Schedule-A

(See Clauses 2.1 and 8.1)

Site of the Project

1 The Site

(i) Site of the [Two-Lane] Project Highway shall include the land, buildings, structures and road works as described in Annex-I of this Schedule-A.

(ii) The dates of handing over the Right of Way to the Contractor are specified in Annex-II of this Schedule-A.

(iii) An inventory of the Site including the land, buildings, structures, road works, trees and any other immovable property on, or attached to, the Site shall be prepared jointly by the Authority Representative and the Contractor, and such inventory shall form part of the memorandum referred to in Clause 8.2 (i) of this Agreement.

(iv) The alignment plans of the Project Highway are specified in Annex-III. In the case of sections where no modification in the existing alignment of the Project Highway is contemplated, the alignment plan has not been provided. Alignment plans have only been given for sections where the existing alignment is proposed to be upgraded. The proposed profile of the Project Highways shall be followed by the contractor with minimum FRL as indicated in the alignment plan. The Contractor, however, improve/upgrade the Road Profile as indicated in Annex-III based onsite/design requirement.

(v) The status of the environment clearances obtained or awaited is given in Annex-IV.

Annex –I

(Schedule-A)

Site

[Note: Through suitable drawings and description in words, the land, buildings, structures, and road works comprising the Site shall be specified briefly but precisely in this Annex-I. All the chainages/location referred to in Annex-I to Schedule-A shall be existing chainages.]

1. Site

The Site of the [Two-Lane] Project Highway comprises the section of NH-53commencing from km 33+396 to km 50+075i.e. K. Senam Village to Pongringlong Village in the state of Manipur.

The land, carriageway and structures comprising the Site are described below.

2. Land

The Site of the Project Highway comprises the land (total of land already in possession and land to be possessed) as described below:

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
1	33+375	33+475	12	24	
2	33+475	33+575	12.2	24	
3	33+575	33+675	13.6	24	
4	33+675	33+775	11.8	24	
5	33+775	33+875	13.4	24	
6	33+875	33+975	17.1	24	
7	33+975	34+075	11.2	24	
8	34+075	34+175	11.2	24	
9	34+175	34+275	11.1	24	
10	34+275	34+375	14.4	24	
11	34+375	34+475	15.8	24	
12	34+475	34+575	9.7	24	
13	34+575	34+675	12	24	
14	34+675	34+775	10.6	24	
15	34+775	34+875	12.2	24	
16	34+875	34+975	10.7	24	
17	34+975	35+075	10.9	24	
18	35+075	35+175	11.5	24	
19	35+175	35+275	9.8	24	
20	35+275	35+375	12.6	24	
21	35+375	35+475	17	24	
22	35+475	35+575	13.7	24	
23	35+575	35+675	11.5	24	
24	35+675	35+775	12.1	24	
25	35+775	35+875	15.3	24	
26	35+875	35+975	10.5	24	
27	35+975	36+075	13.7	24	
28	36+075	36+175	11.5	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
29	36+175	36+275	10.5	14	
30	36+275	36+375	10.2	14	
31	36+375	36+475	14.8	14	
32	36+475	36+575	12.1	24	
33	36+575	36+675	13.8	24	
34	36+675	36+775	13	24	
35	36+775	36+875	17.8	24	
36	36+875	36+975	11.8	24	
37	36+975	37+075	11.5	24	
38	37+075	37+175	13.4	24	
39	37+175	37+275	11.9	24	
40	37+275	37+375	10.4	24	
41	37+375	37+475	12	24	
42	37+475	37+575	12.8	24	
43	37+575	37+675	11.1	24	
44	37+675	37+775	10.2	24	
45	37+775	37+875	11.3	24	
46	37+875	37+975	12.1	24	
47	37+975	38+075	11.7	24	
48	38+075	38+175	10.2	24	
49	38+175	38+275	11.1	24	
50	38+275	38+375	11.4	24	
51	38+375	38+475	10.9	24	
52	38+475	38+575	11.7	24	
53	38+575	38+675	10.7	24	
54	38+675	38+775	11.6	24	
55	38+775	38+875	12.4	24	
56	38+875	38+975	11.3	24	
57	38+975	39+075	10.4	24	
58	39+075	39+175	10.3	24	
59	39+175	39+275	10.4	24	
60	39+275	39+375	9.3	24	
61	39+375	39+475	10.6	24	
62	39+475	39+575	10.4	24	
63	39+575	39+675	14.3	24	
64	39+675	39+775	11.3	24	
65	39+775	39+875	12.2	24	
66	39+875	39+975	11.8	24	
67	39+975	40+075	14.7	24	
68	40+075	40+175	11.7	24	
69	40+175	40+275	10.7	24	
70	40+275	40+375	10.7	24	
71	40+375	40+475	12	24	
72	40+475	40+575	11.6	24	
73	40+575	40+675	11.1	24	
74	40+675	40+775	12.4	24	
75	40+775	40+875	10.3	24	
76	40+875	40+975	10.7	24	
77	40+975	41+075	9.8	24	
78	41+075	41+175	10.6	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
79	41+175	41+275	13.6	24	
80	41+275	41+375	11.5	24	
81	41+375	41+475	11.8	24	
82	41+475	41+575	13.2	24	
83	41+575	41+675	10.8	24	
84	41+675	41+775	10.9	24	
85	41+775	41+875	10.7	24	
86	41+875	41+975	12.4	24	
87	41+975	42+075	12.6	24	
88	42+075	42+175	10.7	24	
89	42+175	42+275	11.8	24	
90	42+275	42+375	10	24	
91	42+375	42+475	11	24	
92	42+475	42+575	11.3	24	
93	42+575	42+675	10.4	24	
94	42+675	42+775	13.4	24	
95	42+775	42+875	16.9	14	
96	42+875	42+975	24.7	14	
97	42+975	43+075	15.2	24	
98	43+075	43+175	11.3	24	
99	43+175	43+275	11.4	24	
100	43+275	43+375	11.5	24	
101	43+375	43+475	12.4	24	
102	43+475	43+575	11.1	24	
103	43+575	43+675	11.2	24	
104	43+675	43+775	11.1	24	
105	43+775	43+875	12.8	24	
106	43+875	43+975	11.4	24	
107	43+975	44+075	14.1	24	
108	44+075	44+175	11.1	24	
109	44+175	44+275	11.7	24	
110	44+275	44+375	11.5	24	
111	44+375	44+475	11.9	24	
112	44+475	44+575	12.6	24	
113	44+575	44+675	12.9	24	
114	44+675	44+775	13.5	24	
115	44+775	44+875	10.5	24	
116	44+875	44+975	12.5	24	
117	44+975	45+075	11.3	24	
118	45+075	45+175	13.8	24	
119	45+175	45+275	13.4	24	
120	45+275	45+375	12	24	
121	45+375	45+475	11.9	24	
122	45+475	45+575	10.3	24	
123	45+575	45+675	11.5	24	
124	45+675	45+775	12.1	24	
125	45+775	45+875	16	24	
126	45+875	45+975	12.6	24	
127	45+975	46+075	10.6	24	
128	46+075	46+175	11.4	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
129	46+175	46+275	10.5	24	
130	46+275	46+375	13.6	24	
131	46+375	46+475	14.1	24	
132	46+475	46+575	12.6	24	
133	46+575	46+675	13.2	24	
134	46+675	46+775	11.3	24	
135	46+775	46+875	12.3	24	
136	46+875	46+975	11.8	24	
137	46+975	47+075	19.7	24	
138	47+075	47+175	13.1	24	
139	47+175	47+275	13.2	24	
140	47+275	47+375	12	24	
141	47+375	47+475	11.6	24	
142	47+475	47+575	11.8	24	
143	47+575	47+675	12.6	24	
144	47+675	47+775	13.1	24	
145	47+775	47+875	12.8	24	
146	47+875	47+975	12.3	24	
147	47+975	48+075	12.2	24	
148	48+075	48+175	13.9	24	
149	48+175	48+275	15.5	24	
150	48+275	48+375	12.9	24	
151	48+375	48+475	14.3	24	
152	48+475	48+575	12.6	24	
153	48+575	48+675	14.4	24	
154	48+675	48+775	12.4	24	
155	48+775	48+875	11.7	24	
156	48+875	48+975	11.5	24	
157	48+975	49+075	11.2	24	
158	49+075	49+175	11.5	24	
159	49+175	49+275	13	24	
160	49+275	49+375	12.8	24	
161	49+375	49+475	12.7	24	
162	49+475	49+575	11.1	24	
163	49+575	49+675	14.2	24	
164	49+675	49+775	10.4	24	
165	49+775	49+875	11.2	24	
166	49+875	49+975	12.4	24	
167	49+975	50+070	12.6	24	

3. Carriageway

ThepresentcarriagewayoftheProjectHighwayisTwo Lane from km 33+396 to km 50+075. The type of the existing pavement is [flexible].

4. MajorBridges

The Site includes the followingMajor Bridges: -

S. No.	Chainage (km)	Type of Structure	No. of Spans with	Width (m)

		Foundation	Sub- structure	Super-structure	span length (m)	
Nil						

5. Roadover-bridges(ROB)/Roadunder-bridges(RUB)

The Site includes the following ROB(roadoverrailway line)/RUB(road underrailway line):

S. No.	Chainage (km)	TypeofStructure		No.ofSpans withspan length(m)	Width (m)	ROB/ RUB
		Foundation	Superstructure			
Nil						

6. Gradeseparators

The Site includes the followinggrade separators:

S. No.	Chainage (km)	TypeofStructure		No.ofSpanswith spanlength(m)	Width (m)
		Foundation	Superstructure		
Nil					

7. Minorbridges

The Siteincludes the following minor bridges:

Sl. No.	Survey Chainage (Km)	Type of Structure			No. of Spans with span length (m)	Width (m)
		Foundation	Sub-structure	Super- structure		
1	36+568	Open	Wall	RCC Slab Bridge	1x6.5M	7.2
2	42+381	Open	Wall	RCC Slab Bridge	1x6.5M	6.8

8. Railwaylevelcrossings

The Site includes the followingrailway levelcrossings:

S. No.	Location(km)	Remarks
Nil		

9. Underpasses(vehicular,non-vehicular)

The Site includes the followingunderpasses:

S. No.	Chainage (km)	Type of Structure	No. of Spans with span length (m)	Width (m)
Nil				

10. Culverts

The Site has the following culverts:

Sl. No.	Chainage (km)	Type of Culvert	Span/Opening with Span Length	Width of Culvert (m)
1	33.225	HP	1 X 0.90 Dia	15.2
2	33.763	HP	1X1.50m	15
3	33.823	HP	1 X 1.00 Dia	10
4	34.625	HP	1 X 1.00 Dia	12
5	34.664	HP	1 X 0.90 Dia	13
6	34.772	HP	2 X 1.00 Dia	14
7	35.249	HP	1 X 1.00 Dia	11.3

Sl. No.	Chainage (km)	Type of Culvert	Span/Opening with Span Length	Width of Culvert (m)
8	35.764	HP	1 X 0.90 Dia	9.7
9	36.189	HP	1 X 1.00 Dia	10.8
10	36.417	Box	1x1.50m	12
11	36.772	R.C.C SLAB	1 X 2.0m	15.8
12	36.860	R.C.C SLAB	1 X 2.0m	12.8
13	37.076	R.C.C SLAB	1 X 4.18m	13.7
14	37.714	HP	1 X 0.40 Dia	8
15	37.764	HP	1 X 1.20 Dia	12.5
16	38.264	HP	1 X 1.20 Dia	14.5
17	38.529	R.C.C SLAB	1 X 2.33m	9
18	38.642	HP	1 X 1.00 Dia	10
19	38.938	HP	1 X 0.30 Dia	15.2
20	39.132	HP	1 X 0.30 Dia	15
21	39.257	HP	1 X 1.20 Dia	10
22	39.653	HP	1 X 1.20 Dia	12
23	41.010	HP	1 X 0.60 Dia	13
24	42.907	HP	1 X 1.50 Dia	14
25	43.342	HP	1 X 1.00 Dia	11.3
26	43.451	HP	1 X 1.00 Dia	9.7
27	43.663	HP	1 X 1.00 Dia	10.8
28	44.644	HP	1 X 1.00 Dia	12
29	45.058	HP	1 X 0.90 Dia	15.8
30	45.161	R.C.C SLAB	1X1.70m	12.8
31	45.261	R.C.C SLAB	1X2.43m	13.7
32	45.833	HP	1 X 1.00 Dia	8
33	46.444	HP	1 X 0.60 Dia	12.5
34	46.993	HP	1X1.20m	14.5
35	47.455	HP	1 X 0.90 Dia	9
36	47.658	R.C.C SLAB	1X3.27m	10
37	48.617	HP	1 X 1.50 Dia	15.2
38	48.987	HP	1 X 1.00 Dia	15

11. Busbays

The details of bus bays onthe Site are as follows:

S. No.	Chainage (km)	Length (m)	Left Hand Side	Right HandSide
Nil				

12. Truck Laybyes

The details of trucklay byes are as follows:

S. No.	Chainage (km)	Length (m)	Left Hand Side	Right HandSide
Nil				

13. Roadsidedrains

The details of the roadside drains are as follows:

Sl. No.	Location		Length (km)	Type	
	From km	To km		Masonry/cc (Pucca)	Earthen (Kutcha)
1	34.170	34.310	0.140		Kachha (Single Side)
2	34.400	34.865	0.465		Kachha (Single Side)
3	34.990	35.225	0.235		Kachha (Single Side)
4	35.525	36.000	0.475		Kachha (Single Side)
5	36.440	37.050	0.610		Kachha (Single Side)
6	38.100	39.330	1.230		Kachha (Single Side)
7	39.500	40.260	0.760		Kachha (Single Side)
8	40.475	40.700	0.225		Kachha (Single Side)
9	40.840	42.775	1.935		Kachha (Single Side)
10	42.775	42.875	0.100	Pucca (Single Side)	
11	42.875	43.200	0.325		Kachha (Single Side)
12	43.310	43.750	0.440		Kachha (Single Side)
13	43.850	44.340	0.490		Kachha (Single Side)
14	44.410	47.975	3.565		Kachha (Single Side)
15	48.025	50.075	2.050		Kachha (Single Side)

14. Majorjunctions

The details ofmajor junctions are as follows:

S. No.	Location		At grade	Separated	Category of Cross Road			
	From km	to km			NH	SH	MDR	Others
Nil								

(NH: National Highway, SH: State Highway,MDR: Major District Road)

15. Minorjunctions

The details of the minor junctions are as follows:

Sl. No.	Location		Type of intersection	
	From Km	To Km	Type of Junction	Cross Road
1	33+470		Y	3-Legged
2	46+957		Y	3-Legged

6. Bypasses

The details of the existingroad sections proposed to be bypassed are as follows:

Sl.No.	Nameofbypass (town)	Chainage(km)From kmtokm	Length (inKm)
Nil			

17. Otherstructures

[Provide details of other structures, if any.]

Annex – II

(As per Clause 8.3 (i))

(Schedule-A)

Dates for providing Right of Way of Construction Zone

The dates on which the Authority shall provide Right of Way of Construction Zone to the Contractor on different stretches of the Site is stated below:

The Construction of Project Highway will be implemented as per Manual, details of which are already given in Article-2 of Annexure – I of Schedule

Annex – III

(Schedule-A)

Alignment Plans

The existing alignment of the Project Highway shall be modified in the following sections as per the alignment plan indicated below:

(i) The alignment of the Project Highway is enclosed in alignment plan. Finished road level indicated in the alignment plan shall be followed by the contractor as minimum FRL. In any case, the finished road level of the project highway shall not be less than those indicated in the alignment plan. The contractor shall, however, improve/upgrade the Road profile as indicated in Annex-III based onsite/design requirement.

(ii) TrafficSignageplanoftheProjectHighwayshowingnumbers&locationoftraffic signs is enclosed. The contractor shall, however, improve/upgrade upon the traffic signageplanasindicatedinAnnex-IIIbasedonsite/designrequirementasperthe relevant specifications/IRC Codes/Manual.

Annex – IV

(Schedule-A)

Environment Clearances

The following environment clearances have beenobtained: [***]

The following environment clearances are awaited:[***]

Environmental Clearances are not required for the project.

SCHEDULE - B

(See Clause 2.1)

Development of the Project Highway

1 Development of the Project Highway

Development of the Project Highway shall include design and construction of the Project Highway as described in this Schedule-B and in Schedule-C.

2 [Rehabilitation and augmentation]

[Rehabilitation and augmentation] shall include [Two-Laning and strengthening] of the Project Highway as described in Annex-I of this Schedule-B and in Schedule-C.

3 Specifications and Standards

The Project Highway shall be designed and constructed in conformity with the Specifications and Standards specified in Annex-I of Schedule-D.

(Schedule-B)

Description of [Two-Lanning]

[Note: Description of the Project Highway shall be given by the Authority in detail together with explanatory drawings (where necessary) to explain the Authority's requirements precisely in order to avoid subsequent changes in the Scope of the Project. The particulars that must be specified in this Schedule-B are listed below as per the requirements of the Manual of Specifications and Standards for [Two Laning of Highways (IRC: SP: 73-2018)], referred to as the Manual. If any standards, specifications or details are not given in the Manual, the minimum design/construction requirements shall be specified in this Schedule. In addition to these particulars, all other essential project specific details, as required, should be provided in order to define the Scope of the Project clearly and precisely.]

1. WideningoftheExisting Highway

(i) The Project Highway shall follow the existing alignment unless otherwise specified by the Authority and shown in the alignment plans specified in Annex III of Schedule-A. Geometric deficiencies, if any, in the existing horizontal and vertical profiles shall be corrected as per the prescribed standards for Hilly terrain to the extent land is available.

(ii) Width of Carriageway

(a) Two- Lanning [with] paved shoulders shall be undertaken. The paved carriageway shall be [7(seven)m]wide.

Provided that in the built-up areas the width of the carriageway shall be as specified in the following table:

Sl. No.	Built-up stretch (Township)	Location		Width (m)	Typical Cross Section (Refer to Manual)	Remarks
1	K. Senam	35+730	36+030	7	As per attached TCS drawing	7 m Carriageway
2	Sehjang	42+130	42+350	7	As per attached TCS drawing	7 m Carriageway

(b) Except asotherwiseprovided inthis Agreementthewidth of the pavedcarriageway and cross-sectional features shall conform to paragraph 1.1above.

2. Geometric Design and General Features

(i) General

Geometric design and general features of the Project Highway shall be in accordance with Section 2 of the Manual .

(ii) Design speed

For Mountainous terrain design speed shall be the minimum design speed of 40-60 km/hr and for sharp curve and hair pin bend locations speed reduces up to 30kmph & 20 kmph, respectively.

(iii) Improvement of the existing road geometrics

The stretches where design speed reduces below 40kmph are summarized below:

Sl. No.	Stretch (from km to km)	Type of Deficiency	Remarks
1	33+309 to 33+315	Sharp Bend	Design Speed = 30 Kmph
2	33+359 to 33+386	Sharp Bend	Design Speed = 30 Kmph
3	33+537 to 33+554	Sharp Bend	Design Speed = 30 Kmph
4	33+631 to 33+665	Sharp Bend	Design Speed = 30 Kmph
5	34+289 to 34+299	Sharp Bend	Design Speed = 30 Kmph
6	34+346 to 34+364	Sharp Bend	Design Speed = 30 Kmph
7	34+526 to 34+570	Sharp Bend	Design Speed = 30 Kmph
8	34+793 to 34+816	Sharp Bend	Design Speed = 30 Kmph
9	34+906 to 34+946	Sharp Bend	Design Speed = 30 Kmph
10	35+090 to 35+135	Sharp Bend	Design Speed = 30 Kmph
11	35+172 to 35+271	Sharp Bend	Design Speed = 30 Kmph
12	35+401 to 35+419	Sharp Bend	Design Speed = 30 Kmph
13	35+480 to 35+492	Sharp Bend	Design Speed = 30 Kmph
14	35+588 to 35+595	Sharp Bend	Design Speed = 30 Kmph
15	35+700 to 35+742	Sharp Bend	Design Speed = 20 Kmph
16	35+804 to 35+822	Sharp Bend	Design Speed = 20 Kmph
17	35+908 to 35+997	Sharp Bend	Design Speed = 30 Kmph
18	36+123 to 36+159	Sharp Bend	Design Speed = 30 Kmph
19	36+182 to 36+213	Sharp Bend	Design Speed = 20 Kmph
20	36+567 to 36+600	Sharp Bend	Design Speed = 30 Kmph
21	36+692 to 36+740	Sharp Bend	Design Speed = 20 Kmph
22	36+791 to 36+802	Sharp Bend	Design Speed = 30 Kmph
23	36+842 to 36+853	Sharp Bend	Design Speed = 30 Kmph
24	36+913 to 36+942	Sharp Bend	Design Speed = 30 Kmph
25	37+232 to 37+249	Sharp Bend	Design Speed = 30 Kmph
26	37+481 to 37+508	Sharp Bend	Design Speed = 30 Kmph
27	37+656 to 37+670	Sharp Bend	Design Speed = 30 Kmph
28	37+721 to 37+727	Sharp Bend	Design Speed = 30 Kmph
29	37+774 to 37+792	Sharp Bend	Design Speed = 30 Kmph
30	37+906 to 37+926	Sharp Bend	Design Speed = 30 Kmph
31	38+191 to 38+207	Sharp Bend	Design Speed = 30 Kmph
32	38+247 to 38+251	Sharp Bend	Design Speed = 30 Kmph
33	38+325 to 38+367	Sharp Bend	Design Speed = 30 Kmph
34	38+411 to 38+416	Sharp Bend	Design Speed = 30 Kmph
35	38+458 to 38+475	Sharp Bend	Design Speed = 30 Kmph
36	38+505 to 38+522	Sharp Bend	Design Speed = 30 Kmph
37	38+667 to 38+671	Sharp Bend	Design Speed = 30 Kmph
38	38+728 to 38+740	Sharp Bend	Design Speed = 30 Kmph
39	38+801 to 38+812	Sharp Bend	Design Speed = 30 Kmph
40	39+268 to 39+283	Sharp Bend	Design Speed = 30 Kmph
41	39+338 to 39+366	Sharp Bend	Design Speed = 30 Kmph
42	39+800 to 39+822	Sharp Bend	Design Speed = 30 Kmph
43	40+440 to 40+473	Sharp Bend	Design Speed = 30 Kmph
44	40+524 to 40+571	Sharp Bend	Design Speed = 30 Kmph
45	40+653 to 40+657	Sharp Bend	Design Speed = 30 Kmph
46	40+699 to 40+708	Sharp Bend	Design Speed = 30 Kmph
47	41+144 to 41+149	Sharp Bend	Design Speed = 30 Kmph
48	41+189 to 41+192	Sharp Bend	Design Speed = 30 Kmph

Sl. No.	Stretch (from km to km)	Type of Deficiency	Remarks
49	41+251 to 41+254	Sharp Bend	Design Speed = 30 Kmph
50	41+314 to 41+325	Sharp Bend	Design Speed = 30 Kmph
51	41+989 to 42+021	Sharp Bend	Design Speed = 30 Kmph
52	42+067 to 42+076	Sharp Bend	Design Speed = 30 Kmph
53	42+113 to 42+122	Sharp Bend	Design Speed = 30 Kmph
54	42+200 to 42+220	Sharp Bend	Design Speed = 30 Kmph
55	42+265 to 42+274	Sharp Bend	Design Speed = 30 Kmph
56	42+357 to 42+378	Sharp Bend	Design Speed = 30 Kmph
57	42+528 to 42+609	Sharp Bend	Design Speed = 30 Kmph
58	42+948 to 43+005	Sharp Bend	Design Speed = 30 Kmph
59	43+038 to 43+064	Sharp Bend	Design Speed = 20 Kmph
60	43+095 to 43+106	Sharp Bend	Design Speed = 20 Kmph
61	43+139 to 43+150	Sharp Bend	Design Speed = 20 Kmph
62	43+252 to 43+274	Sharp Bend	Design Speed = 20 Kmph
63	43+463 to 43+500	Sharp Bend	Design Speed = 20 Kmph
64	43+533 to 43+546	Sharp Bend	Design Speed = 20 Kmph
65	43+583 to 43+593	Sharp Bend	Design Speed = 30 Kmph
66	43+690 to 43+733	Sharp Bend	Design Speed = 30 Kmph
67	44+323 to 44+346	Sharp Bend	Design Speed = 30 Kmph
68	44+397 to 44+400	Sharp Bend	Design Speed = 30 Kmph
69	44+808 to 44+816	Sharp Bend	Design Speed = 30 Kmph
70	44+862 to 44+884	Sharp Bend	Design Speed = 30 Kmph
71	44+952 to 44+981	Sharp Bend	Design Speed = 30 Kmph
72	45+034 to 45+058	Sharp Bend	Design Speed = 30 Kmph
73	45+176 to 45+192	Sharp Bend	Design Speed = 30 Kmph
74	45+247 to 45+253	Sharp Bend	Design Speed = 30 Kmph
75	45+310 to 45+387	Sharp Bend	Design Speed = 20 Kmph
76	45+502 to 45+531	Sharp Bend	Design Speed = 20 Kmph
77	45+973 to 45+976	Sharp Bend	Design Speed = 30 Kmph
78	46+026 to 46+031	Sharp Bend	Design Speed = 30 Kmph
79	46+073 to 46+102	Sharp Bend	Design Speed = 30 Kmph
80	46+457 to 46+474	Sharp Bend	Design Speed = 30 Kmph
81	46+646 to 46+675	Sharp Bend	Design Speed = 30 Kmph
82	47+055 to 47+062	Sharp Bend	Design Speed = 30 Kmph
83	47+124 to 47+162	Sharp Bend	Design Speed = 30 Kmph
84	47+578 to 47+622	Sharp Bend	Design Speed = 20 Kmph
85	47+653 to 47+730	Sharp Bend	Design Speed = 30 Kmph
86	47+782 to 47+826	Sharp Bend	Design Speed = 30 Kmph
87	48+084 to 48+217	Sharp Bend	Design Speed = 20 Kmph
88	48+247 to 48+310	Sharp Bend	Design Speed = 20 Kmph
89	48+354 to 48+452	Sharp Bend	Design Speed = 30 Kmph
90	48+492 to 48+502	Sharp Bend	Design Speed = 30 Kmph
91	48+713 to 48+766	Sharp Bend	Design Speed = 20 Kmph
92	48+801 to 48+847	Sharp Bend	Design Speed = 20 Kmph

In the following sections where improvement of the existing road geometrics to the prescribed standards is not possible the existing road geometrics shall be improved to the extent possible within the existing right of way and proper road signs and safety Measures shall be provided.

(iv) Right of Way

Details of the Right of Way are given in Annex II of Schedule-A.

(v) Type of shoulders
[Refer to provision of relevant Manual and specify]

(a) Inbuilt-up sections. footpaths/fully paved shoulders shall be provided in the following stretches:

Sl. No.	Stretch (from Km to Km)	Fully Paved shoulders/footpaths	Reference to cross section
1	35+730 to 36+030	2X1.5 m paved shoulder & 2X1.0 m footpath	TCS-7
2	42+130 to 42+350	2X1.5 m paved shoulder & 2X1.0 m footpath	TCS-6
3	43+720 to 43+855	2X1.5 m paved shoulder &1X1.0 m footpath	TCS-7

(b) Earthen shoulders of 1.0 m width shall be provided with selected earth wherever applicable as per TCS drawing.

(c) Design andspecificationsofpavedshouldersandgranularmaterialshall conformtotherequirementsspecifiedinthe relevant Manual.

(vi) Lateral and verticalclearances at underpasses

(a) Lateraland vertical clearances at underpasses and provision of guardrails/crash barriers shall be as per requirementsspecifiedinthe relevant Manual.

(b) Lateralclearance:Thewidthoftheopeningattheunderpassesshallbeas follows:

Sl.No.	Location (Chainage) (from km to km)	Span/ opening(m)	Remarks
Nil			

(vii) Lateral and verticalclearances at overpasses

(a) Lateralandverticalclearancesatoverpassesshallbeasperrequirementsspecifiedinthe relevant Manual.

(b) Lateralclearance:Thewidthoftheopeningattheoverpasses shallbeas follows:

Sl. No.	Location (Chainage) (from km to km)	Span/Opening(m)	Remarks
Nil			

(viii) Service roads

Serviceroadsshallbeconstructedatthelocationsandforthelengthsindicatedbelow: [Refer requirementsspecifiedinthe relevant Manual]

Sl. No.	Location ofservice road(fromkmtokm)	Righthandside(RHS)/Lefthand side(LHS)/orBothsides	Length(km)of service road
Nil			

(ix) Grade separatedstructures

(a) Gradeseparatedstructuresshallbeprovidedasperprovisionofthe Manual. The requisite isgivenbelow:

[Refer to requirementsspecifiedinthe relevant Manual]

Sl. No.	Location of Structure (VUP)	Length (m)	Number andlengthofspans	Approach gradient	Remarks. if any

Nil

(b) In thecase ofgradeseparated structuresthe type ofstructure andthe level of theProjectHighwayandthecross-roads shallbeasfollows:[Referto provisionofthe Manual andspecifythetypeofvehicularunderpass/ overpassstructureandwhetherthecrossroadistobecarriedattheexisting Level.raisedorlowered]

Sl. No.	Location	Type of structure Length(m)	Cross road at			Remarks.if any
			Existing Level	Raised Level	Lowered Level	
Nil						

(x) Cattle and pedestrian underpass /overpass

Cattle andpedestrian underpass/overpass shall be constructed as follows: [Refer to provision of the relevant Manualand specify the requirements of cattleand pedestrian underpass/overpass]

Sl.No.	Location	Typeofcrossing
Nil		

(xi) Typical cross-sections of the Project Highway

[Give typical cross-sections of the Project Highway by reference to the Manual] As per attached Drawings

TCS Number	TCS Description	Length (km)
TCS-1	Typical Cross Section of Two Lane Carriageway with Paved Shoulder in Built up area with Both side covered drain cum footpath in plain terrain (Reconstruction)	0.000
TCS-2	Typical Cross Section of Two Lane Carriageway with Paved Shoulder in Rural area in Plain Terrain (Reconstruction)	0.000
TCS-2A	Typical Cross Section of Two Lane Carriageway with Paved Shoulder in Rural area in Hilly Terrain (Reconstruction)	0.000
TCS-3	Typical Cross Section of Two Lane Carriageway with Paved Shoulder in Rural area with trapezoidal open drain on hill side and earthen shoulder on valley side (Reconstruction)	12.160
TCS-3A	Typical Cross Section of Two Lane Carriageway with Paved Shoulder in Rural area with trapezoidal open drain on hill side and earthen shoulder on valley side (New Construction)	1.205
TCS-4	Typical Cross Section of Two Lane Carriageway In Rural Area With Retaining Wall on Valley Side And Trapezoidal Open drain on Hill side (Reconstruction)	0.600
TCS-4A	Typical Cross Section of Two Lane Carriageway In Rural Area With Retaining Wall on Valley Side And Trapezoidal Open drain on Hill side (New Construction)	0.080
TCS-5	Typical Cross Section of Two Lane Carriageway In Rural Area With Breast Wall on Hill Side And Earthen Shoulder on Valley side (Reconstruction)	0.590
TCS-6	Typical Cross Section of Two Lane Carriageway In Built Up Area With Both Side Footpath Cum RCC Rectangular Covered Drain in Hilly Terrain (Reconstruction)	0.220
TCS-7	Typical Cross Section of Two Lane Carriageway In Built-Up Area With Breast Wall on Hill Side And Footpath Cum RCC Rectangular Covered Drain on Valley side (Reconstruction)	0.435
TCS-8	Typical Cross Section of Two Lane Carriageway In Rural Area With Retaining Wall on One Side And Earthen Shoulder on other side (Reconstruction)	0.000
TCS-9A	Typical Cross Section of Two Lane Carriageway In Rural Area With Breast Wall on both sides (New Construction)	0.130
TCS-10	Typical Cross Section of Two Lane Carriageway In Rural Area With Cut and Cover	0.000

TCS Number	TCS Description	Length (km)
	Tunnel and Retaining Wall on Valley side (New Construction)	
TCS-11	Typical Cross Section of Two Lane Carriageway In Rural Area With Retaining Wall on Valley Side And Breast Wall on Hill side (Reconstruction)	0.000
TCS-12	Typical Cross Section of Two Lane Carriageway In Rural Area With Breast Wall on Hill Side and gabion Wall on Valley side (Reconstruction)	0.830
Total =		**16.250**

Design Chainage (m)		Length of CD (m)	Net Length (m)	TCS No.
From	To			
33000	33600	5.2	594.8	TCS-3
33600	33875		275	TCS-12
33875	33965		90	TCS-9A
33965	34470		505	TCS-12
34470	34510		40	TCS-9A
34510	34560		50	TCS-12
34560	35000	8	432	TCS-5
35000	35080		80	TCS-4A
35080	35130		50	TCS-3A
35130	35730	3.96	596.04	TCS-3
35730	36030	2.6	297.4	TCS-7
36030	36230	2.7	197.3	TCS-3
36230	36380		150	TCS-5
36380	36480	3.96	96.04	TCS-3
36480	36580		100	TCS-3A
36580	36830	2.6	247.4	TCS-3
36830	37010	8	172	TCS-3A
37010	37060	2.7	47.3	TCS-3
37060	37160	2.6	97.4	TCS-3A
37160	38405	20.72	1224.28	TCS-3
38405	38755	2.7	347.3	TCS-3A
38755	38840	3.84	81.16	TCS-3
38840	38910		70	TCS-3A
38910	40580	32.8	1637.2	TCS-3
40580	40680		100	TCS-4
40680	40780		100	TCS-3A
40780	41155	5.2	369.8	TCS-3
41155	41205		50	TCS-4
41205	41500	2.6	292.4	TCS-3
41500	41555	2.6	52.4	TCS-4
41555	41680		125	TCS-3
41680	41780		100	TCS-3A
41780	42130	2.6	347.4	TCS-3
42130	42350	2.6	217.4	TCS-6
42350	42690	10.6	329.4	TCS-3
42690	42745		55	TCS-3A
42745	43720	10.6	964.4	TCS-3
43720	43855	2.7	132.3	TCS-7
43855	43905		50	TCS-4
43905	44245	2.6	337.4	TCS-3
44245	44295		50	TCS-4
44295	45165	10.5	859.5	TCS-3

Design Chainage (m)		Length of CD (m)	Net Length (m)	TCS No.
From	To			
45165	45215		50	TCS-3A
45215	46990	22.44	1752.56	TCS-3
46990	47040		50	TCS-3A
47040	48955	26.2	1888.8	TCS-3
48955	49250	5.2	289.8	TCS-4
Total Length =		**209**	**16041**	

3.IntersectionsandGradeSeparators

All intersections and grade separators shall be as per Section 3 of the Manual. Existing intersections which are deficient shall be improved to the prescribed standards.

[Refer to the provision of the Manual and specify the requirements. Explain where necessary with drawings/sketches/general arrangement]

Properly designed intersections shall be provided at the locations and of the types and features given in the tables below:

(i) At-grade intersections

Major Intersections

Sl. No.	Location of intersection (Km)	Type of intersection	Other features	Remarks
Nil				

Minor Intersections

Sl. No.	Location of intersection (Km)	Type of intersection	Other features
1	33+470	Y-Type	3-Legged
2	46+350	Y-Type	3-Legged

(ii) Grade separatedintersection with/without ramps

Sl. No.	Location	Salient features	Minimumlengthof viaduct tobe provided	Roadtobecarried over/underthe structures
Nil				

4. RoadEmbankmentandCutSection

(i) Widening and improvement of the existing road embankment/cuttings and construction of new road embankment/ cuttings shall conform to the Specifications and Standards given in section 4 of the Manual and the specified cross sectional details. Deficiencies in the plan and profile of the existing road shall be corrected.

(ii) Raising of the existing road[Refer to provision of the relevant Manual and specify sections to be raised]

The existing road shall beraised in the followingsections:

Sl. No.	Section (from km to km)	Length (km)	Extent of raising [Top of finished road level]

Nil

5. PavementDesign

(i) Pavement design shall becarried outin accordance with provision of the relevant manual.

(ii) Type of pavement

Flexible Pavement

(iii) Design requirements

[Refertoprovisionofthe relevant Manual andspecifydesignrequirements and strategy]

(a) Design Period andstrategy

Flexible pavement for new pavement or for widening and strengthening of the existing pavement shallbe designed for a minimum design period of20 years. Stage construction shall not bepermitted.

(b) Design Traffic

Notwithstanding anything to the contrary contained in this Agreement or the Manual. The Contractor shall design the pavement for design traffic of 20msa.

(iv) Reconstruction of stretches.

[Refer toprovisionofthe relevant Manual and specifythestretchesifany tobe reconstructed.]

Thefollowingstretchesoftheexistingroadshallbereconstructed.Theseshall bedesignedas newpavement.

SL NO.	Stretch from Km to Km	Remarks	TCS Type
1	33+000 to 33+600	Reconstruction	TCS-3
2	33+600 to 33+875	Reconstruction	TCS-12
3	33+875 to 33+965	Reconstruction	TCS-9A
4	33+965 to 34+470	Reconstruction	TCS-12
5	34+470 to 34+510	Reconstruction	TCS-9A
6	34+510 to 34+560	Reconstruction	TCS-12
7	34+560 to 35+000	Reconstruction	TCS-5
8	35+000 to 35+080	Reconstruction	TCS-4A
9	35+080 to 35+130	Reconstruction	TCS-3A
10	35+130 to 35+730	Reconstruction	TCS-3
11	35+730 to 36+030	Reconstruction	TCS-7
12	36+030 to 36+230	Reconstruction	TCS-3
13	36+230 to 36+380	Reconstruction	TCS-5
14	36+380 to 36+480	Reconstruction	TCS-3
15	36+480 to 36+580	Reconstruction	TCS-3A
16	36+580 to 36+830	Reconstruction	TCS-3
17	36+830 to 37+010	Reconstruction	TCS-3A
18	37+010 to 37+060	Reconstruction	TCS-3
19	37+060 to 37+160	Reconstruction	TCS-3A
20	37+160 to 38+405	Reconstruction	TCS-3
21	38+405 to 38+755	Reconstruction	TCS-3A
22	38+755 to 38+840	Reconstruction	TCS-3

SL NO.	Stretch from Km to Km	Remarks	TCS Type
23	38+840 to 38+910	Reconstruction	TCS-3A
24	38+910 to 40+580	Reconstruction	TCS-3
25	40+580 to 40+680	Reconstruction	TCS-4
26	40+680 to 40+780	Reconstruction	TCS-3A
27	40+780 to 41+155	Reconstruction	TCS-3
28	41+155 to 41+205	Reconstruction	TCS-4
29	41+205 to 41+500	Reconstruction	TCS-3
30	41+500 to 41+555	Reconstruction	TCS-4
31	41+555 to 41+680	Reconstruction	TCS-3
32	41+680 to 41+780	Reconstruction	TCS-3A
33	41+780 to 42+130	Reconstruction	TCS-3
34	42+130 to 42+350	Reconstruction	TCS-6
35	42+350 to 42+690	Reconstruction	TCS-3
36	42+690 to 42+745	Reconstruction	TCS-3A
37	42+745 to 43+720	Reconstruction	TCS-3
38	43+720 to 43+855	Reconstruction	TCS-7
39	43+855 to 43+905	Reconstruction	TCS-4
40	43+905 to 44+245	Reconstruction	TCS-3
41	44+245 to 44+295	Reconstruction	TCS-4
42	44+295 to 45+165	Reconstruction	TCS-3
43	45+165 to 45+215	Reconstruction	TCS-3A
44	45+215 to 46+990	Reconstruction	TCS-3
45	46+990 to 47+040	Reconstruction	TCS-3A
46	47+040 to 48+955	Reconstruction	TCS-3
47	48+955 to 49+250	Reconstruction	TCS-4

6. RoadsideDrainage

Drainage system including surface and subsurface drains for the Project Highway has been provided in the table given below

RCC Covered Drain

Design Chainage (m)		Length of CD	Net Length (m)	TCS No.	Side
From	To				
35730	36030	2.6	297.4	TCS-7	Valley
42130	42350	2.6	434.8	TCS-6	Both
43720	43855	2.7	132.3	TCS-7	Valley
Total =			**865**		

RR Masonry Trapezoidal Drain

Chainage (m)		Length of CD	Net Length (m)	TCS No.	Side
From	To				
33000	33600	5.2	594.8	TCS-3	Hill
35000	35080	0	80.0	TCS-4A	Hill
35080	35130	0	50.0	TCS-3A	Hill
35130	35730	3.96	596.0	TCS-3	Hill
36030	36230	2.7	197.3	TCS-3	Hill
36380	36480	3.96	96.0	TCS-3	Hill
36480	36580	0	100.0	TCS-3A	Hill
36580	36830	2.6	247.4	TCS-3	Hill
36830	37010	8	172.0	TCS-3A	Hill
37010	37060	2.7	47.3	TCS-3	Hill
37060	37160	2.6	97.4	TCS-3A	Hill

Chainage (m)		Length of CD	Net Length (m)	TCS No.	Side
From	To				
37160	38405	20.72	1224.3	TCS-3	Hill
38405	38755	2.7	347.3	TCS-3A	Hill
38755	38840	3.84	81.2	TCS-3	Hill
38840	38910	0	70.0	TCS-3A	Hill
38910	40580	32.8	1637.2	TCS-3	Hill
40580	40680	0	100.0	TCS-4	Hill
40680	40780	0	100.0	TCS-3A	Hill
40780	41155	5.2	369.8	TCS-3	Hill
41155	41205	0	50.0	TCS-4	Hill
41205	41500	2.6	292.4	TCS-3	Hill
41500	41555	2.6	52.4	TCS-4	Hill
41555	41680	0	125.0	TCS-3	Hill
41680	41780	0	100.0	TCS-3A	Hill
41780	42130	2.6	347.4	TCS-3	Hill
42350	42690	10.6	329.4	TCS-3	Hill
42690	42745	0	55.0	TCS-3A	Hill
42745	43720	10.6	964.4	TCS-3	Hill
43855	43905	0	50.0	TCS-4	Hill
43905	44245	2.6	337.4	TCS-3	Hill
44245	44295	0	50.0	TCS-4	Hill
44295	45165	10.5	859.5	TCS-3	Hill
45165	45215	0	50.0	TCS-3A	Hill
45215	46990	22.44	1752.6	TCS-3	Hill
46990	47040	0	50.0	TCS-3A	Hill
47040	48955	26.2	1888.8	TCS-3	Hill
48955	49250	5.2	289.8	TCS-4	Hill
Total =			**13852**		

CatchwaterDrain

Chainage (m)		Length of CD	Net Length (m)
From	To		
33600	33875	0	275.0
33875	33965	0	90.0
33965	34470	0	505.0
34470	34510	0	40.0
34510	34560	0	50.0
34560	35000	8	432.0
35730	36030	2.6	297.4
36230	36380	0	150.0
43720	43855	2.7	132.3
Total =			**1972**

Total Length of Trapezoidal Drain = 15824 m

Chute Drain(of avg 8 m height @ 50m Interval) = 315 m

7. Design of Structures

(i)General

(a) All bridges culvertsand structures shall be designed and constructed in accordancewithprovisionofthe relevant Manual and shallconformtothecross- sectional features andother detailsspecifiedtherein.

(b) Width of the carriagewayof new bridges and structures shall be asfollows:

[Referto provisionofthe relevant Manual andspecifythe width ofcarriageway ofnewbridgesandstructuresofmorethan60(sixty)metrelength. ifthe carriagewaywidthisdifferentfrom7.5(sevenpointfive)metres in the table below.]

Sl. No.	Bridge/Structure at km	Width of carriageway and cross-sectional features
1	36+731	**Carriageway Width = 11.0m** **Width of Railings = 1.0m (2x0.50m)** **Overall width = 12 m**
2	42+529	

(c) The following structuresshall be providedwith footpaths:

[Refer to provisionofthe relevant Manual and provide details of new Structures with footpath]

Sl. No.	Bridge/Structure at km	Width of carriageway and cross-sectional features
Nil		

(d) All bridgesshall be high-level bridges.

[Refer to provisionofthe relevant Manual and stateif there is anyexception]

(e) Thefollowingstructuresshallbedesigned tocarryutility servicesspecifiedin Table below:

[Refer to provisionofthe relevant Manualand provide details]

Sl.No.	Bridgeat km	Utilityservice to be carried	Remarks
Nil			

(f) Cross-sectionofthenewculvertsandbridgesatdecklevelfortheproject Highwayshall conformtothetypicalcross-sectionsgiveninprovisionofthe relevantManual.

(ii) Culverts

(a) Overall width ofall culverts shall beequal to the roadway widthof the approaches.
(b) Reconstruction of existingculverts:

Theexistingculvertsatthefollowinglocationsshallbere-constructedasnew culverts:

Sl. No.	Culvert Location	Span /Opening (m)	Remarks*
1	33.106	2.0 X 2.0	Single Span
2	34.425	2.0 X 2.0	Single Span
3	34.931	2.0 X 2.0	Single Span
4	35.404	3.0 X 4.0	Single Span
5	35.920	2.0 X 3.0	Single Span
6	36.355	3.0 X 4.0	Single Span
7	36.580	2.0 X 2.0	Single Span
8	36.935	2.0 X 3.0	Single Span
9	37.020	2.0 X 2.0	Single Span
10	37.240	4.0 X 3.0	Single Span
11	**37.875**	3.0 X 4.0	Single Span
12	**37.925**	3.0 X 4.0	Single Span
13	38.425	2.0 X 3.0	Single Span

Sl. No.	Culvert Location	Span /Opening (m)	Remarks*
14	38.690	3.0 X 3.0	Single Span
15	38.802	3.0 X 4.0	Single Span
16	39.100	3.0 X 4.0	Single Span
17	39.290	3.0 X 4.0	Single Span
18	39.400	3.0 X 4.0	Single Span
19	39.798	3.0 X 4.0	Single Span
20	41.158	2.0 X 2.0	Single Span
21	43.054	2.0 X 3.0	Single Span
22	43.485	2.0 X 3.0	Single Span
23	43.590	2.0 X 3.0	Single Span
24	43.810	2.0 X 2.0	Single Span
25	44.790	2.0 X 3.0	Single Span
26	45.203	2.0 X 3.0	Single Span
27	45.308	2.0 X 3.0	Single Span
28	45.408	3.0 X 3.0	Single Span
29	45.980	2.0 X 3.0	Single Span
30	46.590	2.0 X 3.0	Single Span
31	47.140	2.0 X 3.0	Single Span
32	47.598	2.0 X 3.0	Single Span
33	47.798	3.0 X 3.0	Single Span
34	48.617	3.0 X 4.0	Single Span
35	49.105	2.0 X 2.0	Single Span

*[Specify modifications,ifany,required in the road level,etc.]

(c)Wideningof existingculverts:

All existing culverts which are not to be reconstructed shall be widened to the roadway width of the Project Highway as per the typical cross section given in provision of the relevant Manual. Repairs and strengthening of existing structures where required shall be carried out.

Sl. No.	Culvert location	Type,span,height,and widthofexistingculvert(m)	Repairstobe carriedout [specify]
Nil			

(d) Additional new culverts shall be constructed as per particulars given in the table below:

Sl. No.	Culvert Location	Span /Opening (m)	Remarks*
1	33.400	2.0 X 2.0	Single Span
2	33.970	2.0 X 2.0	Single Span
3	35.645	2.0 X 2.0	Single Span
4	37.435	2.0 X 2.0	Single Span
5	37.702	2.0 X 2.0	Single Span
6	38.160	2.0 X 2.0	Single Span
7	39.485	2.0 X 2.0	Single Span
8	39.705	2.0 X 2.0	Single Span
9	40.065	2.0 X 2.0	Single Span
10	40.265	2.0 X 2.0	Single Span
11	40.395	2.0 X 2.0	Single Span
12	40.697	2.0 X 2.0	Single Span
13	40.960	2.0 X 2.0	Single Span
14	41.422	2.0 X 2.0	Single Span
15	41.760	2.0 X 2.0	Single Span

Sl. No.	Culvert Location	Span /Opening (m)	Remarks*
16	42.067	2.0 X 2.0	Single Span
17	42.310	2.0 X 2.0	Single Span
18	42.822	2.0 X 2.0	Single Span
19	43.324	2.0 X 2.0	Single Span
20	44.195	2.0 X 2.0	Single Span
21	44.535	2.0 X 2.0	Single Span
22	45.020	2.0 X 2.0	Single Span
23	45.648	2.0 X 2.0	Single Span
24	46.318	2.0 X 2.0	Single Span
25	46.852	2.0 X 2.0	Single Span
26	47.405	2.0 X 2.0	Single Span
27	47.998	2.0 X 2.0	Single Span
28	48.195	2.0 X 2.0	Single Span
29	48.380	2.0 X 2.0	Single Span
30	48.575	2.0 X 2.0	Single Span
31	48.918	2.0 X 2.0	Single Span

(e) Repairs/replacements of railing/parapets, flooring and protection works of the existing culverts shall be undertaken as follows:

[Refer provision of the relevant Manualand provide details]

Sl.No.	Location atkm	Typeofrepair required
Nil		

(e) FloorprotectionworksshallbeasspecifiedintherelevantIRCCodesandSpecifications.

(iii) Bridges

(a) Existing bridges to be re-constructed/widened.

[(i) The existing bridges at the following locations shall be re-constructed as new Structures]

Sl. No.	Bridge location (km)	Salient details of existing bridge		Adequacy or otherwise of the existing waterway, vertical clearance etc.*	Remarks
		Type of Structures	Span Arrangement and Total Vent way (No. x Length) (m)		
1	36+731	RCC SLAB	1x6.5M	Insufficient width and not conform to IRC Loading	Proposed as RCC SLAB (1 X 8m)
2	42+529	RCC SLAB	1x6.5M	Insufficient width and not conform to IRC Loading	Proposed as RCC SLAB (1 X 8m)

(ii) The following narrow bridges shall bewidened:

Sl. No.	Location (km)	Existing width(m)	Extent of widening(m)	Cross-sectionatdeck levelforwidening@
Nil				

(b) Additional new bridges

[Specify additional newbridgesif required.And attach GAD]

New bridgesat the following locations on theProject Highwayshallbe constructed.GADs for the new bridges are attachedin the drawings folder.

Sl. No.	Location (km)	Total Length (m)	Remarks.If any
Nil			

(c) The railingsof existingbridgesshall bereplacedby crash barriersat the followinglocations:

[Refer provisionofthe relevant Manualand provide details:]

Sl.No.	Location atkm	Remarks
Nil		

(d) Repairs/replacements ofrailing/parapets oftheexistingbridgesshallbe undertaken as follows:

[Refer to provisionofthe relevant Manualand providedetails]

Sl. No.	Location of bridge (km)	Nature and extent of repairs /strengthening to be carried out
Nil		

(e) Drainagesystem forbridge decks

An effective drainage system for bridge decks shall be provided as specified in provision of the relevant Manual

(f) Structures in marine environment

[Refertoprovisionofthe relevant Manual andspecify thenecessarymeasures/ treatments for protecting structuresin marineenvironment.Where applicable]

(v) Rail-roadbridges

(a) Design, construction and detailing of ROB/RUB shall be as specified in section 7 of the Manual. [Refer to provision of the relevant Manual and specify modification, if any]

(b) Road over-bridges

Roadover-bridges(roadoverrail)shall beprovidedatthefollowinglevel crossings.As per GAD drawings attached:

Sl. No.	Location ofLevel crossing(Chainagekm)	Lengthofbridge (m)
Nil		

(c)Road under-bridges

Road under-bridges (road under railwayline) shall beprovided at the following level crossings as per GAD drawings attached:

Sl. No.	Location ofLevelcrossing (Chainage km)	Number andlengthof span(m)
Nil		

(v) Grade separatedstructures

[Refer provisionofthe relevant Manual]

Thegradeseparatedstructuresshallbeprovidedatthelocationsandofthetypeand length specified in paragraphs 2(ix) and3 of this Annex-I.

(vi) Repairs andstrengthening of bridges andstructures

[Refer to provisionofthe relevant Manual and provide details]

Theexistingbridgesandstructurestoberepaired/strengthenedandthenatureand extent of repairs /strengtheningrequired are given below:

(a) Bridges

Sl. No.	Location of bridge (km)	Nature and extent of repairs /strengthening to be carried out
Nil		

(b)ROB / RUB

Sl. No.	Location of ROB/RUB (km)	Natureandextent ofrepairs/strengtheningtobe carriedout
Nil		

(c) Overpasses/Underpasses and otherstructures

Sl. No.	Location of Structure(km)	Natureandextent ofrepairs/strengtheningtobe carriedout
Nil		

(vii) List of Major Bridges andStructures

The following is the list ofthe Major Bridges and Structures:

Sl. No.	Location (Km)
Nil	

8. Traffic ControlDevicesandRoadSafetyWorks

(i) Trafficcontroldevicesandroadsafetyworksshallbeprovidedinaccordancewith provisionsof relevantManual.

Sl. No	Traffic Signages, Road Marking and other appurtenances	unit	Quantity
1	Total Nos. of Street Light=	Nos	57
2	Kilometre stones=	Nos	13
3	5th Kilometre stones=	Nos	3
4	Boundary Stones=	Nos	163
5	Delineators (100 cm long and circular shaped) +Hazard marker =	Nos	1887
6	Road Stud=	Nos	9537
7	900 mm Octagonal	Nos	2
8	600 mm circular	Nos	34
9	900 mm Triangular	Nos	208
10	800 mm x 600 mm rectangular	Nos	6
11	Convex Mirror for Blind Curve	Nos	20
12	Rumble Strip=	sqm	120

(ii) Specifications of the reflective sheeting. [Refer to provision of relevant Manual and specify]

9. RoadsideFurniture

(i) Road side furniture shall be provided in accordance with article 8(i) of this schedule.

(ii) Overhead trafficsigns: location andsize

Sl. No.	Location (Km)	Size
Nil		

10. Compulsory Afforestation

[Refertoprovision of relevantManualandspecifythenumberoftreeswhichare required to be plantedby the concerned departmentas compensatoryafforestation.]

11. Hazardous Locations

The safetybarriers shall also be provided at thefollowinghazardous locations:

a) Retaining Wall

Chainage (m)		Length of CD	Net Length (m)	TCS No.	Side	Avg. Height (m)
From	To					
35000	35080	0	80.0	TCS-4A	Valley	2
40580	40680	0	100.0	TCS-4	Valley	3
41155	41205	0	50.0	TCS-4	Valley	2
41500	41555	2.6	52.4	TCS-4	Valley	2
43855	43905	0	50.0	TCS-4	Valley	2
44245	44295	0	50.0	TCS-4	Valley	2
48955	49250	5.2	289.8	TCS-4	Valley	2
Total =			**672**			

Length of 2.0 m Retaining Wall = 572 m

Length of 3.0 m Retaining Wall = 100 m

b) Breast Wall

Chainage (m)		Length of CD	Net Length (m)	TCS No.	Side	Avg. Height (m)
From	To					
33600	33875	0	275.0	TCS-12	Hill	3
33875	33965	0	180.0	TCS-9A	Both	3
33965	34470	0	505.0	TCS-12	Hill	3
34470	34510	0	80.0	TCS-9A	Both	3
34510	34560	0	50.0	TCS-12	Hill	3
34560	35000	8	432.0	TCS-5	Hill	2
35730	36030	2.6	297.4	TCS-7	Hill	2
36230	36380	0	150.0	TCS-5	Hill	2
43720	43855	2.7	132.3	TCS-7	Hill	2
Total =			**2102**			

c) Metal Beam Crash Barrier

Chainage (m)		Net Length (m)	Side
From	To		
33150	33250	100.0	Valley
33440	33540	100.0	Valley
35300	35400	100.0	Valley
35800	35950	150.0	Valley
36650	36800	150.0	Valley

Chainage (m)		Net Length (m)	Side
From	To		
36900	37000	100.0	Valley
37200	37300	100.0	Valley
37550	37700	150.0	Valley
37750	37950	200.0	Valley
38300	38400	100.0	Valley
38450	38650	200.0	Valley
38830	38930	100.0	Valley
38430	38550	120.0	Valley
40550	40700	150.0	Valley
41620	41780	160.0	Valley
44800	44930	130.0	Valley
45000	45300	300.0	Valley
45700	45850	150.0	Valley
46770	46900	130.0	Valley
47550	47700	150.0	Valley
48200	48430	230.0	Valley
48950	49050	100.0	Valley
Total =		**3170.0**	

Total no. of Bridges on the project=	3 nos.
Approach length on valley side for each bridge (25 m on both side)	50 m
Hence, Crash barrier length for 3 bridges =	300 m
Therefore, total length of crash barrier=	**3470 m**

d) Hydroseeding

Chainage (m)		Side	Avg. Height (m)	Length (m)	Area (sqm)
From	To				
33600	33875	Hill	8	275	2200
33875	33965	Both	15	180	2700
33965	34470	Hill	8	505	4040
34470	34510	Both	8	80	640
34510	34560	Hill	8	50	400
34560	35000	Hill	8	440	3520
35730	36030	Hill	8	300	2400
36230	36380	Hill	8	150	1200
43720	43855	Hill	8	135	1080

Total Area of Hydro Seeding= 18180 sqm

e) Gabion Wall

Chainage		side	Length (m)
From	To		
33600	33875	Valley	275
33965	34470	Valley	505
34510	34560	Valley	50
Total =			**830**

12. Special RequirementforHillRoads

a) Double Twisted Mesh

Design Chainage (m)		Length of CD (m)	Net Length (m)	TCS No.	Side	Avg Height (m)	Affected Area (sqm)
From	To						
33600	33875		275	TCS-12	Hill	12	3300
33600	33875		275	TCS-12	Valley	25	6875
33875	33965		90	TCS-9A	Hill	12	1080
33965	34470		505	TCS-12	Hill	12	6060
33965	34470		505	TCS-12	Valley	25	12625
34470	34510		40	TCS-9A	Hill	12	480
34510	34560		50	TCS-12	Hill	12	600
34510	34560		50	TCS-12	Valley	25	1250
Total =							**32270**

13. ChangeofScope

The length of Structures and bridges specified hereinabove shall be treated as an approximate assessment. The actual lengths as required on the basis of detailed investigations shall be determined by the Contractor in accordance with the Specifications and Standards. Any variations in the lengths specified in this Schedule-B shall not constitute a Change of Scope, save and except any variations in the length arising out of a Change of Scope expressly undertaken in accordance with the provisions of Article 13.

(Schedule-B1)

1. The shifting ofutilities and felling of trees shall be carried out by the concerned department. The cost of the same shall be borne by the concerned department.

Schedule - C

(See Clause 2.1)

Project Facilities

1. Project Facilities

The Contractor shall construct the Project Facilities in accordance with the provisions of this Agreement. Such Project Facilities shall include:

(a) Toll plaza[s]

(b) Road side furniture;

(c) Pedestrian facilities;

(d) Truck Lay byes;

(e) Bus-bays and passenger shelters;

(f) Rest areas; and

(g) Others to be specified

2. Description of Project Facilities

Each of the Project Facilities is described below:

a) Toll Plaza: -

Sl. No.	Design Chainage(km)	Name of the Place
Nil		

b) Road side furniture: -

Sl. No.	Description	Location	Design Standard
1	Traffic sign & pavement marking	Entire Length (As per Schedule B)	As per Manual
2	Km Stone, 5th kilometre stone	Entire Length	As per Manual
3	Boundary Stone	Entire Length	As per Manual
4	Roadside Delineator, marker & Road Stud	As per Schedule B	As per Manual
5	Metal beam crash barrier	As per Schedule B	As per Manual

C) Pedestrian Facility:-

Pedestrian facilities in the form of foot path shall be provided in the built up area (refer typical cross – section drawing). Pedestrian facilities shall be provided at the locations of urban sections in order to ensure safety of pedestrians while crossing in consultation with NHIDCL.

d) Truck Lay bye:-

Sl. No.	Truck lay bye Chainage(Both Side)	Name of the Place
Nil		

e) Bus Bay &Passenger shelter: -

Sl. No.	Project Facility	Location (km)	Design Requirements	Other Essential Details
1	Bus Bay & Passenger shelter	35+835 (Both side)	Bus Bays & Passenger shelter have been placed on both side of proposed roadway	Dimension of Bus Bay (L X B = 59.0 m X 3.0 m) Dimension of Passenger Shelter (L X B = 6.0 m X 2.0 m) (Refer Passenger Shelter Drawing)
2	Bus Bay & Passenger shelter	41+880 (Both side)		

f) Rest Areas

Sl. No.	Rest Area Chainage	Name of the Place
Nil		

g) Others to be specified

Street Lighting:
Total 57 Nos. Street lighting shall be provided in built-up areas, bus bays and passenger shelters locations.

Note: Provide adequate details of each Project Facility to ensure their design and completion in accordance with the project-specific requirements and the provisions of the Manual.

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Schedule - D

(See Clause 2.1)

Specifications and Standards

1. Construction

The Contractor shall comply with the Specifications and Standards set forth in Annex- I of this Schedule-D for construction of the Project Highway.

2. Design Standards

The Project Highway including Project Facilities shall conform to design requirements set out in the following documents:

[Manual of Specifications and Standards for Two Lanning of Highways (IRC: SP: 73-2018), referred to herein as the Manual]

[Note: Specify the relevant Manual, Specifications and Standards]

Annex – I

(Schedule-D)

Specifications and Standards for Construction

1. Specifications and Standards

All Materials, works and construction operations shall conform to the Manual of Specifications and Standards for [Two-Lanning of Highways (IRC:SP:73-2018)], referred to as the Manual, and MORTH Specifications for Road and Bridge Works. Where the specification for a work is not given, Good Industry Practice shall be adopted to the satisfaction of the Authority's Engineer.

2. Deviations from the Specifications and Standards

(i) The terms "Concessionaire", "Independent Engineer" and "Concession Agreement" used in the Manual shall be deemed to be substituted by the terms "Contractor", "Authority's Engineer" and "Agreement" respectively.

(ii) [Notwithstanding anything to the contrary contained in Paragraph 1 above, the following Specifications and Standards shall apply to the Project Highway, and for purposes of this Agreement, the aforesaid Specifications and Standards shall be deemed to be amended to the extent set forth below:]

<table>
<tr><th>Item</th><th>Manual Clause Reference</th><th>Provision as per Manual</th><th>Modified Provision</th></tr>
<tr><td rowspan="4">Shoulder</td><td rowspan="4">2.6</td><td><u>Mountainous Terrain</u>
<table>
<tr><th>Type of Section</th><th>Side</th><th>Width of Shoulder (m)</th><th></th><th></th></tr>
<tr><th></th><th></th><th>Paved</th><th>Earthen</th><th>Total</th></tr>
<tr><td>Open Country with Isolated Built-up Area</td><td>Hill Side</td><td>1.5</td><td>-</td><td>1.5</td></tr>
<tr><td></td><td>Valley Side</td><td>1.5</td><td>1</td><td>2.5</td></tr>
<tr><td>Built-up Area and Approaches to grade separated structures/ bridges</td><td>Hill Side</td><td>0.25 m + 1.5 m (Raised)</td><td>-</td><td>1.75</td></tr>
<tr><td></td><td>Valley Side</td><td>0.25 m + 1.5 m (Raised)</td><td>-</td><td>1.75</td></tr>
</table></td><td><u>Mountainous Terrain</u>
<table>
<tr><th>Type of Section</th><th>Side</th><th>Width of Shoulder (m)</th><th></th><th></th></tr>
<tr><th></th><th></th><th>Paved</th><th>Earthen</th><th>Total</th></tr>
<tr><td>Open Country with Isolated Built-up Area</td><td>Hill Side</td><td>1.5</td><td>-</td><td>1.5</td></tr>
<tr><td></td><td>Valley Side</td><td>1.5</td><td>1.0 m</td><td>2.5</td></tr>
<tr><td>Built-up Area and Approaches to grade separated structures/ bridges</td><td>Hill Side</td><td>1.5</td><td>-</td><td>1.5</td></tr>
<tr><td></td><td>Valley Side</td><td>1.5</td><td>-</td><td>1.5</td></tr>
</table></td></tr>
<tr><td>Design Speed</td><td>2.2</td><td><u>Mountainous Terrain:</u>
Ruling : 60 Kmph
Minimum : 40 Kmph</td><td><u>Mountainous Terrain:</u>
Design Speed followed 40-60 kmph in general. However design speed has been reduced to 20 kmph due to site constraints and to accommodate the proposal within EROW.
(Refer Horizontal Alignment Drawing and Table 1.1 below)</td></tr>
<tr><td>Extra Widening</td><td>2.7</td><td>Extra Widening has been proposed as per IRC: SP: 73-2018
<table>
<tr><th>Radius</th><th>Extra Widening</th></tr>
<tr><td>75-100 m</td><td>0.9 m</td></tr>
<tr><td>101-300 m</td><td>0.6 m</td></tr>
</table></td><td>Extra Widening has been proposed as per IRC: SP: 48-1998 (Table 6.9) of Hill Road Manual.
<table>
<tr><th>Radius</th><th>Extra Widening</th></tr>
<tr><td>21-40 m</td><td>1.5 m</td></tr>
<tr><td>41-60 m</td><td>1.2 m</td></tr>
<tr><td>61-100 m</td><td>0.9 m</td></tr>
</table></td></tr>
</table>

Item	Manual Clause Reference	Provision as per Manual	Modified Provision		
			75-100 m	0.9 m	
			101-300 m	0.6 m	
			Above 300 m	NIL	
Radii Of Horizontal Curve	2.9.4	**Mountainous Terrain:** Desirable Minimum Radius: 150 m Absolute Minimum Radius: 75 m	Radius below 75 m has been provided in the location listed in table 1.		

Table 1.1: Locations where Design Speed is less than40 kmph

Sl. No.	Stretch (from km to km)	Type of Deficiency	Remarks
1	33+309 to 33+315	Sharp Bend	Design Speed = 30 Kmph
2	33+359 to 33+386	Sharp Bend	Design Speed = 30 Kmph
3	33+537 to 33+554	Sharp Bend	Design Speed = 30 Kmph
4	33+631 to 33+665	Sharp Bend	Design Speed = 30 Kmph
5	34+289 to 34+299	Sharp Bend	Design Speed = 30 Kmph
6	34+346 to 34+364	Sharp Bend	Design Speed = 30 Kmph
7	34+526 to 34+570	Sharp Bend	Design Speed = 30 Kmph
8	34+793 to 34+816	Sharp Bend	Design Speed = 30 Kmph
9	34+906 to 34+946	Sharp Bend	Design Speed = 30 Kmph
10	35+090 to 35+135	Sharp Bend	Design Speed = 30 Kmph
11	35+172 to 35+271	Sharp Bend	Design Speed = 30 Kmph
12	35+401 to 35+419	Sharp Bend	Design Speed = 30 Kmph
13	35+480 to 35+492	Sharp Bend	Design Speed = 30 Kmph
14	35+588 to 35+595	Sharp Bend	Design Speed = 30 Kmph
15	35+700 to 35+742	Sharp Bend	Design Speed = 20 Kmph
16	35+804 to 35+822	Sharp Bend	Design Speed = 20 Kmph
17	35+908 to 35+997	Sharp Bend	Design Speed = 30 Kmph
18	36+123 to 36+159	Sharp Bend	Design Speed = 30 Kmph
19	36+182 to 36+213	Sharp Bend	Design Speed = 20 Kmph
20	36+567 to 36+600	Sharp Bend	Design Speed = 30 Kmph
21	36+692 to 36+740	Sharp Bend	Design Speed = 20 Kmph
22	36+791 to 36+802	Sharp Bend	Design Speed = 30 Kmph
23	36+842 to 36+853	Sharp Bend	Design Speed = 30 Kmph
24	36+913 to 36+942	Sharp Bend	Design Speed = 30 Kmph
25	37+232 to 37+249	Sharp Bend	Design Speed = 30 Kmph
26	37+481 to 37+508	Sharp Bend	Design Speed = 30 Kmph
27	37+656 to 37+670	Sharp Bend	Design Speed = 30 Kmph
28	37+721 to 37+727	Sharp Bend	Design Speed = 30 Kmph
29	37+774 to 37+792	Sharp Bend	Design Speed = 30 Kmph
30	37+906 to 37+926	Sharp Bend	Design Speed = 30 Kmph
31	38+191 to 38+207	Sharp Bend	Design Speed = 30 Kmph
32	38+247 to 38+251	Sharp Bend	Design Speed = 30 Kmph
33	38+325 to 38+367	Sharp Bend	Design Speed = 30 Kmph
34	38+411 to 38+416	Sharp Bend	Design Speed = 30 Kmph
35	38+458 to 38+475	Sharp Bend	Design Speed = 30 Kmph
36	38+505 to 38+522	Sharp Bend	Design Speed = 30 Kmph
37	38+667 to 38+671	Sharp Bend	Design Speed = 30 Kmph
38	38+728 to 38+740	Sharp Bend	Design Speed = 30 Kmph
39	38+801 to 38+812	Sharp Bend	Design Speed = 30 Kmph
40	39+268 to 39+283	Sharp Bend	Design Speed = 30 Kmph

Sl. No.	Stretch (from km to km)	Type of Deficiency	Remarks
41	39+338 to 39+366	Sharp Bend	Design Speed = 30 Kmph
42	39+800 to 39+822	Sharp Bend	Design Speed = 30 Kmph
43	40+440 to 40+473	Sharp Bend	Design Speed = 30 Kmph
44	40+524 to 40+571	Sharp Bend	Design Speed = 30 Kmph
45	40+653 to 40+657	Sharp Bend	Design Speed = 30 Kmph
46	40+699 to 40+708	Sharp Bend	Design Speed = 30 Kmph
47	41+144 to 41+149	Sharp Bend	Design Speed = 30 Kmph
48	41+189 to 41+192	Sharp Bend	Design Speed = 30 Kmph
49	41+251 to 41+254	Sharp Bend	Design Speed = 30 Kmph
50	41+314 to 41+325	Sharp Bend	Design Speed = 30 Kmph
51	41+989 to 42+021	Sharp Bend	Design Speed = 30 Kmph
52	42+067 to 42+076	Sharp Bend	Design Speed = 30 Kmph
53	42+113 to 42+122	Sharp Bend	Design Speed = 30 Kmph
54	42+200 to 42+220	Sharp Bend	Design Speed = 30 Kmph
55	42+265 to 42+274	Sharp Bend	Design Speed = 30 Kmph
56	42+357 to 42+378	Sharp Bend	Design Speed = 30 Kmph
57	42+528 to 42+609	Sharp Bend	Design Speed = 30 Kmph
58	42+948 to 43+005	Sharp Bend	Design Speed = 30 Kmph
59	43+038 to 43+064	Sharp Bend	Design Speed = 20 Kmph
60	43+095 to 43+106	Sharp Bend	Design Speed = 20 Kmph
61	43+139 to 43+150	Sharp Bend	Design Speed = 20 Kmph
62	43+252 to 43+274	Sharp Bend	Design Speed = 20 Kmph
63	43+463 to 43+500	Sharp Bend	Design Speed = 20 Kmph
64	43+533 to 43+546	Sharp Bend	Design Speed = 20 Kmph
65	43+583 to 43+593	Sharp Bend	Design Speed = 30 Kmph
66	43+690 to 43+733	Sharp Bend	Design Speed = 30 Kmph
67	44+323 to 44+346	Sharp Bend	Design Speed = 30 Kmph
68	44+397 to 44+400	Sharp Bend	Design Speed = 30 Kmph
69	44+808 to 44+816	Sharp Bend	Design Speed = 30 Kmph
70	44+862 to 44+884	Sharp Bend	Design Speed = 30 Kmph
71	44+952 to 44+981	Sharp Bend	Design Speed = 30 Kmph
72	45+034 to 45+058	Sharp Bend	Design Speed = 30 Kmph
73	45+176 to 45+192	Sharp Bend	Design Speed = 30 Kmph
74	45+247 to 45+253	Sharp Bend	Design Speed = 30 Kmph
75	45+310 to 45+387	Sharp Bend	Design Speed = 20 Kmph
76	45+502 to 45+531	Sharp Bend	Design Speed = 20 Kmph
77	45+973 to 45+976	Sharp Bend	Design Speed = 30 Kmph
78	46+026 to 46+031	Sharp Bend	Design Speed = 30 Kmph
79	46+073 to 46+102	Sharp Bend	Design Speed = 30 Kmph
80	46+457 to 46+474	Sharp Bend	Design Speed = 30 Kmph
81	46+646 to 46+675	Sharp Bend	Design Speed = 30 Kmph
82	47+055 to 47+062	Sharp Bend	Design Speed = 30 Kmph
83	47+124 to 47+162	Sharp Bend	Design Speed = 30 Kmph
84	47+578 to 47+622	Sharp Bend	Design Speed = 20 Kmph
85	47+653 to 47+730	Sharp Bend	Design Speed = 30 Kmph
86	47+782 to 47+826	Sharp Bend	Design Speed = 30 Kmph
87	48+084 to 48+217	Sharp Bend	Design Speed = 20 Kmph
88	48+247 to 48+310	Sharp Bend	Design Speed = 20 Kmph
89	48+354 to 48+452	Sharp Bend	Design Speed = 30 Kmph
90	48+492 to 48+502	Sharp Bend	Design Speed = 30 Kmph

Sl. No.	Stretch (from km to km)	Type of Deficiency	Remarks
91	48+713 to 48+766	Sharp Bend	Design Speed = 20 Kmph
92	48+801 to 48+847	Sharp Bend	Design Speed = 20 Kmph

Table 1.2: Locations where Radii of Horizontal Curve is less than 75 m

Sl. No.	HIP NO.	CHAINAGE (KM)		RADIUS (m)
		From	To	
1	186	33.181	33.204	50
2	188	33.359	33.386	50
3	190	33.631	33.665	30
4	194	34.346	34.364	60
5	195	34.526	34.570	30
6	196	34.793	34.816	30
7	197	34.906	34.946	30
8	199	35.172	35.271	60
9	200	35.401	35.419	30
10	201	35.480	35.492	40
11	202	35.588	35.595	40
12	203	35.700	35.742	20
13	204	35.804	35.822	30
14	205	35.908	35.997	65
15	207	36.182	36.213	20
16	208	36.299	36.368	60
17	209	36.567	36.600	30
18	210	36.692	36.740	23
19	211	36.791	36.802	50
20	212	36.842	36.853	70
21	213	36.913	36.942	30
22	214	37.083	37.134	60
23	215	37.232	37.249	30
24	218	37.481	37.508	40
25	220	37.656	37.670	40
26	221	37.721	37.727	40
27	222	37.774	37.792	50
28	223	37.906	37.926	30
29	224	37.995	38.017	60
30	226	38.191	38.207	50
31	227	38.247	38.251	60
32	228	38.325	38.367	70
33	229	38.411	38.416	40
34	230	38.458	38.475	70
35	233	38.667	38.671	40
36	234	38.728	38.740	30
37	235	38.801	38.812	40
38	238	39.197	39.210	60
39	239	39.268	39.283	50
40	240	39.338	39.366	30
41	241	39.625	39.650	60
42	243	39.800	39.822	30
43	248	40.243	40.255	70
44	249	40.440	40.473	30

Sl. No.	HIP NO.	CHAINAGE (KM)		RADIUS (m)
		From	To	
45	250	40.524	40.571	60
46	251	40.653	40.657	40
47	252	40.699	40.708	60
48	253	40.757	40.778	70
49	256	41.144	41.149	60
50	257	41.189	41.192	40
51	258	41.251	41.254	30
52	259	41.314	41.325	70
53	260	41.447	41.459	70
54	261	41.537	41.553	50
55	262	41.624	41.638	70
56	265	41.989	42.021	40
57	266	42.067	42.076	50
58	267	42.113	42.122	60
59	268	42.200	42.220	50
60	269	42.265	42.274	60
61	270	42.357	42.378	50
62	272	42.528	42.609	36
63	273	42.731	42.752	50
64	274	42.854	42.866	60
65	276	43.038	43.064	30
66	277	43.095	43.106	30
67	278	43.139	43.150	40
68	279	43.252	43.274	50
69	280	43.357	43.383	50
70	281	43.463	43.500	30
71	282	43.533	43.546	30
72	283	43.583	43.593	50
73	284	43.690	43.733	60
74	289	44.323	44.346	40
75	290	44.397	44.400	40
76	294	44.677	44.752	70
77	295	44.808	44.816	40
78	296	44.862	44.884	50
79	297	44.952	44.981	50
80	298	45.034	45.058	30
81	299	45.176	45.192	40
82	300	45.247	45.253	40
83	303	45.593	45.657	50
84	305	45.973	45.976	30
85	306	46.026	46.031	60
86	310	46.457	46.474	60
87	311	46.646	46.675	50
88	312	46.761	46.811	50
89	314	47.055	47.062	40
90	315	47.124	47.162	50
91	317	47.430	47.516	70
92	318	47.578	47.622	30
93	320	47.782	47.826	30
94	321	48.084	48.217	50

Sl. No.	HIP NO.	CHAINAGE (KM)		RADIUS (m)
		From	To	
95	322	48.247	48.310	30
96	324	48.492	48.502	50
97	325	48.618	48.628	50
98	326	48.713	48.766	30
99	327	48.801	48.847	30
100	330	49.288	49.294	50
101	331	49.343	49.353	50
102	332	49.421	49.434	40
103	333	49.482	49.496	50
104	334	49.544	49.553	50
105	335	49.615	49.649	30
106	336	49.683	49.702	30
107	337	49.777	49.793	40
108	338	49.843	49.883	60
109	339	49.926	49.965	60
110	341	50.139	50.160	30
111	342	50.197	50.211	40
112	343	50.242	50.261	40
113	344	50.295	50.307	50
114	345	50.428	50.507	70
115	346	50.610	50.634	25
116	356	52.202	52.227	50
117	357	52.285	52.311	30
118	358	52.360	52.395	60

(iii) [Note1: Deviations fromtheaforesaidSpecificationsand Standards shallbe listedout here. Suchdeviations shall bespecified only ifthey are considered essential in viewof project-specific requirements.]

Schedule - H

(See Clauses 10.1 (iv) and 19.3)

Contract Price Weightages

1.1 The Contract Price for this Agreement is Rs. ****

1.2 Proportions of the Contract Price for different stages of Construction of the Project Highway shall be as specified below:

Item	Weightage in % of CP	Stage for Payment	Percentage
1	2	3	4
Road Works including Culverts, widening and repair of culverts	68.62 %	**A- Widening and strengthening of existing road**	
		(1) Earthwork up to top of the sub- grade	[Nil]
		(2) Sub-base Course	[Nil]
		(3) Non bituminous Base course	[Nil]
		(4) Bituminous Basecourse	[Nil]
		(5) Wearing Coat	[Nil]
		(6) Widening and repair of culverts	[Nil]
		B.1-Reconstruction/New 2-Lane Realignment /Bypass (Flexible Pavement)	
		(1) Earthwork up to top of the sub- grade	33.8%
		(2) Sub-base Course	12.7%
		(3) Non bituminous Base course	15.88%
		(4) Bituminous Basecourse	14.8%
		(5) Wearing Coat	8.5%
		B.2-Reconstruction/New 8-Lane Realignment/ Bypass (Rigid Pavement)	
		(1) Earthwork up to top of the sub- grade	[Nil]
		(2) Sub-base Course	[Nil]
		(3) Dry Lean Concrete (DLC) Course	[Nil]
		(4) Pavement Quality Control (PQC) Course	[Nil]
		C.1-Reconstruction/ New Service Road (Flexible Pavement)	
		(1) Earthwork up to top of the sub- grade	[Nil]
		(2) Sub-base Course	[Nil]
		(3) Non bituminous Base course	[Nil]

Item	Weightage in % of CP	Stage for Payment	Percentage
		(4) Bituminous Basecourse	[Nil]
		(5) Wearing Coat	[Nil]
		C.2- Reconstruction/New Service road (Rigid Pavement)	
		(1) Earthwork up to top of the sub- grade	[Nil]
		(2) Sub-base Course	[Nil]
		(3) Dry Lean Concrete (DLC) Course	[Nil]
		(4) Pavement Quality Control (PQC) Course	[Nil]
		D- Reconstruction & New Culverts on existing road, realignments, bypasses Culverts (length <6m)	14.32%
Minor bridge/ Underpasses/ Overpasses	1.81%	**A.1-widening and repairing of Minor Bridges (length >6 m&<60m)**	
		Minor Bridges	[Nil]
		A.2- New Minor bridges (length >6 mand<60m)	
		(1) Foundation + Sub-Structure: On completion of the foundation work including foundations for wing and return walls, abutments, piers up to the abutment/pier cap.	59.6%
		(2) Super-structure: On completion of the super-structure in all respects including wearing coat, bearings, expansion joints, hand rails, crash barriers, road, signs & markings, tests on completion etc. complete in all respect.	37.56%
		(3) Approaches: On completion of approaches including Retaining walls, stone pitching, protection works complete in all and fit for use	2.84%
		(4) Guide Bunds and River Training Works: On completion of Guide Bunds and river training works complete in all respects	[Nil]
		B.1- Widening and repairs of underpasses/overpasses	
		Underpasses/ Overpasses	[Nil]
		B.2-NewUnderpasses/Overpasses	
		(1)Foundation + Sub-Structure: On completion of the foundation work including foundations for wing and return walls, abutments, piers upto the abutment/pier cap.	[Nil]
		(2)Super-structure: On completion of the super-structure in all respects including wearing coat, bearings, expansion joints, hand rails, crash barriers, road signs & markings, tests on completion etc. complete in all respect. Wearing Coat (a) in case of Overpass-wearing coat including expansion joints complete in all respects as specified and (b) in case of underpass- rigid pavement including drainage facility complete in all respects as specified.	[Nil]

Item	Weightage in % of CP	Stage for Payment	Percentage
		(3) Approaches: On completion of approaches including Retaining walls/ Reinforced Earth walls, stone pitching, protection works complete in all respect and fit for use.	[Nil]
Major bridge(length>60 m) works and ROB/RUB/elevated sections/flyovers including viaducts, if any	0.000 %	**A.1- Widening and repairs of Major Bridges**	
		(1)Foundation	[Nil]
		(2)Sub-structure	[Nil]
		(3)Super-structure(including bearings)	[Nil]
		(4)Wearing Coat including expansion joints	[Nil]
		(5) Miscellaneous Items like handrails, crash barrier, road markings etc.	[Nil]
		(6) Wing walls/return walls	[Nil]
		(7)Guide Bunds,River Training works etc.	[Nil]
		(8)Approaches(including Retaining walls, stone pitching and protection works)	[Nil]
		A.2-NewMajorBridges	
		(1)Foundation	[Nil]
		(2)Sub-structure	[Nil]
		(3)Super-structure(including bearings)	[Nil]
		(4)Wearing Coat including expansion joints	[Nil]
		(5) Miscellaneous Items like handrails, crash barrier, road markings etc.	[Nil]
		(6) Wing walls/return walls	[Nil]
		(7)Guide Bunds, River Training works etc.	[Nil]
		(8)Approaches(including Retaining walls, stone pitching and protection works)	[Nil]
		B.1-Wideningandrepairsof (a) ROB (b) RUB	
		(1) Foundations	[Nil]
		(2) Sub-Structure	[Nil]
		(3) Super-Structure (Including bearings)	[Nil]
		(4)Wearing Coat(a)in case of ROB- wearing coat including expansion joints complete in all respects as specified and (b) In case of RUB-rigid pavement under RUB including drainage facility complete in all respects as specified	[Nil]
		(5) Miscellaneous Items like handrails, crash barrier, road markings etc.	[Nil]
		(6) Wing walls/Return walls	[Nil]
		(7) Approaches (Including Retaining walls, Stone Pitching and protection works)	[Nil]
		B.2-NewROB/RUB	
		(1) Foundations	[Nil]
		(2) Sub-Structure	[Nil]
		(3) Super-Structure (Including bearings)	[Nil]
		(4) Wearing Coat (a) in case of ROB- wearing coat including expansion joints complete in all respects	[Nil]

Item	Weightage in % of CP	Stage for Payment	Percentage
		as specified and (b) in case of RUB-rigid pavement under RUB including drainage facility complete in all respects as specified	
		(5) Miscellaneous Items like handrails, crash barrier, road markings etc.	[Nil]
		(6) Wing walls/Return walls	[Nil]
		(7)Approaches (including Retaining walls/Reinforced Earth wall, stone pitching and protection works)	[Nil]
		C.1- Widening and repair of Elevated Section/Flyovers/Grade Separators	
		(1) Foundations	[Nil]
		(2) Sub-Structure	[Nil]
		(3)Super-Structure(Including bearings)	[Nil]
		(4)Wearing Coat including expansion joints	[Nil]
		(5) Miscellaneous Items like handrails, crash barrier, road markings etc.	[Nil]
		(6) Wing walls/Return walls	[Nil]
		(7)Approaches (including Retaining walls/Reinforced Earth wall, stone pitching and protection works)	[Nil]
		C.2- New Elevated Section/Flyovers/Grade Separators	
		(1) Foundations	[Nil]
		(2) Sub-Structure	[Nil]
		(3)Super-Structure(Including bearings)	[Nil]
		(4)Wearing Coat including expansion joints	[Nil]
		(5) Miscellaneous Items like handrails, crash barrier, road markings etc.	[Nil]
		(6) Wing walls/Return walls	[Nil]
		(7)Approaches (including Retaining walls/Reinforced Earth wall, stone pitching and protection works)	[Nil]
Other Works	29.57 %	(i) Toll Plaza	[Nil]
		(ii) Road side drains	18.79%
		(iii) Road signs, markings, km stones, safety devices etc	4.12%
		(iv) Project facilities	
		a) Bus Bays	1.18%
		b) Truck Lay-byes	[Nil]
		c) Passenger Shelter	0.17%
		d) Rest Area	[Nil]
		e) Diversion Works	2.38%
		(v) Road side Plantation	[Nil]
		(vi) Repair of Protection Works other than approaches to the bridges, elevated sections/flyover/grade separators and ROBs/ RUBs	[Nil]

Item	Weightage in % of CP	Stage for Payment	Percentage
		(vii) Safety &Traffic Management during const.	[Nil]
		(viii) Breast Wall	17.73%
		(ix) Toe Wall	[Nil]
		(x) Retaining Wall	3.97%
		(xi) Crash Barrier	2.49%
		(xi) Boundary wall	[Nil]
		(xii) Site Clearance & Dismantling	4.13%
		(xiii) Protection Works	45.03%
		(xiv) Tunnel	[Nil]

1.3 Procedure of estimating the value of work done

1.3.1 Road works

Procedure for estimating the value of road work done shall be as follows:

Table 1.3.1

Stage of Payment	Percentage weightage	Payment Procedure
A- Widening & Strengthening of road		Unit of measurement is linear length. Payment of each stage shall be made on pro-rata basis on completion of a stage in a length of not less than 5(five)percent of the total length.
(1)Earthwork up to top of the sub-grade	[Nil]	
(2) Sub-base Course	[Nil]	
(3) Non bituminous Base course	[Nil]	
(4) Bituminous Base course	[Nil]	
(5) Wearing Coat	[Nil]	
(6) Widening and repair of culverts	[Nil]	Cost of ten completed culverts shall be determined on pro-rata basis with respect to the total number of culverts.
B.1- Reconstruction/New2-Lane Realignment/Bypass(Flexible Pavement)		Unit of measurement is linear length. Payment of each stage shall be made on pro-rata basis on completion of a stage in full length or 0.5(half) km length, whichever is less.
(1)Earthwork up to top of the sub-grade	33.8%	
(2) Sub-base Course	12.7%	
(3) Non bituminous Base course	15.88%	
(4) Bituminous Base course	14.8%	
(5) Wearing Coat	8.5%	
B.2- Reconstruction/New 8-Lane Realignment/Bypass (Rigid Pavement)		Unit of measurement is linear length. Payment of each stage shall be made on pro-rata basis on completion of a stage in full length or 5(five) km length, whichever is less.
(1)Earthwork up to top of the sub-grade	[Nil]	
(2) Sub-base Course	[Nil]	
(3) Dry Lean Concrete (DLC) Course	[Nil]	
(4) Pavement Quality Control (PQC) Course	[Nil]	
C.1- Reconstruction/New Service Road/ Slip Road (Flexible Pavement)		Unit of measurement is linear length. Payment of each stage shall be made on pro-rata basis on completion of a stage in full length or 5(five) km length, whichever is less.
(1)Earthwork up to top of the sub-grade	[Nil]	
(2) Sub-base Course	[Nil]	
(3) Non bituminous Base course	[Nil]	
(4) Bituminous Basecourse	[Nil]	
(5) Wearing Coat	[Nil]	
C.2- Reconstruction/New Service road (Rigid Pavement)		Unit of measurement is linear length. Payment of each stage shall be made on pro-rata basis on completion of a stage in full length or 5(five) km length, whichever is less.
(1)Earthwork up to top of the sub-grade	[Nil]	
(2) Sub-base Course	[Nil]	
(3) Dry Lean Concrete (DLC)Course	[Nil]	
(4) Pavement Quality Control (PQC) Course	[Nil]	
D-Reconstruction & New Culverts on existing road, realignments, bypasses		Cost of each culverts shall be determined on pro-rata basis with respect to the total number of culverts. Payment shall be made on the completion of at
Culverts (length <6m)	14.32%	

Stage of Payment	Percentage weightage	Payment Procedure
		least one culverts

@ For example, if the total length of bituminous work to be done is 100 km, the cost per km of bituminous work shall be determined as follows:

Cost per km = P x weightage for road work x weightage for bituminous work x (1/L)

Where,

P = Contract Price

L = Total length in km

Similarly, the rates per km for other stages shall be worked out accordingly.

Note: The length affected due to law and order problems or litigation during execution due to which the Contractor is unable to execute the work, may be deducted from the total project length for payment purposes. The total length calculated here is only for payment purposes and will not affect and referred in other clauses of the Contract Agreement.

1.3.2 Minor Bridges and Underpasses/Overpasses.

Procedure for estimating the value of Minor bridge and Underpasses/Overpasses shall be as stated in table 1.3.2:

Table 1.3.2

Stage of Payment	Weightage	Payment Procedure
1	2	3
A.1-Widening and repairs of Minor Bridges(length>6m&<60m)	Nil	Cost of each minor bridge shall be determined on pro-rata basis with respect to the total linear length of the minor bridges. Payment shall be made on the completion of widening & repair works of a minor bridge
A.2- New Minor Bridges (length > 6m & < 60m)		
(1)Foundation + Sub-Structure: On completion of the foundation work including foundations for wing and return walls, abutments, piers up to the abutment/pier cap.	59.6%	Foundation: Cost of each minor bridge shall be determined on pro-rata basis with respect to the total linear length (m) of the minor bridges. Payment against foundation shall be made on pro-rata basis on completion of a stage i.e. Not less than 25% of the scope of foundation of each bridge. In case where load testing is required for foundation, the trigger of first payment shall include load testing also where specified.
(2)Super-structure: On completion of the super-structure in all respects including wearing coat, bearings, expansion joints, hand rails, crash barriers, road,signs & markings, tests on completion etc. complete in all respect.	37.56%	Super-structure: Payment shall be made on pro-rata basis on completion of a stage i.e. completion of super structure of at least one span in all respects as specified in the column of "Stage of Payment" in this sub-clause. In case of structures where pre-cast girders have been proposed by the Contractor, 50% of the stage payment shall be due and payable on casting of girders for each span and balance 50% of the stage payment shall be made on completion of

Stage of Payment	Weightage	Payment Procedure
		stage specified as above
(3)Approaches :On completion of approaches including Retaining walls, stone pitching, protection works complete in all and fit for use	2.84%	Approaches: Payment shall be made on pro-rata basis on completion of a stage i.e. completion of approaches in all respect as specified in the column of "Stage of Payment" in this sub-clause.
(4) Guide Bunds and River Training Works: On completion of Guide Bunds and river training works complete in all respects	[Nil]	Guide Bunds and River Training Works: Payment shall be made on pro-rata basis on completion of a stage i.e. completion of Guide Bund sand River training Works in all respects as specified
B.1- Widening and repairs of underpasses/overpasses	[Nil]	Cost of each underpass/overpass shall be determined on pro-rata basis with respect to the total linear length of the underpasses/ overpasses. Payment shall be made on the completion of widening & repair works of a underpass/overpass.
B.2- New Underpasses/Overpasses		
(1)Foundation + Sub-Structure: On completion of the foundation work including foundations for wing and return walls, abutments, piers up to the abutment/pier cap.	[Nil]	Foundation: Cost of each Underpass/ Overpass shall be determined on pro- rata basis with respect to the total linear length (m) of the Underpasses/Overpasses. Payment against foundation shall be made on pro-rata basis on completion of a stage i.e. Not less than 25% of the scope of foundation of each Underpasses/ Overpasses. In case where load testing is required for foundation, the trigger of first payment shall include load testing also where specified.
(2)Super-structure: On completion of the super-structure in all respects including wearing coat, bearings, expansion joints, hand rails, crash barriers, road signs & markings, tests on completion etc. complete in all respect. Wearing Coat (a) in case of Overpass-wearing coat including expansion joints complete in all respects as specified and (b) in case of underpass- rigid pavement including drainage facility complete in all respects as specified.	[Nil]	Super-structure: Payment shall be made on pro-rata basis on completion of a stage i.e. completion of super- structure of at least one span in all respects as specified in the column of "Stage of Payment" in this sub-clause. In case of structures where pre-cast girders have been proposed by the Contractor,50% of the stage payment shall be due and payable on casting of girders for each span and balance 50% of the stage payment shall be made on completion of stage specified as above
(3) Approaches: On completion of approaches including Retaining walls/ Reinforced Earth walls, stone pitching, protection works complete in all respect and fit for use.	[Nil]	Payment shall be made on pro-rata basis on completion of a stage in all respects as specified

1.3.3 Major Bridge works, ROB/RUB and Structures.

Procedure for estimating the value of Major Bridge works, ROB/RUB and Structures shall be as stated in table 1.3.3:

Table 1.3.3

Stage of Payment	Weightage	Payment Procedure
A.1- Widening and repairs of Major Bridges		
(1) Foundation	[Nil]	Foundation: Cost of each Major Bridge shall be determined on pro-rata basis with respect to the total linear length (m) of the Major Bridge. Payment against foundation shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of foundation of the major Bridge. In case where load testing is required for foundation, the trigger of first payment shall include load testing also where specified.
(2) Sub-structure	[Nil]	Sub-structure: Payment against sub- structure shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of sub- structure of major bridge.
(3)Super-structure(including bearings)	[Nil]	Super-structure: Payment shall be made on pro-rata basis on completion of a stage i.e. completion of super- structure including bearings of at least one span in all respects as specified. In case of structures where pre-cast girders have been proposed by the Contractor,50% of the stage payment shall be due and payable on casting of girders for each span and balance 50% of the stage payment shall be made on completion of stage specified as above
(4)Wearing Coat including expansion joints	[Nil]	Wearing Coat: Payment shall be made on completion of wearing coat including expansion joints complete in all respects as specified.
(5) Miscellaneous Items like handrails, crash barrier, road markings etc.	[Nil]	Miscellaneous: Payments shall be made on completion of all miscellaneous works like handrails, crash barriers, road markings etc. complete in all respects as specified.
(6) Wing walls/return walls	[Nil]	Wingwalls/return walls: Payments shall be made on completion of all wing walls/return walls complete in all respects as specified.
(7)Guide Bunds, River Training works etc.	[Nil]	Guide Bunds, River Training works: Payments shall be made on completion of all guide bunds/river training works etc. complete in all respects as specified.
(8)Approaches(including Retaining walls, stone pitching and protection works)	[Nil]	Approaches: Payments shall be made on pro-rata basis on completion of 10% of the scope of each stage.
A.2-NewMajorBridges		
(1)Foundation	[Nil]	Foundation: Cost of each Major Bridge shall be determined on pro-rata basis with respect to the total linear length (m) of the Major Bridge. Payment against foundation shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of foundation of the major Bridge. In case where load testing is required for foundation, the trigger of first payment shall include load testing also where specified.
(2)Sub-structure	[Nil]	Sub-structure: Payment against sub- structure shall be made on pro-rata basis on completion of a stage i.e. not

Stage of Payment	Weightage	Payment Procedure
		lessthan25% of the scope of sub- structure of major bridge.
(3)Super-structure(including bearings)	[Nil]	Super-structure: Payment shall be made on pro-rata basis on completion of a stage i.e. completion of super- structure including bearings of at least one span in all respects as specified. In case of structures where pre-cast girders have been proposed by the Contractor, 50% of the stage payment shall be due and payable on casting of girders for each span and balance 50% of the stage payment shall be made on completion of stage specified as above
(4)Wearing Coat including expansion joints	[Nil]	Wearing Coat: Payment shall be made on completion of wearing coat including expansion joints complete in all respects as specified.
(5) Miscellaneous Items like handrails, crash barrier, road markings etc.	[Nil]	Miscellaneous: Payments shall be made on completion of all miscellaneous works like handrails, crash barriers, road markings. complete in all respects as specified.
(6) Wing walls/return walls	[Nil]	Wingwalls/return walls: Payments shall be made on completion of all wing walls/return walls complete in all respects as specified.
(7)Guide bunds, River Training works etc.	[Nil]	Guide Bunds, River Training works: Payments shall be made on completion of all guide bunds/river training works etc. complete in all respects as specified.
(8)Approaches(including Retaining walls, stone pitching and protection works)	[Nil]	Approaches: Payments shall be made on pro-rata basis on completion of 10% of the scope of each stage.
B.1- Widening and repairs of (a)ROB (b)RUB		
(1) Foundations	[Nil]	Foundation: Cost of each ROB/RUB shall be determined on pro-rata basis with respect to the total linear length (m)of the ROB/RUB. Payment against foundation shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of foundation of the ROB/RUB. In case where load testing is required for foundation, the trigger of first payment shall include load testing also where specified.
(2) Sub-Structure	[Nil]	Sub-structure: Payment against sub- structure shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of sub- structure of ROB/RUB.
(3) Super-Structure (Including bearings)	[Nil]	Super-structure: Payment shall be made on pro-rata basis on completion of a stage i.e. completion of super- structure including bearings of at least one span in all respects as specified. In case of structures where pre-cast girders have been proposed by the Contractor,50%ofthe stage payment shall be due and payable on casting of girders for each span and balance 50% of the stage payment shall be made on completion of stage specified as above
(4) Wearing Coat(a)in case of ROB-wearing coat including expansion joints complete in all respects as specified and (b) in case of RUB-rigid pavement under RUB including drainage facility complete in all respects as specified	[Nil]	Wearing Coat: Payment shall be made on completion (a) in case of ROB-wearing coat including expansion joints complete in all respects as specified and (b) in case of RUB-rigid pavement under RUB including

Stage of Payment	Weightage	Payment Procedure
		drainage facility complete in all respects as specified.
(5) Miscellaneous Items like handrails, crash barrier, road markings etc.	[Nil]	Miscellaneous: Payments shall be made on completion of all miscellaneous works like handrails, crash barriers, road markings etc. complete in all respects as specified.
(6) Wing walls/Return walls	[Nil]	Wingwalls/return walls: Payments shall be made on completion of all wing walls/return walls complete in all respects as specified.
(7) Approaches (Including Retaining walls, Stone Pitching and protection works)	[Nil]	Payments shall be made on pro-rata basis on completion of 20% of the total area.
B.2-NewROB/RUB		
(1) Foundation	[Nil]	Foundation: Cost of each ROB/RUB shall be determined on pro-rata basis with respect to the total linear length (m)of the ROB/RUB. Payment against foundation shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of foundation of the ROB/RUB.
(2) Sub-structure	[Nil]	Sub-structure: Payment against sub- structure shall be made on pro-rata basis on completion of a stage i.e. Not less than 25% of the scope of sub- structure of ROB/RUB.
(3) Super-structure (including bearing)	[Nil]	Super-structure: Payment shall be made on pro-rata basis on completion of a stage i.e. completion of super- structure including bearings of at least one span in all respects as specified. In case of structures where pre-cast girders have been proposed by the Contractor,50% of the stage payment shall be due and payable on casting of girders for each span and balance 50% of the stage payment shall be made on completion of stage specified as above
(4)Wearing Coat (a) in case of ROB- wearing coat including expansion joints complete in all respects as specified and (b) in case of RUB-rigid pavement under RUB including drainage facility complete in all respects as specified	[Nil]	Wearing Coat: Payment shall be made on completion (a) in case of ROB-wearing coat including expansion joints complete in all respects as specified and (b) In case of RUB-rigid pavement under RUB including drainage facility complete in all respects as specified.
(5) Miscellaneous Items like handrails, crash barrier, road markings etc.	[Nil]	Miscellaneous: Payments shall be made on completion of all miscellaneous works like handrails, crash barriers, road markings etc. Complete in all respects as specified.
(6) Wing walls/Return walls	[Nil]	Wingwalls/return walls: Payments shall be made on completion of all wing walls/return walls complete in all respects as specified.
(7)Approaches (including Retaining walls/Reinforced Earth wall, stone pitching and protection works)	[Nil]	Payment shall be made on pro-rata basis on completion of a stage in all respects as specified
C.1-Wideningandrepairs of Elevated Section/ Flyovers/Grade Separators		
(1) Foundations	[Nil]	Foundation: Cost of each structure shall be determined on pro-rata basis with respect to the total linear length (m)of the structure. Payment against foundation shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of foundation of the structure.

Stage of Payment	Weightage	Payment Procedure
		In case where load testing is required for foundation, the trigger of first payment shall include load testing also where specified.
(2) Sub-Structure	[Nil]	Sub-structure: Payment against sub- structure shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of sub- structure of structure.
(3) Super-Structure(Including bearings)	[Nil]	Super-structure: Payment shall be made on pro-rata basis on completion of a stage i.e. completion of super- structure including bearings of at least one span in all respects as specified. In case of structures where pre-cast girders have been proposed by the Contractor,50% of the stage payment shall be due and payable on casting of girders for each span and balance 50% of the stage payment shall be made on completion of stage specified as above
(4) Wearing Coat including expansion joints	[Nil]	Wearing Coat: Payment shall be made on completion of wearing coat including expansion joints complete in all respects as specified.
(5) Miscellaneous Items like handrails, crash barrier, road markings etc.	[Nil]	Miscellaneous: Payments shall be made on completion of all miscellaneous works like handrails, crash barriers, road markings etc. Complete in all respects as specified.
(6) Wing walls/Return walls	[Nil]	Wingwalls/return walls: Payments shall be made on completion of all wing walls/return walls complete in all respects as specified.
(7) Approaches (including Retaining walls/Reinforced Earth wall, stone pitching and protection works)	[Nil]	Payment shall be made on pro-rata basis on completion of a stage in all respects as specified
C.2- New Elevated Section/ Flyovers/Grade Separators		
(1) Foundations	[Nil]	Foundation: Cost of each structure shall be determined on pro-rata basis with respect to the total linear length (m)of the structure. Payment against foundation shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of foundation of the structure. In case where load testing is required for foundation, the trigger of first payment shall include load testing also where specified.
(2) Sub-Structure	[Nil]	Sub-structure: Payment against sub- structure shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of sub- structure of structure.
(3)Super-Structure(Including bearings)	[Nil]	Super-structure: Payment shall be made on pro-rata basis on completion of a stage i.e. completion of super- structure including bearings of at least one span in all respects as specified. In case of structures where pre-cast girders have been proposed by the Contractor,50% of the stage payment shall be due and payable on casting of girders foreach span and balance 50% of the stage payment shall be made on completion of stage specified as above
(4)Wearing Coat including expansion joints	[Nil]	Wearing Coat: Payment shall be made on completion of wearing coat including expansion joints complete in all respects as specified.
(5) Miscellaneous Items like handrails, crash barrier, road	[Nil]	Miscellaneous: Payments shall be made on completion of all miscellaneous works like handrails, crash barriers, road

Stage of Payment	Weightage	Payment Procedure
markings etc.		markings etc. complete in all respects as specified.
(6) Wing walls/Return walls	[Nil]	Wingwalls/return walls: Payments shall be made on completion of all wing walls/return walls complete in all respects as specified.
(7)Approaches (including Retaining walls/Reinforced Earth wall, stone pitching and protection works)	[Nil]	Payments shall be made on pro-rata basis on completion of 20% of the total area.

Note: (1) In case of innovate Major Bridge projects like cable suspension/cable stayed/ Extra Dozed and exceptionally long span bridges, the schedule may be modified as per site requirements before bidding with due approval of Competent Authority.

(2) The Schedule for exclusive tunnel projects may be prepared as per site requirements before bidding with due approval of Competent Authority.

1.3.4 Other works.

Procedure for estimating the value of other works done shall be as stated in table 1.3.4.

Table 1.3.4

Stage of Payment	Weightage	Payment Procedure
1	2	3
(1) Toll Plaza	[Nil]	Unit of measurement is each completed toll plaza. Payment of each toll plaza shall be made on pro-rata basis with respect to the total of all toll plaza.
(2) Roadside drains	18.79%	Unit of measurement is linear length. Payment shall be made on pro-rata basis on completion of a stage in a length of not less than 5% (five percent)of the total length.
(3) Road signs, markings, km stones, safety devices etc.	4.12%	
(4) Project Facilities		Payment shall be made on pro-rata basis for completed facilities.
a) Bus Bays	1.18%	
b) Truck Lay-byes	[Nil]	
c) Passenger Shelter	0.17%	
d) Rest Area	[Nil]	
e) Diversion Works	2.38%	
(5) Road side Plantation including Horticulture in Wayside Amenities	[Nil]	Unit of measurement is linear length
(6) Repair of Protection Works other than approaches to the bridges, elevated sections/flyover/grade separators and ROBs/ RUBs	[Nil]	Unit of measurement is linear length. Payment shall be made on pro-rata basis on completion of a stage in a length of not less than 5% (five percent)of the total length.
(7) Safety and traffic management during construction	[Nil]	Payment shall be made on prorate basis every six months.

Stage of Payment	Weightage	Payment Procedure
(8) Protection Works		Unit of measurement is linear length. Payment shall be made on pro-rata basis on completion of a stage in a length of not less than 5% (five percent)of the total length.
(a) Breast Wall	17.73%	
(b) Toe Wall	[Nil]	
(c)Retaining Wall	3.97%	
(c) Crash Barrier	2.49%	
(9) Site Clearance & Dismantling	4.13%	Unit of measurement is linear length. Payment shall be made on pro-rata basis on completion of a stage in a length of not less than 5% (five percent)of the total length.
(10) Protection Works	45.03%	Unit of measurement is linear length. Payment shall be made on pro-rata basis on completion of a stage in a length of not less than 5% (five percent)of the total length.
(11) Tunnel	[Nil]	Unit of measurement is linear length. Payment shall be made on pro-rata basis on completion of a stage in a length of not less than 5% (five percent)of the total length.

2. Procedure for payment for Maintenance

2.1 The cost for maintenance shall be as stated in Clause 14.1.1.

2.2 Payment for Maintenance shall be made in quarterly instalments in accordance with the provisions of Clause 19.7.