

Environmental and Social Due Diligence Report

Project Number: 47083-004
January 2022

INDIA: Accelerating Infrastructure Investment Facility in India – Tranche 3 Shamlaji Expressway Private Limited (Part 26 of 34)

Prepared by India Infrastructure Finance Company Limited for the India Infrastructure Finance Company Limited and the Asian Development Bank.

This environmental and social due diligence report is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature.

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

"Tests" means the tests set forth in Schedule-I to determine the completion of the Project in accordance with the provisions of this Agreement;

"Total Project Cost" means 60 % (sixty percent)² of the Bid Project Cost specified in Clause 23.1;

provided that in the event WPI increases, on an average, by more than 3% (three per cent) per annum for the period between the Bid Date and COD, the amount hereinbefore specified shall be increased such that the effect of increase in WPI, in excess of such 3% (three per cent), is reflected in the Total Project Cost;

provided further that in the event of Termination, the Total Project Cost shall be deemed to be modified to the extent of variation in WPI or Reference Exchange Rate occurring in respect of Debt Due, as the case may be, in accordance with the provisions of this Agreement;

Provided also that the Total Project Cost shall not exceed 60% of the actual capital expenditure on the Project and capitalized in the books of accounts of the Concessionaire as certified by the Statutory Auditor. ;

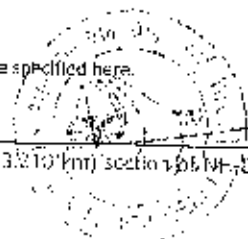
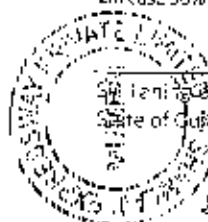
"Transfer Date" means the date on which this Agreement and the Concession hereunder expires pursuant to the provisions of this Agreement or is terminated by a Termination Notice;

"User" means a person who uses or intends to use the Project or any part thereof in accordance with the provisions of this Agreement and Applicable Laws;

"Vesting Certificate" shall have the meaning as set forth in Clause 32.4; and

"WPI" means the Wholesale Price Index for all commodities as published by the Ministry of Industry, GOI and shall include any index which substitutes the WPI, and any reference to WPI shall, unless the context otherwise requires, be construed as a reference to the latest monthly WPI published no later than 30 (thirty) days prior to the date of consideration hereunder.

²In case 50% (fifty per cent) is substituted in Clause 23.3.1, 100%-such substituted figure may be specified here.



इसके साथै स्वरूप दोनों पक्षों ने इस करार को ऊपर लिखी तिथि, माह और वर्ष को निश्चित किया और सुगुर्द कर दिया।

भारतीय राष्ट्रीय राजमार्ग प्राधिकरण के लिए और उसकी ओर से हस्ताक्षर करके, गृहबंद करके सौंप दिया गया द्वारा :

के. वी. सिंह,
महाप्रबंधक (तक)
भारतीय राष्ट्रीय राजमार्ग प्राधिकरण
जी-5 और 6, सेक्टर-10, द्वारका,
नई दिल्ली 110075
Email kvsingh@nhai.org

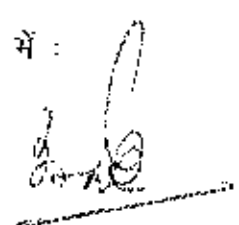
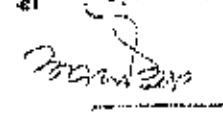



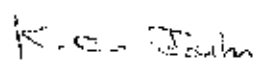
रियायतग्राहों के निदेशक मंडल द्वारा 31 मार्च, 2018 को हुई अपनी बैठक में पारित संकल्प के अनुसरण में, निदेशक की उपस्थिति में रियायतग्राही की सामान्य गृह लगाई गई और उन्होंने इसके प्रमाण स्वरूप इस विलेख पर हस्ताक्षर किए हैं तथा श्री नीरज विजय, निदेशक ने इसका प्रमाण स्वरूप अपने प्रतिहस्ताक्षर किए हैं :

अतुल गर्ग
अधिकृत हस्ताक्षरी
शमलाजी एक्सप्रेसवे प्राइवेट लिमिटेड
501, नगन रोन्टर, सी-31,
जी-ब्लॉक, बंद्रा कुर्ला काम्पलेक्स,
बंद्रा (ईस्ट), मुम्बई - 400051 (महाराष्ट्र)



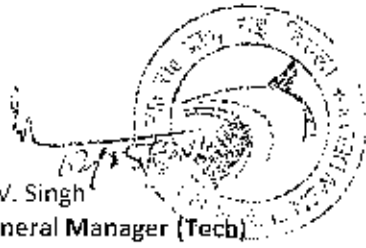
की उपस्थिति में :

1. 
अनंद कुमार सिंह
जी-5 और 6, सेक्टर-10, द्वारका,
नई दिल्ली
2. 
अनंद कुमार सिंह
महाप्रबंधक (तक), निदेशक
जल संवर्धन विभाग, नई दिल्ली

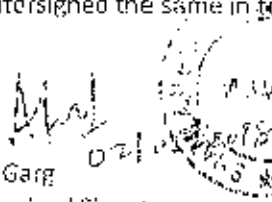
1. 
NEERAJ VIJAY
DIRECTOR CHETAK ENTERPRISES
LTD.
2. 
K. C. Jain
Chairman Chetak Enterprises
84, Krishna Nagar
Shrikrishna Nagar
Jaipur

IN WITNESS, WHEREOF THE PARTIES HAVE EXECUTED AND DELIVERED THIS AGREEMENT AS OF THE DAY, MONTH AND YEAR FIRST ABOVE WRITTEN.

SIGNED, SEALED AND DELIVERED For and on behalf of THE AUTHORITY by:



K. V. Singh
General Manager (Tech)
National Highway Authority of India
G-5&6, Sector -10, Dwarka, New
Delhi - 110075
e-mail: kvsingh@nhai.org

THE COMMON SEAL OF CONCESSIONAIRE has been affixed pursuant to the resolution passed by the Board of Directors of the Concessionaire at its meeting held on the 31st day of March 2018 herunto affixed in the presence of Mr. Neeraj Vijay, Director, who has signed these Presents in token thereof and, Company Secretary/Authorized Officer who has countersigned the same in token thereof:

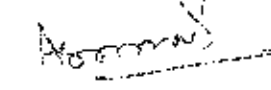

Atul Garg
Authorized Signatory
Shamlaji Expressway Private Limited
503, Naman Centre, C-31, G-Block, Bandra
Kuria Complex, Bandra (E), Mumbai - 400051
(Maharashtra)

In the presence of:


1. Signature


Name: Anand Kumar Singh
Address: 4526, NHA
Dwarka

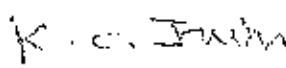
2. Signature


Name: A. K. Singh
Address: Manager (Tech) Gujarat
NHAI HQ, New Delhi

1. Signature


Name: NEERAJ VIJAY
Address: DIRECTOR CHETAK ENT.
LH

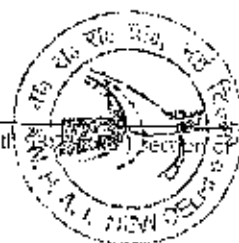
2. Signature


Name: Karan Singh
Address: 84, Kishore Nagar
Shakti Nagar
Faridkot

Schedules



Surfacing of 1st Apha J'ia Motichilou'ia from km 441.200 to km 454.410 (length 13.210 km) section of NH-8 in the State of Gujarat under N.H.D.P. Phase -V (Package VI) on Hybrid Annuity basis



SCHEDULE - A

(See Clause 10.1)

SITE OF THE PROJECT HIGHWAY

THE SITE

Site of the Six-Lane Project Highway shall include the land, buildings, structures and road works as described in Annex-I of this Schedule-A.

- 1.2 An inventory of the Site including the land, buildings, structures, road works, trees and any other immovable property on or attached to the Site shall be prepared jointly by the Authority Representative and the Concessionaire and such inventory shall form part of the memorandum referred to in clause 10.3.1 of the Agreement.
- 1.3 Additional land if required for Toll Plazas, Traffic Aid Posts, Medical Aid Posts and vehicle rescue posts or for construction of works specified in change of Scope Order issued under Clause 16.2.3 of this agreement shall be acquired in accordance with the provisions of Clause 10.3.6 of this Agreement. Upon acquisition, such land shall form part of the Site and vest in the Authority.

Six Laning of Sharnaji to Malachindim from Km 401.250 to Km 401.254 (Length 03.216 Km) section of NH-3 in the State of Gujarat under NHDP Phase - V (Bagmati) of World Arduity Mode

Am



ANNEXURE - I

(Schedule - A)

Site for Six Laning**I. The Site**

The project road starts from Rajpeth/Chavara Border on km 401-200 of NH-8 and ends near Ahmedabad (km 19+400 of NH-8). The road passes through the Anand, Sabarkantha, Gandhinagar and Ahmedabad District of Gujarat.

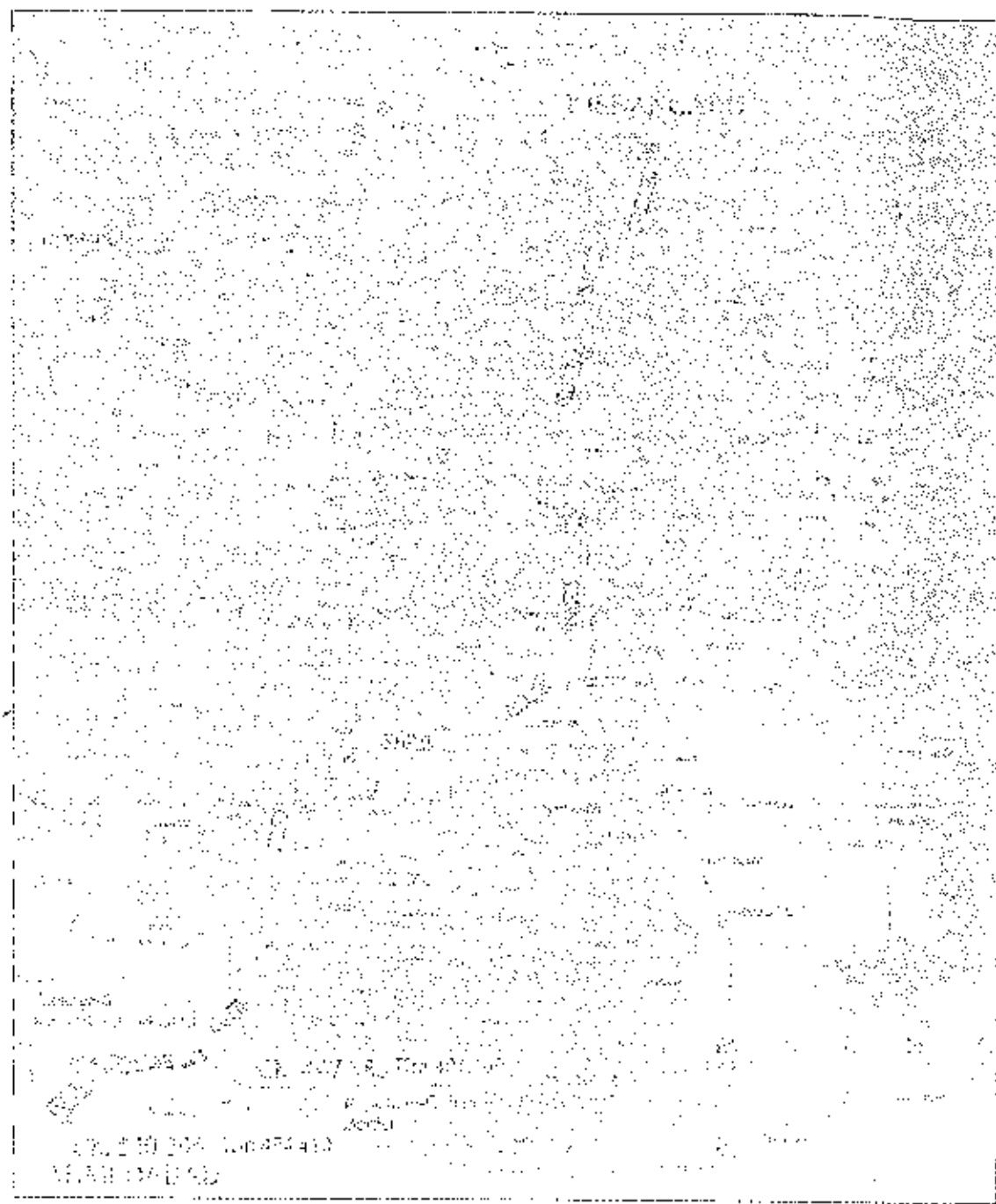
The existing road is part of the NH-8 from km 101-200 to km 484+000 near Ahmedabad. The index map depicting the project road is also enclosed.

The land use pattern of the project area is mainly agriculture land, settlements, industrial and commercial areas including hilly terrain at some locations along the project road.

Six Laning of Shinda Ji to Pichkhiwadia from km 401-200 to km 484+000 (Length 83.20 km) section of NH-8 in the State of Gujarat under NHDP Phase - V (Package-VB) of Hybrid Annuity Mode

A-2



India Map

Section of NH-8 from km 434.380 to km 444.410 (Length 93.750 km) section of NH-8 in the State of Gujarat under NHDP Phase-V (Package-V) Hybrid Annuity Mode

Handwritten signature or initials.



2. 1.8342

The available rig of 40000 :

St. No.	Existing Elevation (Kw)		Total ROW (m)
	From	To	
	Nil		
1	401.250	401.250	45
2	411.350	423.000	60
3	423.000	424.270	45
4	424.270	431.370	60
5	431.370	433.175	45
6	433.175	441.000	60
7	441.000	443.000	45
8	443.000	443.900	60
9	443.900	450.750	45
10	450.750	453.500	60
11	453.500	460.470	45
12	460.470	463.250	60
13	463.250	469.250	15
14	469.250	474.235	60
15	474.235	475.900	15
16	475.900	480.280	60
17	480.280	481.550	15
18	481.550	484.100	60
19	484.100	485.000	45
20	485.000	493.130	60
21	493.130	494.410	45

3. Carriage

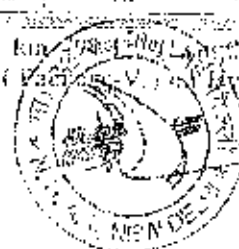
Sl. No.	Road	Existing Chainage (Km)		Total Length (Km)	Carriageway (m)	Paved Shoulder (m)	Existing Shoulder (m)		Existing median width (m)
		From	To				LHS	RHS	
1.	NH-18	401.200	401.500	0.3	2x7.0	1.5+1.5	1.5	1.5	4.5
2.	NH-18	401.500	402.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
3.	NH-18	402.000	402.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
4.	NH-18	402.500	403.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
5.	NH-18	403.000	403.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
6.	NH-18	403.500	404.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
7.	NH-18	404.000	404.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
8.	NH-18	404.500	405.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
9.	NH-18	405.000	405.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
10.	NH-18	405.500	406.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
11.	NH-18	406.000	406.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
12.	NH-18	406.500	407.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5

Six Landing of Sharda pit to Motachhoshin. From km 191.200 to km 204.400 (Length 13.200 km) section of NH-8 in the State of Gujarat under NHDP Phase -V (Sardar Sarovar Flyover) under Amalgaon.



Sl. No.	Road	Existing Chainage (Km)		Total Length (Km)	Carriageway (m)	Paved Shoulder (m)	Verdian Shoulder (m)		Existing median width (m)
		From	To				LHS	RHS	
13.	NH 8	407.700	407.800	0.5	2x7.0	1.5+1.5	1.5	1.5	1.5
14.	NH 8	407.800	408.000	0.5	2x7.0	1.5+1.5	1.5	1.5	1.5
15.	NH 8	408.000	408.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
16.	NH 8	408.500	409.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
17.	NH 8	409.000	409.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
18.	NH 8	409.500	410.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
19.	NH 8	410.000	410.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
20.	NH 8	410.500	411.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
21.	NH 8	411.000	411.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
22.	NH 8	411.500	412.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
23.	NH 8	412.000	412.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
24.	NH 8	412.500	413.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
25.	NH 8	413.000	413.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
26.	NH 8	413.500	414.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
27.	NH 8	414.000	414.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
28.	NH 8	414.500	415.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
29.	NH 8	415.000	415.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
30.	NH 8	415.500	416.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
31.	NH 8	416.000	416.500	0.5	2x7.0	1.5+1.5	1.5	1.5	1.5
32.	NH 8	416.500	417.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
33.	NH 8	417.000	417.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
34.	NH 8	417.500	418.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
35.	NH 8	418.000	418.500	0.5	2x7.0	1.5+1.5	1.5	1.5	1.5
36.	NH 8	418.500	419.000	0.5	2x7.0	1.5+1.5	1.5	1.5	1.5
37.	NH 8	419.000	419.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
38.	NH 8	419.500	420.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
39.	NH 8	420.000	420.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
40.	NH 8	420.500	421.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
41.	NH 8	421.000	421.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
42.	NH 8	421.500	422.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
43.	NH 8	422.000	422.500	0.5	7.0+7.0	1.5+1.5	1.5	1.5	4.5
44.	NH 8	422.500	423.000	0.5	7.0+7.0	1.5+1.5	1.5	1.5	1.2
45.	NH 8	423.000	423.500	0.5	7.0+7.0	1.5+1.5	1.5	1.5	1.2
46.	NH 8	423.500	424.000	0.5	7.0+7.0	1.5+1.5	1.5	1.5	1.2
47.	NH 8	424.000	424.500	0.5	7.0+7.0	1.5+1.5	1.5	1.5	4.5
48.	NH 8	424.500	425.000	0.5	7.0+7.0	1.5+1.5	1.5	1.5	4.5
49.	NH 8	425.000	425.500	0.5	7.0+7.0	1.5+1.5	1.5	1.5	4.5
50.	NH 8	425.500	426.000	0.5	7.0+7.0	1.5+1.5	1.5	1.5	4.5
51.	NH 8	426.000	426.500	0.5	7.0+7.0	1.5+1.5	1.5	1.5	4.5

Six Laying of Shutter in Motorbikes from Km 421.212 to Km 426.500 (5.288 km) section of NH-8 in the State of Gujarat under NHDP Phase - IV (Contract No. 10/1994-95) Awarded Agency Mode.



Sl. No.	Road	Existing Clearance (km)		Total Length (km)	Carriageway (m)	Paved Shoulder (m)	Earthen Shoulder (m)		Existing median width (m)
		From	To				LHS	RHS	
52.	NH-8	426.500	427.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
53.	NH-8	427.500	428.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
54.	NH-8	428.500	429.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
55.	NH-8	429.500	430.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
56.	NH-8	430.500	431.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
57.	NH-8	431.500	432.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
58.	NH-8	432.500	433.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
59.	NH-8	433.500	434.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
60.	NH-8	434.500	435.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
61.	NH-8	435.500	436.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
62.	NH-8	436.500	437.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
63.	NH-8	437.500	438.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
64.	NH-8	438.500	439.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
65.	NH-8	439.500	440.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
66.	NH-8	440.500	441.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
67.	NH-8	441.500	442.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
68.	NH-8	442.500	443.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
69.	NH-8	443.500	444.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
70.	NH-8	444.500	445.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
71.	NH-8	445.500	446.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
72.	NH-8	446.500	447.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
73.	NH-8	447.500	448.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
74.	NH-8	448.500	449.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
75.	NH-8	449.500	450.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
76.	NH-8	450.500	451.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
77.	NH-8	451.500	452.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
78.	NH-8	452.500	453.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
79.	NH-8	453.500	454.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
80.	NH-8	454.500	455.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
81.	NH-8	455.500	456.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
82.	NH-8	456.500	457.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
83.	NH-8	457.500	458.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
84.	NH-8	458.500	459.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
85.	NH-8	459.500	460.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
86.	NH-8	460.500	461.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
87.	NH-8	461.500	462.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
88.	NH-8	462.500	463.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
89.	NH-8	463.500	464.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
90.	NH-8	464.500	465.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
91.	NH-8	465.500	466.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
92.	NH-8	466.500	467.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
93.	NH-8	467.500	468.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
94.	NH-8	468.500	469.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
95.	NH-8	469.500	470.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
96.	NH-8	470.500	471.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
97.	NH-8	471.500	472.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
98.	NH-8	472.500	473.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
99.	NH-8	473.500	474.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5
100.	NH-8	474.500	475.500	0.5	7.5-7.5	1.5-1.5	1.5	1.5	1.5

Section of NH-8 from km 475.500 to km 494.400 (Length 18.900 km) section of NH-8 in the State of Gujarat under NHDP Phase -VI Program of Road Development.

Handwritten signature



Sl. No.	Road	Raising Clearance (Km)		Total Length (Km)	Carriageway (m)	Paved Shoulder (m)	Raising Shoulder (m)		Existing median width (m)
		From	To				LHS	RHS	
91	NH 8	445.000	446.500	0.5	2x7.0	1.5+1.5	1.5	1.5	1.2
92	NH 8	446.500	447.000	0.5	2x7.0	1.5+1.5	1.5	1.5	1.5
93	NH 8	447.000	447.500	0.5	2x7.0	1.5+1.5	1.5	1.5	1.2
94	NH 8	447.500	448.000	0.5	2x7.0	1.5+1.5	1.5	1.5	1.2
95	NH 8	448.000	448.500	0.5	2x7.0	1.5+1.5	1.5	1.5	1.2
96	NH 8	448.500	449.000	0.5	2x7.0	1.5+1.5	1.5	1.5	1.2
97	NH 8	449.000	449.500	0.5	2x7.0	1.5+1.5	1.5	1.5	1.2
98	NH 8	449.500	450.000	0.5	2x7.0	1.5+1.5	1.5	1.5	1.2
99	NH 8	450.000	450.500	0.5	2x7.0	1.5+1.5	1.5	1.5	1.2
100	NH 8	450.500	451.000	0.5	2x7.0	1.5+1.5	1.5	1.5	1.2
101	NH 8	451.000	451.500	0.5	2x7.0	1.5+1.5	1.5	1.5	1.2
102	NH 8	451.500	452.000	0.5	2x7.0	1.5+1.5	1.5	1.5	1.5
103	NH 8	452.000	452.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
104	NH 8	452.500	453.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
105	NH 8	453.000	453.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
106	NH 8	453.500	454.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
107	NH 8	454.000	454.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
108	NH 8	454.500	455.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
109	NH 8	455.000	455.500	0.5	2x7.0	1.5+1.5	1.5	1.5	1.5
110	NH 8	455.500	456.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
111	NH 8	456.000	456.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
112	NH 8	456.500	457.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
113	NH 8	457.000	457.500	0.5	2x7.0	1.5+1.5	1.5	1.5	3.5
114	NH 8	457.500	458.000	0.5	2x7.0	1.5+1.5	1.5	1.5	3.5
115	NH 8	458.000	458.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
116	NH 8	458.500	459.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
117	NH 8	459.000	459.500	0.5	2x7.0	1.5+1.5	1.5	1.5	1.2
118	NH 8	459.500	460.000	0.5	2x7.0	1.5+1.5	1.5	1.5	1.2
119	NH 8	460.000	460.500	0.5	2x7.0	1.5+1.5	1.5	1.5	1.2
120	NH 8	460.500	461.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
121	NH 8	461.000	461.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
122	NH 8	461.500	462.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
123	NH 8	462.000	462.500	0.5	2x7.0	1.5+1.5	1.5	1.5	1.5
124	NH 8	462.500	463.000	0.5	2x7.0	1.5+1.5	1.5	1.5	1.5
125	NH 8	463.000	463.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
126	NH 8	463.500	464.000	0.5	2x7.0	1.5+1.5	1.5	1.5	1.5
127	NH 8	464.000	464.500	0.5	2x7.0	1.5+1.5	1.5	1.5	3.5
128	NH 8	464.500	465.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
129	NH 8	465.000	465.500	0.5	2x7.0	1.5+1.5	1.5	1.5	1.2

Section of NH-8 in the State of Gujarat under NHDP Phase-V (Pavement) on Hybrid Annuity Mode.



Sl. No.	Road	Existing Chiridge (km)		Total Length (Km)	Chiridge (m)	Paved Shoulder (m)	Earthen Shoulder (m)		Existing median width (m)
		From	To				LHS	RHS	
130.	NH 8	465.200	465.500	0.3	2x7.0	1.5+1.5	1.5	1.5	1.5
131.	NH 8	465.500	466.000	0.5	2x7.0	1.5+1.5	1.5	1.5	1.2
132.	NH 8	466.000	466.500	0.5	2x7.0	1.5+1.5	1.5	1.5	1.2
133.	NH 8	466.500	467.000	0.5	2x7.0	1.5+1.5	1.5	1.5	1.2
134.	NH 8	467.000	467.500	0.5	2x7.0	1.5+1.5	1.5	1.5	1.2
135.	NH 8	467.500	468.000	0.5	2x7.0	1.5+1.5	1.5	1.5	1.2
136.	NH 8	468.000	468.500	0.5	2x7.0	1.5+1.5	1.5	1.5	1.2
137.	NH 8	468.500	469.000	0.5	2x7.0	1.5+1.5	1.5	1.5	1.2
138.	NH 8	469.000	469.500	0.5	2x7.0	1.5+1.5	1.5	1.5	1.2
139.	NH 8	469.500	470.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
140.	NH 8	470.000	470.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
141.	NH 8	470.500	471.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
142.	NH 8	471.000	471.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
143.	NH 8	471.500	472.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
144.	NH 8	472.000	472.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
145.	NH 8	472.500	473.000	0.5	7.0-7.0	1.5+1.5	0	1.5	4.5
146.	NH 8	473.000	473.500	0.5	7.0-7.0	1.5+1.5	1.5	1.5	4.5
147.	NH 8	473.500	474.000	0.5	6.0-7.0	1.5+1.5	1.5	1.5	4.5
148.	NH 8	474.000	474.500	0.5	6.0-7.0	1.5+1.5	1.5	1.5	4.5
149.	NH 8	474.500	475.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
150.	NH 8	475.000	475.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
151.	NH 8	475.500	476.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
152.	NH 8	476.000	476.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
153.	NH 8	476.500	477.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
154.	NH 8	477.000	477.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
155.	NH 8	477.500	478.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
156.	NH 8	478.000	478.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
157.	NH 8	478.500	479.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
158.	NH 8	479.000	479.500	0.5	7.0-7.0	1.5+1.5	1.5	1.5	4.5
159.	NH 8	479.500	480.000	0.5	7.0-7.0	1.5+1.5	1.5	1.5	4.5
160.	NH 8	480.000	480.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
161.	NH 8	480.500	481.000	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
162.	NH 8	481.000	481.500	0.5	2x7.0	1.5+1.5	1.5	1.5	4.5
163.	NH 8	481.500	482.000	0.5	7.0-7.0	1.5+1.5	1.5	1.5	4.5
164.	NH 8	482.000	482.500	0.5	7.0-7.0	1.5+1.5	1.5	1.5	4.5
165.	NH 8	482.500	483.000	0.5	7.0-7.0	1.5+1.5	1.5	1.5	4.5
166.	NH 8	483.000	483.500	0.5	7.0-7.0	1.5+1.5	1.5	1.5	4.5
167.	NH 8	483.500	484.000	0.5	7.0-7.0	1.5+1.5	1.5	1.5	4.5
168.	NH 8	484.000	484.500	0.5	7.0-7.0	1.5+1.5	1.5	1.5	4.5

Six Lane 12 of Six Lane 12 to Noida/Chikla - From km 481.200 to km 484.400 with 32.200 km section of NH-8 to the State of Gujarat under NHDP Phase -V (Package -III) National Highway



130



Sl. No.	Road	Existing Chaisage (Km)		Total Length (Km)	Carriageway (m)	Paved Shoulder (m)	Earth Shoulder (m)		Existing median width (m)
		From	To				LHS	RHS	
169.	NH 4	484.000	484.500	0.5	7.1+7.1	1.5+1.5	1.5	1.5	1.2
170.	NH 3	484.500	485.000	0.5	7.1+7.1	1.5+1.5	1.5	1.5	1.2
171.	NH 3	485.000	485.300	0.3	7.1+7.0	1.5+1.5	1.5	1.5	1.2
172.	NH 3	485.300	485.500	0.2	7.1+7.0	1.5+1.5	1.5	1.5	1.2
173.	NH 3	485.500	486.000	0.5	7.1+7.0	1.5+1.5	1.5	1.5	1.2
174.	NH 3	486.000	486.200	0.2	7.1+7.0	1.5+1.5	1.5	1.5	1.2
175.	NH 3	486.200	487.000	0.8	7.1+7.0	1.5+1.5	1.5	1.5	1.2
176.	NH 3	487.000	487.500	0.5	7.2+7.0	1.5+1.5	1.5	1.5	1.2
177.	NH 3	487.500	488.000	0.5	7.2+7.0	1.5+1.5	1.5	1.5	1.2
178.	NH 3	488.000	488.500	0.5	7.2+7.0	1.5+1.5	1.5	1.5	1.2
179.	NH 3	488.500	489.000	0.5	7.2+7.0	1.5+1.5	1.5	1.5	1.2
180.	NH 3	489.000	489.500	0.5	7.2+7.0	1.5+1.5	1.5	1.5	1.2
181.	NH 3	489.500	490.000	0.5	7.2+7.0	1.5+1.5	1.5	1.5	1.2
182.	NH 3	490.000	490.500	0.5	7.2+7.0	1.5+1.5	1.5	1.5	1.2
183.	NH 3	490.500	491.000	0.5	7.2+7.0	1.5+1.5	1.5	1.5	1.2
184.	NH 3	491.000	491.500	0.5	7.1+7.0	1.5+1.5	1.5	1.5	1.2
185.	NH 3	491.500	492.000	0.5	7.1+7.0	1.5+1.5	1.5	1.5	1.2
186.	NH 3	492.000	492.500	0.5	7.1+7.0	1.5+1.5	1.5	1.5	1.2
187.	NH 3	492.500	493.000	0.5	7.1+7.0	1.5+1.5	1.5	1.5	1.2
188.	NH 3	493.000	493.500	0.5	7.1+7.0	1.5+1.5	1.5	1.5	1.2
189.	NH 3	493.500	494.000	0.5	7.1+7.0	1.5+1.5	1.5	1.5	1.2
190.	NH 3	494.000	494.400	0.4	7.1+7.0	1.5+1.5	1.5	1.5	1.2

CH. Landing of Shyama B to Mount Patha. From s/n 391.100 to km 494.146-61, length 93.046 km section of NH-8 in the State of Gujarat under NHDP. Phase IV (Paritosh, Panchdhar, Anand) Mode

h



1. 2. 3.



Sl. No.	Span Location (km)	Ramp	Span Arrangement (Exposition about m)	Total Length (Clear Width) (m)	Type of Superstructure	Type of Substructure		Total Depth
						Pier	Abutment	
1	429.2 Km. 10.280	Left	1x7.80	7.8	Solid Slab	RCC	RCC Wall	12.1
		Right	1x7.80	7.8	Solid Slab	RCC	RCC Wall	12.1
2	432.5 Km. 12.151	Left	1x17.60+1x8.4	36	RCC T Girder	RCC	RCC	2.3
		Right	4x9.1	36.4	RCC T Girder	RCC	RCC	2.3
3	432.3 Km. 12.179	Left	3x10.75	32.25	RCC T Girder	RCC	RCC	1.1
		Right	3x10.75	32.25	RCC T Girder	RCC	RCC	1.1
4	439.1 Km. 12.370	Left	3x5.0	15	Solid Slab	RCC	RCC	1.1
		Right	1x12	12	RCC T Girder	RCC	RCC	1.1
5	430.2 Km. 12.070	Left	2x2.0	10	Solid Slab	RCC	RCC	1.1
		Right	1x8.60	8.6	Solid Slab	RCC	RCC	1.1
6	431.1 Km. 12.270	Left	2x5.3+1x5.0	15.6	Solid Slab	RCC	RCC	2.3
		Right	2x5.3+1x5.0	15.6	Solid Slab	RCC	RCC	2.3
7	430.0 Km. 11.870	Left	1x15.70	15.7	Solid Slab	Stone Masonry	Stone Masonry	12.1
		Right	2x7.8	15.6	RCC T Girder	RCC	RCC	1.1
8	437.3 Km. 12.670	Left	1x10.9	10	Solid Slab	Stone Masonry	Stone Masonry	12.1
		Right	2x5.0	11	Solid Slab	Stone Masonry	Stone Masonry	12.1
9	435.1 Km. 12.000	Left	1x13.0	13	RCC T Girder	RCC	RCC	1.1
		Right	2x6.0	12	Solid Slab	RCC	RCC	1.1
10	400.2 Km. 10.470	Left	1x8.0	8	RCC T Girder	RCC	RCC	10
		Right	4x3.0	8	Solid Slab	RCC	RCC	10



142



Sl. No.	Name of Location (km)	Road	Span Arrangement Expansion Joint to Expansion Joint (m)	Total Length (Front Face of Pier Width (m)	Type of Superstructure	Type of Substructure			Total Deck Width (m)
						Pier	Abutment	Width (m)	
15	Km 407.5 to 416.800	Left	1x7.9	7.9	Solid Slab	RCC	RCC	11	12.1
		Right	1x7.9	7.9	Solid Slab	RCC	RCC	11	12.1
16	Km 308 to Km 357.100	Left	1x6.7	6.7	Solid Slab	RCC	RCC	9	10
		Right	1x6.7	6.7	Solid Slab	RCC	RCC	9	10
17	Km 308.5 to 467.800	Left	1x8.7	8.7	Frame Type	RCC	RCC	6	10
		Right	1x8.7	8.7	Frame Type	RCC	RCC	6	10
18	Km 490.1 to 490.720	Left	1x10.8	10.8	RCC T Girder	RCC	RCC	11	12.1
		Right	1x5.6	10.8	Solid Slab	Stone Masonry	Stone Masonry	11	12.1

8. Minor Bridges (Service Road Bridges)

The site includes the following minor bridges on service road:

Sl. No.	Name of Location (km)	Span Arrangement Expansion Joint to Expansion Joint (m)	Total Length (Front Face of Pier Width (m)	Type of Superstructure	Type of Substructure Type		Carriageway Width (m)	Total Deck Width (m)
					Pier	Abutment		

c) Box/Slab Culvert on Irrigation Channel

Box/Slab Culvert on Irrigation Channel				
Sl. No.	Chainage (km)	Road/CD No.	CD Type	Size (m)
1	453.851	NE-1	1/Slab	1 x 3.2 x 2
2	452.53	NE-9	1/Slab	2 x 5.3 x 1.7
3	457.131	NE-5	Slab	1 x 3.0 x 1.5
4	463.549	NE-3	1/Slab	1 x 5.5 x 1.5
5	478.604	NE-8	1/Slab	1 x 4.8 x 1.2

d) Pipe Culvert on Irrigation Channel

Pipe Culvert on Irrigation Channel				
Sl. No.	Chainage (km)	Road/CD No.	CD Type	Size (m)
1	438.075	NE-8	2 Pipe Culvert	2 x 0.9
2	441.117	NE-8	1 Pipe Culvert	1 x 0.9
3	458.82	NE-8	2 Pipe Culvert	2 x 0.9
4	461.85	NE-8	1 Pipe Culvert	1 x 0.9
5	472.341	NE-8	1 Pipe Culvert	1 x 0.9
6	474.001	NE-8	1 Pipe Culvert	1 x 1.2
7	476.31	NE-8	1 Pipe Culvert	1 x 0.9

10 Culverts

The bid includes the following Culverts

Box/Slab culverts

Sl. No.	Chainage (km)	Road/CD No.	CD Type	Size (m)
Box/Slab Culvert				
1	405.223	NE-2	1/Slab	1 x 5.9 x 1
2	407.689	NE-8	1/Slab	1 x 4.0 x 3
3	411.613	NE-5	1/Slab	1 x 3.5 x 2
4	415.840	NE-5	1/Slab	1 x 3.6 x 1.5
5	416.783	NE-5	1/Slab	1 x 3.2 x 1.7
6	417.717	NE-3	1/Slab	1 x 3.0 x 1
7	422.079	NE-8	1/Slab	1 x 5.6 x 1.9
8	425.559	NE-5	1/Slab	1 x 5.8 x 2
9	430.000	NE-9	1/Slab	1 x 5.5 x 3.5
10	438.73	NE-8	1/Slab	1 x 4.2 x 1
11	438.770	NE-8	1/Slab	1 x 3.7 x 1
12	438.934	NE-8	1/Slab	1 x 1.5 x 3
13	466.156	NE-6	1/Slab	1 x 4.5 x 5
14	466.252	NE-8	1/Slab	1 x 3.1
15	466.952	NE-8	1/Slab	1 x 3.0 x 5.7
16	469.881	NE-6	2/Slab	2 x 4.0 x 1.5
17	474.960	NE-8	1/Slab	1 x 4.2 x 3

including 17 Boxes/Slab Culverts of Km 404.20 to 474.41 on NH-20 in the West of the Project (2.0 Km) A-13

And



Pipe culverts

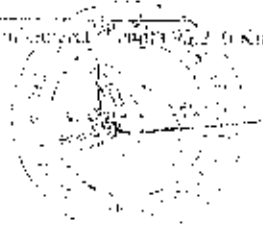
Sl. No.	Chainage (km)	Road CD No.	CD Type	Size (mm)
Pipe Culvert				
1	400.117	NH 8	3 Pipe Culvert	3 x 0.9
2	400.371	NH 8	1 Pipe Culvert	3 x 0.9
3	401.553	NH 8	2 Pipe Culvert	2 x 0.9
4	404.503	NH 8	1 Pipe Culvert	1 x 0.9
5	406.817	NH 8	4 Pipe Culvert	1 x 0.9
6	408.295	NH 8	1 Pipe Culvert	1 x 0.9
7	408.748	NH 8	1 Pipe Culvert	1 x 0.9
8	409.889	NH 8	2 Pipe Culvert	2 x 0.9
9	417.905	NH 8	3 Pipe Culvert	2 x 0.9
10	418.747	NH 8	4 Pipe Culvert	4 x 0.9
11	419.744	NH 8	5 Pipe Culvert	5 x 0.9
12	414.286	NH 8	3 Pipe Culvert	3 x 0.9
13	411.809	NH 8	2 Pipe Culvert	2 x 0.9
14	413.560	NH 8	3 Pipe Culvert	3 x 0.9
15	420.293	NH 8	2 Pipe Culvert	2 x 0.9
16	421.150	NH 8	2 Pipe Culvert	2 x 0.9
17	423.450	NH 8	2 Pipe Culvert	2 x 0.9
18	424.340	NH 8	3 Pipe Culvert	3 x 0.9
19	425.170	NH 8	2 Pipe Culvert	2 x 0.9
20	426.075	NH 8	2 Pipe Culvert	2 x 0.9
21	437.153	NH 8	2 Pipe Culvert	2 x 0.9
22	437.835	NH 8	1 Pipe Culvert	1 x 0.9
23	439.170	NH 8	3 Pipe Culvert	3 x 0.9
24	431.280	NH 8	1 Pipe Culvert	1 x 0.9
25	433.075	NH 8	2 Pipe Culvert	2 x 0.9
26	433.355	NH 8	1 Pipe Culvert	2 x 0.9
27	434.715	NH 8	2 Pipe Culvert	2 x 0.9
28	435.355	NH 8	2 Pipe Culvert	2 x 0.9
29	436.332	NH 8	1 Pipe Culvert	1 x 0.9
30	437.483	NH 8	2 Pipe Culvert	2 x 0.9
31	437.945	NH 8	2 Pipe Culvert	2 x 0.9
32	438.508	NH 8	2 Pipe Culvert	2 x 0.9
33	439.025	NH 8	2 Pipe Culvert	2 x 0.9
34	439.225	NH 8	1 Pipe Culvert	1 x 0.9
35	439.775	NH 8	1 Pipe Culvert	2 x 0.9
36	442.065	NH 8	3 Pipe Culvert	3 x 0.9
37	442.895	NH 8	1 Pipe Culvert	1 x 0.9
38	447.340	NH 8	1 Pipe Culvert	1 x 0.9
39	447.910	NH 8	4 Pipe Culvert	4 x 0.9
40	447.469	NH 8	4 Pipe Culvert	4 x 0.9
41	448.770	NH 8	4 Pipe Culvert	1 x 0.9
42	448.070	NH 8	2 Pipe Culvert	2 x 0.9
43	447.775	NH 8	2 Pipe Culvert	2 x 0.9
44	449.290	NH 8	2 Pipe Culvert	2 x 0.9
45	451.060	NH 8	2 Pipe Culvert	2 x 0.9



Sl. No.	Chainage (km)	Road/CD No.	CD Type	Size (m)
46	451.917	NH 8	1 Pipe Culvert	1 x 0.9
47	452.030	NH 8	1 Pipe Culvert	1 x 0.9
48	453.973	NH 8	2 Pipe Culvert	2 x 0.9
49	454.673	NH 8	1 Pipe Culvert	1 x 0.9
50	455.086	NH 8	1 Pipe Culvert	1 x 0.9
51	455.296	NH 8	2 Pipe Culvert	2 x 0.9
52	455.833	NH 8	2 Pipe Culvert	2 x 0.9
53	456.202	NH 8	1 Pipe Culvert	1 x 0.9
54	456.425	NH 8	2 Pipe Culvert	2 x 0.9
55	458.317	NH 8	2 Pipe Culvert	2 x 0.9
56	458.645	NH 8	2 Pipe Culvert	2 x 0.9
57	459.103	NH 8	1 Pipe Culvert	1 x 0.9
58	459.975	NH 8	2 Pipe Culvert	2 x 0.9
59	460.489	NH 8	1 Pipe Culvert	1 x 0.9
60	460.814	NH 8	2 Pipe Culvert	2 x 0.9
61	460.912	NH 8	1 Pipe Culvert	1 x 0.9
62	461.819	NH 8	2 Pipe Culvert	2 x 0.9
63	462.018	NH 8	2 Pipe Culvert	2 x 0.9
64	462.736	NH 8	2 Pipe Culvert	2 x 0.9
65	463.262	NH 8	2 Pipe Culvert	2 x 0.9
66	463.122	NH 8	2 Pipe Culvert	2 x 0.9
67	463.193	NH 8	2 Pipe Culvert	2 x 0.9
68	464.500	NH 8	2 Pipe Culvert	2 x 0.9
69	465.600	NH 8	2 Pipe Culvert	2 x 0.9
70	469.207	NH 8	2 Pipe Culvert	2 x 0.9
71	469.661	NH 8	2 Pipe Culvert	2 x 0.9
72	470.123	NH 8	1 Pipe Culvert	1 x 1.2
73	470.441	NH 8	1 Pipe Culvert	1 x 0.9
74	471.087	NH 8	1 Pipe Culvert	1 x 0.9
75	471.275	NH 8	1 Pipe Culvert	Left 1 x 0.60 Right 1 x 0.90
76	472.222	NH 8	4 Pipe Culvert	4 x 0.9
77	472.854	NH 8	2 Pipe Culvert	2 x 0.9
78	473.720	NH 8	2 Pipe Culvert	2 x 0.9
79	474.356	NH 8	4 Pipe Culvert	4 x 0.9
80	474.623	NH 8	2 Pipe Culvert	2 x 0.9
81	474.970	NH 8	2 Pipe Culvert	2 x 0.9
82	475.947	NH 8	1 Pipe Culvert	1 x 0.9
83	476.218	NH 8	4 Pipe Culvert	4 x 0.9
84	477.900	NH 8	4 Pipe Culvert	4 x 0.9
85	478.176	NH 8	1 Pipe Culvert	1 x 0.9
86	481.103	NH 8	2 Pipe Culvert	2 x 0.9
87	481.399	NH 8	2 Pipe Culvert	2 x 0.9
88	482.292	NH 8	1 Pipe Culvert	1 x 0.9
89	482.631	NH 8	1 Pipe Culvert	1 x 0.9
90	483.551	NH 8	2 Pipe Culvert	2 x 0.6
91	484.012	NH 8	3 Pipe Culvert	3 x 0.6
92	484.375	NH 8	2 Pipe Culvert	2 x 0.9

Sealing of this envelope at En-40, 2% above the bid price shall be done by the bidder at the time of submission of the bid.

And



Sl. No.	Chainage (km)	Road CD No.	CD Type	Size (mm)
93	483.743	NH 8	1 Pipe Culvert	1 x 0.9
94	485.737	NH 8	2 Pipe Culvert	2 x 0.9
95	488.190	NH 8	2 Pipe Culvert	2 x 0.9
96	489.643	NH 8	2 Pipe Culvert	2 x 0.9
97	490.573	NH 8	2 Pipe Culvert	2 x 0.9
98	491.245	NH 8	3 Pipe Culvert	1 x 0.9
99	492.034	NH 8	4 Pipe Culvert	4 x 0.9
100	492.863	NH 8	2 Pipe Culvert	2 x 0.9
101	494.177	NH 8	4 Pipe Culvert	4 x 0.9

11 Side Drain

The site includes the following Side Drain:

Sl. No.	Road	Location		Side		Length (Km)	Village/Town Name
		From	To	LHS	RHS		
1.	NH 8	415.350	415.600	LHS		0.25	Toll Plaza
2.	NH 8	417.550	418.600		RHS	0.25	Toll Plaza
3.	NH 8	423.780	424.150	LHS		0.15	Rajendra
4.	NH 8	423.600	424.150		RHS	0.15	Rajendra
5.	NH 8	431.500	432.000	LHS		0.50	Gambel
6.	NH 8	431.500	433.600		RHS	1.50	Gambel
7.	NH 8	433.175	434.250	LHS		0.15	Hiranagar
8.	NH 8	433.175	433.820		RHS	0.60	Hiranagar
9.	NH 8	437.250	438.125		RHS	0.90	Hiranagar
10.	NH 8	439.700	460.150	LHS		1.45	Sabai
11.	NH 8	459.000	460.450		RHS	1.45	Sabai
12.	NH 8	466.600	468.850	LHS		2.26	Prantij
13.	NH 8	466.600	468.550		RHS	2.26	Prantij
14.	NH 8	471.550	472.100	LHS		0.25	Toll Plaza
15.	NH 8	471.550	472.100		RHS	0.25	Toll Plaza
16.	NH 8	473.600	475.340	LHS		0.74	Tajpur
17.	NH 8	474.600	475.340		RHS	0.74	Tajpur
18.	NH 8	480.750	481.200	LHS		0.45	Chandran
19.	NH 8	480.750	481.200		RHS	0.45	Chandran
20.	NH 8	484.300	485.300	LHS		1.00	Cholela
21.	NH 8	484.300	485.300		RHS	1.00	Cholela
22.	NH 8	490.030	494.210	LHS		1.38	Cholela
23.	NH 8	493.650	494.210		RHS	1.38	Cholela
Total Length						24.29	

12 Toll Plaza

Mainline toll plaza location:

1. Km. 417.500 at Mantola on NH 8
2. Km. 472.550 at Rajpur on NH 8



13 Bus Bays/ Bus Shelters

The site includes the following Bus Bays/ Bus Shelters:

Sl. No.	Locations/ Chainage (km)	Road	Side
1	391.000 to 391.100	NH 8	Right
2	401.300 to 401.500	NH 8	Left
3	409.900 to 409.998	NH 8	Right
4	408.950 to 408.995	NH 8	Left
5	409.00 to 409.100	NH 8	Both
6	410.200 to 410.400	NH 8	Right
7	410.200 to 410.400	NH 8	Left
8	412.000 to 412.400	NH 8	Left
9	412.500 to 412.400	NH 8	Right
10	418.00 to 418.300	NH 8	Left
11	420.700 to 420.800	NH 8	Right
12	423.700 to 423.900	NH 8	Left
13	431.800 to 431.900	NH 8	Right
14	431.800 to 431.900	NH 8	Left
15	437.000 to 437.200	NH 8	Right
16	451.000 to 451.550	NH 8	Left
17	451.700 to 451.800	NH 8	Right
18	451.700 to 451.800	NH 8	Right
19	455.000 to 455.200	NH 8	Left
20	456.750 to 456.800	NH 8	Left
21	461.800 to 462.000	NH 8	Right
22	466.850 to 467.050	NH 8	Left
23	471.800 to 473.000	NH 8	Right
24	4740 to 474.500	NH 8	Left
25	475.500 to 475.600	NH 8	Right
26	476.200 to 476.750	NH 8	Left
27	478.500 to 478.600	NH 8	Right
28	487.500 to 487.800	NH 8	Right
29	487.500 to 487.800	NH 8	Left
30	490.600 to 490.700	NH 8	Right
31	496.600 to 496.750	NH 8	Left

14 Truck Lay Bys

The site includes the following Truck Lay Bys:

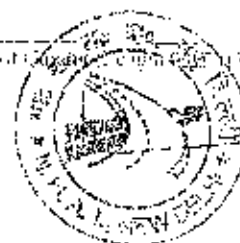
Sl. No.	Locations	Road	Side
		NH	

15 Permanent Bridge, Repairs or Temporary Cost Rs. 50 Crores: Nil.

16 Railway Level Crossing: Nil



11/10/20



17 Urban Sections

The size includes the following urban sections:

Sl. No.	Road	Locations		Length (Km)	Village Name
		From (Km)	To (Km)		
1	NH-8	409.90	411.10	0.20	Goindhia
2	NH-8	420.00	421.20	1.20	Jainpuram
3	NH-8	422.00	423.81	1.21	Rajgudi
4	NH-8	429.25	429.60	0.35	Shraona
5	NH-8	431.25	432.65	1.40	Gumbhal
6	NH-8	434.40	434.60	0.20	Karampur
7	NH-8	437.50	438.20	0.70	Gumali
8	NH-8	442.65	443.10	0.45	Karsani
9	NH-8	443.10	448.00	5.90	Bhimnagar
10	NH-8	449.00	449.20	0.20	Phuldi
11	NH-8	450.60	451.00	0.40	Berwa Rural
12	NH-8	451.00	451.75	0.75	Hajipur
13	NH-8	454.85	455.30	0.45	Dahur
14	NH-8	458.55	460.20	1.65	Sahel
15	NH-8	463.17	465.25	2.08	Akshar
16	NH-8	466.00	467.00	1.00	Phandi
17	NH-8	467.40	468.75	1.35	Saradpur
18	NH-8	474.20	475.20	1.00	Talwar
19	NH-8	477.25	478.35	0.90	Veroli
20	NH-8	480.35	481.30	0.95	Chandpur
21	NH-8	483.91	485.35	1.44	Chhila
22	NH-8	490.10	490.38	0.28	Dhama
23	NH-8	493.50	495.75	2.25	Mahindpur
24	NH-8	494.00	494.41	0.41	Chiloda
Total Length				22.50	

18 Service Roads

The size includes the following Service Roads:

Existing berber Road									
Sl. No.	Road	Location		Sides		Width (m)		Length (Km)	Village/Town Name
		From	To	LHS	RHS	LHS	RHS		
2	NH-8	422.000	423.150	1.15		7		1.15	Bajguda
	NH-8	423.000	424.150		2.15		7	1.15	Bajguda
3	NH-8	431.500	433.000	1.50			7	1.50	Chandi
4	NH-8	437.500	438.900		1.40		7	1.40	Chandi
5	NH-8	443.125	443.285	1.16		7		1.16	Hirpur Nagar
6	NH-8	447.125	448.825		1.70		7	1.70	Bhimnagar
7	NH-8	447.225	448.725		1.50		7	1.50	Bhimnagar
8	NH-8	459.000	459.450	1.45		7		1.45	Sahel
9	NH-8	459.500	460.450		0.95		7	0.95	Sahel



Existing Service Road									
Sl. No.	Road	Location		Sides		Width (m)		Length (Km)	Village/Town Name
		From	To	LHS	RHS	LHS	RHS		
10	NH 8	466.600	468.860	LHS		7		2.26	Panaji
11	NH 8	466.600	468.860		RHS		7	2.26	Panaji
12	NH 8	474.600	475.340	LHS		7		0.74	Tajpur
13	NH 8	474.600	475.340		RHS		7	0.74	Tajpur
14	NH 8	480.500	481.200	LHS		7		0.70	Chondrala
15	NH 8	480.500	481.200		RHS		7	0.70	Chondrala
16	NH 8	481.500	483.360	LHS		7		1.86	Chondra
17	NH 8	484.300	485.360		RHS		7	1.06	Chondra
18	NH 8	493.000	494.000	LHS		7		1.00	Chondra
19	NH 8	493.000	494.000		RHS		7	1.00	Chondra
Total Length								33.69	

19 Concrete Roads

The site includes the following Concrete Roads:

Sl. No.	Road	Locations		Sides
		From	To	
		Nil		

20 At Grade Major Junctions

The site includes the following At-Grade Major Junctions:

Sl. No.	Existing Chaining (Km)	Design Chaining (Km)	Side		Type of Junction (Type)	Type of Road		Remarks (NH/SR/IDR/Village Road)
			LHS	RHS		LHS	RHS	
1	420.670	466.855	Mandla	Pipli chandranagar	T	BT	BT	SH-59/MDR
2	432.463	478.200	Baranali	Gupeshwar	T	BT	-	SH-143
3	432.463	478.245	Gandhar	Chiloda	-	BT	BT	SH-143
4	435.180	491.615	Ranaga	Baranagar	-	BT	BT	SH-115
5	443.910	493.185	-	Ambedkar	-	-	BT	SH-267
6	451.670	496.815	Gulad	-	T	BT	-	SH-237
7	466.690	512.385	Peradi	Prasadi	T	BT	BT	SH-126
8	468.125	514.310	Peradi	Ambedkar	T	BT	BT	SH-128
9	478.415	521.400	Arden	-	T	BT	-	SH-132
10	485.330	521.515	Durgam	Prasadi	-	BT	BT	SH-132

At-Grade Major Intersections

Sl. No.	Existing Chaining (Km)	Design Chaining (Km)	Side		Type of Intersection (Type)	Type of Road		Remarks (NH/SR/IDR/Village Road)
			LHS	RHS		LHS	RHS	
1	501.970	508.150	Samalpur	Narain Sahas	-	BT	BT	Village Road
2	502.910	508.145	-	Narain	-	-	BT	Village Road
3	505.650	510.200	-	Narain	-	-	BT	Village Road

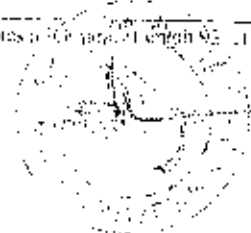
See Location of Existing and Proposed Roads in Km 300.71 to 504.10 on NH-14 in the Site Plan at Page No. 32, 33 & 34.



Sl. No.	Existing Chainage (Kms)	Design Chainage (Kms)	Side		Type of Junction (L/R/+)	Type of Road		Remarks (NH/SH/MR/Village Road)
			LHS	RHS		LHS	RHS	
1.	405.465	406.650	Bank area	Motamadra	-	FR	BT	Village Road
2.	406.350	411.445	Field	Nandamada	-	BT	BT	Village Road
3.	408.200	431.395	Field	-	-	BT	-	Village Road
4.	408.070	431.355	-	Napda	-	-	BT	Village Road
5.	408.995	453.175	Napda Kanaga	Field	-	BT	BT	Village Road
6.	407.240	451.405	-	Private Ownership Road	-	-	BT	Village Road
7.	408.175	451.355	Field	-	-	FR	BT	Village Road
8.	409.160	455.345	Nandamada	Khadoli	-	FR	BT	Village Road
9.	409.250	455.435	-	Field	-	-	FR	Field Track
10.	409.900	456.085	-	Field	-	-	FR	Field Track
11.	410.765	456.445	Chudador	Chudador	-	BT	FR	Field Track
12.	410.600	456.785	-	Field	-	-	FR	Field Track
13.	411.125	457.315	Field/Khadoli	-	-	FR	-	Field
14.	411.475	457.660	Field	Village	-	FR	CC	Village Road
15.	412.130	458.365	Samoli	-	-	BT	-	Village Road
16.	412.600	458.785	Samoli Village	Vasavda Kanaga	+	FR	BT	Village Road
17.	415.260	463.445	Vasavda	-	-	BT	-	Village Road
18.	417.215	465.365	Chabresan	Chabresan	-	BT	BT	Village Road
19.	417.715	465.860	Chabresan	-	-	FR	-	Village Road
20.	418.125	466.310	Field	-	-	BT	-	Village Road
21.	419.235	466.415	Field	Chabresan Kanaga	-	FR	BT	Village Road
22.	419.370	467.255	-	Sahyog Khatyogin (Tram RHS)	-	-	BT	Village Road
23.	421.315	467.505	Field	-	-	BT	BT	Village Road
24.	422.600	468.785	Field	Field	+	FR	FR	Village Road
25.	422.200	466.385	Field	-	-	BT	-	Village Road
26.	423.370	469.495	Chabresan	Nagadi	-	BT	BT	Village Road
27.	421.635	470.620	-	Jhangadi	-	-	BT	Village Road
28.	421.970	471.155	Village	-	-	CC	-	Village Road
29.	426.570	472.625	Nawalpur	-	-	BT	-	Village Road
30.	426.300	473.985	Nawalpur	Nawalpur	-	FR	CC	Village Road
31.	428.200	474.560	Field	-	-	FR	-	Village Road
32.	430.360	474.845	-	Chabresan	-	-	BT	Village Road
33.	430.690	476.785	Field	Nawalpur	+	FR	BT	Village Road
34.	431.585	477.770	Khatyogin	-	-	BT	-	Village Road
35.	432.170	479.535	-	Khatyogin	-	-	FR	Village Road
36.	433.660	479.755	Field	Nawalpur	-	FR	FR	Field Track
37.	434.770	480.655	-	Chabresan	+	-	BT	Village Road
38.	435.750	481.635	Khatyogin	-	-	BT	-	Village Road
39.	435.150	481.235	Khatyogin	-	-	FR	-	Village Road
40.	435.535	481.575	-	Chabresan	-	-	BT	Village Road

Sl. No.	Existing Chainage (Km)	Design Chainage (Km)	Side		Type of Junction (T/Y/J)	Type of Road		Remarks (N/1 SH/OTHER Village Road)
			LHS	RHS		LHS	RHS	
14.	137.548	443.775	Vareol	-	-	BT	-	Village Road
15.	437.864	181.033	-	Gundi	-	-	BT	Village Road
16.	440.189	185.575	Agwal	Berana	-	BT	BT	Village Road
17.	440.425	185.665	Agwal	Berana	-	ER	ER	Gravel Track
18.	442.710	488.885	Hengra, Kaurana	Field	-	BT	ER	Village Road
19.	445.189	169.775	Khalari	Karwal	-	BT	BT	Village Road
20.	516.405	462.680	Chamragar town	Manaragar town	-	BT	BT	Town Road
21.	446.870	193.055	-	Thirumangur town	Y	-	BT	Town Road
22.	447.190	193.375	-	Thirumangur town	Y	-	BT	Town Road
23.	448.130	191.513	GHDC	-	-	BT	-	Town Road
24.	448.900	125.625	-	Field	-	-	ER	Village Road
25.	448.065	195.250	Field	Piprad	-	ER	BT	Town Road
26.	449.489	195.835	-	Shewamun	T	-	ER	Shewamun
27.	450.020	196.765	Piprad	-	T	-	CC	Village Road
28.	450.159	196.335	-	Field	Y	-	ER	Pid Track
29.	451.259	197.735	-	Holpur	T	-	BT	Village Road
30.	451.670	197.855	Manapur	-	T	ER	-	Village Road
31.	452.080	198.305	-	Holpur	T	-	ER	Village Road
32.	453.770	199.885	Manapur	-	T	BT	-	Village Road
33.	454.050	500.225	-	Barang	T	-	ER	Village Road
34.	455.290	501.765	Barang	-	Y	-	ER	Village Road
35.	455.359	501.535	Barang	Barang	-	BT	BT	Village Road
36.	456.890	503.665	Samsan	Samsan	-	BT	BT	Village Road
37.	557.725	571.910	-	Gora, Collage	T	-	ER	Village Road
38.	459.090	505.275	Samsan	Moyad	-	BT	BT	Village Road
39.	459.665	505.790	-	Saba	T	-	BT	Village Road
40.	460.440	506.025	-	Randpur	T	-	BT	Village Road
41.	461.050	505.835	-	Randpur	T	-	BT	Village Road
42.	462.055	509.110	Jangapur	Phidra	-	BT	BT	Village Road
43.	463.160	510.305	-	Kesarpur	Y	-	CC	Village Road
44.	464.225	510.810	Field	Jangapur	-	ER	CC	Village Road
45.	465.250	511.535	Bagla	-	Y	BT	-	Village Road
46.	466.850	513.275	-	Pichra	T	-	BT	Village Road
47.	466.920	513.105	Prandji	Prandji	-	BT	BT	Village Road
48.	467.260	513.645	Prandji	Prandji	-	BT	BT	Village Road
49.	467.405	513.585	-	Prandji	T	-	CC	Village Road
50.	467.975	514.110	-	Vagur	Y	-	BT	Village Road
51.	468.825	515.85	-	Gulapur	T	-	BT	Village Road
52.	469.045	515.270	Vagur	Kauru	-	BT	ER	Village Road
53.	470.225	515.405	-	Amalpur	Y	-	BT	Village Road
54.	469.985	516.775	Vagur	Sodolga	-	BT	BT	Gravel Track
55.	471.415	517.495	Vagur	-	-	BT	-	Village Road
56.	473.165	519.605	-	Gura	T	-	BT	Village Road

153

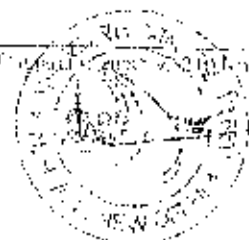


SCHEDULE - B*(See clause 2.1)***1 Development of the Project Roads**

Development of the Project Roads shall include construction of the Rajasthan/Gujarat Border to Ahmedabad Section from km 401.200 to km 494.410 near Ahmedabad. Raised median width has been proposed throughout. Facilities in the form of service roads, under/over passes and grade separators are considered at the reasonable intervals for local traffic including pedestrians' movements.

2 Six-Laning**2.1** Six-laning shall include construction of the Six-Lane Project Highway as described in Annexure I of this Schedule-B and Annex I of Schedule-C.

Six-laning of Rajasthan/Gujarat Border to Ahmedabad section of NH-8 from km 401.200 to km 494.410 near Ahmedabad shall be completed by the Concessionaire in conformity with the specifications and standards set forth in Annex-I of Schedule-L.



ANNEXURE-I**(Schedule -B)****Description of Six -Laning****1. Width of carriageway**

The Project Highway is part of the NH 8 from km 40+200 to km +94+410 near Ahmedabad.

The widening of existing two lane section to six lane will be concentric with 3 lanes of 3.5m width and 1.0m paved shoulder on each side and a median of 1.2m width with 0.5m wide edge strip on each side of the median.

2. Project Facilities

Project facilities shall be constructed in conformity with Annexure 4 of Schedule C.

3. Specifications and Standards

The Project highway shall be constructed in conformity with the Specifications and Standards specified in Annexure-2 of Schedule-D.

4. Other Features of Six laning**4.1 Typical Cross Sections**

The project highway shall be widened to six lane divided carriageway standard with paved shoulder and with or without service roads. The typical cross-sections of six lane highway are as indicated in Appendix B-I.

4.2 Strip Plan

The strip plan of project highway is given at Appendix B-II in pdf copy.

4.3 Bypasses & Realignment

Bypasses and realignment are proposed as indicated in Appendix B-III.

4.4 Service Roads

Service Roads shall be provided in lengths as indicated in Appendix B-IV.

4.5 Proposed Right of Way

The Details of the Proposed ROW are given in Appendix B-V.

4.6 At Grade Intersections/Junctions

Junctions shall be provided where major roads cross or join the project road. There is no at grade intersection with a major road as listed at Appendix B-VI. Minor junctions on service roads are listed at Appendix B-VII.

4.7 Grade Separated Structures/Interchanges

The Grade Separated Structures/Interchanges shall be provided as given at Appendix B-VIII.

4.8 Underpasses

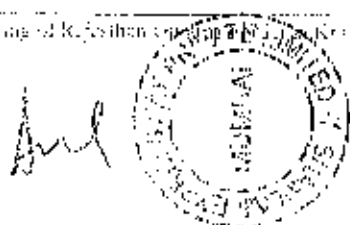
The details of vehicular underpasses are given at Appendix B-IX. The details of pedestrian underpasses are given at Appendix B-X.

4.9 Major Bridges

The details of Major bridges are indicated in Appendix B-XI.

4.10 Minor Bridges

The details of Minor bridges are indicated in Appendix B-XII.



4.11 Culverts

The details of Culverts as indicated in Appendix B-XIII.

4.12 Rail Over Bridges (ROBs)

The details of Rail Over Bridges as indicated in Appendix B-XIV.

- i) The proposed span arrangements of ROBs are tentative and subject to change as per availability of railway boundaries/requirement of the railways.
- ii) 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.
- iii) The ROBs shall be constructed and maintained by the concessionaire under supervision of the Railways.
- iv) All expenditure related to construction, maintenance and supervision of ROBs (except plan and estimate (P&E) charges) shall be borne by the Concessionaire.
- v) During construction, at the location of the existing level crossing, diversion road with level crossing (if any) shall be suitably provided by the concessionaire.

4.13 Pavement

4.13.1 The existing paved shoulder shall be retained and further widening shall be carried out in the adjacent pavement and the paved shoulder are of same type and crust of existing paved shoulder. The existing paved shoulder shall be removed and reconstructed if the pavement type or crust thickness is different from the adjacent carriage-way type.

4.13.2 The design of new pavement shall take into account of matching with drainage layer of existing pavement for efficient drainage. The difference between existing and proposed pavements shall suitably be filled with GSB layer as required so as to match the existing and proposed top line and level of pavement of pavement.

4.13.3 All strengthening requirements shall be carried out as per relevant IRC standards and Schedule D.

4.13.4 The reconstruction of existing pavement stretches as indicated in Appendix B-XV.

4.14 Slope Protection

The side slope shall be protected by using suitable slope protection system wherever required along the project road.

4.15 Retaining W.R./R.E. Wall

The Retaining W.R./R.E. wall shall be provided as indicated in Appendix B-XVI.

4.16 Concrete Pavement

Details of Concrete Pavement are as indicated in Appendix B-XVII.

[Signature]



Appendix B-1

Typical Cross Sections

Sl. No.	Road	Existing Chainage		Design Chainage		Length (km)	ICS Type
		From	To	From	To		
1.	NH-8	401.285	401.770	447.385	447.925	0.540	Type IV
2.	NH-8	401.770	402.170	447.925	448.355	0.430	IV-P with both side Service Road
3.	NH-8	402.170	402.030	448.355	450.245	1.890	Type IV
4.	NH-8	402.030	404.460	450.245	450.635	0.390	IV-P with both side Service Road
5.	NH-8	404.460	410.500	450.635	450.665	0.030	Type IV
6.	NH-8	410.500	411.100	450.665	457.385	6.720	IV-P with both side Service Road
7.	NH-8	411.100	411.250	457.385	457.535	0.150	Type V
8.	NH-8	411.250	411.750	457.535	457.975	0.440	IV-P with both side Service Road
9.	NH-8	411.750	412.000	457.975	459.185	1.210	Type IV
10.	NH-8	412.000	413.700	459.185	461.185	2.000	Type V
11.	NH-8	413.700	415.750	461.185	461.935	0.750	IV-LP-AZA
12.	NH-8	415.750	417.300	461.935	463.385	1.450	Type V
13.	NH-8	417.300	417.925	463.385	463.110	0.275	Type IV
14.	NH-9	417.925	418.325	463.110	464.510	0.400	IV-P with both side Service Road
15.	NH-8	418.325	420.235	464.510	466.120	1.610	Type V
16.	NH-9	420.235	421.065	466.120	467.250	0.330	IV-P with both side Service Road
17.	NH-9	421.065	421.300	467.250	467.185	0.065	Type IV
18.	NH-8	421.300	422.520	467.185	468.795	1.610	Type V
19.	NH-8	422.520	424.360	468.795	469.185	0.390	Type IV
20.	NH-8	424.360	423.500	469.185	469.785	0.600	IV-P with both side Service Road
21.	NH-8	423.500	426.190	469.785	472.285	2.500	Type IV
22.	NH-8	426.190	426.590	472.285	472.425	0.140	Type V
23.	NH-8	426.590	426.700	472.425	472.685	0.260	Type V
24.	NH-8	426.700	428.100	472.685	473.095	0.410	Type V
25.	NH-8	428.100	428.170	473.095	474.135	0.950	Type IV
26.	NH-8	428.170	428.570	474.135	474.775	0.640	IV-P with both side Service Road
27.	NH-8	428.570	429.750	474.775	475.375	0.600	Type V
28.	NH-8	429.750	430.150	475.375	476.285	0.910	Type V
29.	NH-8	430.150	431.200	476.285	477.185	0.900	Type V
30.	NH-8	431.200	431.990	477.185	478.225	0.950	Type IV
31.	NH-8	431.990	432.765	478.225	479.075	0.850	IV-P with both side Service Road
32.	NH-8	432.765	433.375	479.075	480.185	1.110	Type V
33.	NH-8	433.375	434.285	480.185	480.735	0.550	Type IV
34.	NH-8	434.285	435.390	480.735	481.715	0.980	IV-P with both side Service Road
35.	NH-8	435.390	437.500	481.715	482.185	0.470	Type V



Sl. No.	Road	Existing Chainage		Design Chainage		Length (Km)	TCs Type
		From	To	From	To		
36	NH-8	137.290	137.960	482.685	484.385	0.200	Type IV
37	NH-8	137.930	138.000	481.985	481.785	0.060	Type IV
38	NH-8	438.510	439.500	184.765	485.685	0.990	Type V
39	NH-8	439.510	440.180	185.585	486.365	0.660	Type IV
40	NH-8	440.180	440.510	486.365	486.765	0.400	LVUP with both side Service Road
41	NH-8	440.510	443.000	486.765	490.185	2.420	Type IV
42	NH-8	443.000	443.190	486.185	485.585	0.190	LVUP with both side Service Road
43	NH-8	443.190	445.075	485.585	491.760	1.675	Type IV
44	NH-8	445.075	445.905	491.760	492.090	0.850	Flyover with both side Service Road
45	NH-8	445.905	446.555	492.090	494.710	0.650	Type I
46	NH-8	446.555	447.465	492.740	492.850	0.910	Flyover with both side Service Road
47	NH-8	447.465	447.715	493.550	493.960	0.250	Type I
48	NH-8	447.715	448.515	493.960	494.730	0.810	Flyover with both side Service Road
49	NH-8	448.515	450.185	494.730	496.370	1.640	Type VI
50	NH-8	450.185	451.015	496.370	497.500	0.830	Flyover with both side Service Road
51	NH-8	451.015	451.350	497.500	497.435	0.235	Type IV
52	NH-8	451.350	451.850	497.435	498.065	0.600	LVUP with both side Service Road
53	NH-8	451.850	451.900	498.065	497.685	0.650	Type IV
54	NH-8	451.900	451.960	498.685	500.085	0.080	Type IV
55	NH-8	451.960	455.130	500.085	501.315	1.250	Type IV
56	NH-8	455.130	455.550	501.315	501.715	0.400	LVUP with both side Service Road
57	NH-8	455.550	456.850	501.715	502.835	1.100	Type IV
58	NH-8	456.850	457.650	502.835	503.215	0.400	LVUP with both side Service Road
59	NH-8	457.650	458.750	503.235	504.975	1.740	Type IV
60	NH-8	458.750	459.300	504.975	505.570	0.600	LVUP with both side Service Road
61	NH-8	459.300	459.600	505.575	506.785	1.210	Type IV
62	NH-8	459.600	461.440	506.785	507.625	0.840	Type V
63	NH-8	461.440	461.840	507.625	508.035	0.410	Type V
64	NH-8	461.840	462.755	508.035	508.940	0.905	Type V
65	NH-8	462.755	463.175	508.940	509.340	0.400	LVUP with both side Service Road
66	NH-8	463.175	464.435	509.340	510.810	1.270	Type IV
67	NH-8	464.435	464.825	510.810	511.610	0.800	LVUP with both side Service Road
68	NH-8	464.825	465.940	511.610	512.155	0.545	Type IV
69	NH-8	465.940	466.365	512.155	512.220	0.065	ROB with both side Service Road
70	NH-8	466.365	468.015	512.220	513.050	0.830	Flyover with both side Service Road
71	NH-8	468.015	468.970	513.050	513.975	0.925	Type IV



Signature



Sl. No.	Road	Existing Chainage		Design Chainage		Length (Km)	TCS Type
		From	To	From	To		
72.	NH-8	467.880	468.400	513.585	514.585	0.960	L.V.P. with both side Service Road
73.	NH-8	468.400	469.850	514.585	515.935	0.430	Type IV
74.	NH-8	469.850	469.250	515.935	515.435	0.490	Type IV
75.	NH-8	469.250	470.860	515.435	517.685	2.250	Type V
76.	NH-8	470.860	472.400	517.685	518.585	0.900	TOLL PLAZA
77.	NH-8	472.400	472.960	518.585	519.545	0.960	Type IV
78.	NH-8	472.960	473.360	519.545	519.545	0.100	Type IV
79.	NH-8	473.360	474.460	519.545	520.645	1.100	Type IV
80.	NH-8	474.460	475.980	520.645	521.245	0.600	L.V.P. with both side Service Road
81.	NH-8	475.980	477.985	521.245	524.170	2.925	Type IV
82.	NH-8	477.985	478.815	524.170	525.000	0.830	Flyover with both side Service Road
83.	NH-8	478.815	479.220	525.000	525.405	0.405	Type IV
84.	NH-8	479.220	479.620	525.405	525.505	0.100	Type IV
85.	NH-8	479.620	480.990	525.505	527.085	1.580	Type IV
86.	NH-8	480.990	481.500	527.085	527.685	0.600	L.V.P. with both side Service Road
87.	NH-8	481.500	482.750	527.685	528.935	1.250	Type IV
88.	NH-8	482.750	483.150	528.935	529.235	0.300	Type IV
89.	NH-8	483.150	484.295	529.235	530.575	1.340	Type V
90.	NH-8	484.295	484.895	530.575	531.575	0.990	L.V.P. with both side Service Road
91.	NH-8	484.895	485.995	531.575	531.150	0.420	Type IV
92.	NH-8	485.995	485.795	531.150	531.980	0.830	Flyover with both side Service Road
93.	NH-8	485.795	487.450	531.980	533.535	1.555	Type V
94.	NH-8	487.450	487.850	533.535	534.035	0.500	L.V.P. with both side Service Road
95.	NH-8	487.850	489.260	534.035	535.445	1.410	Type IV
96.	NH-8	489.260	490.810	535.445	537.045	1.600	L.V.P. with both side Service Road
97.	NH-8	490.810	492.700	537.045	538.685	1.640	Type IV
98.	NH-8	492.700	493.100	538.685	539.285	0.600	L.V.P. with both side Service Road
99.	NH-8	493.100	494.110	539.285	540.595	1.310	Type V



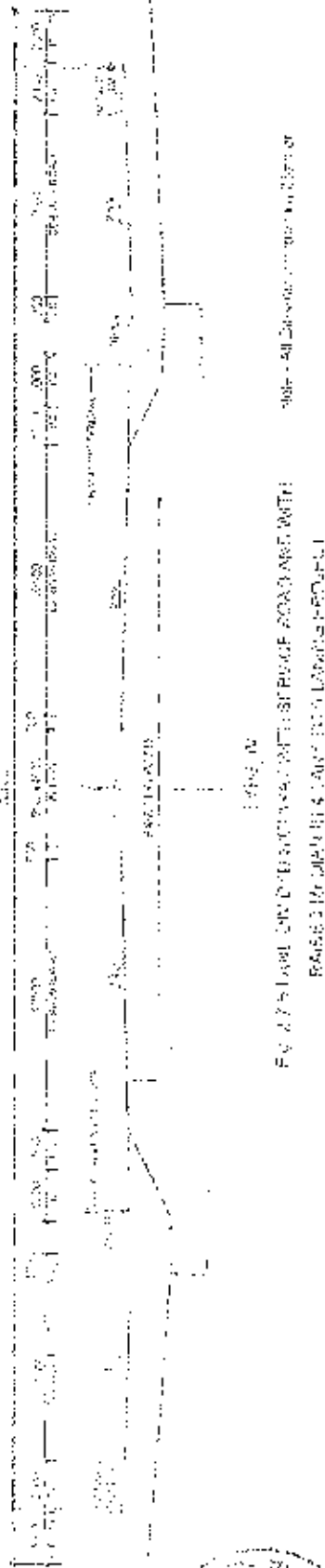
Handwritten signature





TYPE-4 TYPICAL CROSS SECTION FOR 4-LANE ROAD
WITH SERVICE ROAD IN BUILT-UP AREA

101



TYPE-4 TYPICAL CROSS SECTION FOR 4-LANE ROAD WITH
SERVICE ROAD IN BUILT-UP AREA



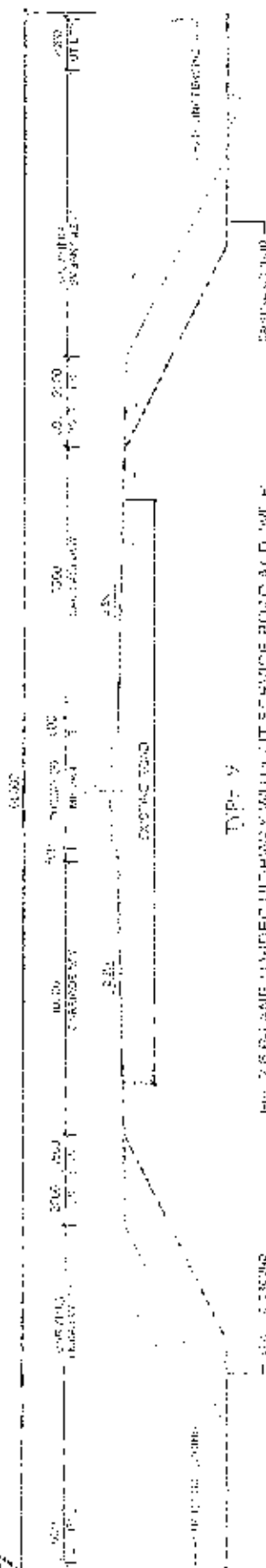


FIG. 2.6.8 LANE DIVIDED HIGHWAY WITH RISE SERVICE ROAD AND WITH
RAISED MEDIAN 6 LANE TO 6 LANE PROVISION



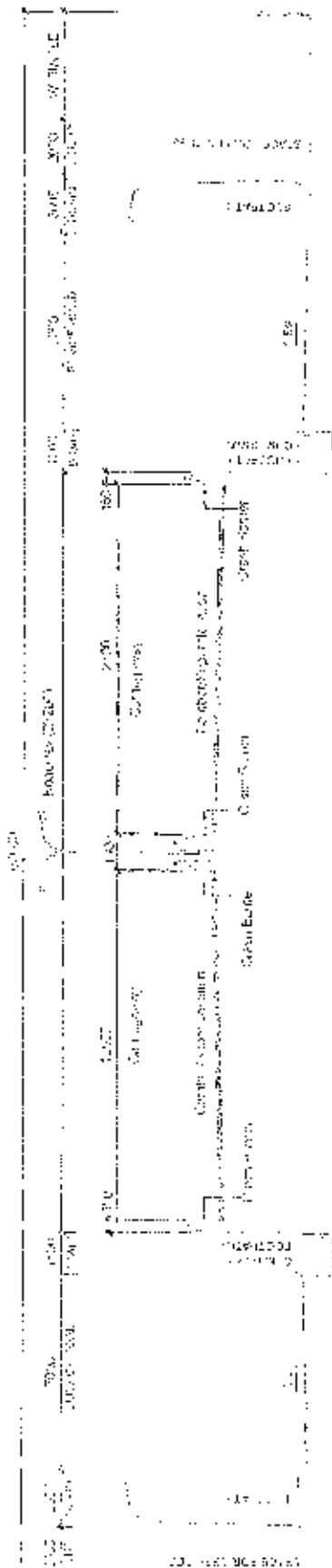
TYPE VI TYPICAL CROSS SECTION IN RURAL AREA
(RAISED MEDIAN WITH SERVICE ROAD AND WITH RISE SERVICE ROAD)

Note: All dimensions are in meters.

Six Lanes of Shambhaji to Motimadadia from km 401.200 to km 404.470 (Length 3.270 km) section of NH-8 in the State of Gujarat under NHP
Fig. 2.6.9 (Package-VI) on Hybrid Annuity Mode



Requiescat in Pace. Big Moments
Volume 40: Sketches



TYPE VI. TYPICAL QUANTIFICATION OF LABEL IN GRAFTED
CORRELATION COEFFICIENT FOR HUNTS, AR, ET

Not surprisingly, the following are good



Strip Plan

Appendix B-11

Strip Plan for the project roads are enclosed in CD.

Six Lanes of Sharda to Mombailadha from Km +31.700 to Km +91.414 (Length 93.210 Km)
Section of P.U-5 in the State of Gujarat under NHDP Phase-V (Package-VI) on Hybrid Annuity



Handwritten signature



Details of Bypasses / Realignment

Appendix B-III

Nil

THE NATIONAL HIGHWAYS AUTHORITY OF INDIA, NEW DELHI, IS INVITING TENDERS FOR THE CONSTRUCTION OF
Six Lanes of Shamla B to Morchhiadha From Km 89.200 to Km 99.410 (Length 10.210 Km)
Section of NH-3 to the State of Gujarat under NHDP Phase-V (Package VI) on Hybrid Annuity



B-11

105



Appendix B-IV

Details of Service Roads

Widening of existing service roads

S.No	Road	Existing Chainage(km)		Design Chainage(km)		Sides		Existing Width (m)	
		From	To	From	To	LHS	RHS	LHS	RHS
Nil									

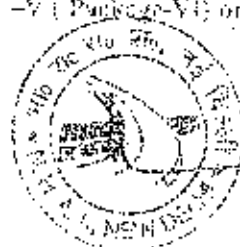
Provision of new service roads

Sl. No	Road	Existing Chainage		Design Chainage		Length (km)	Both Side Length (km)
		From	To	From	To		
1	NH-8	401.200	401.770	447.325	447.955	5.10	Both Side
2	NH-8	401.770	402.170	447.955	448.355	0.40	Both Side
3	NH-8	402.170	404.060	448.355	450.245	3.700	Both Side
4	NH-8	404.060	404.460	450.245	450.645	0.400	Both Side
5	NH-8	430.500	411.100	458.655	457.285	3.100	Both Side
6	NH-8	411.100	411.750	457.285	457.935	0.400	Both Side
7	NH-8	411.750	415.600	457.935	459.185	2.500	Both Side
8	NH-8	415.600	417.200	459.185	461.110	1.500	Both Side
9	NH-8	417.200	418.525	461.110	461.510	0.900	Both Side
10	NH-8	420.215	421.085	465.170	465.250	1.800	Both Side
11	NH-8	421.085	421.890	465.250	465.485	0.470	Both Side
12	NH-8	421.890	423.000	465.485	466.185	0.960	Both Side
13	NH-8	423.000	423.600	466.185	466.785	1.200	Both Side
14	NH-8	423.600	426.100	466.785	470.285	5.000	Both Side
15	NH-8	426.100	428.150	470.285	471.535	0.150	Both Side
16	NH-8	428.150	428.550	471.535	471.755	0.200	Both Side
17	NH-8	431.500	432.055	475.685	476.220	1.070	Both Side
18	NH-8	432.055	432.865	476.220	476.650	1.600	Both Side
19	NH-8	434.500	435.650	480.485	480.835	0.700	Both Side
20	NH-8	435.650	435.850	480.835	481.235	0.300	Both Side
21	NH-8	435.850	437.800	481.235	484.035	2.800	Both Side
22	NH-8	437.800	438.000	484.035	484.735	1.400	Both Side
23	NH-8	439.500	440.140	485.535	486.365	1.500	Both Side
24	NH-8	440.140	440.530	486.365	486.765	0.800	Both Side
25	NH-8	440.530	443.060	486.765	489.125	4.840	Both Side
26	NH-8	443.060	443.400	489.125	489.585	0.800	Both Side
27	NH-8	443.400	445.075	489.585	491.260	3.550	Both Side
28	NH-8	445.075	445.905	491.260	492.190	1.500	Both Side
29	NH-8	445.905	446.585	492.190	492.740	1.300	Both Side
30	NH-8	446.585	447.465	492.740	493.590	1.820	Both Side
31	NH-8	447.465	447.715	493.590	493.790	0.200	Both Side
32	NH-8	447.715	448.545	493.790	494.740	1.900	Both Side
33	NH-8	448.545	450.780	494.740	496.570	1.500	Both Side

Sl. No. 11: Widening of Service Road (NH-8) from km 401.200 to km 491.000 (Length 93.200 km) on the left side of NH-8 in the State of Gujarat under NHDP Phase-V (Package-VI) on Hybrid Annuity



Handwritten signature.

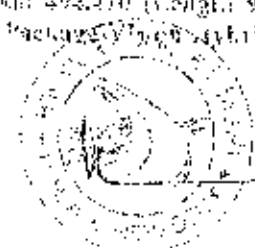


Sl. No.	Road	Existing Chainage		Design Chainage		Length (km)	Both Side Length (km)
		From	To	From	To		
34	NH-8	450.185	451.075	496.370	497.260	0.890	Both Side
35	NH-8	451.015	451.850	497.260	497.135	0.870	Both Side
36	NH-8	451.250	451.850	497.135	498.035	1.200	Both Side
37	NH-8	451.850	453.500	498.035	499.485	1.500	Both Side
38	NH-8	453.500	453.500	499.485	500.385	0.800	Both Side
39	NH-8	453.500	455.150	500.385	501.335	0.950	Both Side
40	NH-8	455.150	455.550	501.335	501.735	0.400	Both Side
41	NH-8	455.550	455.550	501.735	501.835	0.100	Both Side
42	NH-8	455.650	457.050	502.655	503.235	0.600	Both Side
43	NH-8	457.050	458.700	503.235	504.935	1.700	Both Side
44	NH-8	458.700	459.300	504.935	505.535	0.600	Both Side
45	NH-8	459.300	460.500	505.535	506.785	1.250	Both Side
46	NH-8	462.355	463.155	508.940	509.340	0.400	Both Side
47	NH-8	463.155	464.425	509.340	510.640	1.300	Both Side
48	NH-8	464.425	464.825	510.640	511.040	0.400	Both Side
49	NH-8	464.825	465.975	511.040	512.350	1.310	Both Side
50	NH-8	465.975	466.025	513.255	513.220	0.035	Both Side
51	NH-8	466.025	466.865	513.220	513.630	0.410	Both Side
52	NH-8	466.865	467.500	513.630	513.935	0.305	Both Side
53	NH-8	467.500	468.400	513.985	514.585	0.600	Both Side
54	NH-8	468.400	468.150	514.585	514.935	0.350	Both Side
55	NH-8	468.150	469.230	515.035	515.435	0.400	Both Side
56	NH-8	472.000	472.960	518.735	519.115	0.380	Both Side
57	NH-8	472.960	473.360	519.145	519.545	0.400	Both Side
58	NH-8	473.360	474.400	519.545	520.615	1.070	Both Side
59	NH-8	474.400	475.060	520.645	521.315	0.670	Both Side
60	NH-8	475.060	477.085	521.245	523.170	1.925	Both Side
61	NH-8	477.085	478.815	524.170	525.000	0.830	Both Side
62	NH-8	478.815	479.220	525.005	525.405	0.400	Both Side
63	NH-8	479.220	479.620	525.405	525.805	0.400	Both Side
64	NH-8	479.620	480.500	525.805	527.095	1.290	Both Side
65	NH-8	480.500	481.500	527.095	527.835	0.740	Both Side
66	NH-8	481.500	482.750	527.685	528.935	1.250	Both Side
67	NH-8	482.750	483.120	528.935	529.155	0.220	Both Side
68	NH-8	483.120	484.385	529.430	531.070	1.640	Both Side
69	NH-8	484.385	484.985	531.070	531.950	0.880	Both Side
70	NH-8	484.985	485.795	531.950	531.980	0.030	Both Side
71	NH-8	485.795	487.350	532.435	534.505	2.070	Both Side
72	NH-8	487.350	490.300	534.505	537.445	2.940	Both Side
73	NH-8	490.300	492.700	537.445	538.895	1.450	Both Side
74	NH-8	492.700	493.100	538.935	539.205	0.270	Both Side
75	NH-8	493.100	494.100	539.205	540.595	1.390	Both Side

30. During the Shrota Ji to Mata-Bidha from km 491.200 to km 494.010 (Length 2.810 km) section of NH-8 to the State of Gujarat under NHDP Phase - V (Bidding by the State)



Am



Total Length of Service Road: 117.06 Km

Note: Taper lengths for entry/exit of service roads shall be as per relevant standards.

Six Lining of Savorda to Moteshkhada from km 494.250 to km 494.410 (Length 160 km)
section of NH-8 in the State of Gujarat under NDDP Phase - V (Package - VI) on Hybrid Annuity



Handwritten signature

B-14

183



Appendix B-V

Details of Proposed Right of Way (ROW)

The minimum Proposed Right of way is 60m in the entire length of project road except at some urban stretches on NH-8, where it varies from 38.2m to 47.2m. Additional widths are proposed at many locations as per table below to accommodate improvement of junction geometrics, layout cut slopes, proposed truck lay-byes, toll Plaza and junction improvements.

SL No.	Road	Existing Chaisse		Design Chaisse		Length (Km)	ROW	Side	Remark
		From	To	From	To				
1	NH-8	400.760	404.340	447.385	450.525	3.14	60	-	-
2	NH-8	404.340	408.525	450.525	450.715	0.19	50	RHS	Bus Bay
3	NH-8	408.525	407.150	450.715	453.285	2.57	60	-	-
4	NH-8	407.150	407.160	453.285	454.645	0.36	75	LHS	Truck Lay Bye
5	NH-8	407.160	408.190	454.645	454.785	0.14	60	-	-
6	NH-8	408.190	408.220	454.785	454.575	0.19	90	LHS	Bus Bay
7	NH-8	408.220	410.300	454.575	456.485	2.91	60	-	-
8	NH-8	410.300	410.190	456.485	457.675	0.19	90	LHS	Bus Bay
9	NH-8	410.190	412.250	457.675	458.135	1.56	60	-	-
10	NH-8	412.250	412.610	458.135	458.795	0.66	75	LHS	Truck Lay Bye
11	NH-8	412.610	412.900	458.795	459.005	0.20	60	-	-
12	NH-8	412.900	412.090	459.005	459.275	0.19	90	LHS	Bus Bay
13	NH-8	412.090	415.150	459.275	461.435	2.16	60	-	-
14	NH-8	415.150	415.750	461.435	461.935	0.50	150	-	Toll Plaza
15	NH-8	415.750	417.000	461.935	461.385	1.25	60	-	-
16	NH-8	417.000	417.200	461.385	461.385	0.20	90	LHS	Bus Bay
17	NH-8	417.200	417.850	461.385	464.035	0.65	60	-	-
18	NH-8	417.850	418.210	464.035	464.195	0.16	75	LHS	Truck Lay Bye
19	NH-8	418.210	419.400	464.195	464.525	0.19	75	LHS	Bus Bay
20	NH-8	419.400	419.580	464.525	465.785	0.90	60	-	-
21	NH-8	419.580	419.490	465.785	465.575	0.19	90	LHS	Bus Bay
22	NH-8	419.490	423.150	465.575	474.655	8.96	60	-	-
23	NH-8	423.150	423.810	474.655	474.995	0.34	75	LHS	Truck Lay Bye
24	NH-8	423.810	424.300	474.995	476.185	1.19	60	-	-
25	NH-8	424.300	426.430	476.185	476.575	0.19	90	LHS	Bus Bay
26	NH-8	426.430	426.290	476.575	485.125	4.71	60	-	-
27	NH-8	426.290	425.120	485.125	485.285	0.16	90	LHS	Bus Bay
28	NH-8	425.120	425.670	485.285	487.385	2.10	60	-	-
29	NH-8	425.670	425.900	487.385	487.145	0.24	75	LHS	Truck Lay Bye
30	NH-8	425.900	447.195	487.145	492.090	6.95	60	-	-

Section of NH-8 from Saurashtra to Madhya Pradesh (from km 494.200 to km 494.410) (Length 93.70 km) section of NH-8 in the State of Gujarat under NHDP Phase-V (Package-V) of Hybrid Annuity



Signature

Page 15

158



Sl. No.	Road	Existing Chainage		Design Chainage		Length (Km)	ROW	Side	Remark
		From	To	From	To				
31	NH-8	445,005	446,355	493,050	493,710	0.65	17	-	-
32	NH-8	446,355	447,165	493,710	494,570	0.9	17	-	-
33	NH-8	447,165	447,630	494,570	494,785	0.21	47	-	-
34	NH-8	447,630	447,750	494,785	494,975	0.19	65	RHS	Bus Bay
35	NH-8	447,750	448,700	494,975	494,135	0.21	47	-	-
36	NH-8	448,700	449,310	494,135	495,995	1.81	47	-	-
37	NH-8	449,310	450,000	495,995	496,785	0.79	35	LHS	Bus Bay
38	NH-8	450,000	452,300	496,785	498,385	2.2	60	-	-
39	NH-8	452,300	452,190	498,385	498,715	0.33	75	RHS	Bus Bay
40	NH-8	452,190	453,400	498,715	499,525	1.01	60	-	-
41	NH-8	453,400	453,590	499,525	500,775	1.10	70	LHS	RHS
42	NH-8	453,590	453,800	500,775	499,985	0.21	60	-	-
43	NH-8	453,800	454,160	499,985	500,325	0.36	75	LHS	Truck Bay
44	NH-8	454,160	455,690	500,325	501,785	1.44	60	-	-
45	NH-8	455,690	455,790	501,785	501,975	0.19	75	RHS	Bus Bay
46	NH-8	455,790	456,800	501,975	502,785	0.81	60	-	-
47	NH-8	456,800	456,790	502,785	502,675	0.19	75	RHS	Bus Bay
48	NH-8	456,790	456,960	502,675	503,385	0.71	60	-	-
49	NH-8	456,960	457,090	503,385	503,295	0.19	75	LHS	Bus Bay
50	NH-8	457,090	458,270	503,295	504,175	1.15	60	-	-
51	NH-8	458,270	458,300	504,175	504,785	0.29	90	LHS	RHS
52	NH-8	458,300	459,310	504,785	505,695	0.91	60	-	-
53	NH-8	459,310	460,000	505,695	506,135	0.42	47	-	-
54	NH-8	460,000	460,350	506,135	506,535	0.35	45	-	-
55	NH-8	460,350	461,190	506,535	506,235	2.70	30	-	-
56	NH-8	461,190	461,390	506,235	506,475	0.19	90	LHS	RHS
57	NH-8	461,390	463,000	506,475	511,785	2.31	60	-	-
58	NH-8	463,000	463,790	511,785	511,975	0.19	75	LHS	Bus Bay
59	NH-8	463,790	464,230	511,975	512,475	1.40	60	-	-
60	NH-8	464,230	464,610	512,475	512,795	0.36	75	RHS	Truck Bay
61	NH-8	464,610	464,330	512,795	512,935	0.19	30	-	-
62	NH-8	464,330	464,390	512,935	513,485	0.54	700	-	Truck Bay
63	NH-8	464,390	464,500	513,485	513,585	0.23	60	-	-
64	NH-8	464,500	464,590	513,585	513,875	0.29	75	RHS	Bus Bay
65	NH-8	464,590	464,780	513,875	514,065	0.19	75	LHS	Bus Bay
66	NH-8	464,780	464,950	514,065	514,175	0.30	60	-	-
67	NH-8	464,950	464,950	514,175	514,425	0.30	75	-	-
68	NH-8	464,950	464,950	514,425	514,635	0.20	35	RHS	Bus Bay

Section of NH-8 from km 494,300 to km 494,410 (Length 0.110 Km)
Section of NH-8 in the State of Gujarat under NHGP Phase-V (Package-1), on Hybrid Annuity



Sl. No.	Road	Existing Chainage		Design Chainage		Length (Km)	ROW	Side		Remark
		From	To	From	To					
66	NH-8	475.450	475.580	521.535	521.715	0.18	60	-	-	-
70	NH-8	475.560	475.770	521.745	521.935	0.19	75	LHS	-	Bus Bay
71	NH-8	475.750	476.300	521.935	522.185	0.25	60	-	-	-
72	NH-8	476.300	476.360	522.185	522.315	0.13	75	-	RHS	Truck Lay By
73	NH-8	476.360	477.700	522.315	523.885	1.57	60	-	-	-
74	NH-8	477.700	477.900	523.885	524.085	0.20	75	-	RHS	Bus Bay
75	NH-8	477.900	478.030	524.085	525.175	1.09	60	-	-	-
76	NH-8	478.030	479.700	525.175	525.185	0.01	75	-	RHS	Truck Lay By
77	NH-8	479.700	479.860	525.185	525.685	0.50	75	LHS	-	Bus Bay
78	NH-8	479.860	481.500	525.685	527.785	2.10	60	-	-	-
79	NH-8	481.500	482.850	527.785	529.025	1.24	60	-	-	-
80	NH-8	482.850	483.200	529.025	533.345	4.32	60	-	-	-
81	NH-8	483.200	483.390	533.345	533.575	0.23	75	LHS	-	Bus Bay
82	NH-8	483.390	483.735	533.575	533.935	0.36	60	-	-	-
83	NH-8	483.735	487.700	533.935	534.125	0.19	75	-	RHS	Bus Bay
84	NH-8	487.700	491.100	534.125	537.385	3.26	60	-	-	-
85	NH-8	491.100	491.790	537.385	537.475	0.09	75	LHS	-	Bus Bay
86	NH-8	491.790	491.430	537.475	537.665	0.19	75	-	RHS	Bus Bay
87	NH-8	491.430	492.955	537.665	539.135	1.47	60	-	-	-
88	NH-8	492.955	493.135	539.135	541.265	2.13	60	-	-	-
89	NH-8	493.135	494.010	541.265	546.565	5.30	60	-	-	-

Six Lanes of Shriharipur to Marathahalli from km 461.300 to km 494.450 through 33.110 km section of G.O.S in the State of Karnataka (NHDP Phase - VI) (Contract B/50 Hybrid Annuity)



Appendix B-VI

At Grade Junctions

Junctions (On cross roads at the location of Flyovers/underpasses) to be improved

Sl. No.	Existing Chainage (Km)	Design Chainage (Km)	Proposed Structures	Side		Type of Junction (T/V/+)	Type of Road		Type of Junction (Major/Minor)	Remarks (NH/SH/MDR/Village Road)
				LHS	RHS		LHS	RHS		
1.	401.070	448.155	LVUP	Shantapur	Primary School	+	BT	BT	Minor	Village Road
2.	404.240	451.115	LVUP	Khera	Roadside	+	BT	BT	Minor	Village Road
3.	411.475	457.660	LVUP	Chod	Village	+	BT	BT	Minor	Village Road
4.	418.175	465.510	LVUP	Dava	-	+	BT	-	Minor	Village Road
5.	420.670	466.855	Flyover	Mohasa	Rajendrapur	+	BT	BT	Major	SH-50/MDR
6.	423.395	469.450	VUP	Burpo Ra	Rajgadh	-	BT	BT	Minor	Village Road
7.	428.310	474.515	LVUP	-	Maheshiya	-	-	BT	Minor	Village Road
8.	432.460	478.615	Flyover	Gantol	Phallada	-	BT	BT	Major	SH-43
9.	434.850	481.035	LVUP	Kanapur	-	-	BT	-	Minor	Village Road
10.	440.290	486.512	LVUP	Patana	Ayod	-	BT	BT	Minor	Village Road
11.	443.481	491.065	Flyover	Pharsa	Pharsa or Pharsa	-	BT	BT	Major	SH-115
12.	447.500	493.165	Flyover	-	Pharsa	-	-	BT	Major	SH-115
13.	448.155	493.815	Flyover	GIDC	-	+	BT	-	Minor	Village Road
14.	450.650	496.815	Flyover	Pharsa	-	+	BT	-	Major	SH-117
15.	451.250	497.735	VUP	-	Pharsa	+	-	BT	Minor	Village Road
16.	455.350	501.555	LVUP	Dalpur	Dalpur	+	BT	BT	Minor	Village Road
17.	456.340	503.065	LVUP	Sarwar	Harvad	+	BT	BT	Minor	Village Road
18.	459.000	505.275	VUP	Sarwar	Mahad	-	BT	BT	Minor	Village Road
19.	462.955	509.140	LVUP	Jesunpara	Pharsa	+	BT	BT	Minor	Village Road
20.	464.675	510.810	VUP	Pharsa	Jesunpara	-	BT	BT	Minor	Village Road
21.	466.800	512.795	Flyover	Pharsa	Pharsa	+	BT	BT	Minor	SH-138
22.	468.125	514.010	VUP	Pharsa	Pharsa	+	BT	BT	Minor	SH-138
23.	471.750	520.915	VUP	Kanad	Chod	-	BT	BT	Minor	Village Road
24.	473.615	521.060	Flyover	Pharsa	-	+	BT	-	Major	SH-138
25.	481.700	527.385	VUP	Chodan	Chodan	+	BT	BT	Minor	Village Road

Six Lanes of Sharda ji to Maheshwari from Km 401.200 to Km 494.410 (Length 93.210 Km) section of NH-8 in the State of Gujarat under NHDP Phase -VI Package VI on Hybrid Annuity Mode



Sl. No.	Existing Chainage (Km)	Design Chainage (Km)	Proposed Structures	Side		Type of Junction (T/J/T)	Type of Road		Type of Junction (Major/Minor)	Remarks (NH/SH/MDR/Village Road)
				LHS	RHS		LHS	RHS		
16.	484.535	530.770	VUP	Chhala	Chhala	-	BT	B1	Minor	Village Road
17.	485.380	531.855	Over-ccr	Beharra	Beharra	-	BT	B1	Major	SH-192
26.	487.525	532.810	L.VUP	Gyara	Barthi	-	BT	B1	Minor	Village Road
28.	490.515	535.730	VUP	Chowap	Dashida	-	BT	B1	Minor	Village Road
30.	492.900	539.085	L.VUP	Handhara LHS	Sindhi Bala	-	BT	B1	Minor	Village Road

Note: Junction Improvement below grade separator structures shall be done as per manual of specification.

1. The National Highways Authority of India (NHAI) is inviting bids for the construction and improvement of the section of NH-8 in the State of Gujarat under MOP Phase-V (Part A) (Village Road) (Priority).

2. The

3. The



Minor Junctions (on Service Road) to be improved

Sl. No.	Posting Chaining (Km)	Design Chaining (Km)	Side		Type of Junction (T/J/V)	Type of Road		Remarks (NH/MDR/Village Road)
			LHS	RHS		LHS	RHS	
1.	472.961	449.145	-	-	T	-	BT	Village Road
2.	473.080	449.265	-	-	T	-	ER	Village Road
3.	473.453	449.630	Jevokhera	Meravadi	-	ER	BT	Village Road
4.	473.670	451.795	Dandiya	-	T	BT	-	Village Road
5.	476.070	453.375	-	Mandla	T	-	BT	Village Road
6.	476.990	453.375	Nagadi/Saone	Field	-	BT	ER	Village Road
7.	477.300	453.465	-	Edwara Chimpang Road	T	-	BT	Village Road
8.	478.170	454.355	And	-	T	ER	BT	Village Road
9.	478.260	456.543	Gadhadar	Gadhadar	-	BT	ER	Field Track
10.	478.660	456.783	-	And	T	-	ER	Field Track
11.	478.180	458.365	Savadi	-	T	BT	-	Village Road
12.	478.600	458.795	Savadi Village	Vasavakumbha	-	ER	BT	Village Road
13.	478.200	461.445	Mandla	-	T	BT	-	Village Road
14.	477.280	463.465	Chandresari	Dav/Nad	-	BT	BT	Village Road
15.	477.775	463.960	Chandresari	-	T	ER	-	Village Road
16.	479.270	463.415	-	Gadhadar, Kumbha Sahyog	T	ER	BT	Village Road
17.	479.070	467.265	-	Kumbha Sahyog Trust Office	T	-	BT	Village Road
18.	479.315	467.360	Bilpur	-	T	-	BT	Village Road
19.	478.670	468.785	Field	Field	-	BT	ER	Village Road
20.	478.290	469.385	Bilpur Kumbha	-	T	BT	-	Village Road
21.	478.635	470.820	-	Javagadi	T	-	BT	Village Road
22.	478.970	471.155	Village	-	T	BT	-	Village Road
23.	478.800	473.985	Nandpur	Nandpur	-	ER	BT	Village Road
24.	478.760	474.385	Field	-	T	ER	-	Village Road
25.	478.585	477.770	Hosargum	-	T	BT	-	Village Road
26.	478.755	478.270	Hosargum/Savadi	-	T	BT	-	Shed
27.	478.870	479.085	-	Power House	T	-	ER	Village Road
28.	478.660	479.515	Vandol	Safapura	-	ER	BT	Shed
29.	478.770	480.953	-	Vandol	T	-	BT	Village Road
30.	478.100	481.285	Kumbha	-	T	BT	-	Village Road
31.	478.485	480.870	-	Chandresari	T	-	BT	Village Road
32.	478.715	481.725	Vandol	-	T	BT	-	Village Road
33.	477.770	481.685	Vandol	Chandresari	-	BT	BT	Village Road
34.	477.660	480.215	-	Chandresari	-	-	BT	Village Road
35.	478.070	486.665	Chandresari	Banaga	-	ER	BT	Chandresari
36.	478.770	488.895	Chandresari	Field	-	BT	BT	Village Road
37.	478.190	489.575	Chandresari	Kumbha	-	BT	BT	Village Road

SG Landing of Bhaer's p to Matadi-Pouhi, 6000 km 401,200 to km 134,100 (Length 93,210 km) regions of NH-1 in the State of Tjardar for NHCP. Place - Vq Package 57420 Hybrid Analysis

Sl. No.	Existing Chainage (Km)	Design Chainage (Km)	Side		Type of Junction (JY/J)	Type of Road		Remarks (NUSHA/MDR, Village Road)
			LHS	RHS		LHS	RHS	
28.	426.065	426.650	Hingurapur town	Hingurapur town	-	BT	BT	Town Road
29.	426.870	493.625	-	Hingurapur town	Y	-	BT	Town Road
30.	448.980	495.965	-	Field	F	-	LR	Village Road
31.	449.035	485.250	Field	Pipladi	-	PR	BT	Town Road
32.	449.450	487.635	-	Shivaram	-	-	PR	Shivaram
33.	450.020	496.205	Pipladi	-	F	-	CC	Village Road
34.	450.150	496.335	-	Field	Y	-	PR	Field Road
35.	451.670	497.855	Narayanpur	-	Y	SR	-	Village Road
36.	452.080	498.765	-	Holapur	-	-	CR	Village Road
37.	452.750	499.885	Narayanpur	-	-	BT	-	Village Road
38.	453.040	500.225	-	Factory	-	-	PR	Village Road
39.	455.280	501.545	Dalpur	-	Y	-	PR	Village Road
40.	457.775	503.910	-	Govt. College	-	-	PR	Village Road
41.	459.095	505.790	-	Saidi	Y	-	BT	Village Road
42.	460.440	506.675	-	Ranapur	Y	-	BT	Village Road
43.	461.650	507.835	-	Nasapur	-	-	BT	Village Road
44.	461.160	510.345	-	Kesaspur	Y	-	BT	Village Road
45.	465.350	511.555	Pogla	-	Y	BT	-	Village Road
46.	466.850	512.835	-	Phadi	-	-	BT	Village Road
47.	466.870	513.505	Prandh	Prandh	-	BT	BT	Village Road
48.	467.760	513.445	Prandh	Prandh	-	BT	BT	Village Road
49.	467.500	513.535	-	Prandh	Y	-	CC	Village Road
50.	467.975	514.210	-	Vangur	Y	-	BT	Village Road
51.	468.830	515.005	-	Galera	-	-	BT	Village Road
52.	469.730	515.505	-	Amrapur	Y	-	BT	Village Road
53.	469.990	516.775	Satpur	Satpur	-	BT	BT	Char Road
54.	471.710	517.895	Katpur	-	Y	BT	-	Village Road
55.	473.500	519.625	-	Village	Y	-	LR	Village Road
56.	473.960	520.345	Vadgaon	Chakla	-	BT	LR	Village Road
57.	475.590	521.685	Talpur Nig	-	F	BT	-	Village Road
58.	478.100	523.675	Vajra	Majra	-	CR	BT	Village Road
59.	478.590	523.985	Sakara	Majra	-	CR	CR	Char Road
60.	480.035	526.390	-	School	F	-	BT	School Road
61.	480.700	526.855	Chaurahi	-	-	PR	-	Village Road
62.	480.840	527.635	-	Chandwa	F	-	BT	Village Road
63.	480.775	527.970	-	Chaur	F	-	LR	Field Road
64.	482.035	530.380	Chandwa	-	F	PR	-	Field Road
65.	486.990	531.145	Chandwa	Chandwa	-	BT	BT	Village Road
66.	488.200	534.595	Chandwa	-	F	BT	-	Village Road
67.	488.735	534.410	-	Chandwa	F	-	BT	Village Road
68.	490.970	536.585	-	Govt. Lumber Plant	Y	-	CC	Char Road

Alignment of the proposed road is shown in the map attached herewith. The road is to be constructed on the left side of the main road from km 401.300 to km 491.110 (Length 89.810 km) and on the right side of the main road from km 491.110 to km 536.585 (Length 45.475 km).



Sl. No.	Existing Chainage (Km)	Design Chainage (Km)	Side		Type of Junction (T/Y/J)	Type of Road		Remarks (AHSR/MDR Village Road)
			LHS	RHS		LHS	RHS	
79.	493.995	538.250	-	Shoulder	Y	-	BY	Neelga Road
80.	493.615	559.805	Imperv. Meta	Siloli	+	LR	YR	N. Thane Road

Six Springs of Munda ji's Mandir located from km 401.200 to km 404.100 (Length 98.90 km) section of NH-8 in the town of Gajral under NHBP Phase - V (Faridkot/Vassahat) Punjab



Handwritten signature



Appendix B-VIII

A Details of Proposed Grade Separated Structure (if any) / Interchanges

Sl No.	Road	Existing Chainage (km)	Design Chainage (km)	No of Intersecting Road	Proposed Structural Configuration	Proposed Structure Type	Proposed Span	Total Width (m)
1.	NH-4	420.658	466.537	2	6 Lane Flyover	PSC T-Girder	1x30	2x13.4
2.	NH-8	413.150	478.595	2	6 Lane Flyover	PSC T-Girder	1x30	2x13.4
3.	NH-8	445.485	491.465	2	6 Lane Flyover	PSC T-Girder	1x30	2x13.4
4.	NH-8	447.010	493.195	1	6 Lane Flyover	PSC T-Girder	2x30	2x13.4
5.	NH-8	448.120	494.315	1	6 Lane Flyover	PSC T-Girder	1x30	2x13.4
6.	NH-8	450.600	496.785	1	6 Lane Flyover	PSC T-Girder	1x20	2x13.4
7.	NH-4	466.450	512.635	1	6 Lane Flyover	PSC T-Girder	1x30	2x13.4
8.	NH-8	478.405	524.730	1	6 Lane Flyover	PSC T-Girder	1x30	2x13.4
9.	NH-8	485.380	531.260	2	6 Lane Flyover	PSC T-Girder	1x30	2x13.4

Note: Opening of 5m x 2.5m shall be provided on both Road approaches for pedestrian movement. The appropriate location shall be decided in consultation with NHAI.

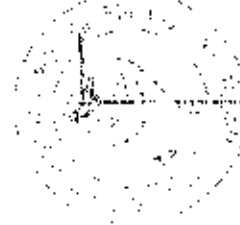
B Details of Proposed Trumpet Interchanges

Sl No.	Road	Existing Chainage (km)	Design Chainage (km)	No of Intersecting Road	Proposed Structural Configuration	Proposed Structure Type	Proposed Span	Total Width (m)
Nil								

C Renovation / Repair of Existing Elevated Structures

Sl No.	Road	Existing Chainage (km)	Design Chainage (km)	Proposed Structural Configuration	Structure Type	Span Arrangement (m)	Length (m)	Total Width (m)	Remarks
Nil									

REVISION OF THE PROJECT REPORT FOR THE PROPOSED HIGHWAY ALONG THE NATIONAL HIGHWAY 4 (NH-4) FROM KM 401.200 TO KM 491.479 (LENGTH 90.279 KM) SECTION OF NH-8 IN THE STATE OF GUJARAT UNDER NHAI Phase-VI Package-VI on Hybrid Annuity Mode



Appendix B-IX

A. Details of Proposed Vehicular Underpasses

Sl. No.	Road	Existing Chainage (km)	Design Chainage (km)	Proposed Structural Configuration	Proposed Structure Type	Proposed Size (L x W) (m)	Total Width (m)
1.	SH-8	211.260	257.045	6 Lane	RCC T-Girder	20 x 5.5	2x13.4
2.	SH-8	473.003	460.49	6 Lane	RCC T-Girder	20 x 5.5	2x13.4
3.	NH-8	439.090	505.273	6 Lane	RCC T-Girder	20 x 5.5	2x13.4
4.	NH-8	468.100	514.285	6 Lane	RCC T-Girder	20 x 5.5	2x13.4
5.	NH-8	474.76	521.973	6 Lane	RCC T-Girder	20 x 5.5	2x13.4
6.	NH-8	481.360	527.383	6 Lane	RCC T-Girder	20 x 5.5	2x13.4
7.	NH-8	484.585	530.745	6 Lane	RCC T-Girder	20 x 5.5	2x13.4
8.	NH-8	489.550	536.75	6 Lane	RCC T-Girder	20 x 5.5	2x13.4

Note: Opening of 5mX2.0m shall be provided on both R/L wall approaches for pedestrian movement. The appropriate plan shall be furnished in consultation with NHA.

B. Details of Vehicular Underpasses to be widened

Sl. No.	Chainage	Package	Existing	Proposed	Remarks

C. Rehabilitation/ Repair of Vehicular Underpass

Sl. No.	Chainage	Span Arrangement	Clear Height	Total Length	Clearing width	Formation Width	Type of Super-structure	Type of Sub-structure	Improvement Proposal
All existing vehicular underpasses are proposed to be retained after carrying out necessary repairs and rehabilitation works. Repairs shall include but not limited to general clearing of underpasses, rehabilitation of deck, crash barrier, railings and working area.									

Section - 29 from 1000m to 1000m+1000m (Length 1000m) and 1000m to 1000m+1000m (Length 1000m) for Six Lanes of Shirdi to Votnehoda from Km 491.260 to Km 494.410 (Length 3.150 km) section of NH-8 in the state of Gujarat under NHDP Phase - V (Package-17) and Agency



Sr. No.	Name of Bridge	Bridge No.	Existing Clearance (m)	Design Clearance (m)	Type of Crossing	Proposed Structural Configuration	Proposed Structure Type	Proposed Span Arrangement (for bridge)	Total Width of Structure (m)	Length of Bridge (m)	Remarks
								(m)			

—

[illegible]

7

C. "Government's Responsibility" to "Protect" Worker's Rights

S. No.	Store/Block/ of Bridge	Bridge Number	Existing Challage (sqm)	Design Challage (sqm)	Width (Proposed/ Existing)		Span Arrangement (m)		Structure Type		Improvement Proposal
					LTSS	RTSS	LTSS	RTSS	LTSS	RTSS	
<p>All existing major bridges are proposed to be repaired after carrying out necessary repairs and repairs shall include "C.C. foot" (added to general clearance of bridges and area around abutment) to give satisfaction of super and protective works, removal and relaying of existing wearing coat, repair and replacement of bearings, reconstruction of new steel barriers in place of old railing, reconstruction of approach slab & return wall providing of new expanded metal and coatings in more to the spans, as per required and rehabilitation of damaged concrete of any etc. to the complete satisfaction of independent engineer.</p> <p>All the repairs and rehabilitation works shall be carried out as per standards and approvals.</p>											

All existing major bridges are proposed to be retained after carrying out necessary repairs and rehabilitation works. Repairs shall include full depth patched and general rehabilitation of the deck, repair and replacement of parapets, and widening, overhauling and replacement of bearings. The existing bridge and approaches are proposed to be reconstructed or simply repaired, two works removed and relocation of existing wing walls and replacement of abutment piers. Construction of new spans between in place of old millage reconstruction of approach slab & return wall providing new expansion joints and bearings in more places, repairs, overhauling and relocation of damaged concrete of any one to the concrete satisfaction of independent engineer.

1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26



National Highway Authority of India

Request for Proposal - Bidding Documents
Volume III - Specifications

Appendix B-XII

A. New Minor Bridges/Major Bridges to be Reconstructed

Sl. No.	Road Name of Bridge	Bridge No.	Existing Clearance (m)	Design Clearance (km)	Proposed Structural Configuration	Proposed Structure Type		Proposed Span Arrangement (for bridge) (m)	Length of Bridge	Total Width of Structure (m)
						LHS	RHS			
1	NH-8	401 (RCW)	18.98	46.785	New 3-lane Bridge	RCC T-Order		1x18.0	18.0	13.40
2	NH-8	402 (RCW)	41.20	46.905	New 3-lane Bridge	RCC T-Order superstructure and RC abutment		1x30.0	30.0	15.30
3	NH-8	403 (RCW)	42.284	46.710	New 3-lane Bridge	RCC T-Order superstructure and RCC abutment		1x17.60 + 1x13.40	31.0	14.40
4	NH-8	404 (RCW + RCW)	43.450	43.535	New 6-lane Bridge	Solid Slab		2x5.3+1x5	17.6	2x13.40
5	NH-8	405 (RCW)	45.220	48.435	New 3-lane Bridge	RCC Girder		1x15.75	15.75	15.20
6	NH-8	406 (RCW)	46.600	48.785	New 3-lane Bridge	RCC T-Girder		1x13.0	13.0	13.40
7	NH-8	407 (RCW)	49.400	50.585	New 6-lane Bridge	Solid Slab		1x8.0	8.0	2x13.40
8	NH-8	408 (RCW + RCW)	46.800	51.985	New 6-lane Bridge	Solid Slab		1x7.9	7.9	2x13.40

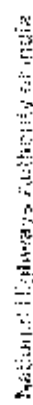
B. New Minor Bridges/Major Bridges to be Reconstructed over Irrigation Canal

Sl. No.	Road Name of Bridge	Bridge No.	Existing Clearance (m)	Design Clearance (m)	Proposed Structural Configuration	Proposed Structure Type		Proposed Span Arrangement (for bridge) (m)	Length of Bridge	Total Width of Structure (m)
						LHS	RHS			
1	NH-8	409 (RCW)	46.950	51.135	New 6-lane Bridge	RCC Girder		1x16	16	2x13.20

Note: The Span arrangement of irrigation channel shall be prepared in consultation with State Irrigation department.



Site Location at Naxos II to Motabhadra from Km 40.200 to Km 44.110 (Length 93.210 km) section of NH-8 in the State of Gujarat under NHDP Phase VI (Package VI) on Hybrid Annuity Mode



የጥቅም ስራ ማስፈጸም - 500 ባርድባርድ
የጥቅም ስራ ማስፈጸም - 500 ባርድባርድ

[illegible]

Sl. No.	Road Name of Bridge	Bridge No.	Existing Clearance (m)	Design Clearance (m)	Proposed Structural Configuration	Proposed Structure Type	Proposed Span Arrangement (m)	Length of Bridge	Total Width of Structure (m)
1	N-108	405-2	Left	492.75	New Service Lane Bridge	Solid Slab	2x15.24+1x10.20	31.6	10.2
			Right			Solid Slab	3x10.0	30	10.0
2	N-118	117-3	Left	457.955	New Service Lane Bridge	RCC Girder	3x15.24+1x19.80	30.24	10.2
			Right			RCC Girder	3x15.24+1x9.80	30.3	10.2
3	N-108	153-4	Left	478.5	New Service Lane Bridge	Solid Slab	3x5.3+1x5.0	15.6	10.2
			Right			Solid Slab	2x5.3+1x5.0	15.6	10.2
4	N-118	413-1	Left	488.75	New Service Lane Bridge	RCC Girder	1x15.0	15	10.2
			Right			Solid Slab	1x1.6	1.7	10.2
5	N-108	400-1	Left	485.55	New Service Lane Bridge	Solid Slab	1x8.0	8	10.2
			Right			Solid Slab	1x9.0	8	10.2
6	N-108	405-5	Left	496.5	New Service Lane Bridge	Solid Slab	1x7.0	7.9	10.2
			Right			Solid Slab	1x7.9	7.9	10.2
7	N-108	103-1	Left	483.25	New Service Lane Bridge	Solid Slab	1x6.7	6.7	10.2
			Right			Solid Slab	1x6.7	6.7	10.2
8	N-108	408-1	Left	467.65	New Service Lane Bridge	Solid Slab	1x3.7	3.7	10.2
			Right			Solid Slab	1x5.7	5.7	10.2
9	N-108	400-1	Left	496.25	New Service Lane Bridge	RCC Girder	1x16.3	16.3	10.2
			Right			Solid Slab	3x2.6	16.3	10.2



Six larvae of *Shanbia j.* to *Albacorella* from km 401.240 to km 491.440 (length 93.210 km) section of NH-8 in the State of Ceará under NFDAP Phase -V (Package-VI) on Inbred Animals Made



Ministry of Water and Power, Government of Punjab

Request for Proposal - Bid Documents
Volume II - Schedules

D. New Bridge Structures on Service Road over Irrigation Channel

Sl. No.	Road/ Name of Bridge	Bridge No.	Existing Clearance (ft)	Design Clearance (ft)	Proposed Structural Configuration	Proposed Structure Type	Proposed Span Arrangement (no. bridge) (m)	Length of Bridge	Total Width of Structure (m)
Nil									

Note: (i) The width of the irrigation channel may be improved as required from the Irrigation Department for Irrigation/Protection work.

E. Minor Bridges where Widening is Proposed

Sl. No.	Road/ Name of Bridge	Bridge No.	Existing Clearance (ft)	Design Clearance (ft)	Proposed Structural Configuration	Proposed Structure Type	Proposed Span Arrangement (no. bridge) (m)	Length of Bridge	Total Width of Structure (m)
1	NH-8	4081 (RCW)	50.7 (100)	51.2 (85)	Widening of Existing Bridge	RCC Solid Slab	1x5.7	6.7	13.40
2	NH-8	4082 (RCW)	49.7 (95)	51.2 (85)	Widening of Existing Bridge	RCC Solid Slab	1x5.7	6.7	13.40
3	NH-8	4083 (RCW)	49.7 (95)	51.2 (85)	Widening of Existing Bridge	RCC Solid Slab	1x5.7	8.7	13.40
4	NH-8	4084 (RCW)	49.7 (95)	51.2 (85)	Widening of Existing Bridge	RCC Solid Slab	1x5.7	8.7	13.40

F. Minor Bridges where Widening is Proposed over Irrigation Channel

Sl. No.	Road/ Name of Bridge	Bridge No.	Existing Clearance (ft)	Design Clearance (ft)	Proposed Structural Configuration	Proposed Structure Type	Proposed Span Arrangement (no. bridge) (m)	Length of Bridge	Total Width of Structure (m)
Nil									

Note: (i) The width of the irrigation channel may be improved as required from the Irrigation Department for Irrigation/Protection work.

G. Minor Bridges on Service Road where Widening is Proposed

Sl. No.	Road/ Name of Bridge	Bridge No.	Existing Clearance (ft)	Design Clearance (ft)	Proposed Structural Configuration	Proposed Structure Type	Proposed Span Arrangement (no. bridge) (m)	Length of Bridge	Total Width of Structure (m)
Nil									

Sl. No. of Bridge is 4081 to 4084. Total length 33.20 km. Section of NH-8 in the State of Gujarat under NIDP Phase II (Tendering) is 4081 to 4084. Total length 33.20 km.



Journal of Management Inquiry 23(1)

Request for Proposal and Document
 Subpages in the
 Volume II: Subpages

1. *Staphylococcus aureus* (100%)

[illegible]

of the system, a few cases show that the λ in Appendix A is not supposed to be referred after carrying out general equations and the effect on works.

Repair work is limited - but can proceed on general cleaning of bridge and area around bridge, restoration of parapets and protective works, removal and relaying of existing wearing surface, repair and replacement of drainage apertures, reconstruction of approach slab & road, wall painting or redecoration, etc. The extent of such repairs will depend on the condition of the bridge at the time of inspection.

the corresponding value in the \mathcal{L}_1 norm.

Appendix B-XIII

Improvement Proposals for Culverts

1. New Box/Slab Culverts

Sl. No.	Road	Existing Chainage (km)	Design Chainage (km)	Details of Proposed Structure	
				Type of Culverts	Span Arrangement (m)

2. Box/Slab Culverts to be Widened

Sl. No.	Road	Existing Chainage (km)	Design Chainage (km)	Details of Proposed Structure	
				Type of Culverts	Span Arrangement (m)
1	NH-8	403.571	409.497	Slab	1 x 5.0 x 4.1
2	NH-8	413.679	419.874	Slab	1 x 4.0 x 3.0
3	NH-8	417.580	422.765	Slab	1 x 3.0 x 1.5
4	NH-8	416.755	422.959	Slab	1 x 3.2 x 1.5
5	NH-8	417.507	425.892	Slab	1 x 3.6 x 2.6
6	NH-8	424.555	429.235	Slab	1 x 5.0 x 2.0
7	NH-8	426.849	427.025	Slab	1 x 5.0 x 2.0
8	NH-8	436.029	432.235	Slab	1 x 5.5 x 3.5
9	NH-8	438.175	435.360	Slab	1 x 2.2 x 3.0
10	NH-8	439.570	435.025	Slab	1 x 2.7 x 4.0
11	NH-8	438.934	433.116	Slab	1 x 4.8 x 3.0
12	NH-8	435.496	432.661	Slab	1 x 3.5 x 2.0
13	NH-8	456.951	443.737	Slab	1 x 4.1
14	NH-8	480.861	427.566	Slab	5 x 0.9 x 1.5
15	NH-8	481.505	491.165	Slab	1 x 4.2 x 3.0

3. Box/Slab Culverts to be Widened over Irrigation channel

Sl. No.	Road	Existing Chainage (km)	Design Chainage (km)	Details of Proposed Structure	
				Type of Culverts	Span Arrangement (m)
1	NH-8	472.631	472.839	Slab	1 x 2.2 x 2.0
2	NH-8	452.537	498.225	Slab	1 x 5.3 x 1.7
3	NH-8	437.129	503.329	Slab	1 x 2.0 x 1.5
4	NH-8	492.519	503.754	Slab	1 x 5.5 x 1.5
5	NH-8	478.904	504.989	Slab	1 x 4.8 x 1.5

Notes: In addition to above culverts, the Commission shall also propose suitable remedial measures for culverts found fit to be widened.

The drawing for structure provided across irrigation channel shall be prepared in consultation with State Irrigation Department.

Section - 100+00 to 100+200 of NH-8, Baramulla District, Jammu & Kashmir, India. The section is located in the vicinity of Sharda ji to Moolyphoolan. From km 401.200 to km 494.410 (Length: 93.210 km) section of NH-8 in the State of Jammu & Kashmir. Phase - IV (Further widening of NH-8).



4. Box/Slab Culverts to be Reconstructed

Sl. No.	Road	Existing Chainage (km)	Design Chainage (km)	Details of Proposed Structure	
				Type of Culverts	Span Arrangement (m)
1.	NH-8	211.615	157.860	BOX	1 x 3.5 x 2.0
2.	NH-8	468.952	515.157	BOX	1 x 3.5 x 3.7

5. Pipe Culverts to be Reconstructed as a Box Culvert

Sl. No.	Road	Existing Chainage (km)	Design Chainage (km)	Details of Proposed Structure	
				Type of Culverts	Span Arrangement (m)
Nil					

6. Pipe Culverts to be Widened

Sl. No.	Road	Existing Chainage (km)	Design Chainage (km)	Type of Culverts	Span Arrangement (m)
1	NH-8	167.127	248.652	HPCC	2 x 5.0
2	NH-8	361.324	350.589	HPCC	1 x 0.8
3	NH-8	404.835	350.720	HPCC	2 x 0.4
4	NH-8	411.715	350.028	HPCC	1 x 0.9
5	NH-8	391.017	451.1	HPCC	1 x 0.5
6	NH-8	365.565	451.666	HPCC	1 x 0.9
7	NH-8	458.748	151.933	HPCC	1 x 0.9
8	NH-8	406.886	455.964	HPCC	2 x 0.9
9	NH-8	407.905	454.090	HPCC	2 x 0.9
10	NH-8	408.747	454.951	HPCC	2 x 0.9
11	NH-8	410.144	456.329	HPCC	5 x 5.0
12	NH-8	414.246	460.491	HPCC	3 x 5.0
13	NH-8	415.807	460.995	HPCC	2 x 0.9
14	NH-8	417.566	461.745	HPCC	1 x 0.5
15	NH-8	420.695	466.586	HPCC	2 x 0.9
16	NH-8	421.156	467.336	HPCC	2 x 0.9
17	NH-8	421.156	468.635	HPCC	2 x 0.9
18	NH-8	421.240	473.545	HPCC	2 x 0.9
19	NH-8	426.170	471.153	HPCC	2 x 0.5
20	NH-8	426.065	472.280	HPCC	2 x 0.9
21	NH-8	427.163	473.250	HPCC	2 x 0.9
22	NH-8	437.813	474.0	HPCC	2 x 1.2
23	NH-8	422.170	475.353	HPCC	1 x 0.9
24	NH-8	431.280	477.167	HPCC	1 x 0.9
25	NH-8	433.673	479.296	HPCC	2 x 0.9
26	NH-8	425.565	479.830	HPCC	2 x 0.9
27	NH-8	435.743	481.090	HPCC	2 x 0.8
28	NH-8	436.487	481.830	HPCC	2 x 0.9
29	NH-8	437.597	482.545	HPCC	1 x 0.9
30	NH-8	437.663	483.658	HPCC	2 x 0.9
31	NH-8	437.886	484.350	HPCC	2 x 0.9

NOTE: The above details of the proposed structure are for the purpose of information only. The final design of the structure shall be as per the design of the project. The final design of the structure shall be as per the design of the project. The final design of the structure shall be as per the design of the project.



Sl. No.	Road	Existing Chainage (km)	Design Chainage (km)	Details of Proposed Structure	
				Type of Culverts	Span Arrangement (m)
32	NH-8	438.968	487.463	HPC	2 x 0.5
33	NH-8	439.073	488.210	HPC	2 x 0.5
34	NH-8	439.225	488.470	HPC	1 x 0.9
35	NH-8	439.775	488.490	HPC	3 x 0.9
36	NH-8	442.763	488.550	HPC	3 x 0.5
37	NH-8	442.873	489.080	HPC	4 x 0.5
38	NH-8	443.246	489.731	HPC	4 x 0.5
39	NH-8	443.38.9	490.134	HPC	4 x 0.3
40	NH-8	443.563	491.653	HPC	4 x 0.9
41	NH-8	443.570	491.555	HPC	4 x 0.9
42	NH-8	446.478	492.660	HPC	2 x 0.9
43	NH-8	447.774	493.959	HPC	2 x 0.9
44	NH-8	449.536	495.721	HPC	2 x 0.9
45	NH-8	451.698	497.793	HPC	2 x 0.5
46	NH-8	451.947	498.153	HPC	1 x 0.8
47	NH-8	451.010	498.215	HPC	1 x 0.9
48	NH-8	451.971	500.106	HPC	7 x 0.9
49	NH-8	454.633	500.813	HPC	1 x 0.9
50	NH-8	455.080	501.763	HPC	1 x 0.9
51	NH-8	455.299	501.584	HPC	1 x 0.9
52	NH-8	455.861	502.018	HPC	2 x 0.9
53	NH-8	456.782	502.267	HPC	1 x 0.5
54	NH-8	456.825	502.410	HPC	3 x 0.9
55	NH-8	458.377	503.307	HPC	3 x 0.9
56	NH-8	458.595	503.880	HPC	2 x 0.9
57	NH-8	459.305	505.299	HPC	1 x 0.9
58	NH-8	459.375	505.170	HPC	2 x 0.9
59	NH-8	460.469	505.675	HPC	3 x 1.3
60	NH-8	460.814	506.999	HPC	3 x 0.9
61	NH-8	460.913	507.058	HPC	1 x 0.9
62	NH-8	461.615	507.304	HPC	2 x 0.5
63	NH-8	462.048	508.733	HPC	2 x 0.9
64	NH-8	462.786	508.971	HPC	2 x 0.5
65	NH-8	463.382	509.267	HPC	2 x 0.9
66	NH-8	466.129	510.314	HPC	2 x 1.3
67	NH-8	464.293	510.373	HPC	2 x 0.9
68	NH-8	466.801	510.583	HPC	2 x 0.9
69	NH-8	468.600	511.735	HPC	2 x 0.9
70	NH-8	469.267	513.592	HPC	3 x 0.5
71	NH-8	469.661	515.846	HPC	3 x 0.9
72	NH-8	471.772	516.508	HPC	2 x 1.3
73	NH-8	473.671	516.628	HPC	2 x 0.9
74	NH-8	474.987	517.272	HPC	4 x 0.5
75	NH-8	475.272	517.182	HPC	1 x 1.3
76	NH-8	475.322	518.157	HPC	4 x 0.9
77	NH-8	475.834	519.609	HPC	2 x 0.9
78	NH-8	475.759	519.644	HPC	2 x 0.5
79	NH-8	474.350	520.541	HPC	4 x 0.9

Six Lanes of Sirsona Jt to Matsubhicha from km 493.260 to km 494.410 (Length 95.216 km) section of NH-8 is the state of Gujarat and is NHDP Phase-V (Package-VI) on Hybrid Account Mode.



Sl. No.	Road	Existing Chaining (km)	Design Chaining (km)	Details of Proposed Structure	
				Type of Culverts	Span Arrangement (m)
80	NH-8	474.624	521.399	HPC	2 x 6.9
81	NH-8	474.530	521.715	HPC	1 x 6.9
82	NH-8	475.947	522.153	HPC	4 x 6.9
83	NH-8	476.918	523.103	HPC	4 x 6.9
84	NH-8	477.803	523.985	HPC	4 x 6.9
85	NH-8	479.386	525.571	HPC	4 x 6.9
86	NH-8	481.365	527.490	HPC	2 x 6.9
87	NH-8	481.859	528.984	HPC	7 x 6.9
88	NH-8	482.294	529.479	HPC	2 x 6.9
89	NH-8	482.951	529.116	HPC	2 x 6.9
90	NH-8	483.554	529.739	HPC	1 x 1.2
91	NH-8	484.013	530.198	HPC	2 x 3.2
92	NH-8	484.575	530.769	HPC	2 x 6.9
93	NH-8	485.118	531.293	HPC	4 x 6.9
94	NH-8	485.737	531.922	HPC	2 x 6.9
95	NH-8	486.190	532.375	HPC	2 x 6.9
96	NH-8	486.842	533.027	HPC	2 x 6.9
97	NH-8	486.873	533.758	HPC	2 x 3.9
98	NH-8	491.243	537.150	HPC	3 x 6.9
99	NH-8	492.033	538.233	HPC	4 x 6.9
100	NH-8	492.865	539.950	HPC	2 x 6.9
101	NH-8	493.177	540.362	HPC	1 x 6.9

7. Pipe Culverts to be Widened over Irrigation Channel

Sl. No.	Road	Existing Chaining (km)	Design Chaining (km)	Details of Proposed Structure	
				Type of Culverts	Span Arrangement (m)
1	NH-8	488.075	484.260	HPC	2 x 6.9
2	NH-8	488.070	485.655	HPC	1 x 6.9
3	NH-8	488.850	505.065	HPC	2 x 6.9
4	NH-8	488.850	508.035	HPC	1 x 6.9
5	NH-8	492.311	518.499	HPC	1 x 1.2
6	NH-8	494.053	529.279	HPC	1 x 1.2
7	NH-8	496.310	533.795	HPC	1 x 6.9

Note: In addition to above culverts, the Concessionaire shall also propose suitable remedial measures for culverts found, if any.

The drawing for structure provided across irrigation channel shall be prepared in consultation with State Irrigation department.

It is hereby declared that the work of widening of the above pipe culverts over irrigation channel is approved by the Government of India, Ministry of Road Transport and Highways, New Delhi, for the section of NH-8 by the State of Gujarat under NADP Phase - VI Package 3 (a) on Hybrid Annuity



Signature

11/54



Details of ROB

A. New Rail Over Bridge(ROB)s

Sl. No.	ROB/RUB	Existing Chainage (Km)	Design Chainage (Km)	Name of Crossing	Existing Structure	Proposed structural configuration	Proposed structure type	Proposed span arrangement (m)	Total length of structure (m)	Total width of structure (m)	Remarks
1	ROB 412/1 on NH-8 (RCW)	411.150	457.335	---	---	*3 lane ROB	Composite RCC Deck Slab with Steel I Girder	2 X 7.0 + 20 (Skew)	34.0	15.2	---
2	ROB 423/1 on NH-8 (RCW)	422.237	468.422	---	---	*3 lane ROB	Composite RCC Deck Slab with Steel I Girder	3X35.62 (skew)	106.86	15.2	---
3	ROB 431/1 on NH-8 (RCW)	430.672	476.857	---	---	*3 lane ROB	Composite RCC Deck Slab with Steel I Girder	2X16.28 + 35.62 (Skew)	68.18	15.2	---

- The existing structure shall be dismantled by Railways and reconstruction at these locations is to be undertaken by Concessionaire.
- The diversion for existing ROB's after dismantling will be done/executed by NIAL as per approved plan by Railways. The repair and maintenance of diversion of ROB's (to be dismantled) are to be carried out by Concessionaire till the traffic is allowed or opened on reconstructed ROB's at these locations.

B. Rehabilitation/repair of Rail Over Bridges (ROB)s

Road	ROB/RUB	Existing Chainage (Km)	Design Chainage (Km)	Name of Crossing	Existing Structure	Structural configuration	structure type	existing span arrangement (m)	Total length of structure (m)	Total width of structure (m)	Remarks
NH-8	412/1 (LCW)	411.150	457.335	ROB	ROB	Existing ROB is retained	RCC T Beams (Central Span)	2 X 7.0 + 20 (Skew)	34	12.1	All existing ROB's are proposed to be retained after carrying out necessary repairs and rehabilitation
NH-8	423/1 (LCW)	422.237	468.422	ROB	ROB	Existing ROB is retained	RCC Solid Slab (End Spans)	3X35.62 (skew)	106.86	12.1	

3	NH 8	431/1 (LCW)	430.672	476.857	ROB	ROB	Existing ROB is retained	PSC T-Beams (Central Span) RCC T-Beams (End Spans)	2X16.28 + 35.62 (Skew)	68.18	12.1	works. Repairs shall include but not limited to general cleaning of ROBS and area around ROBS, restoration of slopes and protective works, removal and relaying of existing wearing coat, repair and replacement of drainage spouts, construction of new crash barriers in place of old railing, reconstruction of approach slab & return wall, providing of new expansion joints and bearings in place of old ones wherever required and repair and rehabilitation of damaged concrete of any etc. to the complete satisfaction of independent engineer. All the repairs and rehabilitation works shall be carried out as per standards and manuals
4	NH 8	467/1 (LCW & RCW)	466.0	512.185	ROB	ROB	No action for 6 laning	RCC T Girder	2X 18.0=25.1 (Skew)	61.1	2X11. 0	



Reinforcing Wall / KE Wall

The RF wall shall be provided on all the approaches to grade separators, underpasses, interchanges, ROBs where the width of embankment is less than 6.0m.



Concrete Pavement

The site includes the following Concrete Pavement.

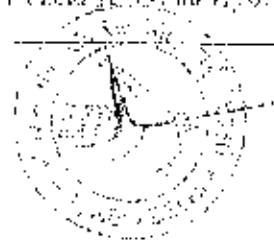
Sl. No.	Road	Existing Chainage		Design Chainage		Side
		From	To	From	To	
Nil						

Concrete pavement is proposed at the Toll Plaza locations.

Nil
 Nil Lining of Shalinji to Metturhoda from Km 431.240 to Km 494.420 (Length 63.180 Km)
 section of SH 6 in the State of Gujarat under NHDP Phase - V (Package-VI) on Hybrid Anomaly
 Mode



Am



Tentative location of rolling and hilly terrain

The tentative location of rolling and hilly terrain are as follows:

Nil

Nil
Six Loting of Shandaji to Morachhoda from km 491.200 to km 494.000 (Length 22.800 km)
section of NH-8 in the State of Gujarat under "NHDP Phase - V" Package VIII on Hybrid Annuity



Handwritten signature



SCHEDULE - C

(See Clause 2.1)

1 Project Facilities

The Contractor shall construct the Project Facilities described in this Annexure-1 to form part of on-line project highway. The Project Facilities shall include:

- (a) Toll plaza;
- (b) Roadside furniture;
- (c) Street lighting;
- (d) Pedestrian facilities;
- (e) Tree clippers;
- (f) Bus-bays and Bus shelters;
- (g) Others:
 - i. Traffic aid posts;
 - ii. Medical aid posts;
 - iii. Vehicle rescue posts;
 - iv. Highway lighting;
 - v. Emergency Patrol;
 - vi. Ambulances;
 - vii. Canteen;
 - viii. ATM's;
 - ix. Telecom system;
- (h) Utilities;
- (i) Balancing Harvesting.

2 Project Facilities for Six-Laning

Project Facilities forming part of Six-Laning and to be completed or before the Project Completion shall be as described in Annexure-1 of this Schedule-1.

1. The project is a part of the National Highway Development Project (NHDP) Phase II, consisting of the Six-Laning of Shantaji to Marolikhat - from km 401.20 to km 492.40 (Length 91.20 km) section of NH-8 in the State of Gujarat under NHDP Phase II (Packaged) Project by And Anjli.



And



Annexure - 1
(Schedule-C)

Project Facilities for Six-Laning

1 Project Facilities

The Contract award shall encompass the Project Facilities described in this Annexure, to form part of the Six-Lane Project Highway. The Project Facilities shall include:

- (a) Toll plaza;
- (b) Roadside furniture;
- (c) Street lighting;
- (d) Pedestrian facilities;
- (e) Two-wheelers;
- (f) Bus bays and Passenger shelters;
- (g) Others:
 - i. Traffic aid posts;
 - ii. Motorist aid posts;
 - iii. Vehicle rescue posts;
 - iv. Highway Lighting;
 - v. Highway Patrol;
 - vi. Accident care;
 - vii. Cranes;
 - viii. A.T.M.s;
 - ix. Tele-communication;
- (h) Utilities;
- (i) Inland water Harbours etc.

2 Description of Project Facilities

Each of the Project Facilities is briefly described below:

(a) Toll Plaza:

- 1) From km. 415.500 to NH-8 (Location of Existing toll plaza at Varnadi is retained and additional toll lanes; and existing Toll Plaza shall be modified/reconstructed as per the requirements of Manual)
- 2) From km. 472.100 to NH-8 (Location of Existing toll plaza at Kalga is retained and additional toll lanes; and existing Toll Plaza shall be modified/reconstructed as per the requirements of Manual)

S. No.	Road	Location in Km.	Existing Clearance		Proposed Clearance	
			From	To	From	To
1	NH-8	415.500	115.250	115.750	161.500	141.500

* The proposed six-lane project highway with two shoulders, from km. 401.500 to km. 494.500 (Length 93.000 km) is part of the Six-Laning of Samudra ji to Motachhodia from km 401.500 to km 494.500 (Length 93.000 km) section of NH-8 in the State of Gujarat under NHDP Phase-VI (Package-III) of Central Agency



[Handwritten signature]



2	N-18	172.100	171.850	432.350	518.007	518.575
---	------	---------	---------	---------	---------	---------

Specifications and other requirements including existing pavement of the toll plaza shall be as per Schedule - D

(b) Roadside Furniture

The provision of road side furniture shall be finished as per Manual of Specifications and in consultation with the Independent Engineer.

(i) Traffic Signs and Pavement Markings

Traffic signs and pavement markings shall include roadside signs, overhead signs as per relevant IRC standards, earth mounted signs and road markings along the project highway. The design and moulding for the Project Highway shall be as per the design standard indicated in Schedule-G and the location for various treatments shall be provided in consultation with the Independent Engineer. Adequate Number of Cat's eyes and delineators demarcating the sign lines, lane markings and junctions shall be provided to ensure safety of pedestrians & traffic.

(ii) The cat's eyes or road studs shall be provided to improve the visibility in night-time and low-visibility conditions. These shall be polymeric retro-reflective type, conforming to ISTA D4256

White color road studs shall be used at locations where lane markings are in white color. Amber color shall be used where lane markings is in amber color.

Red color may be used to indicate no entry/edge markings.

(iii) Concrete Crash Barrier, Metal beam crash barrier, Structures (IAS Railing)

(iv) Boundary fencing for the entire length of the road on both sides

(v) Traffic Safety Devices, as required

(vi) Boundary Stones

(vii) Kilometer / Kilometer Stones

(viii) Traffic Barrier Segments (LLD) at intersections

(c) Street Lighting

Lighting shall be provided as follows for the above:

Sr. No.	Description	ICR / Location / Reference	Remarks
1	Toll Plaza area	Km 415.200 & Km 417.100	As per Schedule - D
2	Top and underside of grade separated structures including Elevated viaducts, viaduct Underpass, pedestrian underpass	Refer Appendix B-VI to B-IX & B-X and existing RoB at Km 410.50, 421.20, 430.00, 46.00 and existing Crown Structure at Km 400.555	As per schedule - D
3	PH Bus stop Area & Service Road	Refer Particulars in schedule A for B&A project section	As per schedule - D
4	Foot path/area	Refer Appendix C-I	As per schedule - D
5	Bus bay area	Refer Appendix C-II	As per schedule - D

Section 10.1 and 10.2 of the contract documents shall apply to the construction of the above mentioned structures. The project is located on the stretch of NH-18 from km 400.200 to km 401.410 (Length: 93.210 km) section of NH-18 in the State of Gujarat under NHDP Phase - V (Category-V) on Hybrid Annuity



Six Lanes of Sharda B to Motchedonna From km 401.200 to km 434.410 (Length: 93.210 km)
section of NH-8 in the State of Gujarat under NPIP Phase-II (Vaidya's Highway Hybrid-3 Award)



High Mast Lights shall be provided in the following locations:

Sl. No.	Description	Km/Location reference	Remark
1	Toll Plaza area	km 415.00 & km 42.100	As per schedule-D

Solar panel may be installed at Toll plaza as well as street lighting poles to utilize.

(d) Pedestrian Facilities

Pedestrian Guard rails shall be provided at major junctions, truck lay byes, bus bays and near schools/ hospitals.

(e) Truck Lay-Byes

Truck Lay byes shall be provided at locations given at Appendix C I.

(f) Bus-bays and Passenger Shelters

Bus bays and Passenger shelters shall be provided at locations given at Appendix C II.

(g) Others

i. Traffic Aid Posts

As per Schedule D.

ii. Medical Aid Posts

As per Schedule D.

iii. Vehicle Rescue Posts

As per Schedule D.

iv. Highway Lighting

Lighting shall be provided at underpass locations, toll plaza area, truck lay bye locations, bus bay locations, and major junctions. High mast lighting shall be provided at all major junctions, toll plazas. The lightings shall be provided as per the Schedule-D.

v. Highway Patrol Unit

Highway Patrol units shall be provided as per Schedule-D.

vi. Ambulances

Ambulances shall be provided as per Schedule-D.

vii. Cranes

Cranes shall be provided as per the requirement.

viii. Advance Traffic Management System (ATMS)

The Project Highway shall be provided with ATMS facilities as per Schedule D so as to have enhanced safety for the users, enables to collect information for the traffic operations, to provide information to the users on real time basis for the traffic flow conditions and the incidents ahead. Based on them, the traffic management system shall be able to express control by changing the variable message signs, utilizing the movement of ambulances, cranes, Highway patrol, police and fire tenders.

1. The project is located on the National Highway 8 (NH-8) between km 401.200 to km 492.410 (Length 93.210 Km) section of NH-8 in the State of Gujarat under NHDP Phase-V (Package-VI) on Hybrid Annuity



Variable Message Signs (VMS) are to be provided at 20 Km interval on either side of the Project Highway.

iv. Telecom System

Telecom System shall be provided as per the Schedule "D".

(b) Utilities

Provision for accommodating utilities shall be made over as well as underground utility corridor as per manual.

(i) Rainwater Harvesting

Rainwater harvesting system through construction of recharge trenches and recharge shafts/wells, comprising components of various stages including transporting rainwater through pipes or drains and filtration at the entire length of the project road at suitable intervals.

Note: In case of any discrepancy in number or location of any of the project facilities mentioned in this Annexure - I, the Independent Engineer shall finalize the number/ location of these facilities as per site requirements.

SHYAM SINGH & CO. PVT. LTD. (INCORPORATED IN INDIA) - A COMPANY OF THE NATIONAL HIGHWAYS AUTHORITY OF INDIA
S/Sy. Leading of Shyamji to Matrekhichha - From Km 491.700 to km 494.410 (Length 2.71 Km)
Section of NH 8 in the State of Gujarat under P-HUD - Phase - V (Pre-bid EPC Hybrid Award)



Handwritten signature

200



Appendix C-I

Proposed Track Lay-byes Locations

Sl. No.	Route	Existing Chaiage (LHS)		Design Chaiage (RHS)		Track Lay Byes	
		From	To	From	To	Side	
1	NH-4	407,809	407,809	407,809	423,500	LHS	-
2	NH-8	412,250	412,800	418,135	458,705	LHS	-
3	NH-8	417,850	418,200	464,025	464,195	-	RHS
4	NH-8	428,050	428,800	471,535	474,005	LHS	-
5	NH-8	435,000	435,500	481,785	482,145	LHS	-
6	NH-8	453,500	454,100	489,935	500,365	LHS	-
7	NH-2	458,240	458,500	504,425	504,735	LHS	RHS
8	NH-8	474,250	475,000	516,135	516,705	-	RHS
9	NH-8	476,000	476,250	520,185	520,545	-	RHS
10	NH-4	478,900	479,200	525,135	525,435	-	RHS

Section of SH-4 from 407,809 to 423,500 (Length 15,691 m) and Section of SH-8 from 412,250 to 458,705 (Length 46,455 m) are proposed to be upgraded to 4-lane dual carriageway with 12m wide shoulders and 1.5% cross slope. The proposed section of SH-4 is in the State of Gujarat under NHDP Phase-V (Delhi to Hybrid Aramid Mode).

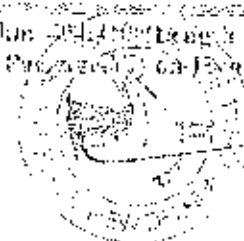
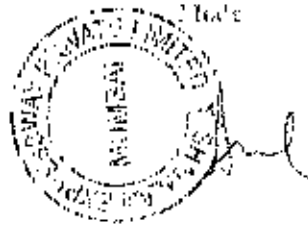


Appendix C-II

Location of Bus Bays and Bus Shelters

Sl. No.	Road	Planning Chainage (LHS)		Design Chainage (LHS)		Bus Bays/ Bus Shelters (Side)		Explanation
		From	To	From	To			
1	NH-8	401.340	403.550	50.525	52.715	LHS	RHS	
2	NH-8	408.100	408.200	124.285	124.475	LHS	RHS	
3	NH-8	410.400	410.420	124.485	124.505	LHS	RHS	
4	NH-8	412.900	417.300	159.025	159.375	LHS	RHS	
5	NH-8	417.000	417.200	163.175	163.385	-	RHS	
6	NH-8	418.210	418.290	167.355	167.435	LHS	-	
7	NH-8	419.500	419.520	168.425	168.445	LHS	RHS	
8	NH-8	420.300	420.390	170.425	170.515	LHS	RHS	
9	NH-8	425.280	425.400	181.585	181.705	LHS	RHS	
10	NH-8	447.100	447.290	198.245	198.435	-	RHS	
11	NH-8	447.810	450.000	198.595	200.785	LHS	-	
12	NH-8	452.200	452.250	198.335	198.385	-	RHS	
13	NH-8	453.400	453.500	199.585	199.685	LHS	RHS	
14	NH-8	455.600	455.700	201.785	201.885	-	RHS	
15	NH-8	456.600	456.700	202.785	202.885	-	RHS	
16	NH-8	456.900	457.000	203.085	203.185	LHS	-	
17	NH-8	463.100	463.290	209.285	209.475	LHS	RHS	
18	NH-8	465.600	465.700	211.785	211.885	LHS	-	
19	NH-8	473.500	473.600	219.685	219.785	-	RHS	
20	NH-8	475.600	475.680	219.835	219.915	LHS	-	
21	NH-8	475.250	475.450	219.635	219.835	-	RHS	
22	NH-8	475.500	475.750	219.885	220.135	LHS	-	
23	NH-8	477.700	477.900	222.085	222.285	-	RHS	
24	NH-8	479.500	479.500	223.885	223.885	LHS	-	
25	NH-8	487.700	487.700	232.085	232.085	LHS	-	
26	NH-8	487.750	487.750	232.135	232.135	-	RHS	
27	NH-8	491.000	491.290	237.285	237.475	LHS	-	
28	NH-8	491.200	491.500	237.475	237.775	-	RHS	

Six Limiting of Chandra is in Motuchandla from km 401.260 to km 404.400 (Length 3.140 km) section of NH-8 in the State of Gujarat under NH&P Phase - VI Project of 63.75 km Annuity Mode



SCHEDULE - D
(See Clause 2.1)

SPECIFICATIONS AND STANDARDS

1. Rajasthan/Gujarat border sections of NH-6

The Concessionaire shall comply with the specifications and Standards set forth in Annexure-I of this Schedule - D for construction of the project roads.



6-1



ANNEXURE-1

(Schedule - D)

Specifications and Standards

1. Manual of Specifications and Standards to apply

Subject to the provisions of Paragraph 2 of this Annexure-I, the Project Highway shall conform to the Manual of Specifications and Standards for Six Lining of National Highways through Public Private Partnership (IRC SP-87:2013), published by Indian Roads Congress (An authenticated copy of the Manual has been provided to the concessionaire as part of the bid documents).

2. Deviations from the Manual

Notwithstanding anything to the contrary contained in the aforesaid Manual, the following Specifications and Standards shall apply to the Project Highways, and for purposes of this Agreement, the aforesaid Manual shall be deemed to be amended to the extent set forth below:

Mishanganj-Udaipur

S. No.	Item	Provision as per Manual	Modified Provision
1	Median width	Table no. 2.2 of clause 2.5 of the Manual	Width of existing median is retained in structures of road where widening of lane is proposed. Minimum width of median as per Table no. 2.2 of clause 2.5 shall be provided in case of raising/reconstruction of road and at interchange at every 10.
2	Existing ROBs, Grade separation flyovers, Vehicular underpasses, Pedestrian underpasses, Major bridges and minor bridges and approaches i.e. existing ROBs, Grade separation flyovers, Vehicular underpasses, Pedestrian underpasses, Minor bridges and Minor bridges.	Clause no. 7.3, Clause no. 7.4 and Clause no. 7.5 of the Manual	Existing structures having carriageway width more than 10m on either side are retained without any modifications and approaches of such structures are also retained.

Length of section of NH-6 from km 464.200 to km 464.440 (Length 23.216 km) section of NH-6 in the State of Gujarat under NHAI Phase-V (2019-24) on behalf Authority



SCHEDULE - E

(See Clause 4.1.3)

APPLICABLE PERMITS

1 Applicable Permits

1.1 The Concessionaire shall obtain, as required under Applicable Laws, the following Applicable Permits on or before the Appointed Date.

Part-I

(a) Permission of the State Government for extraction of boulders from quarries for and in respect of at least 20% (twenty per cent) of the total length of the Project; and

Part-II

- (a) Permission of Village Panchayat and the Pollution Control Board for installation of crushers;
- (b) License for use of explosives;
- (c) Permission of the State Government for drawing water from river/reservoir; and
- (d) Any other permits or clearances required under Applicable Laws.

1.2 Unless otherwise specified in this Agreement, Applicable Permits, as required, relating to environmental protection and conservation shall have been procured by the Authority as a Condition Precedent.



Sanctioning of Shemla-I to Matachitodda from km 401.200 to km 434.410 (Length: 33.210 Km) section of NH-8 in the State of Karnataka under NH-UP Phase-V (Package-VI) on Hybrid Annuity Basis



SCHEDULE - F
(See Clause 9.1)

PERFORMANCE SECURITY

The Chairman,
National Highways Authority of India
New Delhi

WHEREAS:

- (A) M/s SHAMLAJI EXPRESSWAY PRIVATE LIMITED (the "Concessionaire") and the Chairman, National Highways Authority of India (the "Authority") have entered into a Concession Agreement dated (the "Agreement") whereby the Authority has agreed to the Concessionaire undertaking -Six Laning of Shamla ji to Motachilodha from km 401.200 to km 494.410 (Length 93.210 km) section of NH-8 in the State of Gujarat under NHDP Phase -V (Package-VI) section of National Highway No. 8 on design, build, operate and transfer ("DBOT Annuity or Hybrid Annuity") basis, subject to and in accordance with the provisions of the Agreement.
- (B) The Agreement requires the Concessionaire to furnish a Performance Security to the Authority in a sum of Rs 68.05 cr. (Rupees sixty eight crore five lakh only) (the "Guarantee Amount") as security for due and faithful performance of its obligations, under and in accordance with the Agreement, during the Construction Period (as defined in the Agreement).
- (C) We,through our Branch at (the "Bank") have agreed to furnish this Bank Guarantee by way of Performance Security.

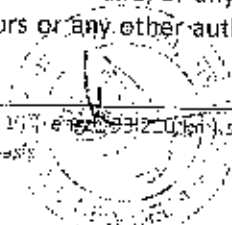
NOW, THEREFORE, the Bank hereby, unconditionally and irrevocably, guarantees and affirms as follows:

1. The Bank hereby unconditionally and irrevocably guarantees the due and faithful performance of the Concessionaire's obligations during the Construction Period, under and in accordance with the Agreement, and agrees and undertakes to pay to the Authority, upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Concessionaire, such sum or sums upto an aggregate sum of the Guarantee Amount as the Authority shall claim, without the Authority being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.
2. A letter from the Authority, under the hand of an Officer not below the rank of General Manager in the National Highways Authority of India, that the Concessionaire has committed default in the due and faithful performance of all or any of its obligations under and in accordance with the Agreement shall be conclusive, final and binding on the Bank. The Bank further agrees that the Authority shall be the sole judge as to whether the Concessionaire is in default in due and faithful performance of its obligations during the Construction Period under the Agreement and its decision that the Concessionaire is in default shall be final, and binding on the Bank, notwithstanding any differences between the Authority and the Concessionaire, or any dispute between them pending before any court, tribunal, arbitrators or any other authority or body, or



Six Laning of Shamla ji to Motachilodha from km 401.200 to km 494.410 (Length 93.210 km) section of NH-8 in the State of Gujarat under NHDP Phase -V (Package-VI) on Hybrid Annuity basis

886



PUBLIC PRIVATE PARTNERSHIP IN HYBRID ANNUITY PROJECTS

by the discharge of the Concessionaire 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 Concessionaire 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 Concessionaire before presenting to the Bank its demand under this Guarantee.
5. The Authority shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Agreement or to extend the time or period for the compliance with, fulfilment and/ or performance of all or any of the obligations of the Concessionaire contained in the Agreement or to postpone for any time, and from time to time, any of the rights and powers exercisable by the Authority against the Concessionaire, 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 Concessionaire or any other forbearance, indulgence, act or omission on the part of the Authority or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.
6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Authority in respect of or relating to the Agreement or for the fulfilment, compliance and/or performance of all or any of the obligations of the Concessionaire under the Agreement.
7. Notwithstanding anything contained hereinbefore, the liability of the Bank under this Guarantee is restricted to the Guarantee Amount and this Guarantee will remain in force until the earlier of the 1st (first) anniversary of the Appointed Date or compliance of the conditions specified in paragraph 8 below and unless a demand or claim in writing is made by the Authority on the Bank under this Guarantee, no later than 6 (six) months from the date of expiry of 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 Performance Security shall cease to be in force and effect when the Concessionaire shall have expended on Project construction an aggregate sum not less than 30% (thirty per cent) of the Bid Project cost which is deemed to be Rs. 408.30 cr. (Rupees four hundred eight crore thirty lakh only) for the purposes of this Guarantee, and provided the Concessionaire is not in breach of this Agreement. Upon request made by the Concessionaire for release of the Performance Security alongwith the particulars required hereunder, duly certified by a statutory auditor of the Concessionaire, the Authority shall release the Performance Security forthwith.
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

Six Lanes of Srinagarji to Motachudha from km 401.200 to km 494.410 (Total 93.210 km) section of NH-8 in the State of Gujarat under NIPD Phase - A' (Package VI) on Hybrid Annuity basis.

PUBLIC PRIVATE PARTNERSHIP IN HYBRID ANNUITY PROJECTS

has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.

10. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred Branch, which shall be deemed to have been duly authorised to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.
11. This Guarantee shall come into force with immediate effect and shall remain in force and effect for a period of one year and six months or until it is released earlier by the Authority pursuant to the provisions of the Agreement.
12. This guarantee shall also be operatable at our _____ branch at New Delhi, 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 hereunder claimed, the said branch shall accept such invocation letter and make payment of amounts so demanded under the said invocation.
13. The Bank Guarantee has been sent to Authority's Bank through SFMS as per the details below

S. No.	Particulars	Details
1.	Name of Beneficiary	National Highways Authority of India
2.	Name of Bank	Canara Bank
3.	Account No.	8598201005819
4.	IFSC Code	CNRB0008598

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

SIGNED, SEALED AND DELIVERED

For and on behalf of

the BANK by:

(Signature)

(Name)

(Designation)

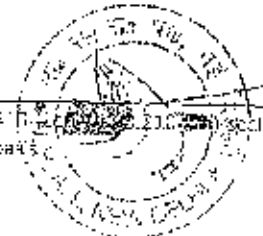
(Code Number)

(Address)



[Handwritten signature]

258



Linking of Simla I to Motachlodha from km 401.200 to km 494.410 on NH-8 in the State of Gujarat under NHDP Phase-VI (Package-VI) on Hybrid Annuity basis.

PUBLIC PRIVATE PARTNERSHIP IN HYBRID ANNUITY PROJECTS

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.



Six Lanes of Shamlaji to Morachildha from km 401.700 to km 494.410 (length 92.710 km) section of NH-8 in the State of Gujarat under NIDM Phase -IV (Package VI) on Hybrid Annuity basis.

Amel

218



SCHEDULE - G**(See Clause 12.1)****PROJECT COMPLETION SCHEDULE****1 Project Completion Schedule**

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

2 Project Milestone-I

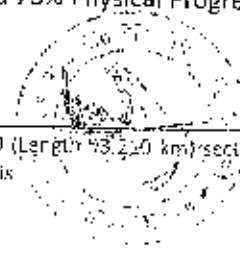
- 2.1 Project Milestone-I shall occur on the date falling on the 214th (two hundred and fourteenth) day from the Appointed Date (the "Project Milestone-I").
- 2.2 Prior to the occurrence of Project Milestone-I, the Concessionaire shall have expended not less than 20% (twenty per cent) of the total capital cost set forth in the Financial Package.
- 2.3 Prior to the occurrence of Project Milestone -I, the Concessionaire shall have commenced construction of the Project and achieved 20% Physical Progress.

3 Project Milestone-II

- 3.1 Project Milestone-II shall occur on the date falling on the 334th (three hundred and thirty fourth) day from the Appointed Date (the "Project Milestone-II").
- 3.2 Prior to the occurrence of Project Milestone-II, the Concessionaire shall have expended not less than 35% (thirty five per cent) of the total capital cost set forth in the Financial Package. Provided, however, that at least 70% (seventy percent) of the expenditure referred to hereinabove shall have been incurred on physical works which shall not include advances of any kind to any person or expenditure of any kind on plant and machinery.
- 3.3 Prior to the occurrence of Project Milestone -II, the Concessionaire shall have commenced construction of the Project and achieved 35% Physical Progress

4 Project Milestone-III

- 4.1 Project Milestone-III shall occur on the date falling on the 584th (five hundred and eighty fourth) day from the Appointed Date (the "Project Milestone-III").
- 4.2 Prior to the occurrence of Project Milestone-III, the Concessionaire shall have commenced construction of all Project Facilities and expended not less than 75% (seventy five per cent) of the total capital cost set forth in the Financial Package.
- 4.3 Prior to the occurrence of Project Milestone -III, the Concessionaire shall have commenced construction of the Project and achieved 75% Physical Progress



PUBLIC PRIVATE PARTNERSHIP IN HYBRID ANNUITY PROJECTS

5 Scheduled Completion Date

- 5.1 The Scheduled Completion Date shall be the 730th (seven hundred and thirtieth) day from the Appointed Date.
- 5.2 On or before the Scheduled Completion Date, the Concessionaire shall have completed the Project in accordance with this Agreement.

6 Extension of period

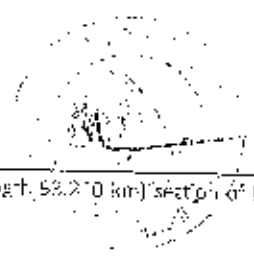
Upon extension of any or all of the aforesaid Project Milestones or the Scheduled Completion Date, as the case may be, under and in accordance with the provisions of this Agreement, the Project Completion Schedule shall be deemed to have been amended accordingly.



Six Lanes of Shani Aji to Motakodha 1.00 km 401.200 to km 404.410 (Length: 33.210 km) section of NH-8 in the State of Gujarat, under NHDP Phase - IV (Package-VI) on Hybrid Annuity basis

[Signature]

2011



PUBLIC PRIVATE PARTNERSHIP IN HYBRID ANNUITY PROJECTS

Annexure-I of Schedule G

Format for Contract Price Weightages for Highway Projects with Flexible Pavements

Contract Price Weightages

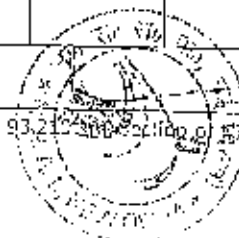
1.1 The Contract Price i.e. Bid Project Cost for this Agreement is Rs. 1361.00 Crore

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

Item	Stage for measurement of Physical Progress	Unit	Qty.	Weightage in percentage to the Contract Price
1	2	3	4	5
Road works including culverts, minor bridges, underpasses, overpasses, approaches to ROB/RUB/ Major Bridges/ Structures (but excluding service roads)	A- Widening and strengthening of existing road			
	(1) Earthwork up to top of the sub-grade	Km	***	***
	(2) Granular work (sub- base, base, shoulders)			
	(a) GSB	Km	***	***
	(b) WMM	Km	***	***
	(3) Shoulders	Km	***	***
	(4) Bituminous work			
	(a) DBM	Km	***	***
	(b) BC	Km	***	***
	(5) Rigid Pavement			
	Concrete work	Km	***	***
	(6) Widening and repair of culverts	No.	***	***
	(7) Widening and repair of minor bridges	No.	***	***
	B- New realignment/bypass			
	(1) Earthwork up to top of the sub-grade	Km	***	***
	(2) Granular work (sub- base, base, shoulders)			
	(a) GSB	Km	***	***
	(b) WMM	Km	***	***
	(3) Shoulders	Km	***	***
	(4) Bituminous work			
	(a) DBM	Km	***	***
	(b) BC	Km	***	***
	(5) Rigid Pavement			
	Concrete work	Km	***	***
	C- New culverts, minor bridges, underpasses, overpasses on existing road,			



Six Lanes of Shamla J to Motachilocha from km 491.200 to km 494.410 (Length 3.210 Km) Section of SH-8 in the State of Gujarat under I-HP Phase -V (Package-V) on Hybrid Annuity basis



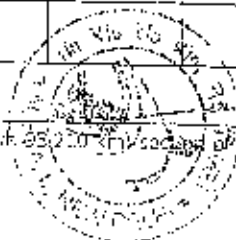
PUBLIC PRIVATE PARTNERSHIP IN HYBRID ANNUITY PROJECTS

Major Bridge works and ROB/RUB	realignments, bypasses:			
	(1) Culverts	No.	***	***
	(2) Minor bridges			
	(a) Foundation	No.	***	***
	(b) Sub-structure	No.	***	***
	(c) Super-structure (including crash barriers etc. complete)	No.	***	***
	(3) Cattle/Pedestrian underpasses			
	(a) Foundation	No.	***	***
	(b) Sub-structure	No.	***	***
	(c) Super-structure (including crash barriers etc. complete)	No.	***	***
	(4) Pedestrian overpasses			
	(a) Foundation	No.	***	***
	(b) Sub-structure	No.	***	***
	(c) Super-structure (including crash barriers etc. complete)	No.	***	***
	(5) Grade separated structures			
	(a) Underpasses			
	(i) Foundation	No.	***	***
	(ii) Sub-structure	No.	***	***
	(iii) Super-structure (including crash barriers etc. complete)	No.	***	***
	(b) Overpass			
	(i) Foundation	No.	***	***
	(ii) Sub-structure	No.	***	***
	(iii) Super-structure (including crash barriers etc. complete)	No.	***	***
	(c) Flyover			
	(i) Foundation	No.	***	***
	(ii) Sub-structure	No.	***	***
	(iii) Super-structure (including crash barriers etc. complete)	No.	***	***
	(d) Foot over Bridge	No.	***	***
	A- Widening and repairs of Major Bridges			
	(1) Foundation			
	(a) Open Foundation	No.	***	***
	(b) Pile Foundation/Well Foundation	No.	***	***
	(2) Sub-structure	No.	***	***
	(3) Super-structure (including crash barriers etc. complete)	No.	***	***
	B- Widening and repair of			

State of Gujarat under NADP Phase - VI Package (VI) on Hybrid Annuity basis



Amf



PUBLIC PRIVATE PARTNERSHIP IN HYBRID ANNUITY PROJECTS

	(a) ROB			
	(1) Foundation	No.	***	***
	(2) Sub-structure	No.	***	***
	(3) Super-structure (including crash barriers etc. complete)	No.	***	***
	(b) RUB			
	(1) Foundation	No.	***	***
	(2) Sub-structure	No.	***	***
	(3) Super-structure (including crash barriers etc. complete)	No.	***	***
	C- New Major Bridges			
	(1) Foundation	No.	***	***
	(a) Open Foundation	No.	***	***
	(b) Pile Foundation/Well Foundation	No.	***	***
	(2) Sub-structure	No.	***	***
	(3) Super-structure (including crash barriers etc. complete)	No.	***	***
	D- New rail-road bridges			
	(a) ROB			
	(1) Foundation	No.	***	***
	(2) Sub-structure	No.	***	***
	(3) Super-structure (including crash barriers etc. complete)	No.	***	***
	(b) RUB			
	(1) Foundation	No.	***	***
	(2) Sub-structure	No.	***	***
	(3) Super-structure (including crash barriers etc. complete)	No.	***	***
Structures (elevated sections, reinforced earth)	(1) Foundation	No.	***	***
	(2) Sub-structure	No.	***	***
	(3) Super-structure (including crash barriers etc. complete)	No.	***	***
	(4) Reinforced Earth Wall (includes Approaches of ROB, Underpasses, Overpasses, Flyover etc.	Sqm	***	***
Other Works	(i) Service roads/ Slip Roads	Km	***	***
	(ii) Toll Plaza	No.	***	***
	(iii) Road side drains	Km	***	***
	(iv) Road signs, markings, km stones, safety devices,			
	(a) Road signs, markings, km stones,	Km	***	***
	(b) Concrete Crash Barrier/ W-Beam Crash Barrier in Road work	Km	***	***
	(v) Project facilities			
	(a) Bus bays	No.	***	***
	(b) Truck lay-byes	No.	***	***



Six Lanes of Sham a Jai Motachilbina from Km 431.200 to Km 454.410 (Length: 23.21 Km) section of NH-2 in the State of Gujarat under NHDP Phase-IV (Package VI) on Hybrid Annuity basis

Handwritten signature

219



PUBLIC PRIVATE PARTNERSHIP IN HYBRID ANNUITY PROJECTS

(c) Rest areas	No.	***	***
(vi) Repairs to bridges/structures	No.	***	***
(vii) Road side plantation	Km	***	***
(viii) Protection works			
(a) Boulder Pitching on slopes	Km	***	***
(b) Toe/Retaining wall	Km	***	***
(ix) Tunnel			
(a) Excavation	Metre	***	***
(b) Construction of support system including rock bolting, lining etc.	Metre	***	***
(c) On complete completion of tunnel	Metre	***	***
(x) Miscellaneous	Lump sum	***	***
Total			100.00%

* The above list is illustrative and may require modification as per the scope of the work.

** Measurement of Progress

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

Physical progress of bituminous work

=Weightage for bituminous work x (L'/L)

L = Total length of bituminous work in km

L' = Executed length of bituminous work in km

Similarly, the physical progress for other stages shall be worked out and addition of all will give the total progress achieved.



Six Lanes of Shambhaji to Motachikhand from Km 400.200 to Km 431.410 (Length 31.210 km) Section of NH-8 in the State of Gujarat under NHDP Phase - VI (Package-VI) on Hybrid Annuity basis

Handwritten signature

315



Annexure-I of Schedule G

Format for Contract Price Weightages for Highway Projects with Rigid Pavements

Contract Price Weightages

1.1 The Contract Price i.e. Bid Project Cost for this Agreement is Rs. 1361.00 Crore

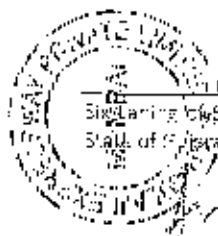
1.2 Proportions of the Contract Price for different stages of Construction of the Project Highway shall be as specified below:

Item	Stage for measurement of Physical Progress	Unit	Qty.	Weightage in percentage to the Contract Price
1	2	3	4	5
Road works including culverts, minor bridges, underpasses, overpasses, approaches to ROB/RUB/ Major Bridges/ Structures (but excluding service roads)	A- Widening and strengthening of existing road			
	(1) Earthwork up to top of the sub-grade	Km	***	***
	(2) Granular work (sub- base, shoulders)			
	GSB	Km	***	***
	(3) Shoulders	Km	***	***
	(4) Bituminous work	Km	***	***
	(5) Rigid Pavement			
	(a) DLC	Km	***	***
	(b) PQC	Km	***	***
	(6) Widening and repair of culverts	No.	***	***
	(7) Widening and repair of minor bridges	No.	***	***
	B- New realignment/bypass			
	(1) Earthwork up to top of the sub-grade	Km	***	***
	(2) Granular work (sub- base, shoulders)			
	GSB	Km	***	***
	(3) Shoulders	Km	***	***
	(4) Bituminous work	Km	***	***
	(5) Rigid Pavement			
	(a) DLC	Km	***	***
	(b) PQC	Km	***	***
	C- New culverts, minor bridges, underpasses, overpasses on existing road, realignments, bypasses:			

Six Laning of Shemla to Motichlodia from km 401.700 to km 494.410 (Length: 93.210 km) section of NH-8 in L10
 State of Gujarat under NHDF Phase-IV (Package-VI) on Hybrid Annuity basis

PUBLIC PRIVATE PARTNERSHIP IN HYBRID ANNUITY PROJECTS

Major Bridge works and ROB/RUB	(1) Culverts	No.	***	***
	(2) Minor bridges			
	(a) Foundation	No.	***	***
	(b) Sub-structure	No.	***	***
	(c) Super-structure (including crash barriers etc. complete)	No.	***	***
	(3) Cattle/Pedestrian underpasses			
	(a) Foundation	No.	***	***
	(b) Sub-structure	No.	***	***
	(c) Super-structure (including crash barriers etc. complete)	No.	***	***
	(4) Pedestrian overpasses			
	(a) Foundation	No.	***	***
	(b) Sub-structure	No.	***	***
	(c) Super-structure (including crash barriers etc. complete)	No.	***	***
	(5) Grade separated structures			
	(a) Underpasses			
	(i) Foundation	No.	***	***
	(ii) Sub-structure	No.	***	***
	(iii) Super-structure (including crash barriers etc. complete)	No.	***	***
	(b) Overpass			
	(i) Foundation	No.	***	***
	(ii) Sub-structure	No.	***	***
	(iii) Super-structure (including crash barriers etc. complete)	No.	***	***
	(c) Flyover			
	(i) Foundation	No.	***	***
	(ii) Sub-structure	No.	***	***
	(iii) Super-structure (including crash barriers etc. complete)	No.	***	***
	(d) Foot over Bridge	No.	***	***
	A- Widening and repairs of Major Bridges			
	(1) Foundation			
	(a) Open Foundation	No.	***	***
	(b) Pile Foundation/Well Foundation	No.	***	***
	(2) Sub-structure	No.	***	***



Signalling of distance 11 to Motachalodha from km 401.200 to km 494.410 (Length 93.210 km) Section of NH-2 in the State of Gujarat under NHDP Phase-V (Package V) on Hybrid Annuity basis

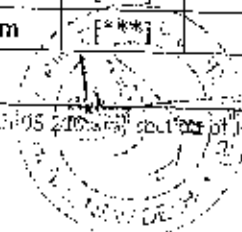


PUBLIC PRIVATE PARTNERSHIP IN HYBRID ANNUITY PROJECTS

	(3) Super-structure (including crash barriers etc. complete)	No.	***	***
	B- Widening and repair of			
	(a) ROB			
	(1) Foundation	No.	***	***
	(2) Sub-structure	No.	***	***
	(3) Super-structure (including crash barriers etc. complete)	No.	***	***
	(b) RUB			
	(1) Foundation	No.	***	***
	(2) Sub-structure	No.	***	***
	(3) Super-structure (including crash barriers etc. complete)	No.	***	***
	C- New Major Bridges			
	(1) Foundation	No.	***	***
	(a) Open Foundation	No.	***	***
	(b) Pile Foundation/Well Foundation	No.	***	***
	(2) Sub-structure	No.	***	***
	(3) Super-structure (including crash barriers etc. complete)	No.	***	***
	D- New rail-road bridges			
	(a) ROB			
	(1) Foundation	No.	***	***
	(2) Sub-structure	No.	***	***
	(3) Super-structure (including crash barriers etc. complete)	No.	***	***
	(b) RUB			
	(1) Foundation	No.	***	***
	(2) Sub-structure	No.	***	***
	(3) Super-structure (including crash barriers etc. complete)	No.	***	***
Structures (elevated sections, reinforced earth)	(1) Foundation	No.	***	***
	(2) Sub-structure	No.	***	***
	(3) Super-structure (including crash barriers etc. complete)	No.	***	***
	(4) Reinforced Earth Wall (includes Approaches of ROB, Underpasses, Overpasses, Flyover etc.	Sqm	***	***
Other Works	(i) Service roads/ Slip Roads	Km	***	***
	(ii) Toll Plaza	No.	***	***
	(iii) Road side drains	Km	***	***



Six Lanes of Shyama Jyoti Vayachhedha from km 401.200 to km 494.125 (length 93.20 km) section of Jh-8 in the State of Odisha under NHDP Phase-V (Package-VI) on I-hybrid Annuity basis



PUBLIC PRIVATE PARTNERSHIP IN HYBRID ANNUITY PROJECTS

(iv) Road signs, markings, km stones, safety devices,			
(a) Road signs, markings, km stones,	Km	[***]	[***]
(b) Concrete Crash Barrier/ W-Beam Crash Barrier in Road work	Km	[***]	[***]
(v) Project facilities			
(a) Bus bays	No.	[***]	[***]
(b) Truck lay-byes	No.	[***]	[***]
(c) Rest areas	No.	[***]	[***]
(vi) Repairs to bridges/structures	No.	[***]	[***]
(vii) Road side plantation	Km	[***]	[***]
(viii) Protection works			
(a) Boulder Pitching on slopes	Km	[***]	[***]
(b) Toe/Retaining wall	Km	[***]	[***]
(ix) Tunnel			
(a) Excavation	Metre	[***]	[***]
(b) Construction of support system including rock bolting, lining etc.	Metre	[***]	[***]
(c) On complete completion of tunnel	Metre	[***]	[***]
(x) Miscellaneous	Lump sum	[***]	[***]
Total			100.00%

* The above list is illustrative and may require modification as per the scope of the work.

**** Measurement of Progress**

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

Physical progress of bituminous work = Weightage
for bituminous work x (L'/L)

L = Total length of bituminous work in km

L' = Executed length of bituminous work in km

Similarly, the physical progress for other stages shall be worked out and addition of all will give the total progress achieved.



Six Lanes of Shimla to Aasachilocha from km 451.200 to km 494.410 (Length 43.210 Km) being S.O. 111 & 112
in State of Gujarat under MIDP Phase - VI (Package-VI) on Hybrid Annuity basis

218



SCHEDULE - H

(See Clause 12.2)

DRAWINGS

1 Drawings

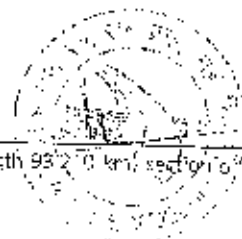
In compliance of the obligations set forth in Clause 12.2 of this Agreement, the Concessionaire shall furnish to the Independent Engineer, free of cost, all Drawings listed in Annex-I of this Schedule-H.

2 Additional drawings

If the Independent 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 Concessionaire to prepare and furnish such drawings forthwith. Upon receiving a requisition to this effect, the Concessionaire shall promptly prepare and furnish such drawings to the Independent Engineer, as if such drawings formed part of Annex-I of this Schedule-H.



Sealing of Sharda ji to Motachodha from km 401.200 to km 404.410 (Length 932.0 km) section No. KH-2 in the State of Gujarat under NHDP Phase -II (Package VI) on Hybrid Annuity basis



Annex - I (Schedule-H)

List of Drawings

- (a) Working Drawings of all the components/elements of the Project Highway as determined by Independent Engineer/NHAI, and
- (b) As-built drawings for the Project Highway components/elements as determined by Independent Engineer /NHAI. As-built drawings shall be duly certified by Independent Engineer.

A broad list of the drawings of the various components/elements of the Project Highway and project facilities required to be submitted by the Concessionaire is given below:

- (a) Drawings of horizontal alignment, vertical profile and cross sections
- (b) Drawings of cross drainage works
- (c) Drawings of interchanges, major intersections, grade separators, underpasses, ROB's and Major Bridges
- (d) Drawings of toll plaza layout, toll collection systems and roadway near toll plaza
- (e) Drawings of Control Centre
- (f) Drawings of drainage system
- (g) Drawing of a truck parking lay by with furniture and drainage system
- (h) Drawings of road furniture items including traffic signage, markings, safety barriers, etc.
- (i) Drawings of traffic diversion plans and traffic control measures
- (j) Drawings of road drainage measures
- (k) Drawings of typical details slope protection measures
- (l) Drawings of landscaping and horticulture
- (m) Drawings of pedestrian crossings
- (n) Drawings of street lighting
- (o) Layout/Configuration of ATMS
- (p) General arrangement of Base camp and Administrative Block
- (q) Drawing of service area



SCHEDULE - I

(See Clause 14.1.2)

TESTS

1 Schedule for Tests

- 1.1 The Concessionaire shall, no later than 30 (thirty) days prior to the likely completion of the Project, notify the Independent Engineer and the Authority of its intent to subject the Project to Tests, and no later than 7 (seven) days prior to the actual date of Tests, furnish to the Independent Engineer and the Authority detailed inventory and particulars of all works and equipment forming part of the Project.
- 1.2 The Concessionaire shall notify the Independent Engineer of its readiness to subject the Project to Tests at any time after 7 (seven) days from the date of such notice, and upon receipt of such notice, the Independent Engineer shall, in consultation with the Concessionaire, 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 Independent Engineer shall thereupon conduct the Tests itself or cause any of the Tests to be conducted in accordance with Article 14 and this Schedule-I.

2 Tests

- 2.1 In pursuance of the provisions of Clause 14.1.2 of this Agreement, the Independent Engineer shall conduct, or cause to be conducted, the Tests specified in this Paragraph 2.
- 2.2 Visual and physical Test: The Independent Engineer shall conduct a visual and physical check of the Project to determine that all works and equipment forming part thereof conform to the provisions of this Agreement.
- 2.3 Test drive: The Independent Engineer shall undertake a test drive of the Project by a Car and by a fully loaded Truck to determine that the quality of service conforms to the provisions of the Agreement.
- 2.4 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 1,800 (one thousand and eight hundred) mm for each kilometer.
- 2.5 Pavement Composition Test: The thickness and composition of the pavement structure shall be checked on a sample basis by digging pits to determine conformity of such pavement structure with Specifications and Standards. The sample shall consist of one pit in each direction of travel to be chosen at random in each stretch of 5 (five) kilometers of the Project. The first pit for the sample shall be selected by the Independent Engineer through an open draw of lots and every fifth kilometer from such first pit shall form part of the sample for this pavement quality Test.
- 2.6 Cross-section Test: The cross-sections of the Project shall be checked on a sample basis through physical measurement of their dimensions for determining the conformity thereof with Specifications and Standards. For the road portion, the sample shall consist of one spot to be selected at random in each stretch of 1(one) kilometer of the Project.



By Lining of Shamlu to Motachlodhi from km 401.250 to km 404.400 (Length 3.150 km) section of NH-8 in the State of Gujarat under NHDP Phase -V (Package-V) on Hybrid Annuity basis

4/10/01
06/01/01



PUBLIC PRIVATE PARTNERSHIP IN HYBRID ANNUITY PROJECTS

The first spot for the sample shall be selected by the Independent Engineer through an open draw of lots and the spots located at every one kilometer from such first spot shall form part of the sample. For the bridge portion, one spot shall be selected at random by the Independent Engineer in each span of the bridge.

- 2.7 Structural Test for bridges: All major and minor bridges, including over bridges, underpasses and flyovers, constructed by the Concessionaire 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 Non-destructive Testing Techniques, at two spots in every span, to be chosen at random by the Independent Engineer. Bridges with a span of 15 (fifteen) meters or more shall also be subjected to load testing.
- 2.8 Other Tests: The Independent Engineer may require the Concessionaire to carry out or cause to be carried additional Tests, in accordance with Good Industry Practice, for determining the compliance of the Project with Specifications and Standards.
- 2.9 Environmental audit: The Independent Engineer shall carry out a check to determine conformity of the Project with the environmental requirements set forth in Applicable Laws and Applicable Permits.
- 2.10 Safety review: Safety audit of the Project shall have been undertaken by the Safety Consultant as set forth in Schedule-L, and on the basis of such audit, the Independent Engineer shall determine conformity of the Project with the provisions of this Agreement.

3 Agency for conducting Tests

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

4 Completion/Provisional Certificate

Upon successful completion of Tests, the Independent Engineer shall issue the Completion Certificate or the Provisional Certificate, as the case may be, in accordance with the provisions of Article 14

5 Tests during construction

Without prejudice to the provisions of this Schedule-I, tests during construction shall be conducted in accordance with the provisions of Clause 13.3.1.



Sy. (Sping) of Sheerla (i) to Motarilodha from km. 403.200 to km 494.410 (Length 93.210 km) section of NH-8 in the State of Gujarat under NHDP Phase-V (Package-VI) on Hybrid Annuity Basis

Amel



SCHEDULE - J

(See Clause 14.2 & 14.3)

COMPLETION CERTIFICATE

- 1 I/We,..... (Name of the Independent Engineer), acting as Independent Engineer, under and in accordance with the Concession Agreement dated(the "Agreement"), for development and operation of the **Six Laning of Shamlaji to Motachilodha from km 401.200 to km 494.410 (Length 93.210 km) section of NH-8 in the State of Gujarat under NHDP Phase -V (Package-VI) Project** (the "Project") on design, build, operate and transfer (the "DBOT Annuity or Hybrid Annuity") basis, through M/s SHAMLAJI EXPRESSWAY PRIVATE LIMITED (Name of Concessionaire), hereby certify that the Tests specified in Article 14 and Schedule-I of the Agreement have been successfully undertaken to determine compliance of the Project with the provisions of the Agreement, and I/We am/are satisfied that the Project can be safely and reliably placed in commercial service of the Users thereof.
- 2 It is certified that, in terms of the aforesaid Agreement, all works forming part of the Project have been completed, and the Project is hereby declared fit for entry into commercial operation on this the day of 20

SIGNED, SEALED AND DELIVERED

For and on behalf of

INDEPENDENT ENGINEER by:

(Signature)

(Name)

(Designation)

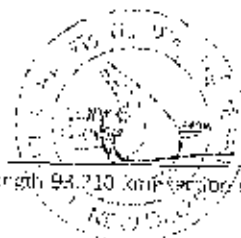
(Address)



Six Laning of Shamlaji to Motachilodha from km 401.200 to km 494.410 (Length 93.210 km) section of NH-8 in the State of Gujarat under NHDP Phase -V (Package-VI) on Hybrid Annuity basis

Handwritten signature

224



PROVISIONAL CERTIFICATE

- 1 I/We,..... (Name of the Independent Engineer), acting as Independent Engineer, under and in accordance with the Concession Agreement Dated..... (the "Agreement"), for development and operation of the **Six Laning of Shamlaji to Motachilodha from km 401.200 to km 494.410 (Length 93.210 km) section of NH-8 in the State of Gujarat under NHDP Phase -V (Package-VI)Project (the "Project")** on design, build, operate and transfer (the "DBOT Annuity or Hybrid Annuity") basis through M/s SHAMLAJI EXPRESSWAY PRIVATE LIMITED (Name of Concessionaire), hereby certify that the Tests specified in Article 14 and Schedule-I of the Agreement have been undertaken for the Project/section..... of the Project to determine compliance thereof with the provisions of the Agreement.

- 2 Construction Works forming part of the Project/section of the Project that were found to be incomplete and/or deficient have been specified in the Punch List appended hereto, and the Concessionaire has agreed and accepted that it shall complete and/or rectify all such works in the time and manner set forth in the Agreement. [Some of the incomplete works have been delayed as a result of reasons attributable to the Authority or due to Force Majeure and the Provisional Certificate cannot be withheld on this account. Though the remaining incomplete works have been delayed as a result of reasons attributable to the Concessionaire,] I/We am/are satisfied that having regard to the nature and extent of such incomplete works, it would not be prudent to withhold commercial operation of the Project/section..... of the Project, pending completion thereof.

- 3 In view of the foregoing, I/We am/are satisfied that the Project/section of the Project can be safely and reliably placed in commercial service of the Users thereof, and in terms of the Agreement, the Project/section of the Project is hereby provisionally declared fit for entry into commercial operation on this the day of..... 20

ACCEPTED, SIGNED, SEALED

AND DELIVERED

FOR AND ON BEHALF OF

CONCESSIONAIRE by:

(Signature)

(Name and Designation)

(Address)

SIGNED, SEALED AND

DELIVERED

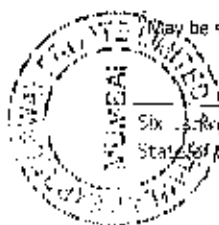
FOR AND ON BEHALF OF

INDEPENDENT ENGINEER by:

(Signature)

(Name and Signature)

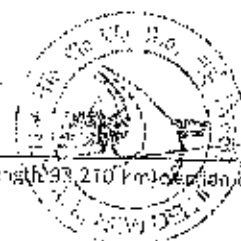
(Address)



(May be struck out if not applicable. Also strike out other parts which are not applicable.)

Six Laning of Shamlaji to Motachilodha from km 401.200 to km 494.410 (Length 93.210 km) section of NH-8 in the State of Gujarat under NHDP Phase -V (Package-VI) on Hybrid Annuity basis.

[Handwritten Signature]



SCHEDULE - K

(See Clause 17.2)

MAINTENANCE REQUIREMENTS

1 Maintenance Requirements

- 1.1 The Concessionaire shall, at all times, operate and maintain the Project in accordance with the provisions of the Agreement, Applicable Laws and Applicable Permits. In particular, the Concessionaire shall, at all times during the Operation Period, conform to the maintenance requirements set forth in this Schedule-K (the "Maintenance Requirements").
- 1.2 The Concessionaire shall repair or rectify any defect or deficiency set forth in Paragraph 2 of this Schedule-K within the time limit specified therein and any failure in this behalf shall constitute a breach of the Agreement. Upon occurrence of any breach hereunder, the Authority shall be entitled to recover Damages as set forth in Clause 17.8 of the Agreement, without prejudice to the rights of the Authority under the Agreement, including Termination thereof.

2 Repair/rectification of defects and deficiencies

- 2.1 The obligations of the Concessionaire in respect of Maintenance Requirements shall include repair and rectification of the defects and deficiencies specified in Annex - I of this Schedule - K within the time limit set forth therein.
- 2.2 The Concessionaire shall at all times maintain an adequate inventory of spares and consumables to meet the Maintenance Requirements.

3 Other defects and deficiencies

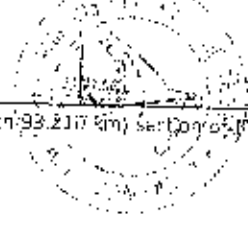
- 3.1 In respect of any defect or deficiency not specified in Annex - I of this Schedule-K, the Concessionaire shall undertake repair or rectification in accordance with Good Industry Practice and within the time limit specified by the Independent Engineer.
- 3.2 In respect of any defect or deficiency not specified in Annex - I of this Schedule-K, the Independent 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 Concessionaire in accordance with Good Industry Practice and within the time limit specified by the Independent Engineer.

4 Extension of time limit

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



Handwritten signature



5 Emergency repairs/restoration

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

6 Daily Inspection by the Concessionaire

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

7 Divestment Requirements

All defects and deficiencies specified in this Schedule-K shall be repaired and rectified by the Concessionaire so that the Project conforms to the Maintenance Requirements on the Transfer Date.

8 Display of Schedule - K

The Concessionaire shall display copy of this Schedule -K at the site along with the complaint register stipulated in article 40.



ANNEX - I

(Schedule-K)

Repair/Rectification of Defects and Deficiencies

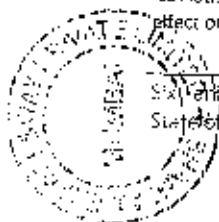
The Concessionaire shall repair and rectify the defects and deficiencies specified in this Annex-I of Schedule-K within the time limit set forth herein³.

ROADS

(a)

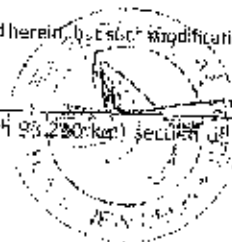
S.No.	Nature of defect or deficiency	Time limit for Repair/rectification
Carriageway and paved shoulders		
(i)	Breach or blockade	Temporary restoration of traffic within 24 hours; permanent restoration within 15 days
(ii)	Roughness value exceeding 2,750 mm in a stretch of 1 km (as measured by a standardized rough meter/bump integrator)	180 days
(iii)	Pot holes	48 hours
(iv)	Cracking in more than 5% of road surface in a stretch of 1 km	30 days
(v)	Rutting exceeding 10 mm in more than 2% of road surface in a stretch of 1 km (measured with 3 m straight edge)	30 days
(vi)	Bleeding/skidding	7 days
(vii)	Raveling/Stripping of bitumen surface exceeding 10 Sq m	15 days
(viii)	Damage to pavement edges exceeding 100 mm	15 days
(ix)	Removal of debris	6 hours
Hard/earth shoulders, side slopes, drains and culverts		
(i)	Variation by more than 2% in the prescribed slope of camber/cross fall	30 days
(ii)	Edge drop at shoulders exceeding 40 mm	7 days
(iii)	Variation by more than 15% in the prescribed side (embankment) slopes	30 days
(iv)	Rain cuts/gullies in slope	7 days
(v)	Damage to or silting of culverts and side drains during and immediately preceding the rainy season	7 days
(vi)	Desalting of drains in urban/semi-urban areas	48 hours
Road side furniture including road signs and pavement marking		
(i)	Damage to shape or position; Poor visibility or loss of retro-reflectivity	48 hours

³ JS Authority may, in consultation with IRC, by order modify the values and periods specified herein, but such modification shall take effect only if it is included in the respective bidding documents



Handwritten signature

228



PUBLIC PRIVATE PARTNERSHIP IN HYBRID ANNUITY PROJECTS

Street lighting and telecom (ATMS)		
(i)	Any major failure of the system	24 hours
(ii)	Faults and minor failures	8 hours
Trees and plantation		
(i)	Obstruction in a minimum head-room of 5 m above carriageway or obstruction in visibility of road signs	24 hours
(ii)	Deterioration in health of trees and bushes	Timely watering and treatment
(iii)	Replacement of trees and bushes	90 days
(iv)	Removal of vegetation affecting sight line and road structures	15 days
Rest areas		
(i)	Cleaning of toilets	Every 4 hours
(ii)	Defects in electrical, water and sanitary installations	24 hours
Other Project Facilities and Approach roads		
(i)	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	15 days

BRIDGES

Superstructure of bridges		
(i)	Cracks	
	Temporary measures	Within 48 hours
	Permanent measures	Within 45 days
(ii)	Spalling/scaling	15 days
Foundations of bridges		
(i)	Scouring and/or cavitation	15 days
Piers, abutments, return walls and wing walls		
(i)	Cracks and damages including settlement and tilting	30 days
Bearings (metallic) of bridges		
(i)	Deformation	15 days
Joints in bridges		
(i)	Loosening and malfunctioning of joints	15 days
Other items relating to bridges		
(i)	Deforming of pads in elastomeric bearings	7 days
(ii)	Gathering of dirt in bearings and joints or clogging of spouts, weep holes and vent-holes	3 days
(iii)	Damage or deterioration in parapets and handrails	3 days
(iv)	Rain-cuts or erosion of banks of the side slopes of approaches	15 days
(v)	Damage to wearing coat	15days
(vi)	Damage or deterioration in approach slabs, pitching, apron, toes, floor or guide bunds	30 days
(vii)	Growth of vegetation affecting the structure or obstructing the waterway	15 days



Six Laying of Shantala ji to Motachodha from km 400.200 to km 494.410 (Length 94.210km) section of NH-8 in the State of Gujarat under NHDP Phase-V (Package-VI) on Hybrid Annuity basis

[Signature]

200



SCHEDULE - L

(See Clause 18.1.1)

SAFETY REQUIREMENTS

Guiding principles

- 1.1 Safety Requirements aim at reduction in injuries, loss of life and damage to property resulting from accidents on or about the Project, irrespective of the person(s) at fault.
- 1.2 Users of the Project include motorised and non-motorized vehicles as well as pedestrians and animals involved in, or associated with accidents. Vulnerable Road Users (VRU) include pedestrians as well as riders of motorized two-wheelers, bicycles and other vehicles which do not provide adequate occupant protection.
- 1.3 Safety Requirements apply to all phases of construction, operation and maintenance with emphasis on identification of factors associated with accidents, consideration of the same, and implementation of appropriate remedial measures.
- 1.4 Safety Requirements include measures associated with traffic management and regulation such as road signs, pavement marking, traffic control devices, roadside furniture, highway design elements, enforcement and emergency response.

2 Obligations of the Concessionaire

The Concessionaire shall abide by the following insofar as they relate to safety of the Users:

- (a) Applicable Laws and Applicable Permits;
- (b) Manual for Safety in Road Design, issued by MoRTH;
- (c) Relevant Standards/Guidelines of IRC relating to safety, road geometries, bridges, culverts, road signs, pavement marking and roadside furniture;
- (d) Provisions of this Agreement; and
- (e) Good Industry Practice.

3 Appointment of Safety Consultant

For carrying out safety audit of the Project under and in accordance with this Schedule-L, the Authority shall appoint from time to time, one or more qualified firms or organisations as its consultants (the "Safety Consultant"). The Safety Consultant shall employ a team comprising, without limitation, one road safety expert and one traffic planner to undertake safety audit of the Project.

4 Safety measures during Development Period

- 4.1 No later than 90 (ninety) days from the date of this Agreement, the Authority shall appoint a Safety Consultant for carrying out safety audit at the design stage of the Project. The Safety Consultant shall collect data on all fatal crashes and other road accidents which occurred on the Project in the preceding two years by obtaining copies of the relevant First Information Reports (FIRs) from the police stations having

jurisdiction. The information contained in such FIRs shall be summarised in the form prescribed by the Authority for this purpose and the data shall be analysed for the type of victims killed or injured, impacting vehicles, location of accidents and other relevant factors.

- 4.2 The Concessionaire shall provide to the Safety Consultant, in four copies, the relevant drawings containing the design details that have a bearing on safety of Users (the "Safety Drawings"). Such design details shall include horizontal and vertical alignments; sightlines; layouts of intersections; interchanges; road cross-section; bridges and culverts; side drains; provision for parked vehicles, slow moving vehicles (tractors, bullock carts, bicycles) and pedestrians; bus bays; truck lay-bys; and other incidental or consequential information. The Safety Consultant shall review the design details and forward 3 (three) copies of the Safety Drawings with its recommendations, if any, to the Independent Engineer who shall record its comments, if any, and forward one copy each to the Authority and the Concessionaire.
- 4.3 The accident data and the design details shall be compiled, analysed and used by the Safety Consultant for evolving a package of recommendations consisting of safety related measures for the Project. The safety audit shall be completed in a period of three months and a report thereof (the "Safety Report") shall be submitted to the Authority, in 5 (five) copies. One copy each of the Safety Report shall be forwarded by the Authority to the Concessionaire and the Independent Engineer forthwith.
- 4.4 The Concessionaire shall endeavor to incorporate the recommendations of the Safety Report in the design of the Project, as may reasonably be required in accordance with Applicable Laws, Applicable Permits, Manuals and Guidelines of the Authority, Specifications and Standards, and Good Industry Practice. If the Concessionaire does not agree with any or all of such recommendations, it shall state the reasons thereof and convey them to the Authority forthwith. In the event that any or all of the works and services recommended in the Safety Report fall beyond the scope of Schedule-B, Schedule-C or Schedule-D, the Concessionaire shall make a report thereon and seek the instructions of the Authority for funding such works in accordance with the provisions of Article 18.
- 4.5 Without prejudice to the provisions of Paragraph 4.4, the Concessionaire and the Independent Engineer shall, within 15 (fifteen) days of receiving the Safety Report, send their respective comments thereon to the Authority, and no later than 15 (fifteen) days of receiving such comments, the Authority shall review the same along with the Safety Report and by notice direct the Concessionaire to carry out any or all of the recommendations contained therein with such modifications as the Authority may specify; provided that any works or services required to be undertaken hereunder shall be governed by the provisions of Article 18.

5 Safety measures during Construction Period

- 5.1 A Safety Consultant shall be appointed by the Authority, no later than 4 (four) months prior to the expected COD, for carrying out a safety audit of the completed Construction Works.



Six Lanes of State Highway connecting Morachilodha from km 401.200 to km 404.400 (Length: 33.200 km) section of NH-8 in the State of Gujarat under MIP- Phase -II (Package-VI) on Hybrid Annuity basis



5.2 The Safety Consultant shall collect and analyses the accident data for the preceding two years in the manner specified in Paragraph 4.1 of this Schedule- L. It shall study the Safety Report for the Development Period and inspect the Project to assess the adequacy of safety measures. The Safety Consultant shall complete the safety audit within a period of 4 (four) months and submit a Safety Report recommending a package of additional road safety measures, if any, that are considered essential for reducing accident hazards on the Project. Such recommendations shall be processed, mutatis mutandis, and acted upon in the manner set forth in Paragraphs 4.3, 4.4 and 4.5 of this Schedule-L.

5.3 The Concessionaire shall make adequate arrangements during the Construction Period for the safety of workers and road Users in accordance with the guidelines of IRC for safety in construction zones, and notify the Authority and the Independent Engineer about such arrangements.

6 Safety measures during Operation Period

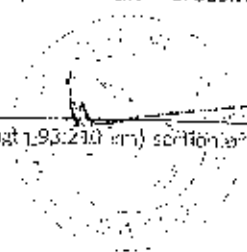
6.1 The Concessionaire shall develop, implement and administer a surveillance and safety program for Users, including correction of safety violations and deficiencies and all other actions necessary to provide a safe environment in accordance with this Agreement.

6.2 The Concessionaire shall establish a Highway Safety Management Unit (the "HSMU") to be functional on and after COD, and designate one of its officers to be in-charge of the HSMU. Such officer shall have specialist knowledge and training in road safety and traffic engineering by having attended a course conducted by a reputed organization on the subject.

6.3 The Concessionaire shall keep a copy of every FIR recorded by the Police with respect to any accident occurring on the Project. In addition, the Concessionaire shall also collect data for all cases of accidents not recorded by the Police but where a vehicle rolled over or had to be towed away. The information so collected shall be summarized in the form prescribed by the Authority for this purpose. The Concessionaire shall also record the exact location of each accident on a road map. The aforesaid data shall be submitted to the Authority at the conclusion of every quarter and to the Safety Consultant as and when appointed.

6.4 The Concessionaire shall submit to the Authority before the 31st(thirty first) May of each year, an annual report (in ten copies) containing, without limitation, a detailed listing and analysis of all accidents of the preceding Accounting Year and the measures taken by the Concessionaire pursuant to the provisions of Paragraph 6.1 of this Schedule-L for averting or minimizing such accidents in future.

6.5 Once in every Accounting Year, a safety audit shall be carried out by the Safety Consultant to be appointed by the Authority. It shall review and analyses the annual report and accident data of the preceding year, and undertake an inspection of the Project. The Safety Consultant shall complete the safety audit within a period of 1 (one) month and submit a Safety Report recommending specific improvements, if any, required to be made to the road, bridges, culverts, markings, signs, road furniture and Project Facilities, including cattle crossings and pedestrian crossings. Such



PUBLIC PRIVATE PARTNERSHIP IN HYBRID ANNUITY PROJECTS

recommendations shall be processed, mutatis mutandis, and acted upon in the manner set forth in Paragraphs 4.3, 4.4 and 4.5 of this Schedule-L.

7 Costs and expenses

Costs and expenses incurred in connection with the Safety Requirements set forth herein, including the provisions of Paragraph 2 of this Schedule-L, shall be met in accordance with Article 18, and in particular, the remuneration of the Safety Consultant, safety audit, and costs incidental thereto, shall be met by the Concessionaire.



Six Lanes 6th Sharada ji to Motachikodiha from km 401.270 to km 494.410 (length 93.14 km) of NH-3 in the State of Gujarat under MIDC Phase-VI Package-VII on Hybrid Annuity basis



SCHEDULE - M

(See Clause 21.1)

SELECTION OF INDEPENDENT ENGINEER

1 Selection of Independent Engineer

- 1.1 The provisions of the Model Request for Proposals for Selection of Technical Consultants, issued by the Ministry of Finance, GOI vide OM 24(23)/PF-II/ 2008 dated 21 May 2009, or any substitute thereof shall apply for selection of an experienced firm to discharge the functions and duties of an Independent Engineer. Provided, however, that no entity which is owned or controlled by the Authority shall be eligible for appointment as the Independent Engineer hereunder.
- 1.2 In the event of termination of an Independent Engineer appointed in accordance with the provisions of Paragraph 1.1, the Authority shall appoint another firm of Technical Consultants forthwith or may engage a government-owned entity in accordance with the provisions of Paragraph 5 of this Schedule-M.
- 1.3 The Concessionaire may, in its discretion, nominate a representative to participate in the process of selection to be undertaken by the Authority under this Schedule-M.

2 Terms of Reference

The Terms of Reference for the Independent Engineer shall substantially conform to Schedule-N.

3 Fee and expenses

- 3.1 In determining the nature and quantum of duties and services to be performed by the Independent Engineer during the Development Period and Construction Period, the Authority shall endeavor that payments to the Independent Engineer on account of fee and expenses do not exceed 3% (three per cent) of the Bid Project Cost. Payments not exceeding such 3% (three per cent) shall be borne equally by the Authority and the Concessionaire in accordance with the provisions of this Agreement and any payments in excess thereof shall be borne entirely by the Authority.
- 3.2 The nature and quantum of duties and services to be performed by the Independent Engineer during the Operation Period shall be determined by the Authority in conformity with the provisions of this Agreement and with due regard for economy in expenditure. All payments made to the Independent Engineer on account of fee and expenses during the Operation Period shall be borne equally by the Authority and the Concessionaire.

4 Selection every three years

No later than 3 (three) years from the date of appointment of Independent Engineer pursuant to the provisions of Paragraph 1 of this Schedule-M, and every 3 (three) years



Six Lanes of Shamla ji to Motenr odha from km 401.200 to km 494.410 (Length: 93.210 km) Section of NH-8 in the State of Gujarat under JILDP Phase-V (Package-V) on Hybrid Annuity basis

thereafter, the Authority shall engage another firm in accordance with the criteria set forth in this Schedule-M.

5 Appointment of government entity as Independent Engineer

Notwithstanding anything to the contrary contained in this Schedule, the Authority may in its discretion appoint a government-owned entity as the Independent Engineer; provided that such entity shall be a body corporate having as one of its primary function 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 Independent Engineer.



Sanction of Shri. J. to M. Chandra from km 401.200 to km 494.710 (length 93.510 km) section of NH-8 in the State of Gujarat under NH SP Phase IV Package VI on Hybrid Annuity basis



SCHEDULE - N

(See Clause 21.2.1)

TERMS OF REFERENCE FOR INDEPENDENT ENGINEER

1 Scope

These Terms of Reference for the Independent Engineer (the "TOR") are being specified pursuant to the Concession Agreement dated (the "Agreement"), which has been entered into between the Authority and the "Concessionaire") for **Six Laning of Shamla ji to Motachilodha from km 401.200 to km 494.410 (Length 93.210 km) section of NH-8 in the State of Gujarat under NHDP Phase -V (Package-VI) on design, build, operate and transfer (the "DBOT Annuity or Hybrid Annuity") basis, and a copy of which is annexed hereto and marked as Annex-A to form part of this TOR.**

2 Definitions and Interpretation

2.1 The words and expressions beginning with or in capital letters used in this TOR 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.

2.2 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.

2.3 The rules of interpretation stated in Clauses 1.2, 1.3 and 1.4 of the Agreement shall apply, mutatis mutandis, to this TOR.

3.1 The role and functions of the Independent Engineer shall include the following:

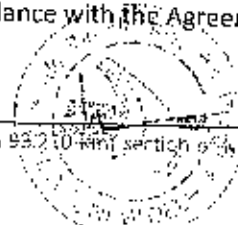
- (i) review of the Drawings and Documents as set forth in Paragraph 4;
- (ii) Review, inspection and monitoring of Construction Works as set forth in Paragraph 5; conducting Tests on completion of construction and issuing Completion/ Provisional Certificate as set forth in Paragraph 5
- (iv) Review, inspection and monitoring of O&M as set forth in Paragraph 6;
- (v) review, inspection and monitoring of Divestment Requirements as set forth in Paragraph 7;
- (vi) determining, as required under the Agreement, the costs of any works or services and/or their reasonableness;
- (vii) determining, as required under the Agreement, the period or any extension thereof, for performing any duty or obligation;
- (viii) Assisting the Parties in resolution of Disputes as set forth in Paragraph 9; and
- (ix) Undertaking all other duties and functions in accordance with the Agreement.



Six Laning of Shamla ji to Motachilodha from km 401.200 to km 494.410 (Length 93.210 km) section of NH-8 in the State of Gujarat under NHDP Phase -V (Package-VI) on Hybrid Annuity basis

[Signature]

[Signature]



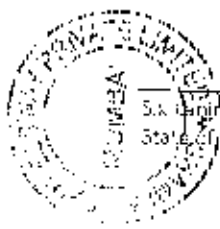
- 3.2 The Independent Engineer shall discharge its duties in a fair, impartial and efficient manner, consistent with the highest standards of professional integrity and Good Industry Practice.

4 Development Period

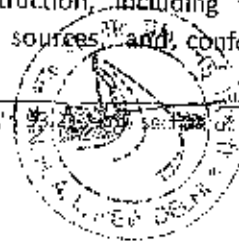
- 4.1 During the Development Period, the Independent Engineer shall undertake a detailed review of the Drawings to be furnished by the Concessionaire along with supporting data, including the geo technical and hydrological investigations, characteristics of materials from borrow areas and quarry sites, topographical surveys and traffic surveys. The Independent Engineer shall complete such review and send its comments/observations to the Authority and the Concessionaire within 15 (fifteen) days of receipt of such Drawings. In particular, such comments shall specify the conformity or otherwise of such Drawings with the Scope of the Project and Specifications and Standards.
- 4.2 The Independent Engineer shall review any modified Drawings or supporting Documents sent to it by the Concessionaire and furnish its comments within 7 (seven) days of receiving such Drawings or Documents.
- 4.3 The Independent Engineer shall review the Drawings sent to it by the Safety Consultant in accordance with Schedule-L and furnish its comments thereon to the Authority and the Concessionaire within 7 (seven) days of receiving such Drawings. The Independent Engineer shall also review the Safety Report and furnish its comments thereon to the Authority within 15 (fifteen) days of receiving such report.
- 4.4 The Independent Engineer shall review the detailed design, construction methodology, quality assurance procedures and the procurement, engineering and construction time schedule sent to it by the Concessionaire and furnish its comments within 15 (fifteen) days of receipt thereof.
- 4.5 Upon reference by the Authority, the Independent Engineer shall review and comment on the EPC Contract or any other contract for construction, operation and maintenance of the Project, and furnish its comments within 7 (seven) days from receipt of such reference from the Authority.

5 Construction Period

- 5.1 In respect of the Drawings, Documents and Safety Report received by the Independent Engineer for its review and comments during the Construction Period, the provisions of Paragraph 4 shall apply, mutatis mutandis.
- 5.2 The Independent Engineer shall review the monthly progress report furnished by the Concessionaire and send its comments thereon to the Authority and the Concessionaire within 7 (seven) days of receipt of such report.
- 5.3 The Independent Engineer shall inspect the Construction Works and the Project once every month, preferably after receipt of the monthly progress report from the Concessionaire, but before the 20th (twentieth) day of each month in any case, and make out a report of such inspection (the "Inspection Report") setting forth an overview of the status, progress, quality and safety of construction, including the work methodology adopted, the materials used and their sources, and conformity of



[Handwritten signature]



PUBLIC PRIVATE PARTNERSHIP IN HYBRID ANNUITY PROJECTS

Construction Works with the Scope of the Project and the Specifications and Standards. In a separate section of the Inspection Report, the Independent Engineer shall describe in reasonable detail the lapses, defects or deficiencies observed by it in the construction of the Project. The Inspection Report shall also contain a review of the maintenance of the existing lanes in conformity with the provisions of the Agreement. The Independent Engineer shall send a copy of its Inspection Report to the Authority and the Concessionaire within 7 (seven) days of the inspection.

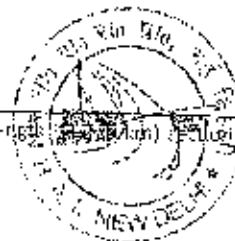
- 5.4 The Independent Engineer may inspect the Project more than once in a month if any lapses, defects or deficiencies require such inspections.
- 5.5 For determining that the Construction Works conform to Specifications and Standards, the Independent Engineer shall require the Concessionaire to carry out, or cause to be carried out, tests on a sample basis, to be specified by the Independent Engineer in accordance with Good Industry Practice for quality assurance. For purposes of this Paragraph 5.5, 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 the Authority (the "Quality Control Manuals") or any modification/substitution thereof shall be deemed to be tests conforming to Good Industry Practice for quality assurance. The Independent Engineer shall issue necessary directions to the Concessionaire for ensuring that the tests are conducted in a fair and efficient manner, and shall monitor and review the results thereof.
- 5.6 The sample size of the tests, to be specified by the Independent Engineer under Paragraph 5.5, shall comprise 10% (ten per cent) of the quantity or number of tests prescribed for each category or type of tests in the Quality Control Manuals; provided that the Independent Engineer may, for reasons to be recorded in writing, increase the aforesaid sample size by up to 10% (ten per cent) for certain categories or types of tests.
- 5.7 The timing of tests referred to in Paragraph 5.5, and the criteria for acceptance/rejection of their results shall be determined by the Independent 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 Concessionaire for its own quality assurance in accordance with Good Industry Practice.
- 5.8 In the event that the Concessionaire carries out any remedial works for removal or rectification of any defects or deficiencies, the Independent Engineer shall require the Concessionaire to carry out, or cause to be carried out, tests to determine that such remedial works have brought the Construction Works into conformity with the Specifications and Standards, and the provisions of this Paragraph 5 shall apply to such tests.
- 5.9 In the event that the Concessionaire fails to achieve any of the Project Milestones, the Independent Engineer shall undertake a review of the progress of construction and identify potential delays, if any. If the Independent Engineer shall determine that completion of the Project is not feasible within the time specified in the Agreement, it shall require the Concessionaire to indicate within 15 (fifteen) days the steps proposed to be taken to expedite progress, and the period within which COD shall be achieved. Upon receipt of a report from the Concessionaire, the Independent Engineer shall

review the same and send its comments to the Authority and the Concessionaire forthwith.

- 5.10 If at any time during the Construction Period, the Independent Engineer determines that the Concessionaire has not made adequate arrangements for the safety of workers and Users in the zone of construction or that any work is being carried out in a manner that threatens the safety of the workers and the Users, it shall make a recommendation to the Authority forthwith, identifying the whole or part of the Construction Works that should be suspended for ensuring safety in respect thereof.
- 5.11 In the event that the Concessionaire carries out any remedial measures to secure the safety of suspended works and Users, it may, by notice in writing, require the Independent Engineer to inspect such works, and within 3 (three) days of receiving such notice, the Independent Engineer shall inspect the suspended works and make a report to the Authority forthwith, recommending whether or not such suspension may be revoked by the Authority.
- 5.12 If suspension of Construction Works is for reasons not attributable to the Concessionaire, the Independent Engineer shall determine the extension of dates set forth in the Project Completion Schedule, to which the Concessionaire is reasonably entitled, and shall notify the Authority and the Concessionaire of the same.
- 5.13 The Independent Engineer shall carry out, or cause to be carried out, all the Tests specified in Schedule-I and issue a Completion Certificate or Provisional Certificate, as the case may be. For carrying out its functions under this Paragraph 5.13 and all matters incidental thereto, the Independent Engineer shall act under and in accordance with the provisions of Article 14 and Schedule-I.
- 5.14 Upon reference from the Authority, the Independent Engineer shall make a fair and reasonable assessment of the costs of providing information, works and services as set forth in Article 16 and certify the reasonableness of such costs for payment by the Authority to the Concessionaire.
- 5.15 The Independent Engineer shall aid and advise the Concessionaire in preparing the Maintenance Manual.
- 5.16 Upon reference from the Authority, the Independent Engineer shall undertake the assessment of cost of civil works, as per applicable schedule of rates, for the reduction of Scope of work as provided in Clause 16.6.1 of the Concession Agreement.

6 Operation Period

- 6.1 In respect of the Drawings, Documents and Safety Report received by the Independent Engineer for its review and comments during the Operation Period, the provisions of Paragraph 4 shall apply, mutatis mutandis.
- 6.2 The Independent Engineer shall review the annual Maintenance Program furnished by the Concessionaire and send its comments thereon to the Authority and the Concessionaire within 15 (fifteen) days of receipt of the Maintenance Program.



- 6.3 The Independent Engineer shall review the monthly status report furnished by the Concessionaire and send its comments thereon to the Authority and the Concessionaire within 7 (seven) days of receipt of such report.
- 6.4 The Independent Engineer shall inspect the Project once every month, preferably after receipt of the monthly status report from the Concessionaire, but before the 20th (twentieth) day of each month in any case, and make out an O&M Inspection Report setting forth an overview of the status, quality and safety of O&M including its conformity with the Maintenance Requirements and Safety Requirements. In a separate section of the O&M Inspection Report, the Independent Engineer shall describe in reasonable detail the lapses, defects or deficiencies observed by it in O&M of the Project. The Independent Engineer shall send a copy of its O&M Inspection Report to the Authority and the Concessionaire within 7 (seven) days of the inspection.
- 6.5 The Independent Engineer may inspect the Project more than once in a month, if any lapses, defects or deficiencies require such inspections.
- 6.6 The Independent Engineer shall in its O&M Inspection Report specify the tests, if any, that the Concessionaire shall carry out, or cause to be carried out, for the purpose of determining that the Project 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 Concessionaire in this behalf.
- 6.7 In respect of any defect or deficiency referred to in Paragraph 3 of Schedule- K, the Independent 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.
- 6.8 The Independent Engineer shall determine if any delay has occurred in completion of repair or remedial works in accordance with the Agreement, and shall also determine the Damages, if any, payable by the Concessionaire to the Authority for such delay.
- 6.9 The Independent Engineer shall examine the request of the Concessionaire for closure of any lane(s) of the carriageway for undertaking maintenance/repair thereof, keeping in view the need to minimize disruption in traffic and the time required for completing such maintenance/repair in accordance with Good Industry Practice. It shall grant permission with such modifications, as it may deem necessary, within 3 (three) days of receiving a request from the Concessionaire. Upon expiry of the permitted period of closure, the Independent Engineer shall monitor the re-opening of such lane(s), and in case of delay, determine the Damages payable by the Concessionaire to the Authority under Clause 17.7.
- 6.10 The Independent Engineer shall monitor and review the curing of defects and deficiencies by the Concessionaire as set forth in Clause 19.4.
- 6.11 In the event that the Concessionaire notifies the Independent Engineer of any modifications that it proposes to make to the Project, the Independent Engineer shall review the same and send its comments to the Authority and the Concessionaire within 15 (fifteen) days of receiving the proposal.



PUBLIC PRIVATE PARTNERSHIP IN HYBRID ANNUITY PROJECTS

- 6.12 The Independent Engineer shall undertake traffic sampling, as and when required by the Authority, under and in accordance with the provisions of this Agreement.

7 Termination

- 7.1 At any time, not earlier than 90 (ninety) days prior to Termination but not later than 15 (fifteen) days prior to such Termination, the Independent Engineer shall, in the presence of a representative of the Concessionaire, inspect the Project for determining compliance by the Concessionaire with the Divestment Requirements set forth in Clause 32.1 and, if required, cause tests to be carried out at the Concessionaire's cost for determining such compliance. If the Independent Engineer determines that the status of the Project is such that its repair and rectification would require a larger amount than the sum set forth in Clause 33.2, it shall recommend retention of the required amount in the Escrow Account and the period of retention thereof.
- 7.2 The Independent Engineer shall inspect the Project once in every 15 (fifteen) days during a period of 90 (ninety) days after Termination for determining the liability of the Concessionaire under Article 33, in respect of the defects or deficiencies specified therein. If any such defect or deficiency is found by the Independent Engineer, it shall make a report in reasonable detail and send it forthwith to the Authority and the Concessionaire.

8 Determination of costs and time

- 8.1 The Independent Engineer shall determine the costs, and/or their reasonableness, that are required to be determined by it under the Agreement.
- 8.2 The Independent Engineer shall determine the period, or any extension thereof, that is required to be determined by it under the Agreement.

9 Assistance in Dispute resolution

- 9.1 When called upon by either Party in the event of any Dispute, the Independent Engineer shall mediate and assist the Parties in arriving at an amicable settlement.
- 9.2 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 Independent Engineer shall specify such meaning, scope and nature by issuing a reasoned written statement relying on good industry practice and authentic literature.

10 Other duties and functions

The Independent Engineer shall perform all other duties and functions specified in the Agreement.

11 Miscellaneous

- 11.1 The Independent Engineer shall notify its programmer of inspection to the Authority and to the Concessionaire, who may, in their discretion, depute their respective representatives to be present during the inspection.
- 11.2 A copy of all communications, comments, instructions, Drawings or Documents sent by the Independent Engineer to the Concessionaire pursuant to this TOE, and a copy of all

PUBLIC PRIVATE PARTNERSHIP IN HYBRID ANNUITY PROJECTS

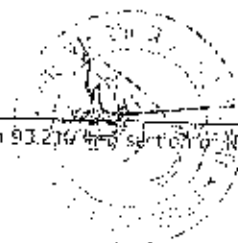
the test results with comments of the Independent Engineer thereon shall be furnished by the Independent Engineer to the Authority forthwith.

- 11.3 The Independent Engineer shall obtain, and the Concessionaire shall furnish in 2(two)..... Copies thereof, all communications and reports required to be submitted, under this Agreement, by the Concessionaire to the Independent Engineer, whereupon the Independent Engineer shall send 1 (one) of the copies to the Authority along with its comments thereon.
- 11.4 The Independent 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.
- 11.5 Upon completion of its assignment hereunder, the Independent Engineer shall duly classify and list all Drawings, Documents, results of tests and other relevant records, and hand them over to the Authority or such other person as the Authority may specify, and obtain written receipt thereof. Two copies of the said documents shall also be furnished in their editable digital format or in such other medium or manner as may be acceptable to the Authority.
- 11.6 Wherever no period has been specified for delivery of services by the Independent Engineer, the Independent Engineer shall act with the efficiency and urgency necessary for discharging its functions in accordance with Good Industry Practice.



SA Lening. of Shanghai to Motahhaghia from km 401.200 to km 494.410 (Length 93.210 km) section of Rd 8 in the
scale of 1:400000 under A-HDP Phase-V (Package-V) on Hybrid Accuracy basis

142



SCHEDULE -O

(See Clause 25.1.2)

ESCROW AGREEMENT

THIS ESCROW AGREEMENT is entered into on this the day of 20 AMONGST

- 1 M/s SHAMLAJI EXPRESSWAY PRIVATE Limited, a company incorporated under the provisions of the Companies Act, 2013 and having its registered office at 501, Naman Centre, C-31, G-Block, Bandra Kurla Complex, Bandra (E), Mumbai - 400051 (Maharashtra) (hereinafter referred to as the "Concessionaire" which expression shall, unless repugnant to the context or meaning thereof, include its successors, permitted assigns and substitutes);
- 2 (insert name and particulars of Lenders' Representative) and having its registered office at acting for and on behalf of the Senior Lenders as their duly authorized agent with regard to matters arising out of or in relation to this Agreement (hereinafter referred to as the "Lenders' Representative" which expression shall, unless repugnant to the context or meaning thereof, include its successors and substitutes);
- 3 (insert name and particulars of the Escrow Bank) and having its registered office at (hereinafter referred to as the "Escrow Bank" which expression shall, unless repugnant to the context or meaning thereof, include its successors and substitutes); and
- 4 The NATIONAL HIGHWAYS AUTHORITY OF INDIA, established under the national Highways Authority of India Act 1988. Represented by its Chairman and having its principal offices at G-5&6, Sector-10 Dwarka, New Delhi 110075 (hereinafter referred to as the "Authority" which expression shall, unless repugnant to the context or meaning thereof, include its administrators, successors and assigns).

WHEREAS:

- (A) The Authority has entered into a Concession Agreement dated with the Concessionaire (the "Concession Agreement") for Six Laning of Shamla ji to Motachilodha from km 401.200 to km 494.410 (Length 93.210 km) section of NH-8 in the State of Gujarat under NHDP Phase -V (Package-VI)Project (the "Project") on design, build, operate and transfer (the "DBOT Annuity or Hybrid Annuity") basis, and a copy of which is annexed hereto and marked as Annex-A to form part of this Agreement.
- (B) Senior Lenders have agreed to finance the Project in accordance with the terms and conditions set forth in the Financing Agreements.
- (C) The Concession Agreement requires the Concessionaire to establish an Escrow Account, inter alia, on the terms and conditions stated therein.

NOW, THEREFORE, in consideration of the foregoing and the respective covenants and agreements set forth in this Agreement, the receipt and sufficiency of which is hereby acknowledged, and intending to be legally bound hereby, the Parties agree as follows:

1 DEFINITIONS AND INTERPRETATION

Six Laning of Shamla ji to Motachilodha from km 401.200 to km 494.410 (Length 93.210 km) section of NH-8 in the State of Gujarat under NHDP Phase -V (Package-VI) on Hybrid Annuity basis.

1.1 Definitions

In this Agreement, the following words and expressions shall, unless repugnant to the context or meaning thereof, have the meaning hereinafter respectively assigned to them:

"Agreement" means this Escrow Agreement and any amendment thereto made in accordance with the provisions contained herein;

"Concession Agreement" means the Concession Agreement referred to in Recital (A) above and annexed hereto as Annex-A, and shall include all of its Recitals and Schedules and any amendments made thereto in accordance with the provisions contained in this behalf therein;

"Cure Period" means the period specified in this Agreement for curing any breach or default of any provision of this Agreement by the Concessionaire, and shall commence from the date on which a notice is delivered by the Authority or the Lenders' Representative, as the case may be, to the Concessionaire asking the latter to cure the breach or default specified in such notice;

"Escrow Account" means an escrow account established in terms of and under this Agreement, and shall include the Sub-Accounts;

"Escrow Default" shall have the meaning ascribed thereto in Clause 6.1;

"Lenders' Representative" means the person referred to as the Lenders' Representative in the foregoing Recitals;

"Parties" means the parties to this Agreement collectively and "Party" shall mean any of the Parties to this Agreement individually;

"Payment Date" means, in relation to any payment specified in Clause 4.1, the date(s) specified for such payment; and

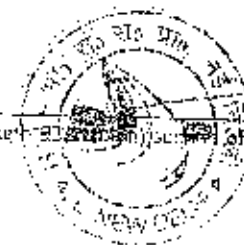
"Sub-Accounts" means the respective sub-accounts of the Escrow Account, into which the monies specified in Clause 4.1 would be credited every month and paid out if due, and if not due in a month then appropriated proportionately in such month and retained in the respective sub-accounts and paid out therefrom on the Payment Date(s).

1.2 Interpretation

1.2.1 References to Lenders' Representative shall, unless repugnant to the context or meaning thereof, mean references to the Lenders' Representative, acting for and on behalf of Senior Lenders.

1.2.2 The words and expressions beginning with capital letters and defined in this Agreement shall have the meaning ascribed thereto herein, and the words and expressions used in this Agreement and not defined herein but defined in the Concession Agreement shall, unless repugnant to the context, have the meaning ascribed thereto in the Concession Agreement.

1.2.3 References to Clauses are, unless stated otherwise, references to Clauses of this Agreement.



- 1.2.4 The rules of interpretation stated in Clauses 1.2, 1.3 and 1.4 of the Concession Agreement shall apply, mutatis mutandis, to this Agreement.

2 ESCROW ACCOUNT

- 2.1 Escrow Bank to act as trustee

- 2.1.1 The Concessionaire hereby appoints the Escrow Bank to act as trustee for the Authority, the Lenders' Representative and the Concessionaire in connection herewith and authorizes the Escrow Bank to exercise such rights, powers, authorities and discretion as are specifically delegated to the Escrow Bank by the terms hereof together with all such rights, powers, authorities and discretion as are reasonably incidental hereto, and the Escrow Bank accepts such appointment pursuant to the terms hereof.

- 2.1.2 The Concessionaire hereby declares that all rights, title and interest in and to the Escrow Account shall be vested in the Escrow Bank and held in trust for the Authority, the Lenders' Representative and the Concessionaire, and applied in accordance with the terms of this Agreement. No person other than the Authority, the Lenders' Representative and the Concessionaire shall have any rights hereunder as the beneficiaries of or as third party beneficiaries under this Agreement.

2.2 Acceptance of Escrow Bank

The Escrow Bank hereby agrees to act as such and to accept all payments and other amounts to be delivered to and held by the Escrow Bank pursuant to the provisions of this Agreement. The Escrow Bank shall hold and safeguard the Escrow Account during the term of this Agreement and shall treat the amount in the Escrow Account as monies deposited by the Concessionaire, Senior Lenders or the Authority with the Escrow Bank. In performing its functions and duties under this Agreement, the Escrow Bank shall act in trust for the benefit of, and as agent for, the Authority, the Lenders' Representative and the Concessionaire or their nominees, successors or assigns, in accordance with the provisions of this Agreement.

2.3 Establishment and operation of Escrow Account

- 2.3.1 Within 30 (thirty) days from the date of this Agreement, and in any case prior to the Appointed Date, the Concessionaire shall open and establish the Escrow Account with the (name of Branch) Branch of the Escrow Bank. The Escrow Account shall be denominated in Rupees.
- 2.3.2 The Escrow Bank shall maintain the Escrow Account in accordance with the terms of this Agreement and its usual practices and applicable regulations, and pay the maximum rate of interest payable to similar customers on the balance in the said account from time to time.
- 2.3.3 The Escrow Bank and the Concessionaire shall, after consultation with the Lenders' Representative, agree on the detailed mandates, terms and conditions, and operating procedures for the Escrow Account, but in the event of any conflict or inconsistency between this Agreement and such mandates, terms and conditions, or procedures, this Agreement shall prevail.



- 2.4 Escrow Bank's fee The Escrow Bank shall be entitled to receive its fee and expenses in an amount, and at such times, as may be agreed between the Escrow Bank and the Concessionaire. For the avoidance of doubt, such fee and expenses shall form part of the O&M Expenses and shall be appropriated from the Escrow Account in accordance with Clause 4.1.
- 2.5 Rights of the Parties Save and except as otherwise provided in the Concession Agreement, the rights of the Authority, the Lenders' Representative and the Concessionaire in the monies held in the Escrow Account are set forth in their entirety in this Agreement and the Authority, the Lenders' Representative and the Concessionaire shall have no other rights against or to the monies in the Escrow Account.
- 2.6 Substitution of the Concessionaire The Parties hereto acknowledge and agree that upon substitution of the Concessionaire with the Nominated Company, pursuant to the Substitution Agreement, it shall be deemed for the purposes of this Agreement that the Nominated Company is a Party hereto and the Nominated Company shall accordingly be deemed to have succeeded to the rights and obligations of the Concessionaire under this Agreement on and with effect from the date of substitution of the Concessionaire with the Nominated Company.

3 DEPOSITS INTO ESCROW ACCOUNT

3.1 Deposits by the Concessionaire

3.1.1 The Concessionaire agrees and undertakes that it shall deposit into and/or credit the Escrow Account with:

- (a) All monies received in relation to the Project from any source, including the Senior Lenders, lenders of Subordinated Debt and the Authority;
- (b) All funds received by the Concessionaire from its shareholders, in any manner or form;
- (c) Any other revenues; rentals, deposits or capital receipts, as the case may be, from or in respect of the Project; and
- (d) All proceeds received pursuant to any insurance claims.

3.1.2 The Concessionaire may at any time make deposits of its other funds into the Escrow Account, provided that the provisions of this Agreement shall apply to such deposits.

3.2 Deposits by the Authority

The Authority agrees and undertakes that, as and when due and payable, it shall deposit into and/or credit the Escrow Account with:

- (a) Grant and any other monies disbursed by the Authority to the Concessionaire;
- (b) All revenues collected by the Authority in exercise of its rights under the Concession Agreement; and
- (c) Termination Payments

Provided that, notwithstanding the provisions of Clause 4.1.1, the Authority shall be entitled to appropriate from the aforesaid amounts, any amounts due and payable to it



by the Concessionaire, and the balance remaining shall be deposited into the Escrow Account.

3.3 Deposits by Senior Lenders

The Lenders' Representative agrees, confirms and undertakes that the Senior Lenders shall deposit into and/or credit the Escrow Account with all disbursements made by them in relation to or in respect of the Project; provided that notwithstanding anything to the contrary contained in this Agreement, the Senior Lenders shall be entitled to make direct payments to the EPC Contractor under and in accordance with the express provisions contained in this behalf in the Financing Agreements.

3.4 Interest on deposits

The Escrow Bank agrees and undertakes that all interest accruing on the balances of the Escrow Account shall be credited to the Escrow Account; provided that the Escrow Bank shall be entitled to appropriate therefrom the fee and expenses due to it from the Concessionaire in relation to the Escrow Account and credit the balance remaining to the Escrow Account.

4 WITHDRAWALS FROM ESCROW ACCOUNT

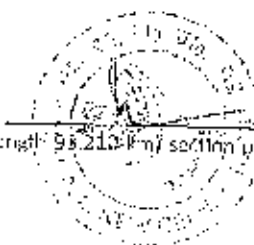
4.1 Withdrawals during Concession Period

4.1.1 At the beginning of every month, or at such shorter intervals as the Lenders' Representative and the Concessionaire may by written instructions determine, the Escrow Bank shall withdraw amounts from the Escrow Account and appropriate them in the following order by depositing such amounts in the relevant Sub-Accounts for making due payments, and if such payments are not due in any month, then retain such monies in such Sub-Accounts and pay out there from on the Payment Date(s):

- (a) All taxes due and payable by the Concessionaire for and in respect of the Project;
- (b) Deleted;
- (c) All payments relating to construction of the Project, subject to and in accordance with the conditions, if any, set forth in the Financing Agreements;
- (d) O&M Expenses, subject to the ceiling, if any, set forth in the Financing Agreements;
- (e) O&M Expenses and other costs and expenses incurred by the Authority in accordance with the provisions of the Concession Agreement, and certified by the Authority as due and payable to it;
- (f) Any amounts due and payable to the Authority;
- (g) Monthly proportionate provision of Debt Service due in an Accounting Year;
- (h) all payments and Damages certified by the Authority as due and payable to it by the Concessionaire pursuant to the Concession Agreement;



Ex. Lening. of Shamlaji to Nartachi odha from km 401.200 to km 494.410 (Length: 93.210 km) section of NH-8 in the State of Gujarat under NHDP Phase-V (Package-V) on Hybrid Annuity basis



PUBLIC PRIVATE PARTNERSHIP IN HYBRID ANNUITY PROJECTS

- (i) Monthly proportionate provision of debt service payments due in an Accounting Year in respect of Subordinated Debt;
- (j) any reserve requirements set forth in the Financing Agreements; and
- (k) Balance, if any, in accordance with the instructions of the Concessionaire.

4.1.2 No later than 60 (sixty) days prior to the commencement of each Accounting Year, the Concessionaire shall provide to the Escrow Bank, with prior written approval of the Lenders' Representative, details of the amounts likely to be required for each of the payment obligations set forth in this Clause 4.1; provided that such amounts may be subsequently modified, with prior written approval of the Lenders' Representative, if fresh information received during the course of the year makes such modification necessary.

4.2 Withdrawals upon Termination upon Termination of the Concession Agreement, all amounts standing to the credit of the Escrow Account shall, notwithstanding anything in this Agreement, be appropriated and dealt with in the following order:

- (a) All taxes due and payable by the Concessionaire for and in respect of the Project;
- (b) Deleted;
- (c) 90% (ninety per cent) of Debt Due excluding Subordinated Debt;
- (d) all payments and Damages certified by the Authority as due and payable to it by the Concessionaire pursuant to the Concession Agreement, including any claims in connection with or arising out of Termination;
- (e) Retention and payments arising out of, or in relation to, liability for defects and deficiencies set forth in Article 33 of the Concession Agreement;
- (f) Outstanding Debt Service including the balance of Debt Due;
- (g) Outstanding Subordinated Debt;
- (h) Incurred or accrued O&M Expenses;
- (i) Any other payments required to be made under the Concession Agreement; and
- (j) Balance, if any, in accordance with the instructions of the Concessionaire: Provided that the disbursements specified in Sub-clause (i) of this Clause 4.2 shall be undertaken only after the Vesting Certificate has been issued by the Authority.

4.3 Application of insufficient funds:

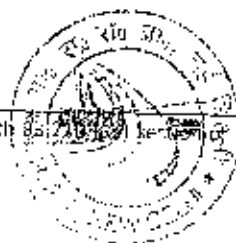
Funds in the Escrow Account shall be applied in the serial order of priority set forth in Clauses 4.1 and 4.2, as the case may be. If the funds available are not sufficient to meet all the requirements, the Escrow Bank shall apply such funds in the serial order of priority until exhaustion thereof.

4.4 Application of insurance proceeds



Six Lanes of Shirdole to Motachmodhe from km 491.200 to km 494.610 (Length 35.210 Km) Section of NH 5 in the State of Gujarat under NHDP Phase-VI (Package-VI) on Hybrid Annuity Basis

248



Notwithstanding anything in this Agreement, the proceeds from all insurance claims, except life and injury, shall be deposited into and/or credited to the Escrow Account and utilized for any necessary repair, reconstruction, reinstatement, replacement, improvement, delivery or installation of the Project, and the balance remaining, if any, shall be applied in accordance with the provisions contained in this behalf in the Financing Agreements.

4.5 Withdrawals during Suspension

Notwithstanding anything to the contrary contained in this Agreement, the Authority may exercise all or any of the rights of the Concessionaire during the period of Suspension under Article 30 of the Concession Agreement. Any instructions given by the Authority to the Escrow Bank during such period shall be complied with as if such instructions were given by the Concessionaire under this Agreement and all actions of the Authority hereunder shall be deemed to have been taken for and on behalf of the Concessionaire.

5 OBLIGATIONS OF THE ESCROW BANK

5.1 Segregation of funds

Monies and other property received by the Escrow Bank under this Agreement shall, until used or applied in accordance with this Agreement, be held by the Escrow Bank in trust for the purposes for which they were received, and shall be segregated from other funds and property of the Escrow Bank.

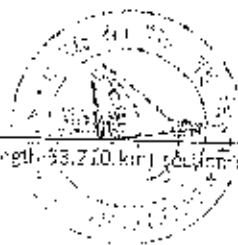
5.2 Notification of balances

7(seven) business days prior to each Payment Date (and for this purpose the Escrow Bank shall be entitled to rely on an affirmation by the Concessionaire and/or the Lenders' Representative as to the relevant Payment Dates), the Escrow Bank shall notify the Lenders' Representative of the balances in the Escrow Account and Sub-Accounts as at the close of business on the immediately preceding business day.

5.3 Communications and notices

In discharge of its duties and obligations hereunder, the Escrow Bank:

- (a) May, in the absence of bad faith or gross negligence on its part, rely as to any matters of fact which might reasonably be expected to be within the knowledge of the Concessionaire upon a certificate signed by or on behalf of the Concessionaire;
- (b) may, in the absence of bad faith or gross negligence on its part, rely upon the authenticity of any communication or document believed by it to be authentic;
- (c) shall, within 5 (five) business days after receipt, deliver a copy to the Lenders' Representative of any notice or document received by it in its capacity as the Escrow Bank from the Concessionaire or any other person hereunder or in connection herewith; and



- (d) shall, within 5 (five) business days after receipt, deliver a copy to the Concessionaire of any notice or document received by it from the Lenders' Representative in connection herewith.

5.4 No set off

The Escrow Bank agrees not to claim or exercise any right of set off, banker's lien or other right or remedy with respect to amounts standing to the credit of the Escrow Account. For the avoidance of doubt, it is hereby acknowledged and agreed by the Escrow Bank that the monies and properties held by the Escrow Bank in the Escrow Account shall not be considered as part of the assets of the Escrow Bank and being trust property, shall in the case of bankruptcy or liquidation of the Escrow Bank, be wholly excluded from the assets of the Escrow Bank in such bankruptcy or liquidation.

5.5 Regulatory approvals

The Escrow Bank shall use its best efforts to procure, and thereafter maintain and comply with, all regulatory approvals required for it to establish and operate the Escrow Account. The Escrow Bank represents and warrants that it is not aware of any reason why such regulatory approvals will not ordinarily be granted to the Escrow Bank.

6 ESCROW DEFAULT

6.1 Escrow Default

- 6.1.1 Following events shall constitute an event of default by the Concessionaire (an "Escrow Default") unless such event of default has occurred as a result of Force Majeure or any act or omission of the Authority or the Lenders' Representative:

- (a) the Concessionaire commits breach of this Agreement by failing to deposit any receipts into the Escrow Account as provided herein and fails to cure such breach by depositing the same into the Escrow Account within a Cure Period of 5 (five) business days;
- (b) the Concessionaire causes the Escrow Bank to transfer funds to any account of the Concessionaire in breach of the terms of this Agreement and fails to cure such breach by depositing the relevant funds into the Escrow Account or any Sub-Account in which such transfer should have been made, within a Cure Period of 5 (five) business days; or
- (c) the Concessionaire commits or causes any other breach of the provisions of this Agreement and fails to cure the same within a Cure Period of 5 (five) business days.

- 6.1.2 Upon occurrence of an Escrow Default, the consequences thereof shall be dealt with under and in accordance with the provisions of the Concession Agreement.

7 TERMINATION OF ESCROW AGREEMENT

7.1 Duration of the Escrow Agreement

This Agreement shall remain in full force and effect so long as any sum remains to be advanced or is outstanding from the Concessionaire in respect of the debt, guarantee or financial assistance received by it from the Senior Lenders, or any of its obligations to

the Authority remain to be discharged, unless terminated earlier by consent of all the Parties or otherwise in accordance with the provisions of this Agreement.

7.2 Substitution of Escrow Bank

The Concessionaire may, by not less than 45 (forty five) days prior notice to the Escrow Bank, the Authority and the Lenders' Representative, terminate this Agreement and appoint a new Escrow Bank, provided that the new Escrow Bank is acceptable to the Lenders' Representative and arrangements are made satisfactory to the Lenders' Representative for transfer of amounts deposited in the Escrow Account to a new Escrow Account established with the successor Escrow Bank.

The termination of this Agreement shall take effect only upon coming into force of an Escrow Agreement with the substitute Escrow Bank.

7.3 Closure of Escrow Account

The Escrow Bank shall, at the request of the Concessionaire and the Lenders' Representative made on or after the payment by the Concessionaire of all outstanding amounts under the Concession Agreement and the Financing Agreements including the payments specified in Clause 4.2, and upon confirmation of receipt of such payments, close the Escrow Account and Sub-Accounts and pay any amount standing to the credit thereof to the Concessionaire. Upon closure of the Escrow Account hereunder, the Escrow Agreement shall be deemed to be terminated.

8 SUPPLEMENTARY ESCROW AGREEMENT

8.1 Supplementary escrow agreement

The Lenders' Representative and the Concessionaire shall be entitled to enter into a supplementary escrow agreement with the Escrow Bank providing, inter alia, for detailed procedures and documentation for withdrawals from Sub-Accounts pursuant to Clause 4.1.1 and for matters not covered under this Agreement such as the rights and obligations of Senior Lenders and lenders of Subordinated Debt, investment of surplus funds, restrictions on withdrawals by the Concessionaire in the event of breach of this Agreement or upon occurrence of an Escrow Default, procedures relating to operation of the Escrow Account and withdrawal there from, reporting requirements and any matters incidental thereto; provided that such supplementary escrow agreement shall not contain any provision which is inconsistent with this Agreement and in the event of any conflict or inconsistency between provisions of this Agreement and such supplementary escrow agreement, the provisions of this Agreement shall prevail.

9 INDEMNITIES

9.1 General indemnity

- 9.1.1** The Concessionaire will indemnify, defend and hold the Authority, Escrow Bank and the Senior Lenders, acting through the Lenders' Representative, harmless against any and all proceedings, actions and third party claims for any loss, damage, cost and expense arising out of any breach by the Concessionaire of any of its obligations under this Agreement or on account of failure of the Concessionaire to comply with Applicable Laws and Applicable Permits.

- 9.1.2 The Authority will indemnify, defend and hold the Concessionaire harmless against any and all proceedings, actions and third party claims for any loss, damage, cost and expense arising out of failure of the Authority to fulfil any of its obligations under this Agreement materially and adversely affecting the performance of the Concessionaire's obligations under the Concession Agreement or this Agreement other than any loss, damage, cost and expense arising out of acts done in discharge of their lawful functions by the Authority, its officers, servants and agents.
- 9.1.3 The Escrow Bank will indemnify, defend and hold the Concessionaire harmless against any and all proceedings, actions and third party claims for any loss, damage, cost and expense arising out of failure of the Escrow Bank to fulfil its obligations under this Agreement materially and adversely affecting the performance of the Concessionaire's obligations under the Concession Agreement other than any loss, damage, cost and expense, arising out of acts done in discharge of their lawful functions by the Escrow Bank, its officers, servants and agents.

9.2 Notice and contest of claims

In the event that any Party hereto receives a claim from a third party in respect of which it is entitled to the benefit of an indemnity under Clause 9.1 or in respect of which it is entitled to reimbursement (the "Indemnified Party"), it shall notify the other Party responsible for indemnifying such claim hereunder (the "Indemnifying Party") within 15 (fifteen) days of receipt of the claim and shall not settle or pay the claim without the prior approval of the Indemnifying Party, which approval shall not be unreasonably withheld or delayed. In the event that the Indemnifying Party wishes to contest or dispute the claim, it may conduct the proceedings in the name of the Indemnified Party and shall bear all costs involved in contesting the same. The Indemnified Party shall provide all cooperation and assistance in contesting any claim and shall sign all such writings and documents as the Indemnifying Party may reasonably require.

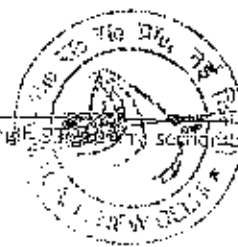
10 DISPUTE RESOLUTION

10.1 Dispute resolution

- 10.1.1 Any dispute, difference or claim arising out of or in connection with this Agreement, which is not resolved amicably, shall be decided finally by reference to arbitration to a Board of Arbitrators comprising one nominee of each Party to the dispute, and where the number of such nominees is an even number, the nominees shall elect another person to such Board. Such arbitration shall be held in accordance with the Rules of Arbitration of the International Centre for Alternative Dispute Resolution, New Delhi (the "Rules") or such other rules as may be mutually agreed by the Parties, and shall be subject to the provisions of the Arbitration and Conciliation Act, 1996.
- 10.1.2 The Arbitrators shall issue a reasoned award and such award shall be final and binding on the Parties. The place of arbitration shall be the capital of the State and the language of arbitration shall be English.

11. MISCELLANEOUS PROVISIONS

11.1 Governing law and jurisdiction



PUBLIC PRIVATE PARTNERSHIP IN HYBRID ANNUITY PROJECTS

This Agreement shall be construed and interpreted in accordance with and governed by the laws of India, and the courts in the State shall have jurisdiction over all matters arising out of or relating to this Agreement.

11.2 Waiver of sovereign immunity The Authority unconditionally and irrevocably:

- (a) agrees that the execution, delivery and performance by it of this Agreement constitute commercial acts done and performed for commercial purpose;
- (b) agrees that, should any proceedings be brought against it or its assets, property or revenues in any jurisdiction in relation to this Agreement or any transaction contemplated by this Agreement, no immunity (whether by reason of sovereignty or otherwise) from such proceedings shall be claimed by or on behalf of the Authority with respect to its assets;
- (c) waives any right of immunity which it or its assets, property or revenues now has, may acquire in the future or which may be attributed to it in any jurisdiction; and
- (d) consents generally in respect of the enforcement of any judgment or award against it in any such proceedings to the giving of any relief or the issue of any process in any jurisdiction in connection with such proceedings (including the making, enforcement or execution against it or in respect of any assets, property or revenues whatsoever irrespective of their use or intended use of any order or judgment that may be made or given in connection therewith).

11.3 Priority of agreements

In the event of any conflict between the Concession Agreement and this Agreement, the provisions contained in the Concession Agreement shall prevail over this Agreement.

11.4 Alteration of terms

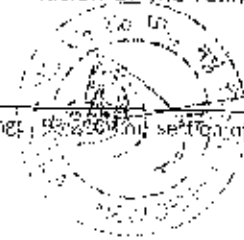
All additions, amendments, modifications and variations to this Agreement shall be effectual and binding only if in writing and signed by the duly authorized representatives of the Parties.

11.5 Waiver

11.5.1 Waiver by any Party of a default by another Party in the observance and performance of any provision of or obligations under this Agreement:

- (a) Shall not operate or be construed as a waiver of any other or subsequent default hereof or of other provisions of or obligations under this Agreement;
- (b) shall not be effective unless it is in writing and executed by a duly authorized representative of the Party; and
- (c) shall not affect the validity or enforceability of this Agreement in any manner.

11.5.2 Neither the failure by any Party to insist on any occasion upon the performance of the terms, conditions and provisions of this Agreement or any obligation thereunder nor time or other indulgence granted by any Party to another Party shall be treated or deemed as waiver of such breach or acceptance of any variation or the relinquishment of any such right hereunder.



PUBLIC PRIVATE PARTNERSHIP IN HYBRID ANNUITY PROJECTS

11.6 No third party beneficiaries This Agreement is solely for the benefit of the Parties and no other person or entity shall have any rights hereunder.

11.7 Survival

11.7.1 Termination of this Agreement:

- (a) shall not relieve the Parties of any obligations hereunder which expressly or by implication survive termination hereof; and
- (b) except as otherwise provided in any provision of this Agreement expressly limiting the liability of either Party, shall not relieve either Party of any obligations or liabilities for loss or damage to the other Party arising out of, or caused by, acts or omissions of such Party prior to the effectiveness of such termination or arising out of such termination.

11.7.2 All obligations surviving the cancellation, expiration or termination of this Agreement shall only survive for a period of 3 (three) years following the date of such termination or expiry of this Agreement.

11.8 Severability

If for any reason whatever any provision of this Agreement is or becomes invalid, illegal or unenforceable or is declared by any court of competent jurisdiction or any other instrumentality to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions shall not be affected in any manner, and the Parties will negotiate in good faith with a view to agreeing to one or more provisions which may be substituted for such invalid, unenforceable or illegal provisions, as nearly as is practicable to such invalid, illegal or unenforceable provision. Failure to agree upon any such provisions shall not be subject to dispute resolution under Clause 10.1 of this Agreement or otherwise.

11.9 Successors and assigns

This Agreement shall be binding on and shall inure to the benefit of the Parties and their respective successors and permitted assigns.

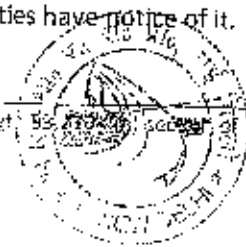
11.10 Notices

All notices or other communications to be given or made under this Agreement shall be in writing and shall either be delivered personally or sent by courier or registered post with an additional copy to be sent by facsimile or e-mail. The address for service of each Party, its facsimile number and e-mail are set out under its name on the signing pages hereto. A notice shall be effective upon actual receipt thereof, save that where it is received after 5.30 (five thirty) p.m. on a business day, or on a day that is not a business day, the notice shall be deemed to be received on the first business day following the date of actual receipt. Without prejudice to the foregoing, a Party giving or making a notice or communication by facsimile or e-mail shall promptly deliver a copy thereof personally, or send it by courier or registered post to the addressee of such notice or communication. It is hereby agreed and acknowledged that any Party may by notice change the address to which such notices and communications to it are to be delivered or mailed. Such change shall be effective when all the Parties have notice of it.



Six Kilometre of Sharalaji to Metachhedna from km 401.200 to km 404.410 (Length: 33.210 Km) section of NH-8 in the State of Gujarat under NHCP Phase-VI Package-VII of Hybrid Annuity cost

354



PUBLIC PRIVATE PARTNERSHIP IN HYBRID ANNUITY PROJECTS

11.11 Language

All notices, certificates, correspondence and proceedings under or in connection with this Agreement shall be in English.

11.12 Authorized representatives

Each of the Parties shall, by notice in writing, designate their respective authorized representatives through whom only all communications shall be made. A Party hereto shall be entitled to remove and/or substitute or make fresh appointment of such authorized representative by similar notice.

11.13 Original Document

This Agreement may be executed in four counterparts, each of which when executed and delivered shall constitute an original of this Agreement.

IN WITNESS WHEREOF THE PARTIES HAVE EXECUTED AND DELIVERED THIS AGREEMENT
AS OF THE DATE FIRST ABOVE WRITTEN.

THE COMMON SEAL OF CONCESSIONAIRE has been affixed pursuant to the resolution passed by the Board of Directors of the Concessionaire has been affixed For and on behalf of pursuant to the resolution passed by the SENIOR LENDERS by the Board of Directors of the Concessionaire Lenders Representative: at its meeting held on the day of 20 hereunto affixed in the presence of, Director, who has signed these presents in token thereof and Company Secretary / Authorized Officer who has countersigned the same in token thereof²

AND DELIVERED
For and on behalf of
SENIOR LENDERS by the
Lender's representative:

(Signature)

(Signature)

(Name)

(Name)

(Designation)

(Designation)

(Address)

(Address)

(Fax No.)

(Fax No.)

(E-mail address)

(E-mail address)

SIGNED, SEALED AND

SIGNED, SEALED AND

DELIVERED

DELIVERED

For and on behalf of

for and on behalf of

²To be affixed in accordance with the articles of association of the Concessionaire and the resolution passed by its Board of Directors.

PUBLIC PRIVATE PARTNERSHIP IN HYBRID ANNUITY PROJECTS

THE ESCROW BANK by

{Signature}

{Name}

{Designation}

{Address}

{Fax No.}

{E-mail address}

SIGNED, SEALED

In the presence of: 1.

THE AUTHORITY by:

{Signature}

{Name}

{Designation}

{Address}

{Fax No.}

{E-mail address}

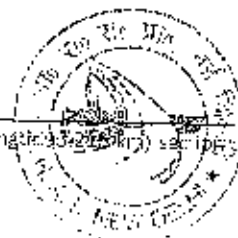
2.



Sanctioning of Shamlaji to Motchilodha from km 401.200 to km 494.410 (Longitude 3.25 km) section of NH-8 in the State of Gujarat under NHDP Phase-V (Package-V) on Hybrid Annuity basis

[Handwritten signature]

658



SCHEDULE - P

(See Clause 27.2.1)

PANEL OF CHARTERED ACCOUNTANTS

1 Panel of Chartered Accountants

Pursuant to the provisions of Clause 27.2.1 of the Agreement, the Authority and the Concessionaire shall prepare a mutually agreed panel of 5 (five) reputable firms of Chartered Accountants having their registered offices in India (the "Panel of Chartered Accountants"). The criteria for preparing such Panel and the procedure to be adopted in this behalf shall be as set forth in this Schedule-P.

2 Invitation for empanelment

2.1 The Authority shall invite offers from all reputed firms of Chartered Accountants who fulfil the following eligibility criteria, namely:

- (a) the firm should have conducted statutory audit of the annual accounts of at least one hundred companies registered under the Companies Act, 1956, including any re-enactment or amendment thereof, of which at least ten should have been public sector undertakings;
- (b) The firm should have at least 5 (five) practicing Chartered Accountants on its rolls, each with a minimum experience of ten years in the profession;
- (c) The firm or any of its partners should not have been disqualified or black-listed by the Comptroller and Auditor General of India or the Authority; and
- (d) The firm should have an office in the State or in an adjacent State with at least 2 (two) practicing Chartered Accountants on its rolls in such State.

2.2 Interested firms meeting the eligibility criteria shall be required to submit a statement of their capability including the bio-data of all the practicing Chartered Accountants on its rolls. In particular, each firm shall be required to furnish year-wise information relating to the names of all the companies with an annual turnover exceeding Rs. 25,00,00,000 (Rs. twenty five crore) whose annual accounts were audited by such firm in any of the preceding 5 (five) Accounting Years

3 Evaluation and selection

3.1 The information furnished by each firm shall be scrutinized and evaluated by the Authority and 1 (one) point shall be awarded for each annual audit of the companies specified in Paragraph 2.2 above. (For the avoidance of doubt and by way of illustration, a firm which has conducted audit of the annual accounts of any such company for 5 (five) years shall be awarded 5 (five) points).

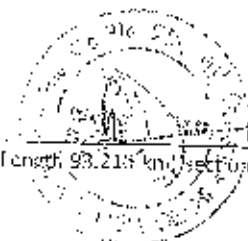
3.2 The Authority shall prepare a list of all the eligible firms along with the points scored by each such firm and 5 (five) firms scoring the highest points shall be identified and included in the draft Panel of Chartered Accountants.

4 Consultation with the Concessionaire



Six lane of Shantiaji to Motalhisola from km 401.200 to km 494.410 (Length: 93.218 km) section of NH-6 in the State of Gujarat under NHDP Phase - II ; Package - IV) on Hybrid Annuity basis

10/5/17



PUBLIC PRIVATE PARTNERSHIP IN HYBRID ANNUITY PROJECTS

The Authority shall convey the aforesaid panel of firms to the Concessionaire for scrutiny and comments, if any. The Concessionaire shall be entitled to scrutinize the relevant records of the Authority to ascertain whether the selection of firms has been undertaken in accordance with the prescribed procedure and it shall send its comments, if any, to the Authority within 15 (fifteen) days of receiving the aforesaid panel.

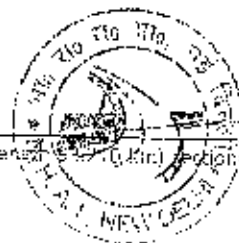
5 Mutually agreed panel

- 5.1 The Authority shall, after considering all relevant factors including the comments, if any, of the Concessionaire, finalize and constitute a panel of 5 (five) firms which shall be deemed to be the mutually agreed Panel of Chartered Accountants.
- 5.2 After completion of every 5 (five) years from the date of preparing the mutually agreed Panel of Chartered Accountants, or such earlier period as may be agreed between the Authority and the Concessionaire, a new panel shall be prepared in accordance with the provisions of this Schedule-P.



Sanctioning of Shantia J to Morant Road from km 401.200 to km 494.410 (Length 93.210 Km) Section of NH 8 in the State of Gujarat Under NHDP Phase -IV (Package-VI) on Hybrid Annuity basis

436



SCHEDULE - Q

(See Clause 32.4)

VESTING CERTIFICATE

- 1 The Chairman, National Highways Authority of India (the "Authority") refers to the Concession Agreement dated (the "Agreement") entered into between the Authority and M/s SHAMLAJI EXPRESSWAY PRIVATE LIMITED (the "Concessionaire") for **Six Laning of Shamla ji to Motachilodha from km 401.200 to km 494.410 (Length 93.210 km) section of NH-8 in the State of Gujarat under NHDP Phase -V (Package-VI) (the "Project Highway")** on design, build, operate and transfer ("DBOT Annuity or Hybrid Annuity") basis.
- 2 The Authority hereby acknowledges compliance and fulfilment by the Concessionaire of the Divestment Requirements set forth in Clause 32.1 of the Agreement on the basis that upon issue of this Vesting Certificate, the Authority shall be deemed to have acquired, and all title and interest of the Concessionaire in or about the Project shall be deemed to have vested unto the Authority, free from any encumbrances, charges and liens whatsoever.
- 3 Notwithstanding anything to the contrary contained hereinabove, it shall be a condition of this Vesting Certificate that nothing contained herein shall be construed or interpreted as waiving the obligation of the Concessionaire to rectify and remedy any defect or deficiency in any of the Divestment Requirements and/or relieving the Concessionaire in any manner of the same.

Signed this..... day of....., 20..... At.....

AGREED, ACCEPTED AND SIGNED

SIGNED, SEALED AND DELIVERED

For and on behalf of

for and on behalf of

CONCESSIONAIRE by:

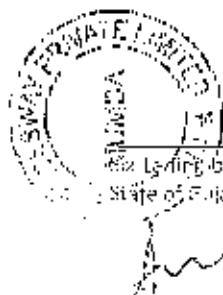
AUTHORITY by:

(Signature)	(Signature)
(Name)	(Name)
(Designation)	(Designation)
(Address)	(Address)

In the presence of:

1.

2.



Six Laning of Shamla ji to Motachilodha from km 401.200 to km 494.410 (Length 93.210 km) section of NH-8 in the State of Gujarat under NHDP Phase -V (Package-VI) on Hybrid Annuity basis

9/5/20



SCHEDULE - R

(See Clause 34.3.1)

SUBSTITUTION AGREEMENT

THIS SUBSTITUTION AGREEMENT is entered into on this the.....day of.....20.....

AMONGST

- 1 **THE NATIONAL HIGHWAYS AUTHORITY OF INDIA**, established under the National Highways Authority of India Act 1988, represented by its Chairman and having its principal offices at G-5 & 6, Sector 10, Dwarka, New Delhi-110075 (Hereinafter referred to as the "Authority" which expression shall unless repugnant to the context or meaning thereof include its administrators, successors and assigns);
- 2 M/s SHAMLAJI EXPRESSWAY PRIVATE Limited, a company incorporated under the provisions of the Companies Act, 2013 and having its registered office at 501, Naman Centre, C-31, G-Block, Bandra Kurla Complex, Bandra (E), Mumbai - 400051 (Maharashtra) (Hereinafter referred to as the "Concessionaire" which expression shall unless repugnant to the context or meaning thereof include its successors and permitted assigns and substitutes);
- 3 (insert name and particulars of Lenders' Representative) and having its registered office at....., acting for and on behalf of the Senior Lenders as their duly authorized agent with regard to matters arising out of or in relation to this Agreement (hereinafter referred to as the "Lenders' Representative", which expression shall unless repugnant to the context or meaning thereof include its successors and substitutes);

WHEREAS:

- (A) The Authority has entered into a Concession Agreement dated..... With the Concessionaire (the "Concession Agreement") for the Six Laning of Shamla ji to Motachilodha from km 401.200 to km 494.410 (Length 93.210 km) section of NH-8 in the State of Gujarat under NHDP Phase-V (Package-VI) Project (the "Project") on design, build, operate and transfer basis (the "DBOT Annuity or Hybrid Annuity"), and a copy of which is annexed hereto and marked as Annex-A to form part of this Agreement.
- (B) Senior Lenders have agreed to finance the Project in accordance with the terms and conditions set forth in the Financing Agreements.
- (C) Senior Lenders have requested the Authority to enter into this Substitution Agreement for securing their interests through assignment, transfer and substitution of the Concession to a Nominated Company in accordance with the provisions of this Agreement and the Concession Agreement.
- (D) In order to enable implementation of the Project including its financing, construction, operation and maintenance, the Authority has agreed and undertaken to transfer and



For Shamla ji to Motachilodha from km 401.200 to km 494.410 (Length 93.210 km) section of NH-8 in the State of Gujarat under NHDP Phase-V (Package-VI) on Hybrid Annuity basis

assign the Concession to a Nominated Company in accordance with the terms and conditions set forth in this Agreement and the Concession Agreement.

NOW, THEREFORE, in consideration of the foregoing and the respective covenants and agreements set forth in this Agreement, the receipt and sufficiency of which is hereby acknowledged, and intending to be legally bound hereby, the Parties agree as follows:

1 DEFINITIONS AND INTERPRETATION

1.1 Definitions

In this Substitution Agreement, the following words and expressions shall, unless repugnant to the context or meaning thereof, have the meaning hereinafter respectively assigned to them: **"Agreement"** means this Substitution Agreement and any amendment thereto made in accordance with the provisions contained in this Agreement;

"Financial Default" means occurrence of a material breach of the terms and conditions of the Financing Agreements or a continuous default in Debt Service by the Concessionaire for a minimum period of 3 (three) months;

"Lenders' Representative" means the person referred to as the Lenders' Representative in the foregoing Recitals;

"Nominated Company" means a company, incorporated under the provisions of the Companies Act, 1956, including any re-enactment or amendment thereof, selected by the Lenders' Representative, on behalf of Senior Lenders, and proposed to the Authority for assignment/transfer of the Concession as provided in this Agreement;

"Notice of Financial Default" shall have the meaning ascribed thereto in Clause 3.2.1; and

"Parties" means the parties to this Agreement collectively and **"Party"** shall mean any of the Parties to this Agreement individually.

1.2 Interpretation

1.2.1 References to Lenders' Representative shall, unless repugnant to the context or meaning thereof, mean references to the Lenders' Representative, acting for and on behalf of Senior Lenders.

1.2.2 References to Clauses are, unless stated otherwise, references to Clauses of this Agreement.

1.2.3 The words and expressions beginning with capital letters and defined in this Agreement shall have the meaning ascribed thereto herein, and the words and expressions used in this Agreement and not defined herein but defined in the Concession Agreement shall, unless repugnant to the context, have the meaning ascribed thereto in the Concession Agreement.

1.2.4 The rules of interpretation stated in Clauses 1.2, 1.3 and 1.4 of the Concession Agreement shall apply, mutatis mutandis, to this Agreement.

2 ASSIGNMENT

Substitution of Shemla J to Motachikodha from km 401.200 to km 494.410 (Length 93.210 Km) section of NH-8 in the State of Gujarat under NH-37 Phase - VI (Package-VI) on Hybrid Annuity basis



2.1 Assignment of rights and title

The Concessionaire hereby agrees to assign the rights, title and interest in the Concession to, and in favor of, the Lenders' Representative pursuant to and in accordance with the provisions of this Agreement and the Concession Agreement by way of security in respect of financing by the Senior Lenders under the Financing Agreements.

3 SUBSTITUTION OF THE CONCESSIONAIRE

3.1 Rights of substitution

3.1.1 Pursuant to the rights, title and interest assigned under Clause 2.1, the Lenders' Representative shall be entitled to substitute the Concessionaire by a Nominated Company under and in accordance with the provisions of this Agreement and the Concession Agreement.

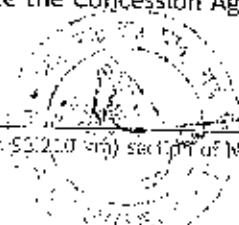
3.1.2 The Authority hereby agrees to substitute the Concessionaire by endorsement on the Concession Agreement in favor of the Nominated Company selected by the Lenders' Representative in accordance with this Agreement. For the avoidance of doubt, the Senior Lenders or the Lenders' Representative shall not be entitled to operate and maintain the Project as Concessionaire either individually or collectively.

3.2 Substitution upon occurrence of Financial Default

3.2.1 Upon occurrence of a Financial Default, the Lenders' Representative may issue a notice to the Concessionaire (the "Notice of Financial Default") along with particulars thereof, and send a copy to the Authority for its information and record. A Notice of Financial Default under this Clause 3 shall be conclusive evidence of such Financial Default and it shall be final and binding upon the Concessionaire for the purposes of this Agreement.

3.2.2 Upon issue of a Notice of Financial Default hereunder, the Lenders' Representative may, without prejudice to any of its rights or remedies under this Agreement or the Financing Agreements, substitute the Concessionaire by a Nominated Company in accordance with the provisions of this Agreement.

3.2.3 At any time after the Lenders' Representative has issued a Notice of Financial Default, it may by notice require the Authority to suspend all the rights of the Concessionaire and undertake the operation and maintenance of the Project in accordance with the provisions of Article 30 of the Concession Agreement, and upon receipt of such notice, the Authority shall undertake Suspension under and in accordance with the provisions of the Concession Agreement. The aforesaid Suspension shall be revoked upon substitution of the Concessionaire by a Nominated Company, and in the event such substitution is not completed within 180 (one hundred and eighty) days from the date of such Suspension, the Authority may terminate the Concession Agreement forthwith by issuing a Termination Notice in accordance with the provisions of the Concession Agreement; provided that upon written request from the Lenders' Representative and the Concessionaire, the Authority may extend the aforesaid period of 180 (one hundred and eighty) days by a period not exceeding 90 (ninety) days. For the avoidance of doubt, the Authority expressly agrees and undertakes to terminate the Concession Agreement



forthwith, upon receipt of a written request from the Lenders' Representative at any time after 240 (two hundred and forty) days from the date of Suspension hereunder.

3.3 Substitution upon occurrence of Concessionaire Default

3.3.1 Upon occurrence of a Concessionaire Default, the Authority shall by a notice inform the Lenders' Representative of its intention to issue a Termination Notice and grant 15 (fifteen) days' time to the Lenders' Representative to make a representation, stating the intention to substitute the Concessionaire by a Nominated Company.

3.3.2 In the event that the Lenders' Representative makes a representation to the Authority within the period of 15 (fifteen) days specified in Clause 3.3.1, stating that it intends to substitute the Concessionaire by a Nominated Company, the Lenders' Representative shall be entitled to undertake and complete the substitution of the Concessionaire by a Nominated Company in accordance with the provisions of this Agreement within a period of 180 (one hundred and eighty) days from the date of such representation, and the Authority shall either withhold Termination or undertake Suspension for the aforesaid period of 180 (one hundred and eighty) days; provided that upon written request from the Lenders' Representative and the Concessionaire, the Authority shall extend the aforesaid period of 180 (one hundred and eighty) days by a period not exceeding 90 (ninety) days; provided further that the Lenders' Representative may at any time withdraw its representation hereunder and upon such withdrawal, the Authority may terminate this Agreement in accordance with the provisions hereof.

3.4 Procedure for substitution

3.4.1 The Authority and the Concessionaire hereby agree that on or after the date of Notice of Financial Default or the date of representation to the Authority under Clause 3.3.2, as the case may be, the Lenders' Representative may, without prejudice to any of the other rights or remedies of the Senior Lenders, invite, negotiate and procure offers, either by private negotiations or public auction or tenders for the take over and transfer of the Project including the Concession to the Nominated Company upon such Nominated Company's assumption of the liabilities and obligations of the Concessionaire towards the Authority under the Concession Agreement and towards the Senior Lenders under the Financing Agreements.

3.4.2 To be eligible for substitution in place of the Concessionaire, the Nominated Company shall be required to fulfil the eligibility criteria that were laid down by the Authority for short listing the bidders for award of the Concession; provided that the Lenders' Representative may represent to the Authority that all or any of such criteria may be waived in the interest of the Project, and if the Authority determines that such waiver shall not have any material adverse effect on the Project, it may waive all or any of such eligibility criteria.

3.4.3 Upon selection of a Nominated Company, the Lenders' Representative shall request the Authority to:

- (a) Accede to transfer to the Nominated Company the right to construct, operate and maintain the Project in accordance with the provisions of the Concession Agreement;



PUBLIC PRIVATE PARTNERSHIP IN HYBRID ANNUITY PROJECTS

- (b) Endorse and transfer the Concession to the Nominated Company, on the same terms and conditions, for the residual Concession Period; and
- (c) Enter into a Substitution Agreement with the Lenders' Representative and the Nominated Company on the same terms as are contained in this Agreement.

3.4.4 If the Authority has any objection to the transfer of Concession in favor of the Nominated Company in accordance with this Agreement, it shall within 15 (fifteen) days from the date of proposal made by the Lenders' Representative, give a reasoned order after hearing the Lenders' Representative. If no such objection is raised by the Authority, the Nominated Company shall be deemed to have been accepted. The Authority shall thereupon transfer and endorse the Concession within 15 (fifteen) days of its acceptance/deemed acceptance of the Nominated Company; provided that in the event of such objection by the Authority, the Lenders' Representative may propose another Nominated Company whereupon the procedure set forth in this Clause 3.4 shall be followed for substitution of such Nominated Company in place of the Concessionaire.

3.4.5 The transfer of Concession hereunder to a Nominated Company may, notwithstanding anything to the contrary in this Agreement and the Concession Agreement, be undertaken by transfer of no less than 75% (seventy five per cent) of the equity of the Concessionaire to the Nominated Company, and upon such transfer hereunder, the Concessionaire shall be deemed to be the Nominated Company under and in accordance with the provisions of this Agreement and the Concession Agreement.

3.5 Selection to be binding

The decision of the Lenders' Representative and the Authority in selection of the Nominated Company shall be final and binding on the Concessionaire. The Concessionaire irrevocably agrees and waives any right to challenge the actions of the Lenders' Representative or the Senior Lenders or the Authority taken pursuant to this Agreement including the transfer/assignment of the Concession in favor of the Nominated Company. The Concessionaire agrees and confirms that it shall not have any right to seek revaluation of assets of the Project or the Concessionaire's shares. It is hereby acknowledged by the Parties that the rights of the Lenders' Representative are irrevocable and shall not be contested in any proceedings before any court or Authority and the Concessionaire shall have no right or remedy to prevent, obstruct or restrain the Authority or the Lenders' Representative from effecting or causing the transfer by substitution and endorsement of the Concession as requested by the Lenders' Representative.

4 PROJECT AGREEMENTS

4.1 Substitution of Nominated Company in Project Agreements

The Concessionaire shall ensure and procure that each Project Agreement contains provisions that entitle the Nominated Company to step into such Project Agreement, in its discretion, in place and substitution of the Concessionaire in the event of such Nominated Company's assumption of the liabilities and obligations of the Concessionaire under the Concession Agreement.

5 TERMINATION OF CONCESSION AGREEMENT



Six Lanes of Sharnali to Watalachocha from km 431.200 to km 494.420 (Length 63.220 Km) section of NH-5 in the State of Gujarat under NH-5F Phase - VI (Tollage-VI) on Hybrid Annuity basis



5.1 Termination upon occurrence of Financial Default

At any time after issue of a Notice of Financial Default, the Lenders' Representative may by a notice in writing require the Authority to terminate the Concession Agreement forthwith, and upon receipt of such notice, the Authority shall undertake Termination under and in accordance with the provisions of Article 31 of the Concession Agreement.

5.2 Termination when no Nominated Company is selected

In the event that no Nominated Company acceptable to the Authority is selected and recommended by the Lenders' Representative within the period of 180 (one hundred and eighty) days or any extension thereof as set forth in Clause 3.3.2, the Authority may terminate the Concession Agreement forthwith in accordance with the provisions thereof.

5.3 Realization of Debt Due

The Authority and the Concessionaire hereby acknowledge and agree that, without prejudice to their any other right or remedy, the Lenders' Representative is entitled to receive from the Concessionaire, without any further reference to or consent of the Concessionaire, the Debt Due upon Termination of the Concession Agreement. For realization of the Debt Due, the Lenders' Representative shall be entitled to make its claim from the Escrow Account in accordance with the provisions of the Concession Agreement and the Escrow Agreement.

6 DURATION OF THE AGREEMENT

6.1 Duration of the Agreement

This Agreement shall come into force from the date hereof and shall expire at the earliest to occur of the following events:

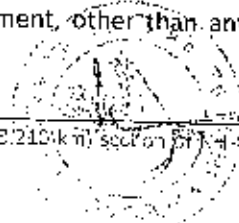
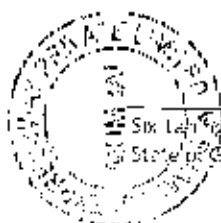
- (a) Termination of the Agreement; or
- (b) No sum remains to be advanced and no sum are outstanding to the Senior Lenders, under the Financing Agreements.

7 INDEMNITY

7.1 General indemnity

7.1.1 The Concessionaire will indemnify, defend and hold the Authority and the Lenders' Representative harmless against any and all proceedings, actions and third party claims for any loss, damage, cost and expense of whatever kind and nature arising out of any breach by the Concessionaire of any of its obligations under this Agreement or on account of failure of the Concessionaire to comply with Applicable Laws and Applicable Permits.

7.1.2 The Authority will indemnify, defend and hold the Concessionaire harmless against any and all proceedings, actions and third party claims for any loss, damage, cost and expense arising out of failure of the Authority to fulfil any of its obligations under this Agreement, materially and adversely affecting the performance of the Concessionaire's obligations under the Concession Agreement or this Agreement, other than any loss,



damage, cost and expense, arising out of acts done in discharge of their lawful functions by the Authority, its officers, servants and agents.

- 7.1.3 The Lenders' Representative will indemnify, defend and hold the Concessionaire harmless against any and all proceedings, actions and third party claims for any loss, damage, cost and expense arising out of failure of the Lenders' Representative to fulfil its obligations under this Agreement, materially and adversely affecting the performance of the Concessionaire's obligations under the Concession Agreement, other than any loss, damage, cost and expense, arising out of acts done in discharge of their lawful functions by the Lenders' Representative, its officers, servants and agents.

7.2 Notice and contest of claims

In the event that any Party hereto receives a claim from a third party in respect of which it is entitled to the benefit of an indemnity under Clause 7.1 or in respect of which it is entitled to reimbursement (the "Indemnified Party"), it shall notify the other Party responsible for indemnifying such claim hereunder (the "Indemnifying Party") within 15 (fifteen) days of receipt of the claim and shall not settle or pay the claim without the prior approval of the Indemnifying Party, such approval not to be unreasonably withheld or delayed. In the event that the Indemnifying Party wishes to contest or dispute the claim, it may conduct the proceedings in the name of the Indemnified Party and shall bear all costs involved in contesting the same. The Indemnified Party shall provide all cooperation and assistance in contesting any claim and shall sign all such writings and documents as the Indemnifying Party may reasonably require.

8 DISPUTE RESOLUTION

8.1 Dispute resolution

- 8.1.1 Any dispute, difference or claim arising out of or in connection with this Agreement which is not resolved amicably shall be decided by reference to arbitration to a Board of Arbitrators comprising one nominee each of the Authority, Concessionaire and the Lenders' Representative. Such arbitration shall be held in accordance with the Rules of Arbitration of the International Centre for Alternative Dispute Resolution, New Delhi (the "Rules") or such other rules as may be mutually agreed by the Parties, and shall be subject to provisions of the Arbitration and Conciliation Act, 1996.

- 8.1.2 The Arbitrators shall issue a reasoned award and such award shall be final and binding on the Parties. The place of arbitration shall be the capital of the State and the language of arbitration shall be English.

9 MISCELLANEOUS PROVISIONS

9.1 Governing law and jurisdiction

This Agreement shall be construed and interpreted in accordance with and governed by the laws of India, and the courts in the New Delhi shall have jurisdiction over all matters arising out of or relating to this Agreement.

9.2 Waiver of sovereign immunity

The Authority unconditionally and irrevocably:



Six Lanes of Sharnli J to Motachilodas from km 761.200 to km 494.410 (Length 93.250 km) Section of NH-18 in the State of Gujarat under NHDP Phase -V (Package V) on Hybrid Annuity basis

- (a) agrees that the execution, delivery and performance by it of this Agreement constitute commercial acts done and performed for commercial purpose;
- (b) agrees that, should any proceedings be brought against it or its assets, property or revenues in any jurisdiction in relation to this Agreement or any transaction contemplated by this Agreement, no immunity (whether by reason of sovereignty or otherwise) from such proceedings shall be claimed by or on behalf of the Authority with respect to its assets;
- (c) waives any right of immunity which it or its assets, property or revenues now has, may acquire in the future or which may be attributed to it in any jurisdiction; and
- (d) consents generally in respect of the enforcement of any judgment or award against it in any such proceedings to the giving of any relief or the issue of any process in any jurisdiction in connection with such proceedings (including the making, enforcement or execution against it or in respect of any assets, property or revenues whatsoever irrespective of their use or intended use of any order or judgment that may be made or given in connection therewith).

9.3 Priority of agreements

In the event of any conflict between the Concession Agreement and this Agreement, the provisions contained in the Concession Agreement shall prevail over this Agreement.

9.4 Alteration of terms

All additions, amendments, modifications and variations to this Agreement shall be effectual and binding only if in writing and signed by the duly authorized representatives of the Parties

9.5 Waiver

9.5.1 Waiver by any Party of a default by another Party in the observance and performance of any provision of or obligations under this Agreement:

- (a) Shall not operate or be construed as a waiver of any other or subsequent default hereof or of other provisions of or obligations under this Agreement;
- (b) Shall not be effective unless it is in writing and executed by a duly authorized representative of the Party; and
- (c) Shall not affect the validity or enforceability of this Agreement in any manner.

9.5.2 Neither the failure by either Party to insist on any occasion upon the performance of the terms, conditions and provisions of this Agreement or any obligation thereunder nor time or other indulgence granted by a Party to another Party shall be treated or deemed as waiver of such breach or acceptance of any variation or the relinquishment of any such right hereunder.

9.6 No third party beneficiaries

This Agreement is solely for the benefit of the Parties and no other person or entity shall have any rights hereunder.

9.7 Survival

9.7.1 Termination of this Agreement:

- (a) Shall not relieve the Parties of any obligations hereunder which expressly or by implication survive termination hereof; and
- (b) except as otherwise provided in any provision of this Agreement expressly limiting the liability of either Party, shall not relieve either Party of any obligations or liabilities for loss or damage to the other Party arising out of or caused by acts or omissions of such Party prior to the effectiveness of such termination or arising out of such termination.

9.7.2 All obligations surviving the cancellation, expiration or termination of this Agreement shall only survive for a period of 3 (three) years following the date of such termination or expiry of this Agreement.

9.8 Severability

If for any reason whatever any provision of this Agreement is or becomes invalid, illegal or unenforceable or is declared by any court of competent jurisdiction or any other instrumentality to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions shall not be affected in any manner, and the Parties will negotiate in good faith with a view to agreeing to one or more provisions which may be substituted for such invalid, unenforceable or illegal provisions, as nearly as is practicable to such invalid, illegal or unenforceable provision. Failure to agree upon any such provisions shall not be subject to dispute resolution under Clause 8 of this Agreement or otherwise.

9.9 Successors and assigns

This Agreement shall be binding on and shall inure to the benefit of the Parties and their respective successors and permitted assigns.

9.10 Notices

All notices or other communications to be given or made under this Agreement shall be in writing, shall either be delivered personally or sent by courier or registered post with an additional copy to be sent by facsimile or e-mail. The address for service of each Party, its facsimile number and e-mail address are set out under its name on the signing pages hereto. A notice shall be effective upon actual receipt thereof, save that where it is received after 5.30 (five thirty) p.m. on any day, or on a day that is a public holiday, the notice shall be deemed to be received on the first working day following the date of actual receipt. Without prejudice to the foregoing, a Party giving or making a notice or communication by facsimile or e-mail shall promptly deliver a copy thereof personally, or send it by courier or registered post to the addressee of such notice or communication. It is hereby agreed and acknowledged that any Party may by notice change the address to which such notices and communications to it are to be delivered or mailed. Such change shall be effective when all the Parties have notice of it.

9.11 Language

All notices, certificates, correspondence and proceedings under or in connection with this Agreement shall be in English.



[Handwritten signature]



PUBLIC PRIVATE PARTNERSHIP IN HYBRID ANNUITY PROJECTS

9.12 Authorized representatives

Each of the Parties shall by notice in writing designate their respective authorized representatives through whom only all communications shall be made. A Party hereto shall be entitled to remove and/or substitute or make fresh appointment of such authorized representative by similar notice.

9.13 Original Document

This Agreement may be executed in three counterparts, each of which when executed and delivered shall constitute an original of this Agreement.

IN WITNESS WHEREOF THE PARTIES HAVE EXECUTED AND DELIVERED THIS AGREEMENT AS OF THE DATE FIRST ABOVE WRITTEN

THE COMMON SEAL OF CONCESSIONAIRE has been affixed pursuant to the resolution passed by the Board of Directors of the Concessionaire at its meeting held on the.....day of the20.....here unto affixed in to the presence of.....the Director, who has signed these presents in token thereof,Company Secretary /Authorized Officer who has countersigned the same in token thereof.

SIGNED, SEALED

AND DELIVERED

For and behalf of THE AUTHORITY by:

(Signature)
(Name)
(Designation)
(Address)
(Fax No.) (e-mail address)

(Signature)
(Name)
(Designation)
(Address)
(Fax No.) (e-mail address)

SIGNED, SEALED AND DELIVERED

For and on behalf of

SENIOR LENDERS by the

Lenders' Representative:

(Signature)

(Name)



_____ has been affixed in accordance with the articles of association of the Concessionaire and the resolution passed by its Board of Directors
Six Lanes of Shamlajji to Motichlodha from km 40/200 to km 494.110 (Length 88.210 km) and for NH 8 in the State of Gujarat under NLDI Phase -M (Package-V) on Hybrid Annuity basis

10



1. $\frac{1}{2}$ 2. $\frac{1}{3}$ 3. $\frac{1}{4}$ 4. $\frac{1}{5}$ 5. $\frac{1}{6}$ 6. $\frac{1}{7}$ 7. $\frac{1}{8}$ 8. $\frac{1}{9}$ 9. $\frac{1}{10}$ 10. $\frac{1}{11}$ 11. $\frac{1}{12}$ 12. $\frac{1}{13}$ 13. $\frac{1}{14}$ 14. $\frac{1}{15}$ 15. $\frac{1}{16}$ 16. $\frac{1}{17}$ 17. $\frac{1}{18}$ 18. $\frac{1}{19}$ 19. $\frac{1}{20}$ 20. $\frac{1}{21}$ 21. $\frac{1}{22}$ 22. $\frac{1}{23}$ 23. $\frac{1}{24}$ 24. $\frac{1}{25}$ 25. $\frac{1}{26}$ 26. $\frac{1}{27}$ 27. $\frac{1}{28}$ 28. $\frac{1}{29}$ 29. $\frac{1}{30}$ 30. $\frac{1}{31}$ 31. $\frac{1}{32}$ 32. $\frac{1}{33}$ 33. $\frac{1}{34}$ 34. $\frac{1}{35}$ 35. $\frac{1}{36}$ 36. $\frac{1}{37}$ 37. $\frac{1}{38}$ 38. $\frac{1}{39}$ 39. $\frac{1}{40}$ 40. $\frac{1}{41}$ 41. $\frac{1}{42}$ 42. $\frac{1}{43}$ 43. $\frac{1}{44}$ 44. $\frac{1}{45}$ 45. $\frac{1}{46}$ 46. $\frac{1}{47}$ 47. $\frac{1}{48}$ 48. $\frac{1}{49}$ 49. $\frac{1}{50}$ 50. $\frac{1}{51}$ 51. $\frac{1}{52}$ 52. $\frac{1}{53}$ 53. $\frac{1}{54}$ 54. $\frac{1}{55}$ 55. $\frac{1}{56}$ 56. $\frac{1}{57}$ 57. $\frac{1}{58}$ 58. $\frac{1}{59}$ 59. $\frac{1}{60}$ 60. $\frac{1}{61}$ 61. $\frac{1}{62}$ 62. $\frac{1}{63}$ 63. $\frac{1}{64}$ 64. $\frac{1}{65}$ 65. $\frac{1}{66}$ 66. $\frac{1}{67}$ 67. $\frac{1}{68}$ 68. $\frac{1}{69}$ 69. $\frac{1}{70}$ 70. $\frac{1}{71}$ 71. $\frac{1}{72}$ 72. $\frac{1}{73}$ 73. $\frac{1}{74}$ 74. $\frac{1}{75}$ 75. $\frac{1}{76}$ 76. $\frac{1}{77}$ 77. $\frac{1}{78}$ 78. $\frac{1}{79}$ 79. $\frac{1}{80}$ 80. $\frac{1}{81}$ 81. $\frac{1}{82}$ 82. $\frac{1}{83}$ 83. $\frac{1}{84}$ 84. $\frac{1}{85}$ 85. $\frac{1}{86}$ 86. $\frac{1}{87}$ 87. $\frac{1}{88}$ 88. $\frac{1}{89}$ 89. $\frac{1}{90}$ 90. $\frac{1}{91}$ 91. $\frac{1}{92}$ 92. $\frac{1}{93}$ 93. $\frac{1}{94}$ 94. $\frac{1}{95}$ 95. $\frac{1}{96}$ 96. $\frac{1}{97}$ 97. $\frac{1}{98}$ 98. $\frac{1}{99}$ 99. $\frac{1}{100}$ 100. $\frac{1}{101}$ 101. $\frac{1}{102}$ 102. $\frac{1}{103}$ 103. $\frac{1}{104}$ 104. $\frac{1}{105}$ 105. $\frac{1}{106}$ 106. $\frac{1}{107}$ 107. $\frac{1}{108}$ 108. $\frac{1}{109}$ 109. $\frac{1}{110}$ 110. $\frac{1}{111}$ 111. $\frac{1}{112}$ 112. $\frac{1}{113}$ 113. $\frac{1}{114}$ 114. $\frac{1}{115}$ 115. $\frac{1}{116}$ 116. $\frac{1}{117}$ 117. $\frac{1}{118}$ 118. $\frac{1}{119}$ 119. $\frac{1}{120}$ 120. $\frac{1}{121}$ 121. $\frac{1}{122}$ 122. $\frac{1}{123}$ 123. $\frac{1}{124}$ 124. $\frac{1}{125}$ 125. $\frac{1}{126}$ 126. $\frac{1}{127}$ 127. $\frac{1}{128}$ 128. $\frac{1}{129}$ 129. $\frac{1}{130}$ 130. $\frac{1}{131}$ 131. $\frac{1}{132}$ 132. $\frac{1}{133}$ 133. $\frac{1}{134}$ 134. $\frac{1}{135}$ 135. $\frac{1}{136}$ 136. $\frac{1}{137}$ 137. $\frac{1}{138}$ 138. $\frac{1}{139}$ 139. $\frac{1}{140}$ 140. $\frac{1}{141}$ 141. $\frac{1}{142}$ 142. $\frac{1}{143}$ 143. $\frac{1}{144}$ 144. $\frac{1}{145}$ 145. $\frac{1}{146}$ 146. $\frac{1}{147}$ 147. $\frac{1}{148}$ 148. $\frac{1}{149}$ 149. $\frac{1}{150}$ 150. $\frac{1}{151}$ 151. $\frac{1}{152}$ 152. $\frac{1}{153}$ 153. $\frac{1}{154}$ 154. $\frac{1}{155}$ 155. $\frac{1}{156}$ 156. $\frac{1}{157}$ 157. $\frac{1}{158}$ 158. $\frac{1}{159}$ 159. $\frac{1}{160}$ 160. $\frac{1}{161}$ 161. $\frac{1}{162}$ 162. $\frac{1}{163}$ 163. $\frac{1}{164}$ 164. $\frac{1}{165}$ 165. $\frac{1}{166}$ 166. $\frac{1}{167}$ 167. $\frac{1}{168}$ 168. $\frac{1}{169}$ 169. $\frac{1}{170}$ 170. $\frac{1}{171}$ 171. $\frac{1}{172}$ 172. $\frac{1}{173}$ 173. $\frac{1}{174}$ 174. $\frac{1}{175}$ 175. $\frac{1}{176}$ 176. $\frac{1}{177}$ 177. $\frac{1}{178}$ 178. $\frac{1}{179}$ 179. $\frac{1}{180}$ 180. $\frac{1}{181}$ 181. $\frac{1}{182}$ 182. $\frac{1}{183}$ 183. $\frac{1}{184}$ 184. $\frac{1}{185}$ 185. $\frac{1}{186}$ 186. $\frac{1}{187}$ 187. $\frac{1}{188}$ 188. $\frac{1}{189}$ 189. $\frac{1}{190}$ 190. $\frac{1}{191}$ 191. $\frac{1}{192}$ 192. $\frac{1}{193}$ 193. $\frac{1}{194}$ 194. $\frac{1}{195}$ 195. $\frac{1}{196}$ 196. $\frac{1}{197}$ 197. $\frac{1}{198}$ 198. $\frac{1}{199}$ 199. $\frac{1}{200}$ 200. $\frac{1}{201}$ 201. $\frac{1}{202}$ 202. $\frac{1}{203}$ 203. $\frac{1}{204}$ 204. $\frac{1}{205}$ 205. $\frac{1}{206}$ 206. $\frac{1}{207}$ 207. $\frac{1}{208}$ 208. $\frac{1}{209}$ 209. $\frac{1}{210}$ 210. $\frac{1}{211}$ 211. $\frac{1}{212}$ 212. $\frac{1}{213}$ 213. $\frac{1}{214}$ 214. $\frac{1}{215}$ 215. $\frac{1}{216}$ 216. $\frac{1}{217}$ 217. $\frac{1}{218}$ 218. $\frac{1}{219}$ 219. $\frac{1}{220}$ 220. $\frac{1}{221}$ 221. $\frac{1}{222}$ 222. $\frac{1}{223}$ 223. $\frac{1}{224}$ 224. $\frac{1}{225}$ 225. $\frac{1}{226}$ 226. $\frac{1}{227}$ 227. $\frac{1}{228}$ 228. $\frac{1}{229}$ 229. $\frac{1}{230}$ 230. $\frac{1}{231}$ 231. $\frac{1}{232}$ 232. $\frac{1}{233}$ 233. $\frac{1}{234}$ 234. $\frac{1}{235}$ 235. $\frac{1}{236}$ 236. $\frac{1}{237}$ 237. $\frac{1}{238}$ 238. $\frac{1}{239}$ 239. $\frac{1}{240}$ 240.