Tower 1st Floor, Opposite to Office of Dy. Commissioner of Police Traffic (Nagpur City), Palm Road, Civil Lines. Nagpur-440001 Maharashtra Email: ronagpur@nhai.org
2. The Project Director, (K/a to Shri Prashant D. Mendhe), Project Implementation Unit (PIU), National Highways Authority of India (NHAI), Chandan Niveas, Plot No.13, Kolhe Layout Part-02, Dharwa Road, Yavatmal, Maharashtra-445001. Email- yavatmal@nhai.org nhaiyavatmal@gmail.com
3. The Team Leader, M/s Lion Engineering Consultants, Project Office-Yavatmal. Email- lecmhyavatmalwardha@gmail.com.
4. The Executive Director, M/S Lion Engineering Consultants, Bhopal. Email: ed@liongroup.in



LION ENGINEERING CONSULTANTS
"Contributing in Building the Infrastructure of the Nation"

PROVISIONAL CERTIFICATE

1. I, Sushil Nimabrak, M/S Lion Engineering Consultants, acting as Independent Engineer under and in accordance with the Concession Agreement dated 9th June 2017, for development and operation of the Project Four Laning of Yavatmal to Wardha (Package III) section of NH-361 From KM 400+575 to KM 465+500 (Design Length 64.925 Km) in the state of Maharashtra under NHDP Phase-IV on Hybrid Annuity Mode on design, build, operate and transfer (the "Hybrid Annuity") basis through *DBL Yavatmal Wardha Highways Private Limited*, hereby certify that the Tests specified in Article 14 and Schedule-I of the Agreement have been undertaken for the section from Km. 400+575 to Km. 406+750 and Km. 407+250 to Km. 465+500 of the Project to determine compliance thereof with the provisions of the Agreement.
2. Construction Works forming part of the section from Km. 400+575 to Km. 465+500 of the project that were found to be incomplete and/or deficient have been specified in the Punch list appended hereto, and the Concessionaire has agreed and accepted that it shall complete and/or rectify all such works in the time and manner set forth in the Agreement. Some of the incomplete works have been delayed as a result of reasons attributable to Authority or due to Force Majeure and the Provisional Certificate cannot be withheld on this account. Though the remaining incomplete works have been delayed as a result of reasons attributable to the Concessionaire, I am satisfied that having regard to the nature and extent of such incomplete works, it would not be prudent to withhold commercial operation of the section Km. 400+575 to Km. 406+750 and Km. 407+250 to Km. 465+500 of the project, pending completion thereof.
3. In view of the foregoing I am satisfied that the Section Km. 400+575 to Km. 406+750 and Km. 407+250 to Km. 465+500 of the Project can be safely and reliably placed in commercial service of the users thereof, and in terms of the Agreement, the section of the Project Highway is hereby provisionally declared fit for entry into operation on this the 02 day of August 2019

ACCEPTED, SIGNED, SEALED
AND DELIVERED

For and on behalf of
CONCESSIONAIRE by:


(Signature)

Mr. Girish Talwar,
Authorized Signatory
(*DBL Yavatmal Wardha Highways Private Limited*)
Reg. Office: Plot No.5,
Inside Govind Narayan Singh Gate,
Chuna Bhatti, Kolar Road,
Bhopal-462016 (MP)

SIGNED, SEALED AND
DELIVERED

For and on behalf of
INDEPENDENT ENGINEER By:


(Signature)

Mr. Sushil Nimbrak,
Authorized Signatory
Plot No. 97, "LION TOWER"
Near Mother Teresa School,
Kolar Road,
Bhopal-462042 (MP)

Corporate office : " LION TOWER ", Plot No. 97, Elegant Estate, Near Mother Teresa School, Behind Petrol Pump, Kolar Road, Bhopal - 462042 (M.P.)
Tele / Fax : +91 755 2879499 E-mail : corporate@liongroup.in, info@liongroup.in
Website : www.liongroup.in



APPENDIX-II		
Name of Project- "Four Laning of Yavatmal to Wardha (Package-III) Section of NH-361 from Km 400.575 to Km 465.500 (Design length 64.925 km) under NHDP Phase-IV on Hybrid Annuity Mode".		
PUNCH LIST A		
(Work To Be Completed In 90 Days After Issuance Of Provisional Completion Certificate)		
Sr. No.	Work	Work not yet complete
1	Median Plantation	15.00 Km
2	Turfing	35.10 Km.
3	Geo green Blanket	2.10 Km
4	Highway Lightning	40
5	High Mast Lightning	2
6	Rain water harvesting structures	
7	Submission of as built drawings	
8	Avenue Plantation	
9	Boundary pillars to be provided as per IRC provisions	
10	Cctv camera at Toll Plaza Tunnel	
11	Toll plaza compound wall, landscaping, Finishing work in toll plaza campus & building, flooring at tunnel, parking area development.	
12	Numbering of structures.	
13	Finishing work in building block of truck lay bye.	
14	02 Nos Residential quarters at toll plaza	
15	Tree guard for Avenue plantation	
16	Communication System and Advance Traffic Management System (ATMS)	



APPENDIX-II		
Name of Project- "Four Laning of Yavatamal to Wardha (Package-III) Section of NH-361 from Km 400.575 to Km 465.500 (Design length 64.925 km) under NHDP Phase-IV on Hybrid Annuity Mode".		
LIST-B		
(Balance work not part of Pre-COD)		
Sr. No.	Details of work	Remark
1	Balance work from km 406+750 to km 407+250 as per schedule-B & C of CA	Delay due to clearance from forest department. However, work is now started and to be completed soon.
2	Construction of Highway Mini-nest at both side of Toll plaza	Work is proposed under COS in pursuant to article 16 of CA. However, the Concessionaire has started construction work and to be completed soon.
3	Construction of Vehicular Overpass Approaches with Service Road & Drain @ 409+966	Work is proposed under COS in pursuant to article 16 of CA. However, the Concessionaire has started construction work and to be completed soon.
4	Construction of Rest Area as per Schedule-C & D of CA	Delay in handing over of additional land for construction of Rest Area. However, the Concessionaire has started construction of Rest Area and to be completed soon.







Annexure 6: Insurance

पॉलिसी अनुसूची/ Policy Schedule - Civil Engineering Completed Risk

<p>Policy Number: 321300441910001998</p> <p>जारीकर्ता: नारायण/Issuing Office कार्यालय कोड /Office Code: 321300</p> <p>कार्यालय पता /Office Address: BHOPAL DIVISION II B-8, Indrapuri, B.H.E.L., Bhopal, Madhya Pradesh - 462022.</p> <p>State Code 23, Madhya Pradesh GSTIN: 23AAACN9967E12B Contact Number: 755 2692822 eMail: 321300@nic.co.in Mobile Number:</p>	<p>व्यवसाय स्रोत/ Business Source: 910355</p> <p>वित्तीय चैनल/ वितरण/ Sales Channel Code: 9103550000001</p> <p>नाम /Name: Aspire Insurance Brokers Pvt Ltd - HO Contact Number: 8291914810</p> <p>सह दलाल कोड / Co Broker Code:</p> <p>Customer Care Toll Free Number: 1800 345 0330 email:customer.support@nic.co.in</p>
---	--

<p>ग्राहक का नाम /Customer Name: DBL YAVATMAL WARDHA HIGHWAYS PRIVATE LIMITED</p> <p>पता/ Address: A-06, FLAT NO 301, SLPL DOCTORS COLONY, SAMAJ EKTA GRUHNIRMAN SOCIETY, SOMALWADA, NAGPUR, City: NAGPUR, District: NAGPUR, State: MAHARASHTRA, PIN: 440015. Cell: 9826292328</p>	<p>ग्राहक आईडी /Customer ID: 9701881852</p> <p>फोन /Phone:</p> <p>ई-मेल /E-Mail:</p> <p>पैन /PAN: AAGCD1443H</p>
--	--

पॉलिसी: 27/03/2020 के 00:00 से 26/03/2021 के मध्य संचालित/Policy Effective from 00:00 hours, on 27/03/2020 to midnight of 26/03/2021

प्रीमियम/ Premium	₹ 77,58,223.00	कवर नोट संख्या और तारीख / Cover Note Number and Date	NA
CGST	₹ 0.00		
SGST/UTGST	₹ 0.00		
IGST	₹ 13,96,460.00		
केरल फ्लड चार्ज/Kerala Flood Cess	₹ 0.00	प्रस्ताव संख्या और तारीख/Proposal Number and Date	8800200327087221 Dt. 27/03/2020
कम जीएसटी टैक्स / Less:GST_TDS	₹ 0.00		
पुनःप्राप्त योग्य स्टाम्प ड्यूटी /Recoverable Stamp Duty	₹ 0.00	रसीद संख्या और तारीख/Receipt Number and Date	321300811910007666 Dt. 27/03/2020
कुल (Total Amount)	₹ 91,54,703.00	पहिली पॉलिसी संख्या और समाप्ति तारीख / Previous Policy Number and Expiry Date	NA

(Rupees Ninety One Lakh Fifty Four Thousand Seven Hundred Three Only.)
Location:Yavatmal to Wardha (Package-III) Section of NH-361, Maharashtra Yavatmal, Yavatmal, 445001.

Sr.No	Type of Risk	Description Of Risk	Earthquake Zone	Sum Insured of the risk(₹)	Excess(₹)
1	Roads	ROAD AND STRUCTURE Toll Building & Booths, TMS, HTMS, Office & It Equipment, Electronic	Zone IV	7,51,00,00,000.00	1,00,000.00
2	Roads	Equipment, Road Furniture, Fixturs, Electrical Poles Lighting & Fittings, Signboard & Safety Barrier	Zone IV	25,00,00,000.00	1,00,000.00

लान्, खंडी, वृष्ट्यांकी एवं वारंटी / Clauses, Endorsements and Warranties Applicable:Agreed Bank Clause, Terrorism Damage Exclusion Warranty, Riot, Strike, and Malicious Damage Clause, Policy is subject to following conditions : POLICY IS SUBJECT TO THE FOLLOWING CONDITIONS:

- 1.Excess applicable under the policy is: (a) Upto SI of Rs 500 Cr = 10% of Claim subject to Minimum of Rs 5 lacs & (b) SI above 500 Cr & upto 1500 Cr = 10% of Claim subject to Minimum of Rs 10 lacs. Entire Road package will be treated as One location for application of Excess.
- 2 Policy is Applicable for Roads & Road side structures & Toll plazas & Bridges & Flyovers on Land.
- 3.No Coverage for (Road) Transportation Tunnels.
- 4.No Coverage for Marine Vessel Impact Damage.
- 5.Each 72 hour period will be treated as One occurrence/event for STFI & EQ for application of Excess.

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Page no: 1



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Project: Four Laning of Yavatmal to Wardha section of NH-361 from Km.400.575 to Km.465.500(design Length 64.925 Km) in the State of Maharashtra under NHDP Phase IV on Hybrid Annuity Mode.

पॉलिसी अनुसूची/ Policy Schedule - Civil Engineering Completed Risk
Policy Number:
321300441910001998
जारीकर्ता कार्यालय/Issuing Office
कार्यालय कोड /Office Code: 321300
कार्यालय पता /Office Address: BHOPAL
DIVISION II B-8, Indrapuri, B.H.E.L, Bhopal,
Madhya Pradesh - 462022.
State Code: 23, Madhya Pradesh
GSTIN: Z3AAACN9987E1ZB
Contact Number: 755 2682822
eMail: 321300@nic.co.in
Mobile Number:
व्यवसाय स्रोत /Business Source: 910355
इसित्त चैनल कोड/Sales Channel Code:
91035500000001
नाम /Name: Aspire Insurance Brokers Pvt
Ltd - H/O Contact Number: 8291914810
सह दलाल कोड / Co Broker Code:
Customer Care Toll Free Number:
1800 345 0330
email:customer.support@nic.co.in

PROJECT DETAILS COVERED UNDER THE POLICY AS FOLLOWS:
Four Laning of Yavatmal to Wardha (Package-III) Section of NH 361 from Km 400.575 to Km 465.500 (design length 64.925 km) in the state of Maharashtra Under NHDP Phase IV on Hybrid Annuity Mode.

Name of the co insured under the policy is Dilip Buildcon Ltd. & NHAI.
Name of the contractor under the policy is Dilip Buildcon Ltd and subcontractor is VARIOUS.
जसिकी गवाही मे दनि/ माह /वर्ष को उपरोक्त उल्लेखित कार्यालय पते पर अधीहस्ताक्षरी को बधित अधकृत कनि जा रहा हे उसके हाथ नदिधारति कनि जाए। यह अनुसूची, संलग्न पॉलिसी, खण्ड, पूरठकन और पॉलिसी शब्दों, जो कंपनी वेबसाईट <https://nationalinsurance.nic.co.in> पर उपलब्ध हे, को एक अनुबंध के रूप में एक साथ पढा जाए तथा कोई भी शब्द या अभिव्यक्ति जसिके तनि यह बधित अधकृत कनि या अनुसूची के कनि भी हरिसे मे संलग्न कनि गया हो, एक ही अर्थ वहन करेगा चाहे जहाँ भी उल्लेखित हो। यह आशुक्शन दनि जाता हे कनि चुरीमयिम चेक के अस्वीकृति के मामले में, यह दस्तावेज स्वतः प्राथमकित नदिस्त हो जाएगी। **IN WITNESS WHEREOF, the undersigned being duly authorized hereunto set his/ her hand at the office address mentioned above, this 27/March/2020. This schedule, the attached policy, the clauses, the endorsements and policy wordings as available in the website <https://nationalinsurance.nic.co.in> shall be read together as one contract and any word or expression to which the specific meaning has been attached in any part of this policy or of the schedule shall bear the same meaning wherever it may appear. It is warranted that IN CASE OF DISHONOUR OF THE PREMIUM CHEQUE, THIS DOCUMENT STANDS AUTOMATICALLY CANCELLED 'AB-INITIO'**

इशोरनसुडकिलनिदिड

सुदन इप्टी
Stamp
Duty:
(₹ 0.50)

कृते मेरशनल इन्शोरेंस कंपनी
निदिड/ For and on behalf of National Insurance
Company Limited
अधकृत इस्ततकृत/Authorized
Signatory

This Document is Digitally Signed

Signer: ATUL JERATH
Date: Fri, Nov 6, 2020 14:32:37 IST
Location: NOIDA
Reason: Signing Policy for OICL

ELECTRONIC EQUIPMENT INSURANCE POLICY SCHEDULE

Policy No	: 171200/44/2021/43	Prev Policy No	:
Cover Note No	:	Cover Note Dt	:
Insured's Code	: 114502229	Issuing Office Code	: 171200
Insured's Name	: DBL Yavatmal Wardha Highways Pvt Ltd (GSTIN: 27AAGCD1443H1ZU)	Issuing Office Name	: CBU Vadodara (GSTIN: 24AAACT06)
Address	: SLPL, Doctors Colony, Samaj Ekta Ghuhnirman Society, Gomalwada, Nagpur, Nagpur, Maharashtra	Address	: 1st FLOOR, KIRTI TOWER, TILAK ROAD VADODARA GUJARAT 390001
Tel /Fax /Email	: NA 0265-2427075 / 0265-2436654 / 171200@orientalinsurance.co.in	Tel /Fax /Email	: NA 0265-2427075 / 0265-2436654 / 171200@orientalinsurance.co.in

Agent/Broker Details
 Dev.Off.Code :
 Agent/Broker : LC0000000179 (1149)UNISON INSURANCE BROKING SERVICES P LTD
 Address : 601-602 ,8TH FLOOR AURAM NR VASNA,HP PETROL PUMP MARKAND DESAI RAOD VADODARA 390015 GUJARAT INDIA,MOB NO 9898295111 PHONE NO 0265-2252274,BARODA,GUJARAT,396007
 Tel/Fax/Email : 0265-2252274/0265-2357445/0265-2356033/

Period of Insurance : FROM 14:49 ON 17/09/2020 TO MIDNIGHT OF 18/09/2021
 Collection No & Dt : DC_L_IND 3214000851 - 17/09/2020 GST INVOICE NO :2419487430 UIN :0
 Gross Premium : 18,118 GST : 3,261 Stamp Duty : 1 Total : 21,379

RISK DETAILS

Section I : EEI - EQUIPMENT Sum Insured : 4,02,64,229

1 Location of the Risk : AS PER LIST ATTACHED
 Road and bridge stretch connecting from Wardha to Butibori
 MAHARAGHTRA - 440002

Sl No.	Description of Items	Manufacturer Name	Year of Annual Manufacture	Maintenance Contract	Identification No.	Escalation %	Sum Insured
1	AS PER LIST	AS PER LIST	2018		AS PER LIST		4,02,64,229

Deductible / Excess for : AS PER LIST ATTACHED

Excess :

- (a) For equipment with value upto Rs. 1 lakh
 1) For PC : 5% of claim amount subject to minimum of Rs.2500/-
 2) For Equipment other than PC :
 (i) Equipment (other than Winchester Drive and/or Hard Disc)- 5% of claim amount subject to a minimum of Rs.1000/-
 (ii) Winchester Drive and/or Hard Disc-10% of claim amount subject to a minimum of Rs.2500/-
- (b) For equipment with value more Rs. 1 lakh -
 1) Equipment (other than Winchester Drive) - 5% of claim amount subject to a minimum of Rs.2,500/-

Place : - For and on behalf of
The Oriental Insurance Company Limited
 Date : 17/09/2020

This is an electronically generated document (Policy Schedule).The Policy document duly stamped will be sent by post.

In case of any query regarding the Policy please call Toll Free No. 1800 11 8485 and 011 33208485.

Authorised Signatory

CIN: U66010DL1947GOI007158 All the Amounts mentioned in this policy are in Indian Rupee

Page 1 of 2

IRDA Regn. No. 556 - Now you can buy and renew selected policies online at www.orientalinsurance.org.in

This Document is Digitally Signed

Signer: ATUL JERATH
 Date: Fri, Nov 6, 2020 14:32:37 IST
 Location: Noida
 Reason: Signing Policy for OICL

Attached to and forming part of policy number 171200/44/2021/43

2) Winchester Drive and/or Hard Disc-25% of claim amount subject to a minimum of Rs.10,000/-

In case of computers, the term 'equipment' shall include the entire computer system comprising of CPU, Key boards, Monitors, Printers, Stabilizers, UPS.

SCHEDULE OF PREMIUM

Cover Description	Premium
TOTAL PREMIUM	18,118
ADD :IGST	3,261
STAMP DUTY	1
TOTAL AMOUNT	21,379

Total Sum Insured In Words : Indian Rupees Four Crores Two Lakhs Sixty-Four Thousand Two Hundred Twenty-Nine Only

Total Amount Paid : Indian Rupees Twenty-One Thousand Three Hundred Seventy-Nine Only

The Insurance under this policy is extended to cover risks of (as per forms attached):

EAR - EARTHQUAKE COVER

STFI Inclusion Cover

Excess / Deductible :

The following minimum deductibles are applicable based on Sum Insured of the policy

The Insurance under this policy is subject to warranties & Clauses (as per forms attached) :

In the event of a claim under the policy exceeding Rs.1lac or a claim for refund of premium exceeding Rs1lac, the insured will comply with the provisions of the AML policy of the Company. The AML policy is available in all our operating Offices as well as company's website.

Communicable Disease Exclusion Clause

Exclusion-Any Direct or indirect loss by infectious or contagious disease

The insurance under this policy is subject to conditions, clauses, warranties, endorsements as per forms attached.

Warranted that in case of dishonour of premium cheque(s) the Company shall not be liable under the policy and the policy shall be void abinitio (from inception).

In witness whereof the undersigned being authorised by and on behalf of the company has/have herein to set his/their hands at CBU Vadodara (GSTIN: 24AAACT0827R2Z4) on 17TH DAY OF SEPTEMBER 2020

For and on behalf of
The Oriental Insurance Company Limited

Entered By : AKHAY ASHOKRAO HIWALE

Examined By : A K Parmar

Authorised Signatory

Place : -

Date : 17/09/2020

This is an electronically generated document (Policy Schedule). The Policy document duly stamped will be sent by post.

In case of any query regarding the Policy please call Toll Free No. 1800 11 8485 and 011 33208485.

CIN: U66010DL1947GOI007158 All the Amounts mentioned in this policy are in Indian Rupee

IRDA Reg. No. 558. Now you can buy and renew selected policies online at www.orientalinsurance.com

Authorised Signatory

Page 2 of 2

HDFC ERGO General Insurance Company Limited



May 06, 2020

DILIP BUILDCON LIMITED

PLOT NO. 5, GOVIND NARAYAN SINGH GATE,
CHUNA BHATTI, BHOPAL, MADHYA PRADESH,
BHOPAL,
MADHYA PRADESH, 462016.



Dear Customer,

Sub: Employees Compensation Insurance Policy No: 3114203384108600000

We thank you for having preferred us for your *Insurance* requirements. We at HDFC ERGO General Insurance believe "*Insurance*" as not only to be an assurance to indemnify in the event of unfortunate circumstances, but one that signifies protection and support, which you can count on when you need it most.

The Insurance Policy enclosed herewith is a written agreement providing confirmation of our responsibility towards you that puts insurance coverage into effect against stipulated perils.

Please note that the policy has been issued based on the information contained in the proposal form and / or documents received from you or your representative / broker.

Name of the Intermediary : GLOBAL INSURANCE BROKERS PVT LTD

Intermediary Code : 200113159601

Where the proposal form is not received, information obtained from you or your representative /broker, whether orally or otherwise, is captured in the policy document.

If you wish to contact us in reference to your existing policy and /or other general insurance solutions offered by us, you may write to our correspondence address as mentioned below. Alternatively, you may visit our website www.hdfcergo.com . To enable us to serve you better, you are requested to quote your Policy Number in all correspondences.

Thanking you once again for choosing HDFC ERGO General Insurance Company Limited and looking forward to many more years of association.

Yours sincerely,

Authorised Signatory

3114203384108600000

Page 1 of 13

HDFC ERGO General Insurance Company Limited (Formerly HDFC General Insurance Limited)

LIN : IRDAN125P0017V02201112 | IRDAI Reg No:146 | CIN : U66030MH2000PLC177117

Registered & Corporate Office:
1st Floor, HDFC House, 155 - 156 Backbay Reclamation,
H. T. Parekh Marg, Churchgate, Mumbai - 400 020

Customer Service Address:
D-301, 3rd Floor, Eastern Suburban District (Magrawal Mill),
LBS Marg, Bandrup (West), Mumbai - 400 075

Toll Free Number: 1800 2700 700
Telephone : +91 22 6630 3600 Fax: 91 22 6630 3699
Email : care@hdfcergo.com

HDFC ERGO General Insurance Company Limited

Certificate of Insurance cum Policy Schedule



Policy No. 3114203384108600000

Employees Compensation Insurance



Insured Name	DILIP BUILDCON LIMITED (PAN Number:AACCD6124B)		Business	OTHERS
Correspondence Address	PLOT NO. 5, GOVIND NARAYAN SINGH GATE, CHUNA BHATTI, BHOPAL, MADHYA PRADESH, BHOPAL, MADHYA PRADESH, 462016.			
Mobile		Phone		E Mail
				Policy Issuance Date
				06/05/2020
Period of Insurance	From Date & Time	02/05/2020 00:01 AM	To Date & Time	01/05/2021 Midnight

LAW

The Policy covers Liability of the Insured under the following Law(s) shown as covered, subject to claim being otherwise admissible as per terms, conditions and exclusions of the Policy and subject to Limit of Indemnity as stipulated against each Law:

Sr. No.	Law	Limit of Indemnity
a.	Employee's Compensation Act, 1923 and subsequent amendments thereof prior to the date of issue of this Policy	Subject otherwise, to the terms, conditions & Exclusions of the Policy, the amount of liability incurred by the Insured
b.	Common Law	Subject otherwise, to the terms, conditions & Exclusions of the Policy, the amount of liability incurred by the Insured, but not exceeding:- a) Limit Per Employee for any number of accidents during Period of Insurance ₹ Unlimited b) Limit Per Accident for any number of Employees ₹ Unlimited c) Aggregate Limit for all accidents and claims arising there from during the Period of Insurance ₹ Unlimited

EC-13-0005

3114203384108600000

Page 2 of 13

HDFC ERGO General Insurance Company Limited (Formerly HDFC General Insurance Limited)

UN : IRDANI25P0017V0220112 | IRDAI Reg No.146 | CIN : U68030MH2007PLC177117

Registered & Corporate Office:
1st Floor, HDFC House, 185 - 186 Sakinaka Reclamation,

Customer Service Address:
D-301, 3rd Floor, Eastern Suburbs District (Magwell Mill),

Toll Free Number: 1800 2700 700
Telephone : +91 22 6638 3600 Fax: +91 22 6638 3699

Project: Four Lining of Yavatmal to Wardha (Package III) section of NH-361 from Km.400.575 to Km.465.500(design Length 64.925 Km) in the State of Maharashtra under NHDP Phase IV on Hybrid Annuity Mode.



TECHNICAL DUE DILIGENCE REPORT

Details of Employees Covered

Description of work done by Employees	Declared Number of Employees	Declared Wages during the Period of Insurance	Place/Places of Employment
Road Paving, Tarring and Road Making-Road Paving, Tarring and Road Making-Road Paving, Tarring and Road Making_Road Paving, Tarring and Road Making_All categories of employees of DBL & Sub-contractor engaged in DBL - Highly Skilled, Skilled, Semi-Skilled, Unskilled, Engineers, Supervisors, Managers, Daily Labour Etc.	100	24000000.00	Four Lining of Yavatmal to Wardha (Package-III) Section of NH-361 from Km 400.575 to Km 465.500 (design length 64.925 km) in the state of Maharashtra Under NHDP Phase-IV on Hybrid Annuity Mode

Premium Details (₹)

Basic Premium	36056.00
Integrated Tax 18%	6490.00
Total Premium	42546.00
GST Registration No: 24AABCL5045N1ZE. The contract will be cancelled ab intio in case; the consideration under the policy is not realized.	

List of Endorsements

Endt No	Description	Effective Date
EC_12_0001	Medical Expenses	02 May 2020
WC-02-0008	Tariff Endorsement	02 May 2020
EC-13-0006	Insurance Contract	02 May 2020
EC-13-0005	Policy Schedule	02 May 2020
EC_12_0003	Contractors Employees	02 May 2020
99901	Communicable Disease Exclusion- Wordings as per annexure attached	02 May 2020
	Warranted that there are no known losses and /or circumstances leading to losses (except for the claims and / or circumstances already reported to HDFC ERGO General Insurance Co. Ltd. This policy document is issued basis the information provided though request for quotation and/ or unsigned proposal form and / or other details provided by the insured / insurance intermediary and/ or though discussions	02 May 2020

3114203384108600000

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HDFC ERGO General Insurance Company Limited (Formerly HDFC General Insurance Limited)

UIN : IRDAN125P0017V02201112 | IRDAI Reg No.146 | CIN : U96030MH2007PLC177117

Registered & Corporate Office:
1st Floor, HDFC House, 165 - 166 Backbay Reclamation,
H. T. Parekh Marg, Churchgate, Mumbai - 400 020

Customer Service Address:
D-301, 3rd Floor, Eastern Business District (Magnet Mall),
LBS Marg, Bhandup (West), Mumbai - 400 078

Toll Free Number: 1800 2700 700
Telephone : +91 22 6638 3600 Fax: 91 22 6638 3699
Email : care@hdfcergo.com

Annexure 7: Change of Scope

S No.	Description of COS	Amount as per Concessionaire (Cr.)	Amount Recommended by IE(Cr.)	Status of Approval	Status of Execution at site
1	Construction of VOP with 2 lane including approaches at Km.409.800	28.15	6.75	IE has forwarded to PD to obtain approval from Competent Authority	Approaches are in progress
2	Construction of Highway Mini Nest	1.80	1.54	IE has forwarded to PD to obtain approval from Competent Authority	Work is progress
3	Construction of Minor Bridge at Km.433.585 due to shifting of the PUP	1.24	1.15	IE has forwarded to PD to obtain approval from Competent Authority	Completed
4	Implementation of Hybrid ETC in all lanes of Toll Plaza along the NH & MS WIM in place of SS WIM	1.80	0.24	IE has forwarded to PD to obtain approval from Competent Authority	Completed
		32.99	9.67		

Annexure 8: Project Photos

