Schedule-A

(See Clauses 2.1 and 8.1)

Site of the Project

1 TheSite

(i) Site of the [Two-Lane] Project Highway shall include the land, buildings, structures, and road works as described in Annex-I of thisSchedule-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 Clause8.2 (i) of this Agreement.

(iv) ThealignmentplansoftheProjectHighwayarespecifiedinAnnex-III.Inthecaseof sectionswhere nomodificationintheexisting alignmentofthe ProjectHighwayis contemplated,thealignment planhasnotbeenprovided.Alignmentplanshaveonly beengivenforsectionswheretheexistingalignment isproposedtobeupgraded.The proposedprofileoftheProjectHighwaysshallbefollowedby thecontractorwith minimumFRL asindicatedinthealignmentplan.TheContractor,however, improve/upgradethe RoadProfileas indicatedinAnnex-III based onsite/design requirement.

(v) The status of the environment clearances obtainedor awaitedis givenin 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 Siteof the [Two-Lane] Project Highway comprises the section of NH-53 commencing from km 67+495to km 85+486 i.e. near Rangkhung Village to near Awangkhul 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	67+495	67+520	12	24	
2	67+520	67+545	12	24	
3	67+545	67+570	12	24	
4	67+570	67+595	12	14	
5	67+595	67+620	12	24	
6	67+620	67+645	12	24	
7	67+645	67+670	12	24	
8	67+670	67+695	12	24	
9	67+695	67+720	12	24	
10	67+720	67+745	12	24	
11	67+745	67+770	12	24	
12	67+770	67+795	12	24	
13	67+795	67+820	12	24	
14	67+820	67+845	12	24	
15	67+845	67+870	12	24	
16	67+870	67+895	12	24	
17	67+895	67+920	12	24	
18	67+920	67+945	12	24	
19	67+945	67+970	11.68	24	
20	67+970	67+995	12	24	
21	67+995	68+020	12	24	
22	68+020	68+045	12	24	
23	68+045	68+070	12	24	
24	68+070	68+095	12	24	
25	68+095	68+120	12	24	
26	68+120	68+145	12	24	
27	68+145	68+170	12	24	
28	68+170	68+195	12	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
29	68+195	68+220	12	24	
30	68+220	68+245	11.59	24	
31	68+245	68+270	12.14	24	
32	68+270	68+295	11.16	24	
33	68+295	68+320	10.71	24	
34	68+320	68+345	10.68	24	
35	68+345	68+370	10.62	24	
36	68+370	68+395	12	24	
37	68+395	68+420	12	24	
38	68+420	68+445	11.29	24	
39	68+445	68+470	10.83	24	
40	68+470	68+495	10.8	24	
41	68+495	68+520	12	24	
42	68+520	68+545	12	24	
43	68+545	68+570	12	24	
44	68+570	68+595	12	24	
45	68+595	68+620	12	24	
46	68+620	68+645	12	24	
47	68+645	68+670	11.21	24	
48	68+670	68+695	12	24	
49	68+695	68+720	12	24	
50	68+720	68+745	10.56	24	
51	68+745	68+770	9.98	24	
52	68+770	68+795	10.28	24	
53	68+795	68+820	11.16	24	
54	68+820	68+845	12	24	
55	68+845	68+870	12	24	
56	68+870	68+895	12	24	
57	68+895	68+920	11.75	24	
58	68+920	68+945	12	24	
59	68+945	68+970	12	24	
60	68+970	68+995	11.06	24	
61	68+995	69+020	11.96	24	
62	69+020	69+045	12	24	
63	69+045	69+070	12	24	
64	69+070	69+095	12	24	
65	69+095	69+120	12	24	
66	69+120	69+145	12	24	
67	69+145	69+170	12.06	24	
68	69+170	69+195	11.75	24	
69	69+195	69+220	12.3	24	
70	69+220	69+245	11.05	24	
71	69+245	69+270	12.67	24	
72	69+270	69+295	11.91	24	
73	69+295	69+320	12.22	24	
74	69+320	69+345	12.57	24	
75	69+345	69+370	12	24	
76	69+370	69+395	12	24	
77	69+395	69+420	11.36	24	
78	69+420	69+445	12	24	
79	69+445	69+470	12	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
80	69+470	69+495	12	24	
81	69+495	69+520	12	24	
82	69+520	69+545	12	24	
83	69+545	69+570	12	24	
84	69+570	69+595	15.03	24	
85	69+595	69+620	12.35	24	
86	69+620	69+645	11.08	24	
87	69+645	69+670	11.1	24	
88	69+670	69+695	14.94	24	
89	69+695	69+720	13.09	24	
90	69+720	69+745	12.8	24	
91	69+745	69+770	10.72	24	
92	69+770	69+795	12.58	24	
93	69+795	69+820	9.89	24	
94	69+820	69+845	14.4	24	
95	69+845	69+870	11.39	24	
96	69+870	69+895	12.58	24	
97	69+895	69+920	14.64	24	
98	69+920	69+945	12.4	24	
99	69+945	69+970	12	24	
100	69+970	69+995	12	24	
101	69+995	70+020	12	24	
102	70+020	70+045	12	24	
103	70+045	70+070	12	24	
104	70+070	70+095	12	24	
105	70+095	70+120	12	24	
106	70+120	70+145	11.93	24	
107	70+145	70+170	11.49	24	
108	70+170	70+195	12	24	
109	70+195	70+220	12	24	
110	70+220	70+245	12	24	
111	70+245	70+270	12	24	
112	70+270	70+295	12	24	
113	70+295	70+320	12	24	
114	70+320	70+345	12	24	
115	70+345	70+370	12	24	
116	70+370	70+395	16.02	24	
117	70+395	70+420	13.06	24	
118	70+420	70+445	13.22	24	
119	70+445	70+470	12	24	
120	70+470	70+495	12	24	
121	70+495	70+520	13.02	24	
122	70+520	70+545	13.52	24	
123	70+545	70+570	12.13	24	
124	70+570	70+595	12	24	
125	70+595	70+620	15.45	24	
126	70+620	70+645	11.7	24	
127	70+645	70+670	12.06	24	
128	70+670	70+695	12.6	24	
129	70+695	70+720	12.19	24	
130	70+720	70+745	13.38	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
131	70+745	70+770	13.26	24	
132	70+770	70+795	18.38	24	
133	70+795	70+820	23.03	24	
134	70+820	70+845	14.6	24	
135	70+845	70+870	15.71	24	
136	70+870	70+895	15.34	24	
137	70+895	70+920	16.26	24	
138	70+920	70+945	20.13	24	
139	70+945	70+970	12	24	
140	70+970	70+995	12	24	
141	70+995	71+020	12	24	
142	71+020	71+045	12	24	
143	71+045	71+070	12	24	
144	71+070	71+095	12	24	
145	71+095	71+120	12	24	
146	71+120	71+145	12	24	
147	71+145	71+170	12	24	
148	71+170	71+195	12	24	
149	71+195	71+220	12	24	
150	71+220	71+245	12	24	
151	71+245	71+270	12	24	
152	71+270	71+295	12	24	
153	71+295	71+320	12	24	
154	71+320	71+345	12	24	
155	71+345	71+370	12	24	
156	71+370	71+395	12	24	
157	71+395	71+420	12	24	
158	71+420	71+445	12	24	
159	71+445	71+470	12	24	
160	71+470	71+495	12	24	
161	71+495	71+520	12	24	
162	71+520	71+545	12	24	
163	71+545	71+570	12	24	
164	71+570	71+595	12	24	
165	71+595	71+620	12	24	
166	71+620	71+645	12	24	
167	71+645	71+670	12	24	
168	71+670	71+695	12	24	
169	71+695	71+720	12	24	
170	71+720	71+745	12	24	
171	71+745	71+770	12	24	
172	71+770	71+795	10.95	24	
173	71+795	71+820	10.32	24	
174	71+820	71+845	10.85	24	
175	71+845	71+870	10.84	24	
176	71+870	71+895	11.61	24	
177	71+895	71+920	21.61	24	
178	71+920	71+945	18.4	24	
179	71+945	71+970	13.66	24	
180	71+970	71+995	11.46	24	
181	71+995	72+020	11.15	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
182	72+020	72+045	10.94	24	
183	72+045	72+070	13.48	24	
184	72+070	72+095	12.34	24	
185	72+095	72+120	11.87	24	
186	72+120	72+145	11.56	24	
187	72+145	72+170	11.27	24	
188	72+170	72+195	13.33	24	
189	72+195	72+220	12.01	24	
190	72+220	72+245	13.66	24	
191	72+245	72+270	12.72	24	
192	72+270	72+295	11.55	24	
193	72+295	72+320	14.23	24	
194	72+320	72+345	12.05	24	
195	72+345	72+370	11.21	24	
196	72+370	72+395	11.27	24	
197	72+395	72+420	12.05	24	
198	72+420	72+445	11.46	24	
199	72+445	72+470	11.87	24	
200	72+470	72+495	15.12	24	
201	72+495	72+520	11.63	24	
202	72+520	72+545	11.71	24	
203	72+545	72+570	11.89	24	
204	72+570	72+595	11.21	24	
205	72+595	72+620	11.64	24	
206	72+620	72+645	10.34	24	
207	72+645	72+670	11.82	24	
208	72+670	72+695	10.89	24	
209	72+695	72+720	10.53	24	
210	72+720	72+745	9.99	24	
211	72+745	72+770	10.56	24	
212	72+770	72+795	10.02	24	
213	72+795	72+820	9.94	24	
214	72+820	72+845	10.61	24	
215	72+845	72+870	10.35	24	
216	72+870	72+895	13.63	24	
217	72+895	72+920	15.15	24	
218	72+920	72+945	32.67	24	
219	72+945	72+970	30.72	24	
220	72+970	72+995	20.89	24	
221	72+995	73+020	10.46	24	
222	73+020	73+045	11.4	24	
223	73+045	73+070	10.07	24	
224	73+070	73+095	11.16	24	
225	73+095	73+120	13.11	24	
226	73+120	73+145	12.11	24	
227	73+145	73+170	11.14	24	
228	73+170	73+195	12.79	24	
229	73+195	73+220	12	24	
230	73+220	73+245	12	24	
231	73+245	73+270	12	24	
232	73+270	73+295	12	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
233	73+295	73+320	12	24	
234	73+320	73+345	12	24	
235	73+345	73+370	12	24	
236	73+370	73+395	10.64	24	
237	73+395	73+420	9.93	24	
238	73+420	73+445	9.58	24	
239	73+445	73+470	10.21	24	
240	73+470	73+495	11.77	24	
241	73+495	73+520	9.39	24	
242	73+520	73+545	10.52	24	
243	73+545	73+570	9.88	24	
244	73+570	73+595	10.04	24	
245	73+595	73+620	13.47	24	
246	73+620	73+645	11.78	24	
247	73+645	73+670	12.38	24	
248	73+670	73+695	10.95	24	
249	73+695	73+720	10.66	24	
250	73+720	73+745	11.66	24	
251	73+745	73+770	44.25	24	
252	73+770	73+795	12.79	24	
253	73+795	73+820	12.07	24	
254	73+820	73+845	11.84	24	
255	73+845	73+870	12.13	24	
256	73+870	73+895	12.86	24	
257	73+895	73+920	12.56	24	
258	73+920	73+945	12	24	
259	73+945	73+970	12	24	
260	73+970	73+995	12	24	
261	73+995	74+020	12	24	
262	74+020	74+045	14.76	24	
263	74+045	74+070	11.84	24	
264	74+070	74+095	13.93	24	
265	74+095	74+120	10.66	24	
266	74+120	74+145	11.37	24	
267	74+145	74+170	10.74	24	
268	74+170	74+195	12.25	24	
269	74+195	74+220	12.29	24	
270	74+220	74+245	13.64	24	
271	74+245	74+270	11.73	24	
272	74+270	74+295	10.57	24	
273	74+295	74+320	11.59	24	
274	74+320	74+345	10.75	24	
275	74+345	74+370	10.58	24	
276	74+370	74+395	10	24	
277	74+395	74+420	11.33	24	
278	74+420	74+445	15.03	24	
279	74+445	74+470	11.49	24	
280	74+470	74+495	10.72	24	
281	74+495	74+520	10.18	24	
282	74+520	74+545	12.05	24	
283	74+545	74+570	12.82	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
284	74+570	74+595	10.9	24	
285	74+595	74+620	12.4	24	
286	74+620	74+645	12	24	
287	74+645	74+670	12	24	
288	74+670	74+695	10.86	24	
289	74+695	74+720	11.71	24	
290	74+720	74+745	12.41	24	
291	74+745	74+770	12.01	24	
292	74+770	74+795	12.72	24	
293	74+795	74+820	12.7	24	
294	74+820	74+845	11.26	24	
295	74+845	74+870	11.65	24	
296	74+870	74+895	12.8	24	
297	74+895	74+920	14.61	24	
298	74+920	74+945	12.98	24	
299	74+945	74+970	12.82	24	
300	74+970	74+995	12.97	24	
301	74+995	75+020	11.56	24	
302	75+020	75+045	11.58	24	
303	75+045	75+070	11.33	24	
304	75+070	75+095	15.83	24	
305	75+095	75+120	12.03	24	
306	75+120	75+145	13.15	24	
307	75+145	75+170	11.1	24	
308	75+170	75+195	9.98	24	
309	75+195	75+220	11.17	24	
310	75+220	75+245	11.46	24	
311	75+245	75+270	12.07	24	
312	75+270	75+295	11.82	24	
313	75+295	75+320	14.76	24	
314	75+320	75+345	12.53	24	
315	75+345	75+370	12.27	24	
316	75+370	75+395	13.24	24	
317	75+395	75+420	14.63	24	
318	75+420	75+445	13.69	24	
319	75+445	75+470	13.15	24	
320	75+470	75+495	13.02	24	
321	75+495	75+520	11.89	24	
322	75+520	75+545	11.95	24	
323	75+545	75+570	11.33	24	
324	75+570	75+595	10.36	24	
325	75+595	75+620	11.3	24	
326	75+620	75+645	11.04	24	
327	75+645	75+670	12.57	24	
328	75+670	75+695	10.18	24	
329	75+695	75+720	12	24	
330	75+720	75+745	12	24	
331	75+745	75+770	12	24	
332	75+770	75+795	12	24	
333	75+795	75+820	12	24	
334	75+820	75+845	13.28	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
335	75+845	75+870	12.71	24	
336	75+870	75+895	13.71	24	
337	75+895	75+920	11.17	24	
338	75+920	75+945	13.05	24	
339	75+945	75+970	11.45	24	
340	75+970	75+995	12.76	24	
341	75+995	76+020	11.67	24	
342	76+020	76+045	12	24	
343	76+045	76+070	12	24	
344	76+070	76+095	12	24	
345	76+095	76+120	12.36	24	
346	76+120	76+145	12.89	24	
347	76+145	76+170	10.6	24	
348	76+170	76+195	11.89	24	
349	76+195	76+220	12	24	
350	76+220	76+245	12	24	
351	76+245	76+270	12	24	
352	76+270	76+295	12	24	
353	76+295	76+320	12	24	
354	76+320	76+345	12	24	
355	76+345	76+370	12	24	
356	76+370	76+395	12	24	
357	76+395	76+420	12	24	
358	76+420	76+445	12	24	
359	76+445	76+470	12	24	
360	76+470	76+495	12	24	
361	76+495	76+520	12	24	
362	76+520	76+545	12	24	
363	76+545	76+570	12	24	
364	76+570	76+595	12	24	
365	76+595	76+620	12	24	
366	76+620	76+645	12	24	
367	76+645	76+670	12	24	
368	76+670	76+695	12	24	
369	76+695	76+720	12	24	
370	76+720	76+745	12	24	
371	76+745	76+770	12	24	
372	76+770	76+795	12	24	
373	76+795	76+820	12	24	
374	76+820	76+845	12	24	
375	76+845	76+870	12	24	
376	76+870	76+895	12	24	
377	76+895	76+920	12	24	
378	76+920	76+945	12	24	
379	76+945	76+970	12	24	
380	76+970	76+995	12	24	
381	76+995	77+020	12	24	
382	77+020	77+045	12	24	
383	77+045	77+070	12	24	
384	77+070	77+095	12	24	
385	77+095	77+120	12	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
386	77+120	77+145	12	24	
387	77+145	77+170	12	24	
388	77+170	77+195	12	24	
389	77+195	77+220	12	24	
390	77+220	77+245	12	24	
391	77+245	77+270	12	24	
392	77+270	77+295	12	24	
393	77+295	77+320	10.56	24	
394	77+320	77+345	11.44	24	
395	77+345	77+370	10.61	24	
396	77+370	77+395	11.55	24	
397	77+395	77+420	12	24	
398	77+420	77+445	12.75	24	
399	77+445	77+470	13.08	24	
400	77+470	77+495	13.67	14	
401	77+495	77+520	12	14	
402	77+520	77+545	12	14	
403	77+545	77+570	12	14	
404	77+570	77+595	12	14	
405	77+595	77+620	12	14	
406	77+620	77+645	12	14	
407	77+645	77+670	12	14	
408	77+670	77+695	12	14	
409	77+695	77+720	12	14	
410	77+720	77+745	12	14	
411	77+745	77+770	12	14	
412	77+770	77+795	12	14	
413	77+795	77+820	12	14	
414	77+820	77+845	12	14	
415	77+845	77+870	12	14	
416	77+870	77+895	12	14	
417	77+895	77+920	12	14	
418	77+920	77+945	12	14	
419	77+945	77+970	12	14	
420	77+970	77+995	12	14	
421	77+995	78+020	12	14	
422	78+020	78+045	12	14	
423	78+045	78+070	12	14	
424	78+070	78+095	12	14	
425	78+095	78+120	12	14	
426	78+120	78+145	12	14	
427	78+145	78+170	12	14	
428	78+170	78+195	12	14	
429	78+195	78+220	12	14	
430	78+220	78+245	12	14	
431	78+245	78+270	12	14	
432	78+270	78+295	12	14	
433	78+295	78+320	12	14	
434	78+320	78+345	12	14	
435	78+345	78+370	12	14	
436	78+370	78+395	12	14	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
437	78+395	78+420	12	14	
438	78+420	78+445	12	14	
439	78+445	78+470	12	14	
440	78+470	78+495	12	14	
441	78+495	78+520	12	14	
442	78+520	78+545	12	14	
443	78+545	78+570	12	14	
444	78+570	78+595	12	14	
445	78+595	78+620	12	14	
446	78+620	78+645	12	14	
447	78+645	78+670	12	14	
448	78+670	78+695	12	14	
449	78+695	78+720	12	14	
450	78+720	78+745	12	14	
451	78+745	78+770	12	14	
452	78+770	78+795	12	14	
453	78+795	78+820	12	24	
454	78+820	78+845	12	24	
455	78+845	78+870	12	24	
456	78+870	78+895	12	24	
457	78+895	78+920	12	24	
458	78+920	78+945	12	24	
459	78+945	78+970	12	24	
460	78+970	78+995	12	24	
461	78+995	79+020	12	24	
462	79+020	79+045	12	24	
463	79+045	79+070	12.51	24	
464	79+070	79+095	11.88	24	
465	79+095	79+120	13.14	24	
466	79+120	79+145	12.59	24	
467	79+145	79+170	12.41	24	
468	79+170	79+195	13	24	
469	79+195	79+220	13.54	24	
470	79+220	79+245	11.42	24	
471	79+245	79+270	11.26	24	
472	79+270	79+295	12	24	
473	79+295	79+320	12	24	
474	79+320	79+345	12	24	
475	79+345	79+370	12	24	
476	79+370	79+395	12	24	
477	79+395	79+420	12	24	
478	79+420	79+445	12.82	24	
479	79+445	79+470	13.81	24	
480	79+470	79+495	12.57	24	
481	79+495	79+520	13.77	24	
482	79+520	79+545	13.86	24	
483	79+545	79+570	13.04	24	
484	79+570	79+595	10.91	24	
485	79+595	79+620	13.05	24	
486	79+620	79+645	15.77	24	
487	79+645	79+670	11.74	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
488	79+670	79+695	11.51	24	
489	79+695	79+720	11.38	24	
490	79+720	79+745	11.89	24	
491	79+745	79+770	11.64	24	
492	79+770	79+795	12.75	24	
493	79+795	79+820	11.33	24	
494	79+820	79+845	11.37	24	
495	79+845	79+870	11.74	24	
496	79+870	79+895	15.65	24	
497	79+895	79+920	11.43	24	
498	79+920	79+945	11.17	24	
499	79+945	79+970	10.43	24	
500	79+970	79+995	10.98	24	
501	79+995	80+020	12.2	24	
502	80+020	80+045	10.11	24	
503	80+045	80+070	10.77	24	
504	80+070	80+095	10.37	24	
505	80+095	80+120	10.41	24	
506	80+120	80+145	12.43	24	
507	80+145	80+170	15.7	24	
508	80+170	80+195	16.81	24	
509	80+195	80+220	15.92	24	
510	80+220	80+245	14.19	24	
511	80+245	80+270	12.04	24	
512	80+270	80+295	12.62	24	
513	80+295	80+320	13.24	24	
514	80+320	80+345	12.7	24	
515	80+345	80+370	14.79	24	
516	80+370	80+395	11.79	24	
517	80+395	80+420	12.86	24	
518	80+420	80+445	13.39	24	
519	80+445	80+470	13.29	24	
520	80+470	80+495	15.16	24	
521	80+495	80+520	14.37	24	
522	80+520	80+545	15.68	24	
523	80+545	80+570	12.54	24	
524	80+570	80+595	12.08	24	
525	80+595	80+620	12.82	24	
526	80+620	80+645	11.83	24	
527	80+645	80+670	10.2	24	
528	80+670	80+695	11.37	24	
529	80+695	80+720	10.28	24	
530	80+720	80+745	11.36	24	
531	80+745	80+770	11.03	24	
532	80+770	80+795	9.88	24	
533	80+795	80+820	9.63	24	
534	80+820	80+845	10.8	24	
535	80+845	80+870	12.2	24	
536	80+870	80+895	11.36	24	
537	80+895	80+920	11.78	24	
538	80+920	80+945	11.32	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
539	80+945	80+970	10.84	24	
540	80+970	80+995	11.11	24	
541	80+995	81+020	13.67	24	
542	81+020	81+045	15.66	24	
543	81+045	81+070	13.92	24	
544	81+070	81+095	14.76	24	
545	81+095	81+120	18.14	24	
546	81+120	81+145	15.41	24	
547	81+145	81+170	14.85	24	
548	81+170	81+195	13.4	24	
549	81+195	81+220	14.07	24	
550	81+220	81+245	11.17	24	
551	81+245	81+270	16.83	24	
552	81+270	81+295	18.23	24	
553	81+295	81+320	17.22	24	
554	81+320	81+345	18.39	24	
555	81+345	81+370	15.33	24	
556	81+370	81+395	12.98	24	
557	81+395	81+420	10.94	24	
558	81+420	81+445	12.02	24	
559	81+445	81+470	10.75	24	
560	81+470	81+495	12.96	24	
561	81+495	81+520	12.06	24	
562	81+520	81+545	13.46	24	
563	81+545	81+570	15	24	
564	81+570	81+595	14.91	24	
565	81+595	81+620	13.41	24	
566	81+620	81+645	12.4	24	
567	81+645	81+670	12.93	24	
568	81+670	81+695	11.27	24	
569	81+695	81+720	10.45	24	
570	81+720	81+745	9.66	24	
571	81+745	81+770	12.29	24	
572	81+770	81+795	13.09	24	
573	81+795	81+820	14.49	24	
574	81+820	81+845	11.45	24	
575	81+845	81+870	10.39	24	
576	81+870	81+895	10.12	24	
577	81+895	81+920	9.91	24	
578	81+920	81+945	11.22	24	
579	81+945	81+970	11.51	24	
580	81+970	81+995	11.28	24	
581	81+995	82+020	10.6	24	
582	82+020	82+045	12.71	24	
583	82+045	82+070	14.64	24	
584	82+070	82+095	14.08	24	
585	82+095	82+120	15.24	24	
586	82+120	82+145	17.09	24	
587	82+145	82+170	17.43	24	
588	82+170	82+195	17.08	24	
589	82+195	82+220	14.67	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
590	82+220	82+245	12.63	24	
591	82+245	82+270	12.29	24	
592	82+270	82+295	13.41	24	
593	82+295	82+320	14.92	24	
594	82+320	82+345	14.93	24	
595	82+345	82+370	18.42	24	
596	82+370	82+395	12.11	24	
597	82+395	82+420	12	24	
598	82+420	82+445	12	24	
599	82+445	82+470	11.62	24	
600	82+470	82+495	9.44	24	
601	82+495	82+520	9.64	24	
602	82+520	82+545	12	24	
603	82+545	82+570	11.69	24	
604	82+570	82+595	12.55	24	
605	82+595	82+620	12.57	24	
606	82+620	82+645	11.95	24	
607	82+645	82+670	12.68	24	
608	82+670	82+695	11.92	24	
609	82+695	82+720	10.86	24	
610	82+720	82+745	10.65	24	
611	82+745	82+770	11.06	24	
612	82+770	82+795	10.96	24	
613	82+795	82+820	9.79	24	
614	82+820	82+845	9.95	24	
615	82+845	82+870	11.29	24	
616	82+870	82+895	10.07	24	
617	82+895	82+920	10.79	24	
618	82+920	82+945	11.43	24	
619	82+945	82+970	11.58	24	
620	82+970	82+995	11.51	24	
621	82+995	83+020	13.06	24	
622	83+020	83+045	11.96	24	
623	83+045	83+070	13.75	24	
624	83+070	83+095	14.53	24	
625	83+095	83+120	12.49	24	
626	83+120	83+145	11.53	24	
627	83+145	83+170	12.84	24	
628	83+170	83+195	12.09	24	
629	83+195	83+220	11.01	24	
630	83+220	83+245	18.15	24	
631	83+245	83+270	11.46	24	
632	83+270	83+295	9.96	24	
633	83+295	83+320	12.32	24	
634	83+320	83+345	10.9	24	
635	83+345	83+370	11.41	24	
636	83+370	83+395	11.28	24	
637	83+395	83+420	11.19	24	
638	83+420	83+445	12	24	
639	83+445	83+470	12	24	
640	83+470	83+495	12	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
641	83+495	83+520	12	24	
642	83+520	83+545	12	24	
643	83+545	83+570	12	24	
644	83+570	83+595	12	24	
645	83+595	83+620	12.2	24	
646	83+620	83+645	12.04	24	
647	83+645	83+670	13.16	24	
648	83+670	83+695	13.62	24	
649	83+695	83+720	11.98	24	
650	83+720	83+745	11.65	24	
651	83+745	83+770	11.47	24	
652	83+770	83+795	11.04	24	
653	83+795	83+820	12.98	24	
654	83+820	83+845	12.66	24	
655	83+845	83+870	11.16	24	
656	83+870	83+895	11.18	24	
657	83+895	83+920	11.92	24	
658	83+920	83+945	11.53	24	
659	83+945	83+970	11.42	24	
660	83+970	83+995	10.62	24	
661	83+995	84+020	11.26	24	
662	84+020	84+045	12.09	24	
663	84+045	84+070	11.02	24	
664	84+070	84+095	12.31	24	
665	84+095	84+120	12.27	24	
666	84+120	84+145	11.97	24	
667	84+145	84+170	11.38	24	
668	84+170	84+195	11.54	24	
669	84+195	84+220	13.65	24	
670	84+220	84+245	14.21	24	
671	84+245	84+270	10.83	24	
672	84+270	84+295	11.77	24	
673	84+295	84+320	12.98	24	
674	84+320	84+345	14.58	24	
675	84+345	84+370	13.11	24	
676	84+370	84+395	12	24	
677	84+395	84+420	12	24	
678	84+420	84+445	10.79	24	
679	84+445	84+470	10.28	24	
680	84+470	84+495	11.63	24	
681	84+495	84+520	12.82	24	
682	84+520	84+545	11.92	24	
683	84+545	84+570	10.47	24	
684	84+570	84+595	12.61	24	
685	84+595	84+620	14.08	24	
686	84+620	84+645	18.95	24	
687	84+645	84+670	20.55	24	
688	84+670	84+695	17.12	24	
689	84+695	84+720	13.48	24	
690	84+720	84+745	11.3	24	
691	84+745	84+770	11.87	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
692	84+770	84+795	11.39	24	
693	84+795	84+820	10.85	24	
694	84+820	84+845	10.79	24	
695	84+845	84+870	12.17	24	
696	84+870	84+895	14.43	24	
697	84+895	84+920	13.8	24	
698	84+920	84+945	13.08	24	
699	84+945	84+970	11.74	24	
700	84+970	84+995	11.18	24	
701	84+995	85+020	10.54	24	
702	85+020	85+045	10.66	24	
703	85+045	85+070	12.53	24	
704	85+070	85+095	10.56	24	
705	85+095	85+120	13.29	24	
706	85+120	85+145	12.5	24	
707	85+145	85+170	11.02	24	
708	85+170	85+195	11.03	24	
709	85+195	85+220	14.34	24	
710	85+220	85+245	12.33	24	
711	85+245	85+270	11.3	24	
712	85+270	85+295	11.59	24	
713	85+295	85+320	12.25	24	
714	85+320	85+345	12	24	
715	85+345	85+370	12	24	
716	85+370	85+395	12	24	
717	85+395	85+420	12.3	24	
718	85+420	85+445	15.59	24	
719	85+445	85+470	13.68	24	
720	85+470	85+495	9.7	24	
721	85+488	85+513	16.276	24	
722	85+513	85+538	15.005	24	
723	85+538	85+563	11.054	24	
724	85+563	85+588	10.644	24	
725	85+588	85+613	11.132	24	
726	85+613	85+638	11.214	24	
727	85+638	85+663	12.995	24	
728	85+663	85+688	15.239	24	
729	85+688	85+713	10.981	24	
730	85+713	85+738	10.312	24	
731	85+738	85+763	10.913	24	
732	85+763	85+788	11.968	24	
733	85+788	85+813	11.494	24	
734	85+813	85+838	11.903	24	
735	85+838	85+863	12.000	24	
736	85+863	85+888	12.312	24	
737	85+888	85+913	13.221	24	
738	85+913	85+938	11.379	24	
739	85+938	85+963	12.619	24	
740	85+963	85+988	11.620	24	
741	85+988	86+013	11.636	24	
742	86+013	86+038	11.897	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
743	86+038	86+063	12.007	24	
744	86+063	86+088	12.000	24	
745	86+088	86+113	12.000	24	
746	86+113	86+138	11.857	24	
747	86+138	86+163	11.896	24	
748	86+163	86+188	12.394	24	
749	86+188	86+213	10.533	24	
750	86+213	86+238	11.998	24	
751	86+238	86+263	10.403	24	
752	86+263	86+288	12.000	24	
753	86+288	86+313	9.598	24	
754	86+313	86+338	12.000	24	
755	86+338	86+363	11.968	24	
756	86+363	86+388	10.939	24	
757	86+388	86+413	15.650	24	
758	86+413	86+438	12.773	24	
759	86+438	86+463	12.836	24	
760	86+463	86+488	11.765	24	
761	86+488	86+513	12.000	24	
762	86+513	86+538	12.000	24	
763	86+538	86+563	12.661	24	
764	86+563	86+588	11.846	24	
765	86+588	86+613	13.089	24	
766	86+613	86+638	11.872	24	
767	86+638	86+663	11.943	24	
768	86+663	86+688	12.223	24	
769	86+688	86+713	10.631	24	
770	86+713	86+738	10.493	24	
771	86+738	86+763	10.682	24	
772	86+763	86+788	12.120	24	
773	86+788	86+813	12.000	24	
774	86+813	86+838	11.820	24	
775	86+838	86+863	12.000	24	
776	86+863	86+888	10.606	24	
777	86+888	86+913	15.834	24	
778	86+913	86+938	15.939	24	
779	86+938	86+963	14.867	24	
780	86+963	86+988	13.953	24	
781	86+988	87+013	11.853	24	
782	87+013	87+038	15.267	24	
783	87+038	87+063	15.790	24	
784	87+063	87+088	16.307	24	
785	87+088	87+113	16.597	24	
786	87+113	87+138	20.007	24	
787	87+138	87+163	14.003	24	
788	87+163	87+188	15.261	24	
789	87+188	87+213	11.526	24	
790	87+213	87+238	12.328	24	
791	87+238	87+263	11.465	24	
792	87+263	87+288	11.833	24	
793	87+288	87+313	13.499	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
794	87+313	87+338	14.418	24	
795	87+338	87+363	11.173	24	
796	87+363	87+388	12.164	24	
797	87+388	87+413	13.073	24	
798	87+413	87+438	10.092	24	
799	87+438	87+463	10.990	24	
800	87+463	87+488	10.766	24	
801	87+488	87+513	11.766	24	
802	87+513	87+538	10.663	24	
803	87+538	87+563	10.716	24	
804	87+563	87+588	11.596	24	
805	87+588	87+613	10.759	24	
806	87+613	87+638	9.482	24	
807	87+638	87+663	9.498	24	
808	87+663	87+688	10.907	24	
809	87+688	87+713	12.431	24	
810	87+713	87+738	11.212	24	
811	87+738	87+763	12.364	24	
812	87+763	87+788	12.365	24	
813	87+788	87+813	11.424	24	
814	87+813	87+838	10.635	24	
815	87+838	87+863	11.057	24	
816	87+863	87+888	12.846	24	
817	87+888	87+913	12.348	24	
818	87+913	87+938	11.796	24	
819	87+938	87+963	11.823	24	
820	87+963	87+988	10.366	24	
821	87+988	88+013	14.679	24	
822	88+013	88+038	13.088	24	
823	88+038	88+063	13.842	24	
824	88+063	88+088	13.279	24	
825	88+088	88+113	12.067	24	
826	88+113	88+138	11.630	24	
827	88+138	88+163	11.989	24	
828	88+163	88+188	10.709	24	
829	88+188	88+213	11.071	24	
830	88+213	88+238	13.639	24	
831	88+238	88+263	14.293	24	
832	88+263	88+288	13.841	24	
833	88+288	88+313	13.490	24	
834	88+313	88+338	12.343	24	
835	88+338	88+363	10.842	24	
836	88+363	88+388	11.549	24	
837	88+388	88+413	10.734	24	
838	88+413	88+438	11.481	24	
839	88+438	88+463	10.956	24	
840	88+463	88+488	12.389	24	
841	88+488	88+513	11.747	24	
842	88+513	88+538	12.327	24	
843	88+538	88+563	12.463	24	
844	88+563	88+588	11.819	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
845	88+588	88+613	11.946	24	
846	88+613	88+638	11.881	24	
847	88+638	88+663	11.122	24	
848	88+663	88+688	12.170	24	
849	88+688	88+713	11.442	24	
850	88+713	88+738	12.553	24	
851	88+738	88+763	13.934	24	
852	88+763	88+788	12.000	24	
853	88+788	88+813	12.718	24	
854	88+813	88+838	10.315	24	
855	88+838	88+863	11.247	24	
856	88+863	88+888	11.631	24	
857	88+888	88+913	11.705	24	
858	88+913	88+938	10.628	24	
859	88+938	88+963	11.569	24	
860	88+963	88+988	10.348	24	
861	88+988	89+013	10.884	24	
862	89+013	89+038	10.153	24	
863	89+038	89+063	9.635	24	
864	89+063	89+088	10.308	24	
865	89+088	89+113	15.880	24	
866	89+113	89+138	10.475	24	
867	89+138	89+163	10.626	24	
868	89+163	89+188	12.997	24	
869	89+188	89+213	11.308	24	
870	89+213	89+238	10.208	24	
871	89+238	89+263	10.061	24	
872	89+263	89+288	9.904	24	
873	89+288	89+313	10.463	24	
874	89+313	89+338	11.144	24	
875	89+338	89+363	11.118	24	
876	89+363	89+388	9.969	24	
877	89+388	89+413	10.612	24	
878	89+413	89+438	9.948	24	
879	89+438	89+463	10.043	24	
880	89+463	89+488	10.517	24	
881	89+488	89+513	11.220	24	
882	89+513	89+538	13.083	24	
883	89+538	89+563	19.982	24	
884	89+563	89+588	15.858	24	
885	89+588	89+613	10.771	24	
886	89+613	89+638	11.506	24	
887	89+638	89+663	12.000	24	
888	89+663	89+688	11.776	24	
889	89+688	89+713	12.441	24	
890	89+713	89+738	12.465	24	
891	89+738	89+763	12.038	24	
892	89+763	89+788	12.758	24	
893	89+788	89+813	12.878	24	
894	89+813	89+838	12.907	24	
895	89+838	89+863	12.451	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
896	89+863	89+888	11.848	24	
897	89+888	89+913	12.205	24	
898	89+913	89+938	11.390	24	
899	89+938	89+963	11.699	24	
900	89+963	89+988	13.140	24	
901	89+988	90+013	12.596	24	
902	90+013	90+038	13.822	24	
903	90+038	90+063	14.762	24	
904	90+063	90+088	13.831	24	
905	90+088	90+113	12.075	24	
906	90+113	90+138	10.799	24	
907	90+138	90+163	11.987	24	
908	90+163	90+188	12.653	24	
909	90+188	90+213	10.584	24	
910	90+213	90+238	12.352	24	
911	90+238	90+263	12.163	24	
912	90+263	90+288	11.467	24	
913	90+288	90+313	12.686	24	
914	90+313	90+338	11.713	24	
915	90+338	90+363	11.949	24	
916	90+363	90+388	11.975	24	
917	90+388	90+413	12.000	24	
918	90+413	90+438	12.000	24	
919	90+438	90+463	12.191	24	
920	90+463	90+488	11.840	24	
921	90+488	90+513	12.234	24	
922	90+513	90+538	12.374	24	
923	90+538	90+563	10.557	24	
924	90+563	90+588	10.168	24	
925	90+588	90+613	12.181	24	
926	90+613	90+638	11.319	24	
927	90+638	90+663	13.636	24	
928	90+663	90+688	13.069	24	
929	90+688	90+713	12.770	24	
930	90+713	90+738	12.298	24	
931	90+738	90+763	12.525	24	
932	90+763	90+788	12.046	24	
933	90+788	90+813	12.320	24	
934	90+813	90+838	12.212	24	
935	90+838	90+863	12.000	24	
936	90+863	90+888	11.896	24	
937	90+888	90+913	11.940	24	
938	90+913	90+938	10.602	24	
939	90+938	90+963	10.591	24	
940	90+963	90+988	12.670	24	
941	90+988	91+013	11.711	24	
942	91+013	91+038	13.712	24	
943	91+038	91+063	14.122	24	
944	91+063	91+088	12.328	24	
945	91+088	91+113	12.408	24	
946	91+113	91+138	12.333	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
947	91+138	91+163	12.711	24	
948	91+163	91+188	11.657	24	
949	91+188	91+213	11.088	24	
950	91+213	91+238	12.036	24	
951	91+238	91+263	11.125	24	
952	91+263	91+288	10.939	24	
953	91+288	91+313	11.104	24	
954	91+313	91+338	9.596	24	
955	91+338	91+363	10.289	24	
956	91+363	91+388	10.392	24	
957	91+388	91+413	10.628	24	
958	91+413	91+438	9.956	24	
959	91+438	91+463	10.104	24	
960	91+463	91+488	10.102	24	
961	91+488	91+513	11.994	24	
962	91+513	91+538	10.202	24	
963	91+538	91+563	12.378	24	
964	91+563	91+588	12.864	24	
965	91+588	91+613	11.556	24	
966	91+613	91+638	11.996	24	
967	91+638	91+663	11.891	24	
968	91+663	91+688	12.000	24	
969	91+688	91+713	13.094	24	
970	91+713	91+738	15.723	24	
971	91+738	91+763	15.462	24	
972	91+763	91+788	13.752	24	
973	91+788	91+813	14.001	24	
974	91+813	91+838	11.566	24	
975	91+838	91+863	12.600	24	
976	91+863	91+888	15.112	24	
977	91+888	91+913	17.991	24	
978	91+913	91+938	16.203	24	
979	91+938	91+963	13.959	24	
980	91+963	91+988	12.747	24	
981	91+988	92+013	14.800	24	
982	92+013	92+038	11.292	24	
983	92+038	92+063	12.708	24	
984	92+063	92+088	18.653	24	
985	92+088	92+113	14.784	24	
986	92+113	92+138	11.782	24	
987	92+138	92+163	13.492	24	
988	92+163	92+188	14.755	24	
989	92+188	92+213	14.414	24	
990	92+213	92+238	14.061	24	
991	92+238	92+263	11.955	24	
992	92+263	92+288	12.011	24	
993	92+288	92+313	10.918	24	
994	92+313	92+338	11.118	24	
995	92+338	92+363	11.444	24	
996	92+363	92+388	11.712	24	
997	92+388	92+413	11.821	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
998	92+413	92+438	12.000	24	
999	92+438	92+463	14.646	24	
1000	92+463	92+488	15.390	24	
1001	92+488	92+513	12.516	24	
1002	92+513	92+538	9.947	24	
1003	92+538	92+563	16.450	24	
1004	92+563	92+588	20.737	24	
1005	92+588	92+613	15.820	24	
1006	92+613	92+638	10.516	24	
1007	92+638	92+663	13.123	24	
1008	92+663	92+688	11.279	24	
1009	92+688	92+713	11.346	24	
1010	92+713	92+738	9.829	24	
1011	92+738	92+763	10.504	24	
1012	92+763	92+788	12.240	24	
1013	92+788	92+813	12.035	24	
1014	92+813	92+838	12.271	24	
1015	92+838	92+863	11.203	24	
1016	92+863	92+888	12.014	24	
1017	92+888	92+913	11.754	24	
1018	92+913	92+938	11.518	24	
1019	92+938	92+963	14.194	24	
1020	92+963	92+988	14.270	24	
1021	92+988	93+013	9.382	24	
1022	93+013	93+038	10.714	24	
1023	93+038	93+063	10.833	24	
1024	93+063	93+088	12.655	24	
1025	93+088	93+113	12.232	24	
1026	93+113	93+138	11.596	24	
1027	93+138	93+163	12.498	24	
1028	93+163	93+188	13.174	24	
1029	93+188	93+213	14.192	24	
1030	93+213	93+238	13.289	24	
1031	93+238	93+263	13.966	24	
1032	93+263	93+288	13.299	24	
1033	93+288	93+313	14.315	24	
1034	93+313	93+338	12.485	24	
1035	93+338	93+363	11.531	24	
1036	93+363	93+388	12.706	24	
1037	93+388	93+413	12.782	24	
1038	93+413	93+438	15.875	24	
1039	93+438	93+463	12.778	24	
1040	93+463	93+488	13.775	24	
1041	93+488	93+513	14.288	24	
1042	93+513	93+538	12.759	24	
1043	93+538	93+563	11.190	24	
1044	93+563	93+588	12.523	24	
1045	93+588	93+613	17.775	24	
1046	93+613	93+638	15.399	24	
1047	93+638	93+663	14.418	24	
1048	93+663	93+688	13.218	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
1049	93+688	93+713	12.639	24	
1050	93+713	93+738	12.933	24	
1051	93+738	93+763	12.390	24	
1052	93+763	93+788	11.334	24	
1053	93+788	93+813	12.830	24	
1054	93+813	93+838	11.694	24	
1055	93+838	93+863	12.812	24	
1056	93+863	93+888	12.865	24	
1057	93+888	93+913	12.563	24	
1058	93+913	93+938	12.724	24	
1059	93+938	93+963	11.812	24	
1060	93+963	93+988	11.009	24	
1061	93+988	94+013	10.923	24	
1062	94+013	94+038	12.735	24	
1063	94+038	94+063	12.049	24	
1064	94+063	94+088	13.054	24	
1065	94+088	94+113	13.503	24	
1066	94+113	94+138	11.923	24	
1067	94+138	94+163	13.089	24	
1068	94+163	94+188	12.922	24	
1069	94+188	94+213	12.881	24	
1070	94+213	94+238	12.497	24	
1071	94+238	94+263	10.436	24	
1072	94+263	94+288	11.797	24	
1073	94+288	94+313	12.844	24	
1074	94+313	94+338	13.771	24	
1075	94+338	94+363	14.106	24	
1076	94+363	94+388	14.291	24	
1077	94+388	94+413	12.742	24	
1078	94+413	94+438	11.397	24	
1079	94+438	94+463	11.230	24	
1080	94+463	94+488	11.555	24	
1081	94+488	94+513	11.682	24	
1082	94+513	94+538	10.864	24	
1083	94+538	94+563	10.655	24	
1084	94+563	94+588	9.510	24	
1085	94+588	94+613	10.370	24	
1086	94+613	94+638	9.942	24	
1087	94+638	94+663	10.535	24	
1088	94+663	94+688	10.931	24	
1089	94+688	94+713	9.749	24	
1090	94+713	94+738	10.677	24	
1091	94+738	94+763	11.376	24	
1092	94+763	94+788	11.803	24	
1093	94+788	94+813	10.006	24	
1094	94+813	94+838	13.106	24	
1095	94+838	94+863	12.354	24	
1096	94+863	94+888	11.334	24	
1097	94+888	94+913	11.998	24	
1098	94+913	94+938	10.714	24	
1099	94+938	94+963	12.882	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
1100	94+963	94+988	10.915	24	
1101	94+988	95+013	12.589	24	
1102	95+013	95+038	11.825	24	
1103	95+038	95+063	12.960	24	
1104	95+063	95+088	11.276	24	
1105	95+088	95+113	10.873	24	
1106	95+113	95+138	9.352	24	
1107	95+138	95+163	10.565	24	
1108	95+163	95+188	9.754	24	
1109	95+188	95+213	10.039	24	
1110	95+213	95+238	10.265	24	
1111	95+238	95+263	10.790	24	
1112	95+263	95+288	10.268	24	
1113	95+288	95+313	12.216	24	
1114	95+313	95+338	10.275	24	
1115	95+338	95+363	10.026	24	
1116	95+363	95+388	10.745	24	
1117	95+388	95+413	11.638	24	
1118	95+413	95+438	11.970	24	
1119	95+438	95+463	12.010	24	
1120	95+463	95+488	12.000	24	
1121	95+488	95+513	12.129	24	
1122	95+513	95+538	12.372	24	
1123	95+538	95+563	11.611	24	
1124	95+563	95+588	11.442	24	
1125	95+588	95+613	12.204	24	
1126	95+613	95+638	12.656	24	
1127	95+638	95+663	13.565	24	
1128	95+663	95+688	13.387	24	
1129	95+688	95+713	12.573	24	
1130	95+713	95+738	12.000	24	
1131	95+738	95+763	12.000	24	
1132	95+763	95+788	12.047	24	
1133	95+788	95+813	11.969	24	
1134	95+813	95+838	12.069	24	
1135	95+838	95+863	12.000	24	
1136	95+863	95+888	12.000	24	
1137	95+888	95+913	11.797	24	
1138	95+913	95+938	11.887	24	
1139	95+938	95+963	12.000	24	
1140	95+963	95+988	12.014	24	
1141	95+988	96+013	13.395	24	
1142	96+013	96+038	12.317	24	
1143	96+038	96+063	12.023	24	
1144	96+063	96+088	12.000	24	
1145	96+088	96+113	12.000	24	
1146	96+113	96+138	12.214	24	
1147	96+138	96+163	11.943	24	
1148	96+163	96+188	12.080	24	
1149	96+188	96+213	11.919	24	
1150	96+213	96+238	12.000	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
1151	96+238	96+263	10.959	24	
1152	96+263	96+288	11.111	24	
1153	96+288	96+313	12.725	24	
1154	96+313	96+338	10.151	24	
1155	96+338	96+363	15.009	24	
1156	96+363	96+388	12.977	24	
1157	96+388	96+413	15.201	24	
1158	96+413	96+438	18.246	24	
1159	96+438	96+463	14.607	24	
1160	96+463	96+488	10.922	24	
1161	96+488	96+513	12.000	24	
1162	96+513	96+538	12.363	24	
1163	96+538	96+563	14.239	24	
1164	96+563	96+588	12.115	24	
1165	96+588	96+613	12.115	24	
1166	96+613	96+638	12.144	24	
1167	96+638	96+663	17.248	24	
1168	96+663	96+688	16.080	24	
1169	96+688	96+713	14.362	24	
1170	96+713	96+738	12.294	24	
1171	96+738	96+763	11.226	24	
1172	96+763	96+788	10.480	24	
1173	96+788	96+813	10.631	24	
1174	96+813	96+838	10.624	24	
1175	96+838	96+863	12.075	24	
1176	96+863	96+888	11.394	24	
1177	96+888	96+913	11.561	24	
1178	96+913	96+938	10.761	24	
1179	96+938	96+963	11.179	24	
1180	96+963	96+988	10.785	24	
1181	96+988	97+013	10.394	24	
1182	97+013	97+038	12.707	24	
1183	97+038	97+063	11.001	24	
1184	97+063	97+088	11.004	24	
1185	97+088	97+113	11.658	24	
1186	97+113	97+138	12.017	24	
1187	97+138	97+163	11.007	24	
1188	97+163	97+188	12.730	24	
1189	97+188	97+213	11.396	24	
1190	97+213	97+238	10.568	24	
1191	97+238	97+263	9.870	24	
1192	97+263	97+288	11.343	24	
1193	97+288	97+313	9.755	24	
1194	97+313	97+338	10.448	24	
1195	97+338	97+363	9.558	24	
1196	97+363	97+388	12.000	24	
1197	97+388	97+413	12.000	24	
1198	97+413	97+438	12.000	24	
1199	97+438	97+463	11.991	24	
1200	97+463	97+488	12.074	24	
1201	97+488	97+513	11.592	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
1202	97+513	97+538	10.977	24	
1203	97+538	97+563	10.971	24	
1204	97+563	97+588	12.490	24	
1205	97+588	97+613	13.789	24	
1206	97+613	97+638	11.215	24	
1207	97+638	97+663	10.155	24	
1208	97+663	97+688	10.495	24	
1209	97+688	97+713	10.562	24	
1210	97+713	97+738	10.240	24	
1211	97+738	97+763	11.411	24	
1212	97+763	97+788	12.191	24	
1213	97+788	97+813	11.593	24	
1214	97+813	97+838	11.887	24	
1215	97+838	97+863	11.369	24	
1216	97+863	97+888	11.423	24	
1217	97+888	97+913	10.844	24	
1218	97+913	97+938	10.170	24	
1219	97+938	97+963	10.977	24	
1220	97+963	97+988	9.606	24	
1221	97+988	98+013	10.569	24	
1222	98+013	98+038	13.633	24	
1223	98+038	98+063	15.705	24	
1224	98+063	98+088	11.080	24	
1225	98+088	98+113	10.823	24	
1226	98+113	98+138	12.946	24	
1227	98+138	98+163	11.254	24	
1228	98+163	98+188	14.695	24	
1229	98+188	98+213	14.186	24	
1230	98+213	98+238	13.971	24	
1231	98+238	98+263	14.282	24	
1232	98+263	98+288	13.602	24	
1233	98+288	98+313	13.327	24	
1234	98+313	98+338	13.016	24	
1235	98+338	98+363	10.747	24	
1236	98+363	98+388	11.583	24	
1237	98+388	98+413	11.250	24	
1238	98+413	98+438	13.979	24	
1239	98+438	98+463	11.889	24	
1240	98+463	98+488	12.434	24	
1241	98+488	98+513	16.429	24	
1242	98+513	98+538	16.599	24	
1243	98+538	98+563	10.033	24	
1244	98+563	98+588	10.779	24	
1245	98+588	98+600	11.987	24	
1246	98+600	98+613	-	24	Realignment due to Reconstruction of Irang bridge
1247	98+613	98+638	-	24	
1248	98+638	98+663	-	24	
1249	98+663	98+688	-	24	
1250	98+688	98+700	-	24	
1251	98+700	98+713	16.713	24	
1252	98+713	98+738	10.943	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
1253	98+738	98+763	11.568	24	
1254	98+763	98+788	10.946	24	
1255	98+788	98+813	10.421	24	
1256	98+813	98+838	10.890	24	
1257	98+838	98+863	15.171	24	
1258	98+863	98+888	14.958	24	
1259	98+888	98+913	10.119	24	
1260	98+913	98+938	10.769	24	
1261	98+938	98+963	9.632	24	
1262	98+963	98+988	9.601	24	
1263	98+988	99+013	10.313	24	
1264	99+013	99+038	10.443	24	
1265	99+038	99+063	9.572	24	
1266	99+063	99+088	10.941	24	
1267	99+088	99+113	9.549	24	
1268	99+113	99+138	10.735	24	
1269	99+138	99+163	10.650	24	
1270	99+163	99+188	13.968	24	
1271	99+188	99+213	12.176	24	
1272	99+213	99+238	16.187	24	
1273	99+238	99+263	12.332	24	
1274	99+263	99+288	9.597	24	
1275	99+288	99+313	11.818	24	
1276	99+313	99+338	18.195	24	
1277	99+338	99+363	13.678	24	
1278	99+363	99+388	13.980	24	
1279	99+388	99+413	19.573	24	
1280	99+413	99+438	15.778	24	
1281	99+438	99+463	10.564	24	
1282	99+463	99+488	11.446	24	
1283	99+488	99+513	10.247	24	
1284	99+513	99+538	15.424	24	
1285	99+538	99+563	17.176	24	
1286	99+563	99+588	14.115	24	
1287	99+588	99+613	11.275	24	
1288	99+613	99+638	12.101	24	
1289	99+638	99+663	12.975	24	
1290	99+663	99+688	13.484	24	
1291	99+688	99+713	13.280	24	
1292	99+713	99+738	14.080	24	
1293	99+738	99+763	14.042	24	
1294	99+763	99+788	12.103	24	
1295	99+788	99+813	13.614	24	
1296	99+813	99+838	10.538	24	
1297	99+838	99+863	12.697	24	
1298	99+863	99+888	12.467	24	
1299	99+888	99+913	12.419	24	
1300	99+913	99+938	15.485	24	
1301	99+938	99+963	10.657	24	
1302	99+963	99+988	10.328	24	
1303	99+988	100+013	10.696	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
1304	100+013	100+038	11.079	24	
1305	100+038	100+063	11.277	24	
1306	100+063	100+088	11.337	24	
1307	100+088	100+113	11.644	24	
1308	100+113	100+138	12.514	24	
1309	100+138	100+163	13.373	24	
1310	100+163	100+188	12.315	24	
1311	100+188	100+213	12.291	24	
1312	100+213	100+238	10.954	24	
1313	100+238	100+263	16.807	24	
1314	100+263	100+288	16.318	24	
1315	100+288	100+313	14.631	24	
1316	100+313	100+338	15.060	24	
1317	100+338	100+363	12.071	24	
1318	100+363	100+388	9.975	24	
1319	100+388	100+413	11.799	24	
1320	100+413	100+438	11.236	24	
1321	100+438	100+463	13.090	24	
1322	100+463	100+488	11.727	24	
1323	100+488	100+513	13.076	24	
1324	100+513	100+538	13.380	24	
1325	100+538	100+563	16.684	24	
1326	100+563	100+588	22.377	24	
1327	100+588	100+613	27.332	24	
1328	100+613	100+638	36.263	24	
1329	100+638	100+663	38.598	24	
1330	100+663	100+688	28.028	24	
1331	100+688	100+713	11.802	24	
1332	100+713	100+738	11.854	24	
1333	100+738	100+763	12.000	24	
1334	100+763	100+788	11.799	24	
1335	100+788	100+813	12.010	24	
1336	100+813	100+838	12.010	24	
1337	100+838	100+863	16.524	24	
1338	100+863	100+888	14.468	24	
1339	100+888	100+913	14.526	24	
1340	100+913	100+933	12.557	24	
1341	100+933	100+938	12.557	14	
1342	100+938	100+963	12.493	14	
1343	100+963	100+988	12.000	14	
1344	100+988	101+013	10.303	14	
1345	101+013	101+025	10.303	14	
1346	101+025	101+038	10.437	24	
1347	101+038	101+063	14.835	24	
1348	101+063	101+088	11.447	24	
1349	101+088	101+113	11.173	24	
1350	101+113	101+138	11.912	24	
1351	101+138	101+163	10.963	24	
1352	101+163	101+188	10.492	24	
1353	101+188	101+213	12.000	24	
1354	101+213	101+238	11.824	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
1355	101+238	101+263	14.404	24	
1356	101+263	101+288	16.601	24	
1357	101+288	101+313	17.188	24	
1358	101+313	101+338	16.543	24	
1359	101+338	101+363	15.492	24	
1360	101+363	101+388	12.592	24	
1361	101+388	101+413	14.882	24	
1362	101+413	101+438	11.747	24	
1363	101+438	101+463	11.027	24	
1364	101+463	101+488	11.965	24	
1365	101+488	101+513	11.257	24	
1366	101+513	101+538	14.343	24	
1367	101+538	101+563	12.008	24	
1368	101+563	101+588	12.000	24	
1369	101+588	101+613	10.987	24	
1370	101+613	101+638	11.713	24	
1371	101+638	101+663	13.108	24	
1372	101+663	101+688	10.547	24	
1373	101+688	101+713	12.817	24	
1374	101+713	101+738	12.347	24	
1375	101+738	101+763	15.810	24	
1376	101+763	101+788	10.911	24	
1377	101+788	101+813	10.126	24	
1378	101+813	101+838	10.655	24	
1379	101+838	101+863	10.305	24	
1380	101+863	101+888	11.151	24	
1381	101+888	101+913	10.606	24	
1382	101+913	101+938	14.384	24	
1383	101+938	101+963	13.781	24	
1384	101+963	101+988	13.861	24	
1385	101+988	102+013	10.305	24	
1386	102+013	102+038	12.000	24	
1387	102+038	102+063	12.000	24	
1388	102+063	102+088	11.522	24	
1389	102+088	102+113	11.491	24	
1390	102+113	102+138	11.940	24	
1391	102+138	102+163	12.000	24	
1392	102+163	102+188	12.000	24	
1393	102+188	102+213	12.968	24	
1394	102+213	102+238	11.237	24	
1395	102+238	102+263	10.963	24	
1396	102+263	102+288	10.193	24	
1397	102+288	102+313	13.445	24	
1398	102+313	102+338	10.665	24	
1399	102+338	102+363	12.855	24	
1400	102+363	102+388	13.095	24	
1401	102+388	102+413	13.196	24	
1402	102+413	102+438	10.872	24	
1403	102+438	102+463	12.194	24	
1404	102+463	102+488	12.040	24	
1405	102+488	102+513	11.828	24	

SL No.	Chainage (Km)		Existing Right of Way (m)	Proposed Right of Way (m)	Remarks
	From	To			
1406	102+513	102+538	12.177	24	
1407	102+538	102+563	10.061	24	
1408	102+563	102+588	11.625	24	
1409	102+588	102+613	10.318	24	
1410	102+613	102+638	11.746	24	
1411	102+638	102+663	13.539	24	
1412	102+663	102+688	12.476	24	
1413	102+688	102+713	11.982	24	
1414	102+713	102+738	10.183	24	
1415	102+738	102+763	12.138	24	
1416	102+763	102+788	11.806	24	
1417	102+788	102+813	10.920	24	
1418	102+813	102+838	12.000	24	
1419	102+838	102+863	12.000	24	
1420	102+863	102+888	11.947	24	
1421	102+888	102+913	11.654	24	
1422	102+913	102+938	12.000	24	
1423	102+938	102+963	12.000	24	
1424	102+963	102+988	13.948	24	
1425	102+988	103+013	10.906	24	
1426	103+013	103+038	20.578	24	
1427	103+038	103+063	10.972	24	
1428	103+063	103+088	10.928	24	
1429	103+088	103+113	12.059	24	
1430	103+113	103+138	12.013	14	
1431	103+138	103+163	12.000	14	
1432	103+163	103+188	12.000	14	
1433	103+188	103+213	11.996	14	
1434	103+213	103+238	11.983	14	
1435	103+238	103+263	11.977	14	
1436	103+263	103+288	9.150	14	
1437	103+288	103+313	10.238	14	
1438	103+313	103+338	12.000	14	
1439	103+338	103+363	12.000	14	
1440	103+363	103+388	12.000	14	
1441	103+388	103+413	12.226	14	
1442	103+413	103+438	12.000	14	
1443	103+438	103+463	12.000	14	
1444	103+463	103+488	12.000	14	
1445	103+488	103+513	12.000	14	
1446	103+513	103+538	11.731	14	
1447	103+538	103+557	9.889	14	
1448	103+557	103+563	9.889	24	
1449	103+563	103+588	12.000	24	

3. Carriageway

The present carriage way of the Project Highway is Two Lane from km 67+495 to km 85+486. 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 span length (m)	Width (m)
		Foundation	Sub- structure	Super-structure		
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	68+200	Open	Wall	RCC SLAB BRIDGE	1X8.0M	12
2	70+802	Open	Wall	RCC SLAB BRIDGE	1X7.9M	12
3	71+601	Open	Wall	RCC BOX BRIDGE	6.0M X 3.8M_2 CELL	12
4	76+705	Open	Wall	RCC SLAB BRIDGE	1X6.8M	12
5	81+550	Open	Wall	RCC SLAB BRIDGE	1X6.0M	12
6	94+279	Open	Wall	RCC SLAB BRIDGE	1X6.52M	12
7	95+495	-	-	BAILEY BRIDGE (Irang Bridge)	1X43.0M	5.6
8	100+040	Open	Wall	RCC SLAB BRIDGE	1X6.8M	12
9	100+993	Open	Wall	RCC SLAB BRIDGE	1X6.03M	12

8. Railway level crossings

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	67.792	R.C.C SLAB	1 X 3.00m	
2	67.969	R.C.C SLAB	1 X 1.40m	12.5
3	68.053	HP	1 X 1.20 Dia	12.5
4	68.561	HP	1 X 1.20 Dia	12.4
5	69.071	HP	1 X 1.20 Dia	18.6
6	69.159	HP	1 X 1.20 Dia	16.6
7	69.328	HP	1 X 1.20 Dia	11.3
8	69.392	HP	1 X 1.20 Dia	8.83
9	69.697	HP	1 X 1.20 Dia	10.1
10	69.923	HP	2 X 1.20 Dia	11.55
11	70.151	HP	1 X 1.20 Dia	11.55
12	70.559	R.C.C SLAB	1 X 2.00m	
13	70.625	HP	1 X 0.90 Dia	10
14	70.869	HP	1 X 0.90 Dia	7.5
15	71.058	R.C.C SLAB	1 X 1.30m	
16	71.122	R.C.C SLAB	1 X 3.50m	
17	71.358	R.C.C SLAB	1 X 1.60m	9.3
18	71.631	HP	3 X 0.90 Dia	15
19	72.270	HP	3 X 0.60 Dia	11.6
20	72.529	R.C.C SLAB	1 X 2.10m	12
21	73.155	R.C.C SLAB	1 X 4.20m	9.6
22	73.313	HP	1 X 2.50m	10
23	73.491	HP	1 X 1.20 Dia	13
24	74.093	R.C.C SLAB	1 X 3.50m	12.4
25	74.561	R.C.C SLAB	1 X 1.00m	12.4
26	74.640	R.C.C SLAB	1 X 1.00m	11.3
27	74.839	R.C.C SLAB	1 X 1.95m	15.2
28	75.262	R.C.C SLAB	1 X 4.49m	9.6
29	75.767	R.C.C SLAB	1 X 2.50m	15
30	76.250	R.C.C SLAB	1 X 3.50m	10
31	76.463	R.C.C SLAB	1 X 4.90m	10
32	77.176	HP	2 X 1.20 Dia	12
33	77.500	R.C.C SLAB	1 X 1.60m	13
34	77.662	R.C.C SLAB	1 X 3.30m	14
35	77.726	R.C.C SLAB	1 X 1.57m	11.3
36	77.848	R.C.C SLAB	1 X 3.0m	9.7
37	77.941	R.C.C SLAB	1 X 2.48m	10.8
38	78.100	R.C.C SLAB	1 X 2.00m	12

Sl. No.	Chainage (km)	Type of Culvert	Span/Opening with Span Length	Width of Culvert (m)
39	78.507	R.C.C SLAB	1 X 2.00m	15.8
40	79.147	R.C.C SLAB	1 X 1.30m	12.8
41	79.603	HP	1 X 0.90 Dia	13.7
42	79.781	R.C.C SLAB	1 X 1.50m	8
43	79.940	HP	1 X 0.60 Dia	12.5
44	79.997	R.C.C SLAB	1 X 1.50m	14.5
45	80.166	HP	1 X 1.00 Dia	9
46	80.311	HP	1 X 1.00 Dia	10
47	80.604	R.C.C SLAB	1 X 1.50m	11.3
48	80.840	HP	1 X 0.60 Dia	15.2
49	80.941	HP	1 X 0.90 Dia	15
50	81.033	R.C.C SLAB	1 X 1.50 Dia	10
51	81.199	R.C.C SLAB	1 X 4.44 Dia	12
52	81.503	R.C.C SLAB	1 X 2.40m	13
53	81.815	HP	1 X 1.00 Dia	14
54	82.043	HP	1 X 0.90 Dia	11.3
55	82.194	HP	1 X 0.60 Dia	9.7
56	82.381	R.C.C SLAB	1 X 1.30m	9.7
57	82.682	R.C.C SLAB	1 X 1.80m	10.8
58	82.855	R.C.C SLAB	1 X 1.45m	12
59	83.169	HP	1 X 0.90 Dia	15.8
60	83.707	R.C.C SLAB	1 X 1.67m	15.8
61	83.975	R.C.C SLAB	1 X 1.20m	12.8
62	84.260	R.C.C SLAB	1 X 1.20m	13.7
63	84.752	R.C.C SLAB	1 X 1.44m	8
64	84.972	R.C.C SLAB	1 X 1.40m	12.5
65	85.369	R.C.C SLAB	1 X 2.50m	12.5
66	85.476	R.C.C SLAB	1 X 1.50m	14.5
67	85.705	R.C.C SLAB	1 X 2.40m	9
68	86.195	R.C.C SLAB	1 X 1.50m	10
69	86.303	R.C.C SLAB	1 X 1.50m	12
70	86.376	R.C.C SLAB	1 X 4.26m	15.8
71	86.540	R.C.C SLAB	1 X 2.00m	12.8
72	86.873	R.C.C SLAB	1 X 1.20m	13.7
73	87.071	HP	1 X 1.00 Dia	8
74	87.317	R.C.C SLAB	1 X 2.00m	12.5
75	87.711	R.C.C SLAB	1 X 1.50m	14.5
76	87.889	R.C.C SLAB	1 X 1.50m	9
77	87.913	R.C.C SLAB	1 X 2.50m	10
78	87.978	R.C.C SLAB	1 X 1.50m	11.3
79	88.370	R.C.C SLAB	1 X 4.40m	15.2
80	88.674	R.C.C SLAB	1 X 4.40m	15
81	88.877	HP	1 X 0.60 Dia	10
82	89.466	R.C.C SLAB	1 X 1.30m	12
83	89.596	R.C.C SLAB	1 X 3.80m	13
84	90.201	R.C.C SLAB	1 X 4.45m	14
85	90.978	HP	1 X 0.90 Dia	14
86	91.171	R.C.C SLAB	1 X 3.00m	11.3
87	91.443	R.C.C SLAB	1 X 1.50m	11.3
88	92.126	R.C.C SLAB	1 X 3.10m	10.8
89	92.625	R.C.C SLAB	1 X 4.20m	12

Sl. No.	Chainage (km)	Type of Culvert	Span/Opening with Span Length	Width of Culvert (m)
90	92.903	HP	1 X 1.00 Dia	15.8
91	93.007	HP	1 X 0.80 Dia	12.8
92	93.083	R.C.C SLAB	1 X 2.80m	13.7
93	93.767	HP	1 X 0.90 Dia	8
94	93.988	HP	1 X 0.60 Dia	12.5
95	94.100	R.C.C SLAB	1 X 2.00m	14.5
96	94.426	R.C.C SLAB	1 X 1.50m	12.5
97	94.700	HP	1 X 0.90 Dia	14.5
98	94.751	R.C.C SLAB	1 X 2.00m	12.8
99	94.913	R.C.C SLAB	1 X 2.00m	13.7
100	95.028	R.C.C SLAB	1 X 1.50m	12.5
101	95.240	HP	1 X 0.60 Dia	14.5
102	95.858	R.C.C SLAB	1 X 5.00m	12
103	95.958	R.C.C SLAB	1 X 3.00m	12.8
104	96.104	R.C.C SLAB	1 X 1.50m	13.7
105	96.185	HP	1 X 0.60 Dia	12.5
106	96.406	R.C.C SLAB	1 X 2.00m	14.5
107	96.521	R.C.C SLAB	1 X 2.00m	11
108	96.831	HP	1 X 0.90 Dia	10
109	97.422	R.C.C SLAB	1 X 2.00m	12
110	97.605	R.C.C SLAB	1 X 1.40m	15.8
111	97.797	R.C.C SLAB	1 X 4.40m	12.8
112	98.002	R.C.C SLAB	1 X 1.60m	13.7
113	98.154	R.C.C SLAB	1 X 1.50m	8
114	98.344	R.C.C SLAB	1 X 1.50m	12.5
115	98.595	R.C.C SLAB	1 X 1.50m	14.5
116	98.836	HP	1 X 0.90 Dia	9
117	99.077	R.C.C SLAB	1 X 1.50m	12.8
118	99.274	R.C.C SLAB	1 X 2.00m	13.7
119	99.502	HP	1 X 0.60 Dia	8
120	99.774	R.C.C SLAB	1 X 1.40m	12.5
121	100.487	R.C.C SLAB	1 X 3.00m	14.5
122	100.912	HP	1 X 0.90 Dia	9
123	101.441	R.C.C SLAB	1 X 2.10m	13.7
124	101.678	HP	2 X 0.90 Dia	8
125	101.999	R.C.C SLAB	1 X 1.30m	12.5
126	102.216	R.C.C SLAB	1 X 2.10m	14.5
127	102.325	HP	1 X 0.60 Dia	9
128	102.427	R.C.C SLAB	1 X 1.65m	12.8
129	102.659	R.C.C SLAB	1 X 4.19m	13.7
130	102.782	HP	1 X 0.90 Dia	8
131	102.962	HP	1 X 0.60 Dia	12.5
132	103.045	HP	1 X 1.00 Dia	14.5
133	103.186	R.C.C SLAB	1 X 2.50m	9
134	103.303	R.C.C SLAB	1 X 2.00m	14.5
135	103.468	R.C.C SLAB	1 X 3.00m	9

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	67.495	67.600	0.105	Pucca (Single Side)	
2	67.715	68.050	0.335		Kachha (Single Side)
3	68.257	68.380	0.123		Kachha (Single Side)
4	68.440	69.367	0.927		Kachha (Single Side)
5	69.428	69.835	0.407		Kachha (Single Side)
6	69.870	70.302	0.432		Kachha (Single Side)
7	70.329	70.420	0.091	Pucca (Single Side)	
8	70.420	70.461	0.041		Kachha (Single Side)
9	70.493	70.655	0.162	Pucca (Single Side)	
10	70.690	70.764	0.074		Kachha (Single Side)
11	70.791	70.917	0.126	Pucca (Single Side)	
12	70.917	70.938	0.021		Kachha (Single Side)
13	70.938	70.968	0.030	Pucca (Single Side)	
14	70.968	71.038	0.070		Kachha (Single Side)
15	71.133	71.259	0.126		Kachha (Single Side)
16	71.314	71.345	0.031		Kachha (Single Side)
17	71.483	71.652	0.169	Pucca (Single Side)	
18	71.659	71.710	0.051		Kachha (Single Side)
19	71.847	71.921	0.074	Pucca (Single Side)	
20	71.921	71.935	0.014		Kachha (Single Side)
21	72.014	72.045	0.031		Kachha (Single Side)
22	72.065	72.083	0.018	Pucca (Single Side)	
23	72.349	72.460	0.111		Kachha (Single Side)
24	72.484	72.528	0.044		Kachha (Single Side)
25	72.552	72.660	0.108		Kachha (Single Side)
26	72.903	72.953	0.050		Kachha (Single Side)
27	73.098	73.208	0.110		Kachha (Single Side)
28	73.299	73.362	0.063		Kachha (Single Side)
29	73.393	73.479	0.086		Kachha (Single Side)
30	73.479	73.858	0.379	Pucca (Single Side)	
31	73.891	74.087	0.196		Kachha (Single Side)
32	74.100	74.154	0.054	Pucca (Single Side)	
33	74.539	74.562	0.023	Pucca (Single Side)	
34	74.632	74.642	0.010		Kachha (Single Side)
35	74.790	74.840	0.050	Pucca (Single Side)	
36	75.212	75.260	0.048		Kachha (Single Side)
37	75.364	75.376	0.012	Pucca (Single Side)	
38	75.376	75.543	0.167		Kachha (Single Side)
39	76.015	76.272	0.257	Pucca (Single Side)	

Sl. No.	Location		Length (km)	Type	
	From km	To km		Masonry/cc (Pucca)	Earthen (Kutcha)
40	76.339	76.384	0.045	Pucca (Single Side)	
41	76.576	76.753	0.177		Kachha (Single Side)
42	77.482	77.590	0.108	Pucca (Single Side)	
43	77.607	78.755	1.148		Kachha (Single Side)
44	78.993	79.101	0.108		Kachha (Single Side)
45	79.133	79.252	0.119		Kachha (Single Side)
46	79.313	79.940	0.627		Kachha (Single Side)
47	80.114	80.419	0.305		Kachha (Single Side)
48	80.425	80.517	0.092	Pucca (Single Side)	
49	80.525	80.576	0.051		Kachha (Single Side)
50	80.626	82.030	1.404		Kachha (Single Side)
51	82.030	82.100	0.070	Pucca (Single Side)	
52	82.226	82.392	0.166	Pucca (Single Side)	
53	82.619	82.735	0.116		Kachha (Single Side)
54	82.810	82.933	0.123		Kachha (Single Side)
55	83.097	83.212	0.115		Kachha (Single Side)
56	83.705	83.768	0.063	Pucca (Single Side)	
57	88.467	88.785	0.318		Kachha (Single Side)
58	89.210	89.440	0.230		Kachha (Single Side)
59	92.669	92.760	0.091		Kachha (Single Side)
60	93.117	93.196	0.079		Kachha (Single Side)
61	93.219	93.325	0.106		Kachha (Single Side)
62	93.442	93.539	0.097		Kachha (Single Side)
63	93.645	93.710	0.065		Kachha (Single Side)
64	93.736	93.988	0.252		Kachha (Single Side)
65	94.001	94.079	0.078		Kachha (Single Side)
66	95.960	96.072	0.112		Kachha (Single Side)
67	96.298	96.698	0.400		Kachha (Single Side)
68	96.698	96.778	0.080	Pucca (Single Side)	
69	96.814	96.952	0.138		Kachha (Single Side)
70	97.022	97.099	0.077		Kachha (Single Side)
71	97.099	97.258	0.159	Pucca (Single Side)	
72	97.305	97.792	0.487		Kachha (Single Side)
73	97.802	97.901	0.099	Pucca (Single Side)	
74	97.901	98.146	0.245		Kachha (Single Side)
75	98.162	98.475	0.313	Pucca (Single Side)	
76	98.475	98.557	0.082		Kachha (Single Side)
77	98.557	98.617	0.060	Pucca (Single Side)	
78	98.617	98.748	0.131		Kachha (Single Side)
79	98.841	100.025	1.184		Kachha (Single Side)
80	100.047	100.956	0.909		Kachha (Single Side)
81	101.005	101.225	0.220	Pucca (Single Side)	
82	101.225	101.677	0.452		Kachha (Single Side)
83	101.677	101.727	0.050	Pucca (Single Side)	
84	101.727	101.998	0.271		Kachha (Single Side)
85	101.998	102.147	0.149	Pucca (Single Side)	
86	102.147	102.212	0.065		Kachha (Single Side)
87	102.220	102.318	0.098		Kachha (Single Side)
88	102.336	102.420	0.084		Kachha (Single Side)
89	102.433	102.519	0.086		Kachha (Single Side)
90	102.549	102.763	0.214		Kachha (Single Side)

Sl. No.	Location		Length (km)	Type	
	From km	To km		Masonry/cc (Pucca)	Earthen (Kutcha)
91	102.784	102.846	0.062	Pucca (Single Side)	
92	102.912	102.960	0.048		Kachha (Single Side)
93	102.965	103.012	0.047		Kachha (Single Side)
94	103.044	103.075	0.031		Kachha (Single Side)
95	103.484	103.820	0.336		Kachha (Single Side)
96	103.878	103.940	0.062		Kachha (Single Side)
97	103.948	103.965	0.017	Pucca (Single Side)	
98	103.965	104.034	0.069		Kachha (Single Side)
99	104.084	104.143	0.059		Kachha (Single Side)
100	104.143	104.173	0.030	Pucca (Single Side)	
101	104.193	104.235	0.042	Pucca (Single Side)	
102	104.238	104.351	0.113		Kachha (Single Side)
103	104.368	104.448	0.080		Kachha (Single Side)
104	104.479	104.511	0.032		Kachha (Single Side)
105	104.556	104.582	0.026		Kachha (Single Side)
106	104.638	105.025	0.387		Kachha (Single Side)
107	105.069	105.149	0.080		Kachha (Single Side)
108	105.194	105.520	0.326		Kachha (Single Side)
109	105.520	105.775	0.255	Pucca (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. Minor junctions

The details of the minor junctions are as follows:

Sl. No.	Location		Type of intersection	
	From Km	To Km	T-Junction	Cross Road
1	67.633		Y	3-Legged
2	75.759		Y	3-Legged
3	77.883		Y	3-Legged
4	78.880		Y	3-Legged
5	67.633		Y	3-Legged
6	75.759		Y	3-Legged
7	77.883		Y	3-Legged
8	78.880		Y	3-Legged
9	85.654		Y	3-Legged
10	87.055		Y	3-Legged
11	90.257		Y	3-Legged
12	90.783		Y	3-Legged
13	103.365		Y	3-Legged

16. 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.]

18. Existing utilities

(i) Electrical utilities

The site includes the following electrical utilities:-

a) Extra High-Tension Lines (EHT Lines)*

SL. NO	Chainage(m)		Length (in Nos.)				Crossings			
	From	To	33KV	100KV	110KV	66KV	400KV	220KV	110KV	66KV
1	67496	103557	0	0						

b) High Tension/Low Tension Lines (HT/LT Lines)*

SL. NO	Chainage(m)		HT/LT Lines (Nos.)			Crossings			Transformer		Conductor	
	From	To	33KV	11KV	LT	33KV	11KV	LT	No	Capacity	Type	Length
1	67496	103557	0	87	0				1	25 KVA	ACSR (Rabbit)	
									1	100 KVA		
									1	250 KVA		
									1	363 KVA		

(ii) Public Health utilities (Water/Sewage Pipe Lines)*

The site includes the following Public Health utilities:-

SL. NO	Chainage(m)		Length (in Km)				Crossings				Water Tank	
	From	To	Water Supply Line		Sewage Line		Water Supply Line		Sewage Line		Capacity (in lts)	Nos.
			With Pumping	With Gravity Flow	With Pumping	With Gravity Flow	With Pumping	With Gravity Flow	With Pumping	With Gravity Flow		
1	67496	103557	3.000									

(iii) Any Other line

(* This illustrative and may change as per features of existing utilities.)

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 –A.

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) Traffic Signage plan of the Project Highway showing numbers & location of traffic signs is enclosed. The contractor shall, however, improve/upgrade upon the traffic signage plan as indicated in Annex-III based on site/design requirement as per the 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. DevelopmentoftheProjectHighway

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

2. [Rehabilitation and augmentation]

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

3. SpecificationsandStandards

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

Annex – I

(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) toexplain the Authority's requirementsprecisely inordertoavoidsubsequentchangesintheScopeofthe Project. The particularsthatmust be specified inthisSchedule-B arelisted below as pertherequirementsoftheManualofSpecificationsandStandardsfor[TwoLanning ofHighways(IRC: SP: 73-2018)]referredtoastheManual.Ifanystandardsspecifications or details are not given in the Manual the minimum design/construction requirementsshallbespecifiedinthisSchedule.In additiontotheseparticularsall otheressentialprojectspecificdetailsasrequiredshouldbeprovided to define the Scope of the Project clearlyand 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 isavailable.

(ii) Widthof Carriageway

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

Providedthatinthebuilt-upareas:thewidthofthecarriagewayshallbe as specifiedin the followingtable:

Sl. No.	Built-up stretch (Township)	Location		Width (m)	Typical Cross Section (Refer to Manual)	Remarks
1	Rangkhung	66+200	66+500	7	As per attached TCS drawing	7 m Carriageway
2	Awangkhul	76+100	77+400	7	As per attached TCS drawing	7 m Carriageway
3	IrangKhun	93+850	94+200	7	As per attached TCS drawing	7 m Carriageway
4	Khongsang	100+800	101+280	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. GeometricDesign andGeneralFeatures

(i) General

GeometricdesignandgeneralfeaturesoftheProjectHighway shallbeinaccordance with Section 2 of the Manual.

(ii) Design speed

For Mountainous terrain designspeedshallbetheminimumdesignspeedof 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 40 kmph are summarized below:

Sl. No.	Stretch (from km to km)	Type of Deficiency	Remarks
1	66+239 to 66+289	Sharp Bend	Design Speed = 30 Kmph
2	66+393 to 66+411	Sharp Bend	Design Speed = 30 Kmph
3	66+541 to 66+563	Sharp Bend	Design Speed = 30 Kmph
4	66+607 to 66+616	Sharp Bend	Design Speed = 30 Kmph
5	66+647 to 66+653	Sharp Bend	Design Speed = 30 Kmph
6	66+736 to 66+795	Sharp Bend	Design Speed = 30 Kmph
7	66+995 to 67+056	Sharp Bend	Design Speed = 30 Kmph
8	67+509 to 67+574	Sharp Bend	Design Speed = 30 Kmph
9	67+634 to 67+668	Sharp Bend	Design Speed = 30 Kmph
10	67+821 to 67+889	Sharp Bend	Design Speed = 30 Kmph
11	68+004 to 68+014	Sharp Bend	Design Speed = 30 Kmph
12	68+123 to 68+163	Sharp Bend	Design Speed = 30 Kmph
13	68+212 to 68+284	Sharp Bend	Design Speed = 30 Kmph
14	68+467 to 68+476	Sharp Bend	Design Speed = 30 Kmph
15	68+544 to 68+552	Sharp Bend	Design Speed = 30 Kmph
16	68+682 to 68+692	Sharp Bend	Design Speed = 30 Kmph
17	68+736 to 68+799	Sharp Bend	Design Speed = 30 Kmph
18	68+847 to 68+857	Sharp Bend	Design Speed = 30 Kmph
19	68+911 to 68+936	Sharp Bend	Design Speed = 30 Kmph
20	69+269 to 69+329	Sharp Bend	Design Speed = 30 Kmph
21	69+423 to 69+459	Sharp Bend	Design Speed = 30 Kmph
22	69+630 to 69+637	Sharp Bend	Design Speed = 30 Kmph
23	69+687 to 69+740	Sharp Bend	Design Speed = 30 Kmph
24	69+792 to 69+810	Sharp Bend	Design Speed = 30 Kmph
25	69+879 to 69+890	Sharp Bend	Design Speed = 30 Kmph
26	69+984 to 69+990	Sharp Bend	Design Speed = 30 Kmph
27	70+041 to 70+050	Sharp Bend	Design Speed = 30 Kmph
28	70+112 to 70+198	Sharp Bend	Design Speed = 30 Kmph
29	70+375 to 70+405	Sharp Bend	Design Speed = 30 Kmph
30	70+454 to 70+470	Sharp Bend	Design Speed = 30 Kmph
31	70+593 to 70+600	Sharp Bend	Design Speed = 30 Kmph
32	71+265 to 71+302	Sharp Bend	Design Speed = 30 Kmph
33	71+533 to 71+581	Sharp Bend	Design Speed = 30 Kmph
34	71+643 to 71+650	Sharp Bend	Design Speed = 30 Kmph
35	71+701 to 71+708	Sharp Bend	Design Speed = 30 Kmph
36	72+152 to 72+184	Sharp Bend	Design Speed = 20 Kmph
37	72+812 to 72+846	Sharp Bend	Design Speed = 30 Kmph
38	73+031 to 73+056	Sharp Bend	Design Speed = 30 Kmph
39	73+112 to 73+117	Sharp Bend	Design Speed = 30 Kmph
40	73+246 to 73+265	Sharp Bend	Design Speed = 30 Kmph
41	73+330 to 73+342	Sharp Bend	Design Speed = 30 Kmph
42	73+414 to 73+445	Sharp Bend	Design Speed = 30 Kmph
43	73+497 to 73+503	Sharp Bend	Design Speed = 30 Kmph
44	73+651 to 73+704	Sharp Bend	Design Speed = 30 Kmph
45	73+766 to 73+770	Sharp Bend	Design Speed = 30 Kmph

Sl. No.	Stretch (from km to km)	Type of Deficiency	Remarks
46	73+825 to 73+916	Sharp Bend	Design Speed = 30 Kmph
47	74+033 to 74+095	Sharp Bend	Design Speed = 30 Kmph
48	74+646 to 74+663	Sharp Bend	Design Speed = 30 Kmph
49	74+717 to 74+736	Sharp Bend	Design Speed = 30 Kmph
50	75+106 to 75+133	Sharp Bend	Design Speed = 30 Kmph
51	76+109 to 76+127	Sharp Bend	Design Speed = 30 Kmph
52	76+182 to 76+201	Sharp Bend	Design Speed = 20 Kmph
53	76+244 to 76+260	Sharp Bend	Design Speed = 20 Kmph
54	76+408 to 76+432	Sharp Bend	Design Speed = 30 Kmph
55	76+480 to 76+509	Sharp Bend	Design Speed = 20 Kmph
56	76+550 to 76+575	Sharp Bend	Design Speed = 20 Kmph
57	76+616 to 76+636	Sharp Bend	Design Speed = 20 Kmph
58	76+680 to 76+691	Sharp Bend	Design Speed = 20 Kmph
59	76+747 to 76+771	Sharp Bend	Design Speed = 30 Kmph
60	76+886 to 76+937	Sharp Bend	Design Speed = 30 Kmph
61	77+508 to 77+532	Sharp Bend	Design Speed = 30 Kmph
62	77+596 to 77+612	Sharp Bend	Design Speed = 30 Kmph
63	77+834 to 77+837	Sharp Bend	Design Speed = 30 Kmph
64	77+918 to 77+929	Sharp Bend	Design Speed = 30 Kmph
65	77+960 to 77+976	Sharp Bend	Design Speed = 30 Kmph
66	78+018 to 78+049	Sharp Bend	Design Speed = 30 Kmph
67	78+126 to 78+182	Sharp Bend	Design Speed = 30 Kmph
68	78+241 to 78+275	Sharp Bend	Design Speed = 30 Kmph
69	78+369 to 78+395	Sharp Bend	Design Speed = 30 Kmph
70	78+467 to 78+563	Sharp Bend	Design Speed = 30 Kmph
71	78+625 to 78+630	Sharp Bend	Design Speed = 30 Kmph
72	78+680 to 78+699	Sharp Bend	Design Speed = 30 Kmph
73	78+807 to 78+869	Sharp Bend	Design Speed = 30 Kmph
74	78+919 to 78+956	Sharp Bend	Design Speed = 30 Kmph
75	79+589 to 79+606	Sharp Bend	Design Speed = 30 Kmph
76	79+731 to 79+741	Sharp Bend	Design Speed = 30 Kmph
77	79+782 to 79+818	Sharp Bend	Design Speed = 20 Kmph
78	79+944 to 79+965	Sharp Bend	Design Speed = 30 Kmph
79	80+022 to 80+058	Sharp Bend	Design Speed = 30 Kmph
80	80+143 to 80+205	Sharp Bend	Design Speed = 30 Kmph
81	80+275 to 80+335	Sharp Bend	Design Speed = 30 Kmph
82	80+803 to 80+865	Sharp Bend	Design Speed = 30 Kmph
83	81+275 to 81+298	Sharp Bend	Design Speed = 30 Kmph
84	81+340 to 81+348	Sharp Bend	Design Speed = 30 Kmph
85	81+411 to 81+418	Sharp Bend	Design Speed = 30 Kmph
86	81+463 to 81+506	Sharp Bend	Design Speed = 30 Kmph
87	81+783 to 81+803	Sharp Bend	Design Speed = 30 Kmph
88	82+034 to 82+052	Sharp Bend	Design Speed = 30 Kmph
89	82+145 to 82+182	Sharp Bend	Design Speed = 30 Kmph
90	82+288 to 82+294	Sharp Bend	Design Speed = 30 Kmph
91	82+340 to 82+374	Sharp Bend	Design Speed = 30 Kmph
92	82+409 to 82+452	Sharp Bend	Design Speed = 30 Kmph
93	82+583 to 82+620	Sharp Bend	Design Speed = 30 Kmph
94	82+689 to 82+705	Sharp Bend	Design Speed = 30 Kmph
95	82+841 to 82+897	Sharp Bend	Design Speed = 30 Kmph
96	82+947 to 82+962	Sharp Bend	Design Speed = 30 Kmph

Sl. No.	Stretch (from km to km)	Type of Deficiency	Remarks
97	82+995 to 83+033	Sharp Bend	Design Speed = 30 Kmph
98	83+065 to 83+080	Sharp Bend	Design Speed = 30 Kmph
99	83+288 to 83+316	Sharp Bend	Design Speed = 30 Kmph
100	83+373 to 83+392	Sharp Bend	Design Speed = 30 Kmph
101	83+434 to 83+444	Sharp Bend	Design Speed = 20 Kmph
102	83+483 to 83+519	Sharp Bend	Design Speed = 20 Kmph
103	83+646 to 83+651	Sharp Bend	Design Speed = 30 Kmph
104	83+688 to 83+707	Sharp Bend	Design Speed = 30 Kmph
105	83+749 to 83+765	Sharp Bend	Design Speed = 30 Kmph
106	83+827 to 83+892	Sharp Bend	Design Speed = 30 Kmph
107	83+982 to 84+007	Sharp Bend	Design Speed = 30 Kmph
108	84+092 to 84+100	Sharp Bend	Design Speed = 30 Kmph
109	84+199 to 84+209	Sharp Bend	Design Speed = 30 Kmph
110	84+262 to 84+338	Sharp Bend	Design Speed = 30 Kmph
111	84+377 to 84+446	Sharp Bend	Design Speed = 30 Kmph
112	84+484 to 84+517	Sharp Bend	Design Speed = 30 Kmph
113	84+630 to 84+740	Sharp Bend	Design Speed = 20 Kmph
114	84+787 to 84+797	Sharp Bend	Design Speed = 30 Kmph
115	84+846 to 84+863	Sharp Bend	Design Speed = 30 Kmph
116	84+961 to 85+051	Sharp Bend	Design Speed = 30 Kmph
117	85+087 to 85+094	Sharp Bend	Design Speed = 30 Kmph
118	85+173 to 85+173	Sharp Bend	Design Speed = 30 Kmph
119	85+623 to 85+629	Sharp Bend	Design Speed = 30 Kmph
120	85+708 to 85+766	Sharp Bend	Design Speed = 30 Kmph
121	85+860 to 85+865	Sharp Bend	Design Speed = 30 Kmph
122	85+917 to 85+948	Sharp Bend	Design Speed = 30 Kmph
123	85+999 to 86+040	Sharp Bend	Design Speed = 30 Kmph
124	86+153 to 86+246	Sharp Bend	Design Speed = 30 Kmph
125	86+301 to 86+319	Sharp Bend	Design Speed = 30 Kmph
126	86+533 to 86+546	Sharp Bend	Design Speed = 30 Kmph
127	86+588 to 86+676	Sharp Bend	Design Speed = 30 Kmph
128	86+771 to 86+809	Sharp Bend	Design Speed = 30 Kmph
129	86+883 to 86+895	Sharp Bend	Design Speed = 30 Kmph
130	86+953 to 86+963	Sharp Bend	Design Speed = 30 Kmph
131	86+998 to 87+011	Sharp Bend	Design Speed = 30 Kmph
132	87+055 to 87+099	Sharp Bend	Design Speed = 30 Kmph
133	87+157 to 87+175	Sharp Bend	Design Speed = 30 Kmph
134	87+217 to 87+228	Sharp Bend	Design Speed = 30 Kmph
135	87+268 to 87+280	Sharp Bend	Design Speed = 30 Kmph
136	87+323 to 87+328	Sharp Bend	Design Speed = 30 Kmph
137	87+371 to 87+381	Sharp Bend	Design Speed = 30 Kmph
138	87+756 to 87+807	Sharp Bend	Design Speed = 30 Kmph
139	87+938 to 87+970	Sharp Bend	Design Speed = 30 Kmph
140	88+056 to 88+086	Sharp Bend	Design Speed = 30 Kmph
141	88+131 to 88+188	Sharp Bend	Design Speed = 30 Kmph
142	88+355 to 88+399	Sharp Bend	Design Speed = 30 Kmph
143	88+519 to 88+531	Sharp Bend	Design Speed = 30 Kmph
144	89+058 to 89+068	Sharp Bend	Design Speed = 30 Kmph
145	89+121 to 89+132	Sharp Bend	Design Speed = 30 Kmph
146	89+252 to 89+286	Sharp Bend	Design Speed = 20 Kmph
147	89+635 to 89+640	Sharp Bend	Design Speed = 30 Kmph

Sl. No.	Stretch (from km to km)	Type of Deficiency	Remarks
148	89+692 to 89+718	Sharp Bend	Design Speed = 30 Kmph
149	89+843 to 89+900	Sharp Bend	Design Speed = 30 Kmph
150	89+928 to 89+964	Sharp Bend	Design Speed = 30 Kmph
151	89+998 to 90+003	Sharp Bend	Design Speed = 30 Kmph
152	90+058 to 90+091	Sharp Bend	Design Speed = 30 Kmph
153	90+151 to 90+158	Sharp Bend	Design Speed = 30 Kmph
154	90+198 to 90+208	Sharp Bend	Design Speed = 30 Kmph
155	90+253 to 90+260	Sharp Bend	Design Speed = 30 Kmph
156	90+328 to 90+348	Sharp Bend	Design Speed = 30 Kmph
157	90+414 to 90+436	Sharp Bend	Design Speed = 30 Kmph
158	90+514 to 90+537	Sharp Bend	Design Speed = 30 Kmph
159	90+719 to 90+745	Sharp Bend	Design Speed = 30 Kmph
160	91+781 to 91+793	Sharp Bend	Design Speed = 30 Kmph
161	91+846 to 91+855	Sharp Bend	Design Speed = 30 Kmph
162	91+910 to 91+915	Sharp Bend	Design Speed = 30 Kmph
163	92+025 to 92+035	Sharp Bend	Design Speed = 30 Kmph
164	92+082 to 92+100	Sharp Bend	Design Speed = 30 Kmph
165	92+671 to 92+687	Sharp Bend	Design Speed = 30 Kmph
166	92+736 to 92+749	Sharp Bend	Design Speed = 30 Kmph
167	92+805 to 92+808	Sharp Bend	Design Speed = 30 Kmph
168	92+856 to 92+929	Sharp Bend	Design Speed = 30 Kmph
169	93+045 to 93+075	Sharp Bend	Design Speed = 30 Kmph
170	93+199 to 93+199	Sharp Bend	Design Speed = 30 Kmph
171	93+263 to 93+271	Sharp Bend	Design Speed = 30 Kmph
172	93+605 to 93+642	Sharp Bend	Design Speed = 20 Kmph
173	93+687 to 93+728	Sharp Bend	Design Speed = 20 Kmph
174	93+894 to 93+921	Sharp Bend	Design Speed = 20 Kmph
175	93+964 to 93+982	Sharp Bend	Design Speed = 20 Kmph
176	94+036 to 94+059	Sharp Bend	Design Speed = 20 Kmph
177	94+099 to 94+106	Sharp Bend	Design Speed = 20 Kmph
178	94+141 to 94+150	Sharp Bend	Design Speed = 20 Kmph
179	94+180 to 94+186	Sharp Bend	Design Speed = 20 Kmph
180	94+221 to 94+228	Sharp Bend	Design Speed = 20 Kmph
181	94+273 to 94+284	Sharp Bend	Design Speed = 30 Kmph
182	94+314 to 94+332	Sharp Bend	Design Speed = 30 Kmph
183	94+377 to 94+412	Sharp Bend	Design Speed = 20 Kmph
184	94+463 to 94+535	Sharp Bend	Design Speed = 30 Kmph
185	95+086 to 95+097	Sharp Bend	Design Speed = 30 Kmph
186	95+141 to 95+186	Sharp Bend	Design Speed = 30 Kmph
187	95+317 to 95+341	Sharp Bend	Design Speed = 30 Kmph
188	95+388 to 95+395	Sharp Bend	Design Speed = 30 Kmph
189	95+436 to 95+443	Sharp Bend	Design Speed = 30 Kmph
190	95+472 to 95+515	Sharp Bend	Design Speed = 30 Kmph
191	95+536 to 95+547	Sharp Bend	Design Speed = 30 Kmph
192	95+587 to 95+597	Sharp Bend	Design Speed = 30 Kmph
193	95+636 to 95+657	Sharp Bend	Design Speed = 30 Kmph
194	95+690 to 95+768	Sharp Bend	Design Speed = 20 Kmph
195	95+843 to 95+871	Sharp Bend	Design Speed = 30 Kmph
196	95+889 to 95+905	Sharp Bend	Design Speed = 30 Kmph
197	95+948 to 95+976	Sharp Bend	Design Speed = 30 Kmph
198	96+194 to 96+216	Sharp Bend	Design Speed = 30 Kmph

Sl. No.	Stretch (from km to km)	Type of Deficiency	Remarks
199	96+385 to 96+412	Sharp Bend	Design Speed = 30 Kmph
200	96+475 to 96+481	Sharp Bend	Design Speed = 30 Kmph
201	97+042 to 97+055	Sharp Bend	Design Speed = 30 Kmph
202	97+131 to 97+157	Sharp Bend	Design Speed = 30 Kmph
203	97+284 to 97+290	Sharp Bend	Design Speed = 30 Kmph
204	97+350 to 97+369	Sharp Bend	Design Speed = 30 Kmph
205	97+433 to 97+451	Sharp Bend	Design Speed = 30 Kmph
206	97+548 to 97+565	Sharp Bend	Design Speed = 30 Kmph
207	97+619 to 97+652	Sharp Bend	Design Speed = 30 Kmph
208	97+876 to 97+909	Sharp Bend	Design Speed = 20 Kmph
209	98+681 to 98+788	Sharp Bend	Design Speed = 30 Kmph
210	98+953 to 98+986	Sharp Bend	Design Speed = 30 Kmph
211	99+419 to 99+488	Sharp Bend	Design Speed = 30 Kmph
212	99+671 to 99+698	Sharp Bend	Design Speed = 30 Kmph
213	99+749 to 99+754	Sharp Bend	Design Speed = 30 Kmph
214	99+796 to 99+882	Sharp Bend	Design Speed = 30 Kmph
215	99+946 to 99+969	Sharp Bend	Design Speed = 30 Kmph
216	100+081 to 100+109	Sharp Bend	Design Speed = 30 Kmph
217	100+155 to 100+165	Sharp Bend	Design Speed = 30 Kmph
218	100+213 to 100+218	Sharp Bend	Design Speed = 30 Kmph
219	100+351 to 100+401	Sharp Bend	Design Speed = 20 Kmph
220	100+454 to 100+482	Sharp Bend	Design Speed = 30 Kmph
221	100+508 to 100+514	Sharp Bend	Design Speed = 30 Kmph
222	100+543 to 100+599	Sharp Bend	Design Speed = 30 Kmph
223	100+666 to 100+705	Sharp Bend	Design Speed = 30 Kmph
224	100+736 to 100+745	Sharp Bend	Design Speed = 30 Kmph
225	100+760 to 100+858	Sharp Bend	Design Speed = 30 Kmph
226	100+906 to 100+970	Sharp Bend	Design Speed = 30 Kmph
227	101+008 to 101+019	Sharp Bend	Design Speed = 20 Kmph
228	101+057 to 101+064	Sharp Bend	Design Speed = 20 Kmph
229	101+118 to 101+123	Sharp Bend	Design Speed = 30 Kmph
230	101+168 to 101+191	Sharp Bend	Design Speed = 30 Kmph
231	101+224 to 101+240	Sharp Bend	Design Speed = 30 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 Measuresshall beprovided.

(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-upsections.footpaths/fullypaved shouldersshallbeprovidedinthe followingstretches:

Sl. No.	Stretch (from Km to Km)	Fully Paved shoulders/footpaths	Reference to cross section
1	66+180 to 68+280	2X1.5 m paved shoulder & 1X1.0 m footpath	TCS-6

Sl. No.	Stretch (from Km to Km)	Fully Paved shoulders/footpaths	Reference to cross section
2	75+880 to 77+030	2X1.5 m paved shoulder & 2X1.0 m footpath	TCS-6
3	98+600 to 98+700	2X1.5 m paved shoulder & 2X1.0 m footpath	TCS-7
4	98+700 to 98+790	2X1.5 m paved shoulder & 2X1.0 m footpath	TCS-6
5	100+840 to 101+280	2X1.5 m paved shoulder & 2X1.0 m footpath	TCS-6

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

(c) Design and specifications of paved shoulders and granular material shall conform to the requirements specified in the relevant Manual.

(vi) Lateral and verticalclearances at underpasses

(a) Lateralandverticalclearancesatunderpasses andprovisionof 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 of service road(fromkmto km)	Righthand side (RHS)/Left hand side(LHS)/orBoth sides	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 andlength of spans	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)	0.125
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)	22.400
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)	4.195
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)	1.605
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)	0.085
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)	2.830
TCS-5A	Typical Cross Section of Two Lane Carriageway In Rural Area With Breast Wall on Hill Side And Earthen Shoulder on Valley side (Reconstruction)	1.850
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 (New Construction)	1.780
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)	0.100
TCS-7A	Typical Cross Section of Two Lane Carriageway In Rural Area With Beast Wall on One Side and trapezoidal drain on other side (Reconstruction)	0.200
Total =		**35.170**

Design Chainage (m)		Length of CD (m)	Net Length (m)	TCS No.
From	To			
66110	66180		70	TCS-3
66180	66280		100	TCS-6
66280	66550	3.84	266.16	TCS-3
66550	66600	2.6	47.4	TCS-4
66600	66650	3.96	46.04	TCS-3
66650	66860		210	TCS-5A
66860	67010	2.6	147.4	TCS-3

Design Chainage (m)		Length of CD (m)	Net Length (m)	TCS No.
From	To			
67010	67090		80	TCS-4
67090	67310	2.6	217.4	TCS-3
67310	67360		50	TCS-4
67360	67410		50	TCS-3
67410	67480		70	TCS-5
67480	67690	5.2	204.8	TCS-3
67690	67745	8	47	TCS-3A
67745	68055	7.8	302.2	TCS-3
68055	68105		50	TCS-5
68105	68155		50	TCS-5A
68155	68205		50	TCS-5
68205	68265		60	TCS-4
68265	68850	7.8	577.2	TCS-3
68850	68910		60	TCS-4
68910	69010	2.6	97.4	TCS-3
69010	69140		130	TCS-4
69140	69280	5.3	134.7	TCS-3
69280	69520	8	232	TCS-5A
69520	69570		50	TCS-3
69570	69670		100	TCS-5A
69670	69720	2.7	47.3	TCS-3
69720	69820	2.6	97.4	TCS-5
69820	70240	16.56	403.44	TCS-3
70240	70355		115	TCS-5
70355	70420		65	TCS-4
70420	70630		210	TCS-5A
70630	70805	2.6	172.4	TCS-3
70805	70955		150	TCS-5
70955	71105	2.6	147.4	TCS-3
71105	71155		50	TCS-5
71155	71555	7.8	392.2	TCS-3
71555	71750	5	190	TCS-5A
71750	71930	2.7	177.3	TCS-3
71930	72055		125	TCS-5A
72055	72305		250	TCS-3A
72305	72380		75	TCS-3
72380	72510	2.6	127.4	TCS-4
72510	72655	3.84	141.16	TCS-5
72655	72715		60	TCS-3
72715	72765	2.6	47.4	TCS-4
72765	72900		135	TCS-3
72900	72950	2.6	47.4	TCS-3A
72950	73030		80	TCS-3
73030	73080	2.6	47.4	TCS-4
73080	73200	3.96	116.04	TCS-5
73200	73465	2.6	262.4	TCS-3
73465	73520		55	TCS-5
73520	73700		180	TCS-3
73700	73830	14.06	115.94	TCS-5
73830	73910		80	TCS-3
73910	74010		100	TCS-5A

Design Chainage (m)		Length of CD (m)	Net Length (m)	TCS No.
From	To			
74010	74070		60	TCS-3
74070	74180	2.6	107.4	TCS-4
74180	75230	25.58	1024.42	TCS-3
75230	75355	2.6	122.4	TCS-5
75355	75880	7.86	517.14	TCS-3
75880	77030	21.92	1128.08	TCS-6
77030	77100		70	TCS-3
77100	77150	2.6	47.4	TCS-4
77150	77295		145	TCS-3
77295	77450		155	TCS-5A
77450	77880	5.2	424.8	TCS-3
77880	77960		80	TCS-5
77960	78280	5.3	314.7	TCS-3
78280	78480	5.3	194.7	TCS-4
78480	79080	7.9	592.1	TCS-3
79080	79150		70	TCS-4
79150	79210		60	TCS-3
79210	79295		85	TCS-3A
79295	79345	2.7	47.3	TCS-3
79345	79395		50	TCS-3A
79395	79445	3.84	46.16	TCS-4
79445	79510	5.26	59.74	TCS-3
79510	79590		80	TCS-5
79590	79820	6.14	223.86	TCS-3
79820	79890		70	TCS-5
79890	80190	11.84	288.16	TCS-3
80190	80330	5.26	134.74	TCS-5A
80330	81315	13.2	971.8	TCS-3
81315	81630	2.7	312.3	TCS-5
81630	82040	2.6	407.4	TCS-3
82040	82120		80	TCS-3A
82120	82620	5.3	494.7	TCS-3
82620	82670		50	TCS-3A
82670	83180	5.2	504.8	TCS-3
83180	83300		120	TCS-5
83300	83380		80	TCS-3A
83380	83730	5.2	344.8	TCS-3
83730	83800	6.54	63.46	TCS-4
83800	84600	9.04	790.96	TCS-3
84600	84675	2.7	72.3	TCS-5A
84675	84750	5	70	TCS-3
84750	84830		80	TCS-3A
84830	85175	9.16	335.84	TCS-3
85175	85320		145	TCS-3A
85320	85370	2.6	47.4	TCS-3
85370	85420		50	TCS-3A
85420	85575		155	TCS-3
85575	85630	2.6	52.4	TCS-3A
85630	85680		50	TCS-3
85680	85780	2.6	97.4	TCS-5
85780	85840		60	TCS-4

Design Chainage (m)		Length of CD (m)	Net Length (m)	TCS No.
From	To			
85840	85900		60	TCS-5
85900	86100	2.6	197.4	TCS-3
86100	86300	5.2	194.8	TCS-3A
86300	86600	2.6	297.4	TCS-3
86600	86650	6.14	43.86	TCS-3A
86650	87180	11.34	518.66	TCS-3
87180	87250		70	TCS-4
87250	87400		150	TCS-3
87400	87650	2.6	247.4	TCS-5
87650	87700		50	TCS-5A
87700	87775		75	TCS-5
87775	87820	5.12	39.88	TCS-3
87820	87880		60	TCS-3A
87880	88060	2.6	177.4	TCS-3
88060	88100		40	TCS-3A
88100	88270	2.6	167.4	TCS-3
88270	88350		80	TCS-3A
88350	88450	5.12	94.88	TCS-5
88450	88550		100	TCS-3A
88550	89850	18.3	1281.7	TCS-3
89850	89970		120	TCS-3A
89970	90510	9.04	530.96	TCS-3
90510	90560		50	TCS-3A
90560	90630		70	TCS-3
90630	90970	5	335	TCS-3A
90970	91015	2.7	42.3	TCS-4A
91015	91110		95	TCS-3A
91110	91150		40	TCS-4A
91150	91240		90	TCS-5A
91240	91280		40	TCS-5
91280	91400		120	TCS-3A
91400	91460	2.6	57.4	TCS-3
91460	91770		310	TCS-3A
91770	92010	5.3	234.7	TCS-3
92010	92080		70	TCS-3A
92080	92180	2.6	97.4	TCS-3
92180	92240		60	TCS-5
92240	92390		150	TCS-3
92390	92420	2.6	27.4	TCS-4
92420	92500		80	TCS-3A
92500	92575	2.6	72.4	TCS-3
92575	92625		50	TCS-4
92625	92820	5.2	189.8	TCS-3
92820	92980	2.6	157.4	TCS-3A
92980	93060	5.26	74.74	TCS-3
93060	93090		30	TCS-4
93090	93270	2.6	177.4	TCS-3A
93270	93580		310	TCS-3
93580	93630	2.6	47.4	TCS-4
93630	93880	123	127	TCS-3A
93880	93940		60	TCS-7A

Design Chainage (m)		Length of CD (m)	Net Length (m)	TCS No.
From	To			
93940	94275	9.14	325.86	TCS-3
94275	94375		100	TCS-5
94375	94430	2.6	52.4	TCS-3
94430	94490		60	TCS-3A
94490	94610	2.6	117.4	TCS-3
94610	94660		50	TCS-3A
94660	94800	2.7	137.3	TCS-3
94800	94850		50	TCS-3A
94850	94930		80	TCS-3
94930	94970		40	TCS-4
94970	95550	10.6	569.4	TCS-3
95550	95640		90	TCS-5
95640	95700		60	TCS-5A
95700	95940	8.84	231.16	TCS-3
95940	96020		80	TCS-3A
96020	96475	10.46	444.54	TCS-3
96475	96560		85	TCS-5
96560	96630	2.6	67.4	TCS-3
96630	96690		60	TCS-3A
96690	96880	2.6	187.4	TCS-3
96880	96930		50	TCS-3A
96930	97120	2.6	187.4	TCS-3
97120	97165	2.6	42.4	TCS-5
97165	98460	11.64	1283.36	TCS-3
98460	98600		140	TCS-7A
98600	98700	2.6	97.4	TCS-7
98700	98790		90	TCS-6
98790	98900		110	TCS-3A
98900	99025	2.6	122.4	TCS-2A
99025	99350	2.7	322.3	TCS-3
99350	99400		50	TCS-5A
99400	99650	5.2	244.8	TCS-3A
99650	99970	5.3	314.7	TCS-3
99970	100120	2.6	147.4	TCS-3A
100120	100840	22.38	697.62	TCS-3
100840	101280	10.28	429.72	TCS-6
Total Length =		**695**	**34475**	

3.IntersectionsandGradeSeparators

Allintersectionsandgradeseparatorsshallbe asperSection 3oftheManual.Existing intersections which are deficientshall be improvedto the prescribed standards.

[Refertoprovisionofthe relevant Manual andspecifytherequirements. Explain where necessarywith drawings/sketches/general arrangement]

Properlydesignedintersectionsshallbeprovidedatthelocationsandofthetypes and features given in the tables below:

(i) At-gradeintersections

Major Intersections

Sl. No.	Location of intersection (Km)	Type of intersection	Other features	Remarks
1	101+090	T-Type	3-Legged	NH-137 towards Tamenglong

Minor Intersections

Sl. No.	Location of intersection (Km)	Type of intersection	Other features
1	66.247	Y-Type	3-Legged
2	74.163	Y-Type	3-Legged
3	76.280	Y-Type	3-Legged
4	77.269	Y-Type	3-Legged
5	66.247	Y-Type	3-Legged
6	74.163	Y-Type	3-Legged
7	76.280	Y-Type	3-Legged
8	77.269	Y-Type	3-Legged
9	83.970	Y-Type	3-Legged
10	85.350	Y-Type	3-Legged
11	88.465	Y-Type	3-Legged
12	88.945	Y-Type	3-Legged

(ii) Grade separatedintersection with/without ramps

Sl. No.	Location	Salient features	Minimum length of viaduct to be provided	Road to be carried over/under the structures
Nil				

4. RoadEmbankmentandCutSection

(i) Widening and improvement of the existing road embankment/cuttings and constructionofnewroad embankment/cuttingsshallconformtotheSpecifications andStandards giveninSection4oftheManualandthespecified cross-sectional details. Deficiencies in theplan and profile of the existing roadshall be corrected.

(ii) Raising oftheexistingroad[Refer toprovisionofthe 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 of 20 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 20 msa.

(iv) Reconstruction of stretches.

[Refer toprovisionofthe relevant Manual and specifythestretchesifany tobe reconstructed.]

The following stretches of the existing road shall be reconstructed. These shall be designed as new pavement.

SL NO.	Stretch from Km to Km	Remarks	TCS Type
1	66+110 to 66+180	Reconstruction	TCS-3
2	66+180 to 66+280	Reconstruction	TCS-6
3	66+280 to 66+550	Reconstruction	TCS-3
4	66+550 to 66+600	Reconstruction	TCS-4
5	66+600 to 66+650	Reconstruction	TCS-3
6	66+860 to 67+010	Reconstruction	TCS-3
7	67+010 to 67+090	Reconstruction	TCS-4
8	67+090 to 67+310	Reconstruction	TCS-3
9	67+310 to 67+360	Reconstruction	TCS-4
10	67+360 to 67+410	Reconstruction	TCS-3
11	67+410 to 67+480	Reconstruction	TCS-5
12	67+480 to 67+690	Reconstruction	TCS-3
13	67+745 to 68+055	Reconstruction	TCS-3
14	68+055 to 68+105	Reconstruction	TCS-5
15	68+155 to 68+205	Reconstruction	TCS-5
16	68+205 to 68+265	Reconstruction	TCS-4
17	68+265 to 68+850	Reconstruction	TCS-3
18	68+850 to 68+910	Reconstruction	TCS-4
19	68+910 to 69+010	Reconstruction	TCS-3
20	69+010 to 69+140	Reconstruction	TCS-4
21	69+140 to 69+280	Reconstruction	TCS-3
22	69+520 to 69+570	Reconstruction	TCS-3
23	69+670 to 69+720	Reconstruction	TCS-3
24	69+720 to 69+820	Reconstruction	TCS-5
25	69+820 to 70+240	Reconstruction	TCS-3
26	70+240 to 70+355	Reconstruction	TCS-5
27	70+355 to 70+420	Reconstruction	TCS-4
28	70+630 to 70+805	Reconstruction	TCS-3
29	70+805 to 70+955	Reconstruction	TCS-5
30	70+955 to 71+105	Reconstruction	TCS-3
31	71+105 to 71+155	Reconstruction	TCS-5
32	71+155 to 71+555	Reconstruction	TCS-3
33	71+750 to 71+930	Reconstruction	TCS-3
34	72+305 to 72+380	Reconstruction	TCS-3

SL NO.	Stretch from Km to Km	Remarks	TCS Type
35	72+380 to 72+510	Reconstruction	TCS-4
36	72+510 to 72+655	Reconstruction	TCS-5
37	72+655 to 72+715	Reconstruction	TCS-3
38	72+715 to 72+765	Reconstruction	TCS-4
39	72+765 to 72+900	Reconstruction	TCS-3
40	72+950 to 73+030	Reconstruction	TCS-3
41	73+030 to 73+080	Reconstruction	TCS-4
42	73+080 to 73+200	Reconstruction	TCS-5
43	73+200 to 73+465	Reconstruction	TCS-3
44	73+465 to 73+520	Reconstruction	TCS-5
45	73+520 to 73+700	Reconstruction	TCS-3
46	73+700 to 73+830	Reconstruction	TCS-5
47	73+830 to 73+910	Reconstruction	TCS-3
48	74+010 to 74+070	Reconstruction	TCS-3
49	74+070 to 74+180	Reconstruction	TCS-4
50	74+180 to 75+230	Reconstruction	TCS-3
51	75+230 to 75+355	Reconstruction	TCS-5
52	75+355 to 75+880	Reconstruction	TCS-3
53	75+880 to 77+030	Reconstruction	TCS-6
54	77+030 to 77+100	Reconstruction	TCS-3
55	77+100 to 77+150	Reconstruction	TCS-4
56	77+150 to 77+295	Reconstruction	TCS-3
57	77+450 to 77+880	Reconstruction	TCS-3
58	77+880 to 77+960	Reconstruction	TCS-5
59	77+960 to 78+280	Reconstruction	TCS-3
60	78+280 to 78+480	Reconstruction	TCS-4
61	78+480 to 79+080	Reconstruction	TCS-3
62	79+080 to 79+150	Reconstruction	TCS-4
63	79+150 to 79+210	Reconstruction	TCS-3
64	79+295 to 79+345	Reconstruction	TCS-3
65	79+395 to 79+445	Reconstruction	TCS-4
66	79+445 to 79+510	Reconstruction	TCS-3
67	79+510 to 79+590	Reconstruction	TCS-5
68	79+590 to 79+820	Reconstruction	TCS-3
69	79+820 to 79+890	Reconstruction	TCS-5
70	79+890 to 80+190	Reconstruction	TCS-3
71	80+330 to 81+315	Reconstruction	TCS-3
72	81+315 to 81+630	Reconstruction	TCS-5
73	81+630 to 82+040	Reconstruction	TCS-3
74	82+120 to 82+620	Reconstruction	TCS-3
75	82+670 to 83+180	Reconstruction	TCS-3
76	83+180 to 83+300	Reconstruction	TCS-5
77	83+380 to 83+730	Reconstruction	TCS-3
78	83+730 to 83+800	Reconstruction	TCS-4
79	83+800 to 84+600	Reconstruction	TCS-3
80	84+675 to 84+750	Reconstruction	TCS-3
81	84+830 to 85+175	Reconstruction	TCS-3
82	85+320 to 85+370	Reconstruction	TCS-3
83	85+420 to 85+575	Reconstruction	TCS-3
84	85+630 to 85+680	Reconstruction	TCS-3
85	85+680 to 85+780	Reconstruction	TCS-5
86	85+780 to 85+840	Reconstruction	TCS-4

SL NO.	Stretch from Km to Km	Remarks	TCS Type
87	85+840 to 85+900	Reconstruction	TCS-5
88	85+900 to 86+100	Reconstruction	TCS-3
89	86+300 to 86+600	Reconstruction	TCS-3
90	86+650 to 87+180	Reconstruction	TCS-3
91	87+180 to 87+250	Reconstruction	TCS-4
92	87+250 to 87+400	Reconstruction	TCS-3
93	87+400 to 87+650	Reconstruction	TCS-5
94	87+700 to 87+775	Reconstruction	TCS-5
95	87+775 to 87+820	Reconstruction	TCS-3
96	87+880 to 88+060	Reconstruction	TCS-3
97	88+100 to 88+270	Reconstruction	TCS-3
98	88+350 to 88+450	Reconstruction	TCS-5
99	88+550 to 89+850	Reconstruction	TCS-3
100	89+970 to 90+510	Reconstruction	TCS-3
101	90+560 to 90+630	Reconstruction	TCS-3
102	91+240 to 91+280	Reconstruction	TCS-5
103	91+400 to 91+460	Reconstruction	TCS-3
104	91+770 to 92+010	Reconstruction	TCS-3
105	92+080 to 92+180	Reconstruction	TCS-3
106	92+180 to 92+240	Reconstruction	TCS-5
107	92+240 to 92+390	Reconstruction	TCS-3
108	92+390 to 92+420	Reconstruction	TCS-4
109	92+500 to 92+575	Reconstruction	TCS-3
110	92+575 to 92+625	Reconstruction	TCS-4
111	92+625 to 92+820	Reconstruction	TCS-3
112	92+980 to 93+060	Reconstruction	TCS-3
113	93+060 to 93+090	Reconstruction	TCS-4
114	93+270 to 93+580	Reconstruction	TCS-3
115	93+580 to 93+630	Reconstruction	TCS-4
116	93+880 to 93+940	Reconstruction	TCS-7A
117	93+940 to 94+275	Reconstruction	TCS-3
118	94+275 to 94+375	Reconstruction	TCS-5
119	94+375 to 94+430	Reconstruction	TCS-3
120	94+490 to 94+610	Reconstruction	TCS-3
121	94+660 to 94+800	Reconstruction	TCS-3
122	94+850 to 94+930	Reconstruction	TCS-3
123	94+930 to 94+970	Reconstruction	TCS-4
124	94+970 to 95+550	Reconstruction	TCS-3
125	95+550 to 95+640	Reconstruction	TCS-5
126	95+700 to 95+940	Reconstruction	TCS-3
127	96+020 to 96+475	Reconstruction	TCS-3
128	96+475 to 96+560	Reconstruction	TCS-5
129	96+560 to 96+630	Reconstruction	TCS-3
130	96+690 to 96+880	Reconstruction	TCS-3
131	96+930 to 97+120	Reconstruction	TCS-3
132	97+120 to 97+165	Reconstruction	TCS-5
133	97+165 to 98+460	Reconstruction	TCS-3
134	98+460 to 98+600	Reconstruction	TCS-7A
135	98+600 to 98+700	Reconstruction	TCS-7
136	98+700 to 98+790	Reconstruction	TCS-6
137	99+025 to 99+350	Reconstruction	TCS-3
138	99+650 to 99+970	Reconstruction	TCS-3

SL NO.	Stretch from Km to Km	Remarks	TCS Type
139	100+120 to 100+840	Reconstruction	TCS-3
140	100+840 to 101+280	Reconstruction	TCS-6

6. RoadsideDrainage

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

RCC Covered Drain

Chainage (m)		Length of CD	Net Length (m)	TCS No.	Side
From	To				
66180	66280	0	200.0	TCS-6	Both
75880	77030	21.92	2256.2	TCS-6	Both
98600	98700	2.6	97.4	TCS-7	Valley
98700	98790	0	180.0	TCS-6	Both
100840	101280	10.28	859.4	TCS-6	Both
Total =			**3593**		

RR Masonry Trapezoidal Drain

Chainage (m)		Length of CD	Net Length (m)	TCS No.	Side
From	To				
66110	66180	0	70.0	TCS-3	Hill
66280	66550	3.84	266.2	TCS-3	Hill
66550	66600	2.6	47.4	TCS-4	Hill
66600	66650	3.96	46.0	TCS-3	Hill
66860	67010	2.6	147.4	TCS-3	Hill
67010	67090	0	80.0	TCS-4	Hill
67090	67310	2.6	217.4	TCS-3	Hill
67310	67360	0	50.0	TCS-4	Hill
67360	67410	0	50.0	TCS-3	Hill
67480	67690	5.2	204.8	TCS-3	Hill
67690	67745	8	47.0	TCS-3A	Hill
67745	68055	7.8	302.2	TCS-3	Hill
68205	68265	0	60.0	TCS-4	Hill
68265	68850	7.8	577.2	TCS-3	Hill
68850	68910	0	60.0	TCS-4	Hill
68910	69010	2.6	97.4	TCS-3	Hill
69010	69140	0	130.0	TCS-4	Hill
69140	69280	5.3	134.7	TCS-3	Hill
69520	69570	0	50.0	TCS-3	Hill
69670	69720	2.7	47.3	TCS-3	Hill
69820	70240	16.56	403.4	TCS-3	Hill
70355	70420	0	65.0	TCS-4	Hill
70630	70805	2.6	172.4	TCS-3	Hill
70955	71105	2.6	147.4	TCS-3	Hill
71155	71555	7.8	392.2	TCS-3	Hill
71750	71930	2.7	177.3	TCS-3	Hill
72055	72305	0	250.0	TCS-3A	Hill
72305	72380	0	75.0	TCS-3	Hill
72380	72510	2.6	127.4	TCS-4	Hill
72655	72715	0	60.0	TCS-3	Hill

Chainage (m)		Length of CD	Net Length (m)	TCS No.	Side
From	To				
72715	72765	2.6	47.4	TCS-4	Hill
72765	72900	0	135.0	TCS-3	Hill
72900	72950	2.6	47.4	TCS-3A	Hill
72950	73030	0	80.0	TCS-3	Hill
73030	73080	2.6	47.4	TCS-4	Hill
73200	73465	2.6	262.4	TCS-3	Hill
73520	73700	0	180.0	TCS-3	Hill
73830	73910	0	80.0	TCS-3	Hill
74010	74070	0	60.0	TCS-3	Hill
74070	74180	2.6	107.4	TCS-4	Hill
74180	75230	25.58	1024.4	TCS-3	Hill
75355	75880	7.86	517.1	TCS-3	Hill
77030	77100	0	70.0	TCS-3	Hill
77100	77150	2.6	47.4	TCS-4	Hill
77150	77295	0	145.0	TCS-3	Hill
77450	77880	5.2	424.8	TCS-3	Hill
77960	78280	5.3	314.7	TCS-3	Hill
78280	78480	5.3	194.7	TCS-4	Hill
78480	79080	7.9	592.1	TCS-3	Hill
79080	79150	0	70.0	TCS-4	Hill
79150	79210	0	60.0	TCS-3	Hill
79210	79295	0	85.0	TCS-3A	Hill
79295	79345	2.7	47.3	TCS-3	Hill
79345	79395	0	50.0	TCS-3A	Hill
79395	79445	3.84	46.2	TCS-4	Hill
79445	79510	5.26	59.7	TCS-3	Hill
79590	79820	6.14	223.9	TCS-3	Hill
79890	80190	11.84	288.2	TCS-3	Hill
80330	81315	13.2	971.8	TCS-3	Hill
81630	82040	2.6	407.4	TCS-3	Hill
82040	82120	0	80.0	TCS-3A	Hill
82120	82620	5.3	494.7	TCS-3	Hill
82620	82670	0	50.0	TCS-3A	Hill
82670	83180	5.2	504.8	TCS-3	Hill
83300	83380	0	80.0	TCS-3A	Hill
83380	83730	5.2	344.8	TCS-3	Hill
83730	83800	6.54	63.5	TCS-4	Hill
83800	84600	9.04	791.0	TCS-3	Hill
84675	84750	5	70.0	TCS-3	Hill
84750	84830	0	80.0	TCS-3A	Hill
84830	85175	9.16	335.8	TCS-3	Hill
85175	85320	0	145.0	TCS-3A	Hill
85320	85370	2.6	47.4	TCS-3	Hill
85370	85420	0	50.0	TCS-3A	Hill
85420	85575	0	155.0	TCS-3	Hill
85575	85630	2.6	52.4	TCS-3A	Hill
85630	85680	0	50.0	TCS-3	Hill
85780	85840	0	60.0	TCS-4	Hill
85900	86100	2.6	197.4	TCS-3	Hill
86100	86300	5.2	194.8	TCS-3A	Hill
86300	86600	2.6	297.4	TCS-3	Hill

Chainage (m)		Length of CD	Net Length (m)	TCS No.	Side
From	To				
86600	86650	6.14	43.9	TCS-3A	Hill
86650	87180	11.34	518.7	TCS-3	Hill
87180	87250	0	70.0	TCS-4	Hill
87250	87400	0	150.0	TCS-3	Hill
87775	87820	5.12	39.9	TCS-3	Hill
87820	87880	0	60.0	TCS-3A	Hill
87880	88060	2.6	177.4	TCS-3	Hill
88060	88100	0	40.0	TCS-3A	Hill
88100	88270	2.6	167.4	TCS-3	Hill
88270	88350	0	80.0	TCS-3A	Hill
88450	88550	0	100.0	TCS-3A	Hill
88550	89850	18.3	1281.7	TCS-3	Hill
89850	89970	0	120.0	TCS-3A	Hill
89970	90510	9.04	531.0	TCS-3	Hill
90510	90560	0	50.0	TCS-3A	Hill
90560	90630	0	70.0	TCS-3	Hill
90630	90970	5	335.0	TCS-3A	Hill
91015	91110	0	95.0	TCS-3A	Hill
91280	91400	0	120.0	TCS-3A	Hill
91400	91460	2.6	57.4	TCS-3	Hill
91460	91770	0	310.0	TCS-3A	Hill
91770	92010	5.3	234.7	TCS-3	Hill
92010	92080	0	70.0	TCS-3A	Hill
92080	92180	2.6	97.4	TCS-3	Hill
92240	92390	0	150.0	TCS-3	Hill
92390	92420	2.6	27.4	TCS-4	Hill
92420	92500	0	80.0	TCS-3A	Hill
92500	92575	2.6	72.4	TCS-3	Hill
92575	92625	0	50.0	TCS-4	Hill
92625	92820	5.2	189.8	TCS-3	Hill
92820	92980	2.6	157.4	TCS-3A	Hill
92980	93060	5.26	74.7	TCS-3	Hill
93060	93090	0	30.0	TCS-4	Hill
93090	93270	2.6	177.4	TCS-3A	Hill
93270	93580	0	310.0	TCS-3	Hill
93580	93630	2.6	47.4	TCS-4	Hill
93630	93880	123	127.0	TCS-3A	Hill
93880	93940	0	60.0	TCS-7A	Hill
93940	94275	9.14	325.9	TCS-3	Hill
94375	94430	2.6	52.4	TCS-3	Hill
94430	94490	0	60.0	TCS-3A	Hill
94490	94610	2.6	117.4	TCS-3	Hill
94610	94660	0	50.0	TCS-3A	Hill
94660	94800	2.7	137.3	TCS-3	Hill
94800	94850	0	50.0	TCS-3A	Hill
94850	94930	0	80.0	TCS-3	Hill
94930	94970	0	40.0	TCS-4	Hill
94970	95550	10.6	569.4	TCS-3	Hill
95700	95940	8.84	231.2	TCS-3	Hill
95940	96020	0	80.0	TCS-3A	Hill
96020	96475	10.46	444.5	TCS-3	Hill

Chainage (m)		Length of CD	Net Length (m)	TCS No.	Side
From	To				
96560	96630	2.6	67.4	TCS-3	Hill
96630	96690	0	60.0	TCS-3A	Hill
96690	96880	2.6	187.4	TCS-3	Hill
96880	96930	0	50.0	TCS-3A	Hill
96930	97120	2.6	187.4	TCS-3	Hill
97165	98460	11.64	1283.4	TCS-3	Hill
98460	98600	0	140.0	TCS-7A	Hill
98790	98900	0	110.0	TCS-3A	Hill
99025	99350	2.7	322.3	TCS-3	Hill
99400	99650	5.2	244.8	TCS-3A	Hill
99650	99970	5.3	314.7	TCS-3	Hill
99970	100120	2.6	147.4	TCS-3A	Hill
100120	100840	22.38	697.6	TCS-3	Hill
Total =			**27809**		

Catchwater Drain

Chainage (m)		Length of CD	Net Length (m)
From	To		
66650	66860	0	210.0
67410	67480	0	70.0
68055	68105	0	50.0
68105	68155	0	50.0
68155	68205	0	50.0
69280	69520	8	232.0
69570	69670	0	100.0
69720	69820	2.6	97.4
70240	70355	0	115.0
70420	70630	0	210.0
70805	70955	0	150.0
71105	71155	0	50.0
71555	71750	5	190.0
71930	72055	0	125.0
72510	72655	3.84	141.2
73080	73200	3.96	116.0
73465	73520	0	55.0
73700	73830	14.06	115.9
73910	74010	0	100.0
75230	75355	2.6	122.4
77295	77450	0	155.0
77880	77960	0	80.0
79510	79590	0	80.0
79820	79890	0	70.0
80190	80330	5.26	134.7
81315	81630	2.7	312.3
83180	83300	0	120.0
84600	84675	2.7	72.3
85680	85780	2.6	97.4
85840	85900	0	60.0
87400	87650	2.6	247.4
87650	87700	0	50.0
87700	87775	0	75.0

Chainage (m)		Length of CD	Net Length (m)
From	To		
88350	88450	5.12	94.9
91150	91240	0	90.0
91240	91280	0	40.0
92180	92240	0	60.0
93880	93940	0	60.0
94275	94375	0	100.0
95550	95640	0	90.0
95640	95700	0	60.0
96475	96560	0	85.0
97120	97165	2.6	42.4
98460	98600	0	140.0
99350	99400	0	50.0
Total =			**4816**

Total Length of Trapezoidal Drain = 32625 m

Chute Drain (of avg 8 m height @ 50m Interval) = 771 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:

[Refer to provision of the relevant Manual and specify the width of carriageway of new bridges and structures of more than 60(sixty) metre length. If the carriagewaywidthisdifferentfrom7.5 (seven point five) metres in the table below.]

Sl. No.	Bridge/Structure at km	Width of carriageway and cross-sectional features
1	66+765	Carriageway Width = 11.0m Width of Railings = 1.0m (2x0.50m) Overall width = 12 m
2	69+308	
3	70+112	
4	75+110	
5	79+806	
6	92+270	
7	93+810	
8	97+891	
9	98+767	

(c) The following structuresshall be providedwith footpaths:

[Refer toprovisionofthe relevant Manual and provide details of newStructures 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 relevant Manual.

(ii) Culverts

(a) Overall width ofall culverts shall beequal to the roadway widthof the approaches.

(b) Reconstruction of existingculverts:

The existing culverts at the following locations shall be re-constructed as new culverts:

Sl. No.	Culvert Location	Span /Opening (m)	Remarks*
1	66.405	3.0 x 3.0	Single Span
2	66.580	2.0 X 2.0	Single Span
3	66.662	3.0 x 4.0	Single Span
4	67.129	2.0 X 2.0	Single Span
5	67.605	2.0 X 2.0	Single Span
6	67.701	2.0 X 2.0	Single Span
7	67.885	2.0 X 2.0	Single Span
8	67.949	2.0 X 2.0	Single Span
9	68.249	2.0 X 2.0	Single Span
10	68.455	2.0 X 2.0	Single Span
11	68.690	2.0 X 2.0	Single Span
12	69.080	2.0 X 3.0	Single Span
13	69.148	2.0 X 2.0	Single Span
14	69.635	2.0 X 3.0	Single Span
15	69.870	2.0 X 2.0	Single Span
16	70.140	3.0 x 4.0	Single Span
17	70.680	2.0 X 2.0	Single Span
18	70.935	2.0 X 2.0	Single Span
19	71.559	4.0 X 3.0	Single Span
20	71.722	2.0 X 3.0	Single Span
21	72.515	3.0 X 3.0	Single Span
22	72.974	2.0 X 2.0	Single Span
23	73.055	3.0 X 4.0	Single Span
24	73.265	2.0 X 2.0	Single Span
25	73.685	5.0 X 4.0	Single Span
26	74.170	3.0 X 3.0	Single Span
27	74.651	4.0 X 3.0	Single Span
28	74.859	5.0 X 3.0	Single Span
29	75.578	4.0 X 5.0	Single Span
30	75.898	2.0 X 2.0	Single Span
31	76.055	3.0 X 3.0	Single Span
32	76.120	2.0 X 2.0	Single Span
33	76.242	3.0 X 3.0	Single Span
34	76.340	3.0 X 3.0	Single Span

Sl. No.	Culvert Location	Span /Opening (m)	Remarks*
35	76.496	2.0 X 2.0	Single Span
36	76.900	2.0 X 2.0	Single Span
37	77.546	2.0 X 2.0	Single Span
38	77.990	2.0 X 2.0	Single Span
39	78.177	2.0 X 3.0	Single Span
40	78.325	2.0 X 2.0	Single Span
41	78.381	2.0 X 3.0	Single Span
42	78.550	2.0 X 3.0	Single Span
43	78.690	2.0 X 2.0	Single Span
44	78.970	2.0 X 2.0	Single Span
45	79.207	2.0 X 3.0	Single Span
46	79.300	3.0 X 3.0	Single Span
47	79.399	4.0 X 5.0	Single Span
48	79.562	5.0 X 3.0	Single Span
49	80.185	3.0 X 3.0	Single Span
50	80.410	4.0 X 5.0	Single Span
51	80.560	2.0 X 2.0	Single Span
52	80.745	2.0 X 2.0	Single Span
53	80.860	2.0 X 2.0	Single Span
54	81.125	2.0 X 3.0	Single Span
55	81.199	2.0 X 3.0	Single Span
56	81.510	2.0 X 3.0	Single Span
57	82.025	2.0 X 3.0	Single Span
58	82.290	2.0 X 2.0	Single Span
59	82.585	2.0 X 2.0	Single Span
60	83.075	2.0 X 2.0	Single Span
61	83.305	2.0 X 2.0	Single Span
62	83.685	3.0 X 3.0	Single Span
63	83.789	2.0 X 3.0	Single Span
64	84.013	3.0 X 3.0	Single Span
65	84.504	2.0 X 2.0	Single Span
66	84.615	2.0 X 3.0	Single Span
67	84.707	4.0 X 3.0	Single Span
68	84.844	3.0 X 4.0	Single Span
69	85.163	2.0 X 2.0	Single Span
70	85.367	2.0 X 2.0	Single Span
71	85.579	2.0 X 2.0	Single Span
72	85.938	2.0 X 2.0	Single Span
73	86.104	2.0 X 2.0	Single Span
74	86.223	2.0 X 2.0	Single Span
75	86.605	5.0 X 3.0	Single Span
76	86.891	5.0 X 3.0	Single Span
77	87.089	2.0 X 2.0	Single Span
78	87.797	4.0 X 4.0	Single Span
79	88.367	4.0 X 4.0	Single Span
80	89.136	3.0 X 4.0	Single Span
81	89.318	3.0 X 3.0	Single Span
82	89.588	2.0 X 3.0	Single Span
83	90.253	3.0 X 3.0	Single Span
84	90.724	4.0 X 3.0	Single Span
85	90.994	2.0 X 3.0	Single Span
86	91.787	2.0 X 3.0	Single Span

Sl. No.	Culvert Location	Span /Opening (m)	Remarks*
87	92.000	2.0 X 2.0	Single Span
88	92.093	2.0 X 2.0	Single Span
89	92.418	2.0 X 2.0	Single Span
90	92.697	2.0 X 2.0	Single Span
91	92.746	2.0 X 2.0	Single Span
92	92.893	2.0 X 2.0	Single Span
93	92.996	4.0 X 5.0	Single Span
94	93.205	2.0 X 2.0	Single Span
95	93.964	3.0 X 3.0	Single Span
96	94.100	2.0 X 2.0	Single Span
97	94.177	2.0 X 3.0	Single Span
98	94.390	2.0 X 2.0	Single Span
99	94.795	2.0 X 3.0	Single Span
100	95.366	2.0 X 3.0	Single Span
101	95.535	2.0 X 3.0	Single Span
102	95.731	5.0 X 3.0	Single Span
103	95.934	2.0 X 3.0	Single Span
104	96.035	2.0 X 2.0	Single Span
105	96.230	2.0 X 2.0	Single Span
106	96.465	4.0 X 5.0	Single Span
107	96.706	2.0 X 2.0	Single Span
108	96.942	2.0 X 2.0	Single Span
109	97.134	2.0 X 2.0	Single Span
110	97.354	2.0 X 2.0	Single Span
111	97.622	2.0 X 2.0	Single Span
112	98.327	3.0 X 3.0	Single Span
113	98.679	2.0 X 2.0	Single Span
114	99.195	2.0 X 3.0	Single Span
115	99.427	2.0 X 2.0	Single Span
116	99.754	2.0 X 2.0	Single Span
117	99.965	2.0 X 3.0	Single Span
118	100.071	2.0 X 2.0	Single Span
119	100.150	3.0 X 4.0	Single Span
120	100.391	4.0 X 5.0	Single Span
121	100.511	2.0 X 3.0	Single Span
122	100.686	2.0 X 2.0	Single Span
123	100.769	4.0 X 5.0	Single Span
124	100.912	3.0 X 3.0	Single Span
125	101.028	2.0 X 2.0	Single Span
126	101.192	3.0 X 3.0	Single Span

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

(c)Wideningof existingculverts:

AllexistingculvertswhicharenottobereconstructedshallbewidenedtotheRoadway width of the Project Highway as per the typical cross section given in provisionofthe 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	69.709	2.0 X 2.0	Single Span
2	71.075	2.0 X 2.0	Single Span
3	71.240	2.0 X 2.0	Single Span
4	71.384	2.0 X 2.0	Single Span
5	72.332	2.0 X 2.0	Single Span
6	72.655	2.0 X 2.0	Single Span
7	72.849	2.0 X 2.0	Single Span
8	74.020	2.0 X 2.0	Single Span
9	74.930	2.0 X 2.0	Single Span
10	75.220	2.0 X 2.0	Single Span
11	75.368	2.0 X 2.0	Single Span
12	77.040	2.0 X 2.0	Single Span
13	77.693	2.0 X 2.0	Single Span
14	81.771	2.0 X 2.0	Single Span
15	83.520	2.0 X 2.0	Single Span
16	69.709	2.0 X 2.0	Single Span
17	71.075	2.0 X 2.0	Single Span
18	71.240	2.0 X 2.0	Single Span
19	84.184	2.0 X 2.0	Single Span
20	85.000	2.0 X 2.0	Single Span
21	85.766	2.0 X 2.0	Single Span
22	86.403	2.0 X 2.0	Single Span
23	86.750	2.0 X 2.0	Single Span
24	87.503	2.0 X 2.0	Single Span
25	88.005	2.0 X 2.0	Single Span
26	88.157	2.0 X 2.0	Single Span
27	88.697	2.0 X 2.0	Single Span
28	88.900	2.0 X 2.0	Single Span
29	89.775	2.0 X 2.0	Single Span
30	89.992	2.0 X 2.0	Single Span
31	90.500	2.0 X 2.0	Single Span
32	91.411	2.0 X 2.0	Single Span
33	92.566	2.0 X 2.0	Single Span
34	93.593	2.0 X 2.0	Single Span
35	94.572	2.0 X 2.0	Single Span
36	95.020	2.0 X 2.0	Single Span
37	95.175	2.0 X 2.0	Single Span
38	96.605	2.0 X 2.0	Single Span
39	98.135	2.0 X 2.0	Single Span
40	98.993	2.0 X 2.0	Single Span
41	99.581	2.0 X 2.0	Single Span
42	100.261	2.0 X 2.0	Single Span

(e) Repairs/replacementsofrailing/parapets,flooringandprotectionworksof the existingculvertsshall be undertaken as follows:

[Refer provisionofthe 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	66+765	RCC SLAB BRIDGE	1X8.0M	Insufficient width and not conform to IRC Loading	Proposed as RCC SLAB Bridge (1 x 10m)
2	69+308	RCC SLAB BRIDGE	1X7.9M	Insufficient width and not conform to IRC Loading	Proposed as RCC SLAB Bridge (1 x 10m)
3	70+112	RCC BOX BRIDGE	6.0M X 3.8M_2 CELL	Insufficient width and not conform to IRC Loading	Proposed as RCC T-BEAM Bridge (1 x 16m)
4	75+110	RCC SLAB BRIDGE	1X6.8M	Insufficient width and not conform to IRC Loading	Proposed as RCC SLAB Bridge (1 x 8m)
5	79+806	RCC SLAB BRIDGE	1X6.0M	Insufficient width and not conform to IRC Loading	Proposed as RCC SLAB Bridge (1 x 8m)
6	92+270	RCC SLAB BRIDGE	1X6.0M	Insufficient width and not conform to IRC Loading	Proposed as RCC SLAB Bridge (1 x 8m)
7	97+891	RCC SLAB BRIDGE	1X6.0M	Insufficient width and not conform to IRC Loading	Proposed as RCC SLAB Bridge (1 x 8m)
8	98+767	RCC SLAB BRIDGE	1X6.0M	Insufficient width and not conform to IRC Loading	Proposed as RCC SLAB Bridge (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

Aneffectivedrainagesystemforbridgedecks shall beprovidedas specified in provisionofthe relevant Manual

(f) Structures in marine environment

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

(v) Rail-roadbridges

(a) DesignconstructionanddetailingofROB/RUBshallbeasspecifiedinprovisionofthe relevant Manual [Refer toprovisionofthe relevant Manual andspecify modification, if any]

(b) Road over-bridges

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

Sl. No.	Location ofLevelcrossing(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		

(b) 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)
1	1 No. Major bridge (3 X 41.0m) under construction at Ch. 93+800 Km

8. Traffic ControlDevicesandRoadSafetyWorks

(i) Traffic control devices and road safety works shall be provided in accordance with provisions of relevant Manual.

Sl. No	Traffic Signages, Road Marking and other appurtenances	unit	Quantity
1	Total No of Street Light=	Nos	126
2	Kilometer stones=	Nos	28
3	5th Kilometer stones=	Nos	7
4	Boundary Stones=	Nos	354
5	Delineators (100 cm long and circular shaped)+Hazard marker =	Nos	3717
6	Road Stud=	Nos	19344
7	900 mm Octagonal	Nos	24
8	600 mm circular	Nos	84
9	900 mm Tringular	Nos	480
10	800 mm x 600 mm rectangular	Nos	4
11	Convex Mirror for Blind Curve	Nos	0
12	Rumble Strip=	sqm	760

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

9. RoadsideFurniture

(i) Roadside 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					
66550	66600	2.6	47.4	TCS-4	Valley	2
67010	67090	0	80.0	TCS-4	Valley	2
67310	67360	0	50.0	TCS-4	Valley	3
68205	68265	0	60.0	TCS-4	Valley	2
68850	68910	0	60.0	TCS-4	Valley	2
69010	69140	0	130.0	TCS-4	Valley	2
70355	70420	0	65.0	TCS-4	Valley	2
72380	72510	2.6	127.4	TCS-4	Valley	3
72715	72765	2.6	47.4	TCS-4	Valley	2
73030	73080	2.6	47.4	TCS-4	Valley	2
74070	74180	2.6	107.4	TCS-4	Valley	2
77100	77150	2.6	47.4	TCS-4	Valley	2
78280	78480	5.3	194.7	TCS-4	Valley	2
79080	79150	0	70.0	TCS-4	Valley	2
79395	79445	3.84	46.2	TCS-4	Valley	2
83730	83800	6.54	63.5	TCS-4	Valley	2
85780	85840	0	60.0	TCS-4	Valley	2
87180	87250	0	70.0	TCS-4	Valley	2
90970	91015	2.7	42.3	TCS-4A	Valley	4
91110	91150	0	40.0	TCS-4A	Valley	2
92390	92420	2.6	27.4	TCS-4	Valley	2
92575	92625	0	50.0	TCS-4	Valley	2
93060	93090	0	30.0	TCS-4	Valley	2
93580	93630	2.6	47.4	TCS-4	Valley	2
94930	94970	0	40.0	TCS-4	Valley	2
Total =			**1651**			

b) Breast Wall

Chainage (m)		Length of CD	Net Length (m)	TCS No.	Side	Avg. Height (m)
From	To					
66650	66860	0	210.0	TCS-5A	Hill	3
67410	67480	0	70.0	TCS-5	Hill	3
68055	68105	0	50.0	TCS-5	Hill	3
68105	68155	0	50.0	TCS-5A	Hill	3
68155	68205	0	50.0	TCS-5	Hill	3
69280	69520	8	232.0	TCS-5A	Hill	3
69570	69670	0	100.0	TCS-5A	Hill	3
69720	69820	2.6	97.4	TCS-5	Hill	3
70240	70355	0	115.0	TCS-5	Hill	3
70420	70630	0	210.0	TCS-5A	Hill	3
70805	70955	0	150.0	TCS-5	Hill	3
71105	71155	0	50.0	TCS-5	Hill	3
71555	71750	5	190.0	TCS-5A	Hill	3
71930	72055	0	125.0	TCS-5A	Hill	3
72510	72655	3.84	141.2	TCS-5	Hill	3
73080	73200	3.96	116.0	TCS-5	Hill	3
73465	73520	0	55.0	TCS-5	Hill	3
73700	73830	14.06	115.9	TCS-5	Hill	3
73910	74010	0	100.0	TCS-5A	Hill	3
75230	75355	2.6	122.4	TCS-5	Hill	3

Chainage (m)		Length of CD	Net Length (m)	TCS No.	Side	Avg. Height (m)
From	To					
77295	77450	0	155.0	TCS-5A	Hill	3
77880	77960	0	80.0	TCS-5	Hill	3
79510	79590	0	80.0	TCS-5	Hill	3
79820	79890	0	70.0	TCS-5	Hill	3
80190	80330	5.26	134.7	TCS-5A	Hill	3
81315	81630	2.7	312.3	TCS-5	Hill	3
83180	83300	0	120.0	TCS-5	Hill	3
84600	84675	2.7	72.3	TCS-5A	Hill	3
85680	85780	2.6	97.4	TCS-5	Hill	3
85840	85900	0	60.0	TCS-5	Hill	3
87400	87650	2.6	247.4	TCS-5	Hill	3
87650	87700	0	50.0	TCS-5A	Hill	3
87700	87775	0	75.0	TCS-5	Hill	3
88350	88450	5.12	94.9	TCS-5	Hill	3
91150	91240	0	90.0	TCS-5A	Hill	3
91240	91280	0	40.0	TCS-5	Hill	3
92180	92240	0	60.0	TCS-5	Hill	3
93880	93940	0	60.0	TCS-7A	Hill	3
94275	94375	0	100.0	TCS-5	Hill	3
95550	95640	0	90.0	TCS-5	Hill	3
95640	95700	0	60.0	TCS-5A	Hill	3
96475	96560	0	85.0	TCS-5	Hill	3
97120	97165	2.6	42.4	TCS-5	Hill	3
98460	98600	0	140.0	TCS-7A	Hill	3
99350	99400	0	50.0	TCS-5A	Hill	3
Total =			**4816**			

c) Metal Beam Crash Barrier

Chainage (m)		Net Length (m)	Side
From	To		
66950	67100	150.0	Valley
67230	67310	80.0	Valley
68700	68950	250.0	Valley
69850	69900	50.0	Valley
70000	70100	100.0	Valley
71200	71350	150.0	Valley
72100	72250	150.0	Valley
63200	63250	50.0	Valley
72550	72630	80.0	Valley
72765	72850	85.0	Valley
73300	73550	250.0	Valley
77950	78300	350.0	Valley
78650	78750	100.0	Valley
78900	79000	100.0	Valley
79950	80100	150.0	Valley
80250	80350	100.0	Valley
80800	80900	100.0	Valley
81250	81550	300.0	Valley
82100	82200	100.0	Valley
82300	82400	100.0	Valley

Chainage (m)		Net Length (m)	Side
From	To		
82800	82950	150.0	Valley
83350	83450	100.0	Valley
83850	83950	100.0	Valley
85050	85150	100.0	Valley
85350	85450	100.0	Valley
86550	86700	150.0	Valley
88030	88130	100.0	Valley
89200	89350	150.0	Valley
90000	90100	100.0	Valley
91570	91700	130.0	Valley
91150	91300	150.0	Valley
94400	94500	100.0	Valley
95300	95400	100.0	Valley
96350	96450	100.0	Valley
97200	97450	250.0	Valley
98950	99100	150.0	Valley
100050	100150	100.0	Valley
Total =		**4925.0**	

Total no. of Bridges on the project= 4 nos.
Approach length on valley side for each bridge (25 m on both side) 50 m
Hence, Crash barrier length for 4 bridges = 400 m
Therefore, total length of crash barrier = 5325 m

d) Hydroseeding

Chainage (m)		Length of CD	Net Length (m)	TCS No.
From	To			
66650	66860		210	TCS-5A
67410	67480		70	TCS-5
67690	67745	8	47	TCS-3A
68055	68105		50	TCS-5
68105	68155		50	TCS-5A
68155	68205		50	TCS-5
69280	69520	8	232	TCS-5A
69570	69670		100	TCS-5A
69720	69820	2.6	97.4	TCS-5
70240	70355		115	TCS-5
70420	70630		210	TCS-5A
70805	70955		150	TCS-5
71105	71155		50	TCS-5
71555	71750	5	190	TCS-5A
71930	72055		125	TCS-5A
72055	72305		250	TCS-3A
72510	72655	3.84	141.16	TCS-5
72900	72950	2.6	47.4	TCS-3A
73080	73200	3.96	116.04	TCS-5
73465	73520		55	TCS-5
73700	73830	14.06	115.94	TCS-5
73910	74010		100	TCS-5A
75230	75355	2.6	122.4	TCS-5
77295	77450		155	TCS-5A

Chainage (m)		Length of CD	Net Length (m)	TCS No.
From	To			
77880	77960		80	TCS-5
79210	79295		85	TCS-3A
79345	79395		50	TCS-3A
79510	79590		80	TCS-5
79820	79890		70	TCS-5
80190	80330	5.26	134.74	TCS-5A
81315	81630	2.7	312.3	TCS-5
82040	82120		80	TCS-3A
82620	82670		50	TCS-3A
83180	83300		120	TCS-5
83300	83380		80	TCS-3A
84600	84675		75	TCS-5A
84750	84830		80	TCS-3A
85175	85320		145	TCS-3A
85370	85420		50	TCS-3A
85575	85630		55	TCS-3A
85680	85780		100	TCS-5
85840	85900		60	TCS-5
86100	86300		200	TCS-3A
86600	86650		50	TCS-3A
87400	87650		250	TCS-5
87650	87700		50	TCS-5A
87700	87775		75	TCS-5
87820	87880		60	TCS-3A
88060	88100		40	TCS-3A
88270	88350		80	TCS-3A
88350	88450		100	TCS-5
88450	88550		100	TCS-3A
89850	89970		120	TCS-3A
90510	90560		50	TCS-3A
90630	90970		340	TCS-3A
91015	91110		95	TCS-3A
91150	91240		90	TCS-5A
91240	91280		40	TCS-5
91280	91400		120	TCS-3A
91460	91770		310	TCS-3A
92010	92080		70	TCS-3A
92180	92240		60	TCS-5
92420	92500		80	TCS-3A
92820	92980		160	TCS-3A
93090	93270		180	TCS-3A
93630	93880		250	TCS-3A
94275	94375		100	TCS-5
94430	94490		60	TCS-3A
94610	94660		50	TCS-3A
94800	94850		50	TCS-3A
95550	95640		90	TCS-5
95640	95700		60	TCS-5A
95940	96020		80	TCS-3A
96475	96560		85	TCS-5
96630	96690		60	TCS-3A

Chainage (m)		Length of CD	Net Length (m)	TCS No.
From	To			
96880	96930		50	TCS-3A
97120	97165		45	TCS-5
98790	98900		110	TCS-3A
99350	99400		50	TCS-5A
99400	99650		250	TCS-3A
99970	100120		150	TCS-3A
Total =			**8816.38**	

Avg. Height of Hydroseeding = 8 m

Area of Hydroseeding = 70531.04 sqm

12. Special RequirementforHillRoads

Nil

13. ChangeofScope

The length of Structures and bridges specified herein above shall be treated as an approximate assessment. The actual lengths as required based on 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 of utilities and felling of trees shall be carried out by the concerned department. The cost of the same shall be borne by the concerned department.

Sheet-II (Annexure-I to Schedule-B1)

Utility Shifting.

Shifting of obstructing existing utilities indicated in Schedule A to an appropriate location in accordance with the standards and specification of concerned Utility Owning Department is part of the scope of work of the Contractor/Concessionaire*. The bidders may visit the site and assess the quantum of shifting of utilities for the projects before submission of their bid. Copy of utility relocation plan is enclosed. The specification of concerned Utility Owning Department shall be applicable and followed.

Notes:

a) The type/spacing/size/specifications of poles/towers/lines/cables to be used in shifting work shall be as per the guidelines of utility owning department and it is to be agreed solely between the contractor/Concessionaire* and the utility owning department. No change of scope shall be admissible and no cost shall be paid for using different type/spacing/size/specifications in shifted work in comparison to those in the existing work or for making any overhead crossing to underground as per requirement of utility owning department and/or construction of project highway. The contractor/concessionaire* shall carry out joint inspection with utility owning department and get the estimates from the utility owning department. The assistance of the Authority is limited to giving forwarding letter on the proposal of contractor/concessionaire* to utility owning department whenever asked by the contractor/concessionaire*. The decision/ approval of utility owning department shall be on the contractor/concessionaire*.

b) The supervision charges at the rates/charges applicable of the utility owning department shall be paid directly by the Authority to the utility Owning department as and when contractor/concessionaire*furnishes demand of utility Owning Department along with a copy of estimated cost given by later.

c) The dismantled material/scrap of existing Utility to be shifted/Dismantled shall belong to the contractor/concessionaire* who would be free to dispose-off the dismantled material as deemed fit by them unless the contractor/concessionaire* is required to deposit the dismantled material may be availed by the contractor/concessionaire* as per estimate agreed between them.

d) The utilities shall be handed over after shifting work is completed to utility Owning Department to their entire satisfaction. The maintenance liability shall rest with the Utility Owning Department after Handing over Process is complete as far as utility shifting works are concerned.
Note –II Copy of utility shifting plans enclosed as Annexure-II to Schedule B1.

Schedule - C

(See Clause 2.1)

Project Facilities

1. ProjectFacilities

TheContractorshallconstructtheProjectFacilitiesinaccordancewiththeprovisions of this Agreement. Such Project Facilities shallinclude:

(a) Toll plaza[s]

(b) Roadsidefurniture;

(c) Pedestrianfacilities;

(d) Truck Lay byes;

(e) Bus-bays and passenger shelters;

(f) Rest areas; and

(g) Others to bespecified

2. DescriptionofProject Facilities

Each of theProject Facilities is described below:

a) TollPlaza: -

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

b) Roadsidefurniture: -

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	66+342 (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	77+007 (Both side)		
3	Bus Bay & Passenger shelter	93+515 (Both side)		
4	Bus Bay & Passenger shelter	98+620 (Both side)		
5	Bus Bay & Passenger shelter	100+300 (Both side)		

f) Rest Areas

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

g) Others to be specified

Street Lighting:
Total 82 Nos. Street lighting shall be provided in built-upareas, bus bays and passenger shelters locations.

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

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 colspan="5">Provision as per Manual</th><th colspan="5">Modified Provision</th></tr>
<tr><td rowspan="5">Shoulder</td><td rowspan="5">2.6</td><td colspan="5"><u>Mountainous Terrain</u></td><td colspan="5"><u>Mountainous Terrain</u></td></tr>
<tr><td rowspan="2">Type of Section</td><td rowspan="2">Side</td><td colspan="3">Width of Shoulder (m)</td><td rowspan="2">Type of Section</td><td rowspan="2">Side</td><td colspan="3">Width of Shoulder (m)</td></tr>
<tr><td>Paved</td><td>Earthen</td><td>Total</td><td>Paved</td><td>Earthen</td><td>Total</td></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><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>Valley Side</td><td>1.5</td><td>1</td><td>2.5</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>0.25 m + 1.5 m (Raised)</td><td>-</td><td>1.75</td><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>Valley Side</td><td>0.25 m + 1.5 m (Raised)</td><td>-</td><td>1.75</td><td>Valley Side</td><td>1.5</td><td>-</td><td>1.5</td></tr>
<tr><td>Design Speed</td><td>2.2</td><td colspan="5"><u>Mountainous Terrain:</u>
Ruling: 60 Kmph
Minimum: 40 Kmph</td><td colspan="5"><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 colspan="5">Extra Widening has been proposed as per IRC: SP: 73-2018
Radius | Extra Widening
75-100 m | 0.9 m
101-300 m | 0.6 m</td><td colspan="5">Extra Widening has been proposed as per IRC: SP: 48-1998 (Table 6.9) of Hill Road Manual.
Radius | Extra Widening
21-40 m | 1.5 m
41-60 m | 1.2 m
61-100 m | 0.9 m
75-100 m | 0.9 m
101-300 m | 0.6 m</td></tr>
</table>

Item	Manual Clause Reference	Provision as per Manual	Modified Provision		
			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 than40kmph.

Sl. No.	Stretch (from km to km)	Type of Deficiency	Remarks
1	66+239 to 66+289	Sharp Bend	Design Speed = 30 Kmph
2	66+393 to 66+411	Sharp Bend	Design Speed = 30 Kmph
3	66+541 to 66+563	Sharp Bend	Design Speed = 30 Kmph
4	66+607 to 66+616	Sharp Bend	Design Speed = 30 Kmph
5	66+647 to 66+653	Sharp Bend	Design Speed = 30 Kmph
6	66+736 to 66+795	Sharp Bend	Design Speed = 30 Kmph
7	66+995 to 67+056	Sharp Bend	Design Speed = 30 Kmph
8	67+509 to 67+574	Sharp Bend	Design Speed = 30 Kmph
9	67+634 to 67+668	Sharp Bend	Design Speed = 30 Kmph
10	67+821 to 67+889	Sharp Bend	Design Speed = 30 Kmph
11	68+004 to 68+014	Sharp Bend	Design Speed = 30 Kmph
12	68+123 to 68+163	Sharp Bend	Design Speed = 30 Kmph
13	68+212 to 68+284	Sharp Bend	Design Speed = 30 Kmph
14	68+467 to 68+476	Sharp Bend	Design Speed = 30 Kmph
15	68+544 to 68+552	Sharp Bend	Design Speed = 30 Kmph
16	68+682 to 68+692	Sharp Bend	Design Speed = 30 Kmph
17	68+736 to 68+799	Sharp Bend	Design Speed = 30 Kmph
18	68+847 to 68+857	Sharp Bend	Design Speed = 30 Kmph
19	68+911 to 68+936	Sharp Bend	Design Speed = 30 Kmph
20	69+269 to 69+329	Sharp Bend	Design Speed = 30 Kmph
21	69+423 to 69+459	Sharp Bend	Design Speed = 30 Kmph
22	69+630 to 69+637	Sharp Bend	Design Speed = 30 Kmph
23	69+687 to 69+740	Sharp Bend	Design Speed = 30 Kmph
24	69+792 to 69+810	Sharp Bend	Design Speed = 30 Kmph
25	69+879 to 69+890	Sharp Bend	Design Speed = 30 Kmph
26	69+984 to 69+990	Sharp Bend	Design Speed = 30 Kmph
27	70+041 to 70+050	Sharp Bend	Design Speed = 30 Kmph
28	70+112 to 70+198	Sharp Bend	Design Speed = 30 Kmph
29	70+375 to 70+405	Sharp Bend	Design Speed = 30 Kmph
30	70+454 to 70+470	Sharp Bend	Design Speed = 30 Kmph
31	70+593 to 70+600	Sharp Bend	Design Speed = 30 Kmph
32	71+265 to 71+302	Sharp Bend	Design Speed = 30 Kmph
33	71+533 to 71+581	Sharp Bend	Design Speed = 30 Kmph
34	71+643 to 71+650	Sharp Bend	Design Speed = 30 Kmph
35	71+701 to 71+708	Sharp Bend	Design Speed = 30 Kmph
36	72+152 to 72+184	Sharp Bend	Design Speed = 20 Kmph
37	72+812 to 72+846	Sharp Bend	Design Speed = 30 Kmph
38	73+031 to 73+056	Sharp Bend	Design Speed = 30 Kmph
39	73+112 to 73+117	Sharp Bend	Design Speed = 30 Kmph
40	73+246 to 73+265	Sharp Bend	Design Speed = 30 Kmph
41	73+330 to 73+342	Sharp Bend	Design Speed = 30 Kmph
42	73+414 to 73+445	Sharp Bend	Design Speed = 30 Kmph
43	73+497 to 73+503	Sharp Bend	Design Speed = 30 Kmph
44	73+651 to 73+704	Sharp Bend	Design Speed = 30 Kmph

Sl. No.	Stretch (from km to km)	Type of Deficiency	Remarks
45	73+766 to 73+770	Sharp Bend	Design Speed = 30 Kmph
46	73+825 to 73+916	Sharp Bend	Design Speed = 30 Kmph
47	74+033 to 74+095	Sharp Bend	Design Speed = 30 Kmph
48	74+646 to 74+663	Sharp Bend	Design Speed = 30 Kmph
49	74+717 to 74+736	Sharp Bend	Design Speed = 30 Kmph
50	75+106 to 75+133	Sharp Bend	Design Speed = 30 Kmph
51	76+109 to 76+127	Sharp Bend	Design Speed = 30 Kmph
52	76+182 to 76+201	Sharp Bend	Design Speed = 20 Kmph
53	76+244 to 76+260	Sharp Bend	Design Speed = 20 Kmph
54	76+408 to 76+432	Sharp Bend	Design Speed = 30 Kmph
55	76+480 to 76+509	Sharp Bend	Design Speed = 20 Kmph
56	76+550 to 76+575	Sharp Bend	Design Speed = 20 Kmph
57	76+616 to 76+636	Sharp Bend	Design Speed = 20 Kmph
58	76+680 to 76+691	Sharp Bend	Design Speed = 20 Kmph
59	76+747 to 76+771	Sharp Bend	Design Speed = 30 Kmph
60	76+886 to 76+937	Sharp Bend	Design Speed = 30 Kmph
61	77+508 to 77+532	Sharp Bend	Design Speed = 30 Kmph
62	77+596 to 77+612	Sharp Bend	Design Speed = 30 Kmph
63	77+834 to 77+837	Sharp Bend	Design Speed = 30 Kmph
64	77+918 to 77+929	Sharp Bend	Design Speed = 30 Kmph
65	77+960 to 77+976	Sharp Bend	Design Speed = 30 Kmph
66	78+018 to 78+049	Sharp Bend	Design Speed = 30 Kmph
67	78+126 to 78+182	Sharp Bend	Design Speed = 30 Kmph
68	78+241 to 78+275	Sharp Bend	Design Speed = 30 Kmph
69	78+369 to 78+395	Sharp Bend	Design Speed = 30 Kmph
70	78+467 to 78+563	Sharp Bend	Design Speed = 30 Kmph
71	78+625 to 78+630	Sharp Bend	Design Speed = 30 Kmph
72	78+680 to 78+699	Sharp Bend	Design Speed = 30 Kmph
73	78+807 to 78+869	Sharp Bend	Design Speed = 30 Kmph
74	78+919 to 78+956	Sharp Bend	Design Speed = 30 Kmph
75	79+589 to 79+606	Sharp Bend	Design Speed = 30 Kmph
76	79+731 to 79+741	Sharp Bend	Design Speed = 30 Kmph
77	79+782 to 79+818	Sharp Bend	Design Speed = 20 Kmph
78	79+944 to 79+965	Sharp Bend	Design Speed = 30 Kmph
79	80+022 to 80+058	Sharp Bend	Design Speed = 30 Kmph
80	80+143 to 80+205	Sharp Bend	Design Speed = 30 Kmph
81	80+275 to 80+335	Sharp Bend	Design Speed = 30 Kmph
82	80+803 to 80+865	Sharp Bend	Design Speed = 30 Kmph
83	81+275 to 81+298	Sharp Bend	Design Speed = 30 Kmph
84	81+340 to 81+348	Sharp Bend	Design Speed = 30 Kmph
85	81+411 to 81+418	Sharp Bend	Design Speed = 30 Kmph
86	81+463 to 81+506	Sharp Bend	Design Speed = 30 Kmph
87	81+783 to 81+803	Sharp Bend	Design Speed = 30 Kmph
88	82+034 to 82+052	Sharp Bend	Design Speed = 30 Kmph
89	82+145 to 82+182	Sharp Bend	Design Speed = 30 Kmph
90	82+288 to 82+294	Sharp Bend	Design Speed = 30 Kmph
91	82+340 to 82+374	Sharp Bend	Design Speed = 30 Kmph
92	82+409 to 82+452	Sharp Bend	Design Speed = 30 Kmph
93	82+583 to 82+620	Sharp Bend	Design Speed = 30 Kmph
94	82+689 to 82+705	Sharp Bend	Design Speed = 30 Kmph
95	82+841 to 82+897	Sharp Bend	Design Speed = 30 Kmph
96	82+947 to 82+962	Sharp Bend	Design Speed = 30 Kmph

Sl. No.	Stretch (from km to km)	Type of Deficiency	Remarks
97	82+995 to 83+033	Sharp Bend	Design Speed = 30 Kmph
98	83+065 to 83+080	Sharp Bend	Design Speed = 30 Kmph
99	83+288 to 83+316	Sharp Bend	Design Speed = 30 Kmph
100	83+373 to 83+392	Sharp Bend	Design Speed = 30 Kmph
101	83+434 to 83+444	Sharp Bend	Design Speed = 20 Kmph
102	83+483 to 83+519	Sharp Bend	Design Speed = 20 Kmph
103	83+646 to 83+651	Sharp Bend	Design Speed = 30 Kmph
104	83+688 to 83+707	Sharp Bend	Design Speed = 30 Kmph
105	83+749 to 83+765	Sharp Bend	Design Speed = 30 Kmph
106	83+982 to 84+007	Sharp Bend	Design Speed = 30 Kmph
107	84+199 to 84+209	Sharp Bend	Design Speed = 50 Kmph
108	84+262 to 84+338	Sharp Bend	Design Speed = 60 Kmph
109	84+377 to 84+446	Sharp Bend	Design Speed = 60 Kmph
110	84+484 to 84+517	Sharp Bend	Design Speed = 60 Kmph
111	84+63 to 84+74	Sharp Bend	Design Speed = 43 Kmph
112	84+787 to 84+797	Sharp Bend	Design Speed = 30 Kmph
113	84+846 to 84+863	Sharp Bend	Design Speed = 60 Kmph
114	85+087 to 85+094	Sharp Bend	Design Speed = 30 Kmph
115	85+173 to 85+173	Sharp Bend	Design Speed = 30 Kmph
116	85+323 to 85+45	Sharp Bend	Design Speed = 70 Kmph
117	85+623 to 85+629	Sharp Bend	Design Speed = 30 Kmph
118	85+86 to 85+865	Sharp Bend	Design Speed = 50 Kmph
119	85+917 to 85+948	Sharp Bend	Design Speed = 30 Kmph
120	85+999 to 86+04	Sharp Bend	Design Speed = 50 Kmph
121	86+153 to 86+246	Sharp Bend	Design Speed = 47 Kmph
122	86+301 to 86+319	Sharp Bend	Design Speed = 30 Kmph
123	86+533 to 86+546	Sharp Bend	Design Speed = 60 Kmph
124	86+588 to 86+676	Sharp Bend	Design Speed = 40 Kmph
125	86+771 to 86+809	Sharp Bend	Design Speed = 50 Kmph
126	86+883 to 86+895	Sharp Bend	Design Speed = 70 Kmph
127	86+953 to 86+963	Sharp Bend	Design Speed = 60 Kmph
128	86+998 to 87+011	Sharp Bend	Design Speed = 50 Kmph
129	87+055 to 87+099	Sharp Bend	Design Speed = 50 Kmph
130	87+157 to 87+175	Sharp Bend	Design Speed = 40 Kmph
131	87+217 to 87+228	Sharp Bend	Design Speed = 60 Kmph
132	87+268 to 87+28	Sharp Bend	Design Speed = 40 Kmph
133	87+323 to 87+328	Sharp Bend	Design Speed = 60 Kmph
134	87+371 to 87+381	Sharp Bend	Design Speed = 40 Kmph
135	87+457 to 87+457	Sharp Bend	Design Speed = 50 Kmph
136	87+756 to 87+807	Sharp Bend	Design Speed = 30 Kmph
137	87+938 to 87+97	Sharp Bend	Design Speed = 60 Kmph
138	88+056 to 88+086	Sharp Bend	Design Speed = 30 Kmph
139	88+355 to 88+399	Sharp Bend	Design Speed = 30 Kmph
140	88+519 to 88+531	Sharp Bend	Design Speed = 30 Kmph
141	89+058 to 89+068	Sharp Bend	Design Speed = 40 Kmph
142	89+121 to 89+132	Sharp Bend	Design Speed = 50 Kmph
143	89+252 to 89+286	Sharp Bend	Design Speed = 20 Kmph
144	89+454 to 89+463	Sharp Bend	Design Speed = 60 Kmph
145	89+534 to 89+552	Sharp Bend	Design Speed = 60 Kmph
146	89+635 to 89+64	Sharp Bend	Design Speed = 40 Kmph
147	89+692 to 89+718	Sharp Bend	Design Speed = 50 Kmph
148	89+843 to 89+9	Sharp Bend	Design Speed = 40 Kmph

Sl. No.	Stretch (from km to km)	Type of Deficiency	Remarks
149	89+998 to 90+003	Sharp Bend	Design Speed = 40 Kmph
150	90+058 to 90+091	Sharp Bend	Design Speed = 30 Kmph
151	90+198 to 90+208	Sharp Bend	Design Speed = 40 Kmph
152	90+253 to 90+26	Sharp Bend	Design Speed = 60 Kmph
153	90+328 to 90+348	Sharp Bend	Design Speed = 50 Kmph
154	90+414 to 90+436	Sharp Bend	Design Speed = 30 Kmph
155	90+514 to 90+537	Sharp Bend	Design Speed = 30 Kmph
156	90+719 to 90+745	Sharp Bend	Design Speed = 30 Kmph
157	90+956 to 91+066	Sharp Bend	Design Speed = 70 Kmph
158	91+151 to 91+23	Sharp Bend	Design Speed = 50 Kmph
159	91+615 to 91+658	Sharp Bend	Design Speed = 50 Kmph
160	91+781 to 91+793	Sharp Bend	Design Speed = 70 Kmph
161	91+846 to 91+855	Sharp Bend	Design Speed = 35 Kmph
162	91+91 to 91+915	Sharp Bend	Design Speed = 55 Kmph
163	92+025 to 92+035	Sharp Bend	Design Speed = 50 Kmph
164	92+082 to 92+1	Sharp Bend	Design Speed = 40 Kmph
165	92+256 to 92+283	Sharp Bend	Design Speed = 70 Kmph
166	92+671 to 92+687	Sharp Bend	Design Speed = 50 Kmph
167	92+736 to 92+749	Sharp Bend	Design Speed = 40 Kmph
168	92+805 to 92+808	Sharp Bend	Design Speed = 30 Kmph
169	93+045 to 93+075	Sharp Bend	Design Speed = 50 Kmph
170	93+199 to 93+199	Sharp Bend	Design Speed = 30 Kmph
171	93+263 to 93+271	Sharp Bend	Design Speed = 30 Kmph
172	93+427 to 93+454	Sharp Bend	Design Speed = 70 Kmph
173	93+687 to 93+728	Sharp Bend	Design Speed = 35 Kmph
174	93+894 to 93+921	Sharp Bend	Design Speed = 45 Kmph
175	93+964 to 93+982	Sharp Bend	Design Speed = 20 Kmph
176	94+036 to 94+059	Sharp Bend	Design Speed = 20 Kmph
177	94+099 to 94+106	Sharp Bend	Design Speed = 20 Kmph
178	94+141 to 94+15	Sharp Bend	Design Speed = 30 Kmph
179	94+18 to 94+186	Sharp Bend	Design Speed = 40 Kmph
180	94+221 to 94+228	Sharp Bend	Design Speed = 25 Kmph
181	94+273 to 94+284	Sharp Bend	Design Speed = 60 Kmph
182	94+377 to 94+412	Sharp Bend	Design Speed = 20 Kmph
183	94+463 to 94+535	Sharp Bend	Design Speed = 40 Kmph
184	94+593 to 94+677	Sharp Bend	Design Speed = 70 Kmph
185	95+086 to 95+097	Sharp Bend	Design Speed = 50 Kmph
186	95+317 to 95+341	Sharp Bend	Design Speed = 30 Kmph
187	95+436 to 95+443	Sharp Bend	Design Speed = 40 Kmph
188	95+536 to 95+547	Sharp Bend	Design Speed = 50 Kmph
189	95+69 to 95+768	Sharp Bend	Design Speed = 30 Kmph
190	95+843 to 95+871	Sharp Bend	Design Speed = 60 Kmph
191	95+948 to 95+976	Sharp Bend	Design Speed = 30 Kmph
192	96+194 to 96+216	Sharp Bend	Design Speed = 50 Kmph
193	96+385 to 96+412	Sharp Bend	Design Speed = 30 Kmph
194	96+475 to 96+481	Sharp Bend	Design Speed = 30 Kmph
195	97+042 to 97+055	Sharp Bend	Design Speed = 60 Kmph
196	97+131 to 97+157	Sharp Bend	Design Speed = 50 Kmph
197	97+284 to 97+29	Sharp Bend	Design Speed = 30 Kmph
198	97+35 to 97+369	Sharp Bend	Design Speed = 30 Kmph
199	97+433 to 97+451	Sharp Bend	Design Speed = 35 Kmph
200	97+548 to 97+565	Sharp Bend	Design Speed = 50 Kmph

Sl. No.	Stretch (from km to km)	Type of Deficiency	Remarks
201	97+619 to 97+652	Sharp Bend	Design Speed = 50 Kmph
202	97+876 to 97+909	Sharp Bend	Design Speed = 20 Kmph
203	98+248 to 98+256	Sharp Bend	Design Speed = 60 Kmph
204	98+681 to 98+788	Sharp Bend	Design Speed = 50 Kmph
205	98+953 to 98+986	Sharp Bend	Design Speed = 30 Kmph
206	99+22 to 99+286	Sharp Bend	Design Speed = 60 Kmph
207	99+419 to 99+488	Sharp Bend	Design Speed = 35 Kmph
208	99+671 to 99+698	Sharp Bend	Design Speed = 50 Kmph
209	99+749 to 99+754	Sharp Bend	Design Speed = 50 Kmph
210	99+796 to 99+882	Sharp Bend	Design Speed = 50 Kmph
211	99+946 to 99+969	Sharp Bend	Design Speed = 30 Kmph
212	100+081 to 100+109	Sharp Bend	Design Speed = 30 Kmph
213	100+213 to 100+218	Sharp Bend	Design Speed = 30 Kmph
214	100+351 to 100+401	Sharp Bend	Design Speed = 25 Kmph
215	100+454 to 100+482	Sharp Bend	Design Speed = 45 Kmph
216	100+543 to 100+599	Sharp Bend	Design Speed = 60 Kmph
217	100+666 to 100+705	Sharp Bend	Design Speed = 30 Kmph
218	101+008 to 101+019	Sharp Bend	Design Speed = 30 Kmph
219	101+057 to 101+064	Sharp Bend	Design Speed = 20 Kmph
220	101+118 to 101+123	Sharp Bend	Design Speed = 30 Kmph

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

Sl. No.	HIP NO.	CHAINAGE (KM)		RADIUS
		From	To	
1	482	66.239	66.289	32
2	483	66.393	66.411	30
3	484	66.541	66.563	70
4	485	66.607	66.616	70
5	487	66.736	66.795	30
6	490	66.995	67.056	30
7	492	67.273	67.280	60
8	493	67.350	67.389	60
9	494	67.509	67.574	40
10	495	67.634	67.668	50
11	496	67.821	67.889	50
12	498	68.123	68.163	50
13	499	68.212	68.284	50
14	500	68.467	68.476	35
15	501	68.544	68.552	60
16	502	68.682	68.692	50
17	503	68.736	68.799	45
18	505	68.911	68.936	30
19	506	69.099	69.131	70
20	508	69.269	69.329	30
21	509	69.423	69.459	60
22	510	69.630	69.637	30
23	512	69.792	69.810	35
24	513	69.879	69.890	30
25	514	69.984	69.990	40
26	515	70.041	70.050	40
27	516	70.112	70.198	45

Sl. No.	HIP NO.	CHAINAGE (KM)		RADIUS
		From	To	
28	517	70.375	70.405	30
29	519	70.593	70.600	30
30	520	70.704	70.736	50
31	522	70.978	71.036	60
32	523	71.103	71.120	70
33	524	71.265	71.302	30
34	525	71.533	71.581	30
35	526	71.643	71.650	45
36	527	71.701	71.708	30
37	532	72.152	72.184	20
38	535	72.521	72.531	50
39	536	72.602	72.620	70
40	537	72.694	72.715	70
41	538	72.812	72.846	30
42	541	73.031	73.056	30
43	542	73.112	73.117	40
44	543	73.246	73.265	30
45	544	73.330	73.342	35
46	546	73.497	73.503	30
47	547	73.651	73.704	30
48	548	73.766	73.770	36
49	550	74.033	74.095	32
50	552	74.207	74.221	60
51	555	74.646	74.663	40
52	556	74.717	74.736	40
53	559	75.106	75.133	30
54	560	75.288	75.310	70
55	562	75.461	75.473	60
56	563	75.552	75.614	70
57	564	75.735	75.823	66
58	565	75.919	75.948	70
59	567	76.109	76.127	30
60	568	76.182	76.201	25
61	569	76.244	76.260	25
62	570	76.408	76.432	40
63	571	76.480	76.509	20
64	572	76.550	76.575	20
65	573	76.616	76.636	20
66	574	76.680	76.691	30
67	576	76.886	76.937	30
68	577	77.207	77.269	50
69	578	77.355	77.416	50
70	579	77.508	77.532	30
71	580	77.596	77.612	40
72	582	77.834	77.837	30
73	584	77.960	77.976	70
74	585	78.018	78.049	40
75	586	78.126	78.182	40
76	587	78.241	78.275	30
77	588	78.369	78.395	30
78	591	78.680	78.699	30
79	593	78.919	78.956	30

Sl. No.	HIP NO.	CHAINAGE (KM)		RADIUS
		From	To	
80	598	79.589	79.606	40
81	599	79.731	79.741	60
82	600	79.782	79.818	20
83	601	79.944	79.965	50
84	602	80.022	80.058	60
85	603	80.143	80.205	34
86	604	80.275	80.335	50
87	608	80.803	80.865	50
88	611	81.198	81.217	70
89	612	81.275	81.298	60
90	613	81.340	81.348	60
91	614	81.411	81.418	40
92	615	81.463	81.506	70
93	618	81.783	81.803	30
94	621	82.034	82.052	30
95	622	82.145	82.182	40
96	623	82.288	82.294	30
97	624	82.340	82.374	60
98	625	82.409	82.452	60
99	626	82.583	82.620	30
100	627	82.689	82.705	50
101	628	82.841	82.897	35
102	629	82.947	82.962	50
103	631	83.065	83.080	30
104	632	83.288	83.316	30
105	633	83.373	83.392	40
106	634	83.434	83.444	30
107	635	83.483	83.519	22
108	636	83.646	83.651	50
109	637	83.688	83.707	60
110	638	83.749	83.765	70

(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	77.58 %	**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	32.65%
		(2) Sub-base Course	13.29%
		(3) Non bituminous Base course	15.59%
		(4) Bituminous Basecourse	14.92%
		(5) Wearing Coat	8.58%
		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]
		(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)	14.97%
Minor bridge/	2.52%	**A.1-widening and repairing of Minor Bridges**	

Item	Weightage in % of CP	Stage for Payment	Percentage
Underpasses/ Overpasses		**(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.	54.23%
		(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.	39.82%
		(3) Approaches: On completion of approaches including Retaining walls, stone pitching, protection works complete in all and fit for use	5.95%
		(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]
		(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	0.00 %	**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]

Item	Weightage in % of CP	Stage for Payment	Percentage
		(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 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/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]

Item	Weightage in % of CP	Stage for Payment	Percentage
		(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	19.90 %	(i) Toll Plaza	[Nil]
		(ii) Road side drains	33.88%
		(iii) Road signs, markings, km stones, safety devices etc	5.01%
		(iv) Project facilities	
		a) Bus Bays	2.22%
		b) Truck Lay-byes	[Nil]
		c) Passenger Shelter	0.32%
		d) Rest Area	[Nil]
		e) Diversion Works	1.82%
		(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]
		(vii) Safety &Traffic Management during const.	[Nil]
		(viii) Breast Wall	36.04%
		(ix) Toe Wall	[Nil]
		(x) Retaining Wall	7.41%
		(xi) Crash Barrier	2.87%
		(xi) Boundary wall	[Nil]
		(xii) Site Clearance & Dismantling	4.89%
		(xiii) Protection Works	3.59%
		(xiv) Utility Shifting	1.95%

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	32.65%	
(2) Sub-base Course	13.29%	
(3) Non bituminous Base course	15.59%	
(4) Bituminous Base course	14.92%	
(5) Wearing Coat	8.58%	
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)	14.97%	

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.	54.23%	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.	39.82%	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	5.95%	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.

Stage of Payment	Weightage	Payment Procedure
(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 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	[Nil]	
(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	[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

Stage of Payment	Weightage	Payment Procedure
including drainage facility 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, 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

Stage of Payment	Weightage	Payment Procedure
		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 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

Stage of Payment	Weightage	Payment Procedure
(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]	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	33.88%	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.	5.01%	
(4) Project Facilities		Payment shall be made on pro-rata basis for completed facilities.
a) Bus Bays	2.22%	
b) Truck Lay-byes	[Nil]	
c) Passenger Shelter	0.32%	
d) Rest Area	[Nil]	
e) Diversion Works	1.82%	
(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	[Nil]	Unit of measurement is linear length. Payment shall be made

Stage of Payment	Weightage	Payment Procedure
bridges, elevated sections/flyover/grade separators and ROBs/ RUBs		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.
(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	36.04%	
(b) Toe Wall	[Nil]	
(c)Retaining Wall	7.41%	
(c) Crash Barrier	2.87%	
(9) Site Clearance & Dismantling	4.89%	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	3.59%	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) Utility Shifting	1.95%	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.

Non Technical Schedules

SCHEDULE - E
(See Clauses 2.1 and 14.2)

MAINTENANCE REQUIREMENTS

1 Maintenance Requirements

(i) The Contractor shall, at all times maintain the Project Highway in accordance with the provisions of this Agreement, Applicable Laws and Applicable Permits.

(ii) The Contractor shall repair or rectify any Defect or deficiency set forth in Paragraph 2 of this Schedule-E within the time limit specified therein and any failure in this behalf shall constitute non-fulfillment of the Maintenance obligations by the Contractor. Upon occurrence of any breach hereunder, the Authority shall be entitled to effect reduction in monthly lump sum payment as set forth in Clause 14.6 of this Agreement, without prejudice to the rights of the Authority under this Agreement, including Termination thereof.

(iii) All Materials, works and construction operations shall conform to the MORTH Specifications for Road and Bridge Works, and the relevant IRC publications. Where the specifications for a work are not given, Good Industry Practice shall be adopted.

[Specify all the relevant documents]

2. Repair/rectification of Defects and deficiencies

The obligations of the Contractor in respect of Maintenance Requirements shall include repair and rectification of the Defects and deficiencies specified in Annex - I of this Schedule-E within the time limit set forth therein.

3. Other Defects and deficiencies

In respect of any Defect or deficiency not specified in Annex - I of this Schedule-E, the Authority's Engineer may, in conformity with Good Industry Practice, specify the permissible limit of deviation or deterioration with reference to the Specifications and Standards, and any deviation or deterioration beyond the permissible limit shall be repaired or rectified by the Contractor within the time limit specified by the Authority's Engineer.

4. Extension of time limit

Notwithstanding anything to the contrary specified in this Schedule-E, if the nature and extent of any Defect or deficiency justifies more time for its repair or rectification than the time specified herein, the Contractor shall be entitled to additional time in conformity with Good Industry Practice. Such additional time shall be determined by the Authority's Engineer and conveyed to the Contractor and the Authority with

reasons thereof.

5. Emergency repairs/restoration

Notwithstanding anything to the contrary contained in this Schedule-E, if any Defect, deficiency or deterioration in the Project Highway poses a hazard to safety or risk of damage to property, the Contractor shall promptly take all reasonable measures for eliminating or minimizing such danger.

6. Daily inspection by the Contractor

The Contractor shall, through its engineer, undertake a daily visual inspection of the Project Highway and maintain a record thereof in a register to be kept in such form and manner as the Authority's Engineer may specify. Such record shall be kept in safe custody of the Contractor and shall be open to inspection by the Authority and the Authority's Engineer at any time during office hours.

7. Pre-monsoon inspection / Post-monsoon inspection

The Contractor shall carry out a detailed pre-monsoon inspection of all bridges, culverts and drainage system before [1st June] every year in accordance with the guidelines contained in IRC: SP35. Report of this inspection together with details of proposed maintenance works as required on the basis of this inspection shall be sent to the Authority's Engineer before the [10th June] every year. The Contractor shall complete the required repairs before the onset of the monsoon and send to the Authority's Engineer a compliance report. Post monsoon inspection shall be done by the [30th September] and the inspection report together with details of any damages observed and proposed action to remedy the same shall be sent to the Authority's Engineer.

8. Repairs on account of natural calamities

All damages occurring to the Project Highway on account of a Force Majeure Event or default or neglect of the Authority shall be undertaken by the Authority at its own cost. The Authority may instruct the Contractor to undertake the repairs at the rates agreed between the Parties.

Asset Type	Performance Parameter	Level of Service (LOS)		Frequency of Inspection	Tools/Equipment	Standards and References for Inspection and Data Analysis	Time limit for Rectification/ Repair	Maintenance Specifications
		Desirable	Acceptable					
Flexible Pavement (Pavement of MCW, Service Road, approaches of Grade structure, approaches of connecting roads, slip roads, lay byes etc. as applicable)	Potholes	Nil	< 0.1 % of area and subject to limit of 10 mm indepth	Daily	Length Measurement Unit like Scale, Tape, odometer etc.	IRC 82: 2015 and Distress Identification Manual for Long Term Pavement Performance Program, FHWA 2003 (http://www.tfhrc.com/pavement/lttp/reports/03031/)	24-48 hours	MORT&H Specification 3004.2
	Cracking	Nil	< 5 % subject to limit of 0.5 sqm for any 50 m length	Daily			7-15 days	MORT&H Specification 3004.3
	Rutting	Nil	< 5 mm	Daily	Straight Edge		15 -30 days	MORT&H Specification 3004.2
	Corrugations and Shoving	Nil	< 0.1 % of area	Daily	Length Measurement Unit like		2-7 days	IRC:82- 2015
	Bleeding	Nil	< 0.1 % of area	Daily	Scale, Tape, odometer etc.		3-7 days	MORT&H Specification 3004.4
	Raveling / Stripping	Nil	< 0.1 % of area	Daily			7-15 days	IRC:82- 2015 read with IRC SP 81
	Edge Deformation/ Breaking	Nil	< 1 m for any 100 m section and width < 0.1 m at any location, restricted to 30 cm from the edge	Daily	Scale, Tape, odometer etc.			IRC:82- 2015
	Roughness BI	2000 mm/km	2400 mm/km	Bi-Annually	Class I Profilometer SCRIM	Class I Profilometer : ASTM E950 (98) :2004 –Standard Test Method for measuring Longitudinal Profile of	180 days	IRC:82-2015
	Skid Number	60SN	50SN	Bi-			180 days	BS: 7941-1: 2006

				Annually	(Sideway-force Coefficient Routine Investigation Machine or equivalent)	Travelled Surfaces with Accelerometer Established Inertial Profiling Reference ASTM E1656 -94: 2000- Standard Guide for Classification of Automatic Pavement Condition Survey Equipment		
	Pavement Condition Index	3	2.1	Bi-Annually			180 days	IRC:82- 2015
	Other Pavement Distresses			Bi-Annually			2-7 days	IRC:82- 2015
	Deflection/ Remaining Life			Annually	Falling Weight Deflect meter	IRC 115: 2014	180 days	IRC:115-2014
Rigid Pavement (Pavement of MCW, Service Road, Grade Structure, approaches of connecting roads, slip roads, lay byes etc. as applicable)	Roughness BI	2200m m/km	2400mm /km	Bi-Annually	Class I Profilometer	ASTM E950 (98) :2004 and ASTM E1656 - 94: 2000	180 days	IRC:SP:83-2008
	Skid	Skid Resistance no. at different speed of vehicles		Bi-Annually	SCRIM (Sideway-force Coefficient Routine Investigation Machine or equivalent)	RC:SP:83-2008	180 days	IRC:SP:83-2008
		Minimum SN	**Traffic Speed (Km/h)**					
		36	50					
		33	65					
		32	80					
		31	95					
		31	110					

Embankment/ Slope	Edge drop at shoulders	Nil	40 mm	Daily	Length Measurement Unit like Scale, Tape, odometer etc.	IRC	7-15 days	MORT&H Specification 408.4
	Slope of camber/cross fall	Nil	<2% variation in prescribed slope of camber /cross fall	Daily			7-15 days	MORT&H Specification 408.4
	Embankment Slopes	Nil	<15 % variation in prescribe side slope	Daily			7-15 days	MORT&H Specification 408.4
	Embankment Protection	Nil	Nil	Daily	NA		7-15 days	MORT&H Specification
	Rain Cuts/ Gullies in slope	Nil	Nil	Daily Specially During Rainy Season	NA		7-15 days	MORT&H Specification

In addition to the above performance criterion, the contractor shall strictly maintain the rigid pavements as per requirements in the following table

Table -2: Maintenance Criteria for Rigid Pavements:

S.No.	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case d < D/2 Short Term	For the case d > D/2 Long Term
CRACKING						
1.	Single Discrete Cracks Not intersecting with any joint	w = width of crack L = length of crack d = depth of crack D = depth of slab	0	Nil, not discernible	No Action	Not applicable
			1	w < 0.2 mm. hair cracks		
			2	w = 0.2 - 0.5 mm, discernible from slow-moving car		Seal, and stitch if L > lm.
			3	w = 0.5 - 1.5 mm, discernible from fast-moving car	Seal without delay	Within 7days
			4	w = 1.5 - 3.0 mm	Seal, and stitch if L > l m.	Staple or Dowel Bar Retrofit, FDR for affected portion.
			5	w > 3 mm.	Within 7 days	Within 15days
2.	**Single Transverse (or Diagonal) Crack intersecting with one or more joints**	w = width of crack L = length of crack d = depth of crack D = depth of slab	0	Nil, not discernible	No Action	
			1	w < 0.2 mm, hair cracks	Route and seal with epoxy.	Staple or Dowel Bar Retrofit.
			2	w = 0.2 - 0.5 mm, discernible from slow vehicle	Within 7 days	Within 15 days
			3	w = 0.5 - 3.0 mm, discernible from fast vehicle	Route, seal and stitch, if L > 1 m. Within 7 days	
			4	w = 3.0 - 6.0 mm	Dowel Bar Retrofit.	Full Depth Repair Dismantle and

			5	w > 6 mm, usually associated with spelling, and/or slab rocking under traffic	Within 15 days Not Applicable, as it may be full depth	reconstruct affected. Portion with norms and specifications - See Para 5.5 & 9.2 Within 15days
3	Single Longitudinal Crack intersecting with one or more joints	w = width of crack L = length of crack d = depth of crack D = depth of slab	0	Nil, not discernible	No Action	
			1	w < 0.5 mm, discernable from slow moving vehicle	Seal with epoxy, if L > 1 m. Within 7 days	Staple or dowel bar retrofit. Within 15days
			2	w = 0.5 - 3.0 mm, discernible from fast vehicle	Route seal and stitch, if L > l m. Within 15 days	
			3	w = 3.0 – 6.0 mm	Staple, if L > 1 m. Within 15 days	Partial Depth Repair with stapling. Within 15days
			4	w = 6.0 - 12.0 mm, usually associated with spalling		
			5	w > 12 mm, usually associated with spalling, and/or slab rocking under traffic	Not Applicable, as it may be full depth	Full Depth Repair Dismantle and reconstruct affected portion as per norms and specifications - See Para 5.6.4 Within 15days

4	Multiple Cracks intersecting with one or more joints	w = width of crack	0	Nil, not discernible	No Action	
			1	w < 0.2 mm, hair cracks	Seal, and stitch if L > l m.	
			2	w = 0.2 - 0.5 mm. discernible from slow vehicle	Within 15 days	
			3	w = 0.5 - 3.0 mm, discernible from fast vehicle	Full depth repair within 15 days	Dismantle, Reinstate Sub-base, Reconstruct whole slab as per specifications within 30 days
			4	w = 3.0 - 6.0 mm panel broken into 2 or 3 pieces		
			5	w > 6 mm and/or panel broken into more than 4 pieces		
5	**Corner Break**	w = width of crack L = length of crack	0	Nil, not discernible	No Action	
			1	w < 0.5 mm; only 1 corner broken	Seal with low viscosity epoxy to	Seal with epoxy seal with epoxy
			2	w < 1.5 mm; L < 0.6 m, only one corner broken	secure broken parts Within 7 days	Within 7 days
			3	w < 1.5 mm; L < 0.6 m, two corners broken		
			4	w > 1.5 mm; L > 0.6 m or three corners broken	Partial Depth (Refer Figure 8.3 of IRC:SP: 83-2008)	Full depth repair
			5	three or four corners broken	Within 15 days	Reinstate sub-base, and reconstruct the

						slab as per norms and specifications within 30days
6	Punchout (Applicable to Continuous Reinforced Concrete Pavement (CRCP) only)	w = width of crack L = length (m/m2)	0	Nil, not discernible	**Not Applicable, as it may be full depth**	No Action
			1	w < 0.5 mm; L < 3 m/m2		Seal with low viscosity epoxy to secure broken parts. Within 15 days
			2	either w > 0.5 mm or L < 3 m/m2		
			3	w > 1.5 mm and L < 3 m/m2		
			4	w > 3 mm, L < 3 m/m2 and deformation		Full depth repair - Cut out and replace damaged area taking care not to damage Reinforcement. Within 30days
			5	w > 3 mm, L > 3 m/m2 and deformation		
7	Raveling or Honeycomb type surface	r = area damaged surface/total surface of slab (%) h = maximum depth of damage	0	Nil, not discernible	No Action	
			1	r < 2 %	Local repair of areas Damaged	
			2	r = 2 - 10 %	and liable to be damaged. Within 15 days	
			3	r = 10-25%	Bonded Inlay, 2 or 3 slabs if	

			4	r = 25 - 50 %	Affecting Within 30 days	
			5	r > 50% and h > 25 mm	Reconstruct slabs, 4 or more slabs if affecting. Within 30 days	
8	Scaling	r = damaged surface/total surface of slab (%) h = maximum depth of damage	0	Nil, not discernible	Short Term No Action	Long Term
			1	r < 2 %	Local repair of areas Damaged and liable to be damaged. Within 7days Bonded Inlay within 15 Days	
			2	r = 2 - 10 %		
			3	r = 10 - 20%		
			4	r = 10 - 30%	Reconstruct slab within 30 days	
			5	r>30 % and h> 25mm		
9	Polished Surface/Glazing	t = texture depth, sand patch test	0		No action	
			1	t > 1 mm		

			2	t = 1 – 0.6 mm		Not Applicable
			3	t = 0.6 – 0.3 mm	Monitor rate of deterioration	
			4	t = 0.3 – 0.1 mm	Diamond Grinding if Affecting	
			5	t < 0.1 mm	50% or more slabs in a Continuous stretch of minimum 5 km. Within 30 days	
10	Popout (Small Hole), Pothole Refer Para 8.4	n = number/m^2 d = diameter h = maximum depth	0	d < 50 mm; h < 25 mm; n < 1 per 5 m^2	No action.	Not Applicable
			1	d = 50 - 100 mm; h < 50 mm; n < 1 per 5 m^2	Partial depth repair 65 mm deep. Within 15 days	
			2	d = 50 - 100 mm; h > 50 mm; n < 1 per 5 m^2		
			3	d = 100 - 300 mm; h < 100 mm n < 1 per 5 m^2	Partial depth repair 110mm	
			4	d = 100 - 300 mm; h > 100	i.e.10 mm more than the depth of the hole.	

				mm; n < 1 per 5 m^2	Within 30 days	
			5	d > 300 mm; h > 100 mm: n > 1 per 5 m^2	Full depth repair. Within 30 days	
11	Joint Seal Defects	loss or damage L = Length as % total joint length	0	Difficult to discern.	No action.	Not Applicable
			1	Discernible, L< 25% but of little immediate consequence with regard to ingress of water or trapping incompressible material.	Clean joint, inspect later.	
			2	Notable. L > 25% insufficient protection against ingress of water and trapping incompressible material.	Clean and reapply sealant in Selected locations. Within 7 days	
			4	Severe; w > 3 mm negligible protection against ingress of water and trapping incompressible material.	Clean, widen and reseal the joint. Within 7 days	
12	Spalling of Joints	w = width on either side of the joint L = length of spalled portion (as % joint	0	Nil, not discernible	No action.	
			1	w < 10 mm	Apply low viscosity epoxy resin/ mortar	

		length)	2 3 4 5	w = 10 - 20 mm, L < 25% w = 20 - 40 mm, L > 25% w = 40 - 80 mm, L > 25% w > 80 mm, and L > 25%	in cracked portion. Within 7 days Partial Depth Repair. Within 15 days 30 - 50 mm deep, h = w + 20% of w, within 30 days 50 - 100 mm deep repair. H = w + 20% of w. Within 30 days	Not Applicable
13	Faulting (or Stepping) in Cracks or Joints	f = difference of level	0 1	not discernible, < 1 mm f < 3 mm	No action.	No action.
			2 3	f = 3 - 6 mm f = 6 - 12 mm	Determine cause and observe, take action for diamond grinding Diamond Grinding	Replace the slab as appropriate. Within 30days

			4 5	f= 12 - 18 mm f> 18 mm	Raise sunken slab. Strengthen sub-grade and sub-base by grouting and raising sunken slab	Replace the slab as appropriate. Within 30days
14	Blowup or Buckling	h = vertical displacement from normal profile	0	Nil, not discernible	No Action	
			1	h < 6 mm		
			2	h = 6 - 12 mm	Install Signs to Warn Traffic	
			3	h = 12 - 25 mm	within 7 days	
			4	h > 25 mm	Full Depth Repair. Within 30 days	
			5	shattered slabs, ie 4 or more pieces	Replace broken slabs. Within 30 days	
15	Depression	h = negative vertical displacement from normal profile L =length	0	Not discernible, h < 5 mm	No action.	
			1	h = 5 - 15 mm		

			2	h = 15-30 mm, Nos <20% joints	Install Signs to Warn Traffic within 7 days	Not Applicable
			3	h = 30 - 50 mm		
			4	h > 50 mm or > 20% joints	Strengthen subgrade. Reinstate pavement at normal level if L < 20 m.	
			5	h > 100 mm	Within 30 days	
16	Heave	h = positive vertical displacement from normal profile. L = length	0	Not discernible. h < 5 mm	No action.	scrabble
			1	h = 5 - 15 mm	Follow up.	
			2	h = 15 - 30 mm, Nos <20% joints	Install Signs to Warn Traffic within 7 days	
			3	h = 30 - 50 mm		
			4	h > 50 mm or > 20% joints	Stabilise subgrade. Reinstate pavement at normal level if length < 20 m.	
			5	h > 100 mm		

					Within 30 days	
17	Bump	h = vertical displacement from normal profile	0 1	h < 4 mm h = 4 - 7 mm	No action Grind, in case of new construction within 7 days	Construction Limit for New Construction.
			3	h = 7 - 15 mm	Grind, in case of ongoing Maintenance within 15 days	Replace in case of new construction. Within 30days
			4	h > 15 mm	Full Depth Repair. Within 30 days	Full Depth Repair. Within 30days
18	**Lane to Shoulder Dropoff**	f = difference of level	0	Nil, not discernible < 3mm	**Short Term** No Action	**Long Term**
			1 2	f = 3 - 10 mm f = 10 - 25 mm	Spot repair of shoulder within 7 days	

			3 4	f = 25 - 50 mm f = 50 - 75 mm	Fill up shoulder within 7 dayss	For any 100 m Stretch Reconstruct shoulder, if affecting 25% or more of stretch. Within 30days
			5	f > 75 mm		
Drainage						
19	Pumping	quantity of fines and water expelled through open joints and cracks Nos	0	not discernible	No Action	
			1 to 2 3 to 4	slight/ occasional Nos < 10% appreciable/ Frequent 10 - 25%	Repair cracks and joints Without delay. Lift or jack slab within 30 days.	Inspect and repair sub-drainage at distressed sections and upstream.
			5	abundant, crack development > 25%	Repair distressed pavement sections. Strengthen subgrade and subbase. Replace slab. Within 30 days	
20	Ponding	Ponding on slabs due to blockage of drains	0-2	No discernible problem	No action.	

			3 to 4	Blockages observed in drains, but water flowing	Clean drains etc within 7 days, Follow up	Action required to stop water damaging foundation within 30 days.
			5	Ponding, accumulation of water observed	-do	

Table -3: Maintenance Criteria for Safety Related Items and Other Furniture Items:

Asset Type	Performance Parameter	Level of Service (LOS)			Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
Highway	Availability of Safe Sight Distance	As per IRC SP :84-2014, a minimum of safe stopping sight distance shall be available throughout.			Monthly	Manual Measurements with O dometer along with video/ image backup	Removal of obstruction within 24 hours, in case of sight line affected by temporary objects such as trees, temporary encroachments. In case of permanent structure or design deficiency: Removal of obstruction/improvement of deficiency at the earliest Speed Restriction boards and suitable traffic calming measures such as transverse bar marking, blinkers, etc. shall be applied during the period of rectification.		IRC:SP 84-2014
		Design Speed, kmph	**Desirable Minimum Sight Distance (m)**	**Safe Stopping Sight Distance (m)**					
		100	360	180					
		80	260	130					
Pavement Marking	Wear	<70% of marking remaining			Bi-Annually	**Visual Assessment as per Annexure-F**	Re - painting	Cat-1 Defect – within 24 hours Cat-2 Defect -	IRC:35-2015

<table>
<tr><td></td><td></td><td></td><td></td><td>of IRC:35-2015</td><td></td><td>within 2 months</td><td></td></tr>
<tr><td></td><td>Day time Visibility</td><td>During expected life Service Time
Cement Road - 130mcd/m2/lux
Bituminous Road - 100mcd/m2/lux</td><td>Monthly</td><td>As per Annexure-D of IRC:35-2015</td><td>Re - painting</td><td>Cat-1 Defect – within 24 hours
Cat-2 Defect – within 2 months</td><td>IRC:35-2015</td></tr>
<tr><td></td><td rowspan="6">Night Time Visibility</td><td><u>Initial and Minimum Performance for Dry Retro reflectivity during night time:</u></td><td rowspan="6">Bi-Annually</td><td rowspan="6">As per Annexure-E of IRC:35-2015</td><td rowspan="6">Re - painting</td><td rowspan="6">Cat-1 Defect – within 24 hours Cat-2 Defect – within 2 months</td><td rowspan="6">IRC:35-2015</td></tr>
<tr><td></td><td>Design Speed</td><td>(RL) Retro Reflectivity (mcd/m2/lux)</td></tr>
<tr><td></td><td>Up to 65</td><td>200</td><td>80</td></tr>
<tr><td></td><td>65-100</td><td>250</td><td>120</td></tr>
<tr><td></td><td>Above 100</td><td>350</td><td>150</td></tr>
<tr><td></td><td>Initial and Minimum Performance for Night Visibility under wet condition (Retro reflectivity):</td></tr>
<tr><td>Road Signs</td><td>Shape and Position</td><td>Shape and Position as per IRC:67-2012.
Signboard should be clearly visible for
the design speed of the section.</td><td>Daily</td><td>Visual with video/image backup</td><td>Improvement of shape, in case if shape is damaged.

Relocation as Per requirement</td><td>48 hours in case of Mandatory Signs, Cautionary and Informatory Signs (Single and Dual post signs) 15 Days in case of</td><td>IRC:67-2012</td></tr>
</table>

						Gantry/Cantilever Sign boards	
	Retro reflectivity	As per specifications in IRC:67-2012	Bi-Annually	Testing of Each signboard using Retro Reflectivity Measuring Device. In accordance with ASTM D 4956-09.	Change of signboard	48 hours in case of Mandatory Signs, Cautionary and Informatory Signs (Single and Dual post signs) 1 Month in case of Gantry/ Cantilever Sign boards	IRC:67-2012
Kerb	Kerb Height	As per IRC 86:1983 depending upon type of Kerb	Bi-Annually	Use of distance measuring tape	Raising Kerb Height	Within 1 Month	IRC 86:1983
	Kerb Painting	Functionality: Functioning of Kerb painting as intended	Daily	Visual with video/image backup	Kerb Repainting	Within 7-days	IRC 35:2015
Other Road Furniture	Reflective Pavement Markers (Road Studs)	Numbers and Functionality as per specifications in IRC:SP:84-2014 and IRC:35-2015, unless specified in Schedule-B.	Daily	Counting	New Installation	Within 2 months	IRC:SP:84-2014, IRC:35-2015
	Pedestrian Guardrail	Functionality: Functioning of guardrail as intended	Daily	Visual with video/image backup	Rectification	Within 15 days	IRC:SP:84-2014
	Traffic Safety Barriers	Functionality: Functioning of Safety Barriers as intended	Daily	Visual with video/image	Rectification	Within 7 days	IRC:SP:84-2014,

				backup			IRC:119- 2015
	End Treatment of Traffic Safety Barriers	Functionality: Functioning of End Treatment as intended	Daily	Visual with video/image backup	Rectification	Within 7 days	IRC:SP:84-2014, IRC:119- 2015
	Attenuators	Functionality: Functioning of Attenuators as intended	Daily	Visual with video/image backup	Rectification	Within 7 days	IRC:SP-2014, IRC:119- 2015
	Guard Posts and Delineators	Functionality: Functioning of Guard Posts and Delineators as intended	Daily	Visual with video/image backup	Rectification	Within 15 days	IRC: 79 - 1981
	Overhead Sign Structure	Overhead sign structure shall be structurally adequate	Daily	Visual with video/image backup	Rectification	Within 15 days	IRC:67-2012
	Traffic Blinkers	Functionality: Functioning of Traffic Blinkers as intended	Daily	Visual with video/image backup	Rectification	Within 7 days	IRC:SP:84-2014
Highway Lighting System	Highway Lights	Illumination: Minimum 40 Lux illumination on the road surface	Daily	The illumination level shall be measured with luxmeter	Improvement in Lighting System	24 hours	IRC:SP:84-2014
		No major failure in the lighting system	Daily	-	Rectification of failure	24 hours	IRC:SP:84-2014
		No minor failure in the lighting system	Monthly	-	Rectification of failure	8 hours	IRC:SP:84-2014
	Toll Plaza Canopy Lights	Minimum 40 Lux illumination on the road surface	Daily	The illumination level shall be measured with luxmeter	Improvement in Lighting System	24 hours	IRC:SP:84-2014
		No major/minor failure in the lighting system	Daily	-	Rectification of failure	8 hours	IRC:SP:84-2014

Trees and Plantation including median plantation	Obstruction in a minimum head-room of 5.5 m above carriageway or obstruction in visibility of road signs	No obstruction due to trees	Monthly	Visual with video/image backup	Removal of trees	Immediate	IRC:SP:84-2014
	Deterioration in health of trees and bushes	Health of plantation shall be as per requirement of specifications & instructions issued by Authority from time to time	Daily	Visual with video/image backup	Timely watering and treatment. Or Replacement of Trees and Bushes.	Within 90 days	IRC:SP:84-2014
	Vegetation affecting sight line and road structures	Sight line shall be free from obstruction by vegetation	Daily	Visual with video/image backup	Removal of trees	Immediate	IRC:SP 84-2014
Rest Areas	Cleaning of toilets	-	Daily	-	-	Every 4 hours	
	Defects in electrical, water and sanitary installations	-	Daily	-	Rectification	24 hours	
Other Project Facilities and Approach roads	Damage or deterioration in Approach Roads, pedestrian facilities, truck lay-bys, bus-bays, busshelters, cattle crossings, Traffic Aid Posts, Medical Aid Posts and other works		Daily	-	Rectification	15 days	IRC:SP 84-2014

Asset Type	Performance Parameter	Level of Service (LOS)	Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
Pipe/box/slab culverts	Free waterway/ unobstructed flow section	85% of culvert normal flow area to available.	2 times in a year (before and after rainy season)	Inspection by Bridge Engineer as per IRC SP: 35-1990 and recording of depth of silting and area of vegetation.	Cleaning silt up soils and debris in culvert barrel after rainy season, removal of bushes and vegetation, U/s of barrel, under barrel and D/s of barrel before rainy season.	15 days before onset of monsoon and within 30 days after end of rainy season.	IRC 5-2015, IRC SP:40-1993 and IRC SP:13-2004
	Leak-proof expansion joints if any	No leakage through expansion joints	Bi-Annually	Physical inspection of expansion joints as per IRC SP: 35-1990 if any, for leakage strains on walls at joints.	Fixing with sealant suitably	30 days or before onset of rains whichever comes earlier	IRC SP:40-1993 and IRC SP:69-2011
	Structurally sound	Spalling of concrete not more than 0.25 sqm	Bi-Annually	Detailed inspection of all components of culvert as per IRC SP:35-1990 and recording the defects	Repairs to spalling, cracking, delamination, rusting shall be followed as per IRC:SP:40-1993.	15 days	IRC SP 40-1993 and MORTH Specifications clause 2800
		Delamination of concrete not more than 0.25 sq.m.					
		Cracks wider than 0.3 mm not					

		more than 1m aggregatelength					
	Protection works in good condition	Damaged of rough stone apron or bank revetment not more than 3 sqm, damage to solid apron (concreteapron) not more than 1 sqm	2 times in a year (before and after rainy season)	Condition survey as per IRC SP:35-1990	Repairs to damaged aprons and pitching	30 days after defect observation or 2 weeks before onset of rainy season whichever is earlier.	IRC: SP 40-1993 and IRC:SP:13-2004.
Bridges including ROBs Flyover etc. as applicable	Riding quality or user comfort	No pothole in wearing coat on bridge deck	Daily	Visual inspection as per IRC SP:35-1990	Repairs to BC or wearing coat	15 days	MORT&H Specification 2811
Bridge -Super Structure	Bumps	No bump at expansion joint	Daily	Visual inspection as per IRC SP:35-1990	Repairs to BC on either side of expansion joints, profile correction course on approach slab in case of settlement to approach embankment	15 days	MORT&H Specification 3004.2 & 2811.
	User safety (condition of crash barrier and guard rail)	No damaged or missing stretch of crash barrier or pedestrian hand railing	Daily	Visual inspection and detailed condition survey as per IRC SP: 35-1990.	Repairs and replacement of safety barriers as the case may be	**3** days	IRC: 5-1998, IRC SP: 84-2014 and IRC SP: 40-1993.

	Rusted reinforcement	Not more than 0.25 sq.m	Bi- Annually	Detailed condition survey as per IRC SP: 35-1990 using Mobile Bridge Inspection Unit	All the corroded reinforcement shall need to be thoroughly cleaned from rusting and applied with anti-corrosive coating before carrying out the repairs to affected concrete portion with epoxy mortar / concrete.	15 days	IRC SP: 40-1993 and MORTH Specification 1600.
	Spalling of concrete	Not more than 0.50 sq.m					
	Delamination	Not more than 0.50 sq.m					
	Cracks wider than 0.30 mm	Not more than 1m total length	Bi-Annually	Detailed condition survey as per IRC SP: 35-1990 using Mobile Bridge Inspection Unit	Grouting with epoxy mortar, investigating causes for cracks development and carry out necessary rehabilitation	48 Hours	IRC SP: 40-1993 and MORTH Specification 2800.
	Rainwater seepage through deck slab	Leakage - nil	Quarterly	Detailed condition survey as per IRC SP: 35-1990 using Mobile Bridge Inspection Unit	Grouting of deck slab at leakage areas, waterproofing, repairs to drainage spouts	1 months	MORTH specifications 2600 & 2700
	Deflection due to permanent loads and live loads	Within design limits.	Once in every 10 years for spans more than 40 m	Load test method	Carry out major rehabilitation works on bridge to retain original design loads	6 months	IRC SP: 51-1999.

					capacity		
	Vibrations in bridge deck due to moving trucks	Frequency of vibrations shall not be more than 5 Hz	Once in every 5 years for spans more than 30m and every 10 years for spans between 15 to 30 m	Laser displacement sensors or laser vibro-meters	Strengthening of super structure	4 months	AASHTO LRFD specifications
	Leakage in Expansion joints	No damage to elastomeric sealant compound in strip seal expansion joint, no leakage of rain water through expansion joint in case of buried and asphalt plug and copper strip joint	Bi-Annually	Detailed condition survey as per IRC SP:35-1990 using Mobile Bridge Inspection Unit	Replace of seal in expansion joint	15 days	MORTH specifications 2600 and IRC SP: 40-1993.
	Debris and dust in strip seal expansion joint	No dust or debris in expansion joint gap.	Monthly	Detailed condition survey as per IRC SP:35-1990 using Mobile Bridge Inspection Unit	Cleaning of expansion joint gaps thoroughly	3 days	MORTH specifications 2600 and IRC SP: 40-1993.
	Drainage spouts	No down take pipe missing/broken below soffit of the deck slab. No	Bi-Annually	Detailed condition survey as per IRC SP: 35-1990 using	Cleaning of drainage spouts thoroughly. Replacement of missing/broken down take pipes	3 days	MORTH specification 2700.

		silt, debris, clogging of drainage spout collection chamber.		Mobile Bridge Inspection Unit	with a minimum pipe extension of 500mm below soffit of slab. Providing sealant around the drainage spout if any leakages observed		
Bridge-substructure	Cracks/ spalling of concrete/ Rusted steel	No cracks, spalling of concrete and rusted steel	Bi-Annually	Detailed condition survey as per IRC SP: 35-1990 using Mobile Bridge Inspection Unit	All the corroded reinforcement shall need to be thoroughly cleaned from rusting and applied with anti-corrosive coating before carrying out repairs to substructure by grouting/guniting and micro concreting depending on type of defect noticed	30 days	IRC SP: 40-1993 and MORTH specification 2800.
	Bearings	Delaminating of bearing reinforcement not more than 5%, cracking or tearing of rubber not more than 2 locations per	Bi-Annually	Detailed condition survey as per IRC SP: 35-1990 using Mobile Bridge Inspection Unit	In case of failure of even one bearing on any pier/abutment, all the bearings on that pier/ abutment shall be replaced, in order to get uniform	3 months	MORTH specification 2810 and IRC SP: 40-199.

		side, no rupture of reinforcement or rubber			load transfer on to bearings.		
Bridge Foundations	Scouring around foundations	Scouring shall not be lower than maximum scour level for the bridge	Bi-Annually	Condition survey and visual Inspection as per IRC SP:35-1990 using Mobile Bridge Inspection Unit. In case of oubt, use Underwater camera for inspection of deep wells in major Rivers.	suitable protection works around pier/abutment	1 months	IRC SP: 40-1993, IRC 83-2014, MORTH specification 2500
	Protection works in good condition	Damaged of rough stone apron or bank revetment not more than 3 sq.m, damage to solid apron (concrete apron) not more than 1 sq.m	2 times in a year (before and after rainy season)	Condition survey as per IRC SP:35-1990	Repairs to damaged aprons and pitching.	30 days After defect observation or 2 weeks before onset of rainy season whichever is earlier.	IRC: SP 40-1993 and IRC:SP:13-2004.
Note: Any Structure during the entire contract period which is found that does not complies with all requirements of this Table will be prepared, rehabilitated or even reconstructed under the scope of the contractor.							

Table 4: Maintenance Criteria for Structures and Culverts:

Table 5: Maintenance Criteria for Hill Roads

In addition to above, for hill roads the following provisions for maintenance is also to done.

Hill Roads		
(i)	Damage to Retaining wall/ Breast wall	7 (Seven) days
(ii)	Landslides requiring clearance	12 (Twelve) hours
(iii)	Snow requiring clearance	24 (Twenty Four) hours

Note: For all tables 1 to 5 above, latest BIS & IRC standards (even those not indicated herewith) along with MoRTH specifications shall be binding for all maintenance activities.

A. Flexible Pavement

Nature of Defect or deficiency		**Time limit for repair/ rectification**
(b) Granular earth shoulders, side slopes, drains and culverts		
(i)	Variation by more than 1 % in the prescribed slope of camber/cross fall (shall not be less than the camber on the main carriageway)	7 (seven) days
(ii)	Edge drop at shoulders exceeding 40 mm	7 (seven) days
(iii)	Variation by more than 15% in the prescribed side (embankment) slopes	30 (thirty) days
(iv)	Rain cuts/gullies in slope	7 (seven) days
(v)	Damage to or silting of culverts and side drains	7 (seven) days
(vi)	Desilting of drains in urban/semi- urban areas	24 (twenty four) hours
(vii)	Railing, parapets, crash barriers	7 (seven) days (Restore immediately if causing safety hazard)
(c) Road side furniture including road sign and pavement marking		
(i)	Damage to shape or position, poor visibility or loss of retro- reflectivity	48 (forty eight) hours
(ii)	Painting of km stone, railing, parapets, crash barriers	As and when required/ Once every year
(iii)	Damaged/missing signs road requiring replacement	7 (seven) days
(vi)	Damage to road mark ups	7 (seven) days
(d) Road lighting		
(i)	Any major failure of the system	24 (twenty four) hours
(ii)	Faults and minor failures	8 (eight) hours
(e) Trees and plantation		
(i)	Obstruction in a minimum head- room of 5 m above carriageway or obstruction in visibility of road signs	24 (twenty four)hours
(ii)	Removal of fallen trees from carriageway	4 (four) hours
(iii)	Deterioration in health of trees and bushes	Timely watering and treatment
(vi)	Trees and bushes requiring replacement	30 (thirty) days
(v)	Removal of vegetation affecting sight line and road structures	15 (fifteen) days
(f) Rest area		
(i)	Cleaning of toilets	Every 4 (four) hours
(ii)	Defects in electrical, water and sanitary	24 (twenty four) hours

	installations	
(g) [Toll Plaza]		
(h)	**Other Project Facilities and Approach roads**	
(i)	Damage in approach roads, pedestrian facilities, truck lay- byes, bus-bays, bus-shelters, cattle crossings, [Traffic Aid Posts, Medical Aid Posts] and service roads	15 (fifteen) days
(ii)	Damaged vehicles or debris on the road	4 (four) hours
(iii)	Malfunctioning of the mobile crane	4 (four) hours
Bridges		
(a) Superstructure		
(i)	Any damage, cracks, spalling/ scaling Temporary measures Permanent measures	within 48 (forty eight) hours within 15 (fifteen) days or as specified by the Authority's Engineer
(b) Foundations		
(i)	Scouring and/or cavitation	15 (fifteen) days
(c) Piers, abutments, return walls and wing walls		
(i)	Cracks and damages including settlement and tilting, spalling, scaling	30 (thirty) days
(d) Bearings (metallic) of bridges		
(i)	Deformation, damages, tilting or shifting of bearings	15 (fifteen) days Greasing of metallic bearings once in a year
(e) Joints		
(i)	Malfunctioning of joints	15 (fifteen) days
(f) Other items		
(i)	Deforming of pads in elastomeric bearings	7 (seven) days
(ii)	Gathering of dirt in bearings and joints; or clogging of spouts, weep holes and vent-holes	3 (three) days
(iii)	Damage or deterioration in kerbs, parapets, handrails and crash barriers	3 (three) days (immediately within 24 hours if posing danger to safety)
(vi)	Rain-cuts or erosion of banks of the side slopes of approaches	7 (seven) days
(v)	Damage to wearing coat	15 (fifteen) days
(vi)	Damage or deterioration in approach slabs, pitching, apron, toes, floor or guide bunds	30 (thirty) days
(vii)	Growth of vegetation affecting the structure or obstructing the waterway	15 (fifteen) days
(g) Hill Roads		
(i)	Damage to retaining wall/breast wall	7 (seven) days
(ii)	Landslides requiring clearance	12 (twelve) hours
(iii)	Snow requiring clearance	24 (twenty four) hours
[Note: Where necessary, the Authority may modify the time limit for repair/rectification, or add to the nature of Defect or deficiency before issuing the bidding document, with the approval of the competent authority.]		

SCHEDULE - F
(See Clause 3.1.7(a))

APPLICABLE PERMITS

1 Applicable Permits

(i) The Contractor shall obtain, as required under the Applicable Laws, the following Applicable Permits:

(a) Permission of the State Government for extraction of boulders from quarry;

(b) Permission of Village Panchayats and Pollution Control Board for installation of crushers;

(c) License for use of explosives;

(d) Permission of the State Government for drawing water from river/reservoir;

(e) License from inspector of factories or other competent Authority for setting up batching plant;

(f) Clearance of Pollution Control Board for setting up batching plant;

(g) Clearance of Village Panchayats and Pollution Control Board for setting up asphalt plant;

(h) Permission of Village Panchayats and State Government for borrow earth; and

(i) Any other permits or clearances required under Applicable Laws.

(ii) Applicable Permits, as required, relating to environmental protection and conservation shall have been procured by the Authority in accordance with the provisions of this Agreement.

Schedule – G

(See Clauses 7.1 and 19.2)

Annex-I

(See Clause 7.1)

Form of Bank Guarantee
[Performance Security/Additional Performance Security]

To,

NHIDCL,

National Highways & Infrastructure Development Corporation Ltd.

(A) _____[name and address of contractor] (hereinafter called the "**Contractor**") and [name and address of the authority], (hereinafter called the **"Authority"**) have entered into an agreement (hereinafter called the "**Agreement**") for the "**Name of work"** (the "**EPC**") basis, subject to and in accordance with the provisions of the Agreement

(B) The Agreement requires the Contractor to furnish a Performance Security for due and faithful performance of its obligations, under and in accordance with the Agreement, during the {Construction Period/ Defects Liability Period and Maintenance Period} (as defined in the Agreement) in a sum of Rs….. cr. (Rupees ……..….. crore) (the "**Guarantee Amount**").

(C) We, …….. through our branch at ……. (the "**Bank**") have agreed to furnish this bank guarantee (*hereinafter called the* **"Guarantee**") by way of Performance Security.

NOW, THEREFORE, the Bank hereby, unconditionally and irrevocably, guarantees and affirms as follows:

1. The Bank hereby unconditionally and irrevocably guarantees the due and faithful performance of the Contractor's obligations during the {Construction Period/ Defects Liability Period and Maintenance Period} under and in accordance with the Agreement, and agrees and undertakes to pay to the Authority, upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Contractor, such sum or sums up to an aggregate sum of the Guarantee Amount as the Authority shall claim, without the Authority being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.

2. A letter from the Authority, under the hand of an officer not below the rank of General Manager in the National Highways & Infrastructure Development Corporation Ltd. , that the Contractor has committed default in the due and faithful performance of all or any of its obligations under and in accordance with the Agreement shall be conclusive, final and binding on the Bank. The Bank further agrees that the Authority shall be the sole judge as

to whether the Contractor is in default in due and faithful performance of its obligations during and under the Agreement and its decision that the Contractor is in default shall be final and binding on the Bank, notwithstanding any differences between the Authority and the Contractor, or any dispute between them pending before any court, tribunal, arbitrators or any other authority or body, or by the discharge of the Contractor for any reason whatsoever.

3. In order to give effect to this Guarantee, the Authority shall be entitled to act as if the Bank were the principal debtor and any change in the constitution of the Contractor and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.

4. It shall not be necessary, and the Bank hereby waives any necessity, for the Authority to proceed against the Contractor before presenting to the Bank its demand under this Guarantee.

5. The Authority shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Agreement or to extend the time or period for the compliance with, fulfillment and/ or performance of all or any of the obligations of the Contractor contained in the Agreement or to postpone for any time, and from time to time, any of the rights and powers exercisable by the Authority against the Contractor, and either to enforce or forbear from enforcing any of the terms and conditions contained in the Agreement and/or the securities available to the Authority, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the Authority of the liberty with reference to the matters aforesaid or by reason of time being given to the Contractor or any other forbearance, indulgence, act or omission on the part of the Authority or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.

6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Authority in respect of or relating to the Agreement or for the fulfillment, compliance and/or performance of all or any of the obligations of the Contractor under the Agreement.

7. Notwithstanding anything contained hereinbefore, the liability of the Bank under this Guarantee is restricted to the Guarantee Amount and this Guarantee will remain in force for the period specified in paragraph 8 below and unless a demand or claim in writing is made by the Authority on the Bank under this Guarantee all rights of the Authority under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.

8. The Guarantee shall cease to be in force and effect on ****[$]. Unless a demand or claim

[$] Insert date being 2 (two) years from the date of issuance of this Guarantee (in accordance with Clause 7.2 of the Agreement).

under this Guarantee is made in writing before expiry of the Guarantee, the Bank shall be discharged from its liabilities hereunder.

9. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Authority in writing, and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.

10. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred branch, which shall be deemed to have been duly authorised to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.

11. This Guarantee shall come into force with immediate effect and shall remain in force and effect for up to the date specified in paragraph 8 above or until it is released earlier by the Authority pursuant to the provisions of the Agreement.

12. This guarantee shall also be operatable at our…….. Branch at New Delhi (Complete Address of bank branch is mandatory), from whom, confirmation regarding the issue of this guarantee or extension / renewal thereof shall be made available on demand. In the contingency of this guarantee being invoked and payment there under claimed, the said branch shall accept such invocation letter and make payment of amounts so demanded under the said invocation.

13. The guarantor/bank hereby confirms that it is on the SFMS (Structural Finance Messaging System) platform & shall invariably send an advice of this Bank Guarantee to the designated bank of NHIDCL, details of which is as under:

S.No.	Particulars	Details
1	Name of Beneficiary	National Highways & Infrastructure Development Corporation Limited
2	Beneficiary Bank Account No.	90621010002659
3	Beneficiary Bank Branch	IFSC CNRB0019062
4	Beneficiary Bank Branch Name	Transport Bhawan, New Delhi
5	Beneficiary Bank Address	Canara Bank (erstwhile Syndicate Bank) transport Bhawan, 1st Parliament Street, New Delhi-110001

Signed and sealed this ……. day of ……., 20…… at ……. SIGNED, SEALED AND DELIVERED

For and on behalf of the Bank by:
(Signature)

(Name)

(Designation)

(Code Number)

(Address)

NOTES:

(i) The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.

(ii) The address, telephone number and other details of the head office of the Bank as well as of issuing branch should be mentioned on the covering letter of issuing branch.

Annex – II

(Schedule - G)

(See Clause 19.2)

Form for Guarantee for Advance Payment

To,

Managing Director, NHIDCL,

National Highways & Infrastructure Development Corporation Ltd.

WHEREAS:

(A) [name and address of contractor] (hereinafter called the "**Contractor**") has executed an agreement (hereinafter called the "**Agreement**") with the [name and address of the authority], (hereinafter called the "**Authority**") for the "**Name of work"** (the "**EPC**") basis, subject to and in accordance with the provisions of the Agreement

(B) In accordance with Clause 19.2 of the Agreement, the Authority shall make to the Contractor an interest bearing *@Bank Rate + 3%* advance payment (herein after called "**Advance Payment**") equal to 10% (ten per cent) of the Contract Price; and that the Advance Payment shall be made in two installments subject to the Contractor furnishing an irrevocable and unconditional guarantee by a scheduled bank for an amount equivalent to 110% (one hundred and ten percent) of such installment to remain effective till the complete and full repayment of the installment of the Advance Payment as security for compliance with its obligations in accordance with the Agreement. The amount of {first/second} installment of the Advance Payment is Rs. ------ cr. (Rupees ------ crore) and the amount of this Guarantee is Rs. ------- cr. (Rupees ------ crore) (the **"Guarantee Amount")**[$]**.**

(C) We, …….. through our branch at ……. (the "**Bank"**) have agreed to furnish this bank guarantee (*hereinafter called the* **"Guarantee"**) for the Guarantee Amount.

NOW, THEREFORE, the Bank hereby, unconditionally and irrevocably, guarantees and affirms as follows:

[$] The Guarantee Amount should be equivalent to 110% of the value of the applicable instalment.

1. The Bank hereby unconditionally and irrevocably guarantees the due and faithful repayment on time of the aforesaid instalment of the Advance Payment under and in accordance with the Agreement, and agrees and undertakes to pay to the Authority, upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Contractor, such sum or sums up to an aggregate sum of the Guarantee Amount as the Authority shall claim, without the Authority being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.

2. A letter from the Authority, under the hand of an officer not below the rank of General Manager in the National Highways & Infrastructure Development Corporation Ltd., that the Contractor has committed default in the due and faithful performance of all or any of its obligations for the repayment of the instalment of the Advance Payment under and in accordance with the Agreement shall be conclusive, final and binding on the Bank. The Bank further agrees that the Authority shall be the sole judge as to whether the Contractor is in default in due and faithful performance of its obligations during and under the Agreement and its decision that the Contractor is in default shall be final and binding on the Bank, notwithstanding any differences between the Authority and the Contractor, or any dispute between them pending before any court, tribunal, arbitrators or any other authority or body, or by the discharge of the Contractor for any reason whatsoever.

3. In order to give effect to this Guarantee, the Authority shall be entitled to act as if the Bank were the principal debtor and any change in the constitution of the Contractor and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.

4. It shall not be necessary, and the Bank hereby waives any necessity, for the Authority to proceed against the Contractor before presenting to the Bank its demand under this Guarantee.

5. The Authority shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Advance Payment or to extend the time or period of its repayment or to postpone for any time, and from time to time, any of the rights and powers exercisable by the Authority against the Contractor, and either to enforce or forbear from enforcing any of the terms and conditions contained in the Agreement and/or the securities available to the Authority, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the Authority of the liberty with reference to the matters aforesaid or by reason of time being given to the Contractor or any other forbearance, indulgence, act or omission on the part of the Authority or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.

6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Authority in respect of or relating to the Advance Payment.

7. Notwithstanding anything contained hereinbefore, the liability of the Bank under this Guarantee is restricted to the Guarantee Amount and this Guarantee will remain in force for the period specified in paragraph 8 below and unless a demand or claim in writing is made by the Authority on the Bank under this Guarantee all rights of the Authority under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.

8. The Guarantee shall cease to be in force and effect on ****.[$] Unless a demand or claim under this Guarantee is made in writing on or before the aforesaid date, the Bank shall be discharged from its liabilities hereunder.

9. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Authority in writing, and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.

10. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred branch, which shall be deemed to have been duly authorised to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.

11. This Guarantee shall come into force with immediate effect and shall remain in force and effect up to the date specified in paragraph 8 above or until it is released earlier by the Authority pursuant to the provisions of the Agreement.

12. This guarantee shall also be operatable at our…….. Branch at New Delhi (Complete Address of bank branch is mandatory), from whom, confirmation regarding the issue of this guarantee or extension / renewal thereof shall be made available on demand. In the contingency of this guarantee being invoked and payment there under claimed, the said branch shall accept such invocation letter and make payment of amounts so demanded under the said invocation.

13. The guarantor/bank hereby confirms that it is on the SFMS (Structural Finance Messaging System) platform & shall invariably send an advice of this Bank Guarantee to the designated bank of NHIDCL, details of which is as under:

S.No.	Particulars	Details

[$] Insert a date being 90 (ninety) days after the end of one year from the date of payment of the Advance payment to the Contractor (in accordance with Clause 19.2 of the Agreement).

1	Name of Beneficiary	National Highways & Infrastructure Development Corporation Limited
2	Beneficiary Bank Account No.	90621010002659
3	Beneficiary Bank Branch	IFSC CNRB0019062
4	Beneficiary Bank Branch Name	Transport Bhawan, New Delhi
5	Beneficiary Bank Address	Canara Bank (erstwhile Syndicate Bank) transport Bhawan, 1st Parliament Street, New Delhi-110001

Signed and sealed this ……. day of …….., 20…… at ……. SIGNED, SEALED AND DELIVERED

For and on behalf of the Bank by:
(Signature)

(Name)

(Designation)

(Code Number)

(Address)

NOTES:

(i) The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.

(ii) The address, telephone number and other details of the head office of the Bank as well as of issuing branch should be mentioned on the covering letter of issuing branch.

SCHEDULE - I
(See Clause 10.2 (iv))

DRAWINGS

1 Drawings

In compliance of the obligations set forth in Clause 10.2 of this Agreement, the Contractor shall furnish to the Authority's Engineer, free of cost, all Drawings listed in Annex-I of this Schedule-I.

2 Additional Drawings

If the Authority's Engineer determines that for discharging its duties and functions under this Agreement, it requires any drawings other than those listed in Annex-I, it may by notice require the Contractor to prepare and furnish such drawings forthwith. Upon receiving a requisition to this effect, the Contractor shall promptly prepare and furnish such drawings to the Authority's Engineer, as if such drawings formed part of Annex-I of this Schedule-I.

Annex – I

(Schedule - I)

List of Drawings

1. A minimum list of the drawings of the various components/elements of the project highway and project facility required to be submitted by the Contractor is given below:

(a) Drawing of horizontal alignment, vertical profile and detailed cross sections
(b) Drawings of cross drainage works i.e. Bridges/Culverts/Flyovers and Other Structures.
(c) Drawings for River Training works
(d) Drawings of interchanges, major intersections and underpasses
(e) Drawing of control centre
(f) Drawings of road furniture items including traffic signage, marking, safety barriers, etc.
(g) Drawings of traffic diversions plans and traffic control measures
(h) Drawings of road drainage measures
(i) Drawings of typical details slope protection measures
(j) Drawings of landscaping and horticulture
(k) Drawings of pedestrian crossing
(k) Drawings of street lighting
(l) Any other drawings as per instruction of Authority Engineer
(m) General Arrangement showing Base Camp and Administrative Block

Schedule - J

(See Clause 10.3 (ii))

Project Completion Schedule

1. Project Completion Schedule

During Construction period, the Contractor shall comply with the requirements set forth in this Schedule-J for each of the Project Milestones and the Scheduled Completion Date. Within 15 (fifteen) days of the date of each Project Milestone, the Contractor shall notify the Authority of such compliance along with necessary particulars thereof.

2. Project Milestone-I

(i) Project Milestone-I shall occur on the date falling on the [35% of the Scheduled Construction Period] day from the Appointed Date (the "Project Milestone- I").

(ii) Prior to the occurrence of Project Milestone-I, the Contractor shall have commenced construction of the Project Highway and submitted to the Authority duly and validly prepared Stage Payment Statements for an amount not less than 10% (ten per cent) of the Contract Price.

3. Project Milestone-II

(i) Project Milestone-II shall occur on the date falling on the [60% of the Scheduled Construction Period] day from the Appointed Date (the "Project Milestone- II").

(ii) Prior to the occurrence of Project Milestone-II, the Contractor shall have continued with construction of the Project Highway and submitted to the Authority duly and validly prepared Stage Payment Statements for an amount not less than 35% (thirty five per cent) of the Contract Price and should have started construction of all bridges

4. Project Milestone-III

(i) Project Milestone-III shall occur on the date falling on the [85% of the Scheduled Construction Period] day from the Appointed Date (the "Project Milestone- III").

(ii) Prior to the occurrence of Project Milestone-III, the Contractor shall have continued with construction of the Project Highway and submitted to the Authority duly and validly prepared Stage Payment Statements for an amount not less than 70% (seventy per cent) of the Contract Price and should have started construction of all project facilities.

5. Scheduled Completion Date

(i) The Scheduled Completion Date shall occur on the [Scheduled Construction Period] day from the Appointed Date.

(ii) On or before the Scheduled Completion Date, the Contractor shall have completed construction in accordance with this Agreement.

6. Extension of time

Upon extension of any or all of the aforesaid Project Milestones or the Scheduled Completion Date, as the case may be, under and in accordance with the provisions of this Agreement, the Project Completion Schedule shall be deemed to have been amended accordingly.

SCHEDULE - K
(See Clause 12.1 (ii))

Tests on Completion

1 Schedule for Tests

(i) The Contractor shall, no later than 30 (thirty) days prior to the likely completion of construction, notify the Authority's Engineer and the Authority of its intent to subject the Project Highway to Tests, and no later than 10 (ten) days prior to the actual date of Tests, furnish to the Authority's Engineer and the Authority detailed inventory and particulars of all works and equipment forming part of Works.

(ii) The Contractor shall notify the Authority's Engineer of its readiness to subject the Project Highway to Tests at any time after 10 (ten) days from the date of such notice, and upon receipt of such notice, the Authority's Engineer shall, in consultation with the Contractor, determine the date and time for each Test and notify the same to the Authority who may designate its representative to witness the Tests. The Authority's Engineer shall thereupon conduct the Tests itself or cause any of the Tests to be conducted in accordance with Article 12 and this Schedule-K.

2 Tests

(i) Visual and physical test: The Authority's Engineer shall conduct a visual and physical check of construction to determine that all works and equipment forming part thereof conform to the provisions of this Agreement. The physical tests shall include [***].

(ii) Riding quality test: Riding quality of each lane of the carriageway shall be checked with the help of a Network Survey Vehicle (NSV) fitted with latest equipments and the maximum permissible roughness for purposes of this Test shall be [2,000 (two thousand)] mm for each kilometer.

(iii) Tests for bridges: All major and minor bridges shall be subjected to the rebound hammer and ultrasonic pulse velocity tests, to be conducted in accordance with the procedure described in Special Report No. 17: 1996 of the IRC Highway Research Board on Nondestructive Testing Techniques, at two spots in every span, to be chosen at random by the Authority's Engineer. Bridges with a span of 15 (fifteen) metres or more shall also be subjected to load testing.

(iv) Other tests: The Authority's Engineer may require the Contractor to carry out or cause to be carried additional tests, in accordance with Good Industry Practice, for determining the compliance of the Project Highway with Specifications and standards, except tests as specified in clause 5,but shall include measuring the reflectivity of road markings and road signs; and measuring the illumination level (lux) of lighting using requisite testing equipment.

(v) Environmental audit: The Authority's Engineer shall carry out a check to determine conformity of the Project Highway with the environmental requirements set forth in Applicable Laws and Applicable Permits.

(vi) Safety Audit: The Authority's Engineer shall carry out, or cause to be carried out, a safety audit to determine conformity of the Project Highway with the safety requirements and Good Industry Practice.

3 Agency for conducting Tests

All Tests set forth in this Schedule-K shall be conducted by the Authority's Engineer or such other agency or person as it may specify in consultation with the Authority.

4 Completion Certificate

Upon successful completion of Tests, the Authority's Engineer shall issue the Completion Certificate in accordance with the provisions of Article 12.

5. The Authority Engineer will carry out tests with following equipment at his own cost in the presence of contractor's representative.

S.No.	Key metrics of Asset	Equipment to be used	Frequency of condition survey
1	Surface defects of pavement	Network Survey Vehicle (NSV)	At least twice a year (As per survey months defined for the state basis rainy season)
2	Roughness of pavement	Network Survey Vehicle (NSV)	At least twice a year (As per survey months defined for the state basis rainy season)
3	Strength of pavement	Falling Weight Deflectometer (FWD)	At least once a year
4	Bridges	Mobile Bridge Inspection Unit (MBU)	At least twice a year (As per survey months defined for the state basis rainy season)
5	Road signs	Retro-reflectometer	At least twice a year (As per survey months defined for the state basis rainy season)

The first testing with the help of NSV shall be conducted at the time of issue of Completion Certificate.

Schedule – L

(See Clause 12.2)

Completion Certificate

1 I, ……. (Name of the Authority's Engineer), acting as the Authority's Engineer, under and in accordance with the Agreement dated …… (the "**Agreement**"), for **"Name of work"** (the "**Project Highway**") on Engineering, Procurement and Construction (EPC) basis through ……. (Name of Contractor), hereby certify that the Tests in accordance with Article 12 of the Agreement have been successfully undertaken to determine compliance of the Project Highway with the provisions of the Agreement, and I am satisfied that the Project Highway can be safely and reliably placed in service of the Users thereof.

2 It is certified that, in terms of the aforesaid Agreement, all works forming part of Project Highway have been completed, and the Project Highway is hereby declared fit for entry into operation on this the …… day of …… 20…..

SIGNED, SEALED AND DELIVERED

For and on behalf of

the Authority's Engineer by:

(Signature)

(Name)

(Designation)

(Address)

SCHEDULE - M

(See Clauses 14.6, 15.2 and 19.7)

PAYMENT REDUCTION FOR NON-COMPLIANCE

1. Payment reduction for non-compliance with the Maintenance Requirements

(i) Monthly lump sum payments for maintenance shall be reduced in the case of non-compliance with the Maintenance Requirements set forth in Schedule-E.

(ii) Any deduction made on account of non-compliance with the Maintenance Requirements shall not be paid even after compliance subsequently. The deductions shall continue to be made every month until compliance is done.

(iii) The Authority's Engineer shall calculate the amount of payment reduction on the basis of weightage in percentage assigned to non-conforming items as given in Paragraph 2.

2. Percentage reductions in lump sum payments

- The following percentages shall govern the payment reduction:

S. No.	Item/Defect/Deficiency	Percentage
(a)	**Carriageway/Pavement**	
(i)	Potholes, cracks, other surface defects	15%
(ii)	Repairs of Edges, Rutting	5%
(b)	**Road, Embankment, Cuttings, Shoulders**	
(i)	Edge drop, inadequate crossfall, undulations, settlement, potholes, ponding, obstructions	10%
(ii)	Deficient slopes, raincuts, disturbed pitching, vegetation growth, pruning of trees	5%
(c)	**Bridges and Culverts**	
(i)	Desilting, cleaning. vegetation growth, damaged pitching, flooring, parapets, wearing course, footpaths, any damage to foundations	20%
(ii)	Any Defects in superstructures, bearings and sub-structures	10%
S. No.	**Item/Defect/Deficiency**	**Percentage**
(iii)	Painting, repairs/replacement kerbs, railings, parapets, guideposts/crash barriers	5%
(d)	**Roadside Drains**	
(i)	Cleaning and repair of drains	5%
(e)	**Road Furniture**	
(i)	Cleaning, painting, replacement of road signs, delineators, road markings, 200 m/km/5th km stones	5%
(f)	**Miscellaneous Items**	
(i)	Removal of dead animals, broken down/accidented vehicles, fallen trees, road blockades or malfunctioning of mobile crane	10%
(ii)	Any other Defects in accordance with paragraph 1.	5%
(g)	**Defects in Other Project Facilities**	5%

(ii) The amount to be deducted from monthly lump-sum payment for non compliance of particular item shall be calculated as under:

$$R=P/100 \times (M_1 \text{ or } M_2) \times L1/L$$

Where P = Percentage of particular item/Defect/deficiency for deduction

M = Monthly lump-sum payment in accordance with the Bid

L1 = Non-complying length

L = Total length of the road,

R = Reduction (the amount to be deducted for non compliance for a particular item/Defect/deficiency

The total amount of reduction shall be arrived at by summation of reductions for such items/Defects/deficiency or non compliance.

For any Defect in a part of one kilometer, the non-conforming length shall be taken as one kilometer.

SCHEDULE - N
(See Clause 18.1.1)

SELECTION OF AUTHORITY'S ENGINEER

1 Selection of Authority's Engineer

1.1 The provisions of the Model Request for Proposal for Selection of Technical Consultants, issued by the Ministry of Finance in May 2009, or any substitute thereof shall apply for selection of an experienced firm to discharge the functions and duties of an Authority's Engineer.

1.2 In the event of termination of the Technical Consultants appointed in accordance with the provisions of Paragraph 1.1, the Authority shall appoint another firm of Technical Consultants forthwith and may engage a government-owned entity in accordance with the provisions of Paragraph 3 of this Schedule-N.

2 Terms of Reference

The Terms of Reference for the Authority's Engineer (the "**TOR**") shall substantially conform with Annex 1 to this Schedule N.

3 Appointment of Government entity as Authority's Engineer

Notwithstanding anything to the contrary contained in this Schedule, the Authority may in its discretion appoint a government-owned entity as the Authority's Engineer; provided that such entity shall be a body corporate having as one of its primary functions the provision of consulting, advisory and supervisory services for engineering projects; provided further that a government-owned entity which is owned or controlled by the Authority shall not be eligible for appointment as Authority's Engineer.

Annex – I
(Schedule - N)

TERMS OF REFERENCE FOR AUTHORITY'S ENGINEER

1 Scope

(i) These Terms of Reference (the "TOR") for the Authority's Engineer are being specified pursuant to the EPC Agreement dated ..... (the "Agreement), which has been entered into between the NHIDCL(the "Authority") and ..... (the "Contractor")# **"Name of Work** and a copy of which is annexed hereto and marked as Annex-A to form part of this TOR.

- In case the bid of Authority's Engineer is invited simultaneously with the bid of EPC project, then the status of bidding of EPC project only to be indicated

(ii) The TOR shall apply to construction and maintenance of the Project Highway.

2 Definitions and interpretation

(i) The words and expressions beginning with or in capital letters and not defined herein but defined in the Agreement shall have, unless repugnant to the context, the meaning respectively assigned to them in the Agreement.

(ii) References to Articles, Clauses and Schedules in this TOR shall, except where the context otherwise requires, be deemed to be references to the Articles, Clauses and Schedules of the Agreement, and references to Paragraphs shall be deemed to be references to Paragraphs of this TOR.

(iii) The rules of interpretation stated in Article 1 of the Agreement shall apply, mutatis mutandis, to this TOR.

3. General

(i) The Authority's Engineer shall discharge its duties in a fair, impartial and efficient manner, consistent with the highest standards of professional integrity and Good Industry Practice.

(ii) The Authority's Engineer shall perform the duties and exercise the authority in accordance with the provisions of this Agreement, but subject to obtaining prior written approval of the Authority before determining:

(a) any Time Extension;

(b) any additional cost to be paid by the Authority to the Contractor;

(c) the Termination Payment; or

(d) any other matter which is not specified in (a), (b) or (c) above and which creates an obligation or liability on either Party for a sum exceeding Rs. 5,000,000 (Rs. fifty lakh).

(iii) The Authority's Engineer shall submit regular periodic reports, at least once every month, to the Authority in respect of its duties and functions under this Agreement. Such reports

shall be submitted by the Authority's Engineer within 10 (ten) days of the beginning of every month.

(iv) The Authority's Engineer shall inform the Contractor of any delegation of its duties and responsibilities to its suitably qualified and experienced personnel; provided, however, that it shall not delegate the authority to refer any matter for the Authority's prior approval in accordance with the provisions of Clause 18.2.

(v) The Authority's Engineer shall aid and advise the Authority on any proposal for Change of Scope under Article 13.

(vi) In the event of any disagreement between the Parties regarding the meaning, scope and nature of Good Industry Practice, as set forth in any provision of the Agreement, the Authority's Engineer shall specify such meaning, scope and nature by issuing a reasoned written statement relying on good industry practice and authentic literature.

4 **Construction Period**

(i) During the Construction Period, the Authority's Engineer shall review and approve the Drawings furnished by the Contractor along with supporting data, including the geo-technical and hydrological investigations, characteristics of materials from borrow areas and quarry sites, topographical surveys, and the recommendations of the Safety Consultant in accordance with the provisions of Clause 10.1 (vi). The Authority's Engineer shall complete such review and approval and send its observations to the Authority and the Contractor within 15 (fifteen) days of receipt of such Drawings; provided, however that in case of a Major Bridge or Structure, the aforesaid period of 15 (fifteen) days may be extended upto 30 (thirty) days. In particular, such comments shall specify the conformity or otherwise of such Drawings with the Scope of the Project and Specifications and Standards.

(ii) The Authority's Engineer shall review any revised Drawings sent to it by the Contractor and furnish its comments within 10 (ten) days of receiving such Drawings.

(iii) The Authority's Engineer shall review the Quality Assurance Plan submitted by the Contractor and shall convey its comments to the Contractor within a period of 21 (twenty-one) days stating the modifications, if any, required thereto.

(iv) The Authority's Engineer shall complete the review and approve of the methodology proposed to be adopted by the Contractor for executing the Works, and convey its comments to the Contractor within a period of 10 (ten) days from the date of receipt of the proposed methodology from the Contractor.

(v) The Authority's Engineer shall grant written approval to the Contractor, where necessary, for interruption and diversion of the flow of traffic in the existing lane(s) of the Project Highway for purposes of maintenance during the Construction Period in accordance with the provisions of Clause 10.4.

(vi) The Authority's Engineer shall review the monthly progress report furnished by the Contractor and send its comments thereon to the Authority and the Contractor within 7 (seven) days of receipt of such report.

(vii) The Authority's Engineer shall inspect the Construction Works and the Project Highway and shall submit a monthly Inspection Report bringing out the results of inspections and the remedial action taken by the Contractor in respect of Defects or deficiencies. In

particular, the Authority's Engineer shall include in its Inspection Report, the compliance of the recommendations made by the Safety Consultant.

(viii) The Authority's Engineer shall conduct the pre-construction review of manufacturer's test reports and standard samples of manufactured Materials, and such other Materials as the Authority's Engineer may require.

(ix) For determining that the Works conform to Specifications and Standards, the Authority's Engineer shall require the Contractor to carry out, or cause to be carried out, tests at such time and frequency and in such manner as specified in the Agreement and in accordance with Good Industry Practice for quality assurance. For purposes of this Paragraph 4.9, the tests specified in the IRC Special Publication-11 (Handbook of Quality Control for Construction of Roads and Runways) and the Specifications for Road and Bridge Works issued by MORTH (the "Quality Control Manuals") or any modification/substitution thereof shall be deemed to be tests conforming to Good Industry Practice for quality assurance.

(x) The Authority's Engineer shall test check at least 20 (twenty) percent of the quantity or number of tests prescribed for each category or type of test for quality control by the Contractor.

(xi) The timing of tests referred to in Paragraph 4.9, and the criteria for acceptance/ rejection of their results shall be determined by the Authority's Engineer in accordance with the Quality Control Manuals. The tests shall be undertaken on a random sample basis and shall be in addition to, and independent of, the tests that may be carried out by the Contractor for its own quality assurance in accordance with Good Industry Practice.

(xii) In the event that results of any tests conducted under Clause 11.10 establish any Defects or deficiencies in the Works, the Authority's Engineer shall require the Contractor to carry out remedial measures.

(xiii) The Authority's Engineer may instruct the Contractor to execute any work which is urgently required for the safety of the Project Highway, whether because of an accident, unforeseeable event or otherwise; provided that in case of any work required on account of a Force Majeure Event, the provisions of Clause 21.6 shall apply.

(xiv) In the event that the Contractor fails to achieve any of the Project Milestones, the Authority's Engineer shall undertake a review of the progress of construction and identify potential delays, if any. If the Authority's Engineer shall determine that completion of the Project Highway is not feasible within the time specified in the Agreement, it shall require the Contractor to indicate within 15 (fifteen) days the steps proposed to be taken to expedite progress, and the period within which the Project Completion Date shall be achieved. Upon receipt of a report from the Contractor, the Authority's Engineer shall review the same and send its comments to the Authority and the Contractor forthwith.

(xv) The Authority's Engineer shall obtain from the Contractor a copy of all the Contractor'squality control records and documents before the Completion Certificate is issued pursuant to Clause 12.4.

(xvi) Authority's Engineer may recommend to the Authority suspension of the whole or part of the Works if the work threatens the safety of the Users and pedestrians. After the Contractor has carried out remedial measure, the Authority's Engineer shall inspect such remedial measures forthwith and make a report to the Authority recommending whether or not the suspension hereunder may be revoked.

(xvii) In the event that the Contractor carries out any remedial measures to secure the safety of suspended works and Users, and requires the Authority's Engineer to inspect such works, the Authority's Engineer shall inspect the suspended works within 3 (three) days of receiving such notice, and make a report to the Authority forthwith, recommending whether or not such suspension may be revoked by the Authority.

(xviii) The Authority's Engineer shall carry out, or cause to be carried out, all the Tests specified in Schedule-K and issue a Completion Certificate or Provisional Certificate, as the case may be. For carrying out its functions under this Paragraph 4.18 and all matters incidental thereto, the Authority's Engineer shall act under and in accordance with the provisions of Article 12 and Schedule-K.

5. Maintenance Period

(i) The Authority's Engineer shall aid and advise the Contractor in the preparation of its monthly Maintenance Programme and for this purpose carry out a joint monthly inspection with the Contractor.

(ii) The Authority's Engineer shall undertake regular inspections, at least once every month, to evaluate compliance with the Maintenance Requirements and submit a Maintenance Inspection Report to the Authority and the Contractor.

(iii) The Authority's Engineer shall specify the tests, if any, that the Contractor shall carry out, or cause to be carried out, for the purpose of determining that the Project Highway is in conformity with the Maintenance Requirements. It shall monitor and review the results of such tests and the remedial measures, if any, taken by the Contractor in this behalf.

(iv) In respect of any defect or deficiency referred to in Paragraph 3 of Schedule-E, the Authority's Engineer shall, in conformity with Good Industry Practice, specify the permissible limit of deviation or deterioration with reference to the Specifications and Standards and shall also specify the time limit for repair or rectification of any deviation or deterioration beyond the permissible limit.

(v) The Authority's Engineer shall examine the request of the Contractor for closure of any lane(s) of the Project Highway for undertaking maintenance/repair thereof, and shall grant permission with such modifications, as it may deem necessary, within 5 (five) days of receiving a request from the Contractor. Upon expiry of the permitted period of closure, the Authority's Engineer shall monitor the reopening of such lane(s), and in case of delay, determine the Damages payable by the Contractor to the Authority under Clause 14.5.

6 Determination of costs and time

(i) The Authority's Engineer shall determine the costs, and/or their reasonableness, that are required to be determined by it under the Agreement.

(ii) The Authority's Engineer shall determine the period of Time Extension that is required to be determined by it under the Agreement.

(iii) The Authority's Engineer shall consult each Party in every case of determination in accordance with the provisions of Clause 18.5.

7. Payments

(i) The Authority's Engineer shall withhold payments for the affected works for which the Contractor fails to revise and resubmit the Drawings to the Authority's Engineer in accordance with the provisions of Clause 10.2.4 (d).

(ii) Authority's Engineer shall –

(a) within 10 (ten) days of receipt of the Stage Payment Statement from the Contractor pursuant to Clause 19.4, determine the amount due to the Contractor and recommend the release of 90 (ninety) percent of the amount so determined as part payment, pending issue of the Interim Payment Certificate; and

(b) within 15 (fifteen) days of the receipt of the Stage Payment Statement referred to in Clause 19.4, deliver to the Authority and the Contractor an Interim Payment Certificate certifying the amount due and payable to the Contractor, after adjustments in accordance with the provisions of Clause 19.10.

(iii) The Authority's Engineer shall, within 15 (fifteen) days of receipt of the Monthly Maintenance Statement from the Contractor pursuant to Clause 19.6, verify the Contractor's monthly statement and certify the amount to be paid to the Contractor in accordance with the provisions of the Agreement.

(iv) The Authority's Engineer shall certify final payment within 30 (thirty) days of the receipt of the final payment statement of Maintenance in accordance with the provisions of Clause 19.16.

8. Other duties and functions

The Authority's Engineer shall perform all other duties and functions as specified in the Agreement.

9 Miscellaneous

(i) A copy of all communications, comments, instructions, Drawings or Documents sent by the Authority's Engineer to the Contractor pursuant to this TOR, and a copy of all the test results with comments of the Authority's Engineer thereon, shall be furnished by the Authority's Engineer to the Authority forthwith.

(ii) The Authority's Engineer shall retain at least one copy each of all Drawings and Documents received by it, including „as-built" Drawings, and keep them in its safe custody.

(iii) Within 90 (ninety) days of the Project Completion Date, the Authority's Engineer shall obtain a complete set of as-built Drawings, in 2 (two) hard copies and in micro film form or in such other medium as may be acceptable to the Authority, reflecting the Project Highway as actually designed, engineered and constructed, including an as-built survey illustrating the layout of the Project Highway and setback lines, if any, of the buildings and structures forming part of Project Facilities; and shall hand them over to the Authority against receipt thereof.

(iv) The Authority's Engineer, if called upon by the Authority or the Contractor or both, shall mediate and assist the Parties in arriving at an amicable settlement of any Dispute between the Parties.

(v) The Authority's Engineer shall inform the Authority and the Contractor of any event of Contractor's Default within one week of its occurrence.

SCHEDULE – O

(See Clauses 19.4.1, 19.6.1, and 19.8.1)

Forms of Payment Statements

1. Stage Payment Statement for Works

The Stage Payment Statement for Works shall state:

(a) the estimated amount for the Works executed in accordance with Clause 19.3(i) subsequent to the last claim;
(b) amounts reflecting adjustments in price for the aforesaid claim;
(c) the estimated amount of each Change of Scope Order executed subsequent to the last claim;
(d) amounts reflecting adjustment in price, if any, for (c) above in accordance with the provisions of Clause 13.2(iii) (a);
(e) total of (a), (b), (c) and (d) above;
(f) Deductions:
  (i) Any amount to be deducted in accordance with the provisions of the Agreement except taxes;
  (ii) Any amount towards deduction of taxes; and
  (iii) Total of (i) and (ii) above.
(g) Net claim: (e) – (f) (iii);
(h) The amounts received by the Contractor upto the last claim:
  (i) For the Works executed (excluding Change of Scope orders);
  (ii) For Change of Scope Orders, and
  (iii) Taxes deducted

2. Monthly Maintenance Payment Statement

The monthly Statement for Maintenance Payment shall state:

(a) the monthly payment admissible in accordance with the provisions of the Agreement;

(b) the deductions for maintenance work not done;

(c) net payment for maintenance due, (a) minus (b);

(d) amounts reflecting adjustments in price under Clause 19.12; and

(e) amount towards deduction of taxes.

3. Contractor's claim for Damages

Note: The Contractor shall submit its claims in a form acceptable to the Authority.

SCHEDULE - P
(See Clause 20.1)

INSURANCE

1. Insurance during Construction Period

(i) The Contractor shall effect and maintain at its own cost, from the Appointed Date till the date of issue of the Completion Certificate, the following insurances for any loss or damage occurring on account of Non Political Event of Force Majeure, malicious act, accidental damage, explosion, fire and terrorism:

(a) insurance of Works, Plant and Materials and an additional sum of [15 (fifteen)] per cent of such replacement cost to cover any additional costs of and incidental to the rectification of loss or damage including professional fees and the cost of demolishing and removing any part of the Works and of removing debris of whatsoever nature; and

(b) insurance for the Contractor's equipment and Documents brought onto the Site by the Contractor, for a sum sufficient to provide for their replacement at the Site.

(ii) The insurance under sub para (a) and (b) of paragraph 1(i) above shall cover the Authority and the Contractor against all loss or damage from any cause arising under paragraph 1.1 other than risks which are not insurable at commercial terms.

2. Insurance for Contractor's Defects Liability

The Contractor shall effect and maintain insurance cover of not less than 15% of the Contract Price for the Works from the date of issue of the Completion Certificate until the end of the Defects Liability Period for any loss or damage for which the Contractor is liable and which arises from a cause occurring prior to the issue of the Completion Certificate. The Contractor shall also maintain other insurances for maximum sums as may be required under the Applicable Laws and in accordance with Good Industry Practice.

3. Insurance against injury to persons and damage to property

(i) The Contractor shall insure against its liability for any loss, damage, death or bodily injury, or damage to any property (except things insured under Paragraphs 1 and 2 of this Schedule or to any person (except persons insured under Clause 20.9), which may arise out of the Contractor's performance of this Agreement. This insurance shall be for a limit per occurrence of not less than the amount stated below with no limit on the number of occurrences.
The insurance cover shall be not less than: Rs. [*****]

(ii) The insurance shall be extended to cover liability for all loss and damage to the Authority's property arising out of the Contractor’s performance of this Agreement excluding:

(a) the Authority's right to have the construction works executed on, over, under, in or through any land, and to occupy this land for the Works; and

(b) damage which is an unavoidable result of the Contractor's obligations to execute the Works.

4. **Insurance to be in joint names**

The insurance under paragraphs 1 to 3 above shall be in the joint names of the Contractor and the Authority.

Schedule-Q

(See Clause 14.10)

Tests on Completion of Maintenance Period

1. Riding Quality test:

Riding quality test: Riding quality of each lane of the carriageway shall be checked with the help of a calibrated bump integrator and the maximum permissible roughness for purposes of this Test shall be [2,200 (two thousand and two hundred only)] mm for each kilometre.

2. Visual and physical test:

The Authority's Engineer shall conduct a visual and physical check of construction to determine that all works and equipment forming part thereof conform to the provisions of this Agreement. The physical tests shall include measurement of cracking, rutting, stripping and potholes and shall be as per the requirement of maintenance mentioned in Schedule-E.

Schedule-R

(See Clause 14.10)

Taking Over Certificate

I, …….. (Name and designation of the Authority's Representative) under and in accordance with the Agreement dated …… (the "Agreement"), for **"Name of work"** (the "Project Highway") on Engineering, Procurement and Construction (EPC) basis through …….. (Name of Contractor), hereby certify that the Tests on completion of Maintenance Period in accordance with Article 14 of the Agreement have been successfully undertaken to determine compliance of the Project Highway with the provisions of the Agreement and I hereby certify that the Authority has taken over the Project highway from the Contractor on this day.....

SIGNED, SEALED AND DELIVERED

(Signature)

(Name and designation of Authority's Representative)

(Address)

***** End of the Document *****