National Highways & Infrastructure Development Corporation Limited

BUILDING INFRASTRUCTURE - BUILDING THE NATION

Ministry of Road Transport & Highways,
(Govt. of India)

SCHEDULES

For

Four laning of Dhanehari – Lailapur / Vairengte section (Package-2) from Existing Chainage km 12+920 to km 43+000 of NH 306 (Design Chainage km 20+000 to km 49+360) on Silchar - Vairengte - Sairang road in the State of Assam under Bharatmala Pariyojna on EPC mode. (Project Length – 29.360 km)

January 2023

National Highways & Infrastructure Development Corporation Ltd

3rd floor, PTI Building, 4-Parliament Street,
New Delhi – 110001

Schedule-A

Schedule- A

(SeeClauses 2.1 and 8.1)

Site ofthe Project

1. TheSite

(i) The Site of the two-lane (proposed 4-lane divided carriageway) Project Highway shall include the land, buildings, structures and road works as described in Annex-I of this**Schedule-A**

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

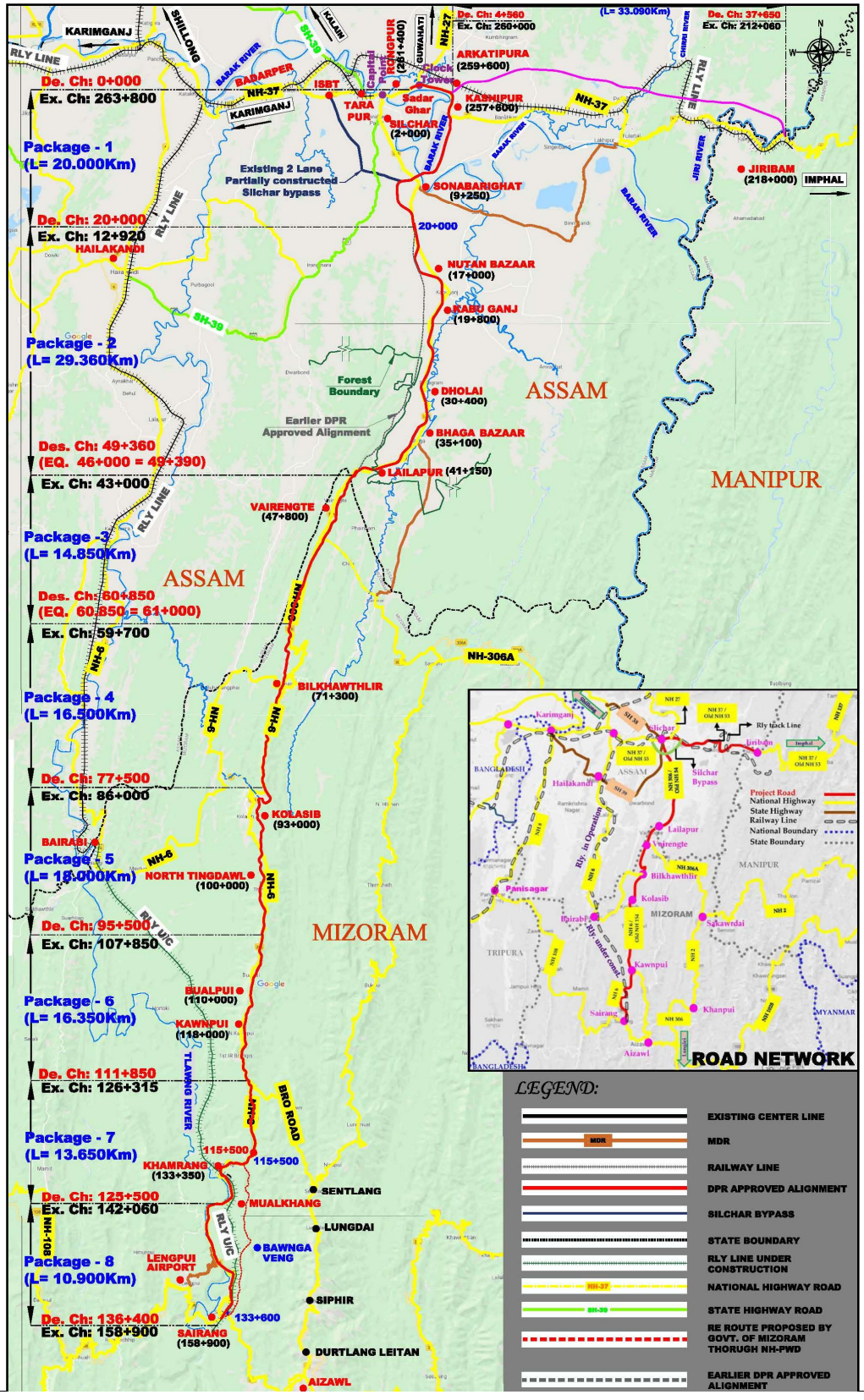
(iii) An inventoryof the Siteincludingtheland,buildings,structures,roadworks, treesandany otherimmovableproperty on,orattachedto,theSiteshallbe preparedjointlybytheAuthorityRepresentativeandtheContractor,and suchinventoryshallformpartofthememorandumreferredtoinClause8.2.1 of this Agreement.

(iv) The alignment plans of the Project Highway are specified in Annex-III.

(v) The statusof theenvironmentclearancesobtainedorawaitedisgivenin AnnexIV.

Four laning of Dhanehari–Vairengte Secction (Package-2) from Existing Chainage km 12+920 to km 43+000of NH-306 (Design Chainage km 20+000 to km 49+360) on Silchar - Vairengte - Sairang road in the State of Assam under Bharatmala Pariyojna on EPC mode.

KEY PLAN



Annex-I
(Schedule-A)

Site for the Project

1. Site

The Site of the two-lane (proposed 4-lane divided carriageway) Project Highway starts from Dhanehari and ends near Lailapur / Vairengte (Package-2) from Existing Chainage km 12+920 to km 43+000 of NH 306 (Design Chainage km 20+000 to km 49+360) on Silchar - Vairengte - Sairang road in the state of Assam. The land, carriageway and structures comprising the Site are described below.

2. Land

The Site of the Project Highway comprises the land described below:

SL No.	Existing Chainage		Length (m)	EROW Width (m)	Remarks
	From	To			
1	12+920	14+620	1700	20	
2	14+620	21+270	6650	NA	Nutan Bazar Bypass
3	21+270	22+720	1450	20	
4	22+720	25+900	3180	NA	Katakhal Bypass
5	25+900	28+150	2250	20	
6	28+150	30+120	1970	NA	Dholai Bypass
7	30+120	30+860	740	20	
8	30+860	32+350	1490	NA	Baga Bazar Bypass
9	32+350	32+960	610	20	
10	32+960	38+110	5150	NA	Baga Bazar Bypass
11	38+110	41+000	2890	20	
12	41+000	43+000	2000	9	

3. Carriageway

The present carriageway of the Project Highway is minimum 7.0m wide. The type of the existing pavement is flexible. The detail is given below.

SL No.	Existing Chainage (km)		Length (m)	Carriageway Width (m)	Remarks
	From	To			
1	12+920	13+000	80	7	
2	13+000	14+620	1620	10	

SL No.	Existing Chainage (km)		Length (m)	Carriageway Width (m)	Remarks
	From	To			
3	14+620	21+270	6650	NA	Nutan Bazar Bypass
4	21+270	22+720	1450	10	
5	22+720	25+900	3180	NA	Katakhal Bypass
6	25+900	28+150	2250	10	
7	28+150	30+120	1970	NA	Dholai Bypass
8	30+120	30+860	740	10	
9	30+860	32+350	1490	NA	Baga Bazar Bypass
10	32+350	32+960	610	10	
11	32+960	38+110	5150	NA	Baga Bazar Bypass
12	38+110	40+000	1890	10	
13	40+000	43+000	3000	7	

4. Major Bridges

The Site includes the following Major Bridges:

S. No.	Chainage (km)	Type of super structures			No. of Spans with span length (m)	Width (m)
		Foundation	Sub- structure	Superstructure		
NIL						

5. Road over-bridges (ROB)/ Road under-bridges (RUB)

The Site includes the following ROB (road over railway line)/RUB (road under railway line):

S. No.	Chainage (km)	Type of Structure		No. of Spans with span length (m)	Width (m)	ROB/RUB
		Foundation	Superstructure			
NIL						

6. Grade separators

The Site includes the following grade separators:

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

7. Minor bridges

The Site includes the following minor bridges:

S. No.	Chainage (km)	Type ofstructures			No. of Spans with span length (m)	Width (m)
		Foundation	Sub- structure	Superstructure		

S. No.	Chainage (km)	Type ofstructures			No. of Spans with span length (m)	Width (m)
		Foundation	Sub- structure	Superstructure		
1	29+815	-	-	Box-Girder type	1 x 38.00	10.0
2	30+215	-	-	Box Girder type	1 x 38.80	10.0
3	38+490	-	-	RCC slab type	1 x 8.50	11.0
4	39+210	-	-	RCC slab type	2 x 5.50	11.0
5	39+990	-	-	RCC slab type	1 x 10.00	11.0

8. Railway level crossings

The Site includes the following railway level crossings:

S. No.	Location (km)	Remarks
NIL		

9. Underpasses (vehicular, non-vehicular)

The Site includes the following underpasses:

S.No.	Chainage (km)	TypeofStructure	No. of Spans withspanlength(m)	Width(m)
NIL				

10. Culverts

The Site has the following culverts:

S. No.	Chainage (km)	Type of Culvert	Span /Opening with span length (m)	Width of Culvert (m)
1	16+650	Pipe	2x0.9	-
2	17+950	Pipe	2x0.9	-
3	21+290	Pipe	2x0.9	-
4	21+470	Pipe	2x0.9	-
5	21+600	Pipe	2x1.2	-
6	22+380	Pipe	2x1.2	-
7	22+560	Slab	1x5	-
8	23+260	Pipe	2x1.2	-
9	26+010	Pipe	2x0.9	-
10	26+810	Pipe	2x1.2	-
11	27+255	Pipe	2x1.2	-
12	27+930	Slab	1x4	0.35
13	30+900	Pipe	1 x 0.9	-
14	32+840	Pipe	2x1.2	-
15	33+300	Pipe	2x0.9	-
16	33+600	Pipe	2x1.2	-

S. No.	Chainage (km)	Type of Culvert	Span /Opening with span length (m)	Width of Culvert (m)
17	34+100	Pipe	2x1.2	-
18	34+300	Pipe	2x1.2	-
19	35+650	Slab	1x5	0.35
20	37+300	Pipe	2x1.2	-
21	38+350	Pipe	1 x 0.9	-
22	38+570	Pipe	2x1.2	-
23	38+800	Pipe	2x1.2	-
24	39+300	Pipe	2x1.2	-
25	39+645	Pipe	2x1.2	-
26	40+140	Slab	1x2.8	0.25
27	40+300	Pipe	1x0.9	-
28	40+550	Pipe	1x0.9	-
29	40+700	Pipe	1x0.9	-
30	40+900	Pipe	1x0.9	-
31	41+000	Pipe	1x0.9	-
32	42+200	Pipe	1x0.9	-
33	42+600	Pipe	1x0.9	-
34	42+800	Pipe	1x0.9	-

11. Bus bays

The details of bus bays on the Site are as follows:

Sl. No.	Chainage (km)	Length (m)	Left Hand Side	Right Hand side
NIL				

12. Truck Lay byes

The details of truck lay byes are as follows:

Sl. No.	Chainage (km)	Length (m)	Left Hand Side	Right Hand side
NIL				

13. Roadside drains

The details of the roadside drains are as follows:

S. No.	Location		Type	
	From km	to km	Masonry/cc (Pucca)	Earthen (Kutcha)
NIL				

14. Major Junctions

The details of major junctions are as follow.

Sl. No.	Chainage (km)	To-wards	At Grade	Side	Category of crossroad

Sl. No.	Chainage (km)	To-wards	At Grade	Side	Category of crossroad
1	13+300	Sonai	T	RHS	Village Road
2	20+800	Silkuri	Y	LHS	Village Road
3	36+200	Kabuganj Town	Y	LHS	Village Road
4	38+300	Bangram	Y	LHS	Village Road
5	40+600	Howaithang Road	T	RHS	Village Road

15. Minor Junctions

The details of the minor junctions are as follows:

Sl. No.	Chainge (km)	Type of Carriageway	Type of Junctions (T, Y,+)	SIDE	Type of Road (SH/ MDR/ PMGSY/ VR)
1	13+270	BT	T	LHS	Village Road
2	13+332	BT	Y	RHS	Village Road
3	13+735	BT	Y	LHS	Village Road
4	14+035	BT	Y	LHS	Village Road
5	14+603	BT	Y	LHS	LAMARGRAM
6	15+265	BT	Y	RHS	Village Road
7	15+421	BT	Y	LHS	Village Road
8	16 827	BT	X	BOTH	Village Road
9	17+087	BT	Y	RHS	Village Road
10	17+153	BT	Y	LHS	Village Road
11	17+208	BT	Y	LHS	Village Road
12	17+987	ER	Y	RHS	Village Road
13	18+156	BT	Y	LHS	Village Road
14	18+758	BT	Y	LHS	Village Road
15	18+905	ER	Y	RHS	Village Road
16	19+179	BT	Y	RHS	Village Road
17	19+358	BT	Y	LHS	Village Road

Sl. No.	Chainge (km)	Type of Carriageway	Type of Junctions (T, Y,+)	SIDE	Type of Road (SH/ MDR/ PMGSY/ VR)
18	20+688	BT	T	LHS	Village Road
19	20+838	BT	Y	LHS	Village Road
20	21+278	BT	Y	LHS	TARUNUDOY ROAD
21	21+595	BT	Y	LHS	Village Road
22	21+765	BT	Y	LHS	Village Road
23	24+181	BT	Y	RHS	B CHOWHAN ROAD
24	24+190	BT	Y	RHS	Village Road
25	24+606	ER	X	BOTH	Village Road
26	25+140	BT	Y	LHS	Village Road
27	25+545	BT	Y	RHS	Village Road
28	25+817	BT	Y	LHS	Village Road
29	25+986	BT	Y	RHS	Village Road
30	27+236	BT	Y	LHS	Village Road
31	29+050	BT	Y	LHS	Village Road
32	29+876	BT	X	BOTH	Village Road
33	30+000	BT	Y	LHS	Village Road
34	30+262	BT	T	RHS	Village Road
35	30+640	BT	Y	LHS	Village Road
36	31+012	BT	Y	RHS	Village Road
37	31+756	BT	Y	RHS	Village Road
38	32+092	BT	Y	LHS	Village Road
39	32+441	BT	T	RHS	Village Road
40	32+545	BT	Y	LHS	Village Road
41	33+363	BT	X	BOTH	Village Road
42	33+615	BT	T	LHS	Village Road
43	33+802	BT	Y	RHS	Village Road
44	33+881	BT	T	LHS	Village Road

Sl. No.	Chainge (km)	Type of Carriageway	Type of Junctions (T, Y,+)	SIDE	Type of Road (SH/ MDR/ PMGSY/ VR)
45	33+971	BT	Y	LHS	Village Road
46	34+015	BT	Y	LHS	Village Road
47	34+194	BT	Y	LHS	Village Road
48	34+228	BT	Y	RHS	Village Road
49	34+382	BT	Y	LHS	Village Road
50	34+486	BT	X	BOTH	Village Road
51	34+635	BT	Y	LHS	Village Road
52	35+092	BT	Y	RHS	Village Road
53	35+206	BT	X	BOTH	Village Road
54	35+332	BT	Y	LHS	Village Road
55	35+407	BT	Y	RHS	Village Road
56	35+684	BT	Y	RHS	Village Road
57	35+761	ER	Y	RHS	Village Road
58	35+871	BT	Y	LHS	Village Road
59	36+018	BT	Y	RHS	Village Road
60	36+079	BT	Y	LHS	Village Road
61	36+289	BT	Y	RHS	Village Road
62	36+915	BT	X	BOTH	Village Road
63	37+345	BT	Y	LHS	Village Road
64	37+492	ER	Y	LHS	Village Road
65	37+571	BT	Y	RHS	Village Road
66	37+666	BT	Y	RHS	Village Road
67	37+736	BT	Y	LHS	Village Road
68	37+970	BT	Y	LHS	Village Road
69	38+154	BT	Y	LHS	PANCHAYAT OFFICE ROAD
70	38+268	BT	Y	LHS	HAWAITHANG ROAD
71	38+594	BT	Y	RHS	Village Road

Sl. No.	Chainge (km)	Type of Carriageway	Type of Junctions (T, Y,+)	SIDE	Type of Road (SH/ MDR/ PMGSY/ VR)
72	39+258	BT	Y	RHS	Village Road
73	39+385	BT	Y	RHS	Village Road
74	39+760	BT	Y	RHS	Village Road
75	40+620	BT	X	BOTH	Village Road
76	40+910	BT	Y	RHS	Village Road

16. Bypasses

The details of the bypasses are as follows:

S.No.	Name of bypass (town)	Chainage (km) From km to km	Length
NIL			

17. Details of Existing Utilities Schedule

The existing utilities schedules as below,

17.1 Electrical Utilities

The Site includes the following Electrical Utilities: -

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

S. No	Chainage		Length of line(km) Maintained by PGCIL Department		Nos. of Crossings Maintained by PGCIL Department		Remarks
	From	To	400KV	132KV	400KV	132KV	
1	20+000	23+000	(0.050)		1		
2	23+000	27+000	(0.070)	(.250)	1	1	
3	27+000	38+000					
4	38+000	49+360	(0.060)		1		

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

S. No	Chainage		Length of Line				Nos. of Crossings				Transformer	
	From	To	HT 33KV	LT 11KV	LT 230V	LT 440V	HT 33KV	LT 11KV	LT 230V	LT 440V	No	Capacity
1	20+000	22+000	2.000(48)	2.050(63)		2.000(75)		0.150(5)			3	63KVA
2	22+000	26+000	0.050 (1)	0.250(5)		1.500(14)		0.250(2)		0.350(6)		
3	26+000	28+500		1.200(25)		0.600(26)		0.475(3)			1	63KVA
4	28+500	30+500		0.175(4)		0.900(20)		0.060(2)				
5	30+500	33+000		0.700(18)		0.170(12)		0.270(5)		.110(2)		
6	33+000	35+500		0.540(16)		.3500(92)		0.135(3)		0.035(1)		
7	35+500	38+000		0.970(30)		0.210 (13)		0.370 (6)		0.310(2)		
8	38+000	40+500		1.880(59)		0.900(34)		0.300(8)				

9	40+500	44+000		0.060(2)		0.110 (6)		.060(1)				
10	44+000	47+000		0.600(18)		2.00048)		0.200 (3)				
11	47+000	49+360		0.400(16)		0.350(32)		.150(3)		0.030(13)	2	63KVA

19 nos. of Distribution Transformer

17.2 Public Health Utilities (Water/Sewage Pipelines)

(a) The Site includes the following Public Health Utilities: -

S. No	Chainage		Length (in km)				Crossings				Remarks
			Water Supply Line		Sewage Line		Water Supply Line		Sewage Line		
	From	To	With Pumping	With Gravity Flow	With Pumping	With Gravity Flow	With Pumping	With Gravity Flow	With Pumping	With Gravity Flow	
1	20+000	21+800	3600m								
2	21+800	24+500					70m(1)				
3	24+500	26+000	200m				55m(1)				
4	26+000	31+400	700m								
5	31+400	32+000					800m(1)				
6	32+000	34+000	1400m								
7	34+000	36+000	4000m								
8	36+000	39+500					120m(2)				
9	39+500	45+500	1300m				90m(2)				
10	45+500	46+800	2550m				125m(5)				
11	46+800	4	850m				50m(2)				

(b) Bore well/Hand Pump within RoW

Sl. No.	Bore Well**		Hand Pump	
	Chainage	Nos	Chainage	Nos
NIL				

(c) Water Tank within RoW

Sl. No.	Water Tank		
	Chainage	Nos	Capacity
NIL			

17.3 Any Other Lines:

18. Other Structures:

PANISAGAR PWSS Water supply PHE Pump Station at Design 37+600 Km (The Pump Station will be shifted by Authority)

Annex–II

(As per Clause 8.3 (i))

(Schedule-A)

Datesfor providing Rightof Way of Construction Zone

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

(i) Full Right of Way (full width)

Description	Design Chainage (km)		Length (m)	Width (m)	Date of Providing ROW
	From	To			
(i) Full Right of Way (full width)	20+720	21+220	500	40	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	21+220	21+360	140	45	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	21+360	21+830	470	60	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	21+830	21+980	150	70	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	21+980	22+450	470	60	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	22+450	22+790	340	50	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	22+790	23+190	400	55	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	23+190	24+070	880	45	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	24+070	24+140	70	55	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	24+140	24+540	400	60	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	24+540	26+000	1460	45	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	26+000	26+100	100	55	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	26+570	26+670	100	70	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	26+670	26+760	90	65	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	26+760	26+800	40	70	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	26+800	26+920	120	80	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	26+920	27+010	90	70	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	27+010	27+210	200	60	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	27+210	27+340	130	50	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	27+340	27+430	90	45	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	27+430	28+540	1110	40	Within 30 Days of

Description	Design Chainage (km)		Length (m)	Width (m)	Date of Providing ROW
	From	To			
					Appointed Date
(i) Full Right of Way (full width)	30+160	30+750	590	40	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	30+750	30+910	160	45	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	30+910	31+270	360	60	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	31+270	31+350	80	65	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	31+350	31+460	110	70	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	31+460	31+510	50	65	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	31+510	31+660	150	70	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	31+660	31+830	170	70	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	31+830	31+880	50	65	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	31+880	31+930	50	60	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	31+930	32+110	180	55	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	32+110	32+280	170	50	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	32+280	33+240	960	45	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	33+240	33+250	10	60	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	35+680	35+730	50	55	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	35+730	35+890	160	65	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	35+890	36+090	200	65	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	36+090	36+230	140	60	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	36+230	36+540	310	55	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	36+540	36+630	90	50	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	36+630	37+610	980	45	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	38+360	38+530	170	65	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	38+530	39+010	480	60	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	39+010	39+150	140	55	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	39+150	39+380	230	45	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	39+380	39+530	150	50	Within 30 Days of

Description	Design Chainage (km)		Length (m)	Width (m)	Date of Providing ROW
	From	To			
					Appointed Date
(i) Full Right of Way (full width)	40+300	40+330	30	60	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	40+330	40+460	130	65	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	40+460	41+060	600	55	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	41+060	41+120	60	50	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	41+120	41+510	390	45	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	41+510	41+940	430	55	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	41+940	43+230	1290	45	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	43+230	43+490	260	50	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	43+490	43+830	340	45	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	43+830	44+250	420	55	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	44+250	44+350	100	45	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	44+350	44+480	130	50	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	44+480	44+900	420	60	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	44+900	45+020	120	70	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	45+020	45+100	80	55	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	47+160	47+180	20	55	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	47+180	47+350	170	50	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	47+350	47+460	110	45	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	47+460	47+540	80	60	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	47+540	47+620	80	55	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	47+620	47+970	350	110	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	47+970	48+310	340	130	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	48+310	48+580	270	60	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	48+820	49+010	190	85	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	49+010	49+130	120	75	Within 30 Days of Appointed Date
(i) Full Right of Way (full width)	49+130	49+360	230	60	Within 30 Days of

Description	Design Chainage (km)		Length (m)	Width (m)	Date of Providing ROW
	From	To			
					Appointed Date

(ii) Part Right of Way (part width)

Description	Design Chainage (km)		Length (m)	Width (m)	Date of Providing ROW
	From	To			
Part Right of Way (part width)	20+000	20+720	720	25	Within 30 Days of Appointed Date
Part Right of Way (part width)	26+110	26+570	460	45	Within 30 Days of Appointed Date
Part Right of Way (part width)	28+540	29+630	1090	25	Within 30 Days of Appointed Date
Part Right of Way (part width)	29+630	29+860	230	30	Within 30 Days of Appointed Date
Part Right of Way (part width)	29+860	30+030	170	25	Within 30 Days of Appointed Date
Part Right of Way (part width)	30+030	30+140	110	30	Within 30 Days of Appointed Date
Part Right of Way (part width)	30+140	30+160	20	25	Within 30 Days of Appointed Date
Part Right of Way (part width)	31+510	31+830	320	120	Within 30 Days of Appointed Date
Part Right of Way (part width)	33+240	33+500	260	45	Within 30 Days of Appointed Date
Part Right of Way (part width)	33+500	33+680	180	45	Within 30 Days of Appointed Date
Part Right of Way (part width)	33+680	33+780	100	40	Within 30 Days of Appointed Date
Part Right of Way (part width)	33+780	33+940	160	55	Within 30 Days of Appointed Date
Part Right of Way (part width)	33+940	34+340	400	40	Within 30 Days of Appointed Date
Part Right of Way (part width)	34+340	34+490	150	30	Within 30 Days of Appointed Date
Part Right of Way (part width)	34+490	34+990	500	25	Within 30 Days of Appointed Date
Part Right of Way (part width)	34+990	35+230	240	30	Within 30 Days of Appointed Date
Part Right of Way (part width)	35+230	35+360	130	40	Within 30 Days of Appointed Date
Part Right of Way (part width)	35+360	35+680	320	45	Within 30 Days of Appointed Date
Part Right of Way (part width)	37+610	37+750	140	25	Within 30 Days of Appointed Date
Part Right of Way (part width)	37+750	37+930	180	35	Within 30 Days of Appointed Date
Part Right of Way (part width)	37+930	38+160	230	40	Within 30 Days of Appointed Date
Part Right of Way (part width)	38+160	38+350	190	35	Within 30 Days of

Description	Design Chainage (km)		Length (m)	Width (m)	Date of Providing ROW
					Appointed Date
Part Right of Way (part width)	39+530	39+770	240	40	Within 30 Days of Appointed Date
Part Right of Way (part width)	39+770	40+040	270	40	Within 30 Days of Appointed Date
Part Right of Way (part width)	40+040	40+100	60	50	Within 30 Days of Appointed Date
Part Right of Way (part width)	40+100	40+190	90	55	Within 30 Days of Appointed Date
Part Right of Way (part width)	40+190	40+240	50	45	Within 30 Days of Appointed Date
Part Right of Way (part width)	40+240	40+300	60	40	Within 30 Days of Appointed Date
Part Right of Way (part width)	45+020	45+100	80	35	Within 30 Days of Appointed Date
Part Right of Way (part width)	45+100	45+640	540	35	Within 30 Days of Appointed Date
Part Right of Way (part width)	45+640	45+770	130	45	Within 30 Days of Appointed Date
Part Right of Way (part width)	45+770	45+850	80	55	Within 30 Days of Appointed Date
Part Right of Way (part width)	45+850	45+970	120	45	Within 30 Days of Appointed Date
Part Right of Way (part width)	45+970	47+160	1190	35	Within 30 Days of Appointed Date
Part Right of Way (part width)	47+160	47+180	20	35	Within 30 Days of Appointed Date
Part Right of Way (part width)	48+580	48+700	120	98	Within 30 Days of Appointed Date
Part Right of Way (part width)	48+700	48+800	100	118	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	21+455		866.0097	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	21+615		894.0532	Within 30 Days of Appointed Date
Part Right of Way (part width)	at major junction	21+900		7537.633	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	26+000		1726.729	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	26+200		1476.408	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	26+350		968.3227	Within 30 Days of Appointed Date
Part Right of Way (part width)	at major junction	26+680		3866.687	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	28+450		3152.128	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	30+310		2019.915	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor	31+040		1565.427	Within 30 Days of

Description	Design Chainage (km)		Length (m)	Width (m)	Date of Providing ROW
	junction				Appointed Date
Part Right of Way (part width)	at major junction	31+600		13284.75	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	31+955		945.998	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	33+140		1453.394	Within 30 Days of Appointed Date
Part Right of Way (part width)	at major junction	33+860		4786.538	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	35+620		376.1726	Within 30 Days of Appointed Date
Part Right of Way (part width)	at major junction	35+810		4716.657	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	37+530		2175.846	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	37+620		192.217	Within 30 Days of Appointed Date
Part Right of Way (part width)	at major junction	38+450		6833.766	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	39+450		2684.484	Within 30 Days of Appointed Date
Part Right of Way (part width)	at major junction	40+400		2603.946	Within 30 Days of Appointed Date
Part Right of Way (part width)	at major junction	44+960		3487.659	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	46+768		2304.79	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	47+355		2702.992	Within 30 Days of Appointed Date
Part Right of Way (part width)	at major junction	48+820		4524.228	Within 30 Days of Appointed Date

(iii) Balance Right of Way (available width)

Description	Design Chainage (km)		Length (m)	Width (m)	Date of Providing ROW
	From	To			
Part Right of Way (part width)	20+000	20+720	720	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	26+110	26+570	460	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	28+540	29+630	1090	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	29+630	29+860	230	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	29+860	30+030	170	20	Within 30 Days of Appointed Date

Description	Design Chainage (km)		Length (m)	Width (m)	Date of Providing ROW
Part Right of Way (part width)	30+030	30+140	110	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	30+140	30+160	20	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	31+510	31+830	320	10	Within 30 Days of Appointed Date
Part Right of Way (part width)	33+240	33+500	260	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	33+500	33+680	180	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	33+680	33+780	100	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	33+780	33+940	160	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	33+940	34+340	400	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	34+340	34+490	150	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	34+490	34+990	500	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	34+990	35+230	240	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	35+230	35+360	130	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	35+360	35+680	320	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	37+610	37+750	140	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	37+750	37+930	180	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	37+930	38+160	230	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	38+160	38+350	190	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	39+530	39+770	240	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	39+770	40+040	270	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	40+040	40+100	60	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	40+100	40+190	90	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	40+190	40+240	50	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	40+240	40+300	60	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	45+020	45+100	80	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	45+100	45+640	540	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	45+640	45+770	130	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	45+770	45+850	80	20	Within 30 Days of Appointed Date

Description	Design Chainage (km)		Length (m)	Width (m)	Date of Providing ROW
Part Right of Way (part width)	45+850	45+970	120	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	45+970	47+160	1190	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	47+160	47+180	20	20	Within 30 Days of Appointed Date
Part Right of Way (part width)	48+580	48+700	120	12	Within 30 Days of Appointed Date
Part Right of Way (part width)	48+700	48+800	100	12	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	21+455		199.6001	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	21+615		184.9495	Within 30 Days of Appointed Date
Part Right of Way (part width)	at major junction	21+900		997.8664	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	26+000		780.7189	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	26+200		264.2808	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	26+350		221.2321	Within 30 Days of Appointed Date
Part Right of Way (part width)	at major junction	26+680		1463.772	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	28+450		2172.2498	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	30+310		1389.5785	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	31+040		305.1799	Within 30 Days of Appointed Date
Part Right of Way (part width)	at major junction	31+600		1718.977	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	31+955		201.4588	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	33+140		797.4654	Within 30 Days of Appointed Date
Part Right of Way (part width)	at major junction	33+860		497.8074	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	35+620		140.5831	Within 30 Days of Appointed Date
Part Right of Way (part width)	at major junction	35+810		1057.0931	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	37+530		949.7412	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	37+620		124.0354	Within 30 Days of Appointed Date
Part Right of Way (part width)	at major	38+450		1795.5555	Within 30 Days of Appointed Date

Description	Design Chainage (km)		Length (m)	Width (m)	Date of Providing ROW
	junction				
Part Right of Way (part width)	at minor junction	39+450		2095.8734	Within 30 Days of Appointed Date
Part Right of Way (part width)	at major junction	40+400		1194.072	Within 30 Days of Appointed Date
Part Right of Way (part width)	at major junction	44+960		555.8799	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	46+768		381.7179	Within 30 Days of Appointed Date
Part Right of Way (part width)	at minor junction	47+355		758.0968	Within 30 Days of Appointed Date
Part Right of Way (part width)	at major junction	48+820		865.5696	Within 30 Days of Appointed Date

Annex - III

(Schedule-A)

Alignment Plans

The alignment plan of the Project Highway is available on E - Tendering portal of NHIDCL

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 treated as approximate assessment. The contractor shall design the road profile of the project highway in accordance with Schedule-D.

ii. Traffic Signages 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

As per MOEF notification F. No. 21-270/2008-1A.III (dated 22 August 2013), Environmental Clearance is not required however, Forest Clearance is required under RF, Cachar in Assam state.

Annexure -V

(Schedule -A)

Proposed Centre Line Coordinates of the Project Road

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
20000	482767.376	2733992.735	169	12.0	25.40
20010	482769.249	2733982.911	169	12.0	25.40
20020	482771.121	2733973.088	169	12.0	25.40
20030	482772.994	2733963.265	169	12.0	25.40
20040	482774.866	2733953.442	169	12.0	25.40
20050	482776.739	2733943.619	169	12.0	25.40
20060	482778.612	2733933.796	169	12.0	25.40
20070	482780.484	2733923.973	169	12.0	25.40
20080	482782.357	2733914.150	169	12.0	25.40
20090	482784.229	2733904.327	169	12.0	25.40
20100	482786.102	2733894.504	169	12.0	25.40
20110	482787.975	2733884.680	169	12.0	25.40
20120	482789.847	2733874.857	169	12.0	25.40
20130	482791.720	2733865.034	169	12.0	25.40
20140	482793.592	2733855.211	169	12.0	25.40
20150	482795.465	2733845.388	169	12.0	25.40
20160	482797.338	2733835.565	169	12.0	25.40
20170	482799.210	2733825.742	169	12.0	25.40
20180	482801.083	2733815.919	169	12.0	25.40
20190	482802.955	2733806.096	169	12.0	25.40
20200	482804.828	2733796.272	169	12.0	25.40
20210	482806.701	2733786.449	169	12.0	25.40
20220	482808.573	2733776.626	169	12.0	25.40
20230	482810.446	2733766.803	169	12.0	25.40
20240	482812.318	2733756.980	169	12.0	25.40
20250	482814.191	2733747.157	169	12.0	25.40
20260	482816.064	2733737.334	169	12.0	25.40
20270	482817.936	2733727.511	169	12.0	25.40
20280	482819.809	2733717.688	169	12.0	25.40
20290	482821.681	2733707.865	169	12.0	25.40
20300	482823.554	2733698.041	169	12.0	25.40
20310	482825.427	2733688.218	169	12.0	25.40
20320	482827.299	2733678.395	169	12.0	25.40
20330	482829.172	2733668.572	169	12.0	25.40
20340	482831.044	2733658.749	169	12.0	25.40
20350	482832.917	2733648.926	169	12.0	25.40
20360	482834.790	2733639.103	169	12.0	25.40
20370	482836.662	2733629.280	169	12.0	25.40
20380	482838.535	2733619.457	169	12.0	25.40

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
20390	482840.407	2733609.634	169	12.0	25.40
20400	482842.280	2733599.810	169	12.0	25.40
20410	482844.153	2733589.987	169	12.0	25.40
20420	482846.025	2733580.164	169	12.0	25.40
20430	482847.898	2733570.341	169	12.0	25.40
20440	482849.771	2733560.518	169	12.0	25.40
20450	482851.643	2733550.695	169	12.0	25.40
20460	482853.516	2733540.872	169	12.0	25.40
20470	482855.388	2733531.049	169	12.0	25.40
20480	482857.261	2733521.226	169	12.0	25.40
20490	482859.134	2733511.402	169	12.0	25.40
20500	482861.006	2733501.579	169	12.0	25.40
20510	482862.879	2733491.756	169	12.0	25.40
20520	482864.751	2733481.933	169	12.0	25.40
20530	482866.624	2733472.110	169	12.0	25.40
20540	482868.497	2733462.287	169	12.0	25.40
20550	482870.369	2733452.464	169	12.0	25.40
20560	482872.242	2733442.641	169	12.0	25.40
20570	482874.114	2733432.818	169	12.0	25.40
20580	482875.987	2733422.995	169	12.0	25.40
20590	482877.860	2733413.171	169	12.0	25.40
20600	482879.732	2733403.348	169	12.0	25.40
20610	482881.605	2733393.525	169	12.0	25.40
20620	482883.477	2733383.702	169	12.0	25.40
20630	482885.350	2733373.879	169	12.0	25.40
20640	482887.223	2733364.056	169	12.0	25.40
20650	482889.095	2733354.233	169	12.0	25.40
20660	482890.968	2733344.410	169	12.0	25.40
20670	482892.840	2733334.587	169	12.0	25.40
20680	482894.713	2733324.764	169	12.0	25.40
20690	482896.586	2733314.940	169	12.0	25.40
20700	482898.458	2733305.117	169	12.0	25.40
20710	482900.331	2733295.294	169	12.0	25.40
20720	482902.203	2733285.471	169	12.0	25.40
20730	482904.076	2733275.648	169	12.0	25.40
20740	482905.949	2733265.825	169	12.0	25.40
20750	482907.821	2733256.002	169	12.0	25.40
20760	482909.694	2733246.179	169	12.0	25.40
20770	482911.566	2733236.356	169	12.0	25.40
20780	482913.439	2733226.533	169	12.0	25.40
20790	482915.312	2733216.709	169	12.0	25.40
20800	482917.184	2733206.886	169	12.0	25.40
20810	482919.057	2733197.063	169	12.0	25.40
20820	482920.929	2733187.240	169	12.0	25.40

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
20830	482922.802	2733177.417	169	12.0	25.40
20840	482924.675	2733167.594	169	12.0	25.40
20850	482926.547	2733157.771	169	12.0	25.40
20860	482928.420	2733147.948	169	12.0	25.40
20870	482930.292	2733138.125	169	12.0	25.40
20880	482932.165	2733128.301	169	12.0	25.40
20890	482934.038	2733118.478	169	12.0	25.40
20900	482935.910	2733108.655	169	12.0	25.40
20910	482937.783	2733098.832	169	12.0	25.40
20920	482939.655	2733089.009	169	12.0	25.40
20930	482941.528	2733079.186	169	12.0	25.40
20940	482943.401	2733069.363	169	12.0	25.40
20950	482945.273	2733059.540	169	12.0	25.40
20960	482947.146	2733049.717	169	12.0	25.40
20970	482949.018	2733039.894	169	12.0	25.40
20980	482950.891	2733030.070	169	12.0	25.40
20990	482952.764	2733020.247	169	12.0	25.40
21000	482954.636	2733010.424	169	12.0	25.40
21010	482956.509	2733000.601	169	12.0	25.40
21020	482958.381	2732990.778	169	12.0	25.40
21030	482960.254	2732980.955	169	12.0	25.40
21040	482962.127	2732971.132	169	12.0	25.40
21050	482963.999	2732961.309	169	12.0	25.40
21060	482965.872	2732951.486	169	12.0	25.40
21070	482967.744	2732941.663	169	12.0	25.40
21080	482969.617	2732931.839	169	12.0	25.40
21090	482971.490	2732922.016	169	12.0	25.40
21100	482973.362	2732912.193	169	12.0	25.40
21110	482975.235	2732902.370	169	12.0	25.40
21120	482977.107	2732892.547	169	12.0	25.40
21130	482978.980	2732882.724	169	12.0	25.40
21140	482980.853	2732872.901	169	12.0	25.40
21150	482982.725	2732863.078	169	12.0	25.40
21160	482984.598	2732853.255	169	12.0	25.40
21170	482986.470	2732843.431	169	12.0	25.40
21180	482988.343	2732833.608	169	12.0	25.40
21190	482990.216	2732823.785	169	12.0	25.40
21200	482992.088	2732813.962	169	12.0	25.40
21210	482993.961	2732804.139	169	12.0	25.40
21220	482995.834	2732794.316	169	12.0	25.40
21230	482997.706	2732784.493	169	12.0	25.40
21240	482999.579	2732774.670	169	12.0	25.40
21250	483001.451	2732764.847	169	12.0	25.40
21260	483003.324	2732755.024	169	12.0	25.40

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
21270	483005.197	2732745.200	169	12.0	25.40
21280	483007.069	2732735.377	169	12.0	25.40
21290	483008.942	2732725.554	169	12.0	25.40
21300	483010.814	2732715.731	169	12.0	25.40
21310	483012.687	2732705.908	169	12.0	25.40
21320	483014.560	2732696.085	169	12.0	25.40
21330	483016.432	2732686.262	169	12.0	25.40
21340	483018.305	2732676.439	169	12.0	25.40
21350	483020.177	2732666.616	169	12.0	25.40
21360	483022.050	2732656.793	169	12.0	25.40
21370	483023.923	2732646.969	169	12.0	25.40
21380	483025.795	2732637.146	169	12.0	25.40
21390	483027.668	2732627.323	169	12.0	25.40
21400	483029.540	2732617.500	169	12.0	25.40
21410	483031.413	2732607.677	169	12.0	25.40
21420	483033.286	2732597.854	169	12.0	25.40
21430	483035.158	2732588.031	169	12.0	25.40
21440	483037.031	2732578.208	169	12.0	25.40
21450	483038.903	2732568.385	169	12.0	25.40
21460	483040.776	2732558.561	169	12.0	25.40
21470	483042.649	2732548.738	169	12.0	25.40
21480	483044.521	2732538.915	169	12.0	25.40
21490	483046.394	2732529.092	169	12.0	25.40
21500	483048.266	2732519.269	169	12.0	25.40
21510	483050.139	2732509.446	169	12.0	25.40
21520	483052.012	2732499.623	169	12.0	25.40
21530	483053.884	2732489.800	169	12.0	25.40
21540	483055.757	2732479.977	169	12.0	25.40
21550	483057.629	2732470.154	169	12.0	25.40
21560	483059.502	2732460.330	169	12.0	25.40
21570	483061.375	2732450.507	169	12.0	25.40
21580	483063.247	2732440.684	169	12.0	25.40
21590	483065.120	2732430.861	169	12.0	25.40
21600	483066.992	2732421.038	169	12.0	25.40
21610	483068.865	2732411.215	169	12.0	36.00
21620	483070.732	2732401.391	169	16.0	53.40
21630	483072.579	2732391.563	169	26.0	54.60
21640	483074.389	2732381.728	169	42.0	39.50
21650	483076.146	2732371.884	170	4.0	8.20
21660	483077.833	2732362.027	170	31.0	20.60
21670	483079.434	2732352.156	171	4.0	16.90
21680	483080.932	2732342.269	171	42.0	56.90
21690	483082.310	2732332.364	172	27.0	20.70
21700	483083.552	2732322.442	173	17.0	28.20

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
21710	483084.641	2732312.501	174	13.0	8.90
21720	483085.565	2732302.544	175	10.0	26.70
21730	483086.323	2732292.573	176	7.0	44.40
21740	483086.915	2732282.591	177	5.0	2.20
21750	483087.341	2732272.600	178	2.0	19.90
21760	483087.600	2732262.603	178	59.0	37.70
21770	483087.692	2732252.604	179	56.0	55.40
21780	483087.617	2732242.604	180	54.0	13.20
21790	483087.376	2732232.607	181	51.0	30.90
21800	483086.969	2732222.616	182	48.0	48.70
21810	483086.395	2732212.632	183	46.0	6.40
21820	483085.654	2732202.660	184	43.0	24.10
21830	483084.748	2732192.701	185	40.0	41.90
21840	483083.676	2732182.759	186	37.0	59.60
21850	483082.438	2732172.836	187	35.0	17.40
21860	483081.035	2732162.935	188	32.0	35.10
21870	483079.467	2732153.059	189	29.0	52.90
21880	483077.735	2732143.210	190	27.0	10.60
21890	483075.838	2732133.392	191	24.0	28.40
21900	483073.779	2732123.606	192	21.0	46.10
21910	483071.557	2732113.856	193	19.0	3.90
21920	483069.172	2732104.145	194	16.0	21.60
21930	483066.626	2732094.475	195	13.0	38.00
21940	483063.923	2732084.847	196	7.0	33.40
21950	483061.077	2732075.261	196	55.0	45.10
21960	483058.104	2732065.713	197	38.0	12.90
21970	483055.022	2732056.200	198	14.0	57.00
21980	483051.847	2732046.717	198	45.0	57.30
21990	483048.594	2732037.261	199	11.0	13.90
22000	483045.279	2732027.827	199	30.0	46.60
22010	483041.919	2732018.408	199	44.0	35.60
22020	483038.528	2732009.000	199	52.0	40.80
22030	483035.123	2731999.598	199	55.0	3.60
22040	483031.717	2731990.196	199	55.0	3.60
22050	483028.310	2731980.794	199	55.0	3.60
22060	483024.903	2731971.392	199	55.0	3.60
22070	483021.497	2731961.991	199	55.0	3.60
22080	483018.090	2731952.589	199	55.0	3.60
22090	483014.683	2731943.187	199	55.0	3.60
22100	483011.277	2731933.785	199	55.0	3.60
22110	483007.870	2731924.383	199	55.0	3.60
22120	483004.463	2731914.981	199	55.0	3.60
22130	483001.056	2731905.580	199	55.0	3.60
22140	482997.650	2731896.178	199	55.0	3.60

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
22150	482994.243	2731886.776	199	55.0	3.60
22160	482990.836	2731877.374	199	55.0	3.60
22170	482987.430	2731867.972	199	55.0	3.60
22180	482984.023	2731858.570	199	55.0	3.60
22190	482980.616	2731849.169	199	55.0	3.60
22200	482977.210	2731839.767	199	55.0	3.60
22210	482973.803	2731830.365	199	55.0	3.60
22220	482970.396	2731820.963	199	55.0	3.60
22230	482966.989	2731811.561	199	55.0	3.60
22240	482963.583	2731802.159	199	55.0	3.60
22250	482960.176	2731792.758	199	55.0	3.60
22260	482956.769	2731783.356	199	55.0	3.60
22270	482953.363	2731773.954	199	55.0	3.60
22280	482949.956	2731764.552	199	55.0	3.60
22290	482946.549	2731755.150	199	55.0	3.60
22300	482943.143	2731745.748	199	55.0	3.60
22310	482939.736	2731736.347	199	55.0	3.60
22320	482936.329	2731726.945	199	55.0	3.60
22330	482932.923	2731717.543	199	55.0	3.60
22340	482929.516	2731708.141	199	55.0	3.60
22350	482926.109	2731698.739	199	55.0	3.60
22360	482922.702	2731689.337	199	55.0	3.60
22370	482919.296	2731679.936	199	55.0	3.60
22380	482915.889	2731670.534	199	55.0	3.60
22390	482912.482	2731661.132	199	55.0	3.60
22400	482909.076	2731651.730	199	55.0	3.60
22410	482905.669	2731642.328	199	55.0	3.60
22420	482902.262	2731632.926	199	55.0	3.60
22430	482898.856	2731623.525	199	55.0	3.60
22440	482895.449	2731614.123	199	55.0	3.60
22450	482892.042	2731604.721	199	55.0	3.60
22460	482888.635	2731595.319	199	55.0	3.60
22470	482885.229	2731585.917	199	55.0	3.60
22480	482881.822	2731576.515	199	55.0	3.60
22490	482878.415	2731567.114	199	55.0	3.60
22500	482875.009	2731557.712	199	55.0	3.60
22510	482871.602	2731548.310	199	55.0	3.60
22520	482868.195	2731538.908	199	55.0	3.60
22530	482864.789	2731529.506	199	55.0	3.60
22540	482861.382	2731520.104	199	55.0	3.60
22550	482857.975	2731510.703	199	55.0	3.60
22560	482854.569	2731501.301	199	55.0	3.60
22570	482851.162	2731491.899	199	55.0	3.60
22580	482847.755	2731482.497	199	55.0	3.60

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
22590	482844.348	2731473.095	199	55.0	3.60
22600	482840.942	2731463.693	199	55.0	3.60
22610	482837.535	2731454.292	199	55.0	3.60
22620	482834.128	2731444.890	199	55.0	3.60
22630	482830.722	2731435.488	199	55.0	3.60
22640	482827.315	2731426.086	199	55.0	3.60
22650	482823.908	2731416.684	199	55.0	3.60
22660	482820.502	2731407.282	199	55.0	3.60
22670	482817.095	2731397.881	199	55.0	3.60
22680	482813.688	2731388.479	199	55.0	3.60
22690	482810.282	2731379.077	199	55.0	3.60
22700	482806.875	2731369.675	199	54.0	20.80
22710	482803.477	2731360.270	199	48.0	37.30
22720	482800.102	2731350.857	199	37.0	10.10
22730	482796.767	2731341.429	199	19.0	59.10
22740	482793.486	2731331.983	198	57.0	4.30
22750	482790.277	2731322.512	198	28.0	25.70
22760	482787.154	2731313.012	197	54.0	3.40
22770	482784.135	2731303.479	197	13.0	57.30
22780	482781.235	2731293.909	196	28.0	7.40
22790	482778.470	2731284.298	195	36.0	33.70
22800	482775.858	2731274.646	194	39.0	59.10
22810	482773.407	2731264.951	193	42.0	41.40
22820	482771.118	2731255.217	192	45.0	23.60
22830	482768.991	2731245.445	191	48.0	5.90
22840	482767.028	2731235.640	190	50.0	48.10
22850	482765.228	2731225.804	189	53.0	30.40
22860	482763.592	2731215.938	188	56.0	12.60
22870	482762.121	2731206.047	187	58.0	54.90
22880	482760.815	2731196.133	187	1.0	37.10
22890	482759.674	2731186.199	186	4.0	19.40
22900	482758.699	2731176.246	185	7.0	1.60
22910	482757.891	2731166.279	184	9.0	43.90
22920	482757.248	2731156.300	183	12.0	26.10
22930	482756.772	2731146.311	182	15.0	8.40
22940	482756.462	2731136.316	181	17.0	50.70
22950	482756.319	2731126.317	180	20.0	32.90
22960	482756.342	2731116.318	179	23.0	15.20
22970	482756.533	2731106.320	178	25.0	57.40
22980	482756.889	2731096.326	177	28.0	39.70
22990	482757.413	2731086.340	176	31.0	21.90
23000	482758.102	2731076.364	175	34.0	4.20
23010	482758.958	2731066.401	174	36.0	46.40
23020	482759.980	2731056.453	173	39.0	28.70

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
23030	482761.167	2731046.524	172	42.0	10.90
23040	482762.520	2731036.616	171	44.0	53.20
23050	482764.038	2731026.732	170	47.0	35.40
23060	482765.720	2731016.874	169	50.0	17.70
23070	482767.566	2731007.046	168	52.0	59.90
23080	482769.576	2730997.251	167	55.0	42.20
23090	482771.749	2730987.490	166	58.0	24.50
23100	482774.084	2730977.766	166	1.0	6.70
23110	482776.581	2730968.083	165	3.0	49.00
23120	482779.239	2730958.443	164	6.0	31.20
23130	482782.057	2730948.848	163	9.0	30.70
23140	482785.028	2730939.300	162	16.0	53.50
23150	482788.138	2730929.796	161	30.0	0.10
23160	482791.369	2730920.332	160	48.0	50.50
23170	482794.705	2730910.905	160	13.0	24.70
23180	482798.131	2730901.510	159	43.0	42.70
23190	482801.629	2730892.142	159	19.0	44.40
23200	482805.185	2730882.796	159	1.0	29.90
23210	482808.783	2730873.466	158	48.0	59.20
23220	482812.407	2730864.146	158	42.0	12.20
23230	482816.042	2730854.830	158	40.0	51.80
23240	482819.678	2730845.514	158	40.0	51.80
23250	482823.313	2730836.198	158	40.0	51.80
23260	482826.949	2730826.882	158	40.0	51.80
23270	482830.584	2730817.567	158	40.0	51.80
23280	482834.220	2730808.251	158	40.0	51.80
23290	482837.856	2730798.935	158	40.0	51.80
23300	482841.491	2730789.620	158	40.0	51.80
23310	482845.127	2730780.304	158	40.0	51.80
23320	482848.762	2730770.988	158	40.0	51.80
23330	482852.398	2730761.672	158	40.0	51.80
23340	482856.034	2730752.357	158	40.0	51.80
23350	482859.669	2730743.041	158	40.0	51.80
23360	482863.305	2730733.725	158	40.0	51.80
23370	482866.940	2730724.410	158	40.0	51.80
23380	482870.576	2730715.094	158	40.0	51.80
23390	482874.212	2730705.778	158	40.0	51.80
23400	482877.847	2730696.462	158	40.0	51.80
23410	482881.483	2730687.147	158	40.0	51.80
23420	482885.118	2730677.831	158	40.0	51.80
23430	482888.754	2730668.515	158	40.0	51.80
23440	482892.390	2730659.200	158	40.0	51.80
23450	482896.025	2730649.884	158	40.0	51.80
23460	482899.661	2730640.568	158	40.0	51.80

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
23470	482903.296	2730631.252	158	40.0	51.80
23480	482906.932	2730621.937	158	40.0	51.80
23490	482910.567	2730612.621	158	40.0	51.80
23500	482914.203	2730603.305	158	40.0	51.80
23510	482917.839	2730593.990	158	40.0	51.80
23520	482921.474	2730584.674	158	40.0	51.80
23530	482925.110	2730575.358	158	40.0	51.80
23540	482928.745	2730566.043	158	40.0	51.80
23550	482932.381	2730556.727	158	40.0	51.80
23560	482936.017	2730547.411	158	40.0	51.80
23570	482939.652	2730538.095	158	40.0	51.80
23580	482943.288	2730528.780	158	40.0	51.80
23590	482946.923	2730519.464	158	40.0	51.80
23600	482950.559	2730510.148	158	40.0	51.80
23610	482954.195	2730500.833	158	40.0	51.80
23620	482957.830	2730491.517	158	40.0	51.80
23630	482961.466	2730482.201	158	40.0	51.80
23640	482965.101	2730472.885	158	40.0	51.80
23650	482968.737	2730463.570	158	40.0	51.80
23660	482972.373	2730454.254	158	40.0	51.80
23670	482976.008	2730444.938	158	40.0	51.80
23680	482979.644	2730435.623	158	40.0	51.80
23690	482983.279	2730426.307	158	40.0	51.80
23700	482986.915	2730416.991	158	40.0	51.80
23710	482990.550	2730407.675	158	40.0	51.80
23720	482994.186	2730398.360	158	40.0	51.80
23730	482997.822	2730389.044	158	40.0	51.80
23740	483001.457	2730379.728	158	40.0	51.80
23750	483005.093	2730370.413	158	40.0	51.80
23760	483008.728	2730361.097	158	40.0	51.80
23770	483012.364	2730351.781	158	40.0	51.80
23780	483016.000	2730342.465	158	40.0	51.80
23790	483019.635	2730333.150	158	40.0	51.80
23800	483023.271	2730323.834	158	40.0	51.80
23810	483026.906	2730314.518	158	40.0	51.80
23820	483030.542	2730305.203	158	40.0	51.80
23830	483034.178	2730295.887	158	40.0	51.80
23840	483037.813	2730286.571	158	40.0	51.80
23850	483041.449	2730277.255	158	40.0	51.80
23860	483045.084	2730267.940	158	40.0	51.80
23870	483048.720	2730258.624	158	40.0	51.80
23880	483052.356	2730249.308	158	40.0	51.80
23890	483055.991	2730239.993	158	40.0	51.80
23900	483059.627	2730230.677	158	40.0	51.80

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
23910	483063.262	2730221.361	158	40.0	51.80
23920	483066.898	2730212.045	158	40.0	51.80
23930	483070.533	2730202.730	158	40.0	51.80
23940	483074.169	2730193.414	158	40.0	51.80
23950	483077.805	2730184.098	158	40.0	51.80
23960	483081.440	2730174.783	158	40.0	51.80
23970	483085.076	2730165.467	158	40.0	51.80
23980	483088.711	2730156.151	158	40.0	51.80
23990	483092.347	2730146.835	158	40.0	51.80
24000	483095.983	2730137.520	158	40.0	51.80
24010	483099.620	2730128.205	158	38.0	26.30
24020	483103.272	2730118.896	158	30.0	18.10
24030	483106.954	2730109.598	158	16.0	26.10
24040	483110.681	2730100.318	157	56.0	50.40
24050	483114.468	2730091.063	157	31.0	30.80
24060	483118.331	2730081.840	157	0.0	27.50
24070	483122.285	2730072.655	156	23.0	40.40
24080	483126.345	2730063.516	155	41.0	9.60
24090	483130.525	2730054.431	154	52.0	54.90
24100	483134.839	2730045.410	153	58.0	56.50
24110	483139.300	2730036.461	153	1.0	39.90
24120	483143.910	2730027.587	152	4.0	22.10
24130	483148.667	2730018.791	151	7.0	4.40
24140	483153.570	2730010.075	150	9.0	46.60
24150	483158.617	2730001.442	149	12.0	28.90
24160	483163.808	2729992.895	148	15.0	11.10
24170	483169.140	2729984.436	147	17.0	53.40
24180	483174.613	2729976.066	146	20.0	35.60
24190	483180.224	2729967.789	145	23.0	17.90
24200	483185.972	2729959.606	144	26.0	0.10
24210	483191.856	2729951.521	143	28.0	42.40
24220	483197.874	2729943.535	142	31.0	24.60
24230	483204.024	2729935.650	141	34.0	6.90
24240	483210.305	2729927.868	140	36.0	49.20
24250	483216.715	2729920.193	139	39.0	31.40
24260	483223.251	2729912.625	138	42.0	13.70
24270	483229.913	2729905.167	137	44.0	55.90
24280	483236.698	2729897.821	136	47.0	38.20
24290	483243.605	2729890.590	135	50.0	20.40
24300	483250.631	2729883.474	134	53.0	2.70
24310	483257.775	2729876.477	133	55.0	44.90
24320	483265.035	2729869.600	132	58.0	27.20
24330	483272.408	2729862.844	132	1.0	9.40
24340	483279.892	2729856.213	131	3.0	51.70

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
24350	483287.486	2729849.707	130	6.0	33.90
24360	483295.188	2729843.328	129	9.0	16.20
24370	483302.995	2729837.079	128	11.0	58.40
24380	483310.904	2729830.961	127	14.0	40.70
24390	483318.915	2729824.975	126	17.0	23.00
24400	483327.024	2729819.124	125	20.0	5.20
24410	483335.230	2729813.409	124	22.0	47.50
24420	483343.530	2729807.831	123	25.0	29.70
24430	483351.921	2729802.392	122	28.0	12.00
24440	483360.402	2729797.094	121	30.0	54.20
24450	483368.971	2729791.938	120	33.0	36.50
24460	483377.624	2729786.926	119	36.0	18.70
24470	483386.359	2729782.058	118	39.0	1.00
24480	483395.174	2729777.337	117	41.0	43.20
24490	483404.067	2729772.763	116	44.0	25.50
24500	483413.034	2729768.339	115	47.0	7.70
24510	483422.074	2729764.064	114	49.0	50.00
24520	483431.185	2729759.940	113	52.0	32.20
24530	483440.362	2729755.969	112	55.0	14.50
24540	483449.605	2729752.151	111	57.0	56.70
24550	483458.909	2729748.488	111	0.0	39.00
24560	483468.273	2729744.978	110	6.0	9.20
24570	483477.688	2729741.609	109	17.0	23.20
24580	483487.148	2729738.366	108	34.0	20.90
24590	483496.645	2729735.234	107	57.0	2.50
24600	483506.172	2729732.197	107	25.0	27.70
24610	483515.725	2729729.240	106	59.0	36.80
24620	483525.297	2729726.347	106	39.0	29.70
24630	483534.884	2729723.502	106	25.0	6.30
24640	483544.480	2729720.688	106	16.0	26.70
24650	483554.081	2729717.892	106	13.0	30.80
24660	483563.683	2729715.097	106	13.0	30.80
24670	483573.284	2729712.303	106	13.0	30.80
24680	483582.886	2729709.509	106	13.0	30.80
24690	483592.488	2729706.715	106	13.0	30.80
24700	483602.090	2729703.921	106	13.0	30.80
24710	483611.691	2729701.127	106	13.0	30.80
24720	483621.293	2729698.333	106	13.0	30.80
24730	483630.895	2729695.538	106	13.0	30.80
24740	483640.496	2729692.744	106	13.0	30.80
24750	483650.098	2729689.950	106	13.0	30.80
24760	483659.700	2729687.156	106	13.0	30.80
24770	483669.301	2729684.362	106	13.0	30.80
24780	483678.903	2729681.568	106	13.0	30.80

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
24790	483688.505	2729678.774	106	13.0	30.80
24800	483698.107	2729675.979	106	13.0	30.80
24810	483707.708	2729673.185	106	13.0	30.80
24820	483717.310	2729670.391	106	13.0	30.80
24830	483726.912	2729667.597	106	13.0	30.80
24840	483736.513	2729664.803	106	13.0	30.80
24850	483746.115	2729662.009	106	13.0	30.80
24860	483755.717	2729659.215	106	13.0	30.80
24870	483765.319	2729656.420	106	13.0	30.80
24880	483774.920	2729653.626	106	13.0	30.80
24890	483784.522	2729650.832	106	13.0	30.80
24900	483794.124	2729648.038	106	13.0	30.80
24910	483803.725	2729645.244	106	13.0	30.80
24920	483813.327	2729642.450	106	13.0	30.80
24930	483822.929	2729639.656	106	13.0	30.80
24940	483832.531	2729636.862	106	13.0	30.80
24950	483842.132	2729634.067	106	13.0	30.80
24960	483851.734	2729631.273	106	13.0	30.80
24970	483861.336	2729628.479	106	13.0	30.80
24980	483870.937	2729625.685	106	13.0	30.80
24990	483880.539	2729622.891	106	13.0	30.80
25000	483890.141	2729620.097	106	13.0	30.80
25010	483899.742	2729617.303	106	13.0	30.80
25020	483909.344	2729614.508	106	13.0	30.80
25030	483918.946	2729611.714	106	13.0	30.80
25040	483928.548	2729608.920	106	13.0	30.80
25050	483938.149	2729606.126	106	13.0	30.80
25060	483947.751	2729603.332	106	13.0	30.80
25070	483957.353	2729600.538	106	13.0	30.80
25080	483966.954	2729597.744	106	13.0	30.80
25090	483976.556	2729594.949	106	13.0	30.80
25100	483986.158	2729592.155	106	13.0	30.80
25110	483995.760	2729589.361	106	13.0	30.80
25120	484005.361	2729586.567	106	13.0	30.80
25130	484014.963	2729583.773	106	13.0	30.80
25140	484024.565	2729580.979	106	13.0	30.80
25150	484034.166	2729578.185	106	13.0	30.80
25160	484043.768	2729575.390	106	13.0	30.80
25170	484053.370	2729572.596	106	13.0	30.80
25180	484062.972	2729569.802	106	13.0	30.80
25190	484072.573	2729567.008	106	13.0	30.80
25200	484082.175	2729564.214	106	13.0	30.80
25210	484091.777	2729561.420	106	13.0	30.80
25220	484101.378	2729558.626	106	13.0	30.80

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
25230	484110.980	2729555.832	106	13.0	30.80
25240	484120.582	2729553.037	106	13.0	30.80
25250	484130.183	2729550.243	106	13.0	30.80
25260	484139.785	2729547.449	106	13.0	30.80
25270	484149.387	2729544.655	106	13.0	30.80
25280	484158.989	2729541.861	106	13.0	30.80
25290	484168.590	2729539.067	106	13.0	30.80
25300	484178.192	2729536.273	106	13.0	30.80
25310	484187.794	2729533.478	106	13.0	30.80
25320	484197.395	2729530.684	106	13.0	30.80
25330	484206.997	2729527.890	106	13.0	30.80
25340	484216.599	2729525.096	106	13.0	30.80
25350	484226.201	2729522.302	106	13.0	30.80
25360	484235.802	2729519.508	106	13.0	30.80
25370	484245.404	2729516.714	106	13.0	30.80
25380	484255.006	2729513.919	106	13.0	30.80
25390	484264.607	2729511.125	106	13.0	30.80
25400	484274.209	2729508.331	106	13.0	30.80
25410	484283.811	2729505.537	106	13.0	30.80
25420	484293.412	2729502.743	106	13.0	30.80
25430	484303.014	2729499.949	106	13.0	30.80
25440	484312.616	2729497.155	106	13.0	30.80
25450	484322.218	2729494.360	106	13.0	30.80
25460	484331.819	2729491.566	106	13.0	30.80
25470	484341.421	2729488.772	106	13.0	30.80
25480	484351.023	2729485.978	106	13.0	30.80
25490	484360.624	2729483.184	106	13.0	30.80
25500	484370.226	2729480.390	106	13.0	30.80
25510	484379.828	2729477.596	106	13.0	30.80
25520	484389.430	2729474.801	106	13.0	30.80
25530	484399.031	2729472.007	106	13.0	30.80
25540	484408.633	2729469.213	106	13.0	30.80
25550	484418.235	2729466.419	106	13.0	30.80
25560	484427.836	2729463.625	106	13.0	30.80
25570	484437.438	2729460.831	106	13.0	30.80
25580	484447.040	2729458.037	106	13.0	30.80
25590	484456.642	2729455.243	106	13.0	30.80
25600	484466.243	2729452.448	106	13.0	30.80
25610	484475.845	2729449.654	106	13.0	30.80
25620	484485.447	2729446.860	106	13.0	30.80
25630	484495.048	2729444.066	106	13.0	30.80
25640	484504.650	2729441.272	106	13.0	30.80
25650	484514.252	2729438.478	106	13.0	30.80
25660	484523.853	2729435.684	106	13.0	30.80

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
25670	484533.455	2729432.889	106	13.0	30.80
25680	484543.057	2729430.095	106	13.0	30.80
25690	484552.659	2729427.301	106	13.0	30.80
25700	484562.260	2729424.507	106	13.0	30.80
25710	484571.862	2729421.713	106	13.0	30.80
25720	484581.464	2729418.919	106	13.0	30.80
25730	484591.065	2729416.125	106	13.0	30.80
25740	484600.667	2729413.330	106	13.0	30.80
25750	484610.269	2729410.536	106	13.0	30.80
25760	484619.871	2729407.742	106	13.0	30.80
25770	484629.472	2729404.948	106	13.0	30.80
25780	484639.074	2729402.154	106	13.0	30.80
25790	484648.676	2729399.360	106	13.0	30.80
25800	484658.277	2729396.566	106	13.0	30.80
25810	484667.879	2729393.771	106	13.0	30.80
25820	484677.481	2729390.977	106	13.0	30.80
25830	484687.083	2729388.183	106	13.0	30.80
25840	484696.684	2729385.389	106	13.0	30.80
25850	484706.286	2729382.595	106	13.0	44.80
25860	484715.886	2729379.795	106	18.0	14.90
25870	484725.480	2729376.975	106	28.0	28.80
25880	484735.063	2729374.118	106	44.0	26.40
25890	484744.631	2729371.209	107	6.0	7.90
25900	484754.177	2729368.231	107	33.0	33.00
25910	484763.697	2729365.170	108	6.0	42.00
25920	484773.184	2729362.009	108	45.0	34.80
25930	484782.632	2729358.733	109	30.0	11.30
25940	484792.034	2729355.326	110	20.0	31.60
25950	484801.382	2729351.775	111	16.0	21.60
25960	484810.670	2729348.070	112	13.0	39.30
25970	484819.895	2729344.210	113	10.0	57.10
25980	484829.054	2729340.197	114	8.0	14.80
25990	484838.146	2729336.032	115	5.0	32.60
26000	484847.166	2729331.716	116	2.0	50.30
26010	484856.113	2729327.250	117	0.0	8.10
26020	484864.985	2729322.636	117	57.0	25.80
26030	484873.779	2729317.874	118	54.0	43.60
26040	484882.491	2729312.967	119	52.0	1.30
26050	484891.121	2729307.915	120	49.0	19.10
26060	484899.666	2729302.720	121	46.0	36.80
26070	484908.123	2729297.383	122	43.0	54.60
26080	484916.489	2729291.906	123	41.0	12.30
26090	484924.764	2729286.290	124	38.0	30.10
26100	484932.943	2729280.538	125	35.0	47.80

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
26110	484941.026	2729274.649	126	33.0	5.50
26120	484949.009	2729268.627	127	30.0	23.30
26130	484956.891	2729262.473	128	27.0	41.00
26140	484964.669	2729256.188	129	24.0	58.80
26150	484972.341	2729249.775	130	22.0	16.50
26160	484979.905	2729243.234	131	19.0	34.30
26170	484987.359	2729236.568	132	16.0	52.00
26180	484994.702	2729229.779	133	14.0	9.00
26190	485001.932	2729222.871	134	8.0	11.60
26200	485009.058	2729215.856	134	56.0	30.40
26210	485016.092	2729208.748	135	39.0	5.50
26220	485023.043	2729201.558	136	15.0	56.70
26230	485029.922	2729194.301	136	47.0	4.20
26240	485036.741	2729186.987	137	12.0	28.00
26250	485043.513	2729179.628	137	32.0	7.90
26260	485050.248	2729172.237	137	46.0	4.10
26270	485056.960	2729164.823	137	54.0	16.50
26280	485063.660	2729157.400	137	56.0	45.90
26290	485070.358	2729149.975	137	56.0	45.90
26300	485077.056	2729142.550	137	56.0	45.90
26310	485083.754	2729135.124	137	56.0	45.90
26320	485090.453	2729127.699	137	56.0	48.80
26330	485097.148	2729120.271	138	0.0	25.10
26340	485103.829	2729112.831	138	9.0	45.30
26350	485110.484	2729105.367	138	24.0	49.20
26360	485117.100	2729097.868	138	45.0	36.80
26370	485123.664	2729090.324	139	12.0	8.30
26380	485130.164	2729082.724	139	44.0	23.50
26390	485136.585	2729075.059	140	22.0	22.50
26400	485142.915	2729067.317	141	6.0	5.20
26410	485149.139	2729059.490	141	55.0	31.80
26420	485155.244	2729051.570	142	50.0	39.20
26430	485161.217	2729043.550	143	47.0	57.00
26440	485167.055	2729035.432	144	45.0	14.70
26450	485172.758	2729027.217	145	42.0	32.40
26460	485178.323	2729018.909	146	39.0	50.20
26470	485183.748	2729010.509	147	37.0	7.90
26480	485189.033	2729002.019	148	34.0	25.70
26490	485194.176	2728993.443	149	31.0	43.40
26500	485199.175	2728984.783	150	29.0	1.20
26510	485204.029	2728976.040	151	26.0	18.90
26520	485208.736	2728967.217	152	23.0	36.70
26530	485213.296	2728958.318	153	20.0	54.40
26540	485217.707	2728949.343	154	18.0	12.20

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
26550	485221.968	2728940.296	155	15.0	29.90
26560	485226.078	2728931.180	156	12.0	47.70
26570	485230.034	2728921.996	157	10.0	5.40
26580	485233.838	2728912.748	158	7.0	23.20
26590	485237.486	2728903.437	159	4.0	40.90
26600	485240.979	2728894.067	160	1.0	58.60
26610	485244.316	2728884.640	160	59.0	16.40
26620	485247.494	2728875.159	161	56.0	34.10
26630	485250.515	2728865.626	162	53.0	51.90
26640	485253.376	2728856.044	163	51.0	9.60
26650	485256.077	2728846.416	164	48.0	27.40
26660	485258.617	2728836.744	165	45.0	45.10
26670	485260.995	2728827.031	166	43.0	2.90
26680	485263.211	2728817.280	167	40.0	20.60
26690	485265.265	2728807.493	168	37.0	38.40
26700	485267.155	2728797.674	169	34.0	56.10
26710	485268.881	2728787.824	170	32.0	13.90
26720	485270.443	2728777.947	171	29.0	31.60
26730	485271.840	2728768.045	172	26.0	49.40
26740	485273.072	2728758.121	173	24.0	7.10
26750	485274.140	2728748.179	174	18.0	44.30
26760	485275.059	2728738.221	175	7.0	38.00
26770	485275.845	2728728.252	175	50.0	47.80
26780	485276.513	2728718.274	176	28.0	13.90
26790	485277.082	2728708.291	176	59.0	56.20
26800	485277.566	2728698.302	177	25.0	54.80
26810	485277.983	2728688.311	177	46.0	9.50
26820	485278.350	2728678.318	178	0.0	40.50
26830	485278.683	2728668.323	178	9.0	27.80
26840	485278.999	2728658.328	178	12.0	31.20
26850	485279.311	2728648.333	178	12.0	31.40
26860	485279.624	2728638.338	178	12.0	31.40
26870	485279.936	2728628.343	178	12.0	31.40
26880	485280.249	2728618.348	178	12.0	31.40
26890	485280.562	2728608.353	178	12.0	31.40
26900	485280.874	2728598.358	178	12.0	31.40
26910	485281.187	2728588.363	178	12.0	31.40
26920	485281.499	2728578.367	178	12.0	31.40
26930	485281.812	2728568.372	178	12.0	31.40
26940	485282.124	2728558.377	178	12.0	31.40
26950	485282.437	2728548.382	178	12.0	31.40
26960	485282.750	2728538.387	178	12.0	31.40
26970	485283.062	2728528.392	178	12.0	31.40
26980	485283.375	2728518.397	178	12.0	31.40

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
26990	485283.687	2728508.402	178	12.0	31.40
27000	485284.000	2728498.407	178	12.0	31.40
27010	485284.313	2728488.411	178	12.0	31.40
27020	485284.625	2728478.416	178	12.0	31.40
27030	485284.938	2728468.421	178	12.0	31.40
27040	485285.250	2728458.426	178	12.0	31.40
27050	485285.563	2728448.431	178	12.0	31.40
27060	485285.875	2728438.436	178	12.0	31.40
27070	485286.188	2728428.441	178	12.0	31.40
27080	485286.501	2728418.446	178	12.0	31.40
27090	485286.813	2728408.451	178	12.0	31.40
27100	485287.126	2728398.455	178	12.0	31.40
27110	485287.438	2728388.460	178	12.0	31.40
27120	485287.751	2728378.465	178	12.0	31.40
27130	485288.064	2728368.470	178	12.0	31.40
27140	485288.376	2728358.475	178	12.0	31.40
27150	485288.689	2728348.480	178	12.0	31.40
27160	485289.001	2728338.485	178	12.0	31.40
27170	485289.314	2728328.490	178	12.0	31.40
27180	485289.627	2728318.494	178	12.0	31.40
27190	485289.939	2728308.499	178	12.0	31.40
27200	485290.252	2728298.504	178	12.0	31.40
27210	485290.564	2728288.509	178	12.0	31.40
27220	485290.877	2728278.514	178	12.0	31.40
27230	485291.189	2728268.519	178	12.0	31.40
27240	485291.502	2728258.524	178	12.0	31.40
27250	485291.815	2728248.529	178	12.0	31.40
27260	485292.127	2728238.534	178	12.0	31.40
27270	485292.440	2728228.538	178	12.0	31.40
27280	485292.752	2728218.543	178	12.0	31.40
27290	485293.065	2728208.548	178	12.0	31.40
27300	485293.378	2728198.553	178	12.0	31.40
27310	485293.690	2728188.558	178	12.0	31.40
27320	485294.003	2728178.563	178	12.0	31.40
27330	485294.315	2728168.568	178	12.0	31.40
27340	485294.628	2728158.573	178	12.0	31.40
27350	485294.940	2728148.578	178	12.0	31.40
27360	485295.253	2728138.582	178	12.0	31.40
27370	485295.566	2728128.587	178	12.0	31.40
27380	485295.878	2728118.592	178	12.0	31.40
27390	485296.191	2728108.597	178	12.0	31.40
27400	485296.503	2728098.602	178	12.0	31.40
27410	485296.816	2728088.607	178	12.0	31.40
27420	485297.129	2728078.612	178	12.0	31.40

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
27430	485297.441	2728068.617	178	12.0	31.40
27440	485297.754	2728058.622	178	12.0	31.40
27450	485298.066	2728048.626	178	12.0	31.40
27460	485298.379	2728038.631	178	12.0	31.40
27470	485298.692	2728028.636	178	12.0	31.40
27480	485299.004	2728018.641	178	12.0	31.40
27490	485299.317	2728008.646	178	12.0	31.40
27500	485299.629	2727998.651	178	12.0	31.40
27510	485299.942	2727988.656	178	12.0	31.40
27520	485300.254	2727978.661	178	12.0	31.40
27530	485300.567	2727968.666	178	12.0	31.40
27540	485300.880	2727958.670	178	12.0	31.40
27550	485301.192	2727948.675	178	12.0	31.40
27560	485301.505	2727938.680	178	12.0	31.40
27570	485301.817	2727928.685	178	12.0	31.40
27580	485302.130	2727918.690	178	12.0	31.40
27590	485302.443	2727908.695	178	12.0	31.40
27600	485302.755	2727898.700	178	12.0	31.40
27610	485303.068	2727888.705	178	12.0	31.40
27620	485303.380	2727878.710	178	12.0	31.40
27630	485303.693	2727868.714	178	12.0	31.40
27640	485304.005	2727858.719	178	12.0	31.40
27650	485304.318	2727848.724	178	12.0	31.40
27660	485304.631	2727838.729	178	12.0	31.40
27670	485304.943	2727828.734	178	12.0	31.40
27680	485305.256	2727818.739	178	12.0	31.40
27690	485305.568	2727808.744	178	12.0	31.40
27700	485305.881	2727798.749	178	12.0	31.40
27710	485306.194	2727788.753	178	12.0	31.40
27720	485306.506	2727778.758	178	12.0	31.40
27730	485306.819	2727768.763	178	12.0	31.40
27740	485307.131	2727758.768	178	12.0	31.40
27750	485307.444	2727748.773	178	12.0	31.40
27760	485307.757	2727738.778	178	12.0	31.40
27770	485308.069	2727728.783	178	12.0	31.40
27780	485308.382	2727718.788	178	12.0	31.40
27790	485308.694	2727708.793	178	12.0	31.40
27800	485309.007	2727698.797	178	12.0	31.40
27810	485309.319	2727688.802	178	12.0	31.40
27820	485309.632	2727678.807	178	12.0	31.40
27830	485309.945	2727668.812	178	12.0	31.40
27840	485310.257	2727658.817	178	12.0	31.40
27850	485310.570	2727648.822	178	12.0	31.40
27860	485310.882	2727638.827	178	12.0	31.40

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
27870	485311.195	2727628.832	178	12.0	31.40
27880	485311.508	2727618.837	178	12.0	31.40
27890	485311.820	2727608.841	178	12.0	31.40
27900	485312.133	2727598.846	178	12.0	31.40
27910	485312.445	2727588.851	178	12.0	31.40
27920	485312.758	2727578.856	178	12.0	31.40
27930	485313.070	2727568.861	178	12.0	31.40
27940	485313.383	2727558.866	178	12.0	31.40
27950	485313.696	2727548.871	178	12.0	31.40
27960	485314.008	2727538.876	178	12.0	31.40
27970	485314.321	2727528.881	178	12.0	31.40
27980	485314.633	2727518.885	178	12.0	31.40
27990	485314.946	2727508.890	178	12.0	31.40
28000	485315.259	2727498.895	178	12.0	31.40
28010	485315.571	2727488.900	178	12.0	31.40
28020	485315.884	2727478.905	178	12.0	31.40
28030	485316.196	2727468.910	178	12.0	31.40
28040	485316.509	2727458.915	178	12.0	31.40
28050	485316.822	2727448.920	178	12.0	31.40
28060	485317.134	2727438.925	178	12.0	31.40
28070	485317.447	2727428.929	178	12.0	31.40
28080	485317.759	2727418.934	178	12.0	31.40
28090	485318.072	2727408.939	178	12.0	31.40
28100	485318.384	2727398.944	178	12.0	31.40
28110	485318.697	2727388.949	178	12.0	31.40
28120	485319.010	2727378.954	178	12.0	31.40
28130	485319.322	2727368.959	178	12.0	31.40
28140	485319.635	2727358.964	178	12.0	31.40
28150	485319.947	2727348.968	178	12.0	31.40
28160	485320.260	2727338.973	178	12.0	31.40
28170	485320.573	2727328.978	178	12.0	31.40
28180	485320.885	2727318.983	178	12.0	31.40
28190	485321.198	2727308.988	178	12.0	31.40
28200	485321.510	2727298.993	178	12.0	31.40
28210	485321.823	2727288.998	178	12.0	31.40
28220	485322.136	2727279.003	178	12.0	31.40
28230	485322.448	2727269.008	178	12.0	31.40
28240	485322.761	2727259.012	178	12.0	31.40
28250	485323.073	2727249.017	178	12.0	31.40
28260	485323.386	2727239.022	178	12.0	31.40
28270	485323.698	2727229.027	178	12.0	31.40
28280	485324.011	2727219.032	178	12.0	31.40
28290	485324.324	2727209.037	178	12.0	31.40
28300	485324.636	2727199.042	178	12.0	31.40

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
28310	485324.949	2727189.047	178	12.0	31.40
28320	485325.261	2727179.052	178	12.0	32.00
28330	485325.571	2727169.056	178	15.0	43.50
28340	485325.862	2727159.061	178	24.0	38.90
28350	485326.120	2727149.064	178	39.0	18.00
28360	485326.326	2727139.066	178	59.0	40.90
28370	485326.465	2727129.067	179	25.0	47.50
28380	485326.520	2727119.067	179	57.0	38.00
28390	485326.473	2727109.067	180	35.0	12.20
28400	485326.309	2727099.069	181	18.0	30.20
28410	485326.011	2727089.073	182	7.0	32.00
28420	485325.562	2727079.084	183	2.0	16.90
28430	485324.949	2727069.102	183	59.0	34.70
28440	485324.169	2727059.133	184	56.0	52.40
28450	485323.224	2727049.178	185	54.0	10.20
28460	485322.113	2727039.240	186	51.0	27.90
28470	485320.836	2727029.322	187	48.0	45.70
28480	485319.394	2727019.427	188	46.0	3.40
28490	485317.788	2727009.557	189	43.0	21.20
28500	485316.017	2726999.715	190	40.0	38.90
28510	485314.082	2726989.904	191	37.0	56.70
28520	485311.984	2726980.126	192	35.0	14.40
28530	485309.724	2726970.385	193	32.0	32.10
28540	485307.301	2726960.683	194	29.0	49.90
28550	485304.717	2726951.023	195	27.0	7.60
28560	485301.973	2726941.407	196	24.0	25.40
28570	485299.068	2726931.838	197	21.0	43.10
28580	485296.005	2726922.319	198	19.0	0.90
28590	485292.783	2726912.853	199	16.0	18.60
28600	485289.404	2726903.441	200	13.0	36.40
28610	485285.869	2726894.087	201	10.0	54.10
28620	485282.178	2726884.793	202	8.0	11.90
28630	485278.333	2726875.562	203	5.0	29.60
28640	485274.334	2726866.396	204	2.0	47.40
28650	485270.184	2726857.298	205	0.0	5.10
28660	485265.882	2726848.271	205	57.0	22.90
28670	485261.431	2726839.317	206	53.0	55.50
28680	485256.839	2726830.433	207	45.0	25.30
28690	485252.121	2726821.616	208	31.0	11.40
28700	485247.295	2726812.858	209	11.0	13.60
28710	485242.373	2726804.153	209	45.0	32.10
28720	485237.373	2726795.493	210	14.0	6.80
28730	485232.307	2726786.871	210	36.0	57.70
28740	485227.192	2726778.278	210	54.0	4.90

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
28750	485222.041	2726769.707	211	5.0	28.30
28760	485216.868	2726761.149	211	11.0	7.90
28770	485211.689	2726752.595	211	11.0	48.80
28780	485206.509	2726744.041	211	11.0	48.80
28790	485201.329	2726735.487	211	11.0	48.80
28800	485196.149	2726726.933	211	11.0	48.80
28810	485190.970	2726718.379	211	11.0	48.80
28820	485185.790	2726709.825	211	11.0	48.80
28830	485180.610	2726701.271	211	11.0	48.80
28840	485175.430	2726692.717	211	11.0	48.80
28850	485170.250	2726684.163	211	11.0	48.80
28860	485165.071	2726675.609	211	11.0	48.80
28870	485159.891	2726667.055	211	11.0	48.80
28880	485154.711	2726658.501	211	11.0	48.80
28890	485149.531	2726649.948	211	11.0	48.80
28900	485144.351	2726641.394	211	11.0	48.80
28910	485139.172	2726632.840	211	11.0	48.80
28920	485133.992	2726624.286	211	11.0	48.80
28930	485128.812	2726615.732	211	11.0	48.80
28940	485123.632	2726607.178	211	11.0	48.80
28950	485118.452	2726598.624	211	11.0	48.80
28960	485113.273	2726590.070	211	11.0	48.80
28970	485108.093	2726581.516	211	11.0	48.80
28980	485102.913	2726572.962	211	11.0	48.80
28990	485097.733	2726564.408	211	11.0	48.80
29000	485092.553	2726555.854	211	11.0	48.80
29010	485087.374	2726547.300	211	11.0	48.80
29020	485082.194	2726538.746	211	11.0	48.80
29030	485077.014	2726530.193	211	11.0	48.80
29040	485071.834	2726521.639	211	11.0	48.80
29050	485066.654	2726513.085	211	11.0	48.80
29060	485061.475	2726504.531	211	11.0	48.80
29070	485056.295	2726495.977	211	11.0	48.80
29080	485051.115	2726487.423	211	11.0	48.80
29090	485045.935	2726478.869	211	11.0	48.80
29100	485040.755	2726470.315	211	11.0	48.80
29110	485035.576	2726461.761	211	11.0	48.80
29120	485030.396	2726453.207	211	11.0	48.80
29130	485025.216	2726444.653	211	11.0	48.80
29140	485020.036	2726436.099	211	11.0	48.80
29150	485014.856	2726427.545	211	11.0	48.80
29160	485009.676	2726418.992	211	11.0	48.80
29170	485004.497	2726410.438	211	11.0	48.80
29180	484999.317	2726401.884	211	11.0	48.80

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
29190	484994.137	2726393.330	211	11.0	48.80
29200	484988.957	2726384.776	211	11.0	48.80
29210	484983.777	2726376.222	211	11.0	48.80
29220	484978.598	2726367.668	211	11.0	48.80
29230	484973.418	2726359.114	211	11.0	48.80
29240	484968.238	2726350.560	211	11.0	48.80
29250	484963.058	2726342.006	211	11.0	48.80
29260	484957.878	2726333.452	211	11.0	48.80
29270	484952.699	2726324.898	211	11.0	48.80
29280	484947.519	2726316.344	211	11.0	48.80
29290	484942.339	2726307.791	211	11.0	48.80
29300	484937.159	2726299.237	211	11.0	48.80
29310	484931.979	2726290.683	211	11.0	48.80
29320	484926.800	2726282.129	211	11.0	48.80
29330	484921.620	2726273.575	211	11.0	48.80
29340	484916.440	2726265.021	211	11.0	48.80
29350	484911.260	2726256.467	211	11.0	48.80
29360	484906.080	2726247.913	211	11.0	48.80
29370	484900.901	2726239.359	211	11.0	48.80
29380	484895.721	2726230.805	211	11.0	48.80
29390	484890.541	2726222.251	211	11.0	48.80
29400	484885.361	2726213.697	211	11.0	48.80
29410	484880.181	2726205.143	211	11.0	48.80
29420	484875.002	2726196.590	211	11.0	48.80
29430	484869.822	2726188.036	211	11.0	48.80
29440	484864.642	2726179.482	211	11.0	48.80
29450	484859.462	2726170.928	211	11.0	48.80
29460	484854.282	2726162.374	211	11.0	48.80
29470	484849.102	2726153.820	211	11.0	48.80
29480	484843.923	2726145.266	211	11.0	48.80
29490	484838.743	2726136.712	211	11.0	48.80
29500	484833.563	2726128.158	211	11.0	48.80
29510	484828.383	2726119.604	211	11.0	51.40
29520	484823.193	2726111.057	211	20.0	27.00
29530	484817.981	2726102.522	211	29.0	2.70
29540	484812.747	2726094.001	211	37.0	38.40
29550	484807.493	2726085.493	211	46.0	14.00
29560	484802.217	2726076.998	211	54.0	49.70
29570	484796.920	2726068.516	212	3.0	25.30
29580	484791.602	2726060.048	212	12.0	1.00
29590	484786.262	2726051.592	212	20.0	36.70
29600	484780.902	2726043.150	212	29.0	12.30
29610	484775.520	2726034.722	212	37.0	48.00
29620	484770.118	2726026.307	212	46.0	23.70

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
29630	484764.694	2726017.906	212	54.0	59.30
29640	484759.249	2726009.518	213	3.0	35.00
29650	484753.784	2726001.144	213	12.0	10.60
29660	484748.297	2725992.783	213	20.0	46.30
29670	484742.790	2725984.436	213	29.0	22.00
29680	484737.262	2725976.103	213	37.0	57.60
29690	484731.713	2725967.784	213	46.0	33.30
29700	484726.143	2725959.479	213	55.0	9.00
29710	484720.552	2725951.188	214	3.0	44.60
29720	484714.941	2725942.910	214	10.0	31.50
29730	484709.324	2725934.637	214	10.0	31.50
29740	484703.707	2725926.364	214	10.0	31.50
29750	484698.089	2725918.091	214	10.0	31.50
29760	484692.472	2725909.817	214	10.0	31.50
29770	484686.855	2725901.544	214	10.0	31.50
29780	484681.238	2725893.271	214	10.0	31.50
29790	484675.620	2725884.998	214	10.0	31.50
29800	484670.003	2725876.724	214	10.0	31.50
29810	484664.386	2725868.451	214	10.0	31.50
29820	484658.768	2725860.178	214	10.0	31.50
29830	484653.151	2725851.905	214	10.0	31.50
29840	484647.534	2725843.632	214	10.0	31.50
29850	484641.917	2725835.358	214	10.0	31.50
29860	484636.299	2725827.085	214	10.0	31.50
29870	484630.682	2725818.812	214	10.0	31.50
29880	484625.065	2725810.539	214	10.0	31.50
29890	484619.447	2725802.265	214	10.0	31.50
29900	484613.830	2725793.992	214	10.0	31.50
29910	484608.213	2725785.719	214	10.0	31.50
29920	484602.596	2725777.446	214	10.0	31.50
29930	484596.978	2725769.173	214	10.0	31.50
29940	484591.361	2725760.899	214	10.0	31.50
29950	484585.744	2725752.626	214	10.0	31.50
29960	484580.126	2725744.353	214	10.0	31.50
29970	484574.509	2725736.080	214	10.0	31.50
29980	484568.892	2725727.807	214	10.0	31.50
29990	484563.275	2725719.533	214	10.0	31.50
30000	484557.657	2725711.260	214	10.0	31.50
30010	484552.040	2725702.987	214	10.0	31.50
30020	484546.423	2725694.713	214	9.0	13.30
30030	484540.816	2725686.433	214	2.0	29.50
30040	484535.232	2725678.137	213	50.0	1.90
30050	484529.685	2725669.817	213	31.0	50.50
30060	484524.189	2725661.463	213	7.0	55.40

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
30070	484518.759	2725653.066	212	38.0	16.50
30080	484513.408	2725644.618	212	2.0	53.80
30090	484508.151	2725636.111	211	21.0	47.40
30100	484503.003	2725627.538	210	34.0	57.20
30110	484497.980	2725618.891	209	42.0	23.20
30120	484493.097	2725610.165	208	45.0	23.60
30130	484488.359	2725601.358	207	48.0	5.90
30140	484483.769	2725592.474	206	50.0	48.10
30150	484479.327	2725583.515	205	53.0	30.40
30160	484475.036	2725574.483	204	56.0	12.60
30170	484470.895	2725565.380	203	58.0	54.90
30180	484466.907	2725556.210	203	1.0	37.10
30190	484463.072	2725546.975	202	4.0	19.40
30200	484459.392	2725537.677	201	7.0	1.60
30210	484455.867	2725528.319	200	9.0	43.90
30220	484452.499	2725518.903	199	12.0	26.20
30230	484449.288	2725509.433	198	15.0	8.40
30240	484446.235	2725499.910	197	17.0	50.70
30250	484443.342	2725490.338	196	20.0	32.90
30260	484440.608	2725480.719	195	23.0	15.20
30270	484438.035	2725471.056	194	25.0	57.40
30280	484435.623	2725461.351	193	28.0	39.70
30290	484433.374	2725451.608	192	31.0	21.90
30300	484431.287	2725441.828	191	34.0	4.20
30310	484429.363	2725432.015	190	36.0	46.40
30320	484427.604	2725422.171	189	39.0	28.70
30330	484426.008	2725412.299	188	42.0	10.90
30340	484424.578	2725402.402	187	44.0	53.20
30350	484423.312	2725392.483	186	47.0	35.40
30360	484422.212	2725382.544	185	50.0	17.80
30370	484421.275	2725372.588	184	55.0	59.90
30380	484420.487	2725362.619	184	7.0	25.80
30390	484419.831	2725352.640	183	24.0	35.50
30400	484419.291	2725342.655	182	47.0	29.00
30410	484418.851	2725332.665	182	16.0	6.20
30420	484418.494	2725322.671	181	50.0	27.20
30430	484418.203	2725312.675	181	30.0	32.00
30440	484417.962	2725302.678	181	16.0	20.60
30450	484417.754	2725292.681	181	7.0	52.90
30460	484417.562	2725282.682	181	5.0	8.90
30470	484417.372	2725272.684	181	5.0	8.90
30480	484417.183	2725262.686	181	5.0	8.90
30490	484416.993	2725252.688	181	5.0	8.90
30500	484416.804	2725242.690	181	5.0	8.90

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
30510	484416.614	2725232.691	181	5.0	8.90
30520	484416.425	2725222.693	181	5.0	8.90
30530	484416.235	2725212.695	181	5.0	8.90
30540	484416.046	2725202.697	181	5.0	8.90
30550	484415.856	2725192.699	181	5.0	8.90
30560	484415.667	2725182.700	181	5.0	8.90
30570	484415.477	2725172.702	181	5.0	8.90
30580	484415.288	2725162.704	181	5.0	8.90
30590	484415.098	2725152.706	181	5.0	8.90
30600	484414.909	2725142.708	181	5.0	8.90
30610	484414.719	2725132.709	181	5.0	8.90
30620	484414.530	2725122.711	181	5.0	8.90
30630	484414.340	2725112.713	181	5.0	8.90
30640	484414.151	2725102.715	181	5.0	8.90
30650	484413.961	2725092.716	181	5.0	8.90
30660	484413.772	2725082.718	181	5.0	8.90
30670	484413.582	2725072.720	181	5.0	8.90
30680	484413.393	2725062.722	181	5.0	8.90
30690	484413.203	2725052.724	181	5.0	8.90
30700	484413.014	2725042.725	181	5.0	8.90
30710	484412.824	2725032.727	181	5.0	8.90
30720	484412.616	2725022.729	181	20.0	11.90
30730	484412.357	2725012.733	181	37.0	23.20
30740	484412.049	2725002.738	181	54.0	34.60
30750	484411.691	2724992.744	182	11.0	45.90
30760	484411.283	2724982.752	182	28.0	57.20
30770	484410.824	2724972.763	182	46.0	8.50
30780	484410.316	2724962.776	183	3.0	19.90
30790	484409.758	2724952.791	183	20.0	31.20
30800	484409.151	2724942.810	183	37.0	42.50
30810	484408.493	2724932.832	183	54.0	53.80
30820	484407.785	2724922.857	184	12.0	5.20
30830	484407.027	2724912.885	184	29.0	16.50
30840	484406.220	2724902.918	184	46.0	27.80
30850	484405.363	2724892.955	185	3.0	39.10
30860	484404.456	2724882.996	185	20.0	50.40
30870	484403.499	2724873.042	185	38.0	1.80
30880	484402.492	2724863.093	185	55.0	13.10
30890	484401.436	2724853.149	186	12.0	24.40
30900	484400.330	2724843.210	186	29.0	35.70
30910	484399.174	2724833.277	186	46.0	47.10
30920	484397.969	2724823.350	187	3.0	58.40
30930	484396.714	2724813.429	187	21.0	9.70
30940	484395.409	2724803.515	187	38.0	21.00

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
30950	484394.055	2724793.607	187	55.0	32.40
30960	484392.652	2724783.706	188	12.0	43.70
30970	484391.199	2724773.812	188	29.0	55.00
30980	484389.696	2724763.925	188	47.0	6.30
30990	484388.144	2724754.047	189	4.0	17.70
31000	484386.543	2724744.176	189	21.0	29.00
31010	484384.892	2724734.313	189	38.0	40.30
31020	484383.192	2724724.458	189	55.0	51.60
31030	484381.443	2724714.613	190	13.0	3.00
31040	484379.644	2724704.776	190	30.0	14.30
31050	484377.797	2724694.948	190	47.0	25.60
31060	484375.900	2724685.129	191	4.0	36.90
31070	484373.954	2724675.320	191	21.0	48.30
31080	484371.959	2724665.521	191	38.0	59.60
31090	484369.916	2724655.733	191	56.0	10.90
31100	484367.823	2724645.954	192	13.0	22.20
31110	484365.681	2724636.186	192	30.0	33.60
31120	484363.491	2724626.429	192	47.0	44.90
31130	484361.252	2724616.683	193	4.0	56.20
31140	484358.964	2724606.948	193	22.0	7.50
31150	484356.627	2724597.225	193	39.0	18.80
31160	484354.242	2724587.513	193	56.0	30.20
31170	484351.809	2724577.814	194	13.0	41.50
31180	484349.327	2724568.127	194	30.0	52.80
31190	484346.796	2724558.452	194	48.0	4.10
31200	484344.217	2724548.791	195	5.0	15.50
31210	484341.590	2724539.142	195	22.0	26.80
31220	484338.915	2724529.507	195	39.0	38.10
31230	484336.192	2724519.885	195	56.0	49.40
31240	484333.420	2724510.276	196	14.0	0.80
31250	484330.617	2724500.677	196	16.0	51.70
31260	484327.814	2724491.078	196	16.0	51.70
31270	484325.010	2724481.479	196	16.0	51.70
31280	484322.207	2724471.880	196	16.0	51.70
31290	484319.403	2724462.281	196	16.0	51.70
31300	484316.600	2724452.682	196	16.0	51.70
31310	484313.796	2724443.083	196	16.0	51.70
31320	484310.993	2724433.484	196	16.0	51.70
31330	484308.189	2724423.885	196	16.0	51.70
31340	484305.386	2724414.286	196	16.0	51.70
31350	484302.582	2724404.687	196	16.0	51.70
31360	484299.779	2724395.088	196	16.0	51.70
31370	484296.975	2724385.489	196	16.0	51.70
31380	484294.172	2724375.890	196	16.0	51.70

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
31390	484291.368	2724366.291	196	16.0	51.70
31400	484288.565	2724356.692	196	16.0	51.70
31410	484285.761	2724347.093	196	16.0	51.70
31420	484282.958	2724337.494	196	16.0	51.70
31430	484280.154	2724327.895	196	16.0	51.70
31440	484277.351	2724318.296	196	16.0	51.70
31450	484274.547	2724308.697	196	16.0	51.70
31460	484271.744	2724299.098	196	16.0	51.70
31470	484268.941	2724289.499	196	16.0	51.70
31480	484266.137	2724279.900	196	16.0	51.70
31490	484263.334	2724270.302	196	16.0	51.70
31500	484260.530	2724260.703	196	16.0	51.70
31510	484257.727	2724251.104	196	16.0	51.70
31520	484254.923	2724241.505	196	16.0	51.70
31530	484252.120	2724231.906	196	16.0	51.70
31540	484249.316	2724222.307	196	16.0	51.70
31550	484246.513	2724212.708	196	16.0	51.70
31560	484243.709	2724203.109	196	16.0	51.70
31570	484240.906	2724193.510	196	16.0	51.70
31580	484238.102	2724183.911	196	16.0	51.70
31590	484235.299	2724174.312	196	16.0	51.70
31600	484232.495	2724164.713	196	16.0	51.70
31610	484229.692	2724155.114	196	16.0	51.70
31620	484226.888	2724145.515	196	16.0	51.70
31630	484224.085	2724135.916	196	16.0	51.70
31640	484221.281	2724126.317	196	16.0	51.70
31650	484218.478	2724116.718	196	16.0	51.70
31660	484215.674	2724107.119	196	16.0	51.70
31670	484212.871	2724097.520	196	16.0	51.70
31680	484210.067	2724087.921	196	16.0	51.70
31690	484207.264	2724078.322	196	16.0	51.70
31700	484204.460	2724068.723	196	16.0	51.70
31710	484201.657	2724059.124	196	16.0	51.70
31720	484198.853	2724049.525	196	16.0	51.70
31730	484196.050	2724039.926	196	16.0	51.70
31740	484193.246	2724030.327	196	16.0	51.70
31750	484190.443	2724020.728	196	16.0	51.70
31760	484187.639	2724011.129	196	16.0	51.70
31770	484184.836	2724001.530	196	16.0	51.70
31780	484182.032	2723991.931	196	16.0	51.70
31790	484179.229	2723982.332	196	16.0	51.70
31800	484176.425	2723972.733	196	16.0	51.70
31810	484173.622	2723963.134	196	16.0	51.70
31820	484170.818	2723953.535	196	16.0	51.70

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
31830	484168.015	2723943.936	196	16.0	51.70
31840	484165.211	2723934.337	196	16.0	51.70
31850	484162.408	2723924.738	196	16.0	51.70
31860	484159.605	2723915.139	196	16.0	51.70
31870	484156.801	2723905.540	196	16.0	51.70
31880	484153.998	2723895.941	196	16.0	51.70
31890	484151.194	2723886.342	196	16.0	51.70
31900	484148.391	2723876.743	196	16.0	51.70
31910	484145.587	2723867.144	196	16.0	51.70
31920	484142.784	2723857.545	196	16.0	51.70
31930	484139.980	2723847.946	196	16.0	51.70
31940	484137.177	2723838.347	196	16.0	51.70
31950	484134.373	2723828.748	196	16.0	51.70
31960	484131.570	2723819.149	196	16.0	51.70
31970	484128.766	2723809.550	196	16.0	51.70
31980	484125.963	2723799.951	196	16.0	51.70
31990	484123.159	2723790.352	196	16.0	51.70
32000	484120.356	2723780.753	196	16.0	51.70
32010	484117.552	2723771.154	196	16.0	51.70
32020	484114.749	2723761.555	196	16.0	51.70
32030	484111.945	2723751.956	196	16.0	51.70
32040	484109.142	2723742.357	196	16.0	51.70
32050	484106.338	2723732.759	196	16.0	51.70
32060	484103.535	2723723.160	196	16.0	51.70
32070	484100.731	2723713.561	196	16.0	51.70
32080	484097.928	2723703.962	196	16.0	51.70
32090	484095.124	2723694.363	196	16.0	51.70
32100	484092.321	2723684.764	196	16.0	51.70
32110	484089.517	2723675.165	196	16.0	51.70
32120	484086.714	2723665.566	196	16.0	51.70
32130	484083.910	2723655.967	196	16.0	51.70
32140	484081.107	2723646.368	196	16.0	51.70
32150	484078.303	2723636.769	196	16.0	51.70
32160	484075.500	2723627.170	196	16.0	51.70
32170	484072.696	2723617.571	196	16.0	51.70
32180	484069.893	2723607.972	196	16.0	51.70
32190	484067.089	2723598.373	196	16.0	51.70
32200	484064.286	2723588.774	196	16.0	51.70
32210	484061.482	2723579.175	196	16.0	51.70
32220	484058.680	2723569.575	196	15.0	3.90
32230	484055.891	2723559.972	196	7.0	39.80
32240	484053.130	2723550.361	195	54.0	32.00
32250	484050.414	2723540.737	195	35.0	40.40
32260	484047.759	2723531.096	195	11.0	5.00

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
32270	484045.181	2723521.434	194	40.0	45.80
32280	484042.696	2723511.748	194	4.0	42.90
32290	484040.321	2723502.034	193	22.0	56.10
32300	484038.073	2723492.290	192	35.0	25.60
32310	484035.967	2723482.514	191	42.0	11.40
32320	484034.020	2723472.706	190	45.0	1.10
32330	484032.237	2723462.866	189	47.0	43.30
32340	484030.618	2723452.998	188	50.0	25.60
32350	484029.163	2723443.105	187	53.0	7.80
32360	484027.874	2723433.188	186	55.0	50.10
32370	484026.750	2723423.252	185	58.0	32.30
32380	484025.792	2723413.298	185	1.0	14.60
32390	484025.000	2723403.329	184	3.0	56.80
32400	484024.374	2723393.349	183	6.0	39.10
32410	484023.915	2723383.360	182	9.0	21.40
32420	484023.622	2723373.364	181	12.0	3.60
32430	484023.495	2723363.365	180	14.0	45.90
32440	484023.536	2723353.365	179	17.0	28.10
32450	484023.743	2723343.368	178	20.0	10.40
32460	484024.116	2723333.375	177	22.0	52.60
32470	484024.657	2723323.389	176	25.0	34.90
32480	484025.363	2723313.414	175	28.0	17.10
32490	484026.236	2723303.453	174	30.0	59.40
32500	484027.274	2723293.507	173	33.0	41.60
32510	484028.478	2723283.580	172	36.0	23.90
32520	484029.848	2723273.674	171	39.0	6.10
32530	484031.382	2723263.793	170	41.0	48.40
32540	484033.081	2723253.938	169	44.0	30.60
32550	484034.943	2723244.113	168	47.0	12.90
32560	484036.970	2723234.321	167	49.0	55.20
32570	484039.159	2723224.563	166	52.0	37.40
32580	484041.510	2723214.844	165	55.0	19.70
32590	484044.023	2723205.165	164	58.0	1.90
32600	484046.697	2723195.529	164	0.0	44.20
32610	484049.532	2723185.939	163	3.0	26.40
32620	484052.525	2723176.398	162	6.0	8.70
32630	484055.678	2723166.908	161	8.0	50.90
32640	484058.988	2723157.472	160	11.0	33.20
32650	484062.455	2723148.092	159	14.0	15.40
32660	484066.077	2723138.772	158	16.0	57.70
32670	484069.855	2723129.513	157	19.0	39.90
32680	484073.786	2723120.318	156	22.0	22.20
32690	484077.870	2723111.190	155	25.0	4.40
32700	484082.106	2723102.132	154	27.0	46.70

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
32710	484086.492	2723093.145	153	30.0	28.90
32720	484091.027	2723084.232	152	33.0	11.20
32730	484095.710	2723075.397	151	35.0	53.50
32740	484100.539	2723066.641	150	38.0	35.70
32750	484105.514	2723057.966	149	41.0	18.00
32760	484110.633	2723049.376	148	44.0	0.20
32770	484115.894	2723040.872	147	46.0	42.50
32780	484121.296	2723032.457	146	49.0	24.70
32790	484126.838	2723024.133	145	52.0	7.00
32800	484132.518	2723015.902	144	54.0	49.20
32810	484138.334	2723007.768	143	57.0	31.50
32820	484144.284	2722999.731	143	0.0	13.70
32830	484150.368	2722991.795	142	2.0	56.00
32840	484156.583	2722983.961	141	6.0	38.80
32850	484162.920	2722976.225	140	15.0	37.00
32860	484169.365	2722968.579	139	30.0	19.00
32870	484175.903	2722961.012	138	50.0	44.80
32880	484182.522	2722953.516	138	16.0	54.30
32890	484189.208	2722946.080	137	48.0	47.60
32900	484195.949	2722938.694	137	26.0	24.70
32910	484202.731	2722931.345	137	9.0	45.50
32920	484209.543	2722924.024	136	58.0	50.20
32930	484216.372	2722916.719	136	53.0	38.60
32940	484223.206	2722909.419	136	53.0	10.20
32950	484230.041	2722902.119	136	53.0	10.20
32960	484236.875	2722894.819	136	53.0	10.20
32970	484243.710	2722887.519	136	53.0	43.10
32980	484250.538	2722880.213	136	59.0	5.40
32990	484257.349	2722872.892	137	10.0	11.50
33000	484264.131	2722865.542	137	27.0	1.40
33010	484270.870	2722858.154	137	49.0	35.00
33020	484277.554	2722850.716	138	17.0	52.40
33030	484284.171	2722843.218	138	51.0	53.60
33040	484290.706	2722835.650	139	31.0	38.60
33050	484297.148	2722828.001	140	17.0	7.30
33060	484303.481	2722820.262	141	8.0	19.80
33070	484309.692	2722812.425	142	4.0	43.20
33080	484315.772	2722804.485	143	2.0	0.90
33090	484321.718	2722796.446	143	59.0	18.70
33100	484327.530	2722788.308	144	56.0	36.40
33110	484333.205	2722780.075	145	53.0	54.20
33120	484338.743	2722771.748	146	51.0	11.90
33130	484344.140	2722763.330	147	48.0	29.70
33140	484349.397	2722754.823	148	45.0	47.40

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
33150	484354.512	2722746.230	149	43.0	5.20
33160	484359.482	2722737.553	150	40.0	22.90
33170	484364.307	2722728.794	151	37.0	40.70
33180	484368.985	2722719.956	152	34.0	58.40
33190	484373.516	2722711.041	153	32.0	16.10
33200	484377.897	2722702.052	154	29.0	33.90
33210	484382.128	2722692.992	155	26.0	51.60
33220	484386.207	2722683.862	156	24.0	9.40
33230	484390.134	2722674.665	157	21.0	27.10
33240	484393.906	2722665.404	158	18.0	44.90
33250	484397.524	2722656.082	159	16.0	2.60
33260	484400.986	2722646.700	160	13.0	20.40
33270	484404.291	2722637.262	161	10.0	38.10
33280	484407.439	2722627.770	162	7.0	55.90
33290	484410.428	2722618.228	163	5.0	13.60
33300	484413.257	2722608.636	164	2.0	31.40
33310	484415.926	2722598.999	164	59.0	49.10
33320	484418.434	2722589.319	165	57.0	6.90
33330	484420.780	2722579.598	166	54.0	24.60
33340	484422.964	2722569.840	167	51.0	42.40
33350	484424.988	2722560.047	168	46.0	19.60
33360	484426.864	2722550.225	169	35.0	13.30
33370	484428.608	2722540.378	170	18.0	23.20
33380	484430.237	2722530.511	170	55.0	49.40
33390	484431.766	2722520.629	171	27.0	31.70
33400	484433.213	2722510.734	171	53.0	30.30
33410	484434.593	2722500.830	172	13.0	45.20
33420	484435.923	2722490.919	172	28.0	16.20
33430	484437.219	2722481.003	172	37.0	3.50
33440	484438.498	2722471.085	172	40.0	7.00
33450	484439.774	2722461.167	172	40.0	7.20
33460	484441.050	2722451.249	172	40.0	7.20
33470	484442.326	2722441.331	172	40.0	7.20
33480	484443.602	2722431.412	172	40.0	7.20
33490	484444.878	2722421.494	172	40.0	7.20
33500	484446.154	2722411.576	172	40.0	7.20
33510	484447.430	2722401.658	172	40.0	7.20
33520	484448.706	2722391.739	172	40.0	7.20
33530	484449.983	2722381.821	172	40.0	7.20
33540	484451.259	2722371.903	172	40.0	7.20
33550	484452.535	2722361.985	172	40.0	7.20
33560	484453.811	2722352.066	172	40.0	7.20
33570	484455.087	2722342.148	172	40.0	7.20
33580	484456.363	2722332.230	172	40.0	7.20

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
33590	484457.639	2722322.312	172	40.0	7.20
33600	484458.915	2722312.393	172	40.0	7.20
33610	484460.191	2722302.475	172	40.0	7.20
33620	484461.467	2722292.557	172	40.0	46.20
33630	484462.733	2722282.637	172	47.0	11.80
33640	484463.972	2722272.714	173	0.0	29.90
33650	484465.161	2722262.785	173	20.0	40.50
33660	484466.283	2722252.848	173	47.0	43.70
33670	484467.316	2722242.902	174	21.0	39.50
33680	484468.241	2722232.945	175	2.0	27.70
33690	484469.038	2722222.977	175	50.0	8.50
33700	484469.687	2722212.998	176	44.0	41.80
33710	484470.167	2722203.010	177	46.0	7.60
33720	484470.459	2722193.014	178	53.0	47.00
33730	484470.552	2722183.015	180	2.0	32.30
33740	484470.445	2722173.016	181	11.0	17.60
33750	484470.137	2722163.020	182	20.0	2.90
33760	484469.630	2722153.033	183	28.0	48.20
33770	484468.923	2722143.059	184	37.0	33.50
33780	484468.017	2722133.100	185	46.0	18.80
33790	484466.912	2722123.161	186	55.0	4.10
33800	484465.608	2722113.247	188	3.0	49.40
33810	484464.107	2722103.360	189	12.0	34.70
33820	484462.408	2722093.506	190	21.0	20.00
33830	484460.512	2722083.687	191	30.0	5.30
33840	484458.421	2722073.909	192	36.0	58.50
33850	484456.150	2722064.170	193	37.0	13.40
33860	484453.718	2722054.470	194	30.0	35.80
33870	484451.146	2722044.807	195	17.0	5.60
33880	484448.452	2722035.177	195	56.0	42.90
33890	484445.658	2722025.575	196	29.0	27.70
33900	484442.782	2722015.998	196	55.0	20.00
33910	484439.843	2722006.439	197	14.0	19.70
33920	484436.861	2721996.894	197	26.0	26.90
33930	484433.855	2721987.357	197	31.0	41.60
33940	484430.842	2721977.821	197	31.0	55.90
33950	484427.830	2721968.286	197	31.0	55.90
33960	484424.818	2721958.750	197	31.0	55.90
33970	484421.805	2721949.215	197	31.0	55.90
33980	484418.793	2721939.679	197	31.0	55.90
33990	484415.780	2721930.144	197	31.0	55.90
34000	484412.768	2721920.608	197	31.0	55.90
34010	484409.756	2721911.073	197	31.0	55.90
34020	484406.743	2721901.537	197	31.0	55.90

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
34030	484403.731	2721892.002	197	31.0	55.90
34040	484400.718	2721882.466	197	31.0	55.90
34050	484397.706	2721872.931	197	31.0	55.90
34060	484394.694	2721863.395	197	31.0	55.90
34070	484391.681	2721853.860	197	31.0	55.90
34080	484388.669	2721844.324	197	31.0	55.90
34090	484385.656	2721834.789	197	31.0	55.90
34100	484382.644	2721825.254	197	31.0	55.90
34110	484379.631	2721815.718	197	31.0	55.90
34120	484376.619	2721806.183	197	31.0	55.90
34130	484373.607	2721796.647	197	31.0	55.90
34140	484370.594	2721787.112	197	31.0	55.90
34150	484367.582	2721777.576	197	31.0	55.90
34160	484364.569	2721768.041	197	31.0	55.90
34170	484361.557	2721758.505	197	31.0	55.90
34180	484358.545	2721748.970	197	31.0	55.90
34190	484355.532	2721739.434	197	31.0	55.90
34200	484352.520	2721729.899	197	31.0	55.90
34210	484349.507	2721720.363	197	31.0	55.90
34220	484346.495	2721710.828	197	31.0	55.90
34230	484343.482	2721701.292	197	31.0	55.90
34240	484340.470	2721691.757	197	31.0	55.90
34250	484337.458	2721682.221	197	31.0	55.90
34260	484334.445	2721672.686	197	31.0	55.90
34270	484331.433	2721663.150	197	31.0	55.90
34280	484328.420	2721653.615	197	31.0	55.90
34290	484325.408	2721644.079	197	31.0	55.90
34300	484322.396	2721634.544	197	31.0	55.90
34310	484319.383	2721625.008	197	31.0	55.90
34320	484316.371	2721615.473	197	31.0	55.90
34330	484313.358	2721605.938	197	31.0	55.90
34340	484310.346	2721596.402	197	31.0	55.90
34350	484307.334	2721586.867	197	31.0	55.90
34360	484304.321	2721577.331	197	31.0	55.90
34370	484301.309	2721567.796	197	31.0	55.90
34380	484298.296	2721558.260	197	31.0	55.90
34390	484295.284	2721548.725	197	31.0	55.90
34400	484292.271	2721539.189	197	31.0	55.90
34410	484289.259	2721529.654	197	31.0	55.90
34420	484286.247	2721520.118	197	31.0	55.90
34430	484283.234	2721510.583	197	31.0	55.90
34440	484280.222	2721501.047	197	31.0	55.90
34450	484277.209	2721491.512	197	31.0	55.90
34460	484274.197	2721481.976	197	31.0	55.90

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
34470	484271.185	2721472.441	197	31.0	55.90
34480	484268.172	2721462.905	197	31.0	55.90
34490	484265.160	2721453.370	197	31.0	55.90
34500	484262.147	2721443.834	197	31.0	55.90
34510	484259.135	2721434.299	197	31.0	55.90
34520	484256.122	2721424.763	197	31.0	55.90
34530	484253.110	2721415.228	197	31.0	55.90
34540	484250.098	2721405.692	197	31.0	55.90
34550	484247.085	2721396.157	197	31.0	55.90
34560	484244.073	2721386.621	197	31.0	55.90
34570	484241.060	2721377.086	197	31.0	55.90
34580	484238.048	2721367.551	197	31.0	55.90
34590	484235.036	2721358.015	197	31.0	55.90
34600	484232.023	2721348.480	197	31.0	55.90
34610	484229.011	2721338.944	197	31.0	55.90
34620	484225.998	2721329.409	197	31.0	55.90
34630	484222.986	2721319.873	197	31.0	55.90
34640	484219.973	2721310.338	197	31.0	55.90
34650	484216.961	2721300.802	197	31.0	55.90
34660	484213.949	2721291.267	197	31.0	55.90
34670	484210.936	2721281.731	197	31.0	55.90
34680	484207.924	2721272.196	197	31.0	55.90
34690	484204.911	2721262.660	197	31.0	55.90
34700	484201.899	2721253.125	197	31.0	55.90
34710	484198.887	2721243.589	197	31.0	55.90
34720	484195.874	2721234.054	197	31.0	55.90
34730	484192.862	2721224.518	197	31.0	55.90
34740	484189.849	2721214.983	197	31.0	55.90
34750	484186.837	2721205.447	197	31.0	55.90
34760	484183.825	2721195.912	197	31.0	55.90
34770	484180.812	2721186.376	197	31.0	55.90
34780	484177.800	2721176.841	197	31.0	55.90
34790	484174.787	2721167.305	197	31.0	55.90
34800	484171.775	2721157.770	197	31.0	55.90
34810	484168.762	2721148.235	197	31.0	55.90
34820	484165.750	2721138.699	197	31.0	55.90
34830	484162.738	2721129.164	197	31.0	55.90
34840	484159.725	2721119.628	197	31.0	55.90
34850	484156.713	2721110.093	197	31.0	55.90
34860	484153.700	2721100.557	197	31.0	55.90
34870	484150.688	2721091.022	197	31.0	55.90
34880	484147.676	2721081.486	197	31.0	55.90
34890	484144.663	2721071.951	197	31.0	55.90
34900	484141.651	2721062.415	197	31.0	55.90

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
34910	484138.638	2721052.880	197	31.0	55.90
34920	484135.626	2721043.344	197	31.0	55.90
34930	484132.613	2721033.809	197	31.0	55.90
34940	484129.601	2721024.273	197	31.0	55.90
34950	484126.589	2721014.738	197	31.0	55.90
34960	484123.576	2721005.202	197	31.0	55.90
34970	484120.564	2720995.667	197	31.0	55.90
34980	484117.551	2720986.131	197	31.0	55.90
34990	484114.539	2720976.596	197	31.0	55.90
35000	484111.527	2720967.060	197	31.0	55.90
35010	484108.514	2720957.525	197	31.0	55.90
35020	484105.502	2720947.989	197	31.0	55.90
35030	484102.489	2720938.454	197	31.0	55.90
35040	484099.477	2720928.919	197	31.0	55.90
35050	484096.464	2720919.383	197	31.0	55.90
35060	484093.452	2720909.848	197	31.0	55.90
35070	484090.440	2720900.312	197	31.0	55.90
35080	484087.427	2720890.777	197	31.0	55.90
35090	484084.415	2720881.241	197	31.0	55.90
35100	484081.402	2720871.706	197	31.0	55.90
35110	484078.390	2720862.170	197	31.0	55.90
35120	484075.378	2720852.635	197	31.0	55.90
35130	484072.365	2720843.099	197	31.0	55.90
35140	484069.353	2720833.564	197	31.0	55.90
35150	484066.340	2720824.028	197	31.0	55.90
35160	484063.328	2720814.493	197	31.0	55.90
35170	484060.316	2720804.957	197	31.0	55.90
35180	484057.303	2720795.422	197	31.0	55.90
35190	484054.291	2720785.886	197	31.0	55.90
35200	484051.278	2720776.351	197	31.0	55.90
35210	484048.266	2720766.815	197	31.0	55.90
35220	484045.253	2720757.280	197	31.0	55.90
35230	484042.241	2720747.744	197	31.0	55.90
35240	484039.229	2720738.209	197	31.0	55.90
35250	484036.216	2720728.673	197	31.0	55.90
35260	484033.204	2720719.138	197	31.0	55.90
35270	484030.191	2720709.602	197	31.0	55.90
35280	484027.179	2720700.067	197	31.0	55.90
35290	484024.167	2720690.532	197	31.0	55.90
35300	484021.154	2720680.996	197	31.0	55.90
35310	484018.136	2720671.462	197	40.0	15.60
35320	484015.077	2720661.942	197	57.0	27.00
35330	484011.970	2720652.437	198	14.0	38.30
35340	484008.816	2720642.947	198	31.0	49.60

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
35350	484005.614	2720633.474	198	49.0	0.90
35360	484002.365	2720624.016	199	6.0	12.30
35370	483999.068	2720614.575	199	23.0	23.60
35380	483995.725	2720605.151	199	40.0	34.90
35390	483992.334	2720595.743	199	57.0	46.20
35400	483988.897	2720586.353	200	14.0	57.60
35410	483985.412	2720576.979	200	32.0	8.90
35420	483981.881	2720567.624	200	49.0	20.20
35430	483978.303	2720558.286	201	6.0	31.50
35440	483974.678	2720548.966	201	23.0	42.90
35450	483971.007	2720539.664	201	40.0	54.20
35460	483967.289	2720530.381	201	58.0	5.50
35470	483963.525	2720521.116	202	15.0	16.80
35480	483959.715	2720511.871	202	32.0	28.10
35490	483955.858	2720502.644	202	49.0	39.50
35500	483951.955	2720493.437	203	6.0	50.80
35510	483948.007	2720484.250	203	24.0	2.10
35520	483944.012	2720475.082	203	41.0	13.40
35530	483939.972	2720465.935	203	58.0	24.80
35540	483935.886	2720456.808	204	15.0	36.10
35550	483931.755	2720447.701	204	32.0	47.40
35560	483927.577	2720438.615	204	49.0	58.70
35570	483923.355	2720429.550	205	7.0	10.10
35580	483919.087	2720420.507	205	24.0	21.40
35590	483914.775	2720411.485	205	41.0	32.70
35600	483910.417	2720402.484	205	58.0	44.00
35610	483906.014	2720393.506	206	15.0	55.40
35620	483901.566	2720384.549	206	33.0	6.70
35630	483897.074	2720375.615	206	50.0	18.00
35640	483892.537	2720366.704	207	7.0	29.30
35650	483887.955	2720357.815	207	24.0	40.70
35660	483883.329	2720348.949	207	41.0	52.00
35670	483878.661	2720340.105	207	53.0	24.60
35680	483873.984	2720331.267	207	53.0	24.60
35690	483869.306	2720322.429	207	53.0	24.60
35700	483864.628	2720313.590	207	53.0	24.60
35710	483859.950	2720304.752	207	53.0	24.60
35720	483855.272	2720295.913	207	53.0	24.60
35730	483850.595	2720287.075	207	53.0	24.60
35740	483845.917	2720278.236	207	53.0	24.60
35750	483841.239	2720269.398	207	53.0	24.60
35760	483836.561	2720260.559	207	53.0	24.60
35770	483831.884	2720251.721	207	53.0	24.60
35780	483827.206	2720242.882	207	53.0	24.60

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
35790	483822.528	2720234.044	207	53.0	24.60
35800	483817.850	2720225.205	207	53.0	24.60
35810	483813.172	2720216.367	207	53.0	24.60
35820	483808.495	2720207.529	207	53.0	24.60
35830	483803.817	2720198.690	207	53.0	24.60
35840	483799.139	2720189.852	207	53.0	24.60
35850	483794.461	2720181.013	207	53.0	24.60
35860	483789.783	2720172.175	207	53.0	24.60
35870	483785.106	2720163.336	207	53.0	24.60
35880	483780.428	2720154.498	207	53.0	24.60
35890	483775.750	2720145.659	207	53.0	24.60
35900	483771.072	2720136.821	207	53.0	24.60
35910	483766.395	2720127.982	207	53.0	24.60
35920	483761.717	2720119.144	207	53.0	24.60
35930	483757.039	2720110.305	207	53.0	24.60
35940	483752.361	2720101.467	207	53.0	24.60
35950	483747.683	2720092.629	207	53.0	24.60
35960	483743.006	2720083.790	207	53.0	24.60
35970	483738.328	2720074.952	207	53.0	24.60
35980	483733.650	2720066.113	207	53.0	24.60
35990	483728.972	2720057.275	207	53.0	24.60
36000	483724.295	2720048.436	207	53.0	24.60
36010	483719.617	2720039.598	207	53.0	24.60
36020	483714.939	2720030.759	207	53.0	24.60
36030	483710.261	2720021.921	207	53.0	24.60
36040	483705.583	2720013.082	207	53.0	24.60
36050	483700.906	2720004.244	207	53.0	24.60
36060	483696.228	2719995.406	207	53.0	24.60
36070	483691.550	2719986.567	207	53.0	24.60
36080	483686.872	2719977.729	207	53.0	24.60
36090	483682.194	2719968.890	207	53.0	24.60
36100	483677.517	2719960.052	207	53.0	24.60
36110	483672.839	2719951.213	207	53.0	24.60
36120	483668.161	2719942.375	207	53.0	24.60
36130	483663.483	2719933.536	207	53.0	24.60
36140	483658.806	2719924.698	207	53.0	24.60
36150	483654.128	2719915.859	207	53.0	24.60
36160	483649.450	2719907.021	207	53.0	24.60
36170	483644.772	2719898.182	207	53.0	24.60
36180	483640.094	2719889.344	207	53.0	24.60
36190	483635.417	2719880.506	207	53.0	24.60
36200	483630.739	2719871.667	207	53.0	24.60
36210	483626.061	2719862.829	207	53.0	24.60
36220	483621.383	2719853.990	207	53.0	24.60

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
36230	483616.706	2719845.152	207	53.0	24.60
36240	483612.028	2719836.313	207	53.0	24.60
36250	483607.350	2719827.475	207	53.0	24.60
36260	483602.672	2719818.636	207	53.0	24.60
36270	483597.994	2719809.798	207	53.0	24.60
36280	483593.317	2719800.959	207	53.0	24.60
36290	483588.639	2719792.121	207	53.0	24.60
36300	483583.961	2719783.283	207	53.0	24.60
36310	483579.283	2719774.444	207	53.0	24.60
36320	483574.605	2719765.606	207	53.0	24.60
36330	483569.928	2719756.767	207	53.0	24.60
36340	483565.250	2719747.929	207	53.0	24.60
36350	483560.572	2719739.090	207	53.0	24.60
36360	483555.894	2719730.252	207	53.0	24.60
36370	483551.217	2719721.413	207	53.0	24.60
36380	483546.539	2719712.575	207	53.0	24.60
36390	483541.861	2719703.736	207	53.0	24.60
36400	483537.183	2719694.898	207	53.0	24.60
36410	483532.505	2719686.059	207	53.0	24.60
36420	483527.828	2719677.221	207	53.0	24.60
36430	483523.150	2719668.383	207	53.0	24.60
36440	483518.472	2719659.544	207	53.0	24.60
36450	483513.794	2719650.706	207	53.0	24.60
36460	483509.117	2719641.867	207	53.0	24.60
36470	483504.439	2719633.029	207	53.0	24.60
36480	483499.761	2719624.190	207	53.0	24.60
36490	483495.083	2719615.352	207	53.0	24.60
36500	483490.405	2719606.513	207	53.0	24.60
36510	483485.728	2719597.675	207	53.0	24.60
36520	483481.050	2719588.836	207	53.0	24.60
36530	483476.372	2719579.998	207	53.0	24.60
36540	483471.694	2719571.160	207	53.0	24.60
36550	483467.016	2719562.321	207	53.0	24.60
36560	483462.339	2719553.483	207	53.0	24.60
36570	483457.661	2719544.644	207	53.0	24.60
36580	483452.983	2719535.806	207	53.0	24.60
36590	483448.305	2719526.967	207	53.0	24.60
36600	483443.628	2719518.129	207	53.0	24.60
36610	483438.950	2719509.290	207	52.0	29.90
36620	483434.281	2719500.447	207	46.0	24.10
36630	483429.636	2719491.592	207	34.0	34.60
36640	483425.028	2719482.716	207	17.0	1.20
36650	483420.473	2719473.814	206	53.0	44.10
36660	483415.986	2719464.877	206	24.0	43.20

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
36670	483411.581	2719455.900	205	49.0	58.60
36680	483407.276	2719446.874	205	9.0	30.10
36690	483403.084	2719437.795	204	23.0	17.90
36700	483399.023	2719428.657	203	31.0	21.90
36710	483395.107	2719419.456	202	34.0	36.90
36720	483391.345	2719410.190	201	37.0	19.10
36730	483387.738	2719400.864	200	40.0	1.40
36740	483384.286	2719391.478	199	42.0	43.60
36750	483380.992	2719382.037	198	45.0	25.90
36760	483377.856	2719372.541	197	48.0	8.10
36770	483374.878	2719362.995	196	50.0	50.40
36780	483372.059	2719353.401	195	53.0	32.60
36790	483369.401	2719343.761	194	56.0	14.90
36800	483366.904	2719334.077	193	58.0	57.10
36810	483364.569	2719324.354	193	1.0	39.40
36820	483362.396	2719314.593	192	4.0	21.60
36830	483360.386	2719304.797	191	7.0	3.90
36840	483358.540	2719294.969	190	9.0	46.20
36850	483356.857	2719285.112	189	12.0	28.40
36860	483355.340	2719275.228	188	15.0	10.70
36870	483353.987	2719265.320	187	17.0	52.90
36880	483352.799	2719255.391	186	20.0	35.20
36890	483351.777	2719245.443	185	23.0	17.40
36900	483350.921	2719235.480	184	25.0	59.70
36910	483350.231	2719225.504	183	28.0	41.90
36920	483349.708	2719215.518	182	31.0	24.20
36930	483349.351	2719205.525	181	34.0	6.40
36940	483349.160	2719195.526	180	36.0	48.70
36950	483349.137	2719185.527	179	39.0	30.90
36960	483349.279	2719175.528	178	42.0	13.20
36970	483349.589	2719165.533	177	44.0	55.40
36980	483350.065	2719155.544	176	47.0	37.70
36990	483350.708	2719145.565	175	50.0	20.00
37000	483351.516	2719135.598	174	53.0	2.20
37010	483352.491	2719125.645	173	55.0	44.50
37020	483353.631	2719115.711	172	58.0	26.70
37030	483354.937	2719105.797	172	1.0	9.00
37040	483356.408	2719095.905	171	3.0	51.20
37050	483358.044	2719086.040	170	6.0	33.50
37060	483359.843	2719076.204	169	9.0	15.70
37070	483361.807	2719066.398	168	11.0	58.00
37080	483363.933	2719056.627	167	14.0	40.20
37090	483366.222	2719046.893	166	18.0	15.30
37100	483368.663	2719037.195	165	27.0	0.00

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
37110	483371.241	2719027.533	164	41.0	28.50
37120	483373.938	2719017.904	164	1.0	40.80
37130	483376.739	2719008.304	163	27.0	36.80
37140	483379.626	2718998.730	162	59.0	16.70
37150	483382.585	2718989.178	162	36.0	40.30
37160	483385.598	2718979.643	162	19.0	47.60
37170	483388.650	2718970.120	162	8.0	38.80
37180	483391.725	2718960.605	162	3.0	13.70
37190	483394.808	2718951.092	162	2.0	39.60
37200	483397.891	2718941.579	162	2.0	39.60
37210	483400.973	2718932.066	162	2.0	39.60
37220	483404.056	2718922.553	162	2.0	39.60
37230	483407.139	2718913.040	162	2.0	39.60
37240	483410.222	2718903.527	162	2.0	39.60
37250	483413.305	2718894.014	162	2.0	39.60
37260	483416.388	2718884.501	162	2.0	39.60
37270	483419.470	2718874.988	162	2.0	39.60
37280	483422.553	2718865.475	162	2.0	39.60
37290	483425.636	2718855.962	162	2.0	39.60
37300	483428.719	2718846.449	162	2.0	39.60
37310	483431.802	2718836.936	162	2.0	39.60
37320	483434.884	2718827.423	162	2.0	39.60
37330	483437.967	2718817.910	162	2.0	39.60
37340	483441.050	2718808.397	162	2.0	39.60
37350	483444.133	2718798.884	162	2.0	39.60
37360	483447.216	2718789.371	162	2.0	39.60
37370	483450.298	2718779.858	162	2.0	39.60
37380	483453.381	2718770.345	162	2.0	39.60
37390	483456.464	2718760.832	162	2.0	39.60
37400	483459.547	2718751.319	162	2.0	39.60
37410	483462.630	2718741.807	162	2.0	39.60
37420	483465.713	2718732.294	162	2.0	39.60
37430	483468.795	2718722.781	162	2.0	39.60
37440	483471.878	2718713.268	162	2.0	39.60
37450	483474.961	2718703.755	162	2.0	39.60
37460	483478.044	2718694.242	162	2.0	39.60
37470	483481.127	2718684.729	162	2.0	39.60
37480	483484.209	2718675.216	162	2.0	39.60
37490	483487.292	2718665.703	162	2.0	39.60
37500	483490.375	2718656.190	162	2.0	39.60
37510	483493.458	2718646.677	162	2.0	39.60
37520	483496.541	2718637.164	162	2.0	39.60
37530	483499.623	2718627.651	162	2.0	39.60
37540	483502.706	2718618.138	162	2.0	39.60

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
37550	483505.789	2718608.625	162	2.0	39.60
37560	483508.872	2718599.112	162	2.0	39.60
37570	483511.955	2718589.599	162	2.0	39.60
37580	483515.038	2718580.086	162	2.0	39.60
37590	483518.120	2718570.573	162	2.0	39.60
37600	483521.203	2718561.060	162	2.0	39.60
37610	483524.286	2718551.547	162	2.0	39.60
37620	483527.369	2718542.035	162	2.0	39.60
37630	483530.452	2718532.522	162	2.0	39.60
37640	483533.534	2718523.009	162	2.0	39.60
37650	483536.617	2718513.496	162	2.0	39.60
37660	483539.700	2718503.983	162	2.0	39.60
37670	483542.783	2718494.470	162	2.0	39.60
37680	483545.866	2718484.957	162	2.0	39.60
37690	483548.948	2718475.444	162	2.0	39.60
37700	483552.031	2718465.931	162	2.0	39.60
37710	483555.114	2718456.418	162	2.0	39.60
37720	483558.197	2718446.905	162	2.0	39.60
37730	483561.280	2718437.392	162	2.0	39.60
37740	483564.362	2718427.879	162	2.0	39.60
37750	483567.445	2718418.366	162	2.0	39.60
37760	483570.528	2718408.853	162	2.0	39.60
37770	483573.611	2718399.340	162	2.0	39.60
37780	483576.694	2718389.827	162	2.0	39.60
37790	483579.777	2718380.314	162	2.0	39.60
37800	483582.859	2718370.801	162	2.0	39.60
37810	483585.942	2718361.288	162	2.0	39.60
37820	483589.025	2718351.775	162	2.0	39.60
37830	483592.108	2718342.263	162	2.0	39.60
37840	483595.191	2718332.750	162	2.0	39.60
37850	483598.273	2718323.237	162	2.0	39.60
37860	483601.356	2718313.724	162	2.0	39.60
37870	483604.439	2718304.211	162	2.0	39.60
37880	483607.522	2718294.698	162	2.0	39.60
37890	483610.605	2718285.185	162	2.0	39.60
37900	483613.687	2718275.672	162	2.0	39.60
37910	483616.770	2718266.159	162	2.0	39.60
37920	483619.853	2718256.646	162	2.0	39.60
37930	483622.936	2718247.133	162	2.0	39.60
37940	483626.019	2718237.620	162	2.0	39.60
37950	483629.102	2718228.107	162	2.0	39.60
37960	483632.184	2718218.594	162	2.0	39.60
37970	483635.267	2718209.081	162	2.0	39.60
37980	483638.350	2718199.568	162	2.0	39.60

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
37990	483641.433	2718190.055	162	2.0	39.60
38000	483644.516	2718180.542	162	2.0	39.60
38010	483647.598	2718171.029	162	2.0	39.60
38020	483650.681	2718161.516	162	2.0	39.60
38030	483653.764	2718152.003	162	2.0	39.60
38040	483656.847	2718142.491	162	2.0	39.60
38050	483659.930	2718132.978	162	2.0	39.60
38060	483663.012	2718123.465	162	2.0	39.60
38070	483666.095	2718113.952	162	2.0	39.60
38080	483669.178	2718104.439	162	2.0	39.60
38090	483672.261	2718094.926	162	2.0	39.60
38100	483675.344	2718085.413	162	2.0	39.60
38110	483678.427	2718075.900	162	2.0	39.60
38120	483681.509	2718066.387	162	2.0	39.60
38130	483684.592	2718056.874	162	2.0	39.60
38140	483687.675	2718047.361	162	2.0	39.60
38150	483690.758	2718037.848	162	2.0	39.60
38160	483693.841	2718028.335	162	2.0	39.60
38170	483696.923	2718018.822	162	2.0	39.60
38180	483700.006	2718009.309	162	2.0	39.60
38190	483703.089	2717999.796	162	2.0	39.60
38200	483706.172	2717990.283	162	2.0	39.60
38210	483709.255	2717980.770	162	2.0	39.60
38220	483712.337	2717971.257	162	2.0	39.60
38230	483715.418	2717961.744	162	5.0	32.30
38240	483718.482	2717952.225	162	14.0	8.90
38250	483721.514	2717942.695	162	28.0	29.20
38260	483724.499	2717933.151	162	48.0	33.30
38270	483727.420	2717923.587	163	14.0	21.20
38280	483730.261	2717914.000	163	45.0	52.90
38290	483733.006	2717904.384	164	23.0	8.30
38300	483735.639	2717894.737	165	6.0	7.50
38310	483738.143	2717885.055	165	54.0	50.50
38320	483740.501	2717875.337	166	49.0	17.30
38330	483742.700	2717865.582	167	46.0	35.00
38340	483744.735	2717855.792	168	43.0	32.10
38350	483746.614	2717845.970	169	35.0	58.80
38360	483748.351	2717836.122	170	22.0	41.70
38370	483749.962	2717826.253	171	3.0	40.90
38380	483751.464	2717816.366	171	38.0	56.20
38390	483752.873	2717806.466	172	8.0	27.80
38400	483754.204	2717796.555	172	32.0	15.70
38410	483755.476	2717786.636	172	50.0	19.70
38420	483756.703	2717776.712	173	2.0	40.00

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
38430	483757.903	2717766.784	173	9.0	16.50
38440	483759.092	2717756.855	173	10.0	29.90
38450	483760.281	2717746.926	173	10.0	29.90
38460	483761.469	2717736.997	173	10.0	29.90
38470	483762.657	2717727.068	173	10.0	29.90
38480	483763.846	2717717.138	173	10.0	29.90
38490	483765.034	2717707.209	173	10.0	29.90
38500	483766.223	2717697.280	173	10.0	29.90
38510	483767.411	2717687.351	173	10.0	29.90
38520	483768.599	2717677.422	173	10.0	29.90
38530	483769.788	2717667.493	173	10.0	29.90
38540	483770.976	2717657.564	173	10.0	29.90
38550	483772.164	2717647.634	173	10.0	29.90
38560	483773.353	2717637.705	173	10.0	29.90
38570	483774.541	2717627.776	173	10.0	29.90
38580	483775.730	2717617.847	173	10.0	29.90
38590	483776.918	2717607.918	173	10.0	29.90
38600	483778.106	2717597.989	173	10.0	29.90
38610	483779.295	2717588.060	173	10.0	29.90
38620	483780.483	2717578.131	173	10.0	29.90
38630	483781.672	2717568.201	173	10.0	29.90
38640	483782.860	2717558.272	173	10.0	29.90
38650	483784.048	2717548.343	173	10.0	29.90
38660	483785.237	2717538.414	173	10.0	29.90
38670	483786.425	2717528.485	173	10.0	29.90
38680	483787.613	2717518.556	173	10.0	29.90
38690	483788.802	2717508.627	173	10.0	29.90
38700	483789.990	2717498.697	173	10.0	29.90
38710	483791.179	2717488.768	173	10.0	29.90
38720	483792.367	2717478.839	173	10.0	29.90
38730	483793.555	2717468.910	173	10.0	29.90
38740	483794.744	2717458.981	173	10.0	29.90
38750	483795.932	2717449.052	173	10.0	29.90
38760	483797.120	2717439.123	173	10.0	29.90
38770	483798.309	2717429.193	173	10.0	29.90
38780	483799.497	2717419.264	173	10.0	29.90
38790	483800.686	2717409.335	173	10.0	29.90
38800	483801.874	2717399.406	173	10.0	29.90
38810	483803.062	2717389.477	173	10.0	29.90
38820	483804.251	2717379.548	173	10.0	29.90
38830	483805.439	2717369.619	173	10.0	29.90
38840	483806.627	2717359.690	173	10.0	29.90
38850	483807.816	2717349.760	173	10.0	29.90
38860	483809.004	2717339.831	173	10.0	29.90

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
38870	483810.193	2717329.902	173	10.0	29.90
38880	483811.381	2717319.973	173	10.0	29.90
38890	483812.569	2717310.044	173	10.0	29.90
38900	483813.758	2717300.115	173	10.0	29.90
38910	483814.946	2717290.186	173	10.0	29.90
38920	483816.135	2717280.256	173	10.0	29.90
38930	483817.323	2717270.327	173	10.0	29.90
38940	483818.511	2717260.398	173	10.0	29.90
38950	483819.700	2717250.469	173	10.0	29.90
38960	483820.888	2717240.540	173	10.0	29.90
38970	483822.076	2717230.611	173	10.0	29.90
38980	483823.265	2717220.682	173	10.0	29.90
38990	483824.453	2717210.752	173	10.0	29.90
39000	483825.642	2717200.823	173	10.0	29.90
39010	483826.830	2717190.894	173	10.0	29.90
39020	483828.018	2717180.965	173	10.0	29.90
39030	483829.207	2717171.036	173	10.0	29.90
39040	483830.395	2717161.107	173	10.0	29.90
39050	483831.583	2717151.178	173	10.0	29.90
39060	483832.772	2717141.249	173	10.0	29.90
39070	483833.960	2717131.319	173	10.0	29.90
39080	483835.149	2717121.390	173	10.0	29.90
39090	483836.337	2717111.461	173	10.0	29.90
39100	483837.525	2717101.532	173	10.0	29.90
39110	483838.714	2717091.603	173	10.0	29.90
39120	483839.902	2717081.674	173	10.0	29.90
39130	483841.090	2717071.745	173	10.0	29.90
39140	483842.279	2717061.815	173	10.0	29.90
39150	483843.467	2717051.886	173	10.0	29.90
39160	483844.656	2717041.957	173	10.0	29.90
39170	483845.844	2717032.028	173	10.0	29.90
39180	483847.032	2717022.099	173	10.0	29.90
39190	483848.221	2717012.170	173	10.0	29.90
39200	483849.409	2717002.241	173	10.0	29.90
39210	483850.598	2716992.311	173	10.0	29.90
39220	483851.786	2716982.382	173	10.0	29.90
39230	483852.974	2716972.453	173	10.0	29.90
39240	483854.163	2716962.524	173	10.0	29.90
39250	483855.351	2716952.595	173	10.0	29.90
39260	483856.539	2716942.666	173	10.0	29.90
39270	483857.728	2716932.737	173	10.0	29.90
39280	483858.916	2716922.808	173	10.0	29.90
39290	483860.105	2716912.878	173	10.0	29.90
39300	483861.293	2716902.949	173	10.0	29.90

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
39310	483862.481	2716893.020	173	10.0	29.90
39320	483863.670	2716883.091	173	10.0	29.90
39330	483864.858	2716873.162	173	10.0	29.90
39340	483866.046	2716863.233	173	10.0	29.90
39350	483867.235	2716853.304	173	10.0	29.90
39360	483868.423	2716843.374	173	10.0	29.90
39370	483869.612	2716833.445	173	10.0	29.90
39380	483870.800	2716823.516	173	10.0	29.90
39390	483871.988	2716813.587	173	10.0	29.90
39400	483873.177	2716803.658	173	10.0	29.90
39410	483874.365	2716793.729	173	10.0	29.90
39420	483875.554	2716783.800	173	10.0	29.90
39430	483876.727	2716773.869	173	23.0	40.10
39440	483877.853	2716763.932	173	40.0	51.40
39450	483878.929	2716753.990	173	58.0	2.70
39460	483879.955	2716744.043	174	15.0	14.10
39470	483880.931	2716734.091	174	32.0	25.40
39480	483881.858	2716724.134	174	49.0	36.70
39490	483882.734	2716714.172	175	6.0	48.00
39500	483883.561	2716704.207	175	23.0	59.40
39510	483884.338	2716694.237	175	41.0	10.70
39520	483885.066	2716684.263	175	58.0	22.00
39530	483885.743	2716674.286	176	15.0	33.30
39540	483886.370	2716664.306	176	32.0	44.70
39550	483886.948	2716654.323	176	49.0	56.00
39560	483887.476	2716644.337	177	7.0	7.30
39570	483887.953	2716634.348	177	24.0	18.60
39580	483888.381	2716624.357	177	41.0	30.00
39590	483888.759	2716614.365	177	58.0	41.30
39600	483889.087	2716604.370	178	15.0	52.60
39610	483889.365	2716594.374	178	33.0	3.90
39620	483889.592	2716584.376	178	50.0	15.30
39630	483889.770	2716574.378	179	7.0	26.60
39640	483889.898	2716564.379	179	24.0	37.90
39650	483889.976	2716554.379	179	41.0	49.20
39660	483890.004	2716544.379	179	59.0	0.50
39670	483889.982	2716534.379	180	16.0	11.90
39680	483889.910	2716524.379	180	33.0	23.20
39690	483889.788	2716514.380	180	50.0	34.50
39700	483889.615	2716504.382	181	7.0	45.80
39710	483889.393	2716494.384	181	24.0	57.20
39720	483889.121	2716484.388	181	42.0	8.50
39730	483888.799	2716474.393	181	59.0	19.80
39740	483888.427	2716464.400	182	16.0	31.10

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
39750	483888.005	2716454.409	182	33.0	42.50
39760	483887.533	2716444.420	182	50.0	53.80
39770	483887.011	2716434.434	183	8.0	5.10
39780	483886.440	2716424.450	183	25.0	16.40
39790	483885.818	2716414.469	183	42.0	27.80
39800	483885.146	2716404.492	183	59.0	39.10
39810	483884.425	2716394.518	184	16.0	50.40
39820	483883.653	2716384.548	184	34.0	1.70
39830	483882.832	2716374.582	184	51.0	13.10
39840	483881.961	2716364.620	185	8.0	24.40
39850	483881.040	2716354.662	185	25.0	35.70
39860	483880.070	2716344.709	185	42.0	47.00
39870	483879.049	2716334.762	185	59.0	58.40
39880	483877.979	2716324.819	186	17.0	9.70
39890	483876.870	2716314.881	186	23.0	2.50
39900	483875.758	2716304.943	186	23.0	2.50
39910	483874.647	2716295.005	186	23.0	2.50
39920	483873.535	2716285.067	186	23.0	2.50
39930	483872.423	2716275.129	186	23.0	2.50
39940	483871.311	2716265.191	186	23.0	2.50
39950	483870.199	2716255.253	186	23.0	2.50
39960	483869.087	2716245.315	186	23.0	2.50
39970	483867.975	2716235.377	186	23.0	2.50
39980	483866.863	2716225.439	186	23.0	2.50
39990	483865.751	2716215.501	186	23.0	2.50
40000	483864.639	2716205.563	186	23.0	2.50
40010	483863.527	2716195.625	186	23.0	2.50
40020	483862.415	2716185.687	186	23.0	2.50
40030	483861.303	2716175.749	186	23.0	2.50
40040	483860.192	2716165.811	186	23.0	2.50
40050	483859.080	2716155.873	186	23.0	2.50
40060	483857.968	2716145.935	186	23.0	2.50
40070	483856.856	2716135.997	186	23.0	2.50
40080	483855.744	2716126.059	186	23.0	2.50
40090	483854.632	2716116.121	186	23.0	2.50
40100	483853.520	2716106.183	186	23.0	28.30
40110	483852.400	2716096.246	186	29.0	20.30
40120	483851.253	2716086.312	186	42.0	4.90
40130	483850.059	2716076.383	187	1.0	42.00
40140	483848.799	2716066.463	187	28.0	11.60
40150	483847.453	2716056.554	188	1.0	33.70
40160	483846.000	2716046.660	188	41.0	48.40
40170	483844.422	2716036.786	189	28.0	55.60
40180	483842.699	2716026.935	190	22.0	55.40

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
40190	483840.812	2716017.115	191	23.0	47.60
40200	483838.741	2716007.332	192	31.0	6.70
40210	483836.476	2715997.592	193	39.0	52.00
40220	483834.016	2715987.900	194	48.0	37.30
40230	483831.364	2715978.258	195	57.0	22.60
40240	483828.519	2715968.671	197	6.0	7.90
40250	483825.483	2715959.144	198	14.0	53.20
40260	483822.257	2715949.679	199	23.0	38.50
40270	483818.842	2715940.280	200	32.0	23.80
40280	483815.240	2715930.951	201	41.0	9.10
40290	483811.452	2715921.697	202	49.0	54.40
40300	483807.480	2715912.519	203	58.0	39.70
40310	483803.325	2715903.424	205	7.0	25.00
40320	483798.989	2715894.413	206	16.0	10.20
40330	483794.474	2715885.490	207	24.0	55.50
40340	483789.781	2715876.660	208	33.0	40.80
40350	483784.912	2715867.926	209	42.0	26.10
40360	483779.870	2715859.290	210	51.0	11.40
40370	483774.656	2715850.757	211	59.0	56.70
40380	483769.273	2715842.330	213	8.0	42.00
40390	483763.722	2715834.012	214	17.0	27.30
40400	483758.005	2715825.807	215	26.0	12.60
40410	483752.126	2715817.718	216	34.0	57.90
40420	483746.087	2715809.748	217	43.0	43.20
40430	483739.889	2715801.901	218	52.0	28.50
40440	483733.535	2715794.179	220	1.0	13.80
40450	483727.028	2715786.586	221	9.0	59.10
40460	483720.371	2715779.124	222	18.0	44.40
40470	483713.566	2715771.797	223	27.0	29.70
40480	483706.615	2715764.607	224	36.0	15.00
40490	483699.523	2715757.558	225	45.0	0.30
40500	483692.290	2715750.653	226	53.0	45.60
40510	483684.921	2715743.893	228	2.0	30.90
40520	483677.419	2715737.282	229	11.0	16.20
40530	483669.785	2715730.822	230	20.0	1.50
40540	483662.024	2715724.516	231	28.0	46.80
40550	483654.138	2715718.367	232	37.0	32.10
40560	483646.131	2715712.377	233	46.0	17.40
40570	483638.006	2715706.548	234	55.0	2.60
40580	483629.766	2715700.882	236	2.0	56.20
40590	483621.420	2715695.374	237	4.0	48.70
40600	483612.982	2715690.008	237	59.0	48.70
40610	483604.464	2715684.769	238	47.0	56.10
40620	483595.879	2715679.641	239	29.0	11.00

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
40630	483587.238	2715674.609	240	3.0	33.40
40640	483578.552	2715669.654	240	31.0	3.30
40650	483569.831	2715664.760	240	51.0	40.60
40660	483561.086	2715659.909	241	5.0	25.40
40670	483552.327	2715655.085	241	12.0	17.60
40680	483543.562	2715650.270	241	13.0	9.10
40690	483534.797	2715645.456	241	13.0	9.10
40700	483526.033	2715640.641	241	13.0	9.10
40710	483517.268	2715635.827	241	13.0	9.10
40720	483508.503	2715631.012	241	13.0	9.10
40730	483499.739	2715626.197	241	13.0	9.10
40740	483490.974	2715621.383	241	13.0	9.10
40750	483482.209	2715616.568	241	13.0	9.10
40760	483473.445	2715611.753	241	13.0	9.10
40770	483464.680	2715606.939	241	13.0	9.10
40780	483455.915	2715602.124	241	13.0	9.10
40790	483447.151	2715597.310	241	13.0	9.10
40800	483438.386	2715592.495	241	13.0	9.10
40810	483429.621	2715587.680	241	13.0	9.10
40820	483420.857	2715582.866	241	13.0	9.10
40830	483412.092	2715578.051	241	13.0	9.10
40840	483403.327	2715573.237	241	13.0	9.10
40850	483394.563	2715568.422	241	13.0	9.10
40860	483385.798	2715563.607	241	13.0	9.10
40870	483377.033	2715558.793	241	13.0	9.10
40880	483368.269	2715553.978	241	13.0	9.10
40890	483359.504	2715549.164	241	13.0	9.10
40900	483350.739	2715544.349	241	13.0	9.10
40910	483341.975	2715539.534	241	13.0	9.10
40920	483333.210	2715534.720	241	13.0	9.10
40930	483324.445	2715529.905	241	13.0	6.30
40940	483315.682	2715525.087	241	9.0	30.90
40950	483306.929	2715520.253	241	0.0	11.70
40960	483298.192	2715515.387	240	45.0	8.80
40970	483289.481	2715510.476	240	24.0	22.00
40980	483280.804	2715505.505	239	57.0	51.50
40990	483272.170	2715500.461	239	25.0	37.30
41000	483263.588	2715495.328	238	47.0	39.20
41010	483255.067	2715490.094	238	3.0	57.40
41020	483246.618	2715484.745	237	14.0	31.80
41030	483238.251	2715479.268	236	19.0	25.20
41040	483229.976	2715473.654	235	22.0	7.40
41050	483221.796	2715467.903	234	24.0	49.70
41060	483213.712	2715462.016	233	27.0	31.90

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
41070	483205.728	2715455.995	232	30.0	14.20
41080	483197.845	2715449.842	231	32.0	56.40
41090	483190.066	2715443.559	230	35.0	38.70
41100	483182.392	2715437.147	229	38.0	20.90
41110	483174.827	2715430.607	228	41.0	3.20
41120	483167.371	2715423.943	227	43.0	45.40
41130	483160.028	2715417.155	226	46.0	27.70
41140	483152.799	2715410.246	225	49.0	9.90
41150	483145.686	2715403.218	224	51.0	52.20
41160	483138.691	2715396.071	223	54.0	34.50
41170	483131.816	2715388.809	222	57.0	16.70
41180	483125.063	2715381.434	221	59.0	59.00
41190	483118.434	2715373.947	221	2.0	41.20
41200	483111.931	2715366.351	220	5.0	23.50
41210	483105.555	2715358.647	219	8.0	5.70
41220	483099.308	2715350.838	218	10.0	48.00
41230	483093.193	2715342.926	217	13.0	30.20
41240	483087.210	2715334.914	216	16.0	12.50
41250	483081.361	2715326.802	215	18.0	54.70
41260	483075.649	2715318.595	214	21.0	37.00
41270	483070.074	2715310.293	213	24.0	23.30
41280	483064.635	2715301.902	212	30.0	50.00
41290	483059.320	2715293.432	211	43.0	0.60
41300	483054.116	2715284.892	211	0.0	54.90
41310	483049.010	2715276.294	210	24.0	32.90
41320	483043.988	2715267.647	209	53.0	54.80
41330	483039.036	2715258.959	209	29.0	0.40
41340	483034.139	2715250.240	209	9.0	49.80
41350	483029.285	2715241.497	208	56.0	23.00
41360	483024.457	2715232.740	208	48.0	40.00
41370	483019.641	2715223.976	208	46.0	36.70
41380	483014.827	2715215.211	208	46.0	36.70
41390	483010.013	2715206.446	208	46.0	36.70
41400	483005.199	2715197.681	208	46.0	36.70
41410	483000.385	2715188.915	208	46.0	36.70
41420	482995.571	2715180.150	208	46.0	36.70
41430	482990.757	2715171.385	208	46.0	36.70
41440	482985.943	2715162.620	208	46.0	36.70
41450	482981.129	2715153.855	208	46.0	36.70
41460	482976.315	2715145.090	208	46.0	36.70
41470	482971.501	2715136.325	208	46.0	36.70
41480	482966.687	2715127.560	208	46.0	36.70
41490	482961.873	2715118.795	208	46.0	36.70
41500	482957.059	2715110.030	208	46.0	36.70

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
41510	482952.245	2715101.265	208	46.0	36.70
41520	482947.431	2715092.500	208	46.0	36.70
41530	482942.617	2715083.735	208	46.0	36.70
41540	482937.803	2715074.970	208	46.0	36.70
41550	482932.989	2715066.205	208	46.0	36.70
41560	482928.175	2715057.440	208	46.0	36.70
41570	482923.361	2715048.675	208	46.0	36.70
41580	482918.547	2715039.910	208	46.0	36.70
41590	482913.733	2715031.145	208	46.0	36.70
41600	482908.919	2715022.380	208	46.0	36.70
41610	482904.105	2715013.615	208	46.0	36.70
41620	482899.291	2715004.850	208	46.0	36.70
41630	482894.477	2714996.085	208	46.0	36.70
41640	482889.663	2714987.320	208	46.0	36.70
41650	482884.849	2714978.555	208	46.0	36.70
41660	482880.035	2714969.790	208	46.0	36.70
41670	482875.221	2714961.025	208	46.0	36.70
41680	482870.407	2714952.260	208	46.0	36.70
41690	482865.593	2714943.495	208	46.0	36.70
41700	482860.779	2714934.730	208	46.0	36.70
41710	482855.965	2714925.965	208	46.0	36.70
41720	482851.151	2714917.200	208	46.0	36.70
41730	482846.337	2714908.435	208	46.0	36.70
41740	482841.523	2714899.670	208	46.0	36.70
41750	482836.709	2714890.905	208	46.0	36.70
41760	482831.895	2714882.140	208	46.0	36.70
41770	482827.081	2714873.375	208	46.0	36.70
41780	482822.267	2714864.610	208	46.0	36.70
41790	482817.453	2714855.845	208	46.0	36.70
41800	482812.639	2714847.080	208	46.0	36.70
41810	482807.825	2714838.315	208	46.0	36.70
41820	482803.011	2714829.550	208	46.0	36.70
41830	482798.197	2714820.785	208	46.0	36.70
41840	482793.383	2714812.020	208	46.0	36.70
41850	482788.569	2714803.255	208	46.0	36.70
41860	482783.755	2714794.490	208	46.0	36.70
41870	482778.941	2714785.725	208	46.0	36.70
41880	482774.127	2714776.960	208	46.0	36.70
41890	482769.313	2714768.195	208	46.0	36.70
41900	482764.499	2714759.430	208	46.0	36.70
41910	482759.685	2714750.665	208	46.0	36.70
41920	482754.871	2714741.900	208	46.0	36.70
41930	482750.058	2714733.135	208	46.0	36.70
41940	482745.244	2714724.370	208	46.0	36.70

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
41950	482740.430	2714715.605	208	46.0	36.70
41960	482735.616	2714706.840	208	46.0	36.70
41970	482730.802	2714698.075	208	46.0	36.70
41980	482725.988	2714689.310	208	46.0	36.70
41990	482721.174	2714680.545	208	46.0	36.70
42000	482716.360	2714671.780	208	46.0	36.70
42010	482711.546	2714663.015	208	46.0	36.70
42020	482706.732	2714654.250	208	46.0	36.70
42030	482701.918	2714645.485	208	46.0	36.70
42040	482697.104	2714636.720	208	46.0	36.70
42050	482692.290	2714627.955	208	46.0	36.70
42060	482687.476	2714619.190	208	46.0	36.70
42070	482682.662	2714610.425	208	46.0	36.70
42080	482677.848	2714601.660	208	46.0	36.70
42090	482673.034	2714592.895	208	46.0	36.70
42100	482668.220	2714584.130	208	46.0	36.70
42110	482663.406	2714575.365	208	46.0	36.70
42120	482658.592	2714566.600	208	46.0	36.70
42130	482653.778	2714557.835	208	46.0	36.70
42140	482648.964	2714549.070	208	46.0	36.70
42150	482644.150	2714540.305	208	46.0	36.70
42160	482639.352	2714531.531	208	31.0	43.60
42170	482634.598	2714522.733	208	14.0	32.30
42180	482629.888	2714513.912	207	57.0	21.00
42190	482625.222	2714505.067	207	40.0	9.70
42200	482620.601	2714496.199	207	22.0	58.30
42210	482616.024	2714487.308	207	5.0	47.00
42220	482611.491	2714478.394	206	48.0	35.70
42230	482607.003	2714469.458	206	31.0	24.40
42240	482602.560	2714460.499	206	14.0	13.00
42250	482598.161	2714451.518	205	57.0	1.70
42260	482593.808	2714442.516	205	39.0	50.40
42270	482589.500	2714433.491	205	22.0	39.10
42280	482585.236	2714424.446	205	5.0	27.70
42290	482581.018	2714415.379	204	48.0	16.40
42300	482576.846	2714406.291	204	31.0	5.10
42310	482572.719	2714397.182	204	13.0	53.80
42320	482568.637	2714388.053	203	56.0	42.40
42330	482564.602	2714378.904	203	39.0	31.10
42340	482560.612	2714369.734	203	22.0	19.80
42350	482556.668	2714360.545	203	5.0	8.50
42360	482552.770	2714351.336	202	47.0	57.20
42370	482548.918	2714342.107	202	30.0	45.80
42380	482545.112	2714332.860	202	13.0	34.50

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
42390	482541.352	2714323.594	201	56.0	23.20
42400	482537.639	2714314.309	201	39.0	11.90
42410	482533.973	2714305.005	201	22.0	0.50
42420	482530.352	2714295.683	201	4.0	49.20
42430	482526.776	2714286.345	200	54.0	2.40
42440	482523.208	2714277.003	200	54.0	2.40
42450	482519.641	2714267.661	200	54.0	2.40
42460	482516.073	2714258.319	200	54.0	2.40
42470	482512.506	2714248.977	200	54.0	2.40
42480	482508.938	2714239.635	200	54.0	2.40
42490	482505.371	2714230.293	200	54.0	2.40
42500	482501.803	2714220.951	200	54.0	2.40
42510	482498.236	2714211.609	200	54.0	2.40
42520	482494.668	2714202.267	200	54.0	2.40
42530	482491.101	2714192.925	200	54.0	2.40
42540	482487.533	2714183.583	200	54.0	2.40
42550	482483.966	2714174.241	200	54.0	2.40
42560	482480.398	2714164.899	200	54.0	2.40
42570	482476.831	2714155.557	200	54.0	2.40
42580	482473.264	2714146.215	200	54.0	2.40
42590	482469.696	2714136.873	200	54.0	2.40
42600	482466.129	2714127.531	200	54.0	2.40
42610	482462.561	2714118.189	200	54.0	2.40
42620	482458.994	2714108.847	200	54.0	2.40
42630	482455.426	2714099.505	200	54.0	2.40
42640	482451.859	2714090.163	200	54.0	2.40
42650	482448.291	2714080.821	200	54.0	2.40
42660	482444.724	2714071.479	200	54.0	2.40
42670	482441.156	2714062.137	200	54.0	2.40
42680	482437.589	2714052.795	200	54.0	2.40
42690	482434.021	2714043.453	200	54.0	2.40
42700	482430.454	2714034.111	200	54.0	2.40
42710	482426.886	2714024.769	200	54.0	2.40
42720	482423.319	2714015.427	200	54.0	2.40
42730	482419.751	2714006.085	200	54.0	2.40
42740	482416.184	2713996.743	200	54.0	2.40
42750	482412.616	2713987.401	200	54.0	2.40
42760	482409.049	2713978.059	200	54.0	2.40
42770	482405.481	2713968.717	200	54.0	2.40
42780	482401.914	2713959.375	200	54.0	2.40
42790	482398.346	2713950.033	200	54.0	2.40
42800	482394.779	2713940.691	200	54.0	2.40
42810	482391.211	2713931.349	200	54.0	2.40
42820	482387.644	2713922.007	200	54.0	2.40

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
42830	482384.076	2713912.665	200	54.0	2.40
42840	482380.509	2713903.323	200	54.0	2.40
42850	482376.941	2713893.981	200	54.0	2.40
42860	482373.374	2713884.639	200	54.0	2.40
42870	482369.806	2713875.297	200	54.0	2.40
42880	482366.239	2713865.955	200	54.0	2.40
42890	482362.671	2713856.613	200	54.0	2.40
42900	482359.104	2713847.271	200	54.0	2.40
42910	482355.536	2713837.929	200	54.0	2.40
42920	482351.969	2713828.587	200	54.0	2.40
42930	482348.401	2713819.245	200	54.0	2.40
42940	482344.834	2713809.903	200	54.0	2.40
42950	482341.266	2713800.561	200	55.0	10.50
42960	482337.688	2713791.223	201	0.0	58.40
42970	482334.089	2713781.893	201	11.0	40.80
42980	482330.453	2713772.577	201	27.0	18.00
42990	482326.769	2713763.281	201	47.0	49.80
43000	482323.022	2713754.009	202	13.0	16.20
43010	482319.201	2713744.768	202	43.0	37.30
43020	482315.291	2713735.564	203	18.0	53.10
43030	482311.281	2713726.403	203	59.0	3.60
43040	482307.158	2713717.293	204	44.0	8.70
43050	482302.909	2713708.241	205	33.0	0.30
43060	482298.532	2713699.250	206	22.0	6.90
43070	482294.026	2713690.322	207	11.0	13.60
43080	482289.394	2713681.460	208	0.0	20.20
43090	482284.636	2713672.665	208	49.0	26.90
43100	482279.752	2713663.939	209	38.0	33.50
43110	482274.744	2713655.283	210	27.0	40.10
43120	482269.613	2713646.700	211	16.0	46.80
43130	482264.360	2713638.191	212	5.0	53.40
43140	482258.986	2713629.757	212	55.0	0.10
43150	482253.492	2713621.402	213	44.0	6.70
43160	482247.879	2713613.126	214	33.0	13.30
43170	482242.149	2713604.931	215	22.0	20.00
43180	482236.302	2713596.818	216	11.0	26.60
43190	482230.340	2713588.790	217	0.0	33.30
43200	482224.264	2713580.848	217	49.0	39.90
43210	482218.075	2713572.993	218	38.0	46.50
43220	482211.774	2713565.228	219	27.0	53.20
43230	482205.363	2713557.554	220	16.0	59.80
43240	482198.843	2713549.972	221	6.0	6.50
43250	482192.215	2713542.483	221	55.0	13.10
43260	482185.481	2713535.091	222	44.0	19.70

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
43270	482178.643	2713527.795	223	33.0	16.00
43280	482171.704	2713520.594	224	18.0	37.00
43290	482164.676	2713513.480	224	59.0	3.30
43300	482157.569	2713506.445	225	34.0	35.00
43310	482150.395	2713499.478	226	5.0	12.00
43320	482143.165	2713492.570	226	30.0	54.30
43330	482135.888	2713485.711	226	51.0	42.00
43340	482128.574	2713478.892	227	7.0	35.00
43350	482121.234	2713472.100	227	18.0	33.30
43360	482113.877	2713465.327	227	24.0	37.00
43370	482106.513	2713458.562	227	25.0	56.40
43380	482099.148	2713451.797	227	25.0	56.40
43390	482091.783	2713445.033	227	25.0	56.40
43400	482084.418	2713438.268	227	25.0	56.40
43410	482077.054	2713431.504	227	25.0	56.40
43420	482069.689	2713424.739	227	25.0	56.40
43430	482062.324	2713417.974	227	25.0	56.40
43440	482054.959	2713411.210	227	25.0	56.40
43450	482047.594	2713404.445	227	25.0	56.40
43460	482040.230	2713397.680	227	25.0	56.40
43470	482032.865	2713390.916	227	25.0	56.40
43480	482025.500	2713384.151	227	25.0	56.40
43490	482018.135	2713377.387	227	25.0	56.40
43500	482010.770	2713370.622	227	25.0	56.40
43510	482003.406	2713363.857	227	25.0	56.40
43520	481996.041	2713357.093	227	25.0	56.40
43530	481988.676	2713350.328	227	25.0	56.40
43540	481981.311	2713343.564	227	25.0	56.40
43550	481973.947	2713336.799	227	25.0	56.40
43560	481966.582	2713330.034	227	25.0	56.40
43570	481959.217	2713323.270	227	25.0	56.40
43580	481951.852	2713316.505	227	25.0	56.40
43590	481944.487	2713309.741	227	25.0	56.40
43600	481937.123	2713302.976	227	25.0	56.40
43610	481929.758	2713296.211	227	25.0	56.40
43620	481922.393	2713289.447	227	25.0	56.40
43630	481915.028	2713282.682	227	25.0	56.40
43640	481907.663	2713275.918	227	25.0	56.40
43650	481900.299	2713269.153	227	25.0	56.40
43660	481892.934	2713262.388	227	25.0	56.40
43670	481885.569	2713255.624	227	25.0	56.40
43680	481878.204	2713248.859	227	25.0	56.40
43690	481870.839	2713242.095	227	25.0	56.40
43700	481863.475	2713235.330	227	25.0	56.40

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
43710	481856.110	2713228.565	227	25.0	56.40
43720	481848.745	2713221.801	227	25.0	56.40
43730	481841.380	2713215.036	227	25.0	56.40
43740	481834.016	2713208.272	227	25.0	56.40
43750	481826.651	2713201.507	227	25.0	56.40
43760	481819.286	2713194.742	227	25.0	56.40
43770	481811.921	2713187.978	227	25.0	56.40
43780	481804.556	2713181.213	227	25.0	56.40
43790	481797.192	2713174.449	227	25.0	56.40
43800	481789.827	2713167.684	227	25.0	2.00
43810	481782.468	2713160.912	227	20.0	5.50
43820	481775.123	2713154.126	227	10.0	51.10
43830	481767.801	2713147.316	226	57.0	19.00
43840	481760.510	2713140.472	226	39.0	29.00
43850	481753.259	2713133.586	226	17.0	21.20
43860	481746.056	2713126.649	225	50.0	55.50
43870	481738.912	2713119.652	225	20.0	12.00
43880	481731.834	2713112.587	224	45.0	10.70
43890	481724.834	2713105.446	224	5.0	51.60
43900	481717.920	2713098.222	223	23.0	9.10
43910	481711.096	2713090.912	222	40.0	10.80
43920	481704.365	2713083.517	221	57.0	12.50
43930	481697.726	2713076.038	221	14.0	14.10
43940	481691.181	2713068.477	220	31.0	15.80
43950	481684.732	2713060.835	219	48.0	17.50
43960	481678.378	2713053.113	219	5.0	19.20
43970	481672.122	2713045.312	218	22.0	20.90
43980	481665.963	2713037.434	217	39.0	22.60
43990	481659.903	2713029.479	216	56.0	24.30
44000	481653.944	2713021.449	216	13.0	26.00
44010	481648.085	2713013.345	215	30.0	27.70
44020	481642.328	2713005.169	214	47.0	29.40
44030	481636.673	2712996.921	214	4.0	31.00
44040	481631.122	2712988.603	213	21.0	32.70
44050	481625.676	2712980.216	212	38.0	34.40
44060	481620.335	2712971.762	211	55.0	36.10
44070	481615.100	2712963.242	211	12.0	37.80
44080	481609.971	2712954.657	210	29.0	39.50
44090	481604.951	2712946.009	209	46.0	41.20
44100	481600.039	2712937.299	209	3.0	42.90
44110	481595.236	2712928.528	208	20.0	44.60
44120	481590.543	2712919.697	207	37.0	46.30
44130	481585.961	2712910.809	206	54.0	47.90
44140	481581.491	2712901.864	206	11.0	49.60

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
44150	481577.132	2712892.864	205	29.0	25.60
44160	481572.880	2712883.813	204	50.0	49.20
44170	481568.724	2712874.717	204	16.0	30.60
44180	481564.654	2712865.583	203	46.0	29.90
44190	481560.658	2712856.416	203	20.0	47.00
44200	481556.724	2712847.223	202	59.0	21.90
44210	481552.843	2712838.007	202	42.0	14.60
44220	481549.001	2712828.774	202	29.0	25.20
44230	481545.188	2712819.529	202	20.0	53.60
44240	481541.393	2712810.278	202	16.0	39.80
44250	481537.603	2712801.024	202	16.0	9.60
44260	481533.813	2712791.770	202	16.0	9.60
44270	481530.024	2712782.515	202	16.0	9.60
44280	481526.234	2712773.261	202	16.0	9.60
44290	481522.444	2712764.007	202	16.0	9.60
44300	481518.655	2712754.753	202	16.0	9.60
44310	481514.865	2712745.499	202	16.0	9.60
44320	481511.076	2712736.245	202	16.0	9.60
44330	481507.286	2712726.991	202	16.0	9.60
44340	481503.496	2712717.737	202	16.0	9.60
44350	481499.707	2712708.482	202	16.0	9.60
44360	481495.917	2712699.228	202	16.0	9.60
44370	481492.127	2712689.974	202	16.0	9.60
44380	481488.338	2712680.720	202	16.0	9.60
44390	481484.548	2712671.466	202	16.0	9.60
44400	481480.759	2712662.212	202	16.0	9.60
44410	481476.969	2712652.958	202	16.0	9.60
44420	481473.179	2712643.704	202	16.0	9.60
44430	481469.390	2712634.449	202	16.0	9.60
44440	481465.600	2712625.195	202	16.0	9.60
44450	481461.811	2712615.941	202	16.0	9.60
44460	481458.021	2712606.687	202	16.0	9.60
44470	481454.231	2712597.433	202	16.0	9.60
44480	481450.442	2712588.179	202	16.0	9.60
44490	481446.652	2712578.925	202	16.0	9.60
44500	481442.863	2712569.671	202	16.0	9.60
44510	481439.073	2712560.416	202	16.0	9.60
44520	481435.283	2712551.162	202	16.0	9.60
44530	481431.494	2712541.908	202	16.0	9.60
44540	481427.703	2712532.655	202	17.0	54.40
44550	481423.901	2712523.405	202	23.0	55.80
44560	481420.078	2712514.165	202	34.0	15.00
44570	481416.221	2712504.939	202	48.0	52.00
44580	481412.319	2712495.732	203	7.0	46.80

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
44590	481408.361	2712486.548	203	30.0	59.50
44600	481404.335	2712477.394	203	58.0	30.00
44610	481400.230	2712468.276	204	30.0	18.40
44620	481396.036	2712459.198	205	6.0	24.60
44630	481391.741	2712450.168	205	46.0	48.60
44640	481387.335	2712441.190	206	29.0	45.60
44650	481382.818	2712432.269	207	12.0	43.90
44660	481378.190	2712423.404	207	55.0	42.20
44670	481373.451	2712414.598	208	38.0	40.60
44680	481368.603	2712405.853	209	21.0	38.90
44690	481363.645	2712397.168	210	4.0	37.20
44700	481358.580	2712388.546	210	47.0	35.50
44710	481353.407	2712379.988	211	30.0	33.80
44720	481348.127	2712371.495	212	13.0	32.10
44730	481342.742	2712363.069	212	56.0	30.40
44740	481337.252	2712354.711	213	39.0	28.70
44750	481331.657	2712346.423	214	22.0	27.00
44760	481325.960	2712338.204	215	5.0	25.30
44770	481320.160	2712330.058	215	48.0	23.70
44780	481314.259	2712321.985	216	31.0	22.00
44790	481308.258	2712313.986	217	14.0	20.30
44800	481302.157	2712306.063	217	57.0	18.60
44810	481295.957	2712298.217	218	40.0	16.90
44820	481289.660	2712290.448	219	23.0	15.20
44830	481283.266	2712282.760	220	6.0	13.50
44840	481276.777	2712275.151	220	49.0	11.80
44850	481270.193	2712267.625	221	32.0	10.10
44860	481263.515	2712260.181	222	15.0	8.40
44870	481256.745	2712252.821	222	58.0	6.80
44880	481249.884	2712245.547	223	41.0	5.10
44890	481242.932	2712238.359	224	24.0	3.40
44900	481235.891	2712231.258	225	7.0	1.70
44910	481228.761	2712224.246	225	50.0	0.00
44920	481221.545	2712217.323	226	32.0	58.30
44930	481214.242	2712210.492	227	15.0	56.60
44940	481206.855	2712203.752	227	58.0	54.90
44950	481199.384	2712197.105	228	41.0	53.20
44960	481191.831	2712190.551	229	24.0	51.50
44970	481184.196	2712184.093	230	7.0	49.90
44980	481176.481	2712177.731	230	50.0	48.20
44990	481168.687	2712171.466	231	33.0	46.50
45000	481160.815	2712165.298	232	16.0	44.80
45010	481152.867	2712159.230	232	59.0	43.10
45020	481144.844	2712153.261	233	42.0	41.40

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
45030	481136.747	2712147.393	234	25.0	39.70
45040	481128.577	2712141.627	235	8.0	38.00
45050	481120.335	2712135.963	235	51.0	36.30
45060	481112.024	2712130.403	236	34.0	34.60
45070	481103.643	2712124.947	237	17.0	33.00
45080	481095.196	2712119.596	238	0.0	31.30
45090	481086.681	2712114.351	238	43.0	29.60
45100	481078.102	2712109.213	239	26.0	27.90
45110	481069.460	2712104.183	240	9.0	26.20
45120	481060.755	2712099.261	240	52.0	24.50
45130	481051.989	2712094.448	241	35.0	22.80
45140	481043.164	2712089.746	242	18.0	21.10
45150	481034.281	2712085.154	243	1.0	19.40
45160	481025.341	2712080.673	243	44.0	17.70
45170	481016.346	2712076.304	244	27.0	16.10
45180	481007.297	2712072.049	245	10.0	14.40
45190	480998.195	2712067.906	245	53.0	12.70
45200	480989.042	2712063.878	246	36.0	11.00
45210	480979.840	2712059.964	247	19.0	9.30
45220	480970.589	2712056.166	248	2.0	7.60
45230	480961.292	2712052.484	248	45.0	5.90
45240	480951.949	2712048.918	249	28.0	4.20
45250	480942.563	2712045.469	250	11.0	2.50
45260	480933.134	2712042.138	250	54.0	0.80
45270	480923.665	2712038.924	251	35.0	28.50
45280	480914.159	2712035.819	252	12.0	41.60
45290	480904.623	2712032.810	252	45.0	36.90
45300	480895.059	2712029.887	253	14.0	14.40
45310	480885.474	2712027.038	253	38.0	34.00
45320	480875.870	2712024.251	253	58.0	35.90
45330	480866.252	2712021.514	254	14.0	19.90
45340	480856.623	2712018.814	254	25.0	46.00
45350	480846.987	2712016.141	254	32.0	54.30
45360	480837.347	2712013.482	254	35.0	44.80
45370	480827.707	2712010.826	254	35.0	48.20
45380	480818.066	2712008.170	254	35.0	48.20
45390	480808.425	2712005.514	254	35.0	48.20
45400	480798.784	2712002.857	254	35.0	48.20
45410	480789.143	2712000.201	254	35.0	48.20
45420	480779.503	2711997.545	254	35.0	48.20
45430	480769.862	2711994.889	254	35.0	48.20
45440	480760.221	2711992.233	254	35.0	48.20
45450	480750.580	2711989.577	254	35.0	48.20
45460	480740.939	2711986.921	254	35.0	48.20

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
45470	480731.299	2711984.265	254	35.0	48.20
45480	480721.658	2711981.608	254	35.0	48.20
45490	480712.017	2711978.952	254	35.0	48.20
45500	480702.376	2711976.296	254	35.0	48.20
45510	480692.735	2711973.640	254	35.0	48.20
45520	480683.095	2711970.984	254	35.0	48.20
45530	480673.454	2711968.328	254	35.0	48.20
45540	480663.813	2711965.672	254	35.0	48.20
45550	480654.172	2711963.016	254	35.0	48.20
45560	480644.531	2711960.360	254	35.0	48.20
45570	480634.890	2711957.703	254	35.0	48.20
45580	480625.250	2711955.047	254	35.0	48.20
45590	480615.609	2711952.391	254	35.0	48.20
45600	480605.968	2711949.735	254	35.0	48.20
45610	480596.327	2711947.079	254	35.0	48.20
45620	480586.686	2711944.423	254	35.0	48.20
45630	480577.046	2711941.767	254	35.0	48.20
45640	480567.405	2711939.111	254	35.0	48.20
45650	480557.764	2711936.455	254	35.0	48.20
45660	480548.123	2711933.798	254	35.0	48.20
45670	480538.482	2711931.142	254	35.0	48.20
45680	480528.842	2711928.486	254	35.0	48.20
45690	480519.201	2711925.830	254	35.0	48.20
45700	480509.560	2711923.174	254	35.0	48.20
45710	480499.919	2711920.518	254	35.0	48.20
45720	480490.278	2711917.862	254	35.0	48.20
45730	480480.638	2711915.206	254	35.0	48.20
45740	480470.997	2711912.550	254	35.0	48.20
45750	480461.356	2711909.893	254	35.0	48.20
45760	480451.715	2711907.237	254	35.0	48.20
45770	480442.074	2711904.581	254	35.0	48.20
45780	480432.434	2711901.925	254	35.0	48.20
45790	480422.793	2711899.269	254	35.0	48.20
45800	480413.152	2711896.613	254	35.0	48.20
45810	480403.511	2711893.957	254	35.0	48.20
45820	480393.870	2711891.301	254	35.0	48.20
45830	480384.230	2711888.645	254	35.0	48.20
45840	480374.589	2711885.988	254	35.0	48.20
45850	480364.948	2711883.332	254	35.0	48.20
45860	480355.307	2711880.676	254	35.0	48.20
45870	480345.666	2711878.020	254	35.0	48.20
45880	480336.026	2711875.364	254	35.0	48.20
45890	480326.385	2711872.708	254	35.0	48.20
45900	480316.744	2711870.052	254	35.0	48.20

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
45910	480307.103	2711867.396	254	35.0	48.20
45920	480297.462	2711864.739	254	35.0	48.20
45930	480287.822	2711862.083	254	35.0	48.20
45940	480278.181	2711859.427	254	35.0	48.20
45950	480268.540	2711856.771	254	35.0	48.20
45960	480258.899	2711854.115	254	35.0	48.20
45970	480249.258	2711851.459	254	35.0	48.20
45980	480239.618	2711848.803	254	35.0	48.20
45990	480229.977	2711846.147	254	35.0	48.20
46000	480220.336	2711843.491	254	35.0	48.20
46010	480210.695	2711840.834	254	35.0	48.20
46020	480201.054	2711838.178	254	35.0	48.20
46030	480191.414	2711835.522	254	35.0	48.20
46040	480181.773	2711832.866	254	35.0	48.20
46050	480172.132	2711830.210	254	35.0	48.20
46060	480162.491	2711827.554	254	35.0	48.20
46070	480152.850	2711824.898	254	35.0	48.20
46080	480143.210	2711822.242	254	35.0	48.20
46090	480133.569	2711819.586	254	35.0	48.20
46100	480123.928	2711816.929	254	35.0	48.20
46110	480114.287	2711814.273	254	35.0	48.20
46120	480104.646	2711811.617	254	35.0	48.20
46130	480095.006	2711808.961	254	35.0	48.20
46140	480085.365	2711806.305	254	35.0	48.20
46150	480075.724	2711803.649	254	35.0	48.20
46160	480066.083	2711800.993	254	35.0	48.20
46170	480056.442	2711798.337	254	35.0	48.20
46180	480046.802	2711795.681	254	35.0	48.20
46190	480037.161	2711793.024	254	35.0	48.20
46200	480027.520	2711790.368	254	35.0	48.20
46210	480017.879	2711787.712	254	35.0	48.20
46220	480008.238	2711785.056	254	35.0	48.20
46230	479998.598	2711782.400	254	35.0	48.20
46240	479988.957	2711779.744	254	35.0	48.20
46250	479979.316	2711777.088	254	35.0	48.20
46260	479969.675	2711774.432	254	35.0	48.20
46270	479960.038	2711771.761	254	22.0	38.70
46280	479950.414	2711769.044	254	5.0	27.40
46290	479940.804	2711766.279	253	48.0	16.10
46300	479931.208	2711763.466	253	31.0	4.80
46310	479921.626	2711760.605	253	13.0	53.40
46320	479912.059	2711757.696	252	56.0	42.10
46330	479902.506	2711754.739	252	39.0	30.80
46340	479892.968	2711751.735	252	22.0	19.50

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
46350	479883.445	2711748.682	252	5.0	8.10
46360	479873.938	2711745.583	251	47.0	56.80
46370	479864.446	2711742.436	251	30.0	45.50
46380	479854.970	2711739.241	251	13.0	34.20
46390	479845.510	2711735.999	250	56.0	22.80
46400	479836.066	2711732.710	250	39.0	11.50
46410	479826.639	2711729.373	250	22.0	0.20
46420	479817.229	2711725.990	250	4.0	48.90
46430	479807.835	2711722.563	249	54.0	41.10
46440	479798.443	2711719.128	249	54.0	41.10
46450	479789.051	2711715.694	249	54.0	41.10
46460	479779.660	2711712.259	249	54.0	41.10
46470	479770.268	2711708.824	249	54.0	41.10
46480	479760.877	2711705.389	249	54.0	41.10
46490	479751.485	2711701.955	249	54.0	41.10
46500	479742.093	2711698.520	249	54.0	41.10
46510	479732.702	2711695.085	249	54.0	41.10
46520	479723.310	2711691.651	249	54.0	41.10
46530	479713.918	2711688.216	249	54.0	41.10
46540	479704.527	2711684.781	249	54.0	41.10
46550	479695.135	2711681.346	249	54.0	41.10
46560	479685.744	2711677.912	249	54.0	41.10
46570	479676.352	2711674.477	249	54.0	41.10
46580	479666.960	2711671.042	249	54.0	41.10
46590	479657.569	2711667.608	249	54.0	41.10
46600	479648.177	2711664.173	249	54.0	41.10
46610	479638.785	2711660.738	249	54.0	41.10
46620	479629.394	2711657.303	249	54.0	41.10
46630	479620.002	2711653.869	249	54.0	41.10
46640	479610.611	2711650.434	249	54.0	41.10
46650	479601.219	2711646.999	249	54.0	41.10
46660	479591.827	2711643.564	249	54.0	41.10
46670	479582.436	2711640.130	249	54.0	41.10
46680	479573.044	2711636.695	249	54.0	41.10
46690	479563.652	2711633.260	249	54.0	41.10
46700	479554.261	2711629.826	249	54.0	41.10
46710	479544.869	2711626.391	249	54.0	41.10
46720	479535.477	2711622.956	249	54.0	41.10
46730	479526.086	2711619.521	249	54.0	41.10
46740	479516.694	2711616.087	249	54.0	41.10
46750	479507.303	2711612.652	249	54.0	41.10
46760	479497.911	2711609.217	249	54.0	41.10
46770	479488.519	2711605.782	249	54.0	41.10
46780	479479.128	2711602.348	249	54.0	41.10

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
46790	479469.736	2711598.913	249	54.0	41.10
46800	479460.344	2711595.478	249	54.0	41.10
46810	479450.953	2711592.044	249	54.0	41.10
46820	479441.561	2711588.609	249	54.0	41.10
46830	479432.170	2711585.174	249	54.0	41.10
46840	479422.778	2711581.739	249	54.0	41.10
46850	479413.386	2711578.305	249	54.0	41.10
46860	479403.995	2711574.870	249	54.0	41.10
46870	479394.603	2711571.435	249	54.0	41.10
46880	479385.211	2711568.000	249	54.0	41.10
46890	479375.820	2711564.566	249	54.0	41.10
46900	479366.428	2711561.131	249	54.0	41.10
46910	479357.037	2711557.696	249	54.0	41.10
46920	479347.645	2711554.262	249	54.0	41.10
46930	479338.253	2711550.827	249	54.0	41.10
46940	479328.862	2711547.392	249	54.0	41.10
46950	479319.470	2711543.957	249	54.0	41.10
46960	479310.078	2711540.523	249	54.0	41.10
46970	479300.687	2711537.088	249	54.0	41.10
46980	479291.295	2711533.653	249	54.0	41.10
46990	479281.904	2711530.218	249	54.0	41.10
47000	479272.512	2711526.784	249	54.0	41.10
47010	479263.120	2711523.349	249	54.0	41.10
47020	479253.729	2711519.914	249	54.0	41.10
47030	479244.337	2711516.480	249	54.0	41.10
47040	479234.945	2711513.045	249	54.0	41.10
47050	479225.554	2711509.610	249	54.0	41.10
47060	479216.162	2711506.175	249	54.0	41.10
47070	479206.771	2711502.741	249	54.0	41.10
47080	479197.379	2711499.306	249	54.0	51.50
47090	479187.985	2711495.877	250	0.0	0.70
47100	479178.583	2711492.472	250	12.0	19.60
47110	479169.165	2711489.111	250	31.0	48.30
47120	479159.724	2711485.813	250	58.0	26.60
47130	479150.255	2711482.597	251	32.0	14.70
47140	479140.752	2711479.486	252	13.0	12.50
47150	479131.209	2711476.497	253	1.0	20.10
47160	479121.622	2711473.652	253	56.0	26.90
47170	479111.990	2711470.966	254	53.0	44.70
47180	479102.314	2711468.441	255	51.0	2.40
47190	479092.597	2711466.077	256	48.0	20.20
47200	479082.843	2711463.876	257	45.0	37.90
47210	479073.053	2711461.838	258	42.0	55.70
47220	479063.230	2711459.963	259	40.0	13.40

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
47230	479053.378	2711458.252	260	37.0	31.20
47240	479043.498	2711456.705	261	34.0	48.90
47250	479033.594	2711455.323	262	32.0	6.70
47260	479023.669	2711454.107	263	29.0	24.40
47270	479013.724	2711453.056	264	26.0	42.10
47280	479003.764	2711452.171	265	23.0	59.90
47290	478993.790	2711451.452	266	21.0	17.60
47300	478983.805	2711450.899	267	18.0	35.40
47310	478973.813	2711450.513	268	15.0	53.10
47320	478963.815	2711450.294	269	13.0	10.90
47330	478953.815	2711450.241	270	10.0	28.60
47340	478943.816	2711450.355	271	7.0	46.40
47350	478933.820	2711450.635	272	5.0	4.10
47360	478923.830	2711451.082	273	2.0	21.90
47370	478913.849	2711451.696	273	59.0	39.60
47380	478903.880	2711452.475	274	56.0	57.40
47390	478893.925	2711453.421	275	54.0	15.10
47400	478883.987	2711454.533	276	51.0	32.90
47410	478874.069	2711455.810	277	48.0	50.60
47420	478864.173	2711457.252	278	46.0	8.40
47430	478854.304	2711458.858	279	43.0	26.10
47440	478844.462	2711460.629	280	40.0	43.80
47450	478834.651	2711462.564	281	38.0	1.60
47460	478824.873	2711464.659	282	31.0	46.80
47470	478815.126	2711466.896	283	18.0	22.30
47480	478805.409	2711469.255	283	57.0	48.10
47490	478795.716	2711471.715	284	30.0	4.10
47500	478786.044	2711474.256	284	55.0	10.50
47510	478776.389	2711476.858	285	13.0	7.10
47520	478766.744	2711479.500	285	23.0	54.00
47530	478757.105	2711482.162	285	27.0	31.20
47540	478747.466	2711484.827	285	27.0	31.20
47550	478737.828	2711487.493	285	27.0	31.20
47560	478728.190	2711490.158	285	27.0	31.20
47570	478718.552	2711492.824	285	27.0	31.20
47580	478708.914	2711495.489	285	27.0	31.20
47590	478699.275	2711498.154	285	27.0	31.20
47600	478689.637	2711500.820	285	27.0	31.20
47610	478679.999	2711503.485	285	27.0	31.20
47620	478670.361	2711506.151	285	27.0	31.20
47630	478660.722	2711508.816	285	27.0	31.20
47640	478651.084	2711511.482	285	27.0	31.20
47650	478641.446	2711514.147	285	27.0	31.20
47660	478631.808	2711516.812	285	27.0	31.20

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
47670	478622.169	2711519.478	285	27.0	31.20
47680	478612.531	2711522.143	285	27.0	31.20
47690	478602.893	2711524.809	285	27.0	31.20
47700	478593.255	2711527.474	285	27.0	31.20
47710	478583.617	2711530.140	285	27.0	31.20
47720	478573.978	2711532.805	285	27.0	31.20
47730	478564.340	2711535.470	285	27.0	31.20
47740	478554.702	2711538.136	285	27.0	31.20
47750	478545.064	2711540.801	285	27.0	31.20
47760	478535.425	2711543.467	285	27.0	31.20
47770	478525.787	2711546.132	285	27.0	31.20
47780	478516.149	2711548.798	285	27.0	31.20
47790	478506.511	2711551.463	285	27.0	31.20
47800	478496.872	2711554.128	285	27.0	31.20
47810	478487.234	2711556.794	285	27.0	31.20
47820	478477.596	2711559.459	285	27.0	31.20
47830	478467.958	2711562.125	285	27.0	31.20
47840	478458.320	2711564.790	285	27.0	31.20
47850	478448.681	2711567.456	285	27.0	31.20
47860	478439.043	2711570.121	285	27.0	31.20
47870	478429.405	2711572.786	285	27.0	31.20
47880	478419.767	2711575.452	285	27.0	31.20
47890	478410.128	2711578.117	285	27.0	31.20
47900	478400.490	2711580.783	285	27.0	31.20
47910	478390.852	2711583.448	285	27.0	31.20
47920	478381.214	2711586.114	285	27.0	31.20
47930	478371.575	2711588.779	285	27.0	31.20
47940	478361.937	2711591.445	285	27.0	31.20
47950	478352.299	2711594.110	285	27.0	31.20
47960	478342.661	2711596.775	285	27.0	31.20
47970	478333.023	2711599.441	285	27.0	31.20
47980	478323.384	2711602.106	285	27.0	31.20
47990	478313.746	2711604.772	285	27.0	31.20
48000	478304.108	2711607.436	285	26.0	11.30
48010	478294.466	2711610.089	285	18.0	14.40
48020	478284.815	2711612.708	285	3.0	7.90
48030	478275.150	2711615.276	284	40.0	51.60
48040	478265.466	2711617.770	284	11.0	25.50
48050	478255.759	2711620.172	283	34.0	49.80
48060	478246.024	2711622.460	282	51.0	4.30
48070	478236.259	2711624.613	282	0.0	9.20
48080	478226.461	2711626.613	281	3.0	24.10
48090	478216.631	2711628.449	280	6.0	6.40
48100	478206.772	2711630.120	279	8.0	48.60

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
48110	478196.887	2711631.628	278	11.0	30.90
48120	478186.977	2711632.970	277	14.0	13.10
48130	478177.047	2711634.147	276	16.0	55.40
48140	478167.098	2711635.158	275	19.0	37.70
48150	478157.134	2711636.004	274	22.0	19.90
48160	478147.157	2711636.683	273	25.0	2.20
48170	478137.171	2711637.196	272	27.0	44.40
48180	478127.177	2711637.542	271	30.0	26.70
48190	478117.178	2711637.722	270	33.0	8.90
48200	478107.179	2711637.735	269	35.0	51.20
48210	478097.180	2711637.582	268	38.0	33.40
48220	478087.185	2711637.261	267	41.0	15.70
48230	478077.197	2711636.775	266	43.0	57.90
48240	478067.219	2711636.122	265	46.0	40.20
48250	478057.252	2711635.302	264	49.0	22.40
48260	478047.301	2711634.317	263	52.0	4.70
48270	478037.368	2711633.166	262	54.0	46.90
48280	478027.455	2711631.850	261	57.0	29.20
48290	478017.565	2711630.368	261	0.0	11.50
48300	478007.702	2711628.722	260	2.0	53.70
48310	477997.867	2711626.912	259	5.0	36.00
48320	477988.064	2711624.938	258	8.0	18.20
48330	477978.295	2711622.801	257	11.0	0.50
48340	477968.563	2711620.502	256	13.0	42.70
48350	477958.871	2711618.040	255	16.0	25.00
48360	477949.221	2711615.418	254	19.0	7.20
48370	477939.616	2711612.635	253	21.0	49.50
48380	477930.059	2711609.692	252	24.0	31.70
48390	477920.552	2711606.591	251	27.0	14.00
48400	477911.099	2711603.331	250	29.0	56.20
48410	477901.700	2711599.915	249	32.0	38.50
48420	477892.361	2711596.342	248	35.0	20.70
48430	477883.082	2711592.614	247	38.0	3.00
48440	477873.866	2711588.732	246	40.0	45.20
48450	477864.716	2711584.697	245	43.0	27.50
48460	477855.635	2711580.510	244	46.0	9.80
48470	477846.625	2711576.172	243	48.0	52.00
48480	477837.689	2711571.684	242	51.0	34.30
48490	477828.828	2711567.049	241	54.0	16.50
48500	477820.046	2711562.266	240	56.0	58.80
48510	477811.345	2711557.338	239	59.0	41.00
48520	477802.727	2711552.265	239	2.0	23.30
48530	477794.195	2711547.050	238	5.0	58.90
48540	477785.745	2711541.702	237	15.0	50.20

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
48550	477777.369	2711536.240	236	32.0	51.30
48560	477769.055	2711530.683	235	57.0	2.00
48570	477760.794	2711525.048	235	28.0	22.50
48580	477752.574	2711519.353	235	6.0	52.70
48590	477744.384	2711513.615	234	52.0	32.60
48600	477736.212	2711507.852	234	45.0	22.30
48610	477728.046	2711502.079	234	44.0	28.20
48620	477719.881	2711496.307	234	44.0	28.20
48630	477711.715	2711490.534	234	44.0	28.20
48640	477703.550	2711484.761	234	44.0	28.20
48650	477695.384	2711478.989	234	44.0	28.20
48660	477687.219	2711473.216	234	44.0	28.20
48670	477679.053	2711467.443	234	44.0	28.20
48680	477670.887	2711461.670	234	44.0	28.20
48690	477662.722	2711455.898	234	44.0	28.20
48700	477654.556	2711450.125	234	44.0	28.20
48710	477646.391	2711444.352	234	44.0	28.20
48720	477638.225	2711438.580	234	44.0	28.20
48730	477630.060	2711432.807	234	44.0	28.20
48740	477621.894	2711427.034	234	44.0	28.20
48750	477613.729	2711421.261	234	44.0	28.20
48760	477605.563	2711415.489	234	44.0	28.20
48770	477597.398	2711409.716	234	44.0	28.20
48780	477589.232	2711403.943	234	44.0	28.20
48790	477581.067	2711398.171	234	44.0	28.20
48800	477572.901	2711392.398	234	44.0	28.20
48810	477564.736	2711386.625	234	44.0	28.20
48820	477556.570	2711380.852	234	44.0	28.20
48830	477548.405	2711375.080	234	44.0	28.20
48840	477540.239	2711369.307	234	44.0	28.20
48850	477532.074	2711363.534	234	44.0	28.20
48860	477523.908	2711357.762	234	44.0	28.20
48870	477515.742	2711351.989	234	44.0	28.20
48880	477507.577	2711346.216	234	44.0	28.20
48890	477499.411	2711340.443	234	44.0	28.20
48900	477491.246	2711334.671	234	44.0	28.20
48910	477483.080	2711328.898	234	44.0	28.20
48920	477474.915	2711323.125	234	42.0	39.20
48930	477466.762	2711317.335	234	30.0	28.20
48940	477458.638	2711311.504	234	6.0	49.60
48950	477450.565	2711305.603	233	31.0	43.50
48960	477442.562	2711299.607	232	45.0	9.80
48970	477434.651	2711293.489	231	47.0	8.60
48980	477426.856	2711287.227	230	37.0	39.80

Chainage	Coordinate		Bearing		
	Easting	Northing	Deg.	Min	Sec
48990	477419.199	2711280.795	229	16.0	44.90
49000	477411.702	2711274.177	227	50.0	48.30
49010	477404.373	2711267.374	226	24.0	51.70
49020	477397.217	2711260.390	224	58.0	55.00
49030	477390.237	2711253.229	223	32.0	58.40
49040	477383.439	2711245.896	222	7.0	1.80
49050	477376.826	2711238.395	220	41.0	5.20
49060	477370.402	2711230.731	219	15.0	8.60
49070	477364.172	2711222.909	217	49.0	11.90
49080	477358.140	2711214.934	216	23.0	15.30
49090	477352.308	2711206.810	214	57.0	18.70
49100	477346.682	2711198.543	213	31.0	25.70
49110	477341.258	2711190.143	212	12.0	23.00
49120	477336.014	2711181.628	211	4.0	48.00
49130	477330.924	2711173.020	210	8.0	40.40
49140	477325.961	2711164.339	209	24.0	0.50
49150	477321.097	2711155.602	208	50.0	48.00
49160	477316.302	2711146.826	208	29.0	3.20
49170	477311.549	2711138.028	208	18.0	45.80
49180	477306.808	2711129.224	208	17.0	51.40
49190	477302.067	2711120.419	208	17.0	51.40
49200	477297.327	2711111.614	208	17.0	51.40
49210	477292.586	2711102.809	208	17.0	51.40
49220	477287.846	2711094.004	208	17.0	51.40
49230	477283.105	2711085.199	208	17.0	51.40
49240	477278.365	2711076.394	208	17.0	51.40
49250	477273.624	2711067.589	208	17.0	51.40
49260	477268.884	2711058.784	208	17.0	51.40
49270	477264.143	2711049.979	208	17.0	51.40
49280	477259.400	2711041.175	208	21.0	1.00
49290	477254.640	2711032.381	208	31.0	19.50
49300	477249.844	2711023.606	208	48.0	47.80
49310	477244.995	2711014.860	209	13.0	25.70
49320	477240.074	2711006.155	209	45.0	13.40
49330	477235.063	2710997.501	210	24.0	10.80
49340	477229.946	2710988.909	211	10.0	17.90
49350	477224.706	2710980.393	212	3.0	34.80
49360	477219.327	2710971.962	213	0.0	51.70

Schedule-B

Schedule - B

(See Clause 2.1)

Development of the Project Highway

1 Development oftheProject Highway

DevelopmentoftheProjectHighwayshallincludedesignandconstruction of theProject Highwayasdescribed in this Schedule-Band in Schedule-C.

2 4-Laning with Paved Shoulder

Four Laning shall include construction of the Four Lane Project highway as described in Annex-I of this Schedule-B and in Schedule C.

3 Specifications and Standards

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

Annex-I

(Schedule-B)

Descriptionof Project Road (4-Laning)

Site of the Four-lane divided Project Highway comprises the section of National Highway No. 306, from Dhanehari –Lailapur /Vairengte Section (Package 2) from Existing CH. 12.920 to Existing Ch. 43.0000 Km of NH 306 (Design Chainage km 20+000 to km 49+360) on Silchar – Vairengte - Sairang road in the State of Assam under Bharatmala Pariyojna.

The coordinates of start and end point of project road are given below.

Co-ordinates of Start and End of Project Stretch

Location		UTM Co-Ordinate	
Description	Design Chainage	Easting (m)	Northing (m)
Start of Project Road	20+000	482768.5623	2733993.6242
End of Project Road	49+360	477220.5317	2710972.8519

1. Widening ofthe ExistingHighway

(i) TheProjectHighway shallfollowtheexistingalignmentunlessotherwise specifiedby theAuthority andshowninthealignmentplansspecifiedin AnnexIII ofSchedule-A.Geometricdeficiencies,ifany,intheexisting horizontalandverticalprofilesshallbecorrectedasper the prescribed standards for plain/rolling/hillyterrain to theextent land is available.

(ii) **Width of carriageway**

(a) Four-Laning with pavedshoulders shall be undertaken. The paved carriageway shall be in accordance with the typical cross-sections' drawings in the manual IRC SP 84 - 2019. The typical drawings attached in schedules.

Provided that in the built-up areas [refer to paragraphs 2.1 (ii) (a) of the Manual and provide necessary details]: the width of the carriageway shall be as specified in the following table:

Sl. No.	Built-up stretch (Township)	Location (Km to km)	Width (m)	Typical cross section (Ref. to Manual)
NIL				

(b) Except as otherwise provided in this Agreement, the width of the paved carriageway and cross-sectional features shall conform to paragraph 1(i) above

(c) The entire cross-sectional elements shall be accommodated in the proposed ROW. If required, suitable retaining structures shall be provided to accommodate the highway

cross section within the proposed ROW and the same 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 of the EPC Contract Agreement.

2. Geometric Design and General Features

i. General

Geometric design and general features of the Project Highway shall be in accordance with Section 2 of the Manual (IRC: SP: 84-2019) for Plain& hilly terrain and as specified in Annex-I of Schedule D.

ii. Design Speed

The contractor shall adopt ruling design speed for designing the project highway in conformity with the provisions of the manual & as specified in Plan and Profile drawings of Annexure-III of Schedule-A and in Annex-I of Schedule D.

iii. Improvements of the existing road geometrics

Improvement of the existing road geometrics shall be carryout to the extent possible within the given right of way and proper road signs and safety measures shall be provided. It shall follow the alignment plans shown in the Annex-III of Schedule-A, unless otherwise specified by the Authority.

a) The bypass has been provided in following location

Sl. No	Location	Existing Chainage (Km)		Existing Length (m)	Design Chainage (Km)		Design Length (m)
		Start	End		Start	End	
1	Nutan Bazar Bypass	14+620	21+270	6650	21+700	28+650	6950
2	Katakhal Bypass	22+720	25+900	3180	30+100	33+350	3250
3	Dholai Bypass	28+150	30+120	1970	35+600	37+600	2000
4	Baga Bazar Bypass	30+860	32+350	1490	38+350	39+600	1250
		32+960	38+110	5150	40+200	45+150	4950
	Total			**18440**			**18400**

b) Realignments and Geometric Improvement locations

Sl. No	Exist. Chainage		Exist. Length (m)	Design Chainage		Design Length (m)
	Start	End		Start	End	
1	40+060	43+000	2940	47+100	49+360	2260
	Total		**2940**			**2260**

Apart from above, geometric deficiencies, if any, in the existing horizontal and vertical profiles shall be corrected as per the prescribed standards for plain/rolling/hilly terrain to the extent land is available.

iv. Right of Way

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

v. Type of shoulders

(a) In built-up section, footpaths are to be provided in the following stretches and as specified in Schedule-D.

(b) In open country plain terrain, paved shoulders of 2.5 m + 1.5m width earthen shoulder width and 1.5m wide paved + 2.0m earthen shoulders on valley side in hilly terrain shall be provided for main highway. The shoulders shall be in accordance with the Typical cross sections given in Appendix B-I and as specified in Schedule-D.

(c) Design and specifications of shoulders shall conform to the requirements of Section 5 as specified in paragraphs 5.10 and 5.11 of the Manual. The Earthen Shoulder shall be compacted with 150mm thick granular sub-base quality material at the top duly stabilized with cement/suitable admixtures to prevent erosion.

vi. Lateral and Vertical Clearances at Underpasses

(a) Lateral and vertical clearances at Underpasses and provision of guardrails/crash barriers shall be as per the paragraph 2.10 of IRC SP 84-2019.

(b) Lateral clearance: The size of the opening at the Underpasses shall be as follows

S. No.	Chainage (km)	Span/ opening (m)	Vertical Clearance (m)	Remarks
1	21+900	1 x 20m	5.5	VUP
2	22+950	1 x 12m	4.0	LVUP
3	24+325	1 x 12m	4.0	LVUP
4	26+610	1 x 20m	5.5	VUP
5	31+610	1 x 20m	5.5	VUP
6	33+860	1 x 20m	5.5	VUP
7	35+810	1 x 20m	5.5	VUP
8	36+513	1 x 12m	4.0	LVUP
9	38+450	1 x 20m	5.5	VUP
10	40+380	1 x 20m	5.5	VUP

vii.

Late ral	11	41+743	1 x 12m	4.0	LVUP
	12	43+375	1 x 12m	4.0	LVUP
	13	44+050	1 x 12m	4.0	LVUP
	14	44+960	1 x 20m	5.5	VUP
	15	47+355	1 x 7.0m	4.0	LVUP

and Vertical Clearances at overpasses

(a) Lateral and Vertical clearances at over passes shall be as per paragraph 2.11 of the manual and as specified at Schedule-D.

(b) Lateral clearance: The width of the opening at the overpasses shall be as follows:

Sl. No.	Chainage (km)	Span /opening (m)	Vertical Clearance	Remarks
01	48+820	2 x 12.0m	5.5	VOP

viii. Service roads

(a) Service roads / Slip Roads shall be constructed at the locations and for the lengths indicated below:

LHS					RHS			
Sl. No	Chainage (m)		Length (m)	Width (m)	Chainage (m)		Length (m)	Width (m)
	From	To			From	To		
1	21+420	22+375	955	7.5	21+420	22+375	955	7.5
2	26+160	26+610	450	11.0	26+160	27+140	980	7.5
	26+610	27+140	530	7.5				
3	30+970	32+060	1090	7.5	30+970	32+060	1090	7.5
4	33+300	33+860	560	11.0	33+300	34+295	995	7.5
	33+860	34+295	435	7.5				
5	35+290	36+190	900	7.5	35+290	36+190	900	7.5
6	37+985	38+965	980	7.5	37+985	38+965	980	7.5
7	39+600	40+380	780	11.0	39+600	40+910	1310	7.5
	40+380	40+910	530	7.5				
8	44+530	47+360	2830	7.5	44+530	47+180	2650	7.5
9	48+325	49+040	715	7.5	48+325	49+040	715	7.5
Total Length (m)			**10755**				**10575**	

(b) Connecting Roads shall be constructed at the locations and for the lengths indicated below:

Sl. No.	Chainage (km)		Right Hand side (RHS)/Left Hand side (LHS)/Both side	Length (m)	C/Way Width (m)
	From km	To km			

Nil

Note:

(i) The above lengths are tentative, and minimum specified, is excluding the tapering length/merging length of acceleration/deceleration lane. The entry and exit shall be constructed as per IRC: SP: 84: 2019.

(ii) Length of service road and connecting road given in above table excludes length across the Project Highway for proper connectivity of crossroad on either side of Project Highway as given in the alignment plan enclosed at **Annex-III, Schedule-A** which shall be deemed to be included in the scope of work.

(iii) The length of service road / connecting road shown in above table is minimum and may increase as per actual site conditions and No Change of Scope shall be admissible on this account.

(iv) In addition to the above, construction of temporary roads of required length and width for the maintenance of traffic during execution shall be deemed to be part the project and will not attract any change of scope.

ix. Grade Separated Structures

(a) Grade separated structures shall be provided as per paragraph 2.13 of the IRC SP 84-2019. The requisite particulars are given below:

Sl. No	Chainage (km)	Length (m)	Number and length of Spans (m)	Remarks if Any
1	21+900	2x11.6	1 x 20 x 5.5	VUP
2	22+950	2x11.6	1 x 12 x 4.0	LVUP
3	24+325	2x11.6	1 x 12 x 4.0	LVUP
4	26+610	2x11.6	1 x 20 x 5.5	VUP
5	31+610	2x11.6	1 x 20 x 5.5	VUP
6	33+860	2x11.6	1 x 20 x 5.5	VUP
7	35+810	2x11.6	1 x 20 x 5.5	VUP
8	36+513	2x11.6	1 x 12 x 4.0	LVUP
9	38+450	2x11.6	1 x 20 x 5.5	VUP
10	40+380	2x11.6	1 x 20 x 5.5	VUP
11	41+743	2x11.6	1 x 12 x 4.0	LVUP
12	43+375	2x11.6	1 x 12 x 4.0	LVUP
13	44+050	2x11.6	1 x 12 x 4.0	LVUP

14	44+960	2x11.6	1 x 20 x 5.5	VUP
15	47+355	2x11.6	1 x 12 x 4.0	LVUP
16	48+820	2x11.6	2 x 12 x 5.5	VOP

(b) In the case of grade separated structures, the type of structure and the level of the Project Highway and the crossroads shall be as follows:

Sl. No.	Location (Design Chainage)	Type of Structure	Cross road at			Remarks, if any
			Existing level	Raised Level	Lowered Level	
1	21+900	Girder Type	*	*	*	VUP
2	22+950	Box Type	*	*	*	LVUP
3	24+325	Box Type	*	*	*	LVUP
4	26+610	Girder Type	*	*	*	VUP
5	31+610	Girder Type	*	*	*	VUP
6	33+860	Girder Type	*	*	*	VUP
7	35+810	Girder Type	*	*	*	VUP
8	36+513	Box Type	*	*	*	LVUP
9	38+450	Girder Type	*	*	*	VUP
10	40+380	Girder Type	*	*	*	VUP
11	41+743	Box Type	*	*	*	LVUP
12	43+375	Box Type	*	*	*	LVUP
13	44+050	Box Type	*	*	*	LVUP
14	44+960	Girder Type	*	*	*	VUP
15	47+355	Box Type	*	*	*	LVUP
16	48+820	Box Type	*	*	*	VOP

*Cross road levels shall be decided in accordance with the manual as per the requirement of main carriageway geometrics and the same shall be finalized in consultation with Authority's Engineer. It is clarified that, any raising or lowering of crossroad levels and development of approaches along crossroad is also covered under scope of this work and same will not attract change of scope.

x. Cattle and pedestrian Underpass / Overpass

Cattle and pedestrian underpass/ overpass shall be constructed as follows:

S. No.	Chainage (km)	Type of Crossing
NIL		

xi. Typical cross-sections of the Project Highway

(a) Types of cross-sections required to be developed in different segments of the project road are indicated in Appendix B-I.

(b) TCS schedule as given in Appendix B-I shall be treated as an approximate assessment. Actual length of the TCS schedule shall be prepared by the

contractor based on detailed investigations and site requirements. Any variation in length of respective TCS specified in 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 Article13of EPC Contract agreement.

3. Intersections and Grade Separators

All intersectionsand grade separators shallbeasper Section 3of the Manual.Existing intersectionswhicharedeficientshallbeimprovedtothe prescribed standards.

Draft layout of major junctions is shown in Plan & Profile drawings for reference. Properly designed intersections shall be developed at the location given below:

(i) At-gradeintersections

Sl. No.	Design Chainage	Existing Chainage	Type of Junctions (T, Y, +)	Side	Type of Road (SH/ MDR/ ODR/ VR)	Remarks
1	21+455	14+375	T	RHS	VR	Minor Junction
2	21+615	14+535	T	LHS	VR	Minor Junction
3	21+900	14+800	T (Below Underpass)	LHS	NH-306 (Exist. Road)	Major Junction
4	26+000	18+100	Y (Free Left)	LHS	NH-306 (Exist. Road)	Major Junction
5	26+200	18+300	T	RHS	VR	Minor Junction
6	26+350	18+470	T	LHS	VR	Minor Junction
7	26+680	18+720	T (Below Underpass)	LHS	NH-306 (Exist. Road)	Major Junction
8	28+450	21+060	Y (Free Left)	LHS	NH-306 (Exist. Road)	Major Junction
9	30+310	22+920	Y (Free Left)	RHS	NH-306 (Exist. Road)	Major Junction
10	31+610	24+990	4 Legged (Below Underpass)	BHS	NH-306 (Exist. Road)	Major Junction
11	33+140	25+700	Y (Free Left)	RHS	NH-306 (Exist. Road)	Major Junction
12	33+860	26+410	T (Below	LHS	NH-306 (Exist. Road)	Major Junction

Sl. No.	Design Chainage	Existing Chainage	Type of Junctions (T, Y, +)	Side	Type of Road (SH/ MDR/ ODR/ VR)	Remarks
			Underpass)			
13	35+620	28+180	T	LHS	VR	Minor Junction
14	35+810	28+400	T (Below Underpass)	LHS	NH-306 (Exist. Road)	Major Junction
15	37+530	30+040	Y (Free Left)	LHS	NH-306 (Exist. Road)	Major Junction
16	37+620	30+135	T	RHS	VR	Minor Junction
17	38+450	31+000	T (Below Underpass)	LHS	NH-306 (Exist. Road)	Major Junction
18	39+450	32+210	Y (Free Left)	LHS	NH-306 (Exist. Road)	Major Junction
19	40+400	33+170	T (Below Underpass)	LHS	NH-306 (Exist. Road)	Major Junction
20	44+960	37+900	T (Below Underpass)	LHS	NH-306 (Exist. Road)	Major Junction
21	45+355	38+260	T	RHS	VR	Minor Junction
22	46+768	39+720	+	BHS	VR	Minor Junction
23	47+355	40+350	+	BHS	VR	Minor Junction
24	48+820	42+000	4 Legged (Below Underpass)	BHS	NH-306 (Exist. Road)	Major Junction
25	31+040	Bypass	+	LHS	VR	Minor Junction
26	31+955	Bypass	T	RHS	VR	Minor Junction

Note: *It is clarified that if any other junction is identified during development of the project highway in addition to those mentioned above shall also be improved with proper drainage facilities as per standards. The length of development along crossroad shall be decided as per site condition in accordance with manual. It shall be covered within the scope of work. The Number, location & type of junction shown in above table are minimum and it may increase as per actual site condition and increase in number will not attract change of Scope on this account. For reference refer plan metric drawing.*

Junctions shall be improved as per IRC: SP: 84-2019 and MOST type design for

intersection on National Highways, 1992.

(ii) Grade separated intersection with/without ramps.

Sl. No.	Chainage (km)	Type of Structure	Length (m)	Number and length of clear Spans (m)	Type of Grade Separator
1	21+900	Girder Type	2x11.6	1 x 20 x 5.5	VUP
2	22+950	Box Type	2x11.6	1 x 12 x 4.0	LVUP
3	24+325	Box Type	2x11.6	1 x 12 x 4.0	LVUP
4	26+610	Girder Type	2x11.6	1 x 20 x 5.5	VUP
5	31+610	Girder Type	2x11.6	1 x 20 x 5.5	VUP
6	33+860	Girder Type	2x11.6	1 x 20 x 5.5	VUP
7	35+810	Girder Type	2x11.6	1 x 20 x 5.5	VUP
8	36+513	Box Type	2x11.6	1 x 12 x 4.0	LVUP
9	38+450	Girder Type	2x11.6	1 x 20 x 5.5	VUP
10	40+380	Girder Type	2x11.6	1 x 20 x 5.5	VUP
11	41+743	Box Type	2x11.6	1 x 12 x 4.0	LVUP
12	43+375	Box Type	2x11.6	1 x 12 x 4.0	LVUP
13	44+050	Box Type	2x11.6	1 x 12 x 4.0	LVUP
14	44+960	Girder Type	2x11.6	1 x 20 x 5.5	VUP
15	47+355	Box Type	2x11.6	1 x 12 x 4.0	LVUP
16	48+820	Box Type	2x11.6	2 x 12 x 5.5	VOP

Note: The layout of these intersections are shown in alignment plans specified in Annex III of Schedule-A. Development of all ramps/slip roads as shown in alignment plans is included in the scope of work and any modification of layout or increase in length of ramps/slip roads will not attract change of Scope.

4. Road Embankment and Cut Section

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

(ii) Raising of the existing road

The existing road shall be raised at the required locations as per proposed plan and profile or further raised to meet requisite specifications

(iii) Surplus cut earth

All of surplus cutting soils shall be transported and be disposed to the Spoil Banks in accordance with Schedule D.

5. Pavement Design

i. Pavement design shall be carried out in accordance with Section 5 of the IRC SP 37-2018 and IRC SP: 59-2019.

ii. Type of pavement

Flexible pavement shall be provided including Bus bay, Rest Area, Truck Lay Bye and Intersections.

iii. Design requirements

Notwithstanding anything to the contrary contained in this agreement or the manual, the contractor shall design the pavement of main carriageway for design traffic of 40 MSA with a minimum design period of 20 years. CBR value as obtained at site shall be taken for design if less than 8%. Maximum value of CBR to be taken for design shall not exceed 8%.

Bituminous Grade VG 30 or VG 40 shall be used for BC.

a) Design Period and strategy

A) Main carriageway:

Flexible pavement shall be designed for a minimum design period of 20 years. Stage construction shall not be permitted.

B) Service road/Slip Road:

Flexible pavement shall be designed for a minimum design period of 20 years. Stage construction shall not be permitted.

C) Strengthening of Existing pavement:

Nil

b) Design Traffic

A) Main carriageway:

Notwithstanding anything to the contrary contained in this Agreement or the IRC SP 84-2019, the contractor shall design the pavement for design traffic of not less than 40 million standard axles (MSA) for Main carriageway.

B) Service Road

As per manual, service road, slip road and connecting road shall be designed for minimum 10 MSA.

C) Strengthening of Existing pavement

Nil

iv. Reconstruction of stretches

The Existing flexible pavement shall be dismantled and reconstructed as flexible pavement.

6. Roadside Drainage

Drainage system including surface and subsurface drains for the Project Highway shall be constructed in entire length including drains and culverts required along the crossroads at junctions/ interchanges/other locations as per Section 6 of manual and as per TCS schedule provided as Appendix B-I to this schedule.

In the cutting sections, lined/unlined drain shall be provided at the top of cut slope and at every bench provided for drainage system adequacy and effectiveness All measures shall be taken to prevent ingress of countryside runoff entering into road formation width.

Any repair/ reconstruction required for the existing culverts along project highway/along crossroads at junctions shall be carried out. This will not attract any change of scope.

i) RCC cover drain:

RCC cover drain shall be provided at following locations.

Sl No	LHS			RHS		
	Chainage (m)		Length (m)	Chainage (m)		Length (m)
	From	To		From	To	
1	20+000	20+300	300	20+000	20+300	300
2	21+420	22+375	955	21+420	22+375	955
3	26+160	26+660	500	26+160	26+660	500
4	26+660	27+140	480	26+660	27+140	480
5	30+970	32+060	1090	30+970	32+060	1090
6	33+300	33+860	560	33+300	33+860	560
7	33+860	34+295	435	33+860	34+295	435
8	34+295	34+900	605	34+295	34+900	605
9	35+305	36+190	885	35+305	36+190	885

10	37+985	38+965	980	37+985	38+965	980
11	39+600	40+380	780	39+600	40+380	780
12	40+380	40+910	530	40+380	40+910	530
13	44+530	45+430	900	44+530	45+430	900
14	45+430	47+070	1640	45+430	47+070	1640
15	47+070	47+360	290	47+070	47+360	290
16	48+320	49+040	720	48+320	49+040	720
	Total Length		**11650**			**11650**

Note: The above locations are minimum. Additional locations if any required as per site condition shall be provided as per manual. It shall not be treated as change in scope of work.

ii) PCC Open drain (On Hill Side):

PCC Open drain on hill side shall be provided on hill side at following locations.

Sl No	LHS			RHS		
	Chainage (m)		Length (m)	Chainage (m)		Length (m)
	From	To		From	To	
1	47+620	47+780	160	47+360	47+420	60
2	47+900	47+970	70	47+600	47+790	190
3	48+220	48+330	110	47+900	47+980	80
4	48+690	48+800	110	48+690	48+880	190
5	48+840	48+880	40	48+930	49+290	360
6	49+160	49+190	30	49+330	49+360	30
	Total Length		**520**			**910**

Note: The above locations are minimum. Additional locations if any required as per site condition shall be provided as per manual. It shall not be treated as change in scope of work.

iii) PCC Open drain (On Valley Side):

PCC Open drain on valley side shall be provided on hill side at following locations.

Sl No	LHS			RHS		
	Chainage (m)		Length (m)	Chainage (m)		Length (m)
	From	To		From	To	
1	47+410	47+620	210	47+420	47+600	180
2	47+780	47+900	120	47+790	47+900	110
3	47+970	48+220	250	47+980	48+690	710
4	48+330	48+690	360	48+880	48+930	50

5	48+800	48+840	40	49+290	49+330	40
6	48+880	49+160	280			
7	49+190	49+360	170			
	Total Length		**1430**			**1090**

Note: The above locations are minimum. Additional locations if any required as per site condition shall be provided as per manual. It shall not be treated as change in scope of work.

iv) Open Un-line Drain:

Open Un-line drain shall be provided at following locations.

Sl.no.	LHS			RHS		
	Chainage		Length (m)	Chainage		Length (m)
	From	To		From	To	
1	20+300	21+420	1120	20+300	21+420	1120
2	22+375	26+160	3785	22+375	26+160	3785
3	27+140	30+970	3830	27+140	30+970	3830
4	32+060	33+300	1240	32+060	33+300	1240
5	34+900	35+305	405	34+900	35+305	405
6	36+190	37+985	1795	36+190	37+985	1795
7	38+965	39+600	635	38+965	39+600	635
8	40+910	44+530	3620	40+910	44+530	3620
		Total Length	**16430**			**16430**

Note: The above locations are minimum. Additional locations if any required as per site condition shall be provided as per manual. It shall not be treated as change in scope of work.

7. Design of Structures

i. General

(a) All bridges, culverts and structures shall be designed and constructed in accordance with section 7 of the IRC SP 84-2019 and shall conform to the cross- sectional features and other details specified in this schedule. Floor protection works shall be as specified in the relevant IRC Codes and Specifications.

(b) Width of the carriageway of new bridges shall be as follows:

Refer to paragraph 7.3 (ii) of the IRC SP 84-2019 and specified width of carriageway of all new four lane bridges shall have footpaths on either side. The cross-sectional features shall be as per Fig.7.6 of the IRC SP 84-2019.

(c) All bridges shall be high-level bridges.

(d) The structures shall be designed to carry utility services like electric cable, water pipeline, OFC etc. as per the requirement of site.

(e) Cross-section of the new culverts and bridges at deck level shall conform to the typical cross-sections given in section 7 of the Manual. Extra widening shall be provided for all Culverts/Bridges/Other structures in curved sections as per manual.

(f) IRC Class Special Vehicle loading shall be taken into account in the design of all structures.

ii. Culvert

Overall width of all culverts shall be equal to the roadway width of the approaches. All culverts shall be constructed as per Schedule-D.

(a) Reconstruction of existing culverts:

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

S. No.	Existing Chainage (Km)	Design Chainage (Km)	Existing Type	Existing Span	Proposed Type	Proposed Span	Remarks
1	21+290	28+670	Pipe	2x0.9	Box Culvert	1 x 3 x 3	
2	21+470	28+849	Pipe	2x0.9	Box Culvert	1 x 3 x 3	
3	21+600	28+980	Pipe	2x1.2	Box Culvert	1 x 3 x 3	
4	22+380	29+758	Pipe	2x1.2	Box Culvert	1 x 3 x 3	
5	26+010	33+460	Pipe	2x0.9	Box Culvert	1 x 3 x 3	
6	26+810	34+250	Pipe	2x1.2	Box Culvert	1 x 3 x 3	
7	27+255	34+700	Pipe	2x1.2	Box Culvert	1 x 3 x 3	
8	27+930	35+370	Slab	1x4	Box Culvert	1 x 5 x 4	
9	30+900	38+390	Pipe	1 x 0.9	Box Culvert	1 x 2 x 2	
10	32+840	40+085	Pipe	2x1.2	Box Culvert	1 x 2 x 2	
11	38+350	45+400	Pipe	1 x 0.9	Box Culvert	1 x 2 x 2	
12	38+570	45+615	Pipe	2x1.2	Box Culvert	1 x 2 x 2	
13	38+800	45+840	Pipe	2x1.2	Box Culvert	1 x 2 x 2	
14	39+300	46+345	Pipe	2x1.2	Box Culvert	1 x 2 x 2	

15	39+645	46+690	Pipe	2x1.2	Box Culvert	1 x 2 x 2	
16	40+140	47+190	Slab	1x2.8	Box Culvert	1 x 4 x 3	
17	40+300	47+290	Pipe	1x0.9	Box Culvert	1 x 3 x 3	

(b) Widening of existing culverts

Allexistingculvertswhicharenottobereconstructedshallbewidenedto theroadwaywidthoftheProjectHighwayasperthetypicalcrosssection giveninsection7.3 (i), (iii) and Fig. 7.1 to Fig. 7.5oftheIRC SP 84-2019.Repairsandstrengthening ofexisting structures whererequiredshall be carried out.

Sl. No	Chainage (km)	Span / Opening	Remarks , if any
Nil			

(c) Additional new culverts

New culverts shall be constructed for width equal to the roadway width of the Project Highway & as per typical cross-section given in this Schedule-B and alignment plan. The particulars are given in the table below:

Sl. No.	Existing Chainage (Km)	Design Chainage (Km)	Proposed Type	Proposed Span	Remarks
1	-	20+215	Box Culvert	1 x 2 x 2	
2	-	20+720	Box Culvert	1 x 2 x 2	
3	-	21+050	Box Culvert	1 x 2 x 2	
4	-	21+310	Box Culvert	1 x 2 x 2	
5	-	21+840	Box Culvert	1 x 2 x 2	
6	-	22+085	Box Culvert	1 x 2 x 2	
7	-	22+580	Box Culvert	1 x 2 x 2	
8	-	22+760	Box Culvert	1 x 2 x 2	
9	-	23+070	Box Culvert	1 x 2 x 2	
10	-	23+350	Box Culvert	1 x 2 x 2	
11	-	23+909	Box Culvert	1 x 5 x 4	
12	-	24+340	Box Culvert	1 x 2 x 2	
13	-	24+520	Box Culvert	1 x 2 x 2	
14	-	25+410	Box Culvert	1 x 2 x 2	

Sl. No.	Existing Chainage (Km)	Design Chainage (Km)	Proposed Type	Proposed Span	Remarks
15	-	25+780	Box Culvert	1 x 3 x 3	
16	-	26+590	Box Culvert	1 x 2 x 2	
17	-	26+940	Box Culvert	1 x 2 x 2	
18	-	27+155	Box Culvert	1 x 2 x 2	
19	-	28+360	Box Culvert	1 x 2 x 2	
20	-	28+510	Box Culvert	1 x 2 x 2	
21	-	30+320	Box Culvert	1 x 2 x 2	
22	-	30+520	Box Culvert	1 x 2 x 2	
23	-	30+865	Box Culvert	1 x 2 x 2	
24	-	31+090	Box Culvert	1 x 3 x 3	
25	-	31+700	Box Culvert	1 x 3 x 3	
26	-	32+170	Box Culvert	1 x 3 x 3	
27	-	32+515	Box Culvert	1 x 3 x 3	
28	-	32+935	Box Culvert	1 x 3 x 3	
29	-	33+235	Box Culvert	1 x 3 x 3	
30	-	35+050	Box Culvert	1 x 2 x 2	
31	-	35+680	Box Culvert	1 x 3 x 3	
32	-	35+980	Box Culvert	1 x 3 x 3	
33	-	36+610	Box Culvert	1 x 3 x 3	
34	-	38+930	Box Culvert	1 x 2 x 2	
35	-	39+440	Box Culvert	1 x 2 x 2	
36	-	40+390	Box Culvert	1 x 2 x 2	
37	-	40+680	Box Culvert	1 x 2 x 2	
38	-	41+045	Box Culvert	1 x 3 x 3	
39	-	42+080	Box Culvert	1 x 3 x 3	
40	-	42+735	Box Culvert	1 x 3 x 3	
41	-	43+435	Box Culvert	1 x 2 x 2	

Sl. No.	Existing Chainage (Km)	Design Chainage (Km)	Proposed Type	Proposed Span	Remarks
42	-	44+310	Box Culvert	1 x 2 x 2	
43	-	44+695	Box Culvert	1 x 2 x 2	
44	-	45+045	Box Culvert	1 x 2 x 2	
45	-	47+825	Box Culvert	1 x 2 x 2	
46	-	48+920	Box Culvert	1 x 2 x 2	
47	-	49+030	Box Culvert	1 x 2 x 2	
48	-	49+310	Box Culvert	1 x 2 x 2	

(d) Additional Culverts at Junction and Crossroads

The contractor shall construct the culverts at crossroads and junctions as per the list below:

Sl. No.	Chainage (km)	Proposed Type	Proposed Span	Remarks
1	21+600	Box	1x2	Cross Road
2	21+900	Box	1x2	Cross Road
3	26+000	Box	1x2	Cross Road
4	26+200	Box	1x2	Cross Road
5	26+350	Box	1x2	Cross Road
6	26+610	Box	1x2	Cross Road
7	28+420	Box	1x2	Cross Road
8	30+300	Box	1x2	Cross Road
9	31+060	Box	1x2	Cross Road
10	31+600	Box	1x2	Cross Road
11	31+960	Box	1x2	Cross Road
12	33+100	Box	1x2	Cross Road
13	33+900	Box	1x2	Cross Road
14	35+900	Box	1x2	Cross Road
15	36+480	Box	1x2	Cross Road
16	37+500	Box	1x2	Cross Road

Sl. No.	Chainage (km)	**Proposed Type**	**Proposed Span**	**Remarks**
17	38+400	Box	1x2	Cross Road
18	39+400	Box	1x2	Cross Road
19	40+440	Box	1x2	Cross Road
20	44+940	Box	1x2	Cross Road
21	45+320	Box	1x2	Cross Road
22	46+700	Box	1x2	Cross Road
23	46+840	Box	1x2	Cross Road
24	47+330	Box	1x2	Cross Road
25	48+800	Box	1x2	Cross Road

Note:

- *The overall width of culverts shall be equal to Roadway width including the gap between main carriageway & service road/slip/connecting road, in case there is any service road/slip/connecting road. Any additional Barrel length required as per site conditions shall not constitute a Change of Scope, save and except any variations arising out of a Change of Scope expressly undertaken in accordance with the provisions of Article 13 of EPC Contract Agreement.*
- *Location of culverts are indicative and span arrangement is minimum specified. Exact location of these culverts may be decided in consultation with Authority Engineer. The actual location/vent way/span arrangements of culverts shall be determined on the basis of detailed investigations by the Contractor in accordance with the Specifications and Standards. Any variations in number of culverts/vent way/span arrangements 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 of EPC Contract Agreement.*

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

Sl. No.	**Chainage (km)**	**Type of repair required**
NIL		

(f) Floor protection works shall be as specified in the relevant IRC Codes and Specifications.

iii. Bridges

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

(i) Theexisting bridgesatthefollowing locationsshallbere-constructed as new Structures:

S. No.	Bridge location (km)	Salient details of existing bridge	Adequacy or otherwise of the existing waterway, vertical clearance, etc.	Remarks
1	Exist Ch: 22+560 Prop Ch: 29+938	Exist Slab Culvert, Prop MNB, Box Type	Prop Span 1 x 10m, Prop Width 2 x13.5m	With Footpath
2	Exist Ch: 30+215 Prop Ch: 37+700	Exist MNB, Box Girder type Prop MNB,PSC Girder type	Prop Span 1 x 40m, Prop Width 2 x 13.5m	With Footpath
3	Exist Ch: 38+490 Prop Ch: 45+533	Exist MNB, RCC Slab type Prop MNB,Box type	Prop Span 1 x 10m, Prop Width 2 x 11.6+2 x 11.0m	With Footpath
4	Exist Ch: 39+210 Prop Ch: 46+257	Exist MNB, RCC Slab type Prop MNB, PSCGirder type	Prop Span 1 x 20m, Prop Width 2 x 11.6+2 x 11.0m	With Footpath
5	Exist Ch: 39+990 Prop Ch: 47+033	Exist MNB, RCC Slab type Prop MNB,PSC Girder type	Prop Span 1 x 20m, Prop Width 2 x 11.6+2 x 11.0m	With Footpath

Note: - Proposed span arrangement is minimum and the same shall be finalized as per site condition in accordance with the Manual in consent with the concerned authority. Any increase in length/span/height shall not be treated as change in scope of work.

(ii) The following narrow bridges shall be widened:

Sl. No.	Chainage (km)	Existing width (m)	Extent of widening (m)	Cross-section at deck level for widening @
NIL				

(b) New bridges

New bridges at the following locations on the Project Highway shall be constructed. GADs for the new bridges are attached in the drawings folder.

Sl. No	Chainage (km)	Name of Nala	Square Span (m)	Skew (deg.)	Width of Structure (m)

Sl. No	Chainage (km)	Name of Nala	Square Span (m)	Skew (deg.)	Width of Structure (m)
a) Major Bridge					
NIL					
b) Minor Bridge					
1	36+750 PSC Girder type, with Footpath		2 x 25		2 x 13.5
2	37+170 PSC Girder type, with Footpath		1 x 15		2 x 13.5
3	41+230 Box Type, with Footpath		1 x 12		2 x 13.5
4	47+480 PSC Girder type, with Footpath		1 x 15		2 x 13.5
5	48+167 Box Type, with Footpath		4 x 2.0m dia		2 x 17.0
6	48+390 Pipe Type, with Footpath		4 x 2.0m dia		2 x 11.6+2 x 11.0
7	48+610 Pipe Type, with Footpath		4 x 2.0m dia		2 x 11.6+2 x 11.0

Note: *Proposed span arrangement is minimum and the same shall be finalized as per site condition in accordance with the Manual in consent with the concerned authority. Any increase in length/span/height shall not be treated as change in scope of work.*

(c) The railings of existing bridges shall be replaced by crash barriers at the following locations:

Sl. No.	Chainage (km)	Remarks
NIL		

(d) Repairs/replacements of railing/parapets of the existing bridges shall be undertaken as follows:

Sl. No.	Chainage (km)	Remarks
NIL		

(e) Drainage system for bridge decks

Aneffectivedrainagesystemforbridgedecksshallbeprovidedasspecified in paragraph 7.21 of the manual

Structures in marine environment

Sl. No.	Chainage (km)	Remarks
Nil		

iv. Rail-road bridges

(a) Design, construction and detailing of ROB/RUB shall be as specified in section 7 of the manual.

(b) Road over-bridges

Road over-bridges (road over rail) shall be provided at the following level crossings, as per GAD drawings attached.

Sl. No.	Chainage (km)	Length of bridge(m)
Nil		

Note:

- The proposed span arrangement of ROBs are minimum. It may subject to change as per availability of railway boundaries/ requirement of the railways. Any increase in the cost due to change in the span arrangement and total length shall not be treated as change of scope of work.
- ROBs shall be designed, constructed, and maintained as per the requirements of Railway authorities. The construction plans shall be prepared in consultation with the concerned railway authority.
- The ROBs shall be constructed and maintained by the Contractor under supervision of the Railways.
- All expenditure related to construction, maintenance and supervision of ROBs (except plan and estimate (P&E) charges) shall be borne by the Contractor.
- During construction, at the location of the existing level crossing, diversion road with level crossing if any shall be suitably provided by the Contractor.

(c) Road under-bridges

Road under-bridges (road under railway line) shall be provided at the following level crossings, as per GAD drawings attached:

Sl.No.	LocationofLevelCrossing(chainagekm)	Numberandlengthofspan(m)
NIL		

v. Grade separated structures.

The grade separated structures shall be provided at the locations and of the type and length specified in paragraphs 2 (ix) and 3 of this Annex-I.

vi. Repairs and strengthening of bridges and structures.

The existing bridges and structures to be repaired/strengthened, and the nature and extent of repairs /strengthening required are given below:

(a) Bridges

Sl. No.	Chainage (km)	Nature and extent of repairs / strengthening to be carried out
NIL		

(b) ROB/ RUB

Sl. No.	Chainage (km)	Nature and extent of repairs / strengthening to be carried out
NIL		

(c) Overpasses/Underpasses and other structures

Sl. No.	Chainage (km)	Nature and extent of repairs / strengthening to be carried out
NIL		

vii. List of Major Bridges and structures

The following is the list of the major Bridges and structures:

Sl. No.	Chainage (km)
NIL	

8. Traffic Control Devices and Road Safety Works

(i) Traffic control devices and road safety works shall be provided in accordance with

Section 9 of the Manual. Any requirements in the traffic control devices; road safety works 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 of EPC Contract agreement.

(a) Traffic Signs:

Traffic signs include roadside signs, overhead signs and curb mounted, shall be provided all along the entire Project Highway as per schedule D. All advance direction/destination, reassurance, place identification signs along main road shall be overhead mounted on gantry. Exact location and number of overhead gantry signs to be decided by Contractor in accordance to manual with prior approval from AE and authority. Any increase shall not be constituted as change of Scope. The letter size and siting of all signs along main road shall be designed for the minimum design speed. Minimum number of full overhead gantry sign and cantilever overhead gantry sign shall be provided in accordance with manual.

(b) Pavement Marking:

Pavement markings shall cover road marking for the entire Project Highway as per manual.

(c) Safety Barrier:

THRIE- Metal Beam barriers shall be provided all along the project highway on either side of main carriageway as per provision in the manual and TCS given in Appendix B-I. Minimum length of THRIE- Metal Beam barrier and RCC crash barrier shall be provided as per schedule.

(ii) Reflective Pavement Markers (Road Studs)

Reflective Pavement markers (RRPM) i.e., road studs along the both side of entire project highway at the locations as per provision of clause 9.5 of Section 9 in the manual (IRC: SP-84-2019).

(iii) Specifications of the reflective sheeting

Retro reflective sheeting shall be of high intensity grade with encapsulated lens or with micro prismatic retro reflective element in accordance with ASTM Standard D 4956-09 and as per provision of 9.2 of section 9 in the manual (IRC: SP-84-2019).

9. Roadside Furniture

(i) Roadside furniture including boundary pillar, pedestrian guard rail, pedestrian crossing, delineators, studs, MS Railing etc. shall be provided in accordance with the provisions of Section 9 and 12 of manual and Schedule D.

LED traffic blinkers: To be provided at all junctions, pedestrian crossings, exits and at other locations as per manual.

Noise barriers: shall be provided in accordance with manual; Locations shall be decided as per site condition in consent with Authority.

(ii) Overhead traffic signs: Full width overhear signs and Cantilever signs shall be provided as per manual (IRC SP: 84-2019)

10. Compulsory Afforestation

Compensatory afforestation should be as per Forest Conservation Act.

11. Hazardous Locations

Roadside safety barriers shall be provided at all locations of hazards such as high embankment, roadside obstacles, sharp curves, Flyover and bridge approaches, overpasses, ROB and any other locations identified in consultation with Authority Engineer during the execution of the project highway.

12. Special Requirement

Project Road passing through plain and rolling in major stretch and few portion in hilly terrain therefore special requirement for Hill Roads is required.

Slope Protection on Hill Roads

As the project involve cutting of existing hill slopes, it is imperative that slopes are to be stabilized for insuring longevity of the slopes and the roads. Slope stability, erosion control and landslide correction shall be accomplished in accordance with IRC: SP 48:1998, IRC: 56-2011 and manual. The contractor shall be responsible for accurate assessment of the actual requirement & prepare design for slope protection & stabilization as per manual.

Any increase in length over the above will not be considered as change of scope. Therefore, contractor should carry out thorough investigation at site and assess the requirement of slope protection and slide prone zone and other safety features at his own before submission of bid.

Disposal of Debris: - As per Manual.

A. RETAINING WALL/REINFORCES SOIL WALL (RS WALL) /BREAST WALL

Protection wall in the form of Breast/Retaining wall/Reinforced soil wall shall be constructed at following locations.

A-1 BREAST WALL

Breast walls shall be constructed at the following locations.

LHS					RHS			
Sl No	Chainage (m)		Length (m)	Height (m)	Chainage (m)		Length (m)	Height (m)
	From	To			From	To		

LHS					RHS			
Sl No	Chainage (m)		Length (m)	Height (m)	Chainage (m)		Length (m)	Height (m)
	From	To			From	To		
1					47+640	47+770	130	4
2					47+920	47+960	40	4
3					48+740	48+830	90	4
4					49+390	49+490	100	6
	Total Length						360	

Note: *The proposed locations are minimum and any change in length/height shall not be treated as change in scope of work.*

A-2 Retaining wall

Retaining walls shall be constructed at the following locations.

LHS					RHS			
Sl No	Chainage (m)		Length (m)	Height (m)	Chainage (m)		Length (m)	Height (m)
	From	To			From	To		
1	21+640	21+690	50	2				
2	22+730	22+780	50	2	22+730	22+780		2
3	25+650	25+850	200	2	25+650	25+850		2
4	28+300	29+370	1070	2	28+300	29+370	1070	2
5	29+600	30+400	800	2	29+600	30+400	800	2
6	36+540	36+680	140	2	36+540	36+680	140	2
7	40+940	41+120	180	2	40+940	41+120	180	2
8	42+700	42+800	100	2	42+700	42+800	100	2
9	47+460	47+620	160	3	47+460	47+540	80	3
10	47+780	47+850	70	6	47+990	48+670	680	5
11	48+900	49+050	150	6				
Total Length=			**2970**				**3050**	

Note: *The proposed locations are minimum and any change in length & height shall not be treated as change in scope of work.*

A-3 Reinforced Soil wall (RS Wall)

Reinforced Soil wall shall be constructed at the following locations.

Reinforced Soil Wall								
Sl No	LHS				RHS			
	Chainage (m)		Length (m)	Height (m)	Chainage (m)		Length (m)	Height (m)
	From	To			From	To		
1	47+990	48+210	220	12				
2	48+330	48+690	360	10				
	Total Length		**580**					

Note: *The proposed locations are minimum and any change in length & height shall not be treated as change in scope of work.*

A-4 Reinforced Earth wall (RE Wall)

RE Wall quantity on approaches is 153294Sqm (17936m) is minimum. However, addition in the quantity shall not attract change of Scope and shall be borne by the contractor.

A-6 Other Protection Works

i. Drainage Pipes on cut slopes – Perforated PVC rigid pipes of 5m length with internal dia. of 38 mm to 50mm shall be provided at a spacing of 5m c/c.

ii. Cut Slope treatment by Vetiver Grass: Area 1068 sqm.

iii. Cut Slope treatment by Seeding and Mulching: Area 1602 sqm

iv. Cut Slope treatment by non-woven coir erosion control blanket/DT Mesh for Face 2.7/3.7mm dia. wire, ZN+PVC - Area 9543 Sqm

v. Cut Slope treatment by Soil Nailing with/without shotcrete – Area (NIL)

vi. Fill Slope treatment with erosion control blankets - *Embankment fill slope protection shall be provided as per requirement of the site as per Manual, however minimum 65234sqm Turfing and 142183sqm Erosion control (using geo-green) shall be provided, keeping in view sustainability, the geogreen blanket should have minimum 7.5 kn/m MD and should be certified by atleast Central Government Organization and product has minimum 5-7 years product performance certificate by MORT&H and its agencies*

Note:

- *The locations and quantity of various protection works specified in this above clause (A-6) of schedule B is tentative and minimum specified. The contractor shall be responsible for accurate assessment of slope protection & stabilization measures as per schedule D. Any change in location, increase in quantity, change in specifications or change in type of protection work shall not constitute a Change of Scope. Therefore, contractor should carry out thorough investigation*

at site and assess the requirement of slope protection and slide prone zone and other safety features on his own before submission of bid.

- *Before placement of support system at site, the slopes shall be stripped to remove the excess debris / hanging boulders, stones, muck, shrubs etc. and site specific best possible smooth surface shall be prepared. The support system shall be laced on this smooth surface.*

RAINWATER HARVESTING

(i) As per Ministry of Environment and Forests Notification, New Delhi dated 14.01.1997 (as amended on 13.01.1998, 05.01.1999 & 6.11.2000), the construction of Rainwater, harvesting structure is mandatory in and around Water Crisis area, notified by the Central Ground Water Board.

(ii) Rainwater harvesting structures shall be provided at every 1000m on either side.

(iii) Rainwater harvesting structure shall be provided as per IRC: SP:42-2014 (Guideline for road drainage) and IRC: SP:50-2013 (Guidelines on Urban Drainage)

13. Utility Shifting

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

Note-I:

(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 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 crossings to underground as per requirement of utility owning department and/or construction of project highway. The Contractor 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 to utility owning department whenever asked by the Contractor. The decision/ approval of utility owning department shall be binding on the Contractor.

(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 furnishes demand of Utility Owning Department along with a copy of estimated cost given by the later.

(c) The dismantled material/scrap of existing Utility to be shifted/ dismantled shall belong to the Contractor who would be free to dispose-off the dismantled material as deemed fitby them unless the Contractor is required to deposit the dismantled material to utility owning department as per the norm and practice and in that case the amount of credit for dismantled material may be availed by the Contractor 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 plan enclosed.

13.1 Details of proposed Utilities Schedules

Utilities Relocation Plan and its Schedule initially prepared by DPR consultant followed by joined verification with P&E&PHE department in presence of NHIDCL officers dully certified, details as shown below.

13.2 Electrical Utilities

The Site includes the following Electrical Utilities:

The shifting of utilities and felling of trees shall be carried out by the contractor. The cost of the same shall be borne by the Authority. The details of utilities are as follows:

Sr. No	Type of Utility	Unit	Quantity	Location/stretch (LHS/RHS)
A	Electrical Utilities			
A1	Electrical Poles (LT 3 phase composite / LT 3 phase line /11Kv / 33Kv)	Nos.	2604	-
A2	LT 3 phase composite / LT 3 phase line /11Kv / 33Kv Length	Circuit Km	111.07	-
A3	Transformer 25 kVA/63 Kva/100 Kva	Nos.	59	-
A4	HT lines (11kv & 33 kv) underground crossing location	Nos.	13	-

B	Water/Sewage pipeline	m	18000	
B1	Hand pumps	Nos.	0	00/00
B2	Water supply (Diff Dia. and Specification)	meters	18000	
C	Telephones & OFC			
C1	Telephones	Nos.	00	
C2	OFC	Nos	0	
D	Felling of Tress	Nos.	400	

The details of items/quantities/works to be executed for shifting of utilities is tentative. All works/quantities/ miscellaneous items to be executed at site as per detailed estimate of utility owning department, without any additional claim/Change of Scope.

13.3 Any Other Lines-No.

14. Utility Duct: 30nos. (NP-4 class) of 1.0m dia. has been provided across the project highway.

15. **Change of Scope**

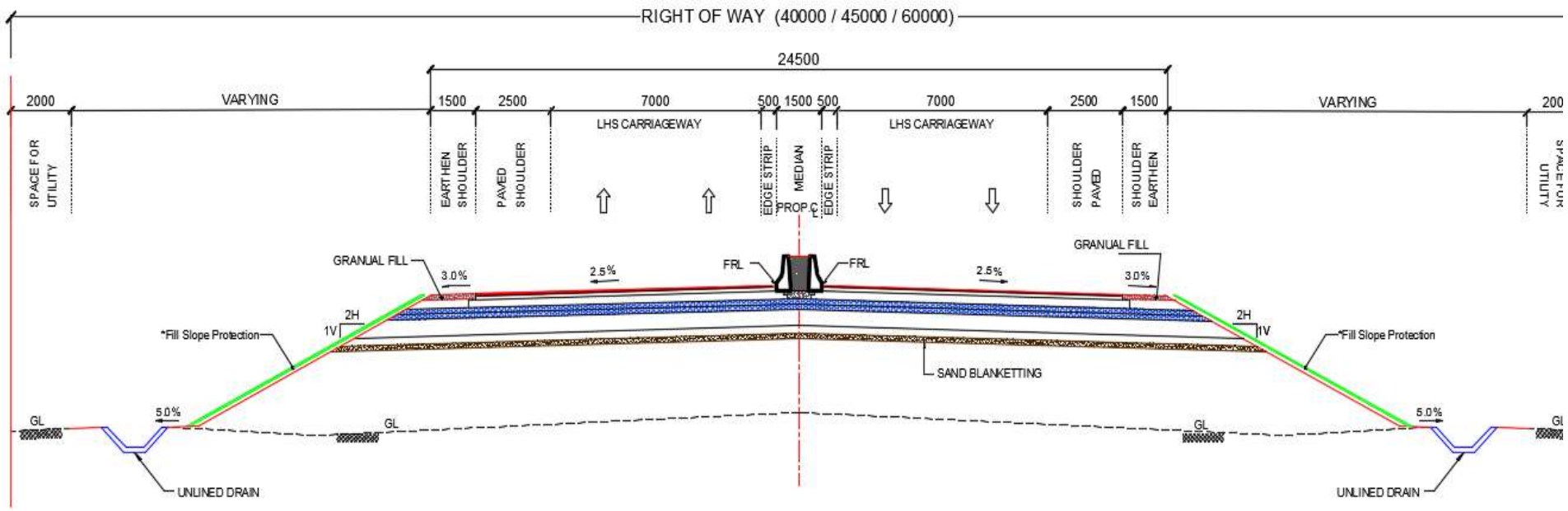
The length of Structures and bridges specified hereinabove shall be treated as an approximate assessment. The actual lengths as required on the basis of detailed investigations shall be determined by the Contractor in accordance with the Specifications and Standards. Any variations in the lengths specified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

APPENDIX B-I

Typical Cross Section Schedule

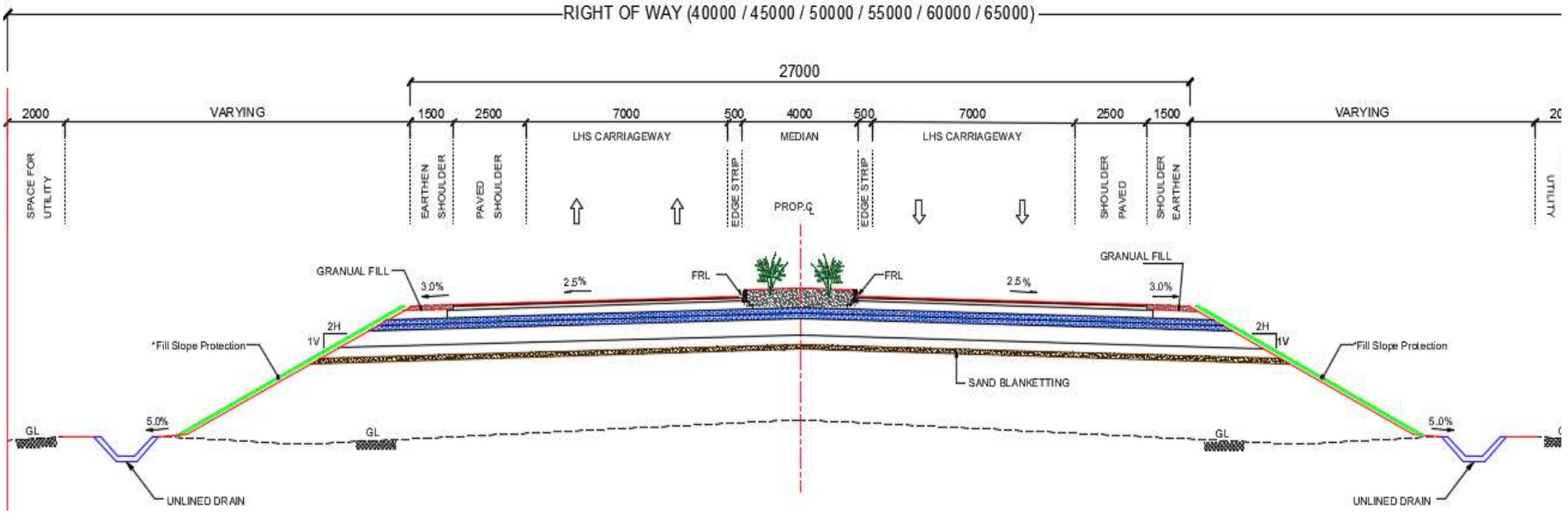
Chainage (m)		Length (m)	TCS Type	Remarks Description
From	To			
20+000	20+300	300	TCS 3	Follow Existing
20+300	21+420	1120	TCS 1	Follow Existing
21+420	22+375	955	TCS 10	New Alignment
22+375	26+160	3785	TCS 2	New Alignment
26+160	26+660	500	TCS 11	Follow Existing
26+660	27+140	480	TCS 10	New Alignment
27+140	30+970	3830	TCS 2	Follow Existing
30+970	32+060	1090	TCS 10	New Alignment
32+060	33+300	1240	TCS 2	New Alignment
33+300	33+860	560	TCS 12	Follow Existing
33+860	34+295	435	TCS 9	Follow Existing
34+295	34+900	605	TCS 3	Follow Existing
34+900	35+305	405	TCS 1	Follow Existing
35+305	36+190	885	TCS 10	New Alignment
36+190	37+985	1795	TCS 2	New Alignment
37+985	38+965	980	TCS 10	Follow Existing
38+965	39+600	635	TCS 2	New Alignment
39+600	40+380	780	TCS 12	Follow Existing
40+380	40+910	530	TCS 9	New Alignment
40+910	44+530	3620	TCS 2	New Alignment
44+530	45+430	900	TCS 9	New Alignment
45+430	47+070	1640	TCS 4	Follow Existing
47+070	47+360	290	TCS 9	New Alignment
47+360	47+460	100	TCS 5	New Alignment

Chainage (m)		Length (m)	TCS Type	Remarks Description
From	To			
47+460	47+620	160	TCS 7	New Alignment
47+620	47+780	160	TCS 6	New Alignment
47+780	47+850	70	TCS 7	New Alignment
47+850	47+970	120	TCS 6	New Alignment
47+970	48+320	350	TCS 8	New Alignment
48+320	49+040	720	TCS 13	New Alignment
49+040	49+360	320	TCS 6	New Alignment



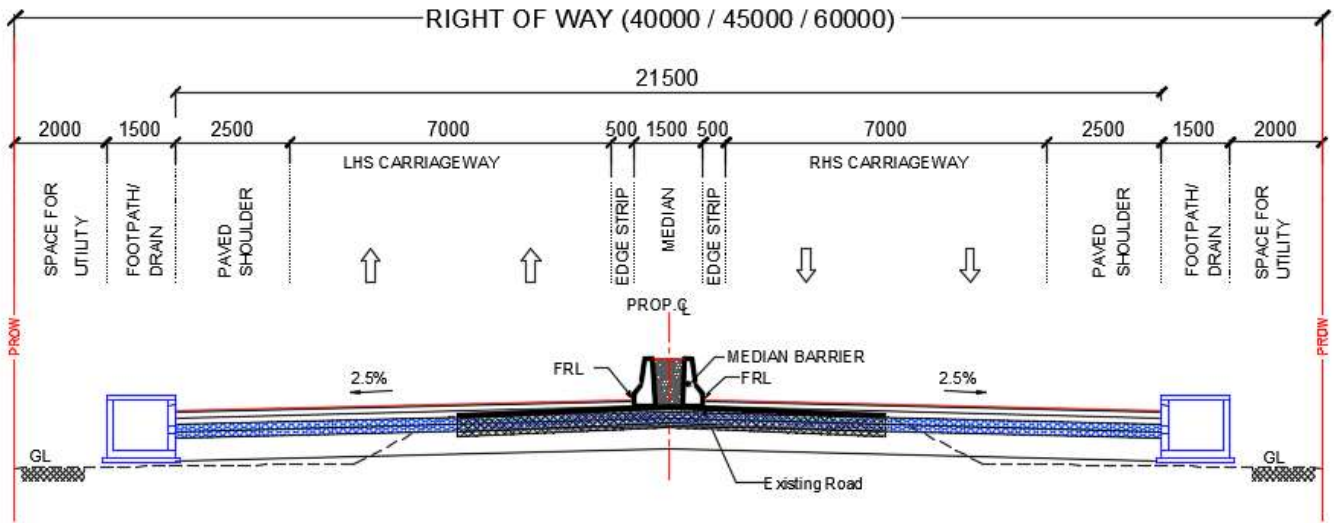
**Note: Anchoring of the blanket of natural geotextile made from coconut fibre reinforced with closely woven polymer nettings and seeds broadcasting on the treated site. For details refer standard drawing*

4-Lane Road with Paved and Earthen Shoulder with 2.5m raised median (TCS-1)

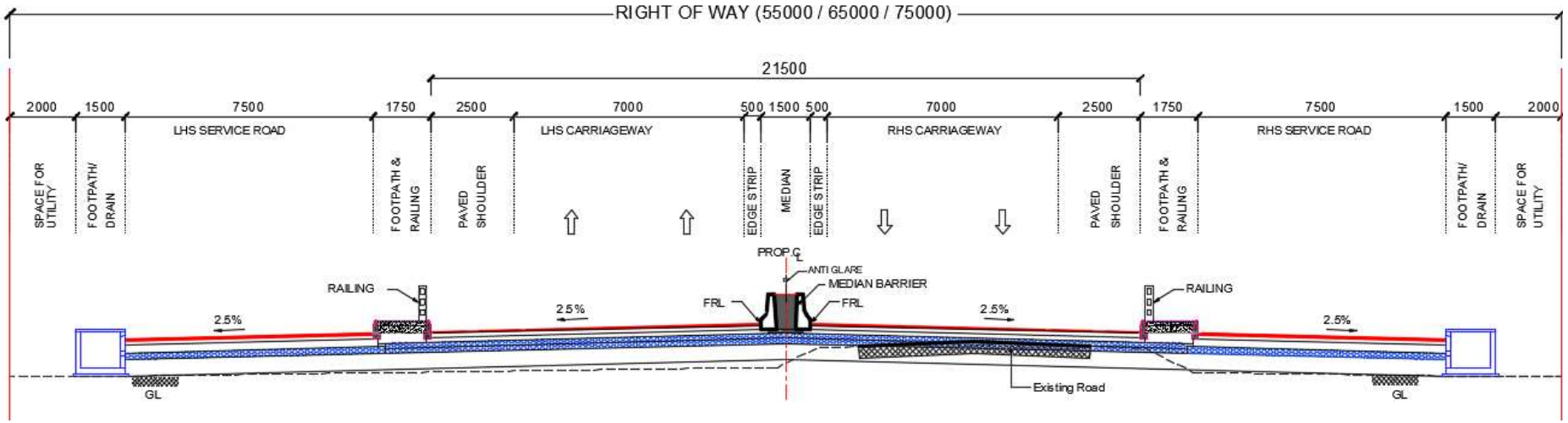


**Note: Anchoring of the blanket of natural geotextile made from coconut fibre reinforced with closely woven polymer nettings and seeds broadcasting on the treated site. For details refer standard drawing*

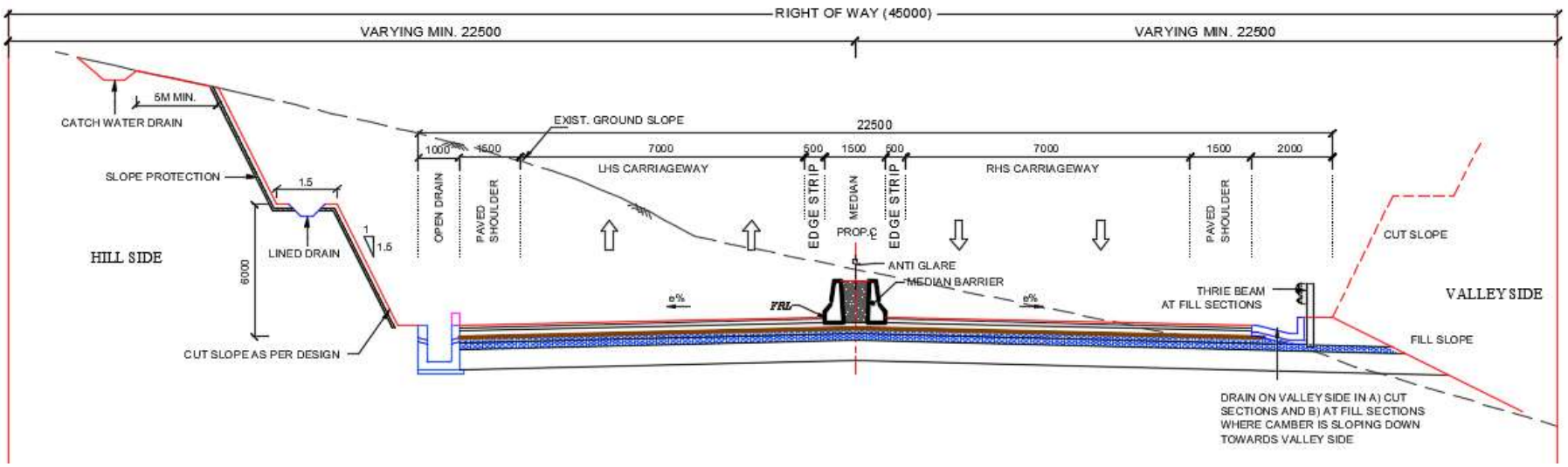
4-Lane Road with Paved and Earthen Shoulder in Rural Area with 5.0m raised median (TCS-2)



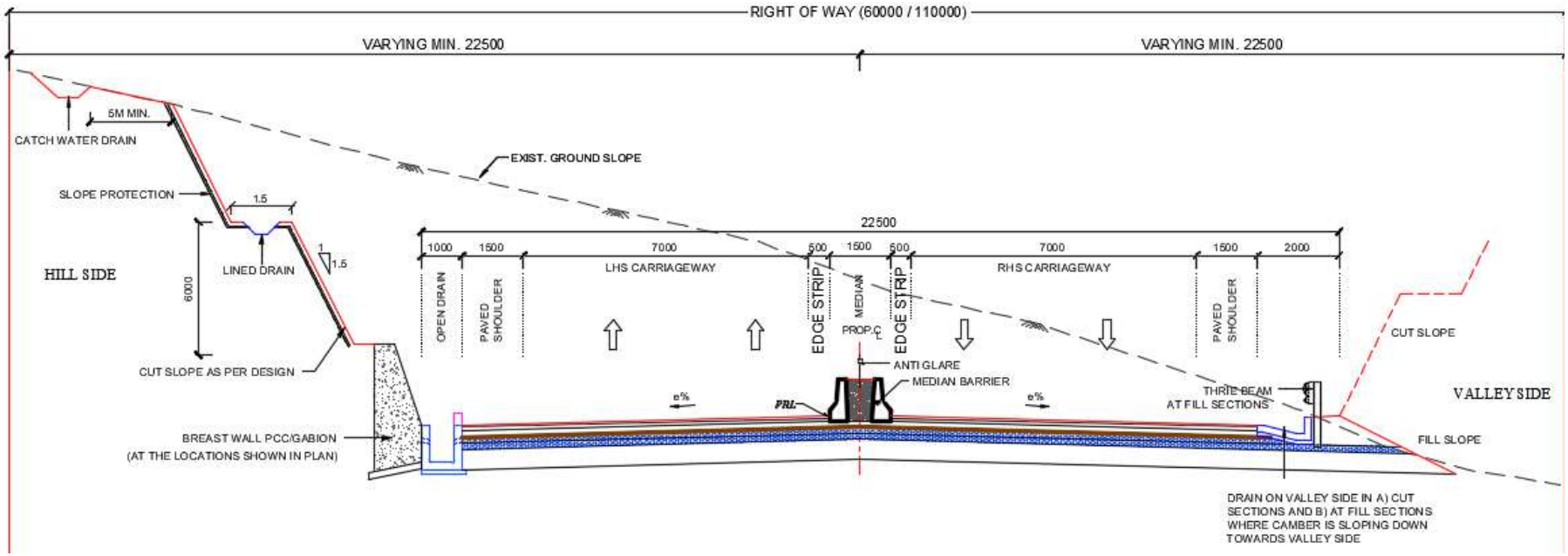
4 Lane with Paved Shoulder and RCC Drain on Both Side in Built-up Area along the Existing Road with 2.5 m Median (TCS-3)



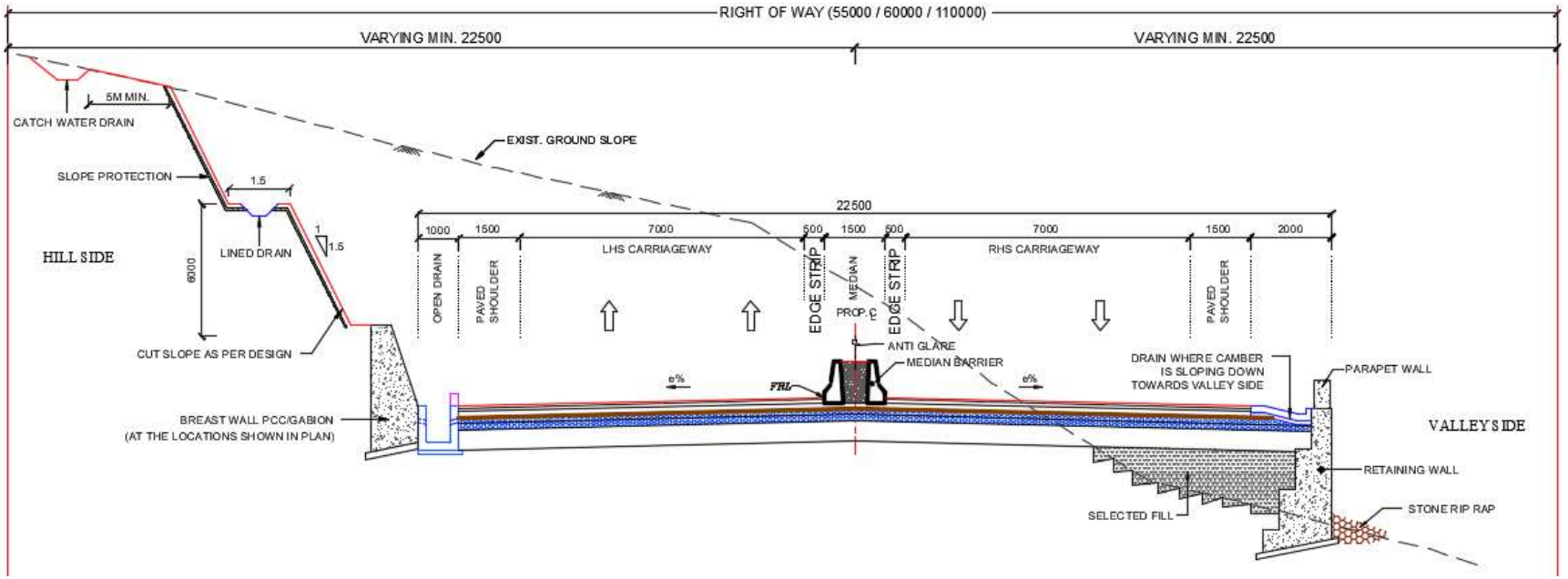
4 Lane with Paved Shoulder and 7.5m wide Service Road and RCC Drain on both side in Built-up Area along the Existing Road with 2.5m Median (TCS-4)



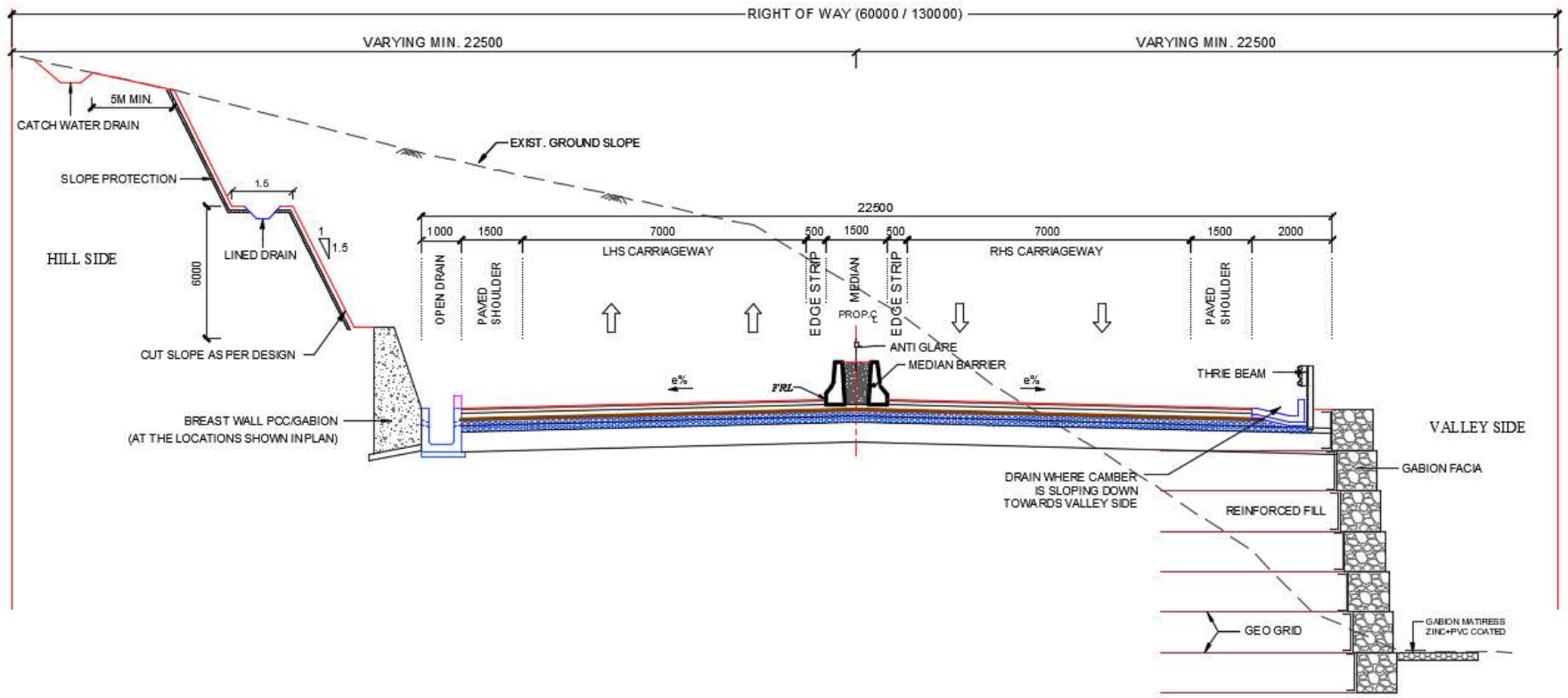
4-lane divided highway with Cut on Hill Side and Cut/Fill on Valley Side (TCS-5)



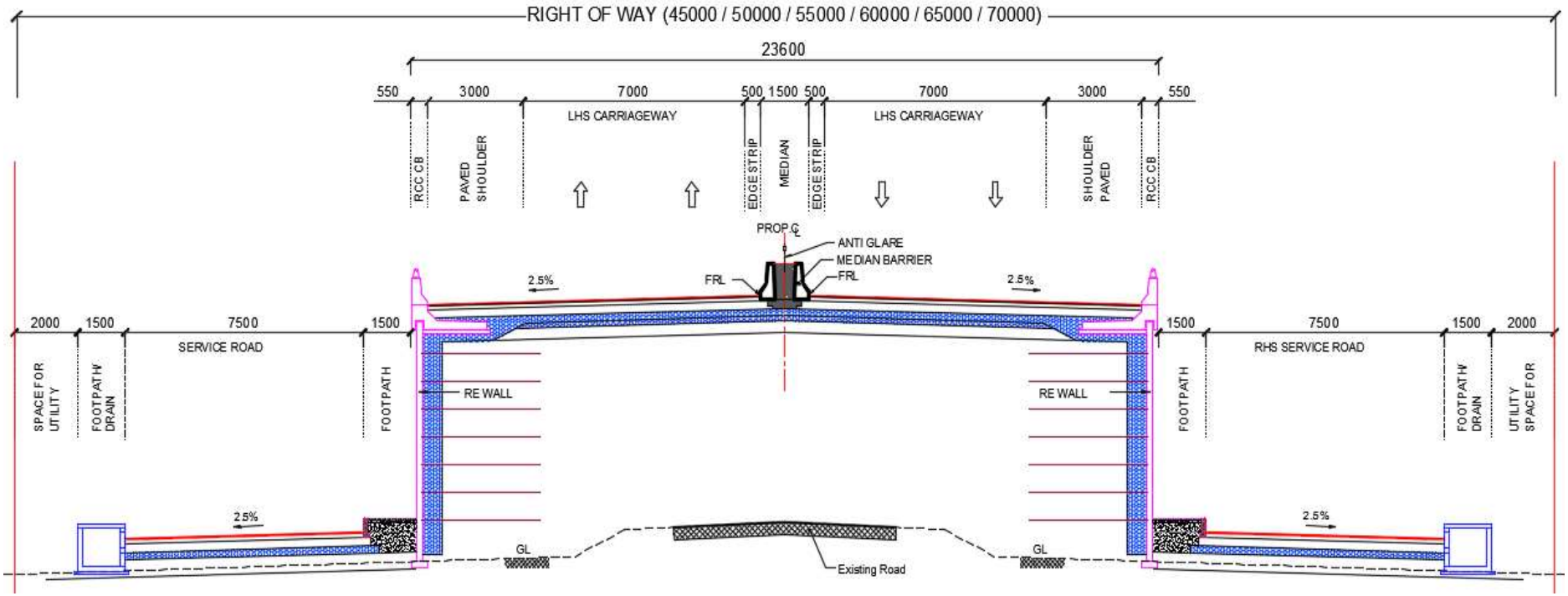
4-Lane divided highway with Breast Wall on Hill Side and Cut/Fill on Valley Side (TCS-6)



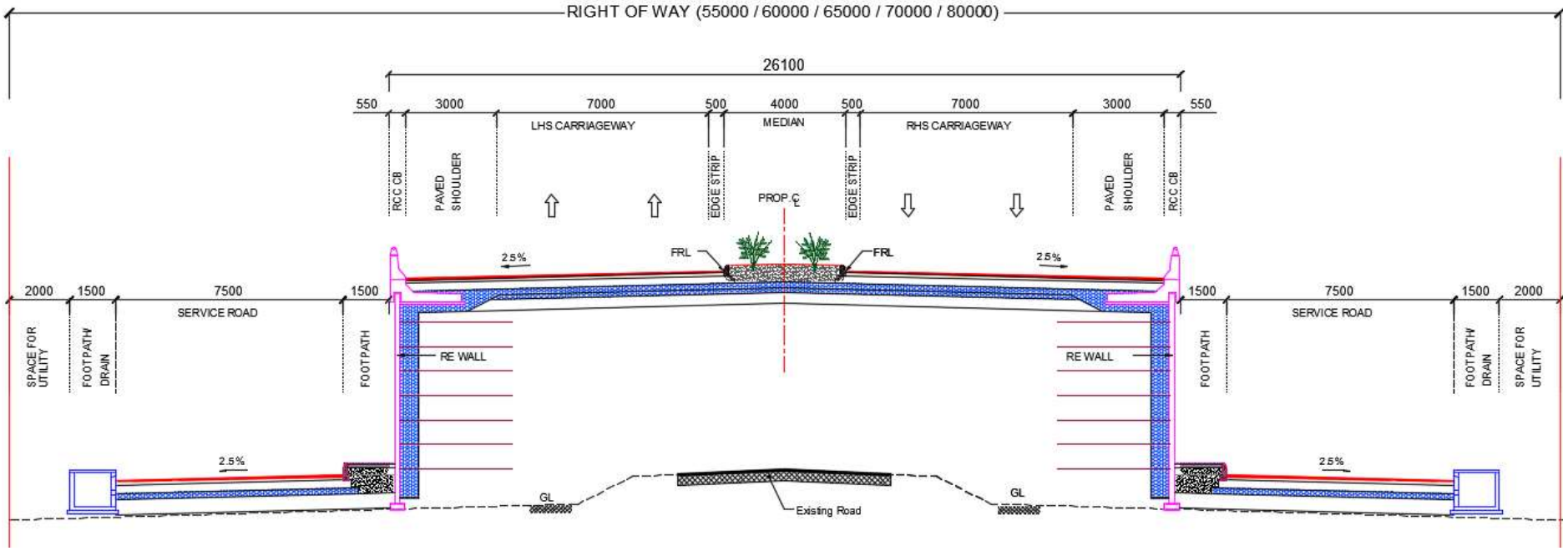
4-Lane divided highway with Breast Wall on Hill Side and Realignment wall on Valley Side (TCS-7)



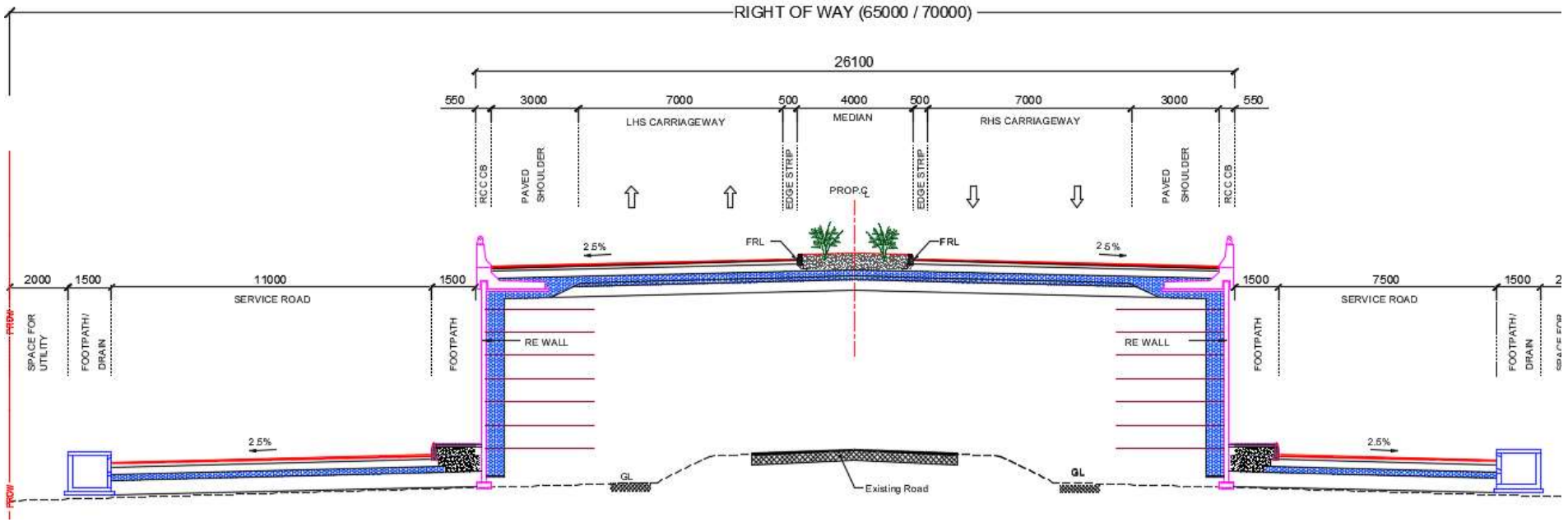
4-Lane divided highway with Breast Wall on Hill Side and Reinforcement Soil Wall on Valley Side (TCS-8)



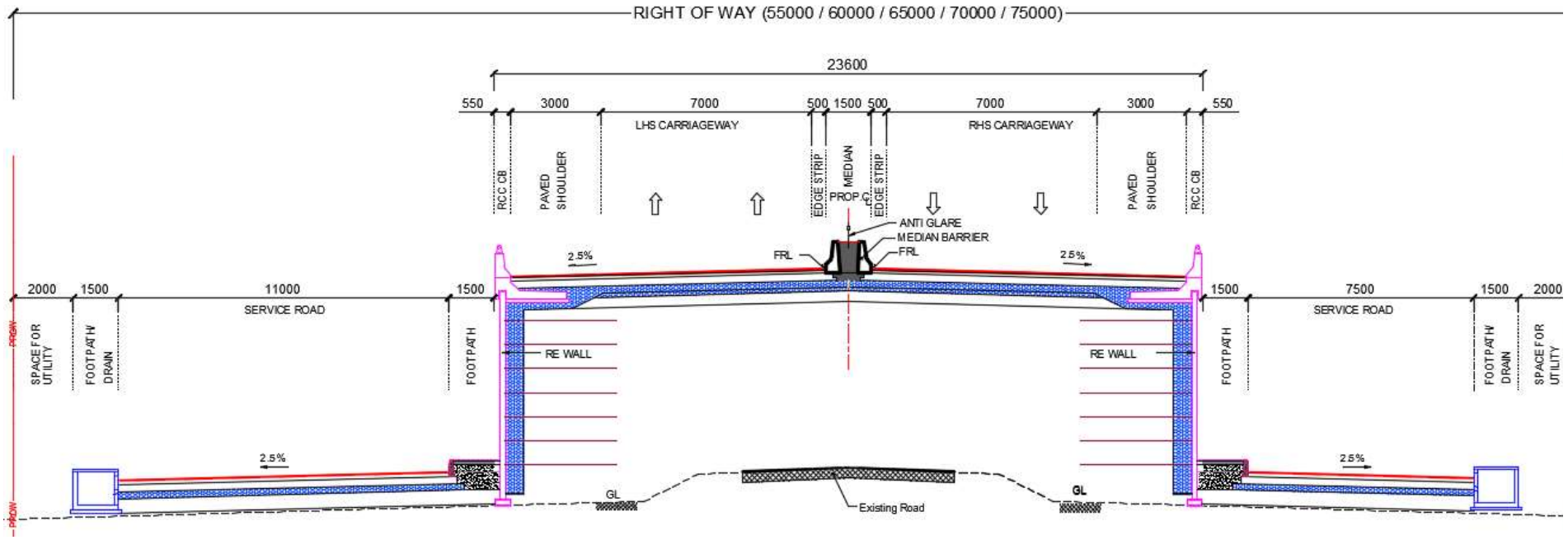
4-Lane Approaches of Grade separated structure with 7.5m wide Service Road and RCC Drain on both side with 2.5 m median (TCS-9)



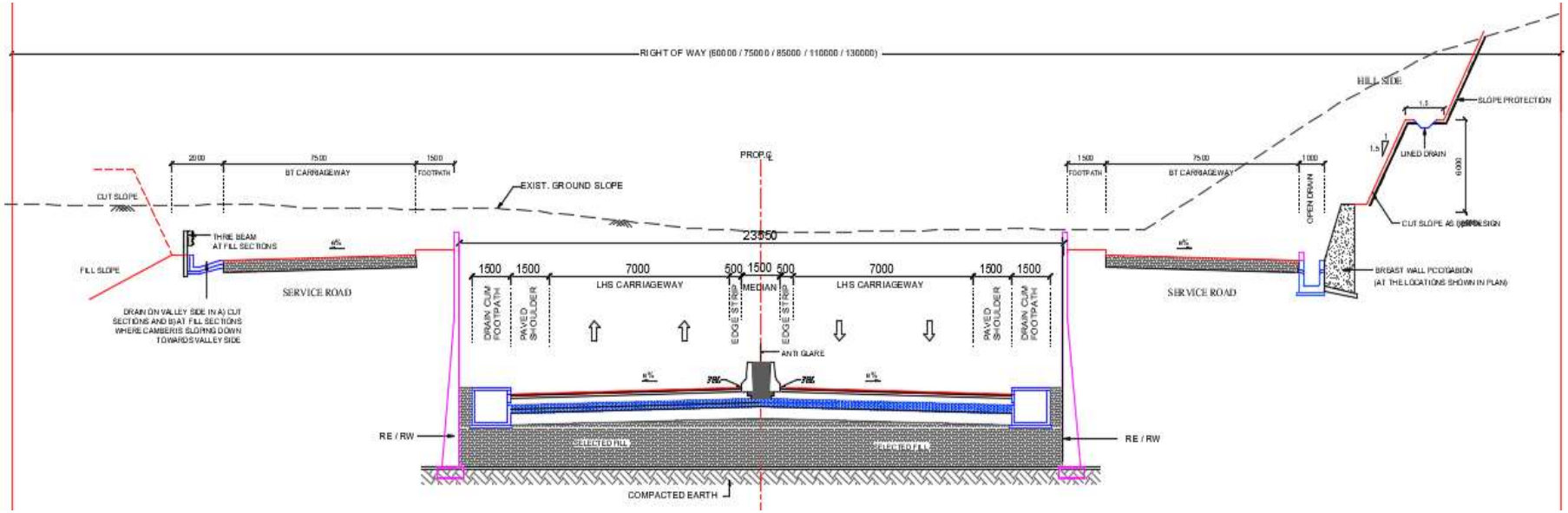
4-Lane Approaches of Grade separated structure with 7.5m wide Service Road and RCC Drain on both side with 5.0 m median (TCS-10)



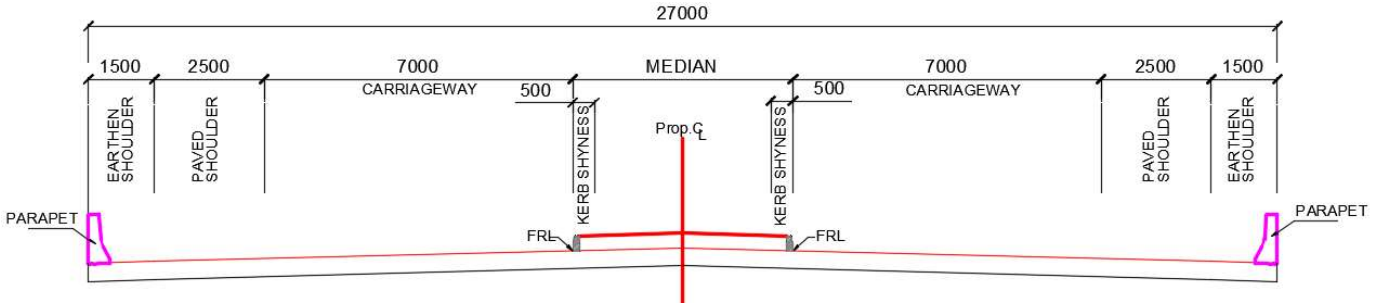
4 Lane Approaches of Grade separated structure with Service Road and RCC Drain on both side along Existing Road with 5.0 m Median (TCS-11)



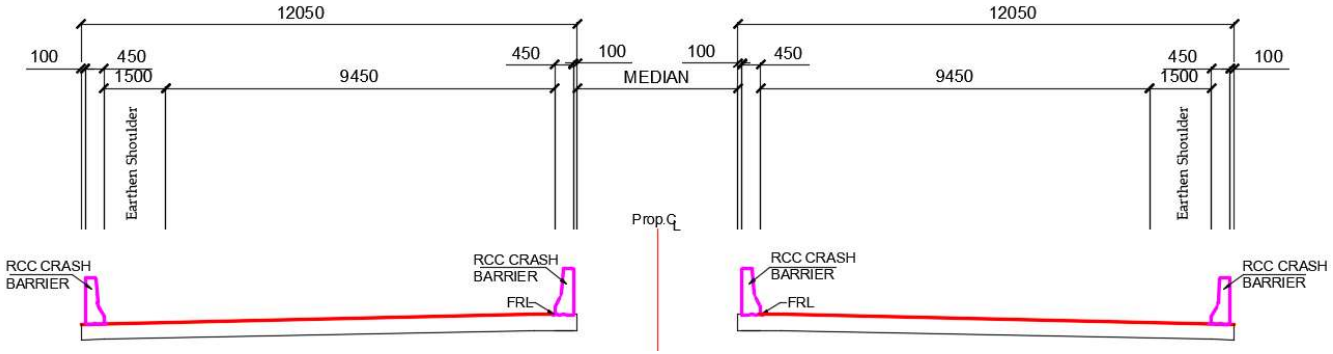
4 Lane Approaches of Grade separated structure with Service Road and RCC Drain on both side along Existing Road with 2.5 m Median (TCS-12)



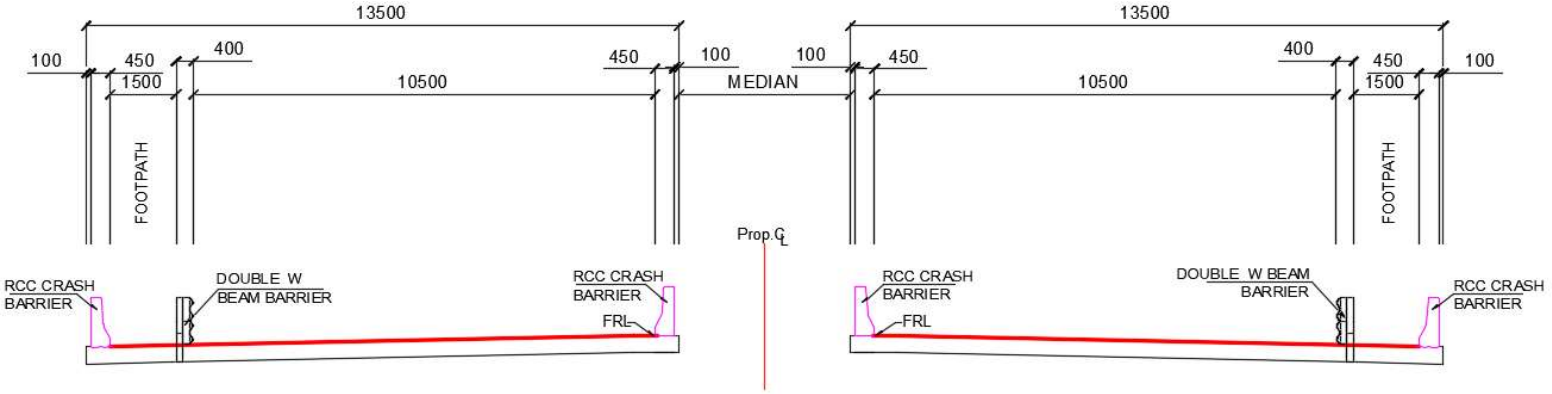
Lane Divided highway at VOP Approaches (TCS-13)



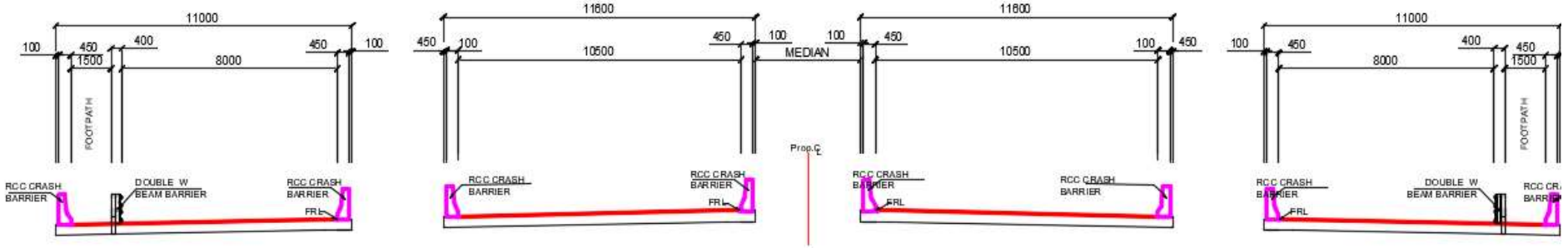
4-Lane Buired Culvert (Pipe and Slab) at road Level (TCS-14)



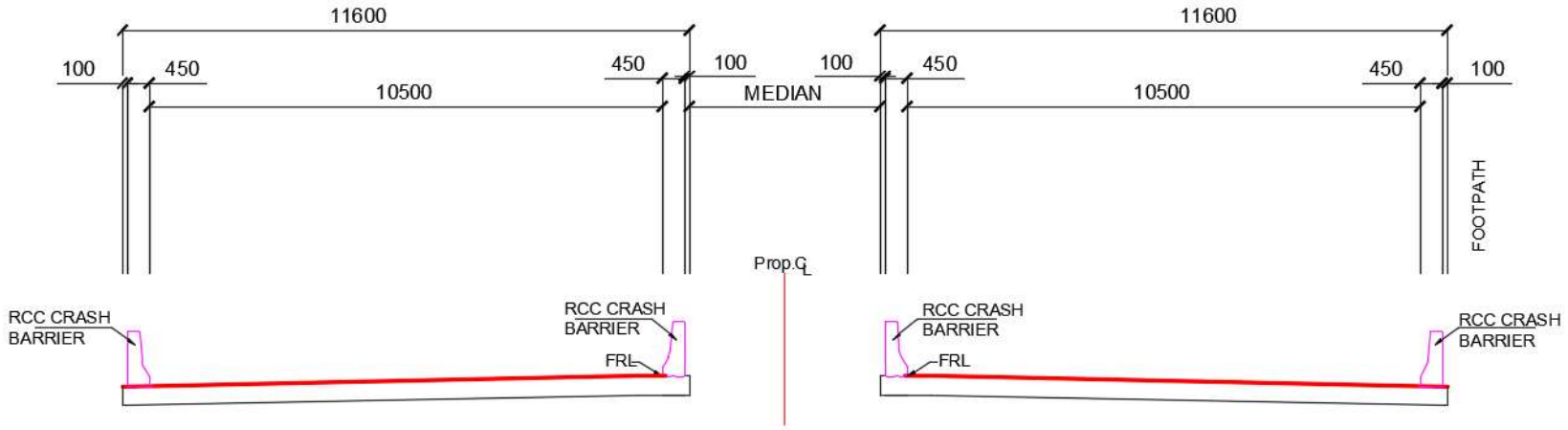
4-Lane Slab/ Box Culvert at Road Level (TCS-15)



4-Lane Bridge at Deck Level without Footpath (TCS-16)



4-Lane Bridge at Deck Level with Service Road and Footpath (TCS-17)



4-Lane Grade separated Structures at Deck level (TCS-18)

Schedule-C

Schedule - C

(SeeClause2.1)

Project Facilities

1 ProjectFacilities

This schedule indicates the minimum spatial and functional requirements of the facilities to be provided on the Project Highway (Total length of 20.00 km) with an aim to cater to the envisaged demand till the end of the concession period.

TheContractorshallconstructtheProjectFacilitiesinaccordancewiththe provisions of this Agreement. Such Project Facilities shall include:

(a) Toll plazas.
(b) Traffic Control Device/Road Safety Device/Roadside furniture.
(c) Pedestrian facilities.
(d) Land Scaping and Tree Plantation.
(e) Truck lay-byes.
(f) Bus-bays and Passenger shelters.
(g) Wayside amenities.
(h) Rest areas
(i) Foot over Bridges
(j) Building for traffic aid post
(k) Building for medical aid post
(l) Highway Lighting
(m) Other to be specified

2 Description of Project Facilities

Each of the Project Facilities is described below:

(a) Toll Plaza location

Toll Plaza location is mentioned below – Toll Plaza shall be provided as per as stipulated in section 10 of IRC Manual viz IRC-SP-84, 2019. The minimum lane requirement in the opening year are as follows.

Sl. No.	Chainage (km)			Lanes
	From	To	Length (m)	
NIL				

Note:

- All toll plaza premises shall be fenced with boundary wall with minimum 6ft height from OGL.
- Entry approach to each toll plaza shall be having Weigh in Motion equipment for connecting toll booths and toll office for collection of toll fees as per as per Schedule D.
- Based on the minimum toll lane requirement as given above, toll booths, toll plaza complex, weigh bridges, electrical systems, toll plaza and all other facilities required/mentioned in manual shall be provided as per Schedule D. All the structures shall be RCC framed structure as per Schedule D.
- No. of toll lanes specified above are minimum indicative. The Concessionaire shall design and provide toll lane as per IRC: SP: 87-2019 subject to minimum specified above. Any increase in no. of toll lane shall not be treated as 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 16.
- Solar panels shall be erected over the Toll Plaza Canopy to generate the green energy. Same shall be utilized for toll plaza lighting and other energy requirement within toll plaza area along with conventional lighting.

(b) Roadside furniture

Traffic Control Device/Road Safety Device/Roadside furniture as per provisions of manual shall be provided. Yellow flashing lights using solar power with full alternative power back-up shall be provided at all junctions/pedestrian crossings/hazardous locations etc

i. **Traffic Signs -** Road Signs include roadside signs; chevron signs; overhead signs and kerb mounted signs along the entire Project Highway and Slip/Connecting Road. All road signs shall be of Prismatic Grade Sheeting corresponding to Class „C" Sheeting described in IRC: 67 and any of the types VIII; IX or XI as per ASTM D-4956-09. The road signs and overhead signs erected on the Project highway and Slip/Connecting Road with regard to requirement of number of signs, type and size of sign, size of letter, color of sign, layout of sign; etc. including signs installations shall conform to Section-9 of “Manual” and IRC: 67, Code of Practice for Road Signs. Chevron signs shall be installed on curves and intersection. In addition to signs prescribed in “Manual” other signs such as signs showing safety slogans, toll free numbers, nearby hospital and police station facilities, lane discipline signs on gantry, headway etc. will also be provided as directed by Authority/Independent Engineer. The overhead signs shall be placed on a structurally sound gantry or cantilever structure made of tubular structure or steel structure. The final locations shall be

finalized in consultation with the Authority Engineer. The height, lateral clearance and installation of the sign structures shall be as per the MoRT&H/IRC guidelines. Design and location of overhead gantry sign, route marker signs for Project Highway shall be as per the IRC: 67.

ii. **Pavement Marking -** Pavement markings shall cover the entire Project Highway and shall be as per section- 9 of the "Manual" and IRC: 35. These markings shall be applied to road center lines; edge lines; continuity line; stop lines; give-way lines; diagonal/chevron markings; zebra crossing and at parking areas etc. by means of an approved self-propelled machine which has a satisfactory cut-off valve capable of applying broken lines automatically.

Road markings other than on main carriageway edges (both shoulder and median side) shall be of hot applied thermoplastic materials with glass reflectorizing beads as per relevant sub clauses of MoRT&H specifications; Raised profile edge lines as per Clause 7.7 of IRC 35 shall be provided on main carriageway (both sides i.e., shoulder and median side/right lane).

iii. **Raised Pavement Markers, Reflection pavement markers and Solar Studs -** Shall be provided along entire Project Highway as per requirements of Section -9 of the IRC:SP:84-2019 & Section 8 of IRC:SP:84-2019 and relevant IRC Manual specified in Schedule D.

iv. **Hectometer & Kilometer Distance marker -** Shall be provided along entire Project Highway as per requirements of Section -12 of IRC: SP:84-2019 and relevant IRC Manual specified in Schedule D

v. **LED Traffic Blinkers:** LED Traffic Blinkers shall be provided at all major & minor junctions, Pedestrian Crossings, Built-up areas and any other locations as specified in Schedule D.

vi. **Crash barrier -** THRIE- Metal Beam crash barrier shall be provided along the project highway as indicated in TCS given in Schedule B and IRC: SP-91-2019. Minimum length of crash barrier is 11760m.

LHS				RHS		
Sl No	Chainage (m)		Length (m)	Chainage (m)		Length (m)
	From	To		From	To	
1	19+670	19+710	40	22+500	23+260	760
2	22+720	23+240	520	23+820	24+670	850
3	23+760	24+650	890	28+460	28+670	210
4	25+670	25+840	170	28+790	29+070	280

LHS				RHS		
Sl No	Chainage (m)		Length (m)	Chainage (m)		Length (m)
	From	To		From	To	
5	28+600	28+860	260	29+640	29+840	200
6	28+920	29+260	340	30+050	30+400	350
7	29+580	30+400	820	30+500	30+540	40
8	33+060	33+190	130	32+670	33+010	340
9	36+180	36+700	520	36+190	37+150	960
10	37+610	37+920	310	37+670	38+020	350
11	41+090	41+980	890	39+040	39+120	80
12	42+680	43+480	800	39+270	39+310	40
13	43+540	43+590	50	40+940	41+360	420
14	43+730	44+340	610	41+450	42+000	550
15	44+490	44+520	30	42+680	43+000	320
16	47+250	47+420	170	43+120	43+630	510
17	47+470	47+620	150	47+440	47+580	140
18	47+780	47+870	90	43+820	44+300	480
19	47+910	48+270	360	47+360	47+880	520
20	48+330	48+680	350	47+990	48+800	810
21	48+900	49+140	240	49+150	49+250	100
22	49+260	49+360	100			
Total Length=			**7840**			**8310**

Note: The above proposed locations are minimum. Any change in length shall not be treated as change in scope of work.

vii. **Jersey crash barrier-**Jersey crash barrier shall be provided along the project highway where median is proposed for 2.5m (with kerbshy), indicated in TCS given in Schedule B and IRC: SP-91-2019. Minimum length of crash barrier is **19130m** (Total Length).

Sl.no.	Design Chainage		Length (m)	Side	Design Chainage		Design Chainage	Side
	From	To			From	To		

Sl.no.	Design Chainage		Length (m)	Side	Design Chainage		Design Chainage	Side
	From	To			From	To		
1	20+000	20+300	300	LHS	20+000	20+300	300	RHS
2	20+300	21+420	1120	LHS	20+300	21+420	1120	RHS
3	33+300	33+860	560	LHS	33+300	33+860	560	RHS
4	33+860	34+295	435	LHS	33+860	34+295	435	RHS
5	34+295	34+900	605	LHS	34+295	34+900	605	RHS
6	34+900	35+305	405	LHS	34+900	35+305	405	RHS
7	39+600	40+380	780	LHS	39+600	40+380	780	RHS
8	40+380	40+910	530	LHS	40+380	40+910	530	RHS
9	44+530	45+430	900	LHS	44+530	45+430	900	RHS
10	45+430	47+070	1640	LHS	45+430	47+070	1640	RHS
11	47+070	47+360	290	LHS	47+070	47+360	290	RHS
12	47+360	47+460	100	LHS	47+360	47+460	100	RHS
13	47+460	47+620	160	LHS	47+460	47+620	160	RHS
14	47+620	47+780	160	LHS	47+620	47+780	160	RHS
15	47+780	47+850	70	LHS	47+780	47+850	70	RHS
16	47+850	47+970	120	LHS	47+850	47+970	120	RHS
17	47+970	48+320	350	LHS	47+970	48+320	350	RHS
18	48+320	49+040	720	LHS	48+320	49+040	720	RHS
19	49+040	49+360	320	LHS	49+040	49+360	320	RHS
	Total		**9565**	LHS	**Total**		**9565**	RHS

Note: The above proposed locations are minimum. Any change in length shall not be treated as change in scope of work.

i. **MS Railing -** MS Railing along the Project highway shall be provided as per Schedule D.

ii. **Delineators -** Shall be provided as per IRC: 79-1981 and requirements & specifications as per Schedule D.

iii. **Boundary Stones -** For Entire Project highway at 50m interval.

iv. **KM Stones and Hectometer Stone -** For Entire Project highway.

(c) Location of Pedestrian facilities:

i. Pedestrian Guard rails shall be provided at junctions, Truck lay byes, bus bays and near schools and hospitals as per provisions in section 12.2 of the Manual

ii. Pedestrian guardrail shall be provided at each bus stop location and at other locations as per manual.

iii. Pedestrian Crossings: Pedestrian crossing facilities shall be provided on locations as recommended in Schedule D

(d) Landscaping & Tree Plantation

Landscaping andTree plantation shall be done at Toll Plaza, Major Intersection etc.

Landscape treatment of the Project Highway shall be undertaken through planting of trees and ground cover of appropriate varieties and landscaping on surplus land in the ROW. The Construction Contractor should plant at least **4897**nos. of trees of minimum 6 ft. height with tree guard made up of MS sections.

Plantation scheme shall be prepared in consultation with the Forest Department of the Government of Assam, and the Independent Consultant/ NHIDCL.

(e) Location of Truck lay-bye:

Truck Lay bye shall be provided at the following locations in accordance with section 12.4 of the manual. Truck Lay bye shall be provided at below mentioned locations.

Sl. No	Existing Chainage (Km)	Design Chainage (Km)	Side (Left/Right)
NIL			

(f) Bus-bays and Bus shelters table is given below:

As stipulated in section 12.5 of the Manual, Bus-bays and shelters shall be provided at below indicative locations.

Sl. No.	Design Chainage	Side	Name Of Village
1	26+390	LHS	Kabuganj
2	26+910	RHS	Kabuganj
3	31+400	LHS	Narsingpur
4	31+820	RHS	Narsingpur
5	35+460	LHS	Ramprasadpur
6	36+010	RHS	Ramprasadpur
7	40+110	RHS	Islamabad
8	40+150	LHS	Islamabad
9	45+745	RHS	Lailapur
10	45+870	LHS	Lailapur
11	48+690	LHS	Vairengte

Sl. No.	Design Chainage	Side	Name Of Village
12	48+990	RHS	Vairengte

Note: *Above shown number of locations are minimum, however, the location of bus bays and passenger shelters shall be finalized as per suitability of location and site requirement in consultation with Authority. Any change in location shall not treated as change of scope.*

(g) Way-side Amenities

Wayside amenities shall be a part of the Highway and shall be constructed with the minimum facilities such as Parking areas (Truck, Buses, Cars, Minibuses), and garage for minor repair, Hotel/ Motel, Trauma Center, Rest Areas, Fast Food Centre, Travel Information Facilities, Toilets and Bath Facilities, space for Maintenance staff & Vehicle Service Station, Dormitory etc.

Wayside amenities shall be developed in accordance with Schedule -D & MoRT&H circular No. RW/NH-33044/14/2003-S& R(R)·Pt. dated 11th Feb. 2021.

(h) Rest Area

Rest Area shall be provided (2.0 hectare) at the following locations:

Sl. No.	Design Chainage	Side	Name of Village
NIL			

(i) Check Post

User amenities in the form of state boundary check post is proposed along the project road corridor. The land for admin block for check post is (50 x 20) m in size is allocated and is generally proposed at 50 m apart in staggered manner. The following two locations are most suitable place for check post. However, cost towards check post facilities in terms of infrastructure and equipment shall be borne by the State Government.

Sl. No.	Design Chainage	Side
1	49+150	RHS
2	49+200	LHS

(j) Foot Over Bridges:

Foot Over Bridges shall be provided at the following locations:

Sl. No.	Existing Chainage	Design Chainage (Tentative)	Remarks
Nil			

(k) Buildings for Traffic Aid Posts

The Contractor shall, in accordance with the type designs prescribed for such police outpost buildings by the State Government or a substitute thereof, construct buildings not exceeding 25 (twenty-five) square meters of plinth area, for each of the Traffic Aid Posts, and hand them over to the Authority no later than 30 (thirty) days prior to the Scheduled Completion Date. The Traffic Aid Post(s) shall be deemed to be part of the Site and shall vest in the Client.

(l) Building for Medical Aid Post

The Contractor shall, at its cost and in accordance with the type designs prescribed for such buildings by the State Medical Department (or a substitute thereof to be designated by the Authority), construct an aid post building and hand it over to the Authority, no later than 30 (thirty) days prior to Scheduled Completion Date. The Medical Aid Post(s) shall be deemed to be part of the Site and shall vest in the Client.

(m) Highway Lighting:

i) Highway Lighting:

Lighting shall be provided at Junctions, median openings, built up areas, toll plaza, Bus stops, truck Lay-byes, service road/connecting roads and rest areas.

On all grade separated structures Lightings will be provided on Top & Underside as per clause 3.3.4 & 12.3 of IRC SP 84.

High Mast Lighting shall be provided at all Major Junctions, Toll Plaza locations or any other location as per clause 12.3.3 of IRC SP 84.

ii) Rainwater Harvesting – As per Ministry of Environment and Forests Notification, New Delhi dated 14.01.1997 (as amended on 13.01.1998, 05.01.1999 & 6.11.2000), the construction of Rainwater, harvesting structure is mandatory in and around Water Crisis area, notified by the Central Ground Water Board. Minimum 1 number perkm has to be provided throughout the project length.

Environment

The Project Highway during design, construction and maintenance during implementation period shall conform to the environmental rules and regulations in force. TheConstruction Contractor shall be responsible for the same.

Schedule-D

Schedule- D

(SeeClause2.1)

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 Standards and Specifications for Four Laning of Highways published by the Indian Roads Congress IRC: SP: 84-2019- second revision; referred to herein as the Manual and all the other latest IRC Codes, Specifications and Circulars issued by Ministry of Road Transport & Highways (MoRT&H).

The provision of manual shall be considered as modified/ deviated to the extents of changes/ modification as mentioned / incorporated under schedule B & C with respect to manual.

All Utilities shifting works for development of National Highways shall be carried out as per the Standard Operating Procedure (SOP) dated 11 February 2021 issued by Ministry of Road Transport & Highways.

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 Four-Laning of Highways (IRC: SP: 84-2019) with all amendments till date published by IRC (referred to as "Manual" in this Schedule) and MORT&H Specifications for Road and Bridge Works (5th revision). Where the specification for a work is not given, Good Industry Practice shall be adopted to the satisfaction of the Authority Engineer for construction of the project highway.

As regards, the work of utility shifting, the relevant specifications, relevant rules regulations and acts of Utility Owning Department/ Agencies shall be applicable.

2. Deviations from the Specifications and Standards

i. The terms "Contractor", "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:

Schedule-E

Schedule – E

(See Clause 2.1 and 14.2)

MAINTENANCE REQUIREMENTS

1 Maintenance Requirements

(i) The Contractor shall, at all-time 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 "SPECIFICATIONS FOR ROAD AND BRIDGE WORKS (FIFTH REVISION, April 2013)", including latest corrections slips, issued by the Ministry of Surface Transport & Highways, Government of India and published by the Indian Roads Congress.

Where the specifications for a work are not given, Good Industry Practice shall be adopted to the satisfaction of the Authority's Engineer.

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: SP:35. 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 torrential rains, floods, earthquake or other natural disasters shall be undertaken by the Contractor at its own cost and/or out of the proceeds of insurance.

Annex -I
(Schedule-E)

Annex –I Repair/rectification of Defects and deficiencies

The Contractor shall repair and rectify the Defects and deficiencies specified in this Annex-I of Schedule-E within the time limit set forth in the table below.

Table -1: Maintenance Criteria for Pavements:

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 in depth	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/ltp/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 Scale, Tape, odometer etc.		2-7 days	IRC:82-2015
	Bleeding	Nil	< 1 % of area	Daily			3-7 days	MORT&H Specification 3004.4
	Ravelling/ Stripping	Nil	< 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			7- 15 days	IRC:82-2015
	Roughness BI	2000 mm/km	2400 mm/km	Bi-Annually	Class I Profilometer SCRIM (Sideway-force	Class I Profilometer : ASTM E950 (98) :2004 –Standard Test Method for measuring Longitudinal Profile of Travelled	180 days	IRC:82-2015
	Skid Number	60SN	50SN	Bi-Annually			180 days	BS: 7941-1: 2006

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					
	Pavement Condition Index	3	2.1	Bi-Annually	Coefficient Routine Investigation Machine or equivalent)	Surfaces with Accelerometer Established Inertial Profiling Reference ASTM E1656 -94: 2000- Standard Guide for Classification of Automatic Pavement Condition Survey Equipment	180 days	IRC:82-2015
	Other Pavement Distresses			Bi-Annually			2-7 days	IRC:82-2015
	Deflection/ Remaining Life			Annually	Falling Weight Deflectometer	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	2200mm/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 Minimum SN / Traffic Speed (Km/h) 36 / 50 33 / 65 32 / 80 31 / 95 31 / 110		Bi-Annually	SCRIM (Sideway-force Coefficient Routine Investigation Machine or equivalent)	IRC:SP:83-2008	180 days	IRC:SP:83-2008
Embankment / Slope	Edge drop at shoulders	Nil	40mm	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	NA		7-15 days	MORT&H Specification

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					
				During Rainy Season				

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:

Sr. No.	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case d < D/2	For the case d > D/2
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 without delay	Seal, and stitch if L > lm. Within 7days
			3	w = 0.5 - 1.5 mm, discernible from fast-moving car		
			4	w = 1.5 - 3.0 mm	Seal, and stitch if L > l m. Within 7 days	Staple or Dowel Bar Retrofit, FDR for affected portion. Within 15days
			5	w > 3 mm.		
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. Within 7 days	Staple or Dowel Bar Retrofit. Within 15days
			2	w = 0.2 - 0.5 mm, discernible from slow vehicle		
			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. Within 15 days	Full Depth Repair Dismantle and reconstruct affected. Portion with norms and specifications - See Para 5.5 & 9.2 Within 15days
			5	w > 6 mm, usually associated with spalling, and/or slab rocking under traffic	Not Applicable, as it may be full depth	
3	**Single Longitudinal**	w = width of crack	0	Nil, not discernible	No Action	

Sr. No.	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case d < D/2	For the case d > D/2
	Crack intersecting with one or more joints	L = length of crack d = depth of crack D = depth of slab	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 15 days
			4	w = 6.0 - 12.0 mm, usually associated with spalling	Not Applicable, as it may be full depth	
			5	w > 12 mm, usually associated with spalling, and/or slab rocking under traffic		Full Depth Repair Dismantle and reconstruct affected portion as per norms and specifications - See Para 5.6.4 Within 15 days
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. Within 15 days	
			2	w = 0.2 - 0.5 mm. discernible from slow vehicle		
			3	w = 0.5 - 3.0 mm, discernible from fast vehicle	Full depth repair within 15 days	Dismantle, Reinstate subbase, 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 secure broken parts Within 7 days	Seal with epoxy seal with epoxy Within 7days
			2	w < 1.5 mm; L < 0.6 m, only one corner broken		
			3	w < 1.5 mm; L < 0.6 m, two corners broken	Partial Depth (Refer Figure 8.3 of IRC:SP: 83-2008) Within 15 days	Full depth repair
			4	w > 1.5 mm; L > 0.6 m or three corners broken		
			5	three or four corners broken		Reinstate sub-base, and reconstruct the slab as per norms and specifications within 30days
6	**Punchout (Applicable to Continuous Reinforced Concrete Pavement**	w = width of crack L = length (m/m2)	0	Nil, not discernible		No Action
			1	w < 0.5 mm; L < 3 m/m^2	Not Applicable, as it may be full depth	Seal with low viscosity epoxy to secure broken parts.
			2	either w > 0.5 mm or L < 3 m/m^2		

Sr. No.	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case d < D/2	For the case d > D/2
	(CRCP) only)		3	w > 1.5 mm and L < 3 m/m^2		Within 15days
			4	w > 3 mm, L < 3 m/m^2 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/m^2 and deformation		
	Surface Defects					
7	Ravelling or Honeycomb type surface	r = area damaged surface/total surface of slab (%) h = maximum depth of damage	0	Nil, not discernible	**Short Term**	**Long Term**
					No action.	Not Applicable
			1	r < 2 %	Local repair of areas damaged and liable to be damaged. Within 15 days	
			2	r = 2 - 10 %		
			3	r = 10-25%	Bonded Inlay, 2 or 3 slabs if affecting. Within 30 days	
			4	r = 25 - 50 %		
			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**	**Long Term**
					No action.	Not Applicable
			1	r **<2 %**	Local repair of areas damaged and liable to be damaged. Within 7days	
			2	r = 2 - 10 %		
			3	r = 10 - 20%	Bonded Inlay within 15 days	
			4	r = 20 - 30 %		
			5	r > 30 % and h > 25 mm	Reconstruct slab within 30 days	
9	**Polished Surface/Glazing**	t = texture depth, sand patch test	0		No action.	Not Applicable
			1	t > 1 mm		
			2 '	t = 1 - 0.6 mm	Monitor rate of deterioration	
			3	t = 0.6 - 0.3 mm		
			4	t = 0.3 - 0.1 mm		

Sr. No.	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case d < D/2	For the case d > D/2
			5	t < 0.1 mm	Diamond Grinding if affecting 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 i.e.10 mm more than the depth of the hole. Within 30 days	
			4	d = 100 - 300 mm; h > 100 mm; n < 1 per 5 m^2		
			5	d > 300 mm; h > 100 mm: n > 1 per 5 m^2	Full depth repair. Within 30 days	
Joint Defects						
11	**Joint Seal Defects**	loss or damage L = Length as % total joint length	0	Difficult to discern.	**Short Term** No action.	**Long Term** 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.	
			3	Notable. L > 25% insufficient protection against ingress of water and trapping incompressible material.	Clean and reapply sealant in selected locations. Within 7 days	
			5	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 length)	0	Nil, not discernible	No action.	Not Applicable
			1	w < 10 mm	Apply low viscosity epoxy resin/ mortar in cracked portion. Within 7 days	
			2	w = 10 - 20 mm, L < 25%		
			3	w = 20 - 40 mm, L > 25%	Partial Depth Repair. Within 15 days	

Sr. No.	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case d < D/2	For the case d > D/2
			4	w = 40 - 80 mm, L > 25%	30 - 50 mm deep, h = w + 20% of w, within 30 days	
			5	w > 80 mm, and L > 25%	50 - 100 mm deep repair. H = w + 20% of w. Within 30 days	
13	**Faulting (or Stepping) in Cracks or Joints**	f = difference of level	0	not discernible, < 1 mm	No action.	No action.
			1	f < 3 mm		
			2	f = 3 - 6 mm	Determine cause and observe, take action for diamond grinding	Replace the slab as appropriate. Within 30days
			3	f = 6 - 12 mm	Diamond Grinding	
			4	f= 12 - 18 mm	Raise sunken slab.	Replace the slab as appropriate. Within 30days
			5	f> 18 mm	Strengthen subgrade and sub-base by grouting and raising sunken slab	
14	**Blowup or Buckling**	h = vertical displacement from normal profile	0	Nil, not discernible	**Short Term**	**Long Term**
					No Action	
			1	h < 6 mm		
			2	h = 6 - 12 mm	Install Signs to Warn Traffic within 7 days	
			3	h = 12 - 25 mm		
			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.	Not Applicable
			1	h = 5 - 15 mm		
			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	Strengthen sub-grade. Reinstate pavement at normal level if L < 20 m.	

Sr. No.	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case d < D/2	For the case d > D/2
			5	h > 100 mm	Within 30 days	
16	**Heave**	h = positive vertical displacement from normal profile. L = length	0	Not discernible. h < 5 mm	**Short Term** No action.	**Long Term** 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. Within 30 days	
			5	h > 100 mm		
17	**Bump**	h = vertical displacement from normal profile	0	h < 4 mm	No action	
			1	h = 4 - 7 mm	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
			5	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	f = 3 - 10 mm	Spot repair of shoulder within 7 days	
			2	f = 10 - 25 mm		
			3	f = 25 - 50 mm	Fill up shoulder within 7 days	
			4	f = 50 - 75 mm		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	slight/ occasional Nos < 10%	Repair cracks and joints Without delay.	Inspect and repair sub-drainage at distressed sections and upstream.
			3 to 4	appreciable/ Frequent 10 - 25%	Lift or jack slab within 30	

Sr. No.	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case d < D/2	For the case d > D/2
					days.	
		Nos/100 m stretch	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:

<table>
<tr><th>Asset Type</th><th>Performance Parameter</th><th>Level of Service (LOS)</th><th>Frequency of Measurement</th><th>Testing Method</th><th>Recommended Remedial measures</th><th>Time limit for Rectification</th><th>Specifications and Standards</th></tr>
<tr><td>Highway</td><td>Availability of Safe Sight Distance</td><td>As per IRC SP: 84-2014, a minimum of safe stopping sight distance shall be available throughout.
<table><tr><th>Design Speed, kmph</th><th>Desirable Minimum Sight Distance (m)</th><th>Safe Stopping Sight Distance (m)</th></tr><tr><td>100</td><td>360</td><td>180</td></tr><tr><td>80</td><td>260</td><td>130</td></tr></table></td><td>Monthly</td><td>Manual Measurements with Odometer along with video/ image backup</td><td colspan="2">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.</td><td>IRC:SP 84-2014</td></tr>
<tr><td rowspan="3">Pavement Marking</td><td>Wear</td><td><70% of marking remaining</td><td>Bi-Annually</td><td>Visual Assessment as per Annexure-F 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>Day time Visibility</td><td>During expected life Service Time
Cement Road - 130mcd/m^2/lux
Bituminous Road - 100mcd/m^2/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>Night Time Visibility</td><td><u>Initial and Minimum Performance for Dry Retro reflectivity during night time:</u>
<table><tr><td>Design Speed</td><td colspan="2">(RL) Retro Reflectivity (mcd/m^2/lux)</td></tr><tr><td></td><td>Initial (7 days)</td><td>Minimum Threshold level (TL) & warranty period required up to 2 years</td></tr><tr><td>Up to 65</td><td>200</td><td>80</td></tr><tr><td>65 - 100</td><td>250</td><td>120</td></tr></table></td><td>Bi-Annually</td><td>As per Annexure-E 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>
</table>

Asset Type	Performance Parameter	Level of Service (LOS)	Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
		Above 100 | 350 | 150 Initial and Minimum Performance for Night Visibility under wet condition (Retro reflectivity): Initial 7 days Retro reflectivity: 100 mcd/m^2/lux Minimum Threshold Level: 50 mcd/m^2/lux					
	Skid Resistance	Initial and Minimum performance for Skid Resistance: Initial (7days): 55BPN Min. Threshold: 44BPN *Note: shall be considered under urban/city traffic condition encompassing the locations like pedestrian crossings, bus bay, bus stop, cycle track intersection delineation, transverse bar markings etc	Bi-Annually	As per Annexure-G of IRC:35-2015		Within 24 hours	IRC:35-2015
Road Signs	Shape and Position	Shape and Position as per IRC:67-2012. Signboard should be clearly visible for the design speed of the section.	Daily	Visual with video/image backup	Improvement of shape, in case if shape is damaged. Relocation as per requirement	48 hours in case of Mandatory Signs, Cautionary and Informatory Signs (Single and Dual post signs) 15 Days in case of Gantry/Cantilever Sign boards	IRC:67-2012
	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	IRC:67-2012

Asset Type	Performance Parameter	Level of Service (LOS)	Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
						of Gantry/Cantilever Sign boards	
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	RC 86:1983
	Kerb Painting	Functionality: Functioning of Kerb painting as intended	Daily	Visual with video/image backup	Kerb Repainting	Within 7-days	RC 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 backup	Rectification	Within 7 days	IRC:SP:84-2014, 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

Asset Type	Performance Parameter	Level of Service (LOS)	Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
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	Sight line shall be free from obstruction by vegetation	Daily	Visual with video/image backup	Removal of Trees	Immediate	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
	structures						
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, bus- shelters, cattle crossings, Traffic Aid Posts, Medical Aid Posts and other works		Daily	-	Rectification	15 days	IRC:SP 84-2014

Table 4: Maintenance Criteria for Structures and Culverts:

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	Repairs to spalling, cracking, delamination, rusting	15 days	IRC SP 40-1993 and MORTH Specifications

Asset Type	Performance Parameter	Level of Service (LOS)	Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
		Delamination of concrete not more than 0.25 sq.m. Cracks wider than 0.3 mm not more than 1m aggregate length		culvert as per IRC SP:35-1990 and recording the defects	shall be followed as per IRC: SP: 40-1993.		clause 2800
	Protection works in good condition	Damaged of rough stone apron or bank revetment not more than 3 sqm, damage to solid apron (concrete apron) 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	3days	IRC: 5-1998, IRC SP: 84-2014 and IRC SP: 40-1993.
	Rusted reinforcement	Not more than 0.25 sqm	Bi-Annually	Detailed condition survey as per IRC SP: 35-1990 using	All the corroded reinforcement shall need to be thoroughly cleaned	15 days	IRC SP: 40-1993 and MORTH Specification

Asset Type	Performance Parameter	Level of Service (LOS)	Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
	Spalling of concrete	Not more than 0.50 sqm		Mobile Bridge Inspection Unit	from rusting and applied with anti-corrosive coating before carrying out the repairs to affected concrete portion with epoxy mortar / concrete.		1600.
	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 capacity	6 months	IRC SP: 51-1999.
	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	Bi-Annually	Detailed condition survey as per IRC SP:35-1990 using Mobile Bridge	Replace of seal in expansion joint	15 days	MORTH specifications 2600 and IRC SP: 40-1993.

Asset Type	Performance Parameter	Level of Service (LOS)	Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
		and copper strip joint.		Inspection Unit			
	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 silt, debris, clogging of drainage spout collection chamber.	Monthly	Detailed condition survey as per IRC SP: 35-1990 using Mobile Bridge Inspection Unit	Cleaning of drainage spouts thoroughly. Replacement of missing/broken down take pipes with a minimum pipe extension of 500mm below soffit of slab. Providing sealant around the drainage spout if any leakages observed.	3 days	MORTH specification 2700.
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.

Asset Type	Performance Parameter	Level of Service (LOS)	Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
	Bearings	Delamination of bearing reinforcement not more than 5%, cracking or tearing of rubber not more than 2 locations per side, no rupture of reinforcement or rubber	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 load transfer on to bearings.	3 months	MORTH specification 2810 and IRC SP: 40-199.
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 doubt, use Underwater camera for inspection of deep wells in major Rivers.	Suitable protection works around pier/abutment	1 month	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 5: Maintenance Criteria for Hill Roads

In addition to above, for hill roads the following provision 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	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
(iv)	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
(iv)	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

	Nature of Defect or deficiency	Time limit for repair/ rectification
(ii)	Defects in electrical, water and sanitary installations	24 (twenty four) hours
(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	within 48 (forty eight) hours
	Permanent measures	within15 (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)
(iv)	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

Nature of Defect or deficiency		Time limit for repair/ rectification
(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

Schedule-F

(See Clause 4.1 (vii)(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 Panchayat 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, clearances or approvals required under Applicable Laws.

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

Schedule-G

Schedule-G

(See Clauses 7.1 and 19.2)

Annex-I: Form of Bank Guarantee

(See Clause 7.1)

[Performance Security /Additional Performance Security]

National Highways & Infrastructure Development Corporation Ltd.
PTI Building, 3rd Floor, 4, Parliament Street
New Delhi – 110001

WHEREAS _____[name and address of Contractor] (hereafter called the "Contractor") has undertaken, in pursuance of Letter of Acceptance (LOA) No. Dated_ for "Four laning of Dhanehari – Lailapur / Vairengte section (Package-2) from Existing Chainage km 12+920 to km 43+000 of NH 306 (Design Chainage km 20+000 to km 49+360) on Silchar - Vairengte - Sairang road in the State of Assam under Bharatmala Pariyojna on EPC mode. (Project Length – 29.360 km)" (hereinafter called the"Contract")

AND WHEREAS the Contract requires the Contractor to furnish an {Performance Security/ Additional Performance Security} for due and faithful performance of its obligations, under and in accordance with the Contract, during the {Construction Period/ Defects Liability Period and Maintenance Period} in a sum of Rs….. cr. (Rupees …….. crore) (the "**Guarantee Amount**"[1]).

AND WHEREAS 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 Contract, 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

[1] Guarantee Amount for Performance Security and Additional Performance Security shall be calculated as per Contract.

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 of National Highways & Infrastructure Development Corporation Limited], 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 Contract 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 Contract 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 Contract 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 Contract 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 Contract 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 Contractor for the fulfillment, compliance and/or performance of all or any of the obligations of the Contractor under the Contract.

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 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 authorized to receive such notice and to effect payment thereof forthwith, and if sentby 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 Contract.

12. This guarantee shall also be operatable at our…….Branch at New Delhi, 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 thereunder claimed, the said branch shall accept such invocation letter and make payment of amounts so demanded under the said invocation.

13. 13. Bank Guarantee has been sent to authority's bank through SFMS gateway as per the details below:-

[$]Insert date atleast 2 (two) years from the date of issuance of this Guarantee (in accordance with Clause 2.21 of the RFP). The Contractors can submit the BG for periods of two years at one time and keep on renewing the same till the DLP is over if they have problems in getting the BG in one go for the entire DLP.

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)

Annex – II: Form for Guarantee for Advance Payment

National Highways & Infrastructure Development Corporation Ltd.
PTI Building, 3rd Floor, 4, Parliament Street
New Delhi – 110001

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 "Four laning of Dhanehari – Lailapur / Vairengte section (Package-2) from Existing Chainage km 12+920 to km 43+000 of NH 306 (Design Chainage km 20+000 to km 49+360) on Silchar - Vairengte - Sairang road in the State of Assam under Bharatmala Pariyojna on EPC mode. (Project Length – 29.360 km)", 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**")[2].

(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:

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,

2 The Guarantee Amount should be equivalent to 110% of the value of the applicable instalment

without the Authority being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.

A letter from the Authority, under the hand of an officer not below the rank of [General Manager in the National Highways and Infrastructure Development Corporation Limited], that the Contractor has committed default in the due and faithful performance of all or any of its obligations for the repayment of the installment 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

2. 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.

3. 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.

4. 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.

5. 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.

6. 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.

7. The Guarantee shall cease to be in force and effect on ****[3] 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.

8. 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.

9. 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.

10. 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.

11. This guarantee shall also be operatable at our…….Branch at Guwahati, 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 thereunder claimed, the said branch shall accept such invocation letter and make payment of amounts so demanded under the said invocation.

12. Bank Guarantee has been sent to authority's bank through SFMS gateway as per the details below::

S.No.	Particulars	Details
1	Name of Beneficiary	RO NHIDCL PROJECTS
2	Beneficiary Bank Account No.	73653210000013
3	Beneficiary Bank Branch IFSC	Canara Bank [IFSC : CNRB0017365]
4	Beneficiary Bank Branch Name	Dispur, Guwahati
5	Beneficiary Bank Address	Upasana Complex, Dr. R. P. Road, Ganeshguri, Dispur, Guwahati

Signed and sealed this ..... day of... , 20 ..... at

3 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).

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 on the covering letter of issuing branch.

Schedule-H

Schedule-H

(See Clauses10.1 (iv) and 19.3)

1 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:

S. no.	Item	Weightage in percentage to the Contract Price	Stage for Payment	Percentage weightage
	1	2	3	4
1	Road works including culverts, widening and repair of culverts.	51.45%	**A - Widening and strengthening of existing road**	
			(1) Earthwork upto Subgrade top	
			(2) Subbase course (GSB)	
			(3) Non bituminous base course (WMM)	
			(4) Bituminous base (Prime and DBM)	
			(5) Wearing coat (Tack coat, BC)	
			(6) widening and repair of culverts	
			B.1 - Reconstruction/ New / realignment/ bypass (Flexible pavement)	
			(1) Earthwork upto Subgrade top	28.19%
			(2) Subbase course (GSB)	17.00%
			(3) Non bituminous base course (WMM)	14.35%
			(4) Bituminous base (Prime and DBM)	10.49%
			(5) Wearing coat (Tack coat, BC)	7.30%
			B.2 - Reconstruction/ New 2/4-lane realignment/bypass (Rigid Pavement)	
			(1) Earthwork upto Subgrade top	
			(2) Subbase course (GSB)	
			(3) Dry lean concrete (DLC)	
			(4) Pavement quality concrete (PQC) course	
			C.1 - Reconstruction/ New Service road (flexible Pavement)	
			(1) Earthwork upto Subgrade top	1.50%

S. no.	Item	Weightage in percentage to the Contract Price	Stage for Payment	Percentage weightage
	1	2	3	4
			(2) Subbase course (GSB)	3.75%
			(3) Non bituminous base course (WMM)	4.29%
			(4) Bituminous base (Prime and DBM)	2.74%
			(5) wearing coat (Tack coat, BC)	1.32%
			C.2 - Reconstruction/ New Service road (Rigid Pavement)	
			(1) Earthwork upto Subgrade top	
			(2) Subbase course (GSB)	
			(3) Dry lean concrete (DLC)	
			(4) Pavement quality concrete (PQC) course	
			D. - Reconstruction/ New culverts on existing road and realignments, bypasses	
			(1) Pipe Culverts	1.93%
			(2) Box Culverts	7.14%
2	Minor Bridges/ Underpasses/ Overpasses	21.80%	**A.1 - Widening and repairs of Minor Bridges**	
			Widening of existing bridges	
			Rehabilitation of existing bridges	
	Minor Bridges/ Underpasses/ Overpasses		**A.2 - New of Minor Bridges**	
			(1) Foundation: (on completion of the foundation work including foundation for wing wall, return wall, abutments, piers.	4.32%
			(2) Sub-structure: (on completion of abutments, piers upto abutment/pier cap.)	6.25%
			(3) Super-structure (on completion of the super structure in all respects including wearing coat, bearings, expansion joints, hand rails, crash barrier road sign, & marking, tests on completion etc. completion in all respect)	3.68%
			(4) Approaches (on completion of approaches including retaining walls, stone pitching, protection works complete in all respect and fit for use.	3.43%
			(5) Guide Bunds and River Training works: (On completion of Guide Bunds and river training works complete in all respects.)	

S. no.	Item	Weightage in percentage to the Contract Price	Stage for Payment	Percentage weightage
	1	2	3	4
			B.1 - Widening and repairs of Underpasses/Overpasses	
			B.2 - New Underpasses/Overpasses	
			(1) Foundation: on completion of the foundation work including foundation for wing wall, return wall, abutments, and piers.	7.11%
			(2) Sub-structure: on completion of abutments, piers upto the abutment/pier cap	3.73%
			(3) Super-structure: on completion of the super structure in all respects including wearing coat, bearings, expansion joints, hand rails, crash barrier road sign, & marking, tests on completion etc. completion in all respect.	8.55%
			(4) Approaches: on completion of approaches including retaining walls stone pitching, protection works complete in all respect and fit for use.	2.49%
			(5) RE wall on Approaches of LVUP and VUP: on completion of approaches including RE wall works complete in all respect and fit for use.	
			(5.a) Panel casting	30.22%
			(5.b) Erection of panel/ construction of retaining wall	30.22%
3	Major Bridge works and ROB/RUB/elevated sections/flyovers including viaducts, if any	2.61%	**A.1 - Widening and repairs of existing major bridges**	
			(1) Foundation	
			(2) Sub structure	
			(3) Superstructure (including bearing)	
			(4) wearing coat (including expansion joint)	
			(5) Miscellaneous items (like hand rails, crash barriers, road markings etc.)	
			(6) wing walls/return walls	
			(7) Guide bunds, river training works etc.	
			(8) Approaches (including retaining walls, stone pitching, protection works).	
			A.2 - New/ Reconstruction major bridges	
			(1) Foundation : On completion of the foundation work including foundations for wing walls, return walls, abutments and piers.	

S. no.	Item	Weightage in percentage to the Contract Price	Stage for Payment	Percentage weightage
	1	2	3	4
			(2) Sub-structure : On completion of abutments, piers upto the abutment/ pier cap	
			(3) Super-structure : On completion of the super-structure in all respects including Girder, Deck slab, Bearings	
			(a) casting of girder	
	Major Bridge works and ROB/RUB/elevated sections/flyovers including viaducts, if any		(b) casting of segments	
			(C) errection of girder	
			(4) Other ancillary works: wearing coat, including expansion joint, hand rails, carsh barriers, tests on completion in all respect.	
			(5) Miscellaneous works: stone pitching, protection works excluding retaining/ reinforced earth wall etc.	
			(6) wing walls/return walls upto full height	
			(7) Guide bunds, River Training works etc.	
			(8) Retaining wall/ Reinforced earth wall etc.	
			(8.a) Panel casting	
			(8.b) Erection of panel/ construction of retaining wall	
			B.1 - Widening and repairs of (a) ROB and (b) RUB	
			(1) Foundation	
			(2) Sub structure	
			(3) Superstructure (including bearing)	
			(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 respect as specified.	
			(5) Miscellaneous items (like hand rails, crash barriers, road markings etc.)	
			(6) wing walls/return walls	
			(7) Approaches (including retaining walls, stone pitching, protection works).	
			B.2 - New ROB / RUB	

S. no.	Item	Weightage in percentage to the Contract Price	Stage for Payment	Percentage weightage
	1	2	3	4
			(1) Foundation	
			(2) Sub structure	
			(3) Superstructure (including bearing)	
			(a) casting of girder	
			(b) casting of segments	
			(C) erection of girder	
			(4) Other ancillary works: wearing coat, expansion joint, hand railing, crash barriers tests on completion etc. completion in all respect.	
			(5) Miscellaneous items (like hand rails, crash barriers, road markings etc.)	
			(6) wing walls/return walls upto full height	
			(7) Retaining wall/ Reinforced earth wall etc.	
			(7.a) Panel casting	
			(7.b) Erection of panel/ construction of retaining wall	
			C.1 - Widening and repairs of Elevated section/Flyover/Grade Separators/ Vehicular Overpass	
			(1) Foundation	
			(2) Sub structure	
			(3) Superstructure (including bearing)	
			(4) wearing coat including expansion joint	
			(5) Miscellaneous items (like hand rails, crash barriers, road markings etc.)	
			(6) wing walls/return walls	
	Major Bridge works and ROB/RUB/elevated sections/flyovers including viaducts, if any		(7) Approaches (including retaining walls/ Reinforced earth walls, stone pitching, protection works).	
			C.2 - New Elevated section/Flyover/Grade Separators/ Vehicular Overpass	
			(1) Foundation	3.20%
			(2) Sub structure	15.03%

S. no.	Item	Weightage in percentage to the Contract Price	Stage for Payment	Percentage weightage
	1	2	3	4
			(3) Superstructure: including girder, deck slab, bearing (excluding wearing coat and expansion joints)	
			(a) casting of girder	1.38%
			(b) casting of segments	
			(C) erection of girder	2.08%
			(4) Other ancillary works: wearing coat, expansion joint, hand railing, crash barriers tests on completion etc. completion in all respect.	0.69%
			(5) Miscellaneous items (like hand rails, crash barriers, road markings etc.)	1.28%
			(6) wing walls/return walls upto full height	
			(7) Retaining wall/ Reinforced earth wall etc.	
			(7.a) Panel casting	38.17%
			(7.b) Erection of panel/ construction of retaining wall	38.17%
4	Other works	19.24%	(i) Toll plaza icluding it's approach	
			(ii) Road side drains	14.87%
			(iii) Road signs, markings, km stones, safety devices etc.	18.81%
			(iv) Road markings & Studs	3.20%
			(v) Crash Barrier	10.93%
			(vi) Project facilities	
			(a) Bus Bay with Bus Shelter	3.85%
			(b) Truck laybyes	
			(c) Rest area	
			(d) others to specified	
			- Street light	1.04%
			- RCC ROW Boundary wall	
			- Rainwater harvesting	
			- Maintenance of existing road	
			- Utility ducts	
			- Advance Traffic management	

S. no.	Item	Weightage in percentage to the Contract Price	Stage for Payment	Percentage weightage
	1	2	3	4
			system	
			(v) Road side plantation	1.18%
			(vi) Repair of Protection works other than approaches to the bridges, elevated sections, flyovers/ grade separators and ROBs/RUBs.	
			(vii) Protection works - - retaining wall / toe wall, breast wall etc.	
			(a) RE wall other than approach of structures	
			(b) Breast Wall	1.39%
			(c) Retaining Wall	17.00%
			(x) Safety and traffic management during construction	0.20%
			(xi) Junction Improvements & Junctions under Grade separator	22.19%
			(xii) Side slope protection with turfing/ geo blanketing etc.	5.34%
5	Electrical utilities and public Health Utilities (Water pipe lines and sewage lines)	4.90%	(i) EHT line / (ii) EHT crossings	
			(iii) HT/ LT line / (iv) HT/ LT crossings over ground	55.42%
			(v) HT/ LT line / (vi) HT/ LT crossings Under ground	38.72%
			(vii) Water pipeline / (viii) Water pipeline crossings	5.86%
			(ix) Sewage lines / (x) Sewage line crossings	

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:

Table1.3.1

Stage of Payment	Percentage - weightage	Payment Procedure
A - Widening and strengthening of existing road		

Stage of Payment	Percentage - weightage	Payment Procedure
(1) Earthwork upto top of the Subgrade including excavation in Soil, soft rock and hard rock, removal of unserviceable soil etc.		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 500m. In case of Hill cutting, the payment procedure will be as under: Hill Cutting : 40% of weightage of A(1) Preparation of Sub-Grade: 60% of weightage of A(1)
(2) Subbase course (GSB)		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 500 m.
(3) Non bituminous base course (WMM)		
(4) Bituminous base (Prime and DBM)		
(5) wearing coat (Tack coat, BC)		
(6) widening and repair of culverts		Cost of ten completed culverts shall be determined pro rata with respect to the total number of culverts. Payment shall be made on the completion of at least five culverts.
B.1 - Reconstruction/ New/ realignment/bypass (Flexible pavement)		
(1) Earthwork upto top of the Subgrade including excavation in Soil, soft rock and hard rock, removal of unserviceable soil etc.	28.19%	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 500m. In case of Hill cutting, the payment procedure will be as under: Hill Cutting: 40% of weightage of A(1) Preparation of Sub-Grade: 60% of weightage of A(1)
(2) Subbase course (GSB)	17.00%	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 500 m.
(3) Non bituminous base course (WMM)	14.35%	
(4) Bituminous base (Prime and DBM)	10.49%	
(5) wearing coat (Tack coat, BC)	7.30%	

Stage of Payment	Percentage - weightage	Payment Procedure
B.2 - Reconstruction/ New / realignment/bypass (Rigid Pavement)		
(1) Earthwork upto top of the Subgrade including excavation in Soil, soft rock and hard rock, removal of unserviceable soil etc.		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 500m. In case of Hill cutting, the payment procedure will be as under: Hill Cutting : 40% of weightage of A(1) Preparation of Sub-Grade: 60% of weightage of A(1)
(2) Subbase course (GSB)		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 500 m.
(3) Dry lean concrete (DLC)		
(4) Pavement quality concrete (PQC) course		
C.1 - Reconstruction/ New Service road/ Slip Road (flexible Pavement)		
(1) Earthwork upto top of the Subgrade including Shoulder	1.50%	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 500m. In case of Hill cutting, the payment procedure will be as under: Hill Cutting : 40% of weightage of A(1) Preparation of Sub-Grade: 60% of weightage of A(1)
(2) Subbase course (GSB)	3.75%	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 500 m.
(3) Non bituminous base course (WMM)	4.29%	
(4) Bituminous base (Prime and DBM)	2.74%	
(5) wearing coat (Tack coat, BC)	1.32%	
C.2 - Reconstruction/ New Service road/ Slip road (Rigid Pavement)		

Stage of Payment	Percentage - weightage	Payment Procedure
(1) Earthwork upto top of the Subgrade		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 500m. In case of Hill cutting, the payment procedure will be as under: Hill Cutting : 40% of weightage of A(1) Preparation of Sub-Grade: 60% of weightage of A(1)
(2) Subbase course (GSB)		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 500 m.
(3) Dry lean concrete (DLC)		
(4) Pavement quality concrete (PQC) course		
D. - Reconstruction/ New culverts on existing road, Realignments, bypasses:		Cost of each culvert shall be determined on pro rata basis with respect to the total number of culverts. Payment shall be made on the completion of at least one culvert.
(1) Pipe Culverts	1.93%	
(2) Box Culverts	7.14%	

@. 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. And 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:

Table1.3.2

Stage of Payment	Weightage	Payment Procedure

Stage of Payment	Weightage	Payment Procedure
A.1 - Widening and repairs of Minor Bridges		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.
Widening of existing bridges		
rehabilitation of existing bridges		
A.2 - New of Minor Bridges		
(1) Foundation: on completion of the foundation work including foundation for wing wall, return wall, abutments, piers.	4.32%	(1) Foundation: Payment against foundation shall be made on prorata basis on completion of at least two foundations. In case where load testing is required for foundation, trigger of first payment shall include load testing also where specified.
(2) Sub-structure: on completion of abutments, piers upto abutment/pier cap.	6.25%	(2) Substructure: Payment against substructure shall be made on prorata basis on completion of at least two substructures upto abutment/pier cap level of each bridges.
(3) Super-structure: on completion of the ssuper structure in all respects including wearing coat, bearings, expansion joints, hand rails, crash barrier road sign, & marking, tests on completion etc. completion in all respect.	3.68%	(3) Super structure: Payment shall be made on prorata 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 payment in this sub clause.
(4) Approaches: on completion of approaches including retaining walls, stone pitching, protection works complete in all respect and fit for use.	3.43%	(4) Approaches: Payment shall be made on prorata basis on completion of a stage i.e. completion of approaches in all respect as specified in the column of "stage Payment" in this sub clause.
(5) Guide Bunds and River Training works: On completion of Guide Bunds and river training works complete in all respects.		(5) Guide bunds and river training works: Payment shall be made on prorata basison completion of a stage i.e. completion of guide bunds and river training works in all respect as specified.

Stage of Payment	Weightage	Payment Procedure
B.1 - Widening and repairs of Underpasses/Overpasses		Cost of each underpass/overpass shall be determined on pro rata basis with respect to the total linear length of the underpass/overpasses. Payment shall be made on the completion of widening & repair works of a underpass/overpasses.
B.2 - New Underpasses/Overpasses		
(1) Foundation: on completion of the foundation work including foundation for wing wall, return wall, abutments, piers.	7.11%	(1) Foundation: Payment against foundation shall be made on prorata basis on comletion of at least two foundations. In case where load testing is required for foundation, trigger of fisrt payment shall include load testing also where specified.
(2) Sub-structure: on completion of abutments, piers upto the abutment/pier cap	3.73%	(2) Substructure: Payment against substructure shall be made on prorata basis on comletion of at least two substructures upto abutment/pier cap level of each underpass/overpass.
(3) Super-structure: on completion of the ssuper structure in all respects including wearing coat, bearings, expansion joints, hand rails, crash barrier road sign, & marking, tests on completion etc. completion in all respect)	8.55%	(3) Super structure: Payment shall be made on prorata 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 payment in this sub clause.
(4) Approaches: on completion of approaches including retaining walls stone pitching, protection works complete in all respect and fit for use.	2.49%	(4) Approaches: Payment shall be made on prorata basis on completion of a stage i.e. completion of approaches in all respect as specified in the column of "stage Payment" in this sub clause.
(5) RE wall on Approaches of LVUP and VUP: on completion of approaches including RE wall works complete in all respect and fit for use.		

Stage of Payment	Weightage	Payment Procedure
(5.a) Panel casting	30.22%	(a) Panel casting: Unit of measurement is area in Sqm. Payment against casting of panels shall be made on prorata basis with respect to total area panels required for the structure on completion of a stage i.e. not less than completion of casting of 25% of the scope of RE wall panel of each ROB/RUB.
(5.b) Erection of panel/ onstruction of retaining wall	30.22%	(b) Erection of panel/ Construction of retaining wall: Unit of measurement is area in Sqm. Payment against casting of panels shall be made on prorata basis on completion of a stage i.e. completion of erection of panels/ construction of retainning wall complete in all respect for at least 25% scope of work for each ROB/RUB.

1.3.3 Major Bridge works, ROB/RUB and Structures

Procedure for estimating the value of major Bridge works, ROB/RUB and structure work 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 existing major bridges		
(1) Foundation		(1) Foundation: Cost of each major bridge shall be determined on pro rata basis with respect to the total linear length (m) of the major bridges. Payment against foundation shall be made on prorata basis on completion of a stage i.e. not less than 25% of the scope of foundation of the major bridge subject to completion of at least two foundations of the major bridge. In case where load testing is required for foundation, the trigger of the first payment shall include load testing also where specified.

Stage of payment	Weightage	Payment procedure
(2) Sub structure		(2) Sub structure: Payment against sub-structure shall be made on prorata basis on completion of a stage i.e. not less than 25% of the scope of sub-structure of the major bridge subject to completion of at least two substructures of abutment/piers upto abutment/piers cap level of the major bridge.
(3) Superstructure (including bearing)		(3) Suer structure: Payment shall be made on prorata basis on completion of a stage i.e. completion of super structure including bearings of at least one span in all respects as specified.
(4) wearing coat (including expansion joint)		(4) Wearing coat: Payment shall be made on completion of wearing coat including expansion joints complete in all respects as specified.
(5) Miscellaneous items (like hand rails, crash barriers, road markings etc.)		(5) Miscellaneous: Payment shall be made on completion of all miscellaneous works like hand rail, crash barrier, road markings, etc. complete in all respects as specified.
(6) wing walls/return walls upto top		(6) Wing wall/ return wall: Payment shall be made on completion of wing wall/return wall complete in all respects as specified.
(7) Guide bunds, river training works etc.		(7) Guide bund, River training works: Payment shall be made on completion of all guide bunds/ river training works etc.complete in all respect as specified.
(8) Approaches (including retaining walls, stone pitching, protection works).		(8) Approaches: Payment shall be made on prorata basis on completion of both approaches including stone pitching, protection works, etc. complete in all respect as specified.
A.2 - New/ Reconstruction major bridges		Cost of each structure shall be ddetermined on prorata basis with respect to the total linear length (m) of all the structures. Payments shall be made on completion of each stage of strucutres as per weightage given in this table.

Stage of payment	Weightage	Payment procedure
(1) Foundation: foundation of abutment/piers		(1) Foundation: 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 a bridge as per weightage given in this table, subject to completion of at least two foundations in all respect. In case where load testing is required for foundation, the trigger of the first payment shall include load testing also where specified.
(2) Sub structure: Substructure for abutment, piers upto the abutment/pier cap level.		(2) Substructure: Payment against sub structure shall be made on prorata basis on completion of a stage i.e. not less than 25% of the scope of sub-structure of a bridge as per weightage given in this table,subject to completion of at least two substructure of abutment/piers upto abutment/piers cap level of a bridge.
(3) Superstructure: including girder, deck slab, bearings (excluding wearing coat and expansion joints)		
(3.a) Super Structure: Casting of girder/ fabrication of girders (steel)		(a) Super structure (casting of girder): Unit of measurement is number. Payment against casting of girder shall be made on prorata basis with respect to total number of girders required in the structure on completion of a stage i.e. not less than completion of casting of at least five girders of the structure.
(3.b) Super structure: casting of segments		(b) Super structure (casting of segment): Unit of measurement is number. Payment against casting of segments shall be made on prorata basis with respect to total number of segments required in the structure on completion of a stage i.e. not less than completion of casting of at least 10 (ten) segments of the structure.
(3.c) Super structure: erection of girder, deck slab and bearings		(c) Super structure (erection of girders, deck slab and bearing): Payment shall be made on prorata basis on completion of a stage i.e. completion of super structure including bearings at least one span in all respect as specified.

Stage of payment	Weightage	Payment procedure
(4) Other ancillary works: wearing coat, including expansion joint, hand rails, crash barriers, tests on completion in all respect.		(4) Other ancillary work: Payment shall be made on prorata basis on completion of the stage in all respect as specified, for each structure.
(5) Miscellaneous works: stone pitching, protection works excluding retaining/ reinforced earth wall etc.		(5) Miscellaneous works: Payment shall be made on prorata basis on completion of the stage in all respects as specified, for each structure.
(6) wing walls/return walls upto full height		(6) Wing wall/ return wall: Payment shall be made on completion of wing wall/return walls for a bridge as per weightage given in this table complete in all respects as specified.
(7) Guide bunds, river training works etc. - for the protection of existing bank of Barak River		(7) Guid bund, river training works: Payment shall be made on on prorata basis on completion of the stages in all respect as specified.
(8) Retaining wall/ Reinforced earth wall etc.		Payment shall be made on prorata basis on completion of both approaches including stone pitching, protection works, etc. complete in all respect as specified.
(8.a) Panel casting		(a) Panel casting: Unit of measurement is area in Sqm. Payment against casting of panels shall be made on prorata basis with respect to total area panels required for the structure on completion of a stage i.e. not less than completion of casting of 25% of the scope of RE wall panel of each bridge.
(8.b) Erection of panel/ construction of retaining wall		(b) Erection of panel/ Construction of retaining wall: Unit of measurement is area in Sqm. Payment against casting of panels shall be made on prorata basis on completion of a stage i.e. completion of erection of panels/ construction of retainning wall complete in all respect for at least 25% scope of work for each structure.
B.1 - Widening and repairs of (a) ROB and (b) RUB		

Stage of payment	Weightage	Payment procedure
(1) Foundation		(1) Foundation: Cost of each ROB/RUB shall be determined on pro rata basis with respect to the total linear length (m) of the ROB/RUBs. Payment against foundation shall be made on prorata basis on completion of a stage i.e. not less than 25% of the scope of foundation of the ROB/RUB subject to completion of at least two foundations of the ROB/RUB. In case where load testing is required for foundation, the trigger of the first payment shall include load testing also where specified.
(2) Sub structure		(2) Substructure: Payment against sub-structure shall be made on prorata basis on completion of a stage i.e. not less than 25% of the scope of sub-structure of the ROB/RUB subject to completion of at least two substructure of abutment/piers upto abutment/piers cap level of the ROB/RUB.
(3) Superstructure (including bearing)		(3) Super structure: Payment shall be made on prorata basis on completion of a stage i.e. completion of super structure including bearings of at least one span in all respects as specified.
(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 respect as specified.		(4) wearing coat: Payment shall be made on completion of (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 respect as specified.
(5) Miscellaneous items (like hand rails, crash barriers, road markings etc.)		(5) Miscellaneous: Payment shall be made on completion of all miscellaneous works like hand rail, crash barrier, road markings, etc. complete in all respects as specified.
(6) wing walls/return walls		(6) Wing wall/return wall: Payment shall be made on completion of wing wall/return wall complete in all respects as specified.

Stage of payment	Weightage	Payment procedure
(7) Approaches (including retaining walls, stone pitching, protection works).		(7) Approaches: Payment shall be made on prorata basis on completion of both approaches including stone pitching, protection works, etc. complete in all respect as specified.
B.2 - New ROB / RUB		Cost of each structure shall be ddetermined on prorata basis with respect to the total linear length (m) of all the structures. Payments shall be made on completion of each stage of strucutres as per weightage given in this table.
(1) Foundation: foundation of abutment/piers		(1) Foundation: Payment against foundation shall be made on prorata basis on completion of a stage i.e. not less than 25% of the scope of foundation of the ROB/RUB as per weightage given in this table,subject to completion of at least two foundations of the ROB/RUB in all respect. In case where load testing is required for foundation, the trigger of the first payment shall include load testing also where specified.
(2) Sub structure: Substructure for abutment, piers upto the abutment/pier cap level.		(2) Substructure: Payment against sub-structure shall be made on prorata basis on completion of a stage i.e. not less than 25% of the scope of sub-structure of the ROB/RUB as per weightage given in tis table, subject to completion of at least two substructures of abutment/piers upto abutment/piers cap level of the ROB/RUB.
(3) Superstructure: including girder, deck slab, bearing (excluding wearing coat and expansion joints)		
(3.a) Super Structure: Casting of girder/ fabrication of girders (steel)		(a) Super structure (casting of girder): Unit of measurement is number. Payment against casting of girder shall be made on prorata basis with respect to total number of girders required in the structure on completion of a stage i.e. not less than completion of casting of at least five girders of the structure.

Stage of payment	Weightage	Payment procedure
(3.b) Super structure: casting of segments		(b) Super structure (casting of segment): Unit of measurement is number. Payment against casting of segments shall be made on prorata basis with respect to total number of segments required in the structure on completion of a stage i.e. not less than completion of casting of at least 10 (ten) segments of the structure.
(3.c) Super structure: erection of girder, deck dlab and bearings		(c) Super structure (errection of girders, deck slab and bearing): Payment shall be made on prorata basis on completion of a stage i.e. completion of super structure including bearings at least one span in all respect as specified.
(4) Other ancillary works: wearing coat, expansion joint, hand railing, crash barriers tests on completion etc. completion in all respect.		(4) Other ancillary works: Payment shall be made on prorata basis on completion of a stage in all respect as specified, for each structure.
(5) Miscellaneous items (like hand rails, crash barriers, road markings etc.)		(5) Miscellaneous: Payment shall be made on completion of all miscellaneous works like hand rail, crash barrier, road markings, etc. complete in all respects as specified.
(6) wing walls/return walls upto full height		(6) Wing walls/return walls upto full height: Payment shall be made on completion of wing wall/return wall complete for rach ROB/RUB asper weightage given in the table, completion in all respects as specified.
(7) Retaining wall/ Reinforced earth wall etc.		Payment shall be made on prorata basis on completion of both approaches including stone pitching, protection works, etc. complete in all respect as specified.
(7.a) Panel casting		(a) Panel casting: Unit of measurement is area in Sqm. Payment against casting of panels shall be made on prorata basis with respect to total area panels required for the structure on completion of a stage i.e. not less than completion of casting of 25% of the scope of RE wall panel of each ROB/RUB.

Stage of payment	Weightage	Payment procedure
(7.b) Erection of panel/ construction of retaining wall		(b) Erection of panel/ Construction of retaining wall: Unit of measurement is area in Sqm. Payment against casting of panels shall be made on prorata basis on completion of a stage i.e. completion of erection of panels/ construction of retaining wall complete in all respect for at least 25% scope of work for each ROB/RUB.
C.1 - Widening and repairs of Elevated section/Flyover/Grade Separators/ Vehicular Overpass		
(1) Foundation		(1) Foundation: Cost of each structure shall be determined on pro rata basis with respect to the total linear length (m) of the structures. Payment against foundation shall be made on prorata basis on completion of a stage i.e. not less than 25% of the scope of foundation of the structure subject to completion of at least two foundations of the structure. In case where load testing is required for foundation, the trigger of the first payment shall include load testing also where specified.
(2) Sub structure		(2) Sub structure: Payment against sub-structure shall be made on prorata basis on completion of a stage i.e. not less than 25% of the scope of sub-structure of the structure subject to completion of at least two substructure of abutment/piers upto abutment/piers cap level of the structure.
(3) Superstructure (including bearing)		(3) Super Structure: Payment shall be made on prorata basis on completion of a stage i.e. completion of super structure including bearings of at least one span in all respects as specified.
(4) wearing coat including expansion joint		(4) wearing coat including expansion joint: Payment shall be made on completion of wearing coat including expansion joints complete in all respects as specified.
(5) Miscellaneous items (like hand rails, crash barriers, road markings etc.)		(5) Miscellaneous: Payment shall be made on completion of all miscellaneous works like hand rail, crash barrier, road markings, etc. complete in all respects as specified.

Stage of payment	Weightage	Payment procedure
(6) wing walls/return walls		(6) wing walls/return walls: Payment shall be made on completion of wing wall/return wall complete in all respects as specified.
(7) Approaches (including retaining walls, stone pitching, protection works).		(7) Approaches: Payment shall be made on prorata basis on completion of both approaches including stone pitching, protection works, etc. complete in all respect as specified.
C.2 - New Elevated section/Flyover/Grade Separators/ Vehicular Overpass		Cost of each structure shall be ddetermined on prorata basis with respect to the total linear length (m) of all the structures. Payments shall be made on completion of each stage of strucutres as per weightage given in this table.
(1) Foundation: foundation of abutment/piers	3.20%	(1) Foundation: Payment against foundation shall be made on prorata basis on completion of a stage i.e. not less than 25% of the scope of foundation of each structure as per weightage given in this table,subject to completion of at least two foundations in all respect. In case where load testing is required for foundation, the trigger of the first payment shall include load testing also where specified.
(2) Sub structure: Substructure for abutment, piers upto the abutment/pier cap level.	15.03%	(2) Substructure: Payment against sub-structure shall be made on prorata basis on completion of a stage i.e. not less than 25% of the scope of sub-structure of each structure as per weightage given in tis table, subject to completion of at least two substructures of abutment/piers upto abutment/piers cap level.
(3) Superstructure: including girder, deck slab, bearing (excluding wearing coat and expansion joints)		

Stage of payment	Weightage	Payment procedure
(3.a) Super Structure: Casting of girder/ fabrication of girders (steel)	1.38%	(a) Super structure (casting of girder): Unit of measurement is number. Payment against casting of girder shall be made on prorata basis with respect to total number of girders required in the structure on completion of a stage i.e. not less than completion of casting of at least five girders of the structure.
(3.b) Super structure: casting of segments		(b) Super structure (casting of segment): Unit of measurement is number. Payment against casting of segments shall be made on prorata basis with respect to total number of segments required in the structure on completion of a stage i.e. not less than completion of casting of at least 10 (ten) segments of the structure.
(3.c) Super structure: erection of girder, deck dlab and bearings	2.08%	(c) Super structure (errection of girders, deck slab and bearing): Payment shall be made on prorata basis on completion of a stage i.e. completion of super structure including bearings at least one span in all respect as specified.
(4) Other ancillary works: wearing coat, expansion joint, hand railing, crash barriers tests on completion etc. completion in all respect.	0.69%	(4) Other ancillary works: Payment shall be made on prorata basis on completion of a stage in all respect as specified, for each structure.
(5) Miscellaneous items (like hand rails, crash barriers, road markings etc.)	1.28%	(5) Miscellaneous: Payment shall be made on completion of all miscellaneous works like hand rail, crash barrier, road markings, etc. complete in all respects as specified.
(6) wing walls/return walls upto full height		(6) wing walls/return walls upto full height: Payment shall be made on completion of wing wall/return wall complete for rach ROB/RUB asper weightage given in the table, completion in all respects as specified.
(7) Retaining wall/ Reinforced earth wall etc.		Payment shall be made on prorata basis on completion of both approaches including stone pitching, protection works, etc. complete in all respect as specified.

Stage of payment	Weightage	Payment procedure
(7.a) Panel casting	38.17%	(a) Panel casting: Unit of measurement is area in Sqm. Payment against casting of panels shall be made on prorata basis with respect to total area panels required for the structure on completion of a stage i.e. not less than completion of casting of 25% of the scope of RE wall panel of each ROB/RUB.
(7.b) Erection of panel/ onstruction of retaining wall	38.17%	(b) Erection of panel/ Construction of retaining wall: Unit of measurement is area in Sqm. Payment against casting of panels shall be made on prorata basis on completion of a stage i.e. completion of erection of panels/ construction of retainning wall complete in all respect for at least 25% scope of work for each ROB/RUB.

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
(i) Toll plaza and it's approach		Unit of measurement is each completed toll plaza. Payment of each toll plaza shall be made on pro rata basis as per following completed stages: (i) Rigid pavement upto DLC (LHS) - 12.5% (ii) Rigid pavement upto DLC (RHS) - 12.5% (iii) PQC (LHS) - 25% (iv) PQC (RHS) - 25% (v) Admin Building, Maintenance Building & Misc - 10% (vi) Canopy, Toll Booth, Safety Items & Miscellaneous works - 12.5% (vii) Toll plaza Tunnel/over head bridge - 2.5%
(ii) Road side drains	14.87%	Unit of measurement is linear length in km. Payment shall be made on pro rata basis on completion of a stage in a length of not less than 5 % (five per cent) of the total length.
(iii) Road signs, markings, km stones, safety devices	18.81%	
(iv) Road markings & Studs	3.20%	
(v) Crash Barrier	10.93%	

Stage of Payment	Weightage	Payment Procedure
(iv) Project Facilities		Payment shall be made on pro rata basis for completed facilities.
a) Bus bays	3.85%	
d) Others		
- Street light	1.04%	
(v) Roadside Plantation	1.18%	
(vi) Repair of Protection works other than approaches to the bridges, elevated sections, flyovers/ grade separators and ROBs/RUBs.		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.
(vii) Protection works - - retaining wall / toe wall, breast wall etc.		
(a) RE wall other than approach of structures		
(b) Breast Wall	1.39%	
(c) Retaining Wall	17.00%	
(x) Safety and traffic management during construction	0.20%	Payment shall be made on prorata basis every six months.
(xi) Junction Improvements & Junctions under Grade separator	22.19%	Payment shall be made on pro rata basis for completed work
(xii) Side slope protection with turfing/ geo blanketing etc.	5.34%	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.

1.3.5 Electrical utilities and public Health Utilities (Water pipelines and sewage lines)

Procedure for estimating the value of other works done shall be as stated in table 1.3.5:

Table 1.3.5

Stage of Payment	Weightage	Payment Procedure
(i) EHT line	0.00%	Unit of measurement is as per completed activities. Cost per activity shall be determined on pro-rate basis as per its weightage with reference to total cost of EHT line. Payment shall be made for completed activity. (The average weightage of major activities (only for payment purpose) in shifting work is (i) Erection of Poles-20%, (ii) Conductor stringing including laying of cable- 30%, (iii) DTR erection (if involved)-15% and (iv) Charging of line including dismantling and site clearance-35% (with DTR) and 50% without DTR)
(ii) EHT crossings		Cost of each crossing shall be determined on pro-rata basis with reference to total no. of crossings. Payment shall be made for not less than 25% of the crossings subject to a minimum of 4.
(iii) HTI LT line over ground (including transformers if any)	55.42%	Unit of measurement is as per completed activities. Cost per activity shall be determined on pro-rata basis as per its weightage with reference to total cost of LT/ HT line. Payment shall be made for completed activity. (The average weightage of major activities (only for payment purpose) in shifting work is (i) Erection of Poles-20% (ii) Conductor stringing including laying of cable- 30%, (iii) DTR erection (if involved)-10% and (iv) Charging of line including dismantling and site clearance-40% (with DTR) and 50% without DTR)
(iv) HTI LT crossings over ground		Cost of each crossing shall be determined on pro-rata basis with reference to total no. of crossings. Payment shall be made for not less than 25% of the crossings subject to a minimum of 10 crossings.
(v) HTI LT line underground (including transformers if any)	38.72%	Unit of measurement is as per completed activities. Cost per activity shall be determined on pro-rata basis as per its weightage with reference to total cost of LT/ HT line. Payment shall be made for completed activity. (The average weightage of major activities (only for payment purpose) in shifting work is (i) Erection of Poles-20% (ii) Conductor stringing including laying of cable- 30%, (iii) DTR erection (if involved)-10% and (iv) Charging of line including dismantling and site clearance-40% (with DTR) and 50% without DTR)

Stage of Payment	Weightage	Payment Procedure
(vi) HTI LT crossings under ground		Cost of each crossing shall be determined on pro-rata basis with reference to total no. of crossings. Payment shall be made for not less than 25% of the crossings subject to a minimum of 10 crossings.
(vii) Water pipeline	5.86%	Unit of measurement is asper completed activities. Cost per activity shall be determined on pro-rata basis as per its weightage with reference to total cost of pipe line. Payment shall be made for completed activity. (The average weightage of major activities (only for payment purpose) in shifting work is laying of pipe-50%, Charging of line including all miscellaneous works and dismantling and site clearance-50%)
(viii) water pipeline crossings		Cost of each crossing shall be determined on pro-rata basis with reference to total no. of crossings. Payment shall be made for not less than 25% of the crossings subject to a minimum of 8 crossings.
(ix) Sewage lines		Unit of measurement is as per completed activities. Cost per activity shall be determined on pro-rata basis as per its weightage with reference to total cost of pipe line. Payment shall be made for completed activity. (The average weightage of major activities (only for payment purpose) in shifting work is laying of pipe-50%, Charging of line including all miscellaneous works and dismantling and site clearance-50%)
(x) Sewage line crossings		Cost of each crossing shall be determined on pro-rata basis with reference to total no. of crossings. Payment shall be made for completed activity. (The average weightage of major activities in shifting work is laying pipe-50%, Charging of line including all miscellaneous works and dismantling and site clearance-50%)

2 Procedure for payment for Maintenance.

2.1 The cost for maintenance shall be as stated in Clause 14.1. (i)

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

Schedule-I

Schedule - I

(See Clause 10.2 (iv))

1 Drawings

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 typical cross sections.

b. Drawings of cross drainage works, i.e., Bridges/Culverts/Flyovers and Other Structures.

c. Drawings of interchanges, major intersections and underpasses.

d. Drawing of control center.

e. Drawings of road furniture items including traffic signage, marking, safety barriers, etc.;

f. Drawings of traffic diversions plans and traffic control measures.

g. Drawings of road drainage measures.

h. Drawings of typical details slope protection measures.

i. Drawings of landscaping and horticulture.

j. Drawings of pedestrian crossing.

k. Drawings of street lighting.

l. General Arrangement showing Base Camp and Administrative Block.

m. Any other drawings as per instruction of Authority Engineer.

Schedule-J

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 320th (Three Hundred Twentieth) 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 548th (Five Hundred Forty Eighth) 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.

4 Project Milestone-III

(i) Project Milestone-III shall occur on the date falling on the 776th (Seven Hundred Seventy-Sixth) 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 Schedule Completion Date

(i) The Scheduled Completion Date shall occur on the 913th (Nine Hundred Thirteenth) 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

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 all the tests specified in IRC code, manual and MORTH specifications for the road and Bridge works, 5th revision, 2013.

(ii) 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 [2,000 (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) meters 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.

(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 cos in the presence of contractor's representative

Sr. No.	Key metrics of Asset	Equipmenttobeused	Frequency of condition survey
1	Surface defects of pavement	Network Vehicle (NSV) Survey	At least twice a year (As per survey months defined for the state basis rainy season)
2	Roughness of pavement	Network Vehicle (NSV) Survey	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

Schedule-L

(See Clause 12.2)

Completion Certificate

1 I, ……..(Name of the Authority's Engineer), acting as Authority's Engineer, under and in accordance with the Agreement dated ……..(the "Agreement"), for construction of the **"Four laning of Dhanehari – Vairengte section (Package-2) of NH-306 from Existing Chainage km 12+920 to km 43+000 (Design Chainage km 20+000 to km 49+360) on Silchar - Vairengte - Sairang road in the State of Assam under Bharatmala Pariyojna on EPC mode."** 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 safety 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

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 deduction 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

(i) 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%
(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:

$$R=P/100 \times M \times L1/L$$

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 noncompliance 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 noncompliance.

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

Schedule-N

Schedule-N

(See Clause 18.1(i))

Selection of Authority's Engineer

1 Selection of Authority's Engineer

(i) 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 or 'Guidelines for Employment of Consultants under Japanese ODA Loans' or a combination of certain provisions thereof shall apply for selection of an experienced firm to discharge the functions and duties of an Authority's Engineer.

(ii) In the event of termination of the Technical Consultants appointed in accordance with the provisions of above Paragraphs 1.1 to 1.3, 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**") for **"Four laning of Dhanehari – Vairengte section (Package-2) of NH-306 from Existing Chainage km 12+920 to km 43+000 (Design Chainage km 20+000 to km 49+360) on Silchar - Vairengte - Sairang road in the State of Assam under Bharatmala Pariyojna on EPC."**and a copy of which is annexed hereto and marked as Annex-A to form part of this TOR.

(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 Clauses 1.2, 1.3 and 1.4 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 0.2% of Contract Price.

(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 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 10.1.6. The Authority's Engineer shall complete such review 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 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 50 (Fifty) 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's quality 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

SCHEDULE - O

(See Clauses 19.4 (i), 19.6 (i), and 19.8 (i))

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 19.3.1 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 13.2.3 (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.

Monthly Maintenance Payment Statement

The monthly Statement for Maintenance Payment shall state:

(f) the monthly payment admissible in accordance with the provisions of the agreement;

(g) the deductions for maintenance work not done;

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

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

(j) amount towards deduction of taxes

4 Contractor's claim for Damages

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

Schedule-P

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 last 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 paragraph 1.1 (a) and (b) above shall cover the authority and the Contractor against all loss or damage from whatsoever 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 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 arises from a cause occurring prior to the issue of 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 each Party's liability for any loss, damage, death or bodily injury which may occur to any physical property (except things insured under Paragraph I 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 the Contract Price.

(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 and 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

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 2,500 (two thousand five hundred) mm for each kilometer.

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

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 **"Four laning of Dhanehari– Vairengte section (Package-2) of NH-306from Existing Chainage km 12+920 to km 43+000 (Design Chainage km 20+000 to km 49+360) on Silchar - Vairengte - Sairang road in the State of Assam under Bharatmala Pariyojna on EPC mode."**……. (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)