

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED
(A Public sector Company under MoRTH)

Name of Work :

Four Laning of NH-37 from Jhanji (Km.490.800) to Demow (Km. 534.800) Under SARDP-NE, Phase-B on EPC Mode in the State of Assam

PLAN & PROFILE

(From km.490+800 to Km.534+800)

Authority : National Highways & Infrastructure Development Corporation Limited
Authority's Engineer : M/s Voyants Solutions Pvt.Ltd
Contractor : M/s Kamac Engineering Pvt Ltd & M/s Shiva Harlalka (JV)
Contract Price : Rs.2,34,19,90,000/-



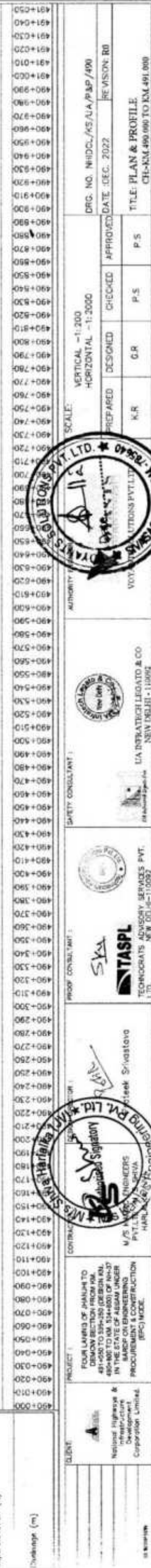
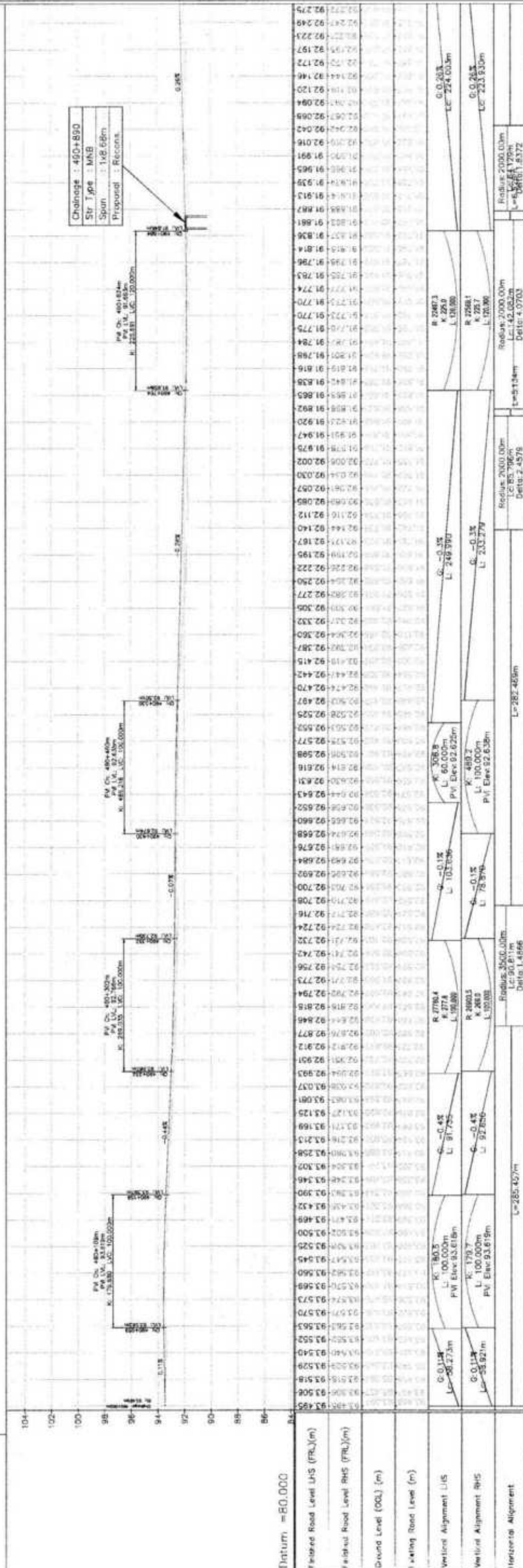
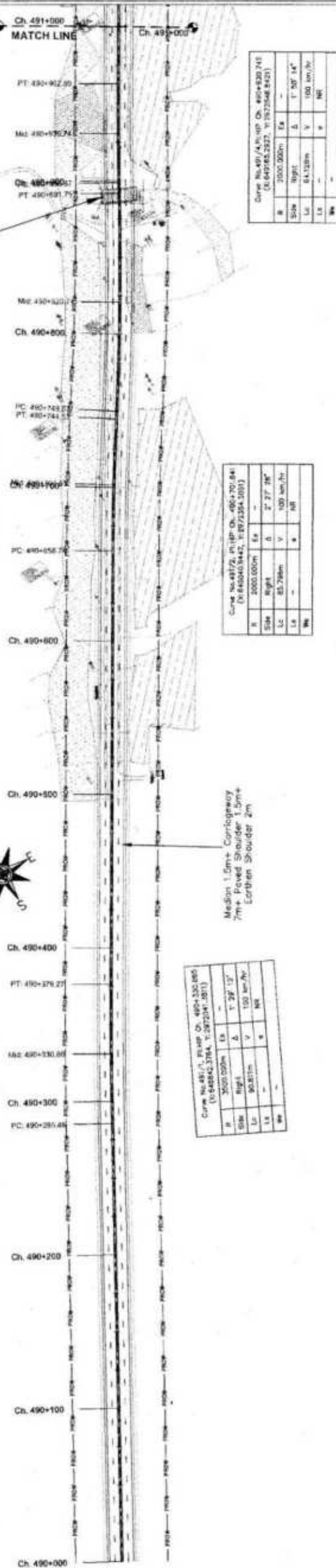
M/s Kamac Engineering Pvt Ltd & M/s Shiva Harlalka (JV)



CIN-U74140HR2004PTC046918

M/s Voyants Solutions Pvt.Ltd

VERTICAL TRANSDUCER

[illegible]

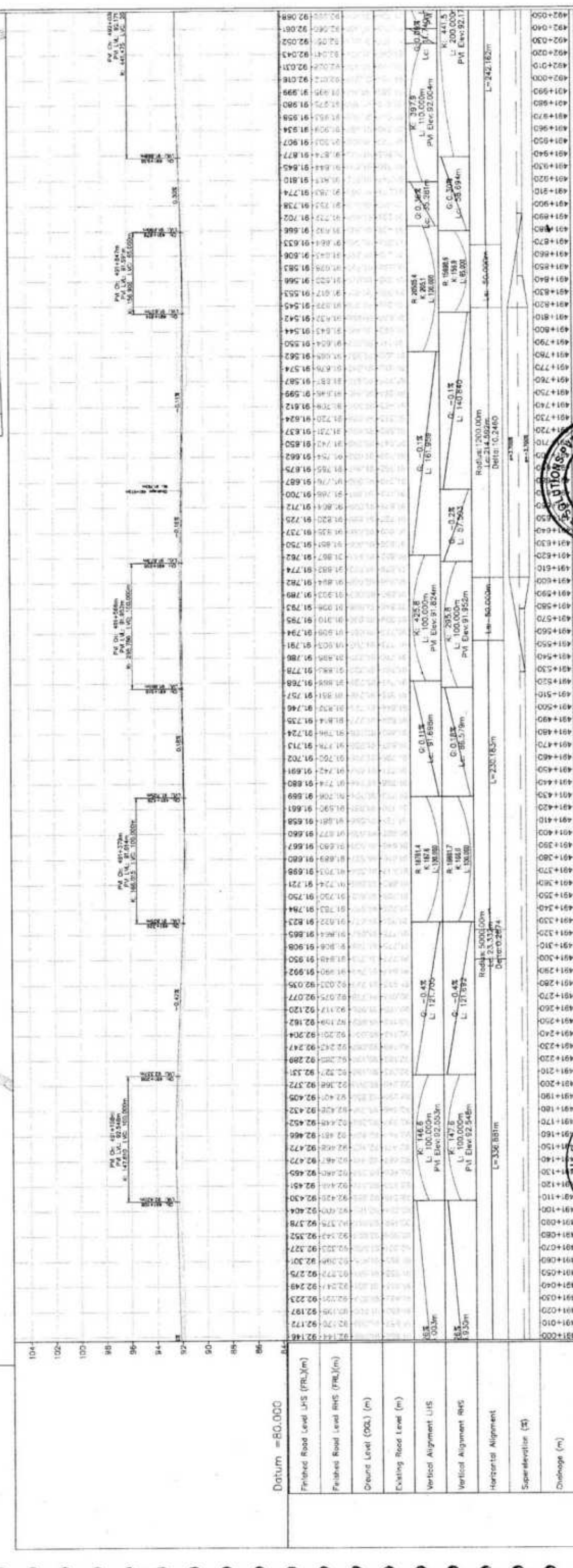
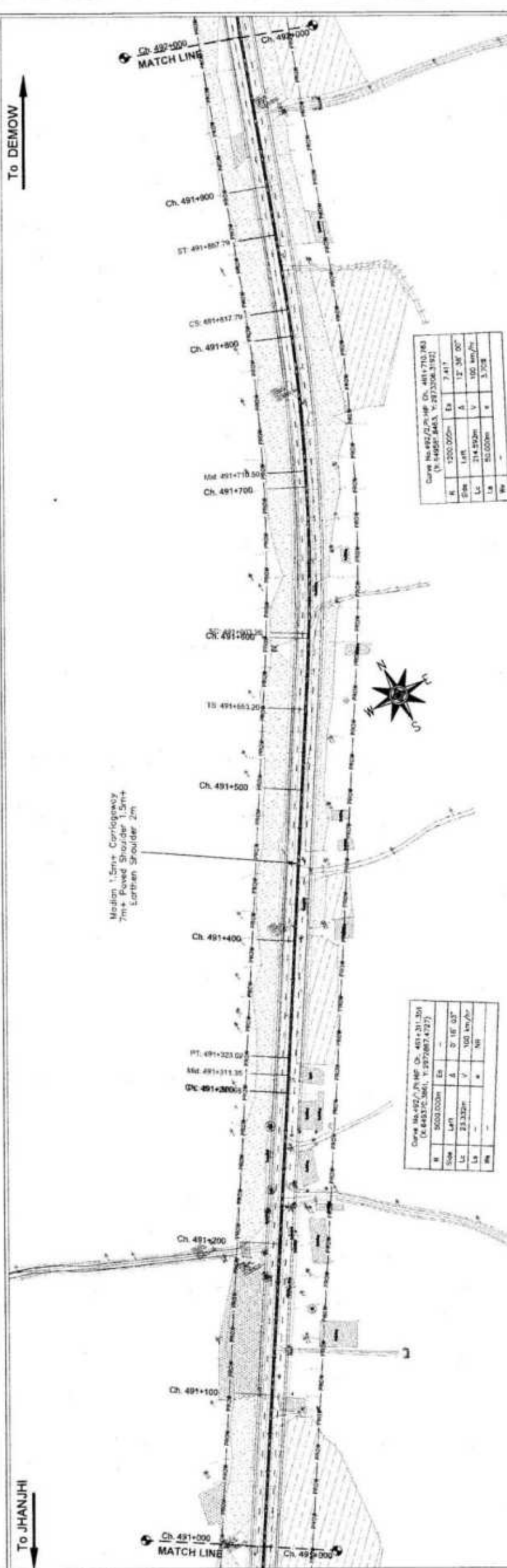
LEGEND

HORIZONTAL PLAN

- Proposed C/L
- Proposed Median
- Proposed Carriageway
- Proposed Pavement Shoulder
- Proposed Earthen Shoulder
- Proposed Footpath
- Road P.C.I. Marking
- Proposed Row
- Service Road
- Retaining Wall
- Existing Road

To JHANJI

To DEMOW



DRG. NO. NHDC/AS/UA/P&P/491

DATE DEC. 2022

HEWSON RO

TITLE PLAN & PROFILE

CH-KM 491.000 TO KM 492.000

SCALE: VERTICAL -1:200 HORIZONTAL -1:2000

APPROVED

CHECKED

DESIGNED

PREPARED

K/R

P.S

P.S

P.S

SAFETY CONSULTANT

PROOF CONSULTANT

DESIGN ENGINEER

CONTRACTOR

CLIENT

REVISION

1. $2x^2 + 3x - 5$
 2. $x^2 - 4x + 7$
 3. $3x^2 - 2x + 1$
 4. $x^2 + 5x - 3$
 5. $4x^2 - x + 2$
 6. $x^2 - 7x + 10$
 7. $2x^2 + 11x + 14$
 8. $x^2 - 9x + 18$
 9. $3x^2 - 8x + 5$
 10. $x^2 + 6x - 8$
 11. $5x^2 - 3x + 2$
 12. $x^2 - 11x + 28$
 13. $2x^2 + 9x + 13$
 14. $x^2 - 13x + 40$
 15. $4x^2 - 12x + 9$
 16. $x^2 - 15x + 50$
 17. $3x^2 - 17x + 24$
 18. $x^2 - 19x + 84$
 19. $2x^2 + 25x + 12$
 20. $x^2 - 21x + 98$
 21. $5x^2 - 23x + 14$
 22. $x^2 - 25x + 144$
 23. $3x^2 - 27x + 54$
 24. $x^2 - 29x + 252$
 25. $4x^2 - 32x + 64$
 26. $x^2 - 31x + 300$
 27. $2x^2 - 30x + 125$
 28. $x^2 - 33x + 440$
 29. $3x^2 - 36x + 144$
 30. $x^2 - 35x + 504$
 31. $4x^2 - 38x + 323$
 32. $x^2 - 39x + 600$
 33. $5x^2 - 40x + 625$
 34. $x^2 - 41x + 728$
 35. $3x^2 - 42x + 441$
 36. $x^2 - 43x + 840$
 37. $4x^2 - 44x + 484$
 38. $x^2 - 45x + 900$
 39. $5x^2 - 46x + 529$
 40. $x^2 - 47x + 1000$
 41. $3x^2 - 48x + 576$
 42. $x^2 - 49x + 1102$
 43. $4x^2 - 50x + 625$
 44. $x^2 - 51x + 1260$
 45. $5x^2 - 52x + 676$
 46. $x^2 - 53x + 1365$
 47. $3x^2 - 54x + 729$
 48. $x^2 - 55x + 1485$
 49. $4x^2 - 56x + 784$
 50. $x^2 - 57x + 1612$
 51. $5x^2 - 58x + 841$
 52. $x^2 - 59x + 1750$
 53. $3x^2 - 60x + 900$
 54. $x^2 - 61x + 1899$
 55. $4x^2 - 62x + 961$
 56. $x^2 - 63x + 2058$
 57. $5x^2 - 64x + 1024$
 58. $x^2 - 65x + 2225$
 59. $3x^2 - 66x + 1089$
 60. $x^2 - 67x + 2404$
 61. $4x^2 - 68x + 1156$
 62. $x^2 - 69x + 2595$
 63. $5x^2 - 70x + 1225$
 64. $x^2 - 71x + 2796$
 65. $3x^2 - 72x + 1296$
 66. $x^2 - 73x + 2999$
 67. $4x^2 - 74x + 1369$
 68. $x^2 - 75x + 3204$
 69. $5x^2 - 76x + 1444$
 70. $x^2 - 77x + 3419$
 71. $3x^2 - 78x + 1521$
 72. $x^2 - 79x + 3636$
 73. $4x^2 - 80x + 1600$
 74. $x^2 - 81x + 3855$
 75. $5x^2 - 82x + 1681$
 76. $x^2 - 83x + 4076$
 77. $3x^2 - 84x + 1764$
 78. $x^2 - 85x + 4299$
 79. $4x^2 - 86x + 1849$
 80. $x^2 - 87x + 4524$
 81. $5x^2 - 88x + 1936$
 82. $x^2 - 89x + 4751$
 83. $3x^2 - 90x + 2025$
 84. $x^2 - 91x + 4980$
 85. $4x^2 - 92x + 2116$
 86. $x^2 - 93x + 5211$
 87. $5x^2 - 94x + 2209$
 88. $x^2 - 95x + 5444$
 89. $3x^2 - 96x + 2304$
 90. $x^2 - 97x + 5679$
 91. $4x^2 - 98x + 2401$
 92. $x^2 - 99x + 5916$
 93. $5x^2 - 100x + 2500$
 94. $x^2 - 101x + 6155$
 95. $3x^2 - 102x + 2601$
 96. $x^2 - 103x + 6396$
 97. $4x^2 - 104x + 2704$
 98. $x^2 - 105x + 6639$
 99. $5x^2 - 106x + 2809$
 100. $x^2 - 107x + 6884$
 101. $3x^2 - 108x + 2916$
 102. $x^2 - 109x + 7131$
 103. $4x^2 - 110x + 3025$
 104. $x^2 - 111x + 7380$
 105. $5x^2 - 112x + 3136$
 106. $x^2 - 113x + 7631$
 107. $3x^2 - 114x + 3249$
 108. $x^2 - 115x + 7884$
 109. $4x^2 - 116x + 3364$
 110. $x^2 - 117x + 8139$
 111. $5x^2 - 118x + 3481$
 112. $x^2 - 119x + 8396$
 113. $3x^2 - 120x + 3600$
 114. $x^2 - 121x + 8655$
 115. $4x^2 - 122x + 3721$
 116. $x^2 - 123x + 8916$
 117. $5x^2 - 124x + 3844$
 118. $x^2 - 125x + 9179$
 119. $3x^2 - 126x + 3969$
 120. $x^2 - 127x + 9444$
 121. $4x^2 - 128x + 4096$
 122. $x^2 - 129x + 9711$
 123. $5x^2 - 130x + 4225$
 124. $x^2 - 131x + 9980$
 125. $3x^2 - 132x + 4356$
 126. $x^2 - 133x + 10251$
 127. $4x^2 - 134x + 4489$
 128. $x^2 - 135x + 10524$
 129. $5x^2 - 136x + 4624$
 130. $x^2 - 137x + 10799$
 131. $3x^2 - 138x + 4761$
 132. $x^2 - 139x + 11076$
 133. $4x^2 - 140x + 4900$
 134. $x^2 - 141x + 11355$
 135. $5x^2 - 142x + 5041$
 136. $x^2 - 143x + 11636$
 137. $3x^2 - 144x + 5184$
 138. $x^2 - 145x + 11919$
 139. $4x^2 - 146x + 5324$
 140. $x^2 - 147x + 12204$
 141. $5x^2 - 148x + 5476$
 142. $x^2 - 149x + 12491$
 143. $3x^2 - 150x + 5625$
 144. $x^2 - 151x + 12780$
 145. $4x^2 - 152x + 5776$
 146. $x^2 - 153x + 13071$

ANSWERS TO QUESTIONS



Chainage : 493+612
Str Type : MNB
Span : 2x6.23m
Proposed : Recons.

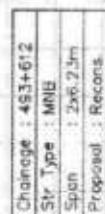
Curve No. 454 (A.P.C. 40P Ch. 433-853.374)
(S: 550.006, R: 440, Y: 247.9754, 0.031)

	St	End		
Side	Right	d	5' 36" 44"	
La	120.270m	V	100 km/hr	
La	-	e	148'	
Me	-			

	ft	3000.000m	La	-
Side	Left	A	V	2' 06" 12"
Lc	72.835m	V	150 km/hr	
LS		*		up
Nd.		-		

	R	H	E _s	-	T = 40° ± 10°
	Sides	Dight	d	V	600 km/hr
	Lc	8.5 cm	M	NB	
	La	-			
	Se	-			

Median 1.5m+ Carriageway
1m+ Paved Shoulder 1.5m+
Earthen Shoulder 2m

Datum = 80.000

Finished Road Level LHS (FRL) _L (m)	Finished Road Level RHS (FRL) _R (m)	Ground Level (GL) (m)	Existing Road Level (m)	Vertical Alignment LHS	Vertical Alignment RHS	Horizontal Alignment	Superelevation (%)	Drainage (m)
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[illegible]

PROJECT 1
FOUR LANE OF SHALING TO
DEMOW SECTION FROM KM.
481+256 TO 535+250 (DESIGN NO.
432-403 TO KM. 534+800) OF NH-4
IN THE STATE OF ASSAM UNDER
SARCO ON ENGINEERING
PROCUREMENT & CONSTRUCTION
(EPC) MODE.

DESIGN: DIRECTOR

PROTEST:

9/6/71

Author: M/S KANAK ENGINEERING
PVT LTD. M/3 SHI
HARIALKA (J.V.)

M/S KANAK ENGINEERING

HOW CONSULTANT

SKA

TASPL

TECHNOLOGICAL ADVISORY

NATIONAL ASSOCIATION OF BROADCASTERS



SAFETY CONSULTANT



INTRATECH LEGATO & CO

PROPERTY ENGINEER
2/11/15
VOYANTS
VOYANTS SOLUTIONS PVT. LTD.

VERTICAL - 1:200 HORIZONTAL - 1:2000	DESIGNED	CHECKED
	G.R	P.S

SRC. NO. NHDC/AS/A/P&P/493 DATE DEC. 2022 REVISION: R0	TITLE PLAN & PROFILE
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100

Corporation Limited.

EPIC) MODE.

1

TECHNICAL ADVISORY

BY GRACE BUT

INFRATTI/LEONATO & CO.

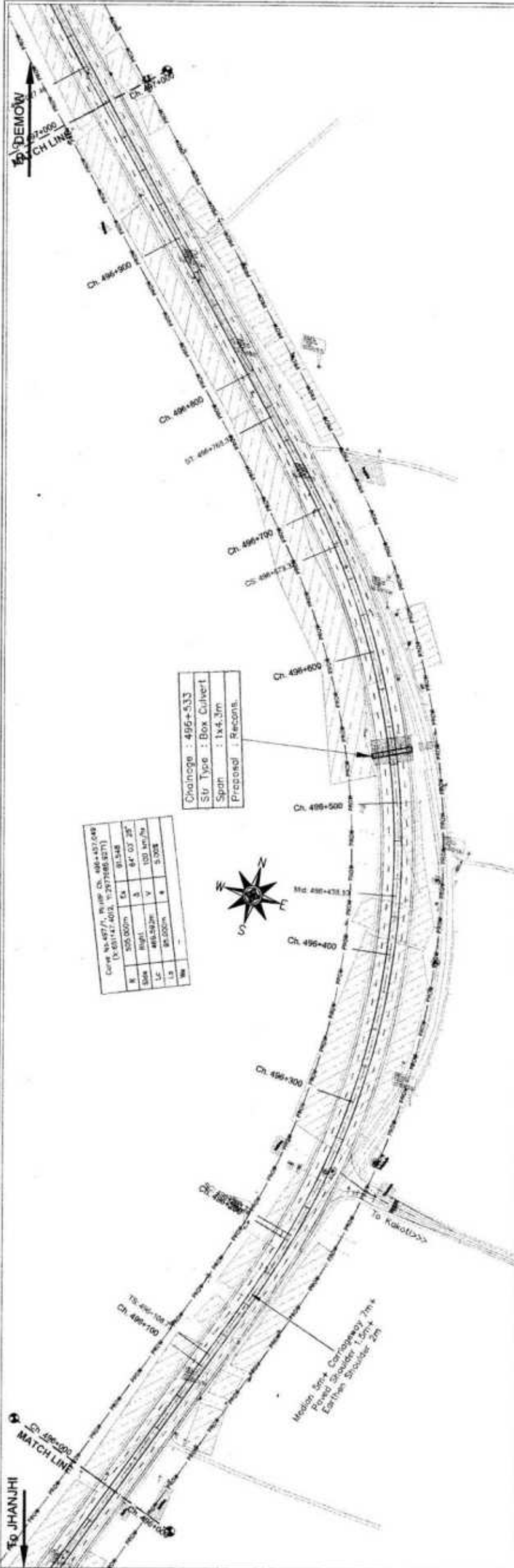
VOYANTS SOLUTIONS PVT LTD.

R	C.R	P.S
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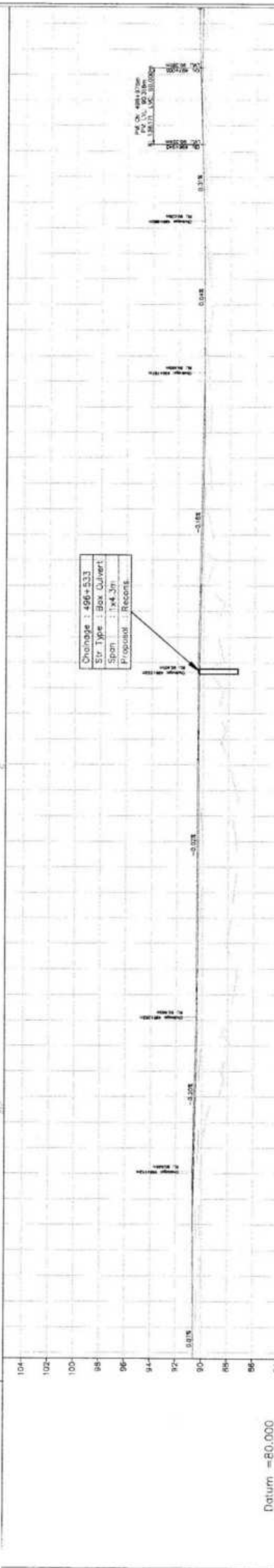
TITLE: PLAN & PROFILE

HORIZONTAL PLAN

- Proposed L.T.
- Proposed Road
- Proposed Footpath
- Proposed L.T. Marking
- Proposed Road
- Proposed Footpath
- Proposed Road
- Proposed Footpath
- Proposed Road
- Proposed Footpath



Chaining : 496+533
Str Type : Box Culvert
Span : 1x4.3m
Proposed : Recons.



Datum = 80.000

Station	Finished Road Level LHS (RL)(m)	Finished Road Level RHS (RL)(m)	Ground Level (ODL) (m)	Existing Road Level (m)	Vertical Alignment LHS	Vertical Alignment RHS	Horizontal Alignment	Superelevation (%)	Chaining (m)
496+000	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.000
496+010	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.010
496+020	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.020
496+030	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.030
496+040	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.040
496+050	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.050
496+060	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.060
496+070	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.070
496+080	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.080
496+090	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.090
496+100	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.100
496+110	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.110
496+120	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.120
496+130	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.130
496+140	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.140
496+150	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.150
496+160	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.160
496+170	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.170
496+180	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.180
496+190	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.190
496+200	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.200
496+210	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.210
496+220	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.220
496+230	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.230
496+240	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.240
496+250	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.250
496+260	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.260
496+270	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.270
496+280	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.280
496+290	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.290
496+300	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.300
496+310	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.310
496+320	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.320
496+330	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.330
496+340	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.340
496+350	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.350
496+360	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.360
496+370	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.370
496+380	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.380
496+390	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.390
496+400	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.400
496+410	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.410
496+420	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.420
496+430	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.430
496+440	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.440
496+450	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.450
496+460	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.460
496+470	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.470
496+480	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.480
496+490	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.490
496+500	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.500
496+510	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.510
496+520	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.520
496+530	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.530
496+540	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.540
496+550	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.550
496+560	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.560
496+570	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.570
496+580	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.580
496+590	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.590
496+600	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.600
496+610	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.610
496+620	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.620
496+630	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.630
496+640	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.640
496+650	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.650
496+660	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.660
496+670	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.670
496+680	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.680
496+690	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.690
496+700	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.700
496+710	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.710
496+720	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.720
496+730	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.730
496+740	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.740
496+750	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.750
496+760	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.760
496+770	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.770
496+780	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.780
496+790	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.790
496+800	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.800
496+810	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.810
496+820	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.820
496+830	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.830
496+840	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.840
496+850	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.850
496+860	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.860
496+870	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.870
496+880	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.880
496+890	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.890
496+900	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.900
496+910	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.910
496+920	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.920
496+930	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.930
496+940	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.940
496+950	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.950
496+960	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.960
496+970	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.970
496+980	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.980
496+990	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	80.990
497+000	80.000	80.000	80.000	80.000	0.00%	0.00%	0.00%	0.00%	81.000

CLIENT

PROJECT : FOUR LANE OF JHARKHAND DEMON SECTION FROM KM 481+000 TO 500+000 (DEMON NO. 481+000 TO 500+000) OF NH-27 IN JHARKHAND STATE BASED ON ENGINEERING PROCEDURE & CONSTRUCTION (ENC) MODE.

DESIGN : 1:200

VERTICAL : 1:200

HORIZONTAL : 1:2000

APPROVED : [Signature]

CHECKED : [Signature]

DESIGNED : [Signature]

PREPARED : [Signature]

VOYANT CONSULTANTS PVT. LTD.

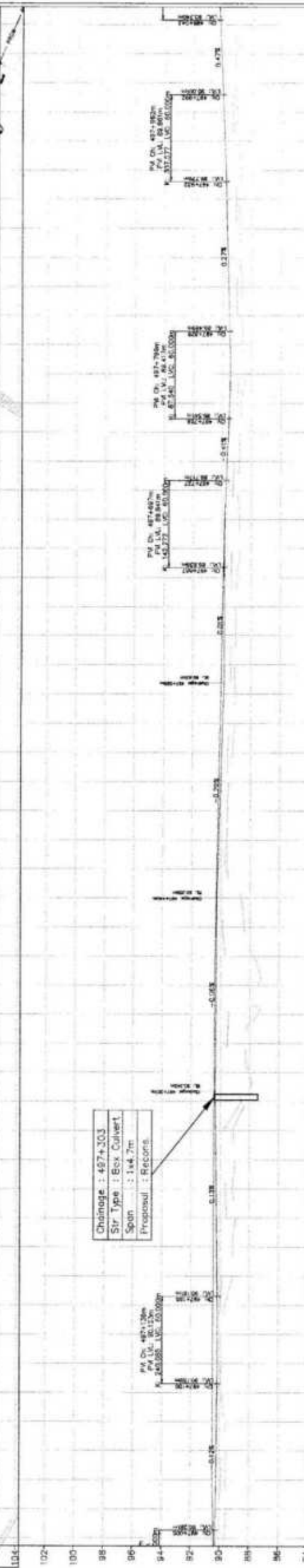
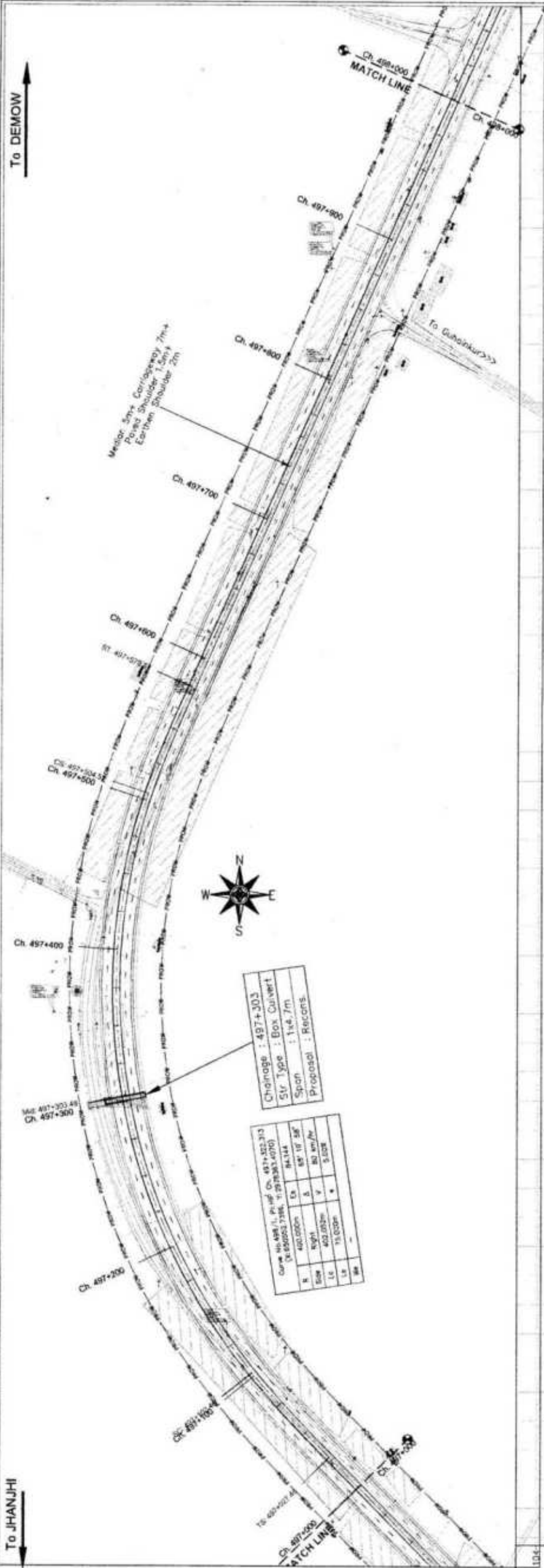
DATE : DEC. 2022

REVISION : 00

TITLE : PLAN & PROFILE

HORIZONTAL PLAN

Proposed CV
Prop Median
Prop Casingways
Prop Pavement Shoulder
Prop Existing Shoulder
Prop Footpath
Road P.V. Marking
Proposed Road
Services Road
Retaining Wall
Existing Road



497+000	497+010	497+020	497+030	497+040	497+050	497+060	497+070	497+080	497+090	497+100	497+110	497+120	497+130	497+140	497+150	497+160	497+170	497+180	497+190	497+200	497+210	497+220	497+230	497+240	497+250	497+260	497+270	497+280	497+290	497+300	497+310	497+320	497+330	497+340	497+350	497+360	497+370	497+380	497+390	497+400	497+410	497+420	497+430	497+440	497+450	497+460	497+470	497+480	497+490	497+500	497+510	497+520	497+530	497+540	497+550	497+560	497+570	497+580	497+590	497+600	497+610	497+620	497+630	497+640	497+650	497+660	497+670	497+680	497+690	497+700	497+710	497+720	497+730	497+740	497+750	497+760	497+770	497+780	497+790	497+800	497+810	497+820	497+830	497+840	497+850	497+860	497+870	497+880	497+890	497+900	497+910	497+920	497+930	497+940	497+950	497+960	497+970	497+980	497+990	500+000																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
90.394	90.276	90.426	90.474	90.493	90.503	90.502	90.499	90.495	90.489	90.485	90.481	90.479	90.474	90.468	90.464	90.459	90.454	90.449	90.444	90.439	90.434	90.429	90.424	90.419	90.414	90.409	90.404	90.399	90.394	90.389	90.384	90.379	90.374	90.369	90.364	90.359	90.354	90.349	90.344	90.339	90.334	90.329	90.324	90.319	90.314	90.309	90.304	90.299	90.294	90.289	90.284	90.279	90.274	90.269	90.264	90.259	90.254	90.249	90.244	90.239	90.234	90.229	90.224	90.219	90.214	90.209	90.204	90.199	90.194	90.189	90.184	90.179	90.174	90.169	90.164	90.159	90.154	90.149	90.144	90.139	90.134	90.129	90.124	90.119	90.114	90.109	90.104	90.099	90.094	90.089	90.084	90.079	90.074	90.069	90.064	90.059	90.054	90.049	90.044	90.039	90.034	90.029	90.024	90.019	90.014	90.009	90.004	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.000	90.00

DATE	11.12.2022	REVISION	NO
DRG. NO.	NHICD/KS/JA/P&P/497		
VERTICAL	-1:200	CHECKED	APPROVED
HORIZONTAL	-1:2000	DESIGNED	P.S
SCALE		PREPARED	P.S
PROJECT		DATE	DEC. 2022
TITLE	PLAN & PROFILE		
CH-KM	497.000 TO KM.498.000		

SAFETY CONSULTANT :

U/A INFRASTRUCTURE LEGATO & CO
NEW DELHI - 110092

DESIGN DIRECTOR :

Prateek Srivastava

PROOF CONSULTANT :

SKT

TECHNICIANS ADVISORY SERVICES PVT. LTD.
NEW DELHI - 110092

CLIENT :

National Highways & Infrastructure Development Corporation Limited

SUBJECT :

FOUR LANEING OF JHARKH TO
DUMKIN SECTION FROM KM
481+000 TO 495+250 (DESIGN NO.
490+800 TO 495+250) OF THE
JHARKH TO DUMKIN SECTION
IN THE STATE OF JHARKH
PROJECT ORIGINATING
DEPARTMENT & CONSTRUCTION
BPMO MODE.

DESIGNER :

Prateek Srivastava

PROOF CONSULTANT :

SKT

SAFETY CONSULTANT :

U/A INFRASTRUCTURE LEGATO & CO
NEW DELHI - 110092

DESIGN DIRECTOR :

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NEW DELHI - 110092

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NEW DELHI - 110092

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NEW DELHI - 110092

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481+000 TO 495+250 (DESIGN NO.
490+800 TO 495+250) OF THE
JHARKH TO DUMKIN SECTION
IN THE STATE OF JHARKH
PROJECT ORIGINATING
DEPARTMENT & CONSTRUCTION
BPMO MODE.

DESIGNER :

Prateek Srivastava

PROOF CONSULTANT :

SKT

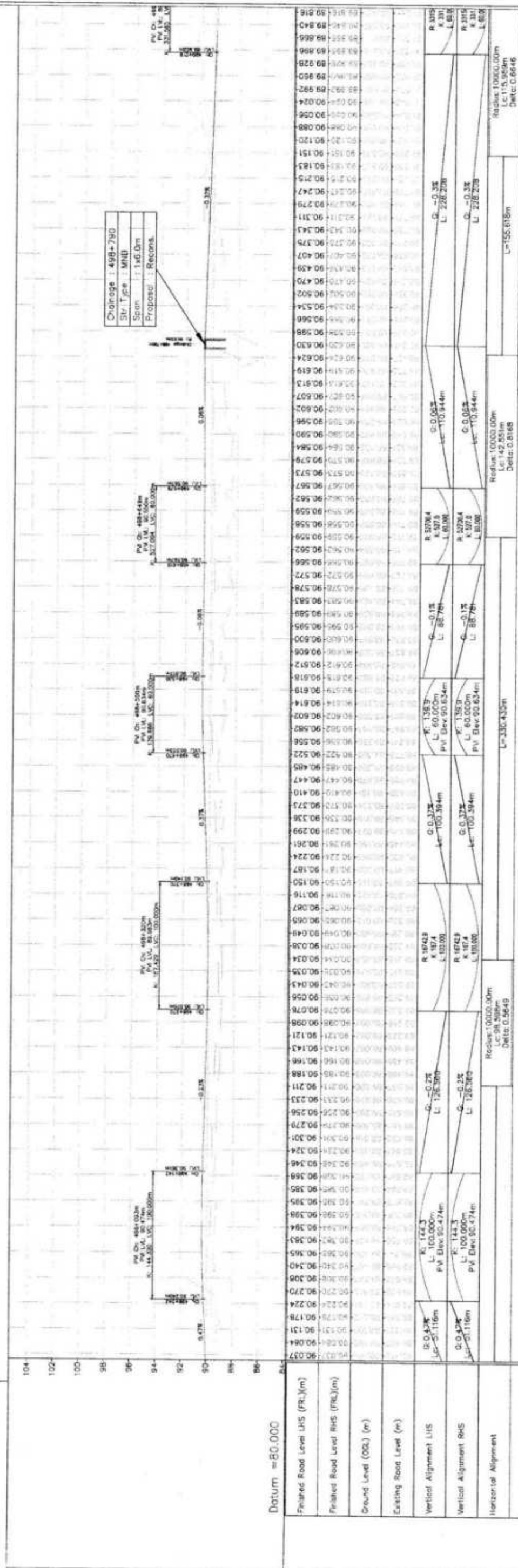
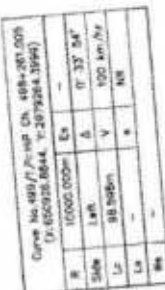
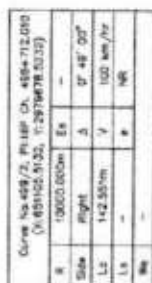
SAFETY CONSULTANT :







U/A INFRASTRUCTURE LEGATO & CO
NEW DELHI - 110092

DESIGN DIRECTOR :

HORIZONTAL PLAN

TO DEMOW






CHDRS (m)	 National Highways & Infrastructure Development Corporation Limited	PROJECT : FOUR LANE OF JALAN L1 TO DIVISION SECTION FROM KM 481+000 TO 538+250 (ORIGIN 42A, 425+600 TO KM 534+000) OF NH-17 IN THE STATE OF ASSAM UNDER SANDIP ON ENGINEERING PROCUREMENT & CONSTRUCTION (EPC) MODE.	CONTRACTOR :  M/S. Nisha Harilaya Livi Pvt. Ltd. Autonomous Signatory KAMAC Engineering PVT. LTD. N/5 SHIVA NAILAKHA (M)	DESIGN DIRECTION :  Proteek Srivastava	PROOF CONSULTANT :  SKA	SAFETY CONSULTANT :  TIA INFRA TECH LEGATO & CO NEW DELHI - 110062	AUTHORITY ENGINEER (SALE) :  VOTANTS PVT. LTD.	VERTICAL - 1:200 HORIZONTAL - 1:2000	DRG. NO. NH/CDL/AS/UA/P&P/498	DATE 18-01-2022 REVISION R0		TITLE: PLAN & PROFILE CH-KM 406 000 TO KM 409 000
										DESCRIPTION	REVISION	

HORIZONTAL PLAN

Proposed C.I.
Pvt Median
Pvt Curbingway
Pvt Pavoid Shoulder
Pvt Further Shoulder
Pvt Footpath
Road W.L. Marking
Proposed Rove
Service Road
Retaining Wall
Cutting Road

[illegible][illegible]

CLIENT	 National Highways & Infrastructure Development	CONTRACTOR	 BSI Registered Signatory IN THE STATE OF ASAM UNDER BAND 1 ON ENGINEERING	PROJECT	FOUR LANEBS OF JALAN TO COMPLETION FROM KM 49+485 TO 51+250 (SEBIRAN KM 49+480 TO KM. 51+400) OF 19+27 IN THE STATE OF ASAM UNDER BAND 1 ON ENGINEERING	DESIGN	 M/S SAMAC ENGINEERS Projek, Sriavastava	PROOF CONSULTANT	 SVA	SAFETY CONSULTANT	 	 	SCALE: VERTICAL - 1:200 HORIZONTAL - 1:2000	DRG. NO. NH/DCL/MS/UA/P&P/590 DATE - DEC. 2022 REVISED: R0
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LEGEND

HORIZONTAL PLAN

- Proposed L1
- Proposed Median
- Proposed Carriageway
- Proposed Pavement Shoulder
- Proposed Footpath
- Proposed Road P.V. Marking
- Proposed Road
- Proposed Retaining Wall
- Proposed Fencing Road

To JHANUHI



Curve No. 502/1, HP Ch. 501+128.80m
(X=832368.4217, Y=298146.5628)

R	5000.000m	Ex	0° 37' 17"
Side	Left	A	0° 37' 17"
Side	Right	B	0° 37' 17"
Side	Left	V	100 km/hr
Side	Right	V	100 km/hr
Side	Left	E	-2.50%
Side	Right	E	-2.50%

Curve No. 502/2, HP Ch. 501+441.803
(X=832375.5640, Y=298150.4462)

R	5000.000m	Ex	0° 37' 17"
Side	Left	A	0° 37' 17"
Side	Right	B	0° 37' 17"
Side	Left	V	100 km/hr
Side	Right	V	100 km/hr
Side	Left	E	-2.50%
Side	Right	E	-2.50%

Curve No. 502/3, HP Ch. 501+581.795
(X=832382.6244, Y=298150.9745)

R	5000.000m	Ex	0° 37' 17"
Side	Left	A	0° 37' 17"
Side	Right	B	0° 37' 17"
Side	Left	V	100 km/hr
Side	Right	V	100 km/hr
Side	Left	E	-2.50%
Side	Right	E	-2.50%

Median 3m
Carriageway 7m+0.20m Kerb Slopes
Paved Shoulder 3.75m
Separator 1.5m
Service Road 7m
Drain cum Footpath 1.5m

To DEMOW

Drainage : 501+830
Str Type : Hume Pipe
Span : 1x1.2m
Proposed : New Const.

Curve No. 502/4, HP Ch. 501+531.790 (X=832388.8142, Y=298151.5239)			
R	500.000m	Ex	35° 05' 25"
Side	Left	A	80 km/hr
Side	Right	B	80 km/hr
Side	Left	V	-1.00%
Side	Right	V	-1.00%
Side	Left	E	-
Side	Right	E	-

Chaining : 501+890
Str Type : Hume Pipe
Span : 1x1.2m
Proposed : New Const.

PM On 501+545.00m
PV LA 80.000m
P 171.401, VC 501.500m

PM On 501+345.00m
PV LA 80.000m
P 171.401, VC 501.500m

PM On 501+145.00m
PV LA 80.000m
P 171.401, VC 501.500m

PM On 501+890.00m
PV LA 80.000m
P 171.401, VC 501.500m

Datum = 80.000

Station	Finished Road Level LHS (FRL)(m)	Finished Road Level RHS (FRL)(m)	Ground Level (GGL) (m)	Existing Road Level (m)	Vertical Alignment LHS	Vertical Alignment RHS	Horizontal Alignment	Superelevation (%)	Chaining (m)
501+000	96.431	96.431	96.431	96.431					
501+010	96.387	96.387	96.387	96.387					
501+020	96.343	96.343	96.343	96.343					
501+030	96.299	96.299	96.299	96.299					
501+040	96.255	96.255	96.255	96.255					
501+050	96.211	96.211	96.211	96.211					
501+060	96.167	96.167	96.167	96.167					
501+070	96.123	96.123	96.123	96.123					
501+080	96.079	96.079	96.079	96.079					
501+090	96.035	96.035	96.035	96.035					
501+100	95.991	95.991	95.991	95.991					
501+110	95.947	95.947	95.947	95.947					
501+120	95.903	95.903	95.903	95.903					
501+130	95.859	95.859	95.859	95.859					
501+140	95.815	95.815	95.815	95.815					
501+150	95.771	95.771	95.771	95.771					
501+160	95.727	95.727	95.727	95.727					
501+170	95.683	95.683	95.683	95.683					
501+180	95.639	95.639	95.639	95.639					
501+190	95.595	95.595	95.595	95.595					
501+200	95.551	95.551	95.551	95.551					
501+210	95.507	95.507	95.507	95.507					
501+220	95.463	95.463	95.463	95.463					
501+230	95.419	95.419	95.419	95.419					
501+240	95.375	95.375	95.375	95.375					
501+250	95.331	95.331	95.331	95.331					
501+260	95.287	95.287	95.287	95.287					
501+270	95.243	95.243	95.243	95.243					
501+280	95.199	95.199	95.199	95.199					
501+290	95.155	95.155	95.155	95.155					
501+300	95.111	95.111	95.111	95.111					
501+310	95.067	95.067	95.067	95.067					
501+320	95.023	95.023	95.023	95.023					
501+330	94.979	94.979	94.979	94.979					
501+340	94.935	94.935	94.935	94.935					
501+350	94.891	94.891	94.891	94.891					
501+360	94.847	94.847	94.847	94.847					
501+370	94.803	94.803	94.803	94.803					
501+380	94.759	94.759	94.759	94.759					
501+390	94.715	94.715	94.715	94.715					
501+400	94.671	94.671	94.671	94.671					
501+410	94.627	94.627	94.627	94.627					
501+420	94.583	94.583	94.583	94.583					
501+430	94.539	94.539	94.539	94.539					
501+440	94.495	94.495	94.495	94.495					
501+450	94.451	94.451	94.451	94.451					
501+460	94.407	94.407	94.407	94.407					
501+470	94.363	94.363	94.363	94.363					
501+480	94.319	94.319	94.319	94.319					
501+490	94.275	94.275	94.275	94.275					
501+500	94.231	94.231	94.231	94.231					
501+510	94.187	94.187	94.187	94.187					
501+520	94.143	94.143	94.143	94.143					
501+530	94.099	94.099	94.099	94.099					
501+540	94.055	94.055	94.055	94.055					
501+550	94.011	94.011	94.011	94.011					
501+560	93.967	93.967	93.967	93.967					
501+570	93.923	93.923	93.923	93.923					
501+580	93.879	93.879	93.879	93.879					
501+590	93.835	93.835	93.835	93.835					
501+600	93.791	93.791	93.791	93.791					
501+610	93.747	93.747	93.747	93.747					
501+620	93.703	93.703	93.703	93.703					
501+630	93.659	93.659	93.659	93.659					
501+640	93.615	93.615	93.615	93.615					
501+650	93.571	93.571	93.571	93.571					
501+660	93.527	93.527	93.527	93.527					
501+670	93.483	93.483	93.483	93.483					
501+680	93.439	93.439	93.439	93.439					
501+690	93.395	93.395	93.395	93.395					
501+700	93.351	93.351	93.351	93.351					
501+710	93.307	93.307	93.307	93.307					
501+720	93.263	93.263	93.263	93.263					
501+730	93.219	93.219	93.219	93.219					
501+740	93.175	93.175	93.175	93.175					
501+750	93.131	93.131	93.131	93.131					
501+760	93.087	93.087	93.087	93.087					
501+770	93.043	93.043	93.043	93.043					
501+780	92.999	92.999	92.999	92.999					
501+790	92.955	92.955	92.955	92.955					
501+800	92.911	92.911	92.911	92.911					
501+810	92.867	92.867	92.867	92.867					
501+820	92.823	92.823	92.823	92.823					
501+830	92.779	92.779	92.779	92.779					
501+840	92.735	92.735	92.735	92.735					
501+850	92.691	92.691	92.691	92.691					
501+860	92.647	92.647	92.647	92.647					
501+870	92.603	92.603	92.603	92.603					
501+880	92.559	92.559	92.559	92.559					
501+890	92.515	92.515	92.515	92.515					
501+900	92.471	92.471	92.471	92.471					
501+910	92.427	92.427	92.427	92.427					
501+920	92.383	92.383	92.383	92.383					
501+930	92.339	92.339	92.339	92.339					
501+940	92.295	92.295	92.295	92.295					
501+950	92.251	92.251	92.251	92.251					
501+960	92.207	92.207	92.207	92.207					
501+970	92.163	92.163	92.163	92.163					
501+980	92.119	92.119	92.119	92.119					
501+990	92.075	92.075	92.075	92.075					
502+000	92.031	92.031	92.031	92.031					

CLIENT: National Highways & Infrastructure Development Corporation Limited

PROJECT: FOUR LANE OF JHANUHI TO DEMOW SECTION FROM KM. 48+000 TO 502+000 DESIGN, O&M, AND CONSTRUCTION OF JHANUHI IN-SERVICE ROAD 7m WIDE ON ENGINEERING PROCEDURE & CONSTRUCTION (EP&C) MODE.

DESIGNER: SKA

CONTRACTOR: M/S KAMAC ENGINEERS PVT. LTD. M/S SHIVA HARJANA (JV)

PROTEK SIVASTAVA

PROF. CONSULTANT: SKA

SAFETY CONSULTANT: SKA

APPROVED: [Signature]

DATE: DEC. 2022

REVISION: R0

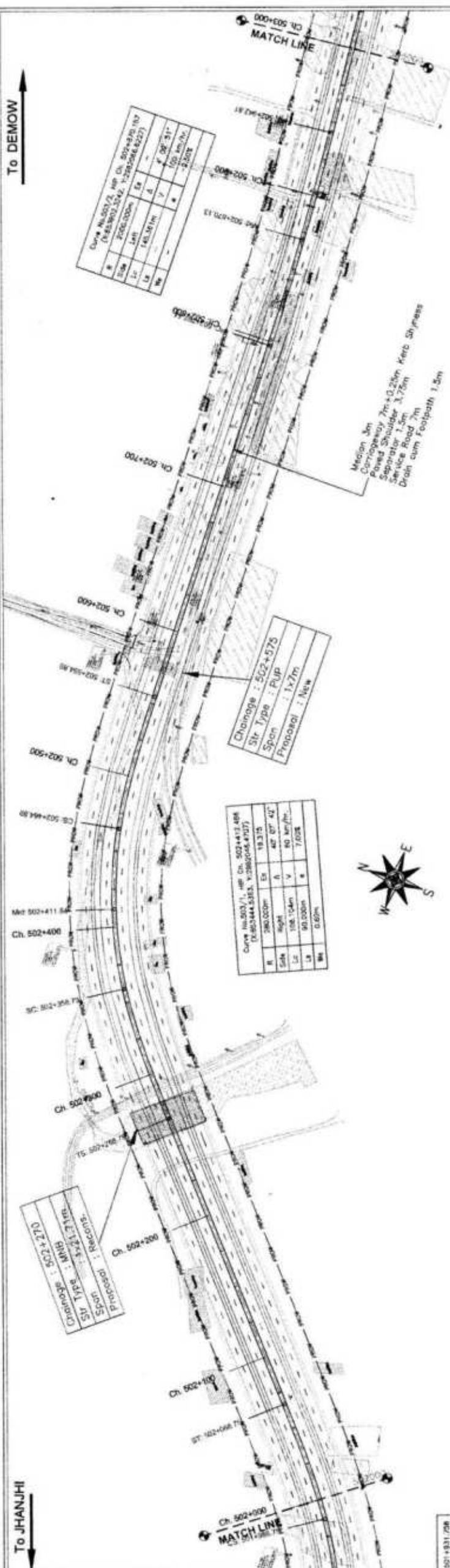
TITLE: PLAN & PROFILE

CH-KM 501.000 TO KM 502.000

HORIZONTAL PLAN

TO JHANJHI

To DEMOW



Datum = 80.000					
Finished Road Level LHS (FRL) (m)					
Finished Road Level RHS (FRL) (m)					
Ground Level (GDL) (m)					
Existing Road Level (m)					
Vertical Alignment LHS	KA K=100 L=100	K=75.3 L=125.000m PM Elev:92.925m	G=0.0% L=79.215	R=342.4 K=94 L=55.80	C=1.04% L=40.727m
Vertical Alignment RHS	KA K=100	K=75.3 L=125.000m PM Elev:92.924m	G=-0.0% L=93.836	R=345.3 K=94 L=56.00	C=1.59% L=42.673m
Horizontal Alignment	L=48-644m	L=202.042m	L=99-606m	L=99-606m	L=242.835m
Superelevation (%)					
Clearance (m)					

CLIENT	PROJECT	DESIGNER	PROOF CONSULTANT	SURETY CONSULTANT	SCALE	DATE	REVISION
Nelcor Vespene & Infrastructure Development Corporation Limited	FOUR LAMBS OF JAHANNAM TO GEMINI SECTION FROM KM 49H+450 TO 55H+250 DESIGN KM 49H+600 TO KM 53H+600 OF NA-37 IN THE ESTATE OF ARIHAN UNDER PHARMACEUTICAL & CONSTRUCTION (SPC) MODE.	 Nelcor Vespene & Infrastructure Development Corporation Limited	 SKA	 TASPL TECHNOCRONS INFRASTRUCTURE SERVICES PVT. LTD. NEW DELHI - 110009	VERTICAL - 1/200 HORIZONTAL - 1/2000	DEC. 2022	R0
PROJECT NO. NH/DCL/MS/UN/P&P/502 TITLE PLAN & PROFILE CH-KM 502.000 TO KM 503.000			AUTHORITY APPROVED  MOORTHY MINISTER ROAD TRANSPORT & HIGHWAYS GOVERNMENT OF INDIA		APPROVED P.S. P.S. K.R.		

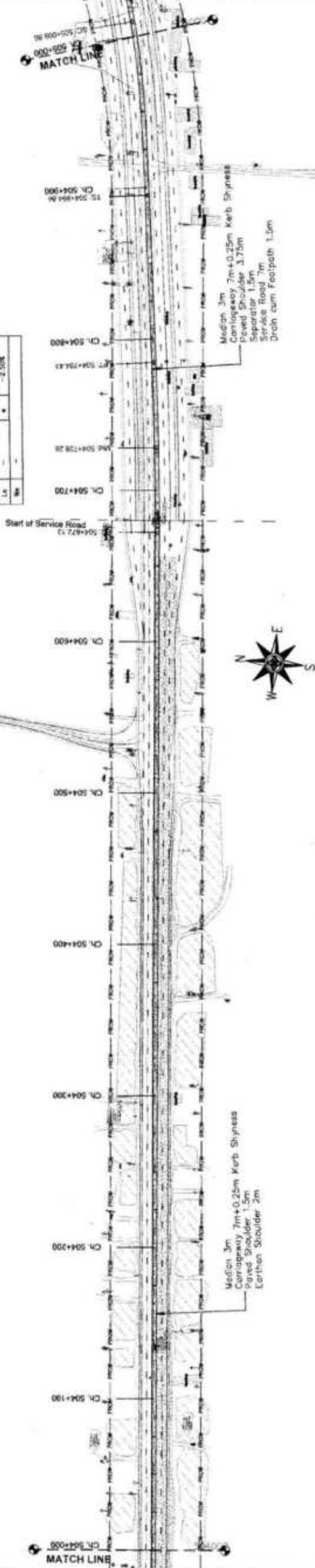
TO JHANJI

TO DEMOW

HORIZONTAL PLAN

- Proposed C/L
- Proposed Median
- Proposed Carriageway
- Proposed Paved Shoulder
- Proposed Earthen Shoulder
- Proposed Footpath
- Proposed Road Marking
- Proposed Road
- Proposed Retaining Wall
- Proposed Fencing Road

Curve Data Table				
Station	Radius (m)	Length (m)	Delta (°)	Offset (m)
504+000	150.000	15.000	18.000	0.500
504+150	150.000	15.000	18.000	0.500
504+300	150.000	15.000	18.000	0.500
504+450	150.000	15.000	18.000	0.500
504+600	150.000	15.000	18.000	0.500
504+750	150.000	15.000	18.000	0.500
504+900	150.000	15.000	18.000	0.500
505+050	150.000	15.000	18.000	0.500



Station	Proposed Road Level LWS (RL) (m)	Proposed Road Level RHS (RL) (m)	Ground Level (OCL) (m)	Existing Road Level (m)	Vertical Alignment LWS	Vertical Alignment RHS	Horizontal Alignment	Superelevation (%)	Change (m)
504+000	91.13	91.13	91.13	91.13	91.13	91.13	91.13	0.00	0.00
504+010	91.14	91.14	91.14	91.14	91.14	91.14	91.14	0.00	0.00
504+020	91.15	91.15	91.15	91.15	91.15	91.15	91.15	0.00	0.00
504+030	91.16	91.16	91.16	91.16	91.16	91.16	91.16	0.00	0.00
504+040	91.17	91.17	91.17	91.17	91.17	91.17	91.17	0.00	0.00
504+050	91.18	91.18	91.18	91.18	91.18	91.18	91.18	0.00	0.00
504+060	91.19	91.19	91.19	91.19	91.19	91.19	91.19	0.00	0.00
504+070	91.20	91.20	91.20	91.20	91.20	91.20	91.20	0.00	0.00
504+080	91.21	91.21	91.21	91.21	91.21	91.21	91.21	0.00	0.00
504+090	91.22	91.22	91.22	91.22	91.22	91.22	91.22	0.00	0.00
504+100	91.23	91.23	91.23	91.23	91.23	91.23	91.23	0.00	0.00
504+110	91.24	91.24	91.24	91.24	91.24	91.24	91.24	0.00	0.00
504+120	91.25	91.25	91.25	91.25	91.25	91.25	91.25	0.00	0.00
504+130	91.26	91.26	91.26	91.26	91.26	91.26	91.26	0.00	0.00
504+140	91.27	91.27	91.27	91.27	91.27	91.27	91.27	0.00	0.00
504+150	91.28	91.28	91.28	91.28	91.28	91.28	91.28	0.00	0.00
504+160	91.29	91.29	91.29	91.29	91.29	91.29	91.29	0.00	0.00
504+170	91.30	91.30	91.30	91.30	91.30	91.30	91.30	0.00	0.00
504+180	91.31	91.31	91.31	91.31	91.31	91.31	91.31	0.00	0.00
504+190	91.32	91.32	91.32	91.32	91.32	91.32	91.32	0.00	0.00
504+200	91.33	91.33	91.33	91.33	91.33	91.33	91.33	0.00	0.00
504+210	91.34	91.34	91.34	91.34	91.34	91.34	91.34	0.00	0.00
504+220	91.35	91.35	91.35	91.35	91.35	91.35	91.35	0.00	0.00
504+230	91.36	91.36	91.36	91.36	91.36	91.36	91.36	0.00	0.00
504+240	91.37	91.37	91.37	91.37	91.37	91.37	91.37	0.00	0.00
504+250	91.38	91.38	91.38	91.38	91.38	91.38	91.38	0.00	0.00
504+260	91.39	91.39	91.39	91.39	91.39	91.39	91.39	0.00	0.00
504+270	91.40	91.40	91.40	91.40	91.40	91.40	91.40	0.00	0.00
504+280	91.41	91.41	91.41	91.41	91.41	91.41	91.41	0.00	0.00
504+290	91.42	91.42	91.42	91.42	91.42	91.42	91.42	0.00	0.00
504+300	91.43	91.43	91.43	91.43	91.43	91.43	91.43	0.00	0.00
504+310	91.44	91.44	91.44	91.44	91.44	91.44	91.44	0.00	0.00
504+320	91.45	91.45	91.45	91.45	91.45	91.45	91.45	0.00	0.00
504+330	91.46	91.46	91.46	91.46	91.46	91.46	91.46	0.00	0.00
504+340	91.47	91.47	91.47	91.47	91.47	91.47	91.47	0.00	0.00
504+350	91.48	91.48	91.48	91.48	91.48	91.48	91.48	0.00	0.00
504+360	91.49	91.49	91.49	91.49	91.49	91.49	91.49	0.00	0.00
504+370	91.50	91.50	91.50	91.50	91.50	91.50	91.50	0.00	0.00
504+380	91.51	91.51	91.51	91.51	91.51	91.51	91.51	0.00	0.00
504+390	91.52	91.52	91.52	91.52	91.52	91.52	91.52	0.00	0.00
504+400	91.53	91.53	91.53	91.53	91.53	91.53	91.53	0.00	0.00
504+410	91.54	91.54	91.54	91.54	91.54	91.54	91.54	0.00	0.00
504+420	91.55	91.55	91.55	91.55	91.55	91.55	91.55	0.00	0.00
504+430	91.56	91.56	91.56	91.56	91.56	91.56	91.56	0.00	0.00
504+440	91.57	91.57	91.57	91.57	91.57	91.57	91.57	0.00	0.00
504+450	91.58	91.58	91.58	91.58	91.58	91.58	91.58	0.00	0.00
504+460	91.59	91.59	91.59	91.59	91.59	91.59	91.59	0.00	0.00
504+470	91.60	91.60	91.60	91.60	91.60	91.60	91.60	0.00	0.00
504+480	91.61	91.61	91.61	91.61	91.61	91.61	91.61	0.00	0.00
504+490	91.62	91.62	91.62	91.62	91.62	91.62	91.62	0.00	0.00
504+500	91.63	91.63	91.63	91.63	91.63	91.63	91.63	0.00	0.00
504+510	91.64	91.64	91.64	91.64	91.64	91.64	91.64	0.00	0.00
504+520	91.65	91.65	91.65	91.65	91.65	91.65	91.65	0.00	0.00
504+530	91.66	91.66	91.66	91.66	91.66	91.66	91.66	0.00	0.00
504+540	91.67	91.67	91.67	91.67	91.67	91.67	91.67	0.00	0.00
504+550	91.68	91.68	91.68	91.68	91.68	91.68	91.68	0.00	0.00
504+560	91.69	91.69	91.69	91.69	91.69	91.69	91.69	0.00	0.00
504+570	91.70	91.70	91.70	91.70	91.70	91.70	91.70	0.00	0.00
504+580	91.71	91.71	91.71	91.71	91.71	91.71	91.71	0.00	0.00
504+590	91.72	91.72	91.72	91.72	91.72	91.72	91.72	0.00	0.00
504+600	91.73	91.73	91.73	91.73	91.73	91.73	91.73	0.00	0.00
504+610	91.74	91.74	91.74	91.74	91.74	91.74	91.74	0.00	0.00
504+620	91.75	91.75	91.75	91.75	91.75	91.75	91.75	0.00	0.00
504+630	91.76	91.76	91.76	91.76	91.76	91.76	91.76	0.00	0.00
504+640	91.77	91.77	91.77	91.77	91.77	91.77	91.77	0.00	0.00
504+650	91.78	91.78	91.78	91.78	91.78	91.78	91.78	0.00	0.00
504+660	91.79	91.79	91.79	91.79	91.79	91.79	91.79	0.00	0.00
504+670	91.80	91.80	91.80	91.80	91.80	91.80	91.80	0.00	0.00
504+680	91.81	91.81	91.81	91.81	91.81	91.81	91.81	0.00	0.00
504+690	91.82	91.82	91.82	91.82	91.82	91.82	91.82	0.00	0.00
504+700	91.83	91.83	91.83	91.83	91.83	91.83	91.83	0.00	0.00
504+710	91.84	91.84	91.84	91.84	91.84	91.84	91.84	0.00	0.00
504+720	91.85	91.85	91.85	91.85	91.85	91.85	91.85	0.00	0.00
504+730	91.86	91.86	91.86	91.86	91.86	91.86	91.86	0.00	0.00
504+740	91.87	91.87	91.87	91.87	91.87	91.87	91.87	0.00	0.00
504+750	91.88	91.88	91.88	91.88	91.88	91.88	91.88	0.00	0.00
504+760	91.89	91.89	91.89	91.89	91.89	91.89	91.89	0.00	0.00
504+770	91.90	91.90	91.90	91.90	91.90	91.90	91.90	0.00	0.00
504+780	91.91	91.91	91.91	91.91	91.91	91.91	91.91	0.00	0.00
504+790	91.92	91.92	91.92	91.92	91.92	91.92	91.92	0.00	0.00
504+800	91.93	91.93	91.93	91.93	91.93	91.93	91.93	0.00	0.00
504+810	91.94	91.94	91.94	91.94	91.94	91.94	91.94	0.00	0.00
504+820	91.95	91.95	91.95	91.95	91.95	91.95	91.95	0.00	0.00
504+830	91.96	91.96	91.96	91.96	91.96	91.96	91.96	0.00	0.00
504+840	91.97	91.97	91.97	91.97	91.97	91.97	91.97	0.00	0.00
504+850	91.98	91.98	91.98	91.98	91.98	91.98	91.98	0.00	0.00
504+860	91.99	91.99	91.99	91.99	91.99	91.99	91.99	0.00	0.00
504+870	92.00	92.00	92.00	92.00	92.00	92.00	92.00	0.00	0.00
504+880	92.01	92.01	92.01	92.01	92.01	92.01	92.01	0.00	0.00
504+890	92.02	92.02	92.02	92.02	92.02	92.02	92.02	0.00	0.00
504+900	92.03	92.03	92.03	92.03	92.03	92.03	92.03	0.00	0.00
504+910	92.04	92.04	92.04	92.04	92.04	92.04	92.04	0.00	0.00
504+920	92.05	92.05	92.05	92.05	92.05	92.05	92.05	0.00	0.00
504+930	92.06	92.06	92.06	92.06	92.06	92.06	92.06	0.00	0.00
504+940	92.07	92.07	92.07	92.07	92.07	92.07	92.07	0.00	0.00
504+950	92.08	92.08	92.08	92.08	92.08	92.08	92.08	0.00	0.00
504+960	92.09	92.09	92.09	92.09	92.09	92.09	92.09	0.00	0.00
504+970	92.10	92.10	92.10	92.10	92.10	92.10	92.10	0.00	0.00
504+980	92.11	92.11	92.11	92.11	92.11	92.11	92.11	0.00	0.00
504+990	92.12	92.12	92.12	92.12	92.12	92.12	92.12	0.00	0.00
505+000	92.13	92.13	92.13	92.13	92.13	92.13	92.13	0.00	0.00

CLIENT: National Infrastructure Corporation Limited

PROJECT: FOUR LANE TO DEMOW SECTION FROM KM 48+000 TO KM 50+000 (DESIGN IN 48+000 TO KM 50+000) OF NH-1 IN BANGKOK PROVINCE

DESIGN: PRELIMINARY DESIGN

DESIGNER: J. S. S. ENGINEERS

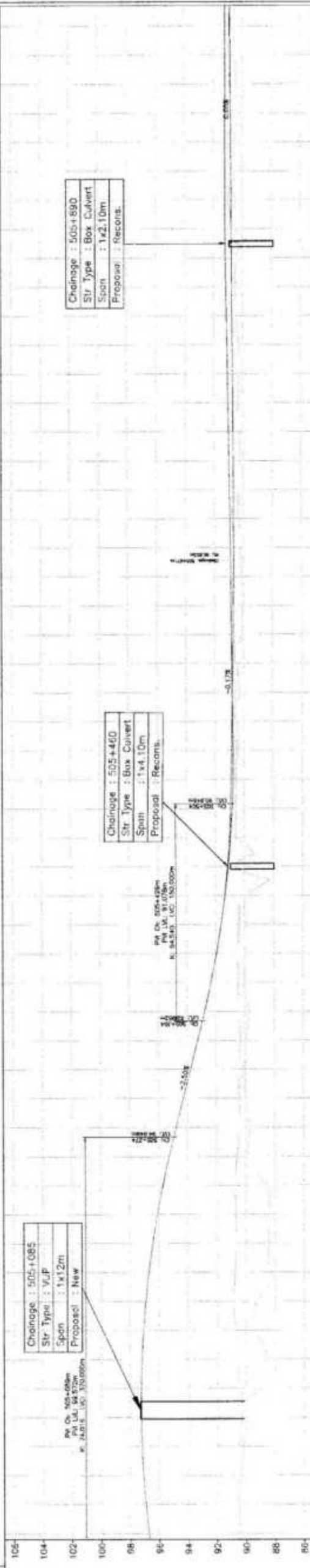
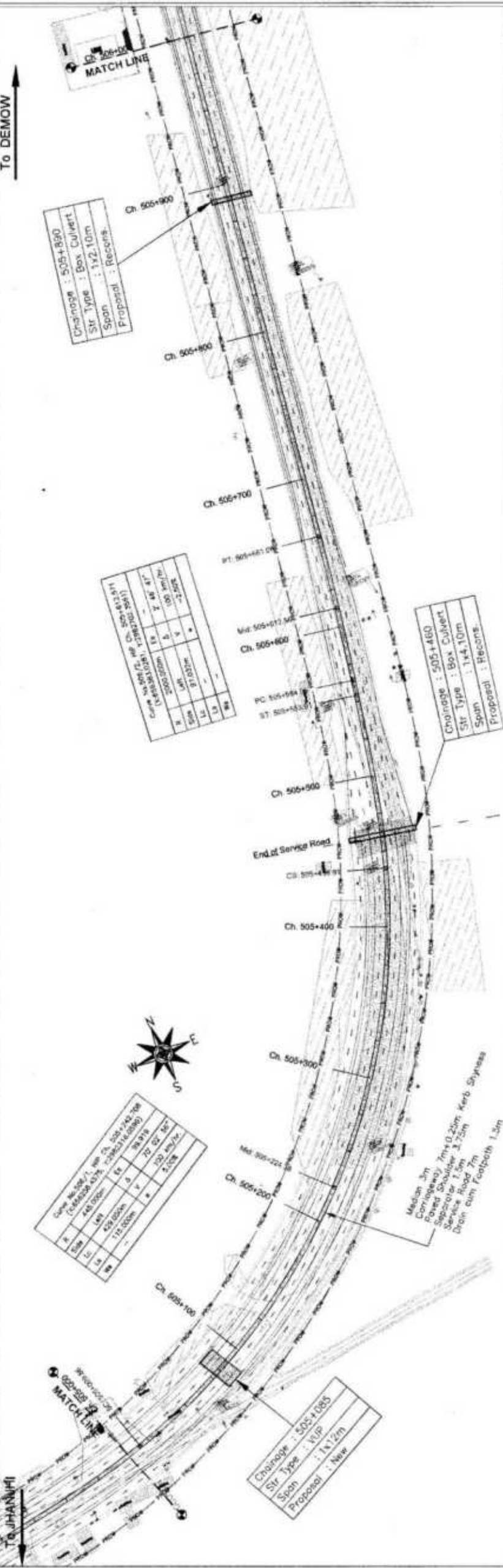
DESIGNER'S SIGNATURE: [Signature]

DESIGNER'S NAME: J. S. S. ENGINEERS

DESIGNER'S ADDRESS: 10/1, 10/2, 10/3, 10/4, 10/5, 10/6, 10/7, 10/8, 10/9, 10/10, 10/11, 10/12, 10/13, 10/14, 10/15, 10/16, 10/17, 10/18, 10/19, 10/20, 10/21, 10/22, 10/23, 10/24, 10/25, 10/26, 10/27, 10/28, 10/29, 10/30, 10/31, 10/32, 10/33, 10/34, 10/35, 10/36, 10/37, 10/38, 10/39, 10/40, 10/41, 10/42, 10/43, 10/44, 10/45, 10/46, 10/47, 10/48, 10/49, 10/50, 10/51, 10/52, 10/53, 10/54, 10/55, 10/56, 10/57, 10/58, 10/59, 10/60, 10/61, 10/62, 10/63, 10/64, 10/65, 10/66, 10/67, 10/68, 10/69, 10/70, 10/71, 10/72, 10/73, 10/74, 10/75, 10/76, 10/77, 10/78, 10/79, 10/80, 10/81, 10/82, 10/83,

LEGEND

- Proposed C.T.
- Proposed M.S.D.
- Proposed Carriageway
- Proposed Pavement Shoulder
- Proposed Footpath
- Proposed P.T. Marking
- Proposed Road
- Proposed Retaining Wall
- Proposed Fencing Road



Station	Chainage	Str Type	Span	Proposed	Remarks
505+000	505+000	Box Culvert	1x2.10m	Recons.	
505+085	505+085	Box Culvert	1x2.10m	Recons.	
505+100	505+100	Box Culvert	1x2.10m	Recons.	
505+110	505+110	Box Culvert	1x2.10m	Recons.	
505+120	505+120	Box Culvert	1x2.10m	Recons.	
505+130	505+130	Box Culvert	1x2.10m	Recons.	
505+140	505+140	Box Culvert	1x2.10m	Recons.	
505+150	505+150	Box Culvert	1x2.10m	Recons.	
505+160	505+160	Box Culvert	1x2.10m	Recons.	
505+170	505+170	Box Culvert	1x2.10m	Recons.	
505+180	505+180	Box Culvert	1x2.10m	Recons.	
505+190	505+190	Box Culvert	1x2.10m	Recons.	
505+200	505+200	Box Culvert	1x2.10m	Recons.	
505+210	505+210	Box Culvert	1x2.10m	Recons.	
505+220	505+220	Box Culvert	1x2.10m	Recons.	
505+230	505+230	Box Culvert	1x2.10m	Recons.	
505+240	505+240	Box Culvert	1x2.10m	Recons.	
505+250	505+250	Box Culvert	1x2.10m	Recons.	
505+260	505+260	Box Culvert	1x2.10m	Recons.	
505+270	505+270	Box Culvert	1x2.10m	Recons.	
505+280	505+280	Box Culvert	1x2.10m	Recons.	
505+290	505+290	Box Culvert	1x2.10m	Recons.	
505+300	505+300	Box Culvert	1x2.10m	Recons.	
505+310	505+310	Box Culvert	1x2.10m	Recons.	
505+320	505+320	Box Culvert	1x2.10m	Recons.	
505+330	505+330	Box Culvert	1x2.10m	Recons.	
505+340	505+340	Box Culvert	1x2.10m	Recons.	
505+350	505+350	Box Culvert	1x2.10m	Recons.	
505+360	505+360	Box Culvert	1x2.10m	Recons.	
505+370	505+370	Box Culvert	1x2.10m	Recons.	
505+380	505+380	Box Culvert	1x2.10m	Recons.	
505+390	505+390	Box Culvert	1x2.10m	Recons.	
505+400	505+400	Box Culvert	1x2.10m	Recons.	
505+410	505+410	Box Culvert	1x2.10m	Recons.	
505+420	505+420	Box Culvert	1x2.10m	Recons.	
505+430	505+430	Box Culvert	1x2.10m	Recons.	
505+440	505+440	Box Culvert	1x2.10m	Recons.	
505+450	505+450	Box Culvert	1x2.10m	Recons.	
505+460	505+460	Box Culvert	1x2.10m	Recons.	
505+470	505+470	Box Culvert	1x2.10m	Recons.	
505+480	505+480	Box Culvert	1x2.10m	Recons.	
505+490	505+490	Box Culvert	1x2.10m	Recons.	
505+500	505+500	Box Culvert	1x2.10m	Recons.	

CLIENT

CONSULTANT

PROJECT

FOUR LANE ROAD WITH DEMOLITION SECTION FROM KM 48+000 TO KM 50+000 OF NH-37 IN THE STATE OF ASSAM UNDER SHROUJ ON ENGINEERING PROCEDURE (EPC) MODE

DESIGNED

CHECKED

APPROVED

DATE: 08.02.2022

REVISION: R01

TITLE: PLAN & PROFILE

CH-KM 505.000 TO KM 506.000

TO JHANJHI

TO DEMOW

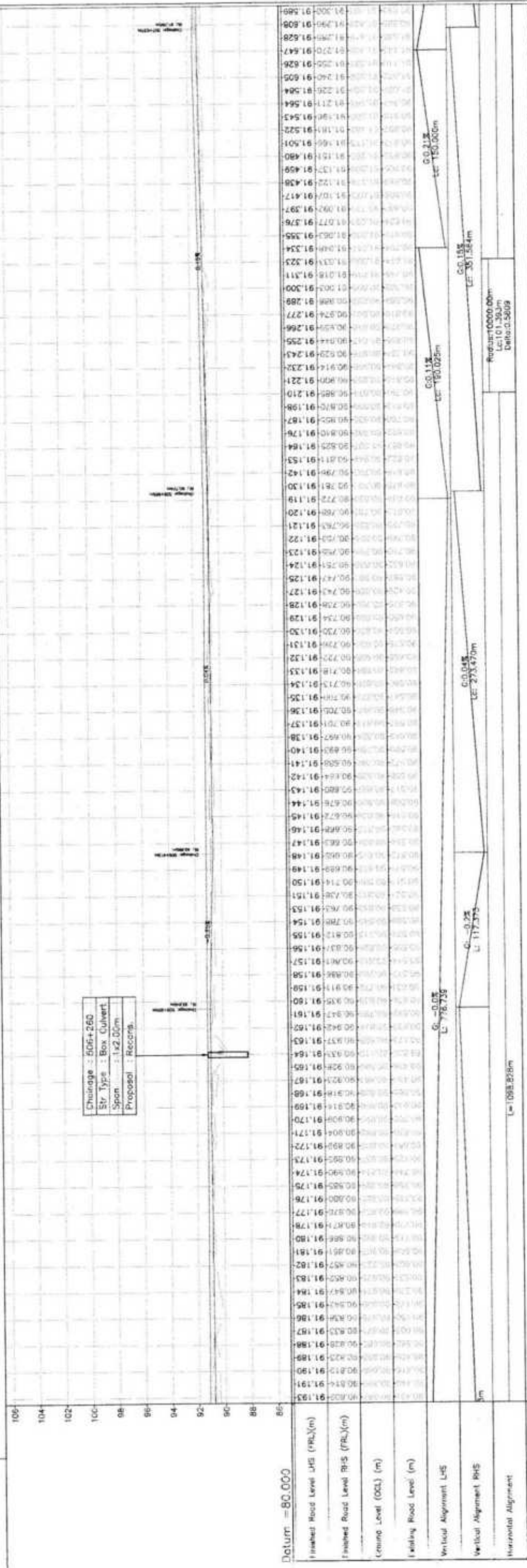
HORIZONTAL PLAN

- Proposed C.T.
- Prop Median
- Prop Carriageway
- Prop Pavement Shoulder
- Prop Left Shoulder
- Prop Footpath
- Prop Road W.T. Marking
- Proposed Row
- Service Road
- Retaining Wall
- Existing Road

Chainage : 506+260
Str. Type : Box Culvert
Span : 1x2.00m
Proposal : Recon.

Curve No. 507 (1st) Ch. 506+810.402 (4.850000000, 2.000, 2.000, 1.643)			
R	1000.000m	Ts	0° 34' 51"
SPI	Right	A	100 km/hr
Ls	101.362m	V	-3.50%
Ls			

Median 3m
Carriageway 7m+0.25m Kerb Shyress
Paved Shoulder 1.5m
Left Shoulder 2m



505+000	505+010	505+020	505+030	505+040	505+050	505+060	505+070	505+080	505+090	505+100	505+110	505+120	505+130	505+140	505+150	505+160	505+170	505+180	505+190	505+200	505+210	505+220	505+230	505+240	505+250	505+260	505+270	505+280	505+290	505+300	505+310	505+320	505+330	505+340	505+350	505+360	505+370	505+380	505+390	505+400	505+410	505+420	505+430	505+440	505+450	505+460	505+470	505+480	505+490	505+500	505+510	505+520	505+530	505+540	505+550	505+560	505+570	505+580	505+590	505+600	505+610	505+620	505+630	505+640	505+650	505+660	505+670	505+680	505+690	505+700	505+710	505+720	505+730	505+740	505+750	505+760	505+770	505+780	505+790	505+800	505+810	505+820	505+830	505+840	505+850	505+860	505+870	505+880	505+890	505+900	505+910	505+920	505+930	505+940	505+950	505+960	505+970	505+980	505+990	506+000	506+010	506+020	506+030	506+040	506+050	506+060	506+070	506+080	506+090	506+100	506+110	506+120	506+130	506+140	506+150	506+160	506+170	506+180	506+190	506+200	506+210	506+220	506+230	506+240	506+250	506+260	506+270	506+280	506+290	506+300	506+310	506+320	506+330	506+340	506+350	506+360	506+370	506+380	506+390	506+400	506+410	506+420	506+430	506+440	506+450	506+460	506+470	506+480	506+490	506+500	506+510	506+520	506+530	506+540	506+550	506+560	506+570	506+580	506+590	506+600	506+610	506+620	506+630	506+640	506+650	506+660	506+670	506+680	506+690	506+700	506+710	506+720	506+730	506+740	506+750	506+760	506+770	506+780	506+790	506+800	506+810	506+820	506+830	506+840	506+850	506+860	506+870	506+880	506+890	506+900	506+910	506+920	506+930	506+940	506+950	506+960	506+970	506+980	506+990	507+000
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CLIENT

National Highway & Infrastructure Corporation Limited

PROJECT

FOUR LANE OF 40M TO 45M ROAD FROM KM 40+000 TO 45+000 (JHARKHAND) OF NH-37 IN THE STATE OF JHARKHAND UNDER SANCHEE ON ENGINEERING PROCUREMENT & CONSTRUCTION (EPC) MODEL

DESIGNER

M/S. S. K. S. ENGINEERS

APPROVED

Signature

SAFETY CONSULTANT

SKA

PROOF CONSULTANT

SKA

CONTRACTOR

M/S. S. K. S. ENGINEERS

REVISION

NO. 01

DATE

DEC. 2022

DRG. NO.

NHJCL/MS/JA/P&P/506

TITLE

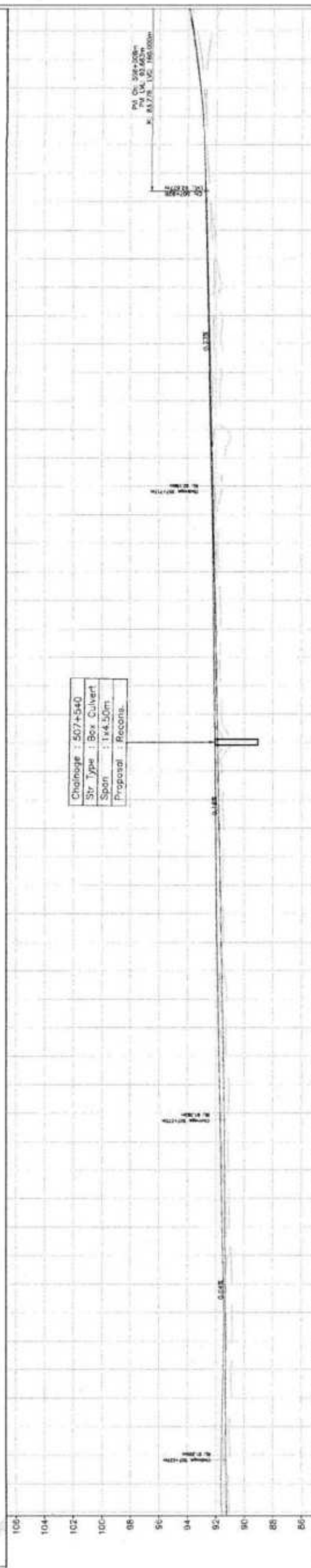
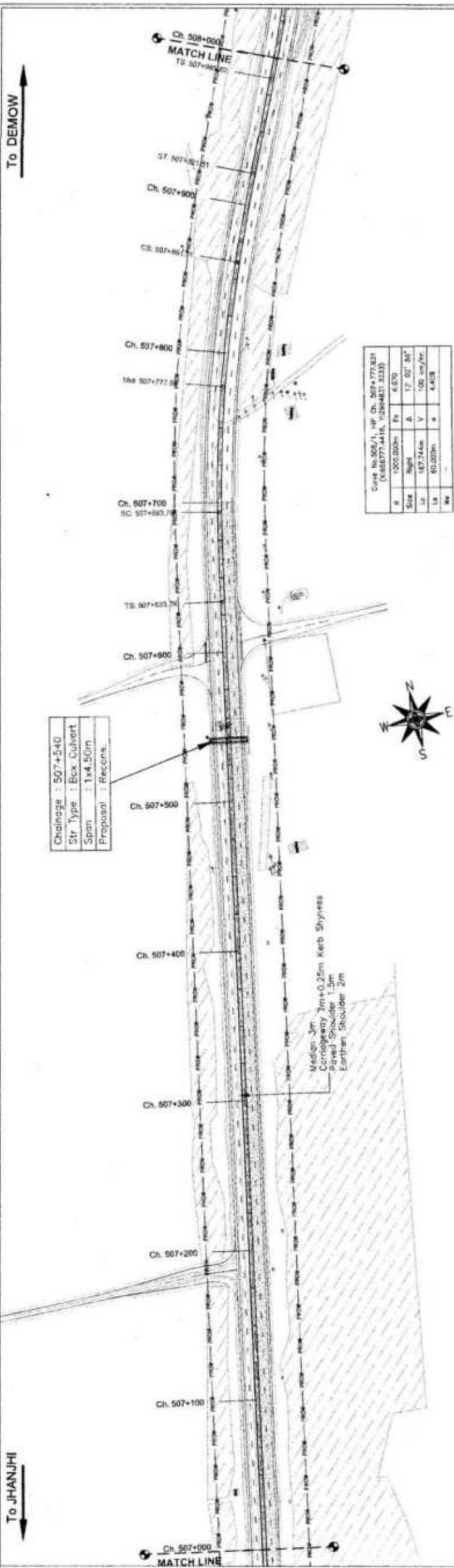
PLAN & PROFILE

CH-KM 506.000 TO KM 507.000

10

To JHANJHI

TO DEMOW

[illegible]

CLIENT	PROJECT	DRAWING NO.	DATE	REVISION
 National Highways & Infrastructure Corporation Limited	FOUR LANE OF PHAHLI TO DEMON SECTION FROM KM. 481+050 TO 494+250 (DEMON KM. 481+050 TO 494+250) IN THE STATE OF ASSAM UNDER SHARP ON ENGINEERING PROCEDURE & CONSTRUCTION (EPC) MODE.	 ROAD & BUILDING PVT. LTD. ★ ★ ★ ★ ★  M/S SHYAM	DATE : DEC. 2022 REVISION : R0	DRG. NO. NH/CL/KS/JA/P&P/507
SAFETY CONSULTANT  SVK	DIRECTOR  Prateek Srivastava	SAFETY CONSULTANT  ROAD & BUILDING PVT. LTD. ★ ★ ★ ★ ★	SAFETY CONSULTANT  ROAD & BUILDING PVT. LTD. ★ ★ ★ ★ ★	SAFETY CONSULTANT  ROAD & BUILDING PVT. LTD. ★ ★ ★ ★ ★
TECHNOVIA'S ADVISORY SERVICES PVT. LTD. NEW DELHI - 110092	TECHNOVIA'S ADVISORY SERVICES PVT. LTD. NEW DELHI - 110092	TECHNOVIA'S ADVISORY SERVICES PVT. LTD. NEW DELHI - 110092	TECHNOVIA'S ADVISORY SERVICES PVT. LTD. NEW DELHI - 110092	TECHNOVIA'S ADVISORY SERVICES PVT. LTD. NEW DELHI - 110092
SAFETY CONSULTANT  ROAD & BUILDING PVT. LTD. ★ ★ ★ ★ ★	SAFETY CONSULTANT  ROAD & BUILDING PVT. LTD. ★ ★ ★ ★ ★	SAFETY CONSULTANT  ROAD & BUILDING PVT. LTD. ★ ★ ★ ★ ★	SAFETY CONSULTANT  ROAD & BUILDING PVT. LTD. ★ ★ ★ ★ ★	SAFETY CONSULTANT ROAD & BUILDING PVT. LTD. ★ ★ ★ ★ ★

LEGEND

Horizontal Plan

Proposed E.T.

Proposed Median

Proposed Carriageway

Proposed Pavement Shoulder

Proposed Earthen Shoulder

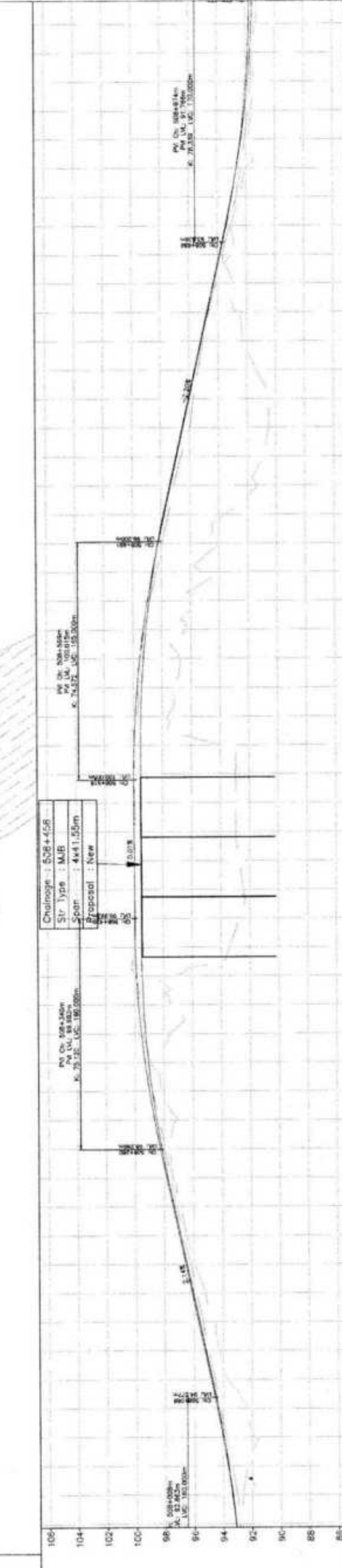
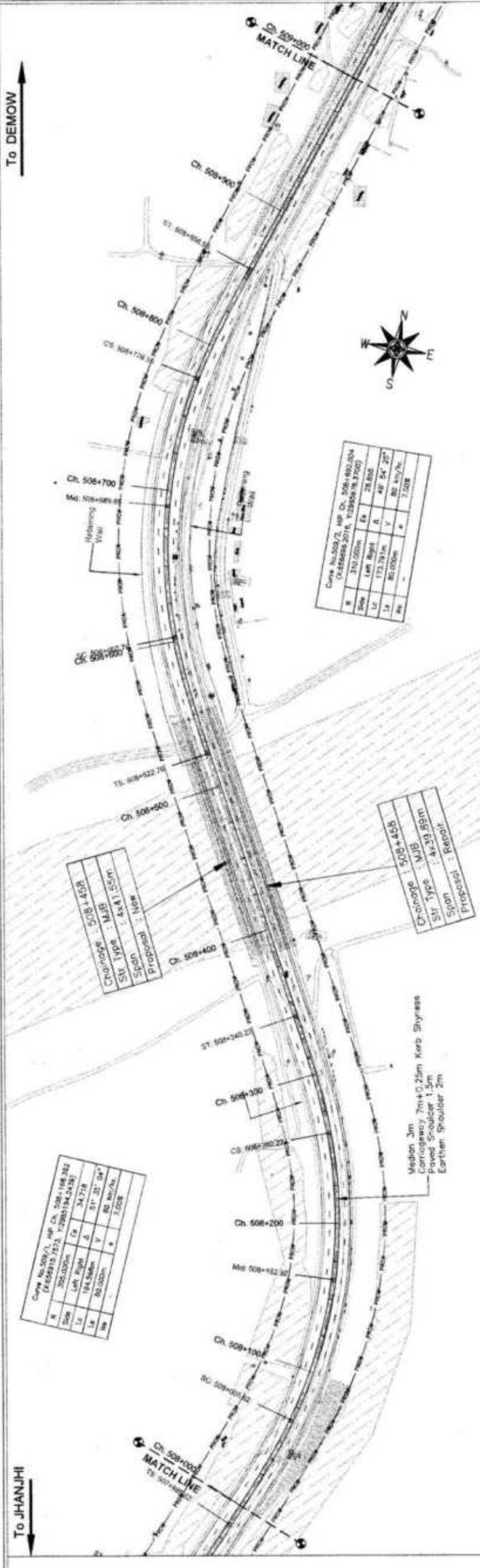
Proposed Footpath

Proposed Road Marking

Proposed Road

Proposed Retaining Wall

Proposed Fencing Road



Station	Finished Road Level LHS (FRL) (m)	Finished Road Level RHS (FRL) (m)	Ground Level (OOL) (m)	Existing Road Level (m)	Vertical Alignment LHS	Vertical Alignment RHS	Horizontal Alignment	Super-elevation (%)	Chaining (m)
508+000	92.12	92.12	92.12	92.12	R 231.2	R 231.2	R 231.2	0.00	92.12
508+010	92.13	92.13	92.13	92.13	R 231.2	R 231.2	R 231.2	0.00	92.13
508+020	92.14	92.14	92.14	92.14	R 231.2	R 231.2	R 231.2	0.00	92.14
508+030	92.15	92.15	92.15	92.15	R 231.2	R 231.2	R 231.2	0.00	92.15
508+040	92.16	92.16	92.16	92.16	R 231.2	R 231.2	R 231.2	0.00	92.16
508+050	92.17	92.17	92.17	92.17	R 231.2	R 231.2	R 231.2	0.00	92.17
508+060	92.18	92.18	92.18	92.18	R 231.2	R 231.2	R 231.2	0.00	92.18
508+070	92.19	92.19	92.19	92.19	R 231.2	R 231.2	R 231.2	0.00	92.19
508+080	92.20	92.20	92.20	92.20	R 231.2	R 231.2	R 231.2	0.00	92.20
508+090	92.21	92.21	92.21	92.21	R 231.2	R 231.2	R 231.2	0.00	92.21
508+100	92.22	92.22	92.22	92.22	R 231.2	R 231.2	R 231.2	0.00	92.22
508+110	92.23	92.23	92.23	92.23	R 231.2	R 231.2	R 231.2	0.00	92.23
508+120	92.24	92.24	92.24	92.24	R 231.2	R 231.2	R 231.2	0.00	92.24
508+130	92.25	92.25	92.25	92.25	R 231.2	R 231.2	R 231.2	0.00	92.25
508+140	92.26	92.26	92.26	92.26	R 231.2	R 231.2	R 231.2	0.00	92.26
508+150	92.27	92.27	92.27	92.27	R 231.2	R 231.2	R 231.2	0.00	92.27
508+160	92.28	92.28	92.28	92.28	R 231.2	R 231.2	R 231.2	0.00	92.28
508+170	92.29	92.29	92.29	92.29	R 231.2	R 231.2	R 231.2	0.00	92.29
508+180	92.30	92.30	92.30	92.30	R 231.2	R 231.2	R 231.2	0.00	92.30
508+190	92.31	92.31	92.31	92.31	R 231.2	R 231.2	R 231.2	0.00	92.31
508+200	92.32	92.32	92.32	92.32	R 231.2	R 231.2	R 231.2	0.00	92.32
508+210	92.33	92.33	92.33	92.33	R 231.2	R 231.2	R 231.2	0.00	92.33
508+220	92.34	92.34	92.34	92.34	R 231.2	R 231.2	R 231.2	0.00	92.34
508+230	92.35	92.35	92.35	92.35	R 231.2	R 231.2	R 231.2	0.00	92.35
508+240	92.36	92.36	92.36	92.36	R 231.2	R 231.2	R 231.2	0.00	92.36
508+250	92.37	92.37	92.37	92.37	R 231.2	R 231.2	R 231.2	0.00	92.37
508+260	92.38	92.38	92.38	92.38	R 231.2	R 231.2	R 231.2	0.00	92.38
508+270	92.39	92.39	92.39	92.39	R 231.2	R 231.2	R 231.2	0.00	92.39
508+280	92.40	92.40	92.40	92.40	R 231.2	R 231.2	R 231.2	0.00	92.40
508+290	92.41	92.41	92.41	92.41	R 231.2	R 231.2	R 231.2	0.00	92.41
508+300	92.42	92.42	92.42	92.42	R 231.2	R 231.2	R 231.2	0.00	92.42
508+310	92.43	92.43	92.43	92.43	R 231.2	R 231.2	R 231.2	0.00	92.43
508+320	92.44	92.44	92.44	92.44	R 231.2	R 231.2	R 231.2	0.00	92.44
508+330	92.45	92.45	92.45	92.45	R 231.2	R 231.2	R 231.2	0.00	92.45
508+340	92.46	92.46	92.46	92.46	R 231.2	R 231.2	R 231.2	0.00	92.46
508+350	92.47	92.47	92.47	92.47	R 231.2	R 231.2	R 231.2	0.00	92.47
508+360	92.48	92.48	92.48	92.48	R 231.2	R 231.2	R 231.2	0.00	92.48
508+370	92.49	92.49	92.49	92.49	R 231.2	R 231.2	R 231.2	0.00	92.49
508+380	92.50	92.50	92.50	92.50	R 231.2	R 231.2	R 231.2	0.00	92.50
508+390	92.51	92.51	92.51	92.51	R 231.2	R 231.2	R 231.2	0.00	92.51
508+400	92.52	92.52	92.52	92.52	R 231.2	R 231.2	R 231.2	0.00	92.52
508+410	92.53	92.53	92.53	92.53	R 231.2	R 231.2	R 231.2	0.00	92.53
508+420	92.54	92.54	92.54	92.54	R 231.2	R 231.2	R 231.2	0.00	92.54
508+430	92.55	92.55	92.55	92.55	R 231.2	R 231.2	R 231.2	0.00	92.55
508+440	92.56	92.56	92.56	92.56	R 231.2	R 231.2	R 231.2	0.00	92.56
508+450	92.57	92.57	92.57	92.57	R 231.2	R 231.2	R 231.2	0.00	92.57
508+460	92.58	92.58	92.58	92.58	R 231.2	R 231.2	R 231.2	0.00	92.58
508+470	92.59	92.59	92.59	92.59	R 231.2	R 231.2	R 231.2	0.00	92.59
508+480	92.60	92.60	92.60	92.60	R 231.2	R 231.2	R 231.2	0.00	92.60
508+490	92.61	92.61	92.61	92.61	R 231.2	R 231.2	R 231.2	0.00	92.61
508+500	92.62	92.62	92.62	92.62	R 231.2	R 231.2	R 231.2	0.00	92.62
508+510	92.63	92.63	92.63	92.63	R 231.2	R 231.2	R 231.2	0.00	92.63
508+520	92.64	92.64	92.64	92.64	R 231.2	R 231.2	R 231.2	0.00	92.64
508+530	92.65	92.65	92.65	92.65	R 231.2	R 231.2	R 231.2	0.00	92.65
508+540	92.66	92.66	92.66	92.66	R 231.2	R 231.2	R 231.2	0.00	92.66
508+550	92.67	92.67	92.67	92.67	R 231.2	R 231.2	R 231.2	0.00	92.67
508+560	92.68	92.68	92.68	92.68	R 231.2	R 231.2	R 231.2	0.00	92.68
508+570	92.69	92.69	92.69	92.69	R 231.2	R 231.2	R 231.2	0.00	92.69
508+580	92.70	92.70	92.70	92.70	R 231.2	R 231.2	R 231.2	0.00	92.70
508+590	92.71	92.71	92.71	92.71	R 231.2	R 231.2	R 231.2	0.00	92.71
508+600	92.72	92.72	92.72	92.72	R 231.2	R 231.2	R 231.2	0.00	92.72
508+610	92.73	92.73	92.73	92.73	R 231.2	R 231.2	R 231.2	0.00	92.73
508+620	92.74	92.74	92.74	92.74	R 231.2	R 231.2	R 231.2	0.00	92.74
508+630	92.75	92.75	92.75	92.75	R 231.2	R 231.2	R 231.2	0.00	92.75
508+640	92.76	92.76	92.76	92.76	R 231.2	R 231.2	R 231.2	0.00	92.76
508+650	92.77	92.77	92.77	92.77	R 231.2	R 231.2	R 231.2	0.00	92.77
508+660	92.78	92.78	92.78	92.78	R 231.2	R 231.2	R 231.2	0.00	92.78
508+670	92.79	92.79	92.79	92.79	R 231.2	R 231.2	R 231.2	0.00	92.79
508+680	92.80	92.80	92.80	92.80	R 231.2	R 231.2	R 231.2	0.00	92.80
508+690	92.81	92.81	92.81	92.81	R 231.2	R 231.2	R 231.2	0.00	92.81
508+700	92.82	92.82	92.82	92.82	R 231.2	R 231.2	R 231.2	0.00	92.82
508+710	92.83	92.83	92.83	92.83	R 231.2	R 231.2	R 231.2	0.00	92.83
508+720	92.84	92.84	92.84	92.84	R 231.2	R 231.2	R 231.2	0.00	92.84
508+730	92.85	92.85	92.85	92.85	R 231.2	R 231.2	R 231.2	0.00	92.85
508+740	92.86	92.86	92.86	92.86	R 231.2	R 231.2	R 231.2	0.00	92.86
508+750	92.87	92.87	92.87	92.87	R 231.2	R 231.2	R 231.2	0.00	92.87
508+760	92.88	92.88	92.88	92.88	R 231.2	R 231.2	R 231.2	0.00	92.88
508+770	92.89	92.89	92.89	92.89	R 231.2	R 231.2	R 231.2	0.00	92.89
508+780	92.90	92.90	92.90	92.90	R 231.2	R 231.2	R 231.2	0.00	92.90
508+790	92.91	92.91	92.91	92.91	R 231.2	R 231.2	R 231.2	0.00	92.91
508+800	92.92	92.92	92.92	92.92	R 231.2	R 231.2	R 231.2	0.00	92.92
508+810	92.93	92.93	92.93	92.93	R 231.2	R 231.2	R 231.2	0.00	92.93
508+820	92.94	92.94	92.94	92.94	R 231.2	R 231.2	R 231.2	0.00	92.94
508+830	92.95	92.95	92.95	92.95	R 231.2	R 231.2	R 231.2	0.00	92.95
508+840	92.96	92.96	92.96	92.96	R 231.2	R 231.2	R 231.2	0.00	92.96
508+850	92.97	92.97	92.97	92.97	R 231.2	R 231.2	R 231.2	0.00	92.97
508+860	92.98	92.98	92.98	92.98	R 231.2	R 231.2	R 231.2	0.00	92.98
508+870	92.99	92.99	92.99	92.99	R 231.2	R 231.2	R 231.2	0.00	92.99
508+880	93.00	93.00	93.00	93.00	R 231.2	R 231.2	R 231.2	0.00	93.00
508+890	93.01	93.01	93.01	93.01	R 231.2	R 231.2	R 231.2	0.00	93.01
508+900	93.02	93.02	93.02	93.02	R 231.2	R 231.2	R 231.2	0.00	93.02
508+910	93.03	93.03	93.03	93.03	R 231.2	R 231.2	R 231.2	0.00	93.03
508+920	93.04	93.04	93.04	93.04	R 231.2	R 231.2	R 231.2	0.00	93.04
508+930	93.05	93.05	93.05	93.05	R 231.2	R 231.2	R 231.2	0.00	93.05
508+940	93.06	93.06	93.06	93.06	R 231.2	R 231.2	R 231.2	0.00	93.06
508+950	93.07	93.07	93.07	93.07	R 231.2	R 231.2	R 231.2	0.00	93.07
508+960	93.08	93.08	93.08	93.08	R 231.2	R 231.2	R 231.2	0.00	93.08
508+970	93.09	93.09	93.09	93.09	R 231.2	R 231.2	R 231.2	0.00	93.09
508+980	93.10	93.10	93.10	93.10	R 231.2	R 231.2	R 231.2	0.00	93.10
508+990	93.11	93.11	93.11	93.11	R 231.2	R 231.2	R 231.2	0.00	93.11
509+000	93.12	93.12	93.12	93.12	R 231.2	R 231.2	R 231.2	0.00	93.12

National Highways & Infrastructure Development Corporation Limited

PROJECT: FOUR LANE OF JHARKHAND DEMON SECTION FROM KM 481+000 TO 509+000 (DEMON AL) 481+000 TO KM 509+000 (DEMON AL) 481+000 TO KM 509+000 (DEMON AL) 481+000 TO KM 509+000 (DEMON AL)

CLIENT: National Highways & Infrastructure Development Corporation Limited

DESIGNER: M/S. S. K. S. ENGINEERS

APPROVED:

PROJECT: FOUR LANE OF JHARKHAND DEMON SECTION FROM KM 481+000 TO 509+000 (DEMON AL) 481+000 TO KM 509+000 (DEMON AL) 481+000 TO KM 509+000 (DEMON AL) 481+000 TO KM 509+000 (DEMON AL)

CLIENT: National Highways & Infrastructure Development Corporation Limited

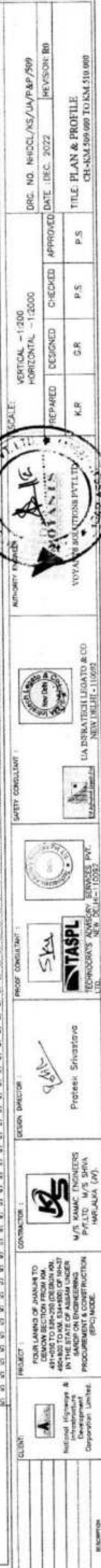
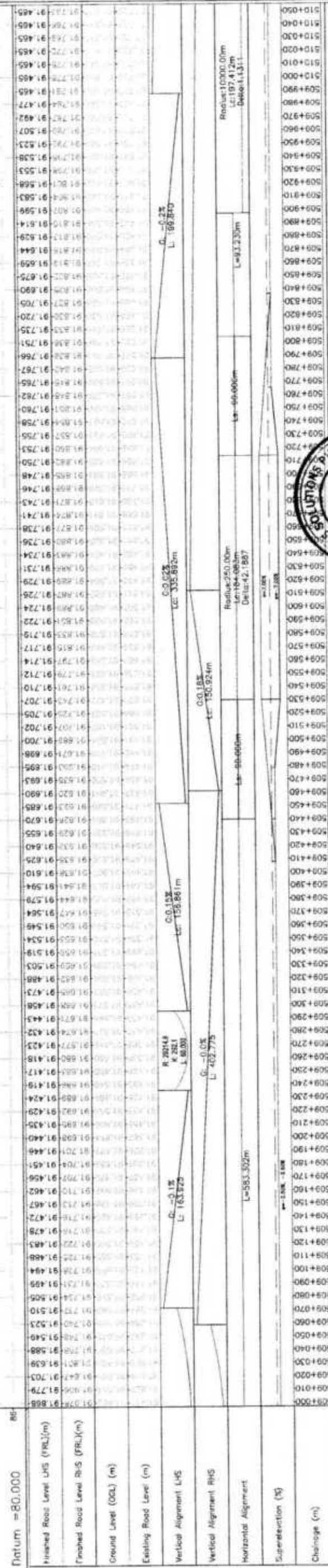
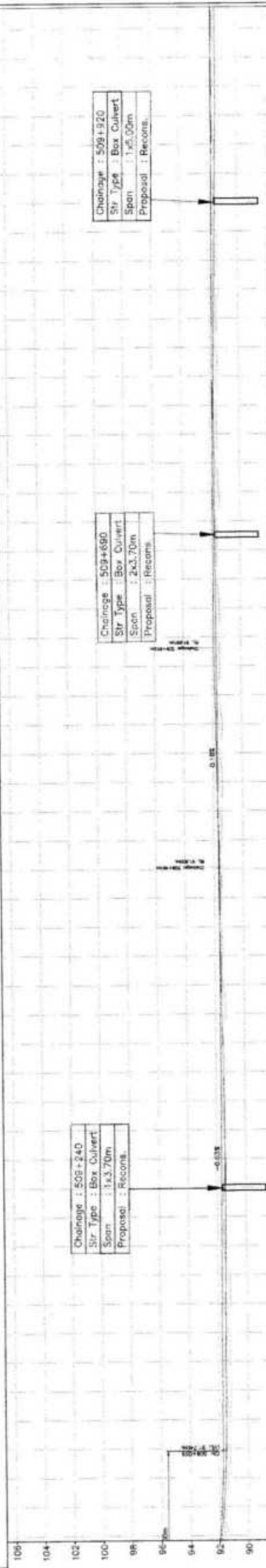
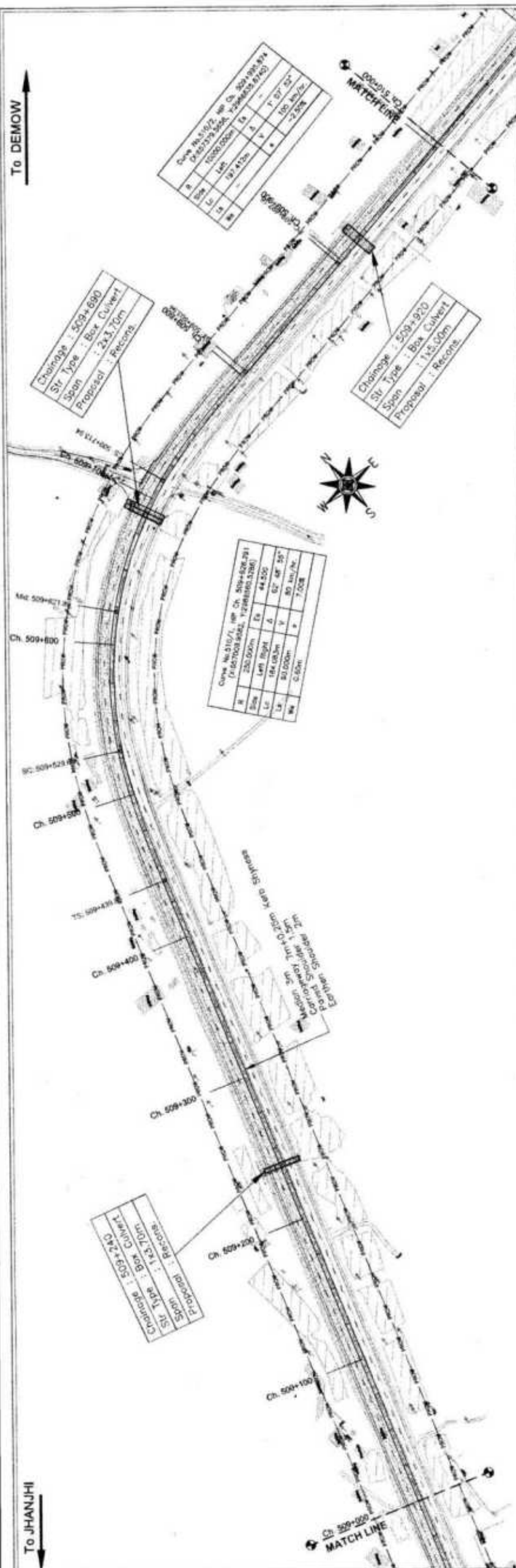
DESIGNER: M/S. S. K. S. ENGINEERS

APPROVED:

HORIZONTAL PLAN

TO JHANJHI

To DEMOW

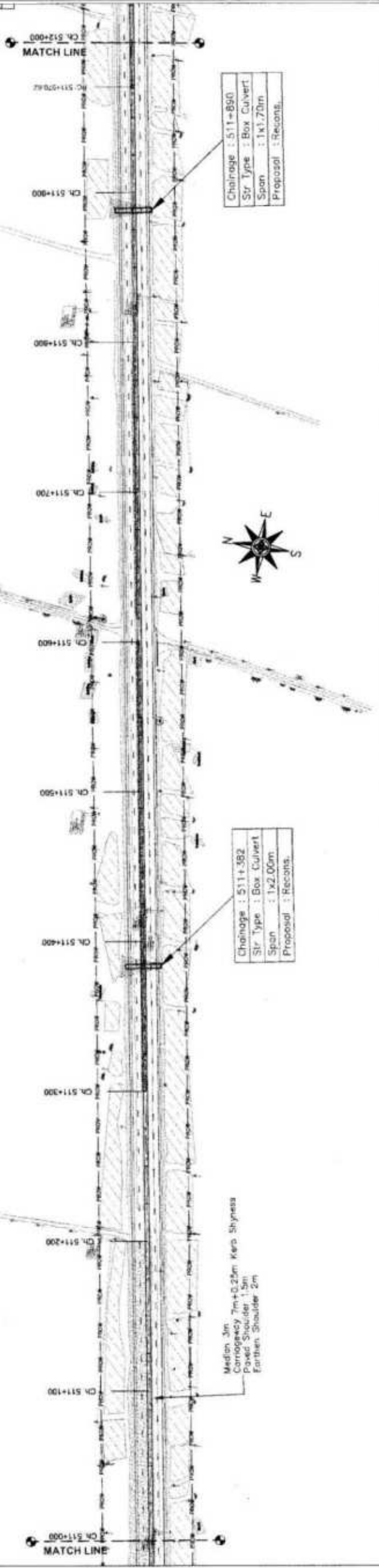


To JHANJHI

To DEMOW

LEGEND
HORIZONTAL PLAN

- Proposed CL
- Prop Median
- Prop Carriageway
- Prop Pavd Shoulder
- Prop Earthen Shoulder
- Prop Footpath
- Road PCL Marking
- Proposed Row
- Service Road
- Retaining Wall
- Existing Road



Stationing: 102, 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 156, 158, 160, 162, 164, 166, 168, 170, 172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192, 194, 196, 198, 200, 202, 204, 206, 208, 210, 212, 214, 216, 218, 220, 222, 224, 226, 228, 230, 232, 234, 236, 238, 240, 242, 244, 246, 248, 250, 252, 254, 256, 258, 260, 262, 264, 266, 268, 270, 272, 274, 276, 278, 280, 282, 284, 286, 288, 290, 292, 294, 296, 298, 300, 302, 304, 306, 308, 310, 312, 314, 316, 318, 320, 322, 324, 326, 328, 330, 332, 334, 336, 338, 340, 342, 344, 346, 348, 350, 352, 354, 356, 358, 360, 362, 364, 366, 368, 370, 372, 374, 376, 378, 380, 382, 384, 386, 388, 390, 392, 394, 396, 398, 400, 402, 404, 406, 408, 410, 412, 414, 416, 418, 420, 422, 424, 426, 428, 430, 432, 434, 436, 438, 440, 442, 444, 446, 448, 450, 452, 454, 456, 458, 460, 462, 464, 466, 468, 470, 472, 474, 476, 478, 480, 482, 484, 486, 488, 490, 492, 494, 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LEGEND

HORIZONTAL PLAN

- Proposed C/L
- Proposed Median
- Proposed Carriageway
- Proposed Pavement Shoulder
- Proposed Footpath
- Proposed Road P.C.T. Marking
- Proposed Retaining Wall
- Proposed Footing Road

To JHANJHI

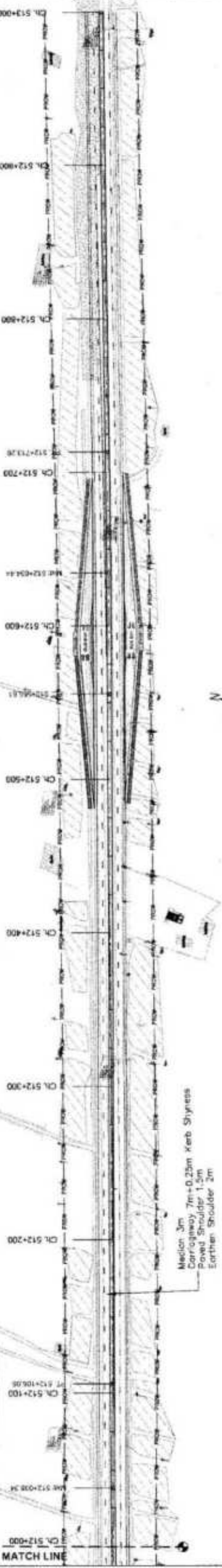
To DEMOW

Curve No. 3/2 - 11P Ch. 512+634.437
(X=659884.1814, Y=2387027.5675)

Station	Station	Station	Station	Station	Station
512+000	512+000	512+000	512+000	512+000	512+000
512+000	512+000	512+000	512+000	512+000	512+000
512+000	512+000	512+000	512+000	512+000	512+000
512+000	512+000	512+000	512+000	512+000	512+000
512+000	512+000	512+000	512+000	512+000	512+000

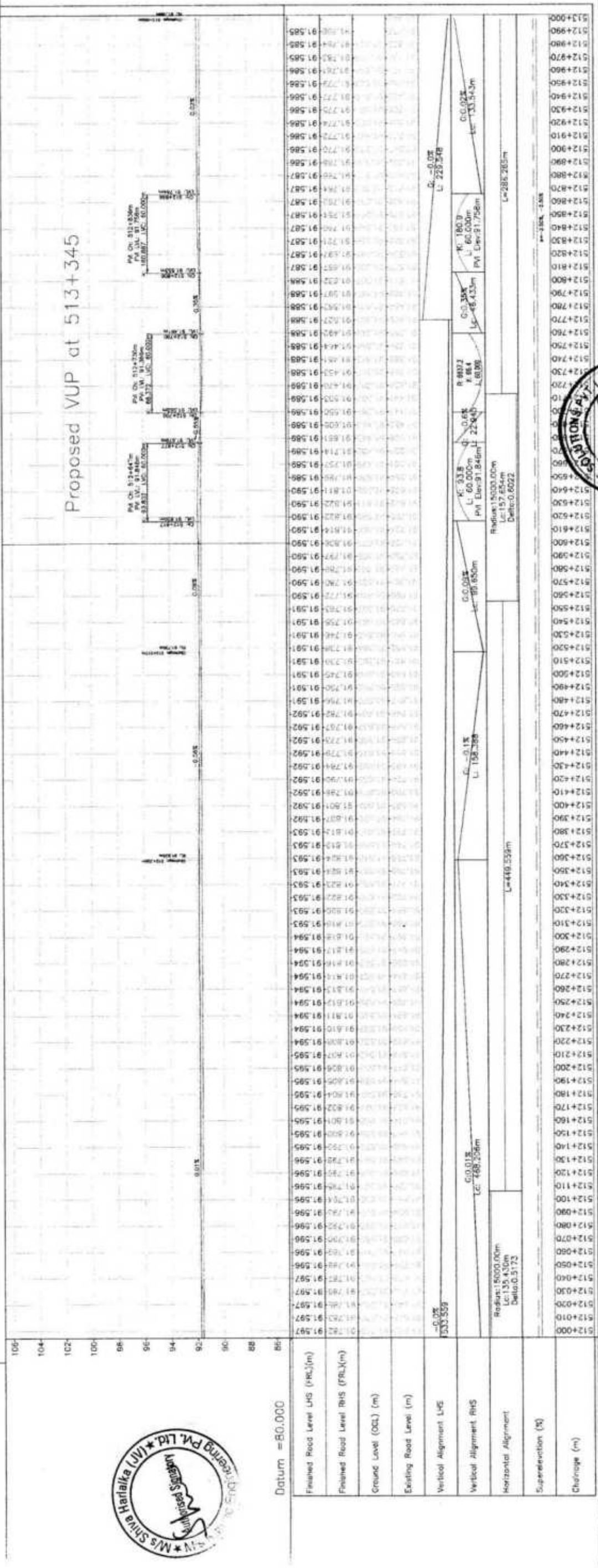
Curve No. 3/2 - 11P Ch. 512+634.437
(X=659884.1814, Y=2387027.5675)

Station	Station	Station	Station	Station	Station
512+000	512+000	512+000	512+000	512+000	512+000
512+000	512+000	512+000	512+000	512+000	512+000
512+000	512+000	512+000	512+000	512+000	512+000
512+000	512+000	512+000	512+000	512+000	512+000
512+000	512+000	512+000	512+000	512+000	512+000



Median 3m
Carriageway 7m+0.25m Kerb Shyress
Paved Shoulder 1.5m
Earthen Shoulder 2m

Proposed VUP at 513+345



Datum = 80.000

Station	Station	Station	Station	Station	Station
512+000	512+000	512+000	512+000	512+000	512+000
512+000	512+000	512+000	512+000	512+000	512+000
512+000	512+000	512+000	512+000	512+000	512+000
512+000	512+000	512+000	512+000	512+000	512+000
512+000	512+000	512+000	512+000	512+000	512+000

PROJECT: FOUR LANE OF JHANJHI TO DEMOW SECTION FROM KM 48+000 TO 512+000 (DEEMED IN THE STATE OF JHARKHAND) IN THE STATE OF JHARKHAND. ROAD ON ENGINEERING. PROPOSEMENT & CONSTRUCTION (EPC) MODE.

CLIENT: National Highway & Infrastructure Development Corporation Limited.

DESIGN DIRECTOR: Prateek Srivastava

CONTRACTOR: M/S KAMAC ENGINEERS PVT. LTD. M/S SHIVA HARJALKA (M).

DESIGN CONSULTANT: SKA

SAFETY CONSULTANT: U.A. DEPRATECHLEGGATO & CO NEW DELHI • 110093

APPROVED: [Signature]

CHECKED: [Signature]

DESIGNED: [Signature]

PREPARED: [Signature]

VERTICAL: -1:200

HORIZONTAL: -1:2000

DRG. NO. NH-DC/L/KS/JA/F&P/512

DATE: DEC. 2022

REVISION: R0

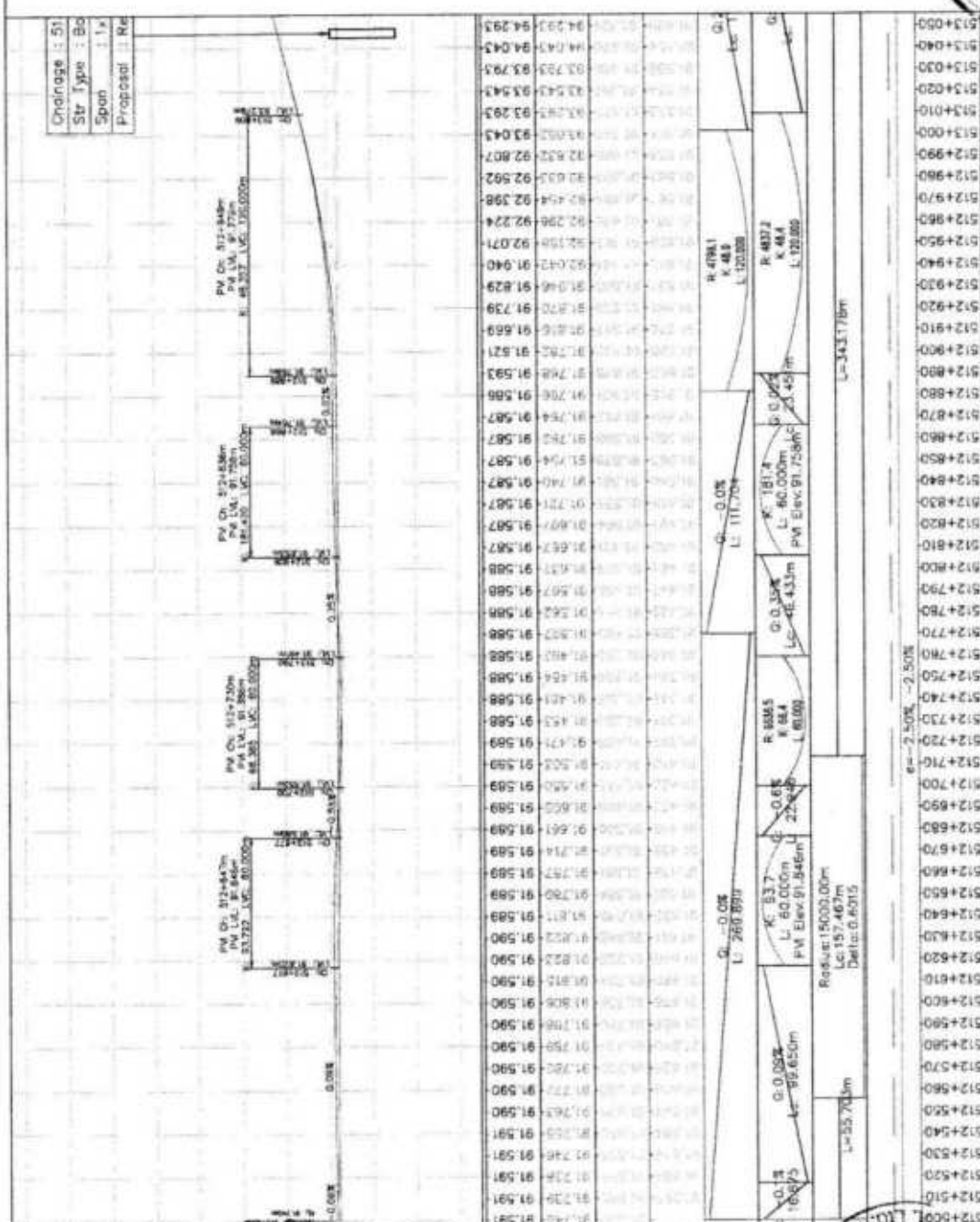
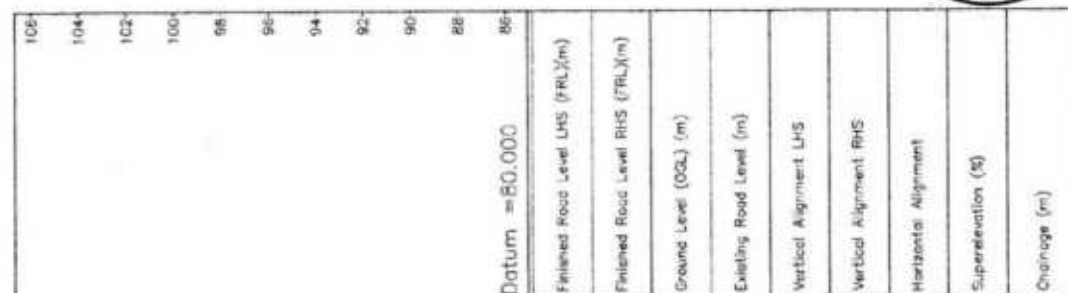
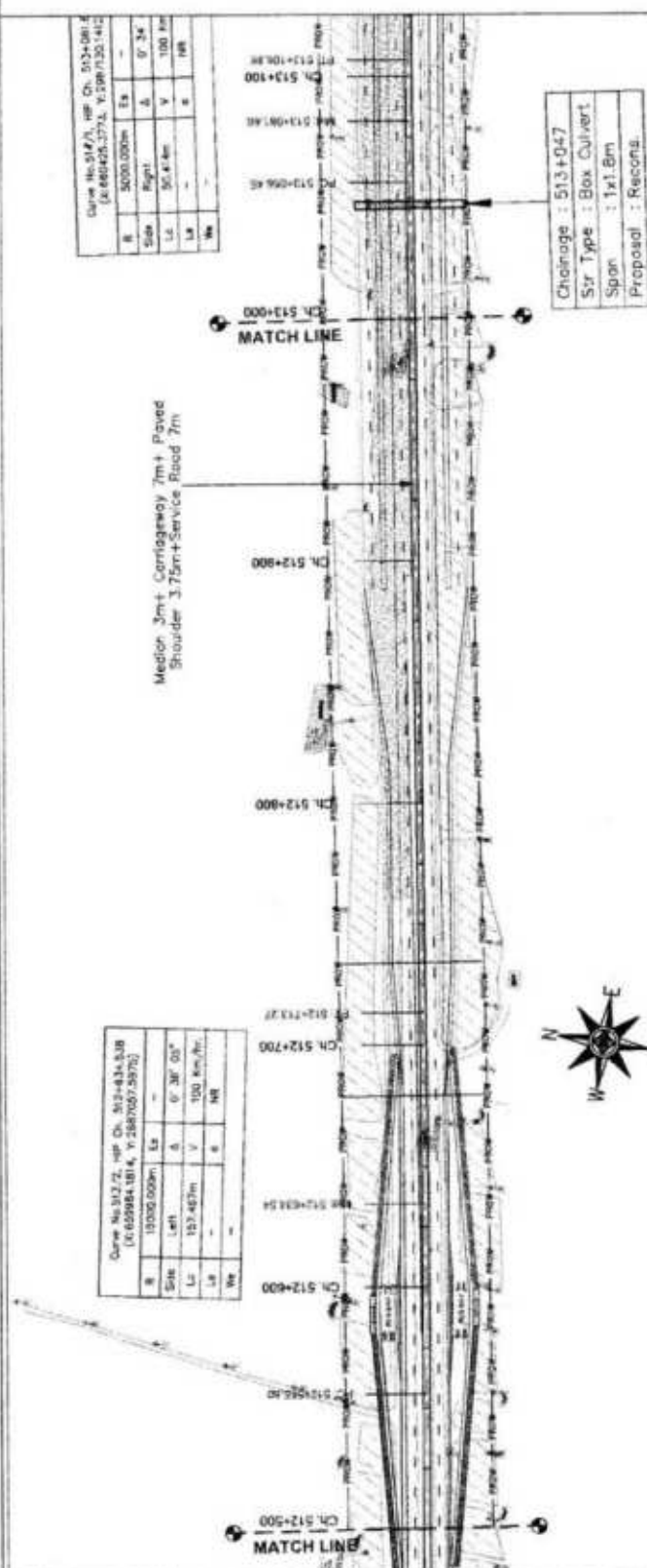
TITLE: PLAN & PROFILE


CH-KM-512.000 TO KM-513.000

TO JHANJHI

HORIZONTAL PLAN

Proposed C/L
Prop. Median
Prop. Carriageway
Prop. Pavd Shoulder
Prop. Leather Shoulder
Prop. Footpath
Road P/L Marking
Proposed Rwy
Service Road
Retaining Wall
Working Road



	<p>FOUR LANE OF JHARKH TO DEMON SECTION FROM KM. 481+050 TO 534+250 (JOB NO. KJ 480+820 TO KM. 534+800) OF NH-37 IN THE STATE OF ASSAM UNDER SANJOY ON ENGINEERING PROCUREMENT & CONSTRUCTION</p>
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KES
M/S KAMAC ENGINEERS
PVT.LTD. M/S SHIVA

DIRECTION :  Proteek Srivastava

SKY

SAFETY CONSULTANT:



THE AMERICAN LEGATION
NEW YORK CITY

VOYANTES SOL

31115
INS
INS PVT LTD

VERTICAL - 1:20	DESIGNED	
HORIZONTAL - 1:10		C.R.

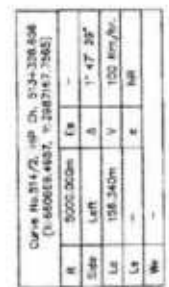
NO	CHECKED	APPROVED
	P.S.	P.S.

NO. NIIDOL/KS/UA
: EFC. 2022

P/512A

HORIZONTAL PLAN

To JHANJHI



Curve No. 514, 21st Cir. Dr. 513-724-688 (K&P/CSM 8437, W 388/733.4107)				
R				
Side	Speed	FS	B	207
Lc	80	234m	V	20' 21' 15"
Lc	25	100m	a	103 Min/Sec
Qty	-			3.00%

Change : 513+098
Str Type : VUP
Span : 1x12
Proposal : New Const.



[illegible][illegible]

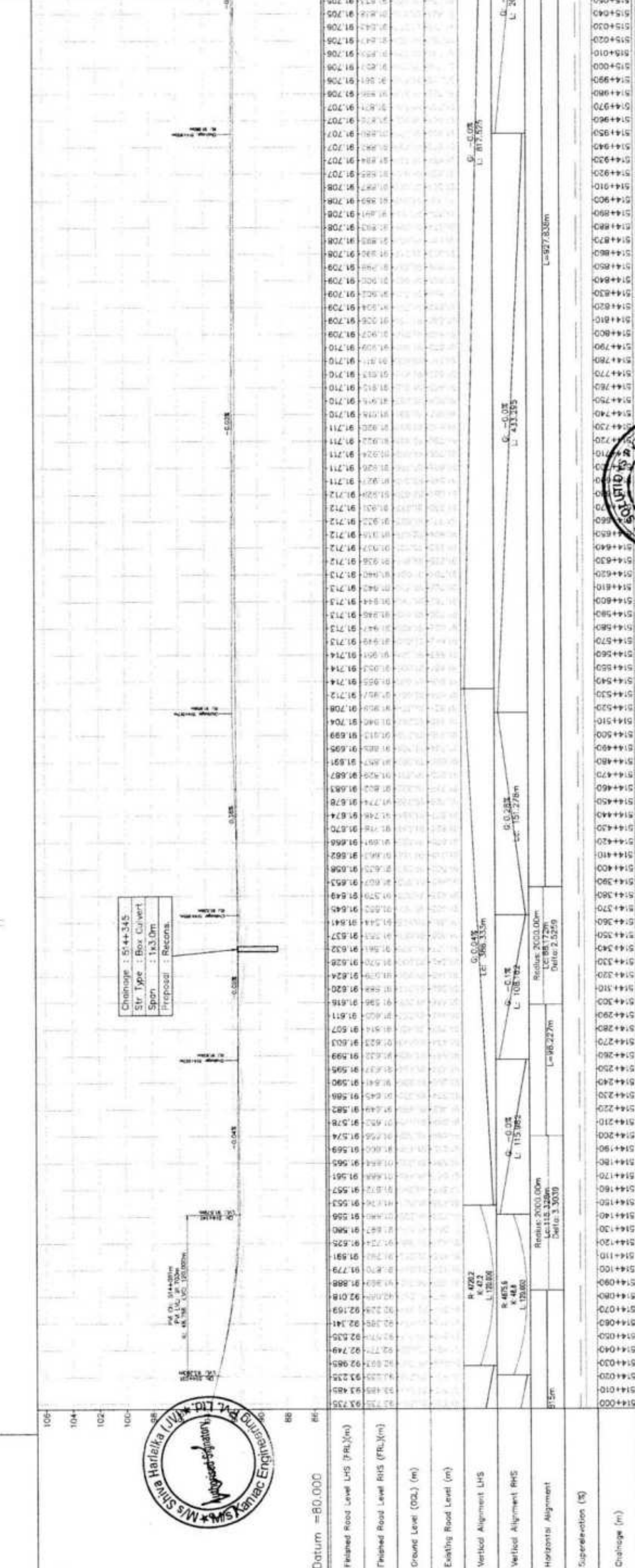
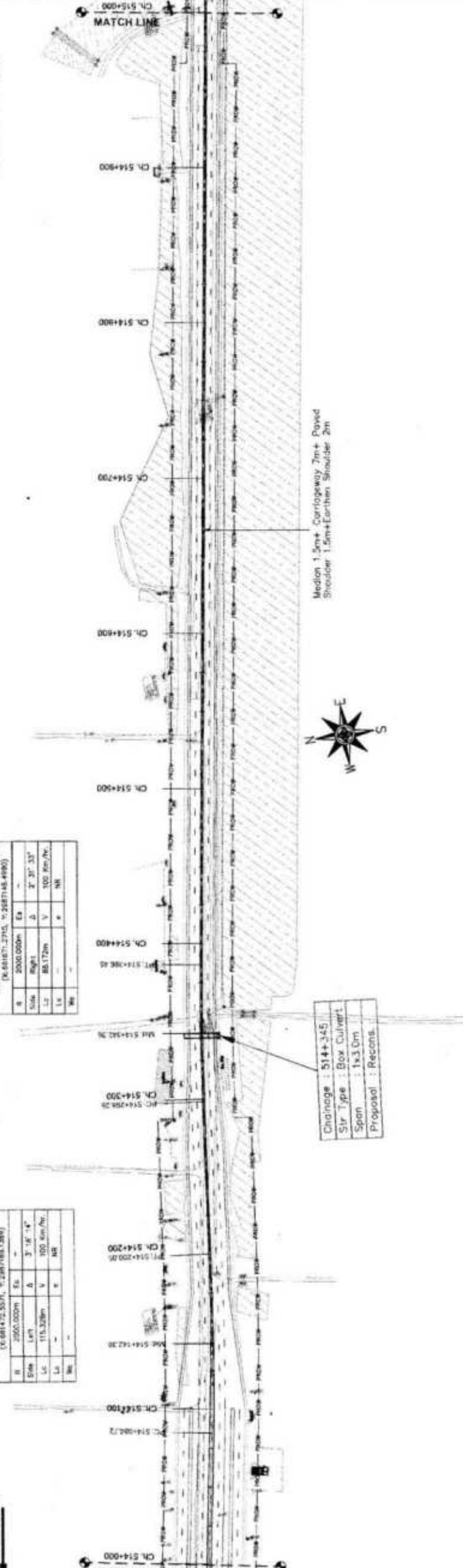
HORIZONTAL PLAN

To JHANJHI

Order No. 51571, HSP On. 5144162.600

Curve No. 515/2, MP. Ch. Sta. 342.369

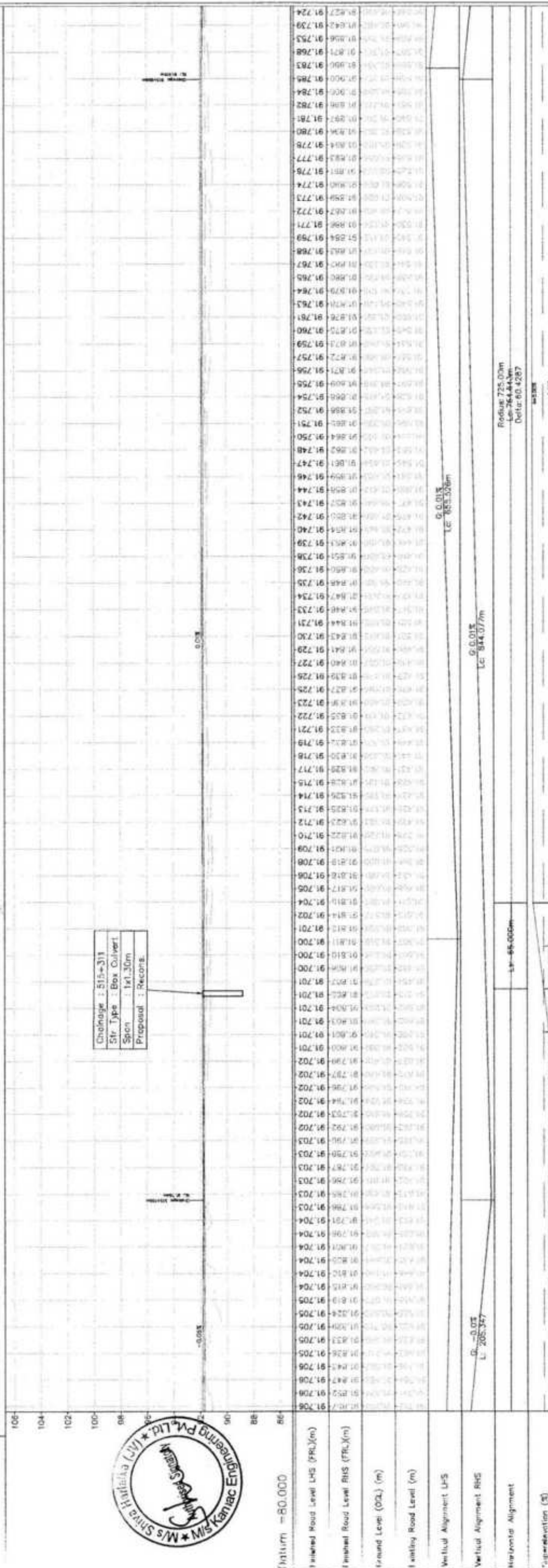
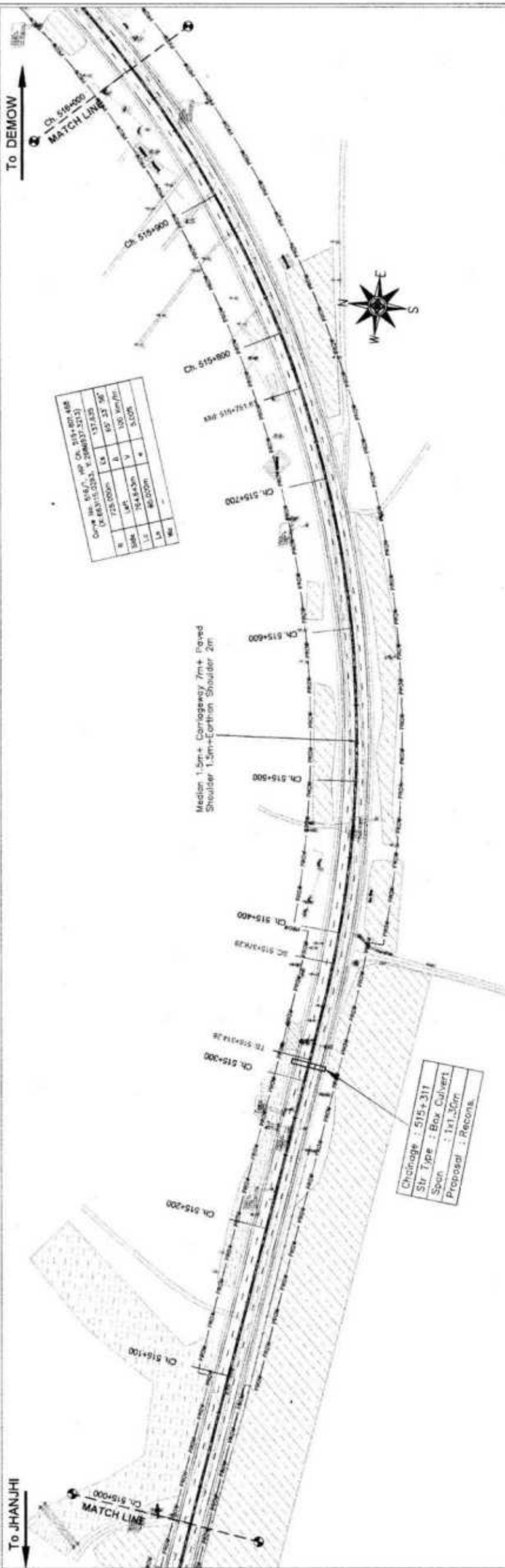
TO DEMOW









CLIENT	PROJECT	CONTRACTOR	DESIGN	PROJ. CONSULTANT	SHEET CONSULTANT																																																																										
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VERTICAL PLAN

Proposed C1
Prop Adjuncts
Prop Conjunctions
Prop Period Nominative
Prop Interim Nominative
Prop Prepositional
Proposed Nerve
Proposed Head
Proposed Wall
Proposed Head



Client (m)	National Highway & Infrastructure Development Corporation Limited.	PROJECT :	FOUR LANES OF JALAJARI TO DEMOW SECTION FROM KM. 481+000 TO 539+250 (DESIGN NO. 480-480 TO KM. 534+500) OF NH-37 IN THE STATE OF ASSAM UNDER PROPOSED BRIDGE AND INFRASTRUCTURE CONSTRUCTION (BENC) MODEL.	CONTRACTOR :	 M/S RAMAK ENGINEERS PVT.LTD. M/3 SHIVA HARALAKA (V).	DESIGN DIRECTOR :	 Prateek Srivastava	PROFF CONSULTANT :	  TASPL TECHNICRATS ADVISORY SERVICES PVT. LTD. NEW DELHI - 110092	 IA INRA TECH LEGATO & CO NEW DELHI - 110092	SAFETY CONSULTANT :		AUTHORITY ENGINEER :	VERTICAL - 1:200 HORIZONTAL - 1:2000	DRG. NO. NHIDCL/KS/NA/P&P/515 REVISION: R0 DATE :DEC. 2022 TITLE: PLAN & PROFILE CH-KM:515.000 TO KM 516.000	515+000 515+010 515+020 515+030 515+040 515+050 515+060 515+070 515+080 515+090 515+100 515+110 515+120 515+130 515+140 515+150 515+160 515+170 515+180 515+190 515+200 515+210 515+220 515+230 515+240 515+250 515+260 515+270 515+280 515+290 515+300 515+310 515+320 515+330 515+340 515+350 515+360 515+370 515+380 515+390 515+400 515+410 515+420 515+430 515+440 515+450 515+460 515+470 515+480 515+490 515+500 515+510 515+520 515+530 515+540 515+550 515+560 515+570 515+580 515+590 515+600 515+610 515+620 515+630 515+640 515+650 515+660 515+670 515+680 515+690 515+700 515+710 515+720 515+730 515+740 515+750 515+760 515+770 515+780 515+790 515+800 515+810 515+820 515+830 515+840 515+850 515+860 515+870 515+880 515+890 515+900 515+910 515+920 515+930 515+940 515+950 515+960 515+970 515+980 515+990 516+000 516+010 516+020 516+030 516+040 516+050				
																K.R.	P.S.	C.R.	P.S.	APPROVED

TO JHANJHI

TO JHANJHI

Chainage : 515+36.5
Str Type : Pipe Culvert
Span : 2x1.20m
Proposal : New Const.

R	2000.000	Δ	$\theta = 36' 58''$
Side	Right	Δ	
L.C.	160.231m	V	102 km/hr
L.C.		θ	NR
Wd			

Charge : 516+937
Str Type : MNB
Span : 1x27.45+2x12.3
Proposal : New Cont

Chainage	: 516+932
Str Type	: MNB
Span	: 1x27.45+2x12.2
Bridge	: M44

Chainage : 516+932
Str Type : MNB
Span : 1x27.45+2x12.9
Proposal : New Const.

Chainage :	516+365
Str Type :	Pipe Culvert
Span :	2x1.70m
Proposal :	New Const.



Natum = 80.000

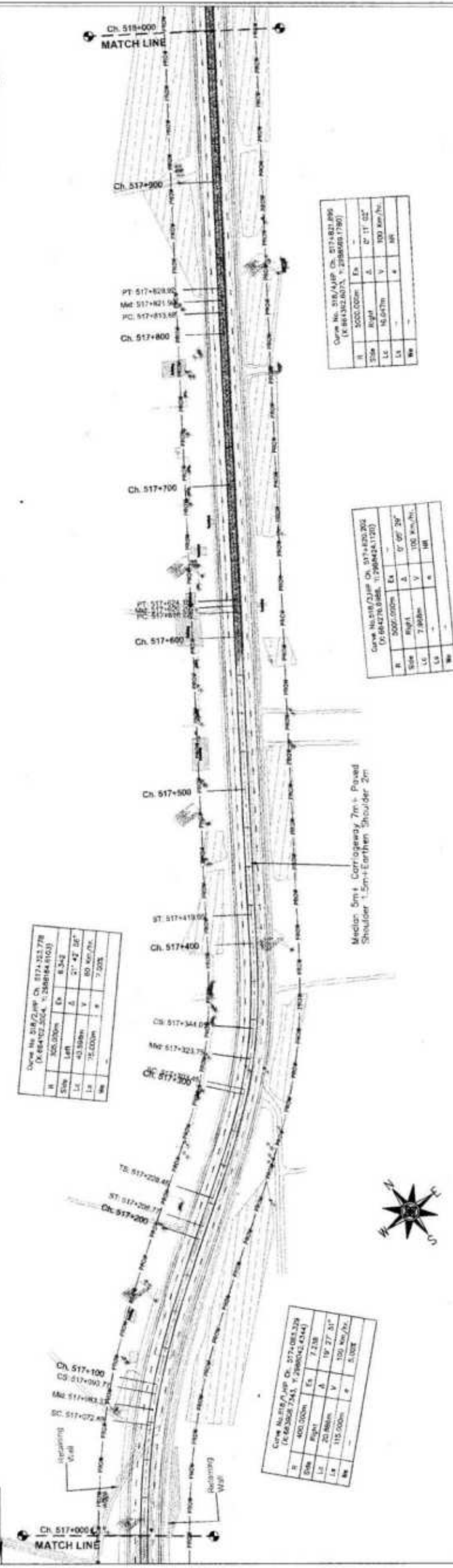
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LEGEND

HORIZONTAL PLAN

- Proposed CL
- Prop. Median
- Prop. Carriageway
- Prop. Pavd Shoulder
- Prop. Earthen Shoulder
- Prop. Footpath
- Road PCL Marking
- Proposed Row
- Service Road
- Retaining Wall
- Existing Road

To DEMOW



Curve No. 518/4/JP Ch. 517+800.000
(K 861302.000, T 238.000, L 750.000)

R	5000.000m	Ex	5	2' 11" 02"
Side	Right	A	100 km/h	100 km/h
LA	10.000m	V	4	4
LB	10.000m	V	4	4

Curve No. 518/2/JP Ch. 517+350.000
(K 845770.000, T 298.000, L 1100.000)

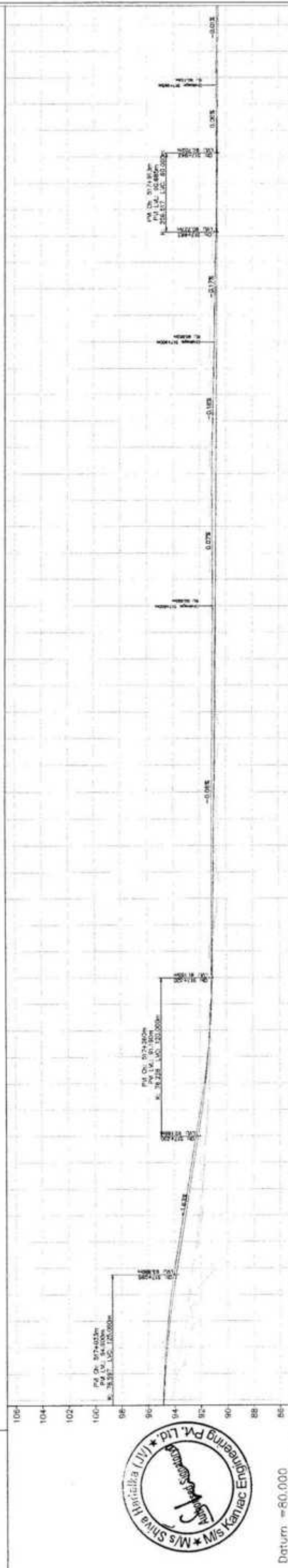
R	5000.000m	Ex	5	0' 00" 30"
Side	Right	A	100 km/h	100 km/h
LA	7.000m	V	4	4
LB	7.000m	V	4	4

Curve No. 518/2/JP Ch. 517+350.000
(K 845770.000, T 298.000, L 1100.000)

R	5000.000m	Ex	5	0' 00" 30"
Side	Right	A	100 km/h	100 km/h
LA	7.000m	V	4	4
LB	7.000m	V	4	4

Curve No. 518/4/JP Ch. 517+800.000
(K 861302.000, T 238.000, L 750.000)

R	5000.000m	Ex	5	2' 11" 02"
Side	Right	A	100 km/h	100 km/h
LA	10.000m	V	4	4
LB	10.000m	V	4	4



Vertical Alignment Data Table

Station	Grade (%)	Length (m)	Radius (m)	Delta (m)
517+000	-0.05	75.00	125.000	0.000
517+075	-0.05	75.00	125.000	0.000
517+150	-0.05	75.00	125.000	0.000
517+225	-0.05	75.00	125.000	0.000
517+300	-0.05	75.00	125.000	0.000
517+375	-0.05	75.00	125.000	0.000
517+450	-0.05	75.00	125.000	0.000
517+525	-0.05	75.00	125.000	0.000
517+600	-0.05	75.00	125.000	0.000
517+675	-0.05	75.00	125.000	0.000
517+750	-0.05	75.00	125.000	0.000
517+800	-0.05	75.00	125.000	0.000

PROJECT: FOUR LANE TO DEMOW SECTION FROM KM 49+000 TO KM 50+000 (DEBRIUM RM 49+000 TO KM 50+000) OF NH-37 IN THE STATE OF ASSAM UNDER THE JICA PROJECT FOR IMPROVEMENT AND CONSTRUCTION OF NH-37 (BPC) MODE.

CLIENT: National Highway & Infrastructure Development Corporation Limited

DESIGN DIRECTOR: M/S KANAC ENGINEERS PVT. LTD. (P) NO. 10/1, SHIVA HARILAKA (N)

CONTRACTOR: M/S KANAC ENGINEERS PVT. LTD. (P) NO. 10/1, SHIVA HARILAKA (N)

SAFETY CONSULTANT: TASPL TECHNOCRATS ADVISORY SERVICES PVT. LTD. (P) NO. 10/1, SHIVA HARILAKA (N)

APPROVED: [Signature]

DATE: DEC. 2022

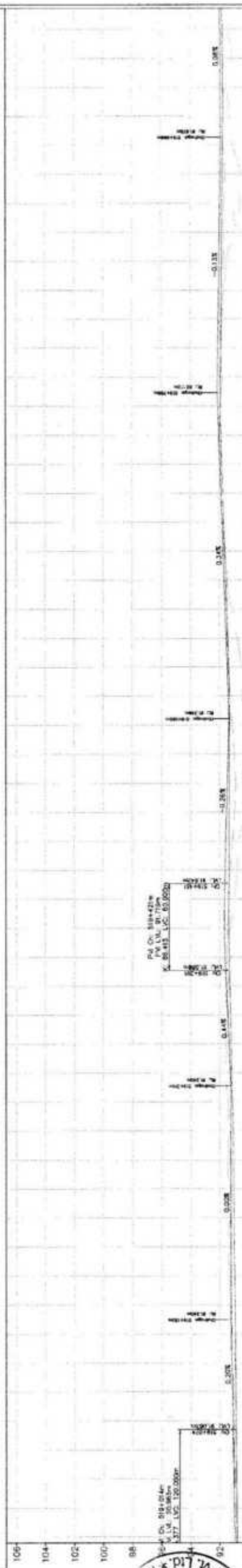
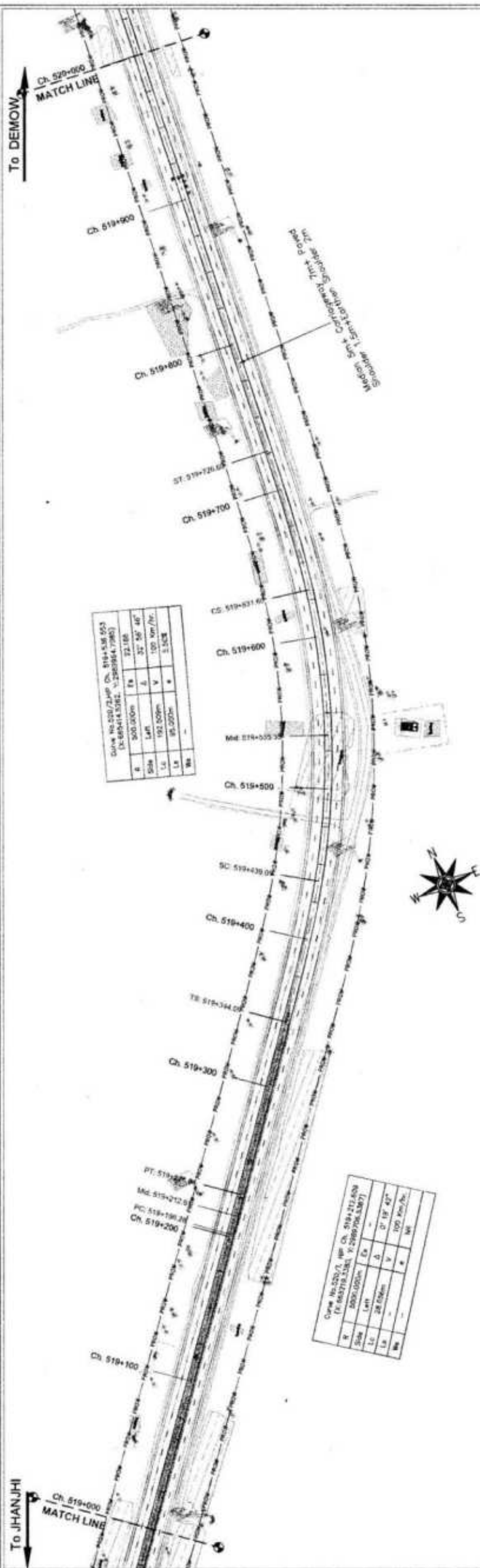
REVISION: R0

TITLE: PLAN & PROFILE

CH-KM-517.000 TO KM-518.000

HORIZONTAL PLAN

Proposed CT
Prop Median
Prop Carriageway
Prop Pavement Shoulder
Prop Junction Shoulder
Prop Footpath
Road IN T. Marking
Proposed Kerb
Existing Road
Existing Wall
Existing Road



Datum = 80.000

Finished Road Level LWS (FRL)(m)	90.820	90.829	90.837	90.846	90.855	90.864	90.873	90.882	90.891	90.900	90.909	90.918	90.927	90.936	90.945	90.954	90.963	90.972	90.981	90.990	90.998	91.007	91.016	91.024	91.033	91.042	91.051	91.060	91.069	91.078	91.086	91.095	91.103	91.112	91.120	91.128	91.136	91.144	91.152	91.160	91.168	91.176	91.184	91.192	91.200	91.208	91.216	91.224	91.232	91.240	91.248	91.256	91.264	91.272	91.280	91.288	91.296	91.304	91.312	91.320	91.328	91.336	91.344	91.352	91.360	91.368	91.376	91.384	91.392	91.400	91.408	91.416	91.424	91.432	91.440	91.448	91.456	91.464	91.472	91.480	91.488	91.496	91.504	91.512	91.520	91.528	91.536	91.544	91.552	91.560	91.568	91.576	91.584	91.592	91.600	91.608	91.616	91.624	91.632	91.640	91.648	91.656	91.664	91.672	91.680	91.688	91.696	91.704	91.712	91.720	91.728	91.736	91.744	91.752	91.760	91.768	91.776	91.784	91.792	91.800	91.808	91.816	91.824	91.832	91.840	91.848	91.856	91.864	91.872	91.880	91.888	91.896	91.904	91.912	91.920	91.928	91.936	91.944	91.952	91.960	91.968	91.976	91.984	91.992	92.000	92.008	92.016	92.024	92.032	92.040	92.048	92.056	92.064	92.072	92.080	92.088	92.096	92.104	92.112	92.120	92.128	92.136	92.144	92.152	92.160	92.168	92.176	92.184	92.192	92.200	92.208	92.216	92.224	92.232	92.240	92.248	92.256	92.264	92.272	92.280	92.288	92.296	92.304	92.312	92.320	92.328	92.336	92.344	92.352	92.360	92.368	92.376	92.384	92.392	92.400	92.408	92.416	92.424	92.432	92.440	92.448	92.456	92.464	92.472	92.480	92.488	92.496	92.504	92.512	92.520	92.528	92.536	92.544	92.552	92.560	92.568	92.576	92.584	92.592	92.600	92.608	92.616	92.624	92.632	92.640	92.648	92.656	92.664	92.672	92.680	92.688	92.696	92.704	92.712	92.720	92.728	92.736	92.744	92.752	92.760	92.768	92.776	92.784	92.792	92.800	92.808	92.816	92.824	92.832	92.840	92.848	92.856	92.864	92.872	92.880	92.888	92.896	92.904	92.912	92.920	92.928	92.936	92.944	92.952	92.960	92.968	92.976	92.984	92.992	93.000	93.008	93.016	93.024	93.032	93.040	93.048	93.056	93.064	93.072	93.080	93.088	93.096	93.104	93.112	93.120	93.128	93.136	93.144	93.152	93.160	93.168	93.176	93.184	93.192	93.200	93.208	93.216	93.224	93.232	93.240	93.248	93.256	93.264	93.272	93.280	93.288	93.296	93.304	93.312	93.320	93.328	93.336	93.344	93.352	93.360	93.368	93.376	93.384	93.392	93.400	93.408	93.416	93.424	93.432	93.440	93.448	93.456	93.464	93.472	93.480	93.488	93.496	93.504	93.512	93.520	93.528	93.536	93.544	93.552	93.560	93.568	93.576	93.584	93.592	93.600	93.608	93.616	93.624	93.632	93.640	93.648	93.656	93.664	93.672	93.680	93.688	93.696	93.704	93.712	93.720	93.728	93.736	93.744	93.752	93.760	93.768	93.776	93.784	93.792	93.800	93.808	93.816	93.824	93.832	93.840	93.848	93.856	93.864	93.872	93.880	93.888	93.896	93.904	93.912	93.920	93.928	93.936	93.944	93.952	93.960	93.968	93.976	93.984	93.992	94.000	94.008	94.016	94.024	94.032	94.040	94.048	94.056	94.064	94.072	94.080	94.088	94.096	94.104	94.112	94.120	94.128	94.136	94.144	94.152	94.160	94.168	94.176	94.184	94.192	94.200	94.208	94.216	94.224	94.232	94.240	94.248	94.256	94.264	94.272	94.280	94.288	94.296	94.304	94.312	94.320	94.328	94.336	94.344	94.352	94.360	94.368	94.376	94.384	94.392	94.400	94.408	94.416	94.424	94.432	94.440	94.448	94.456	94.464	94.472	94.480	94.488	94.496	94.504	94.512	94.520	94.528	94.536	94.544	94.552	94.560	94.568	94.576	94.584	94.592	94.600	94.608	94.616	94.624	94.632	94.640	94.648	94.656	94.664	94.672	94.680	94.688	94.696	94.704	94.712	94.720	94.728	94.736	94.744	94.752	94.760	94.768	94.776	94.784	94.792	94.800	94.808	94.816	94.824	94.832	94.840	94.848	94.856	94.864	94.872	94.880	94.888	94.896	94.904	94.912	94.920	94.928	94.936	94.944	94.952	94.960	94.968	94.976	94.984	94.992	95.000	95.008	95.016	95.024	95.032	95.040	95.048	95.056	95.064	95.072	95.080	95.088	95.096	95.104	95.112	95.120	95.128	95.136	95.144	95.152	95.160	95.168	95.176	95.184	95.192	95.200	95.208	95.216	95.224	95.232	95.240	95.248	95.256	95.264	95.272	95.280	95.288	95.296	95.304	95.312	95.320	95.328	95.336	95.344	95.352	95.360	95.368	95.376	95.384	95.392	95.400	95.408	95.416	95.424	95.432	95.440	95.448	95.456	95.464	95.472	95.480	95.488	95.496	95.504	95.512	95.520	95.528	95.536	95.544	95.552	95.560	95.568	95.576	95.584	95.592	95.600	95.608	95.616	95.624	95.632	95.640	95.648	95.656	95.664	95.672	95.680	95.688	95.696	95.704	95.712	95.720	95.728	95.736	95.744	95.752	95.760	95.768	95.776	95.784	95.792	95.800	95.808	95.816	95.824	95.832	95.840	95.848	95.856	95.864	95.872	95.880	95.888	95.896	95.904	95.912	95.920	95.928	95.936	95.944	95.952	95.960	95.968	95.976	95.984	95.992	96.000	96.008	96.016	96.024	96.032	96.040	96.048	96.056	96.064	96.072	96.080	96.088	96.096	96.104	96.112	96.120	96.128	96.136	96.144	96.152	96.160	96.168	96.176	96.184	96.192	96.200	96.208	96.216	96.224	96.232	96.240	96.248	96.256	96.264	96.272	96.280	96.288	96.296	96.304	96.312	96.320	96.328	96.336	96.344	96.352	96.360	96.368	96.376	96.384	96.392	96.400	96.408	96.416	96.424	96.432	96.440	96.448	96.456	96.464	96.472	96.480	96.488	96.496	96.504	96.512	96.520	96.528	96.536	96.544	96.552	96.560	96.568	96.576	96.584	96.592	96.600	96.608	96.616	96.624	96.632	96.640	96.648	96.656	96.664	96.672	96.680	96.688	96.696	96.704	96.712	96.720	96.728	96.736	96.744	96.752	96.760	96.768	96.776	96.784	96.792	96.800	96.808	96.816	96.824	96.832	96.840	96.848	96.856	96.864	96.872	96.880	96.888	96.896	96.904	96.912	96.920	96.928	96.936	96.944	96.952	96.960	96.968	96.976	96.984	96.992	97.000	97.008	97.016	97.024	97.032	97.040	97.048	97.056	97.064	97.072	97.080	97.088	97.096	97.104	97.112	97.120	97.128	97.136	97.144	97.152	97.160	97.168	97.176	97.184	97.192	97.200	97.208	97.216	97.224	97.232	97.240	97.248	97.256	97.264	97.272	97.280	97.288	97.296	97.304	97.312	97.320	97.328	97.336	97.344	97.352	97.360	97.368	97.376	97.384	97.392	97.400	97.408	97.416	97.424	97.432	97.440	97.448	97.456	97.464	97.472	97.480	97.488	97.496	97.504	97.512	97.520	97.528	97.536	97.544	97.552	97.560	97.568	97.576	97.584	97.592	97.600	97.608	97.616	97.624	97.632	97.640	97.648	97.656	97.664	97.672	97.680	97.688	97.696	97.704	97.712	97.720	97.728	97.736	97.744	97.752	97.760	97.768	97.776	97.784	97.792	97.800	97.808	97.816	97.824	97.832	97.840	97.848	97.856	97.864	97.872	97.880	97.888	97.896	97.904	97.912	97.920	97.928	97.936	97.944	97.952	97.960	97.968	97.976	97.984	97.992	98.000	98.008	98.016	98.024	98.032	98.040	98.048	98.056	98.064	98.072	98.080	98.088	98.096	98.104	98.112	98.120	98.128	98.136	98.144	98.152	98.160	98.168	98.176	98.184	98.192	98.200	98.208	98.216	98.224	98.232	98.240	98.248	98.256	98.264	98.272	98.280	98.288	98.296	98.304	98.312	98.320	98.328	98.336	98.344	98.352	98.360	98.368	98.376	98.384	98.392	98.400	98.408	98.416	98.424	98.432	98.440	98.448	98.456	98.464	98.472	98.480	98.488	98.496	98.504	98.512	98.520	98.528	98.536	98.544	98.552	98.560	98.568	98.576	98.584	98.592	98.600	98.608	98.616	98.624	98.632	98.640	98.648	98.656	98.664	98.672	98.680	98.688	98.696	98.704	98.712	98.720	98.728	98.736	98.744	98.752	98.760	98.768	98.776	98.784	98.792	98.800	98.808	98.816	98.824	98.832	98.840	98.848	98.856	98.864	98.872	98.880	98.888	98.896	98.904	98.912	98.920	98.928	98.936	98.944	98.952	98.960	98.968	98.976	98.984	98.992	99.000	99.008	99.016	99.024	99.032	99.040	99.048	99.056	99.064	99.072	99.080	99.088	99.096	99.104	99.112	99.120	99.128	99.136	99.144	99.152	99.160	99.168	99.176	99.184	99.192	99.200	99.208	99.216	99.224	99.232	99.240	99.248	99.256	99.264	99.272	99.280	99.288	99.296	99.304	99.312	99.320	99.328	99.336	99.344	99.352	99.360	99.368	99.376	99.384	99.392	99.400	99.408	99.416	99.424	99.432	99.440	99.448	99.456	99.464	99.472	99.480	99.488	99.496	99.504	99.512	99.520	99.528	99.536	99.544	99.552	99.560	99.568	99.576	99.584	99.592	99.600	99.608	99.616	99.624	99.632	99.640	99.648	99.656	99.664	99.672	99.680	99.688	99.696	99.704	99.712	99.720	99.728	99.736	99.744	99.752	99.760	99.768	99.776	99.784	99.792	99.800	99.808	99.816	99.824	99.832
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[illegible]

CONTRACTOR



M/S KAMAC ENGINEERS
PVT.LTD. M/S SHIVA
HARILAKA (P).

PROOF CONSULTANT : **SKA** **TASPL** TECHNOCRATS ADVISORY NEW



EPA
U.S. Environmental Protection Agency



TECH LEGATO & CO
TEL: 110092

VOYANTIS

DESIGNED	CHECKED	APPROVED
C.R.	P.S.	P.S.

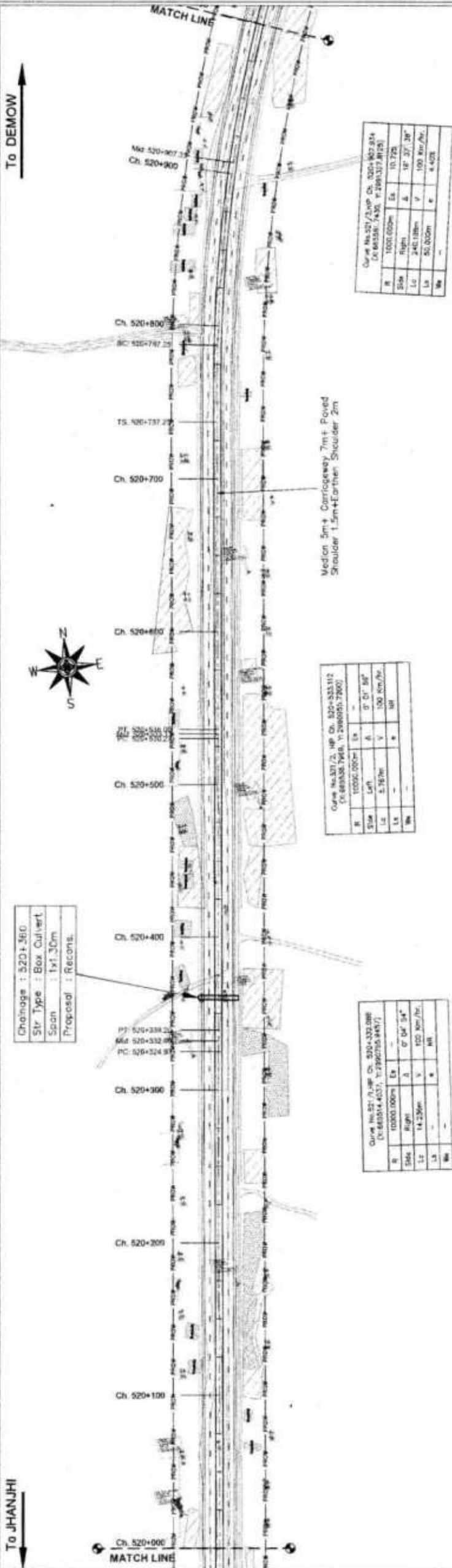
2. NO. HHDCL/MS/A/P&P/519
 DT. DEC. 2022
 REVISION: R0
 E: PLAN & PROFILE
 CH-KM 519.000 TO KM.520.000

LAUNO
HORIZONTAL PLAN

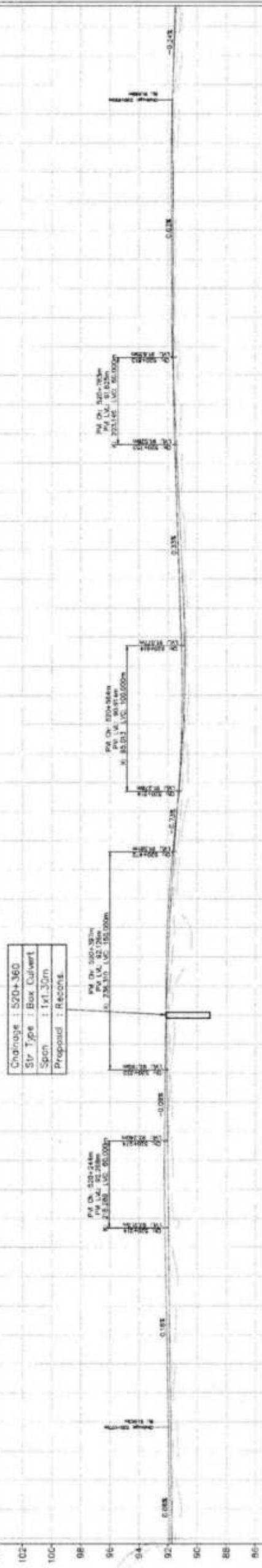
- Proposed V.L.
Proposed M.L.
Proposed C.L.
Proposed S.L.
Proposed F.S.L.
Proposed H.S.L.
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Proposed P.L.
Proposed R.L.
Proposed T.L.
Proposed B.L.
Proposed G.L.
Proposed A.L.

To JHANJHI

To DEMOW



Chaining : 520+360
Str. Type : Box Culvert
Span : 1x1.30m
Proposed : Recons.



Datum = 80.000

Station	Finished Road Level LHS (FRL) (m)	Finished Road Level RHS (FRL) (m)	Ground Level (G.L.) (m)	Existing Road Level (m)	Vertical Alignment LHS	Vertical Alignment RHS	Horizontal Alignment	Superelevation (%)	Chaining (m)
520+000	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+010	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+020	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+030	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+040	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+050	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+060	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+070	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+080	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+090	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+100	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+110	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+120	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+130	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+140	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+150	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+160	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+170	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+180	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+190	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+200	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+210	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+220	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+230	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+240	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+250	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+260	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+270	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+280	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+290	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+300	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+310	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+320	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+330	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+340	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+350	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00
520+360	91.750	91.750	91.750	91.750	91.750	91.750	91.750	0.00	0.00

PROJECT : FOUR LANE OF JHANJHI TO LAUNO ROAD (CH-520/360) IN THE STATE OF ASSAM UNDER BARPOH ON ENGINEERING PROCUREMENT & CONSTRUCTION (EPC) MODE.

CLIENT : National Highway & Infrastructure Corporation Limited.

CONTRACTOR : M/S KAMAC ENGINEERS PVT. LTD. M/S SHIVA HARILAKA (JV).

DESIGNER : Prateek Srivastava.

SAFETY CONSULTANT : UAS INSTITUTE LEGAL & CO. NEW DELHI - 110002.

APPROVED : [Signature]

DESIGNED : [Signature]

CHECKED : [Signature]

PREPARED : [Signature]

DATE : 01.07.2022

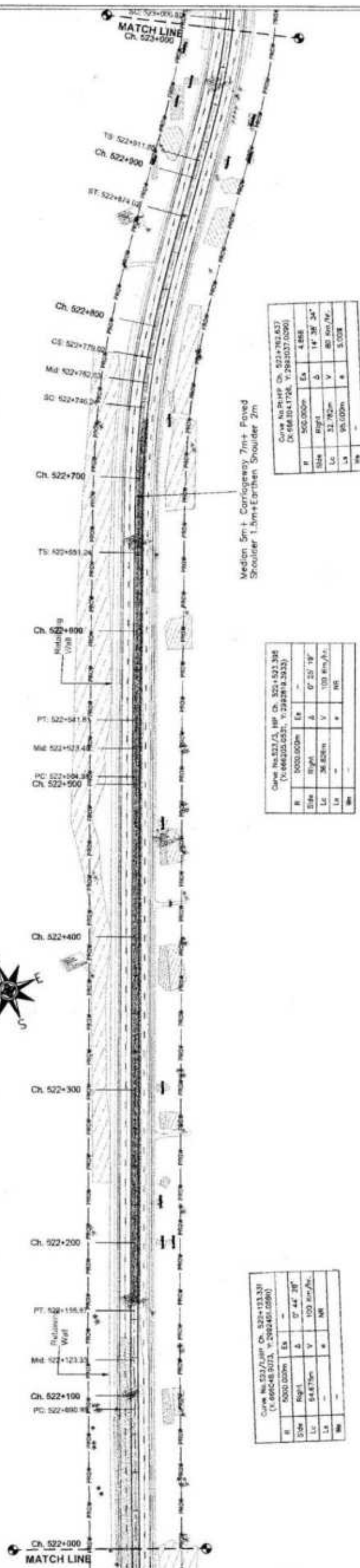
DRG. NO. NH-DC/AS/JA/PAP/520

TITLE : PLAN & PROFILE

CH-520/360 TO KM 521.000

HORIZONTAL PLAN

To DEMOW

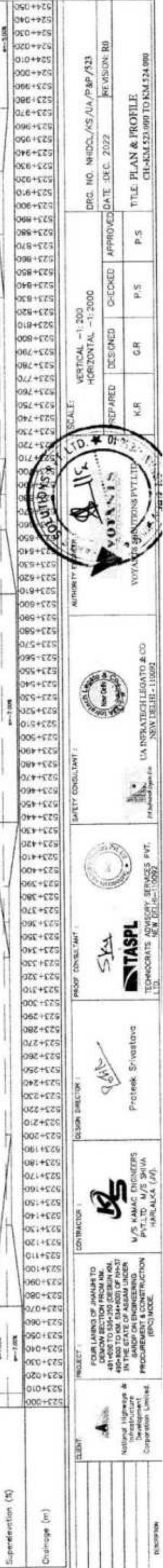
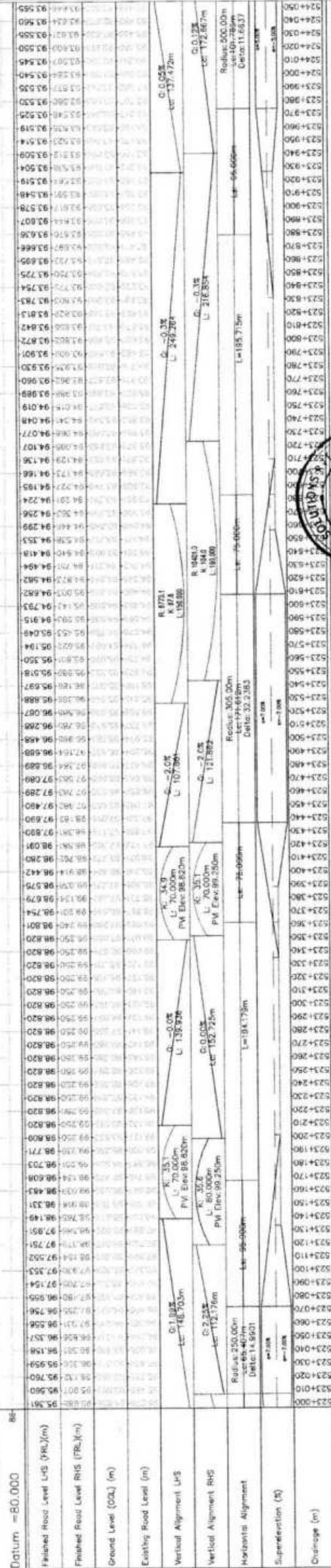
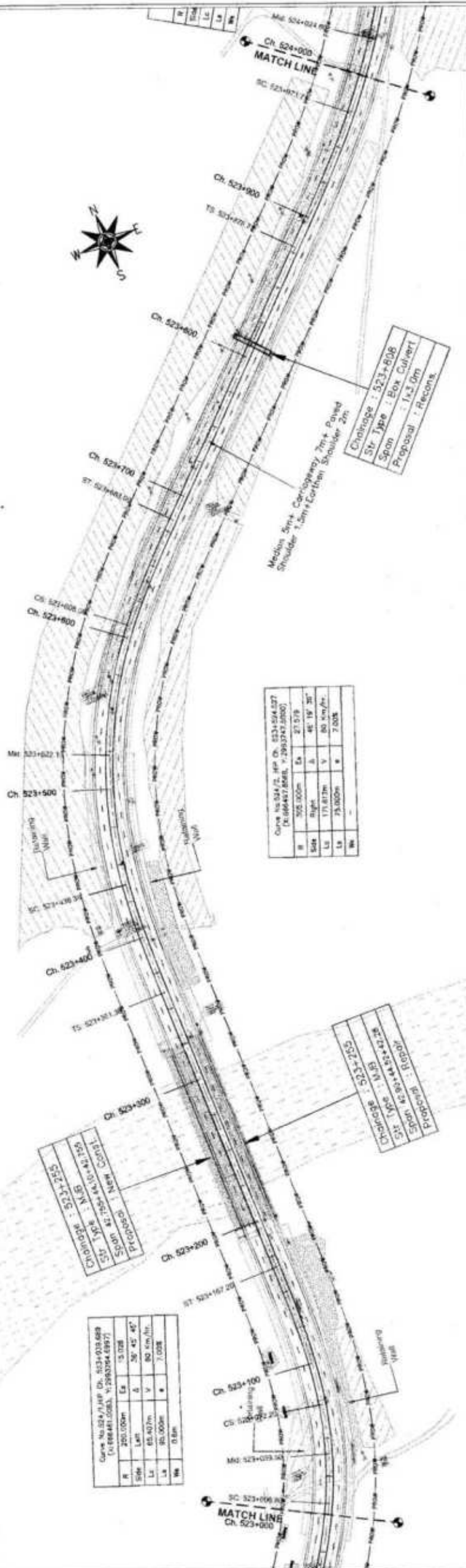


CLIENT	 National Highway & Infrastructure Development Corporation Limited	PROJECT : FOUR LANE OF JAMUNA TO DELHI SECTION FROM KM 48+00 TO 53+00 (DESIGN KM 48+00 TO KM 53+00) OF NH-47 IN THE STATE OF ASSAM UNDER SHRI ON ENGINEERING PROCEDURE FOR CONSTRUCTION (BPC) MODEL	 M/S KAMAK ENGINEERS PVT. LTD. M/S SHIVA HARJALKA (JV)	DESIGN DIRECTOR :  Proteek Srivastava	PROOF CONSULTANT :  SKA	SAFETY CONSULTANT :  CB IAS & Co. Infra	AUTHORITY :  GOVERNMENT OF INDIA MINISTRY OF ROAD TRANSPORT AND HIGHWAYS	SCALE : VERTICAL - 1:200 HORIZONTAL - 1:2000	DWG. NO. NHDEL/AS/JA/P&P/522				DATE : DEC. 2022		REVISION: R0		TITLE: PLAN & PROFILE CH-KM 522.000 TO KM.533.000	
									APPROVED	CHECKED	DESIGNED	PREPARED	K.R	P.S	P.S			

VERTICAL PLAN

Proposed E.T.
Pto Medians
Pto Castagnettes
Pto Pavot Nissoullet
Pto Fautou Nissoullet
Pto Fontpaul
Road P.V. Marquing
Proposed Revue
Amvise Road
Relaunching Wall
Planting Road

TO DEMOW



HORIZONTAL PLAN

Proposed CL	---
Pro. Median	---
Pro. Carriageway	---
Pro. Paved Shoulder	---
Pro. Earthen Shoulder	---
Pro. Footpath	---
Road PCL Marking	---
Proposed Row	--- PCL --- ROW
Service Road	---
Retaining Wall	---
Existing Road	---



Median 5m + Carriageway 7m + Pavement Shoulder 1.5m + Earthen Shoulder 2m

W	500 g/200m	Ex	10.637
M	Left	A	23.33°
Li	101.760m	V	100 km/hr
U	95.000m	#	5.00%
No			

Chinage : 524+449
Str Type : Box Culvert
Span : 1x14.00m
Proposed : Recons.

Curve No.	525/4/100	Ch.	302+422.423
(X)	60/113.085,3	Y	298+642.7125
R	10000.000m	Ex	-
Side	Left	Δ	$51^{\circ} 04' 34''$
Lo	1.281m	V	100 m/yr.
La	-	e	N10
me	-		

W	2,500,000 m	5A	—
Side	Left	A	1° 05' 42"
Lc	43,000 m	V	100 km/hr
Le	—	e	NH
Le	—	—	—

Curve No. 325-72, HPI, Co. 5254-2612-28 (K 685923-1102, Y-238942-15, 0023)			
	5000-500m	1s	-
	Left	d	0° 42' 52"
	87.342m	V	100 mm/Hr.
		#	NP

Curve No. 5319/A, 445° Ch. 524, 563, 0502 (X. 697106.2, Y. 318463.4, Z. 10552)		
N	5000.000m	Es
Side	Right	Δ
LT	73.824m	U
LS	-	α
Wa	-	β

Choirage : 524.449
Str Type : Box Culvert
Span : 1x4.40m
Proposal : Recons.



Maximum = 80.000

Stationing	Horizontal Alignment	Vertical Alignment	Grade (%)	Super-elevation (%)
52+000	Radius: 500.00m L=101.28m Delta: 11.6637	Radius: 500.00m L=101.28m Delta: 11.6637	0.12%	0.00%
52+050			0.12%	0.00%
52+100			0.12%	0.00%
52+150			0.12%	0.00%
52+200			0.12%	0.00%
52+250			0.12%	0.00%
52+300			0.12%	0.00%
52+350			0.12%	0.00%
52+400			0.12%	0.00%
52+450			0.12%	0.00%
52+500			0.12%	0.00%
52+550			0.12%	0.00%
52+600			0.12%	0.00%
52+650			0.12%	0.00%
52+700			0.12%	0.00%
52+750			0.12%	0.00%
52+800			0.12%	0.00%
52+850			0.12%	0.00%
52+900			0.12%	0.00%
52+950			0.12%	0.00%
53+000			0.12%	0.00%
53+050			0.12%	0.00%
53+100			0.12%	0.00%
53+150			0.12%	0.00%
53+200			0.12%	0.00%
53+250			0.12%	0.00%
53+300			0.12%	0.00%
53+350			0.12%	0.00%
53+400			0.12%	0.00%
53+450			0.12%	0.00%
53+500			0.12%	0.00%
53+550			0.12%	0.00%
53+600			0.12%	0.00%
53+650			0.12%	0.00%
53+700			0.12%	0.00%
53+750			0.12%	0.00%
53+800			0.12%	0.00%
53+850			0.12%	0.00%
53+900			0.12%	0.00%
53+950			0.12%	0.00%
54+000			0.12%	0.00%

CLIENT:	PROJECT:	CONTRACTOR:	DESIGN DIRECTOR:	PROOF CONSULTANT:	SAFETY CONSULTANT:		DRAWING NO. NH/DO/RS/UA/P&P/324 DATE DEC. 2022 REVISION: 00 TITLE: PLAN & PROFILE CH-KM 324.000 TO KM 325.000
 National Highway & Motorway Development Corporation Limited.	 FOUR LANE OF JHARKHAND DEMONSTRATION SECTION FROM NH 48+00 TO 50+00 (KMS) BEING APPROVED TO 50+00 (KMS) FROM NH 48+00 TO 50+00 (KMS) BEING IN THE STATE OF ASSAM UNDER SAARF ON ENGINEERING PROCUREMENT & CONSTRUCTION (EPC) MODE.	 M/S KANAK ENGINEERS PVT. LTD. M/S SHIVA HAILUO (JV)	 Prof. S. Srivastava	 SKA  TASPL TECHNOLOGICAL SERVICES PVT. LTD. NEW DELHI - 110029	 IA Infrastructure Legato & Co. NEW DELHI - 110029		VERTICAL - 1:200 HORIZONTAL - 1:2000 DESIGNED CHECKED PREPARED K.R. C.R. P.S. P.S. APPROVED

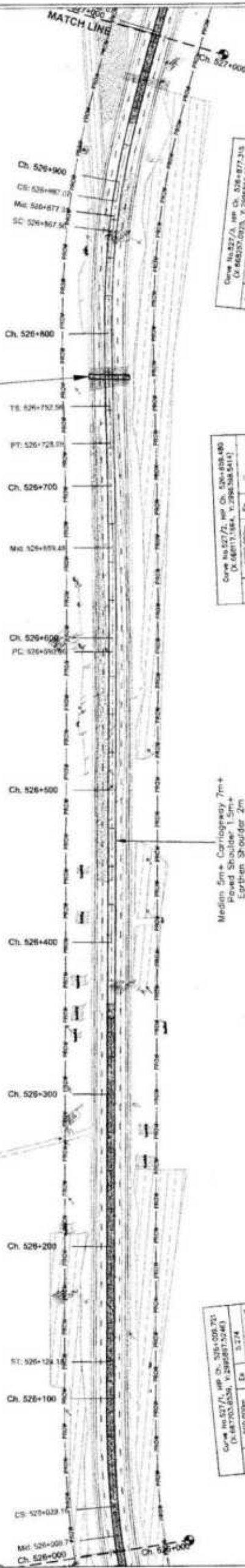
LAJAHU HORIZONTAL PLAN

- Proposed UT
- Proposed Median
- Proposed Carriageway
- Proposed Pavement Shoulder
- Proposed Footpath
- Proposed Road
- Proposed Retaining Wall
- Proposed Fencing Road

To JHANJHI

To DEMOW

Change : 526+772
Str Type : Box Culvert
Span : 1x1.550m
Proposed : Records



Curve No. 527/1, sup. Ch. 526+000.761
(X: 645257.022, Y: 299593.266)

R	L	Δ	Δ	Δ	Δ
3000.000m	132.150m	1° 34' 21"	100 m/h	100 m/h	100 m/h
LC	132.150m	Δ	100 m/h	100 m/h	100 m/h
LA	132.150m	Δ	100 m/h	100 m/h	100 m/h
LC	132.150m	Δ	100 m/h	100 m/h	100 m/h

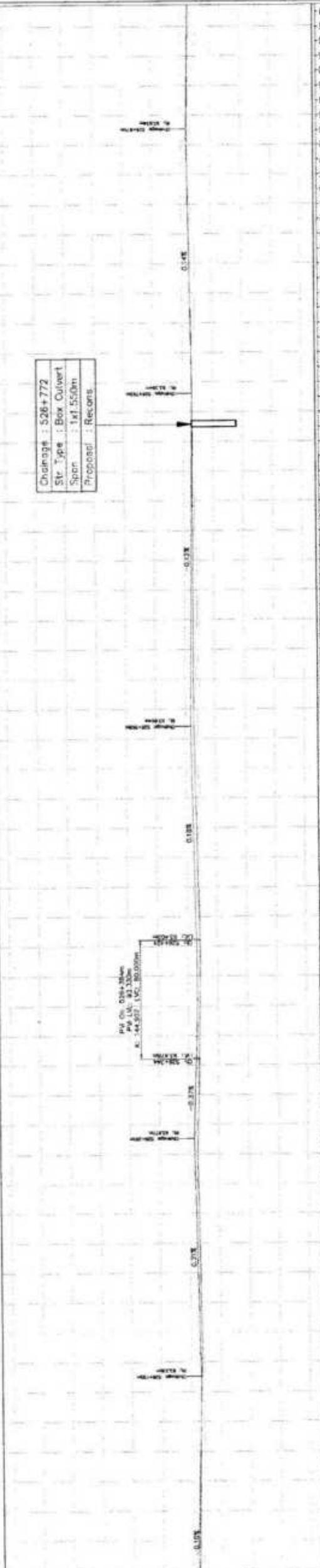
Curve No. 527/2, sup. Ch. 526+878.480
(X: 645257.022, Y: 299593.266)

R	L	Δ	Δ	Δ	Δ
3000.000m	132.150m	1° 34' 21"	100 m/h	100 m/h	100 m/h
LC	132.150m	Δ	100 m/h	100 m/h	100 m/h
LA	132.150m	Δ	100 m/h	100 m/h	100 m/h
LC	132.150m	Δ	100 m/h	100 m/h	100 m/h

Curve No. 527/3, sup. Ch. 526+877.315
(X: 645257.022, Y: 299593.266)

R	L	Δ	Δ	Δ	Δ
450.000m	17.07 34"	17° 07' 34"	100 m/h	100 m/h	100 m/h
LC	17.07 34"	Δ	100 m/h	100 m/h	100 m/h
LA	17.07 34"	Δ	100 m/h	100 m/h	100 m/h
LC	17.07 34"	Δ	100 m/h	100 m/h	100 m/h

Change : 526+772
Str Type : Box Culvert
Span : 1x1.550m
Proposed : Records



Datum = 80.000

Station	Finished Road Level LHS (FRL) (m)	Finished Road Level RHS (FRL) (m)	Ground Level (OGL) (m)	Existing Road Level (m)	Vertical Alignment LHS	Vertical Alignment RHS	Horizontal Alignment	Grade (m)	Height (m)
526+000	93.557	93.557	93.557	93.557	0.01%	0.01%	0.01%	0.01%	0.01%
526+100	93.557	93.557	93.557	93.557	0.01%	0.01%	0.01%	0.01%	0.01%
526+200	93.557	93.557	93.557	93.557	0.01%	0.01%	0.01%	0.01%	0.01%
526+300	93.557	93.557	93.557	93.557	0.01%	0.01%	0.01%	0.01%	0.01%
526+400	93.557	93.557	93.557	93.557	0.01%	0.01%	0.01%	0.01%	0.01%
526+500	93.557	93.557	93.557	93.557	0.01%	0.01%	0.01%	0.01%	0.01%
526+600	93.557	93.557	93.557	93.557	0.01%	0.01%	0.01%	0.01%	0.01%
526+700	93.557	93.557	93.557	93.557	0.01%	0.01%	0.01%	0.01%	0.01%
526+800	93.557	93.557	93.557	93.557	0.01%	0.01%	0.01%	0.01%	0.01%
526+900	93.557	93.557	93.557	93.557	0.01%	0.01%	0.01%	0.01%	0.01%
527+000	93.557	93.557	93.557	93.557	0.01%	0.01%	0.01%	0.01%	0.01%

CLIENT: National Highway & Development Corporation Limited

PROJECT: FOUR LANE OF JHANJHI TO DEMOW SECTION FROM KM 481+000 TO 526+000 (DESIGN KM 481+000 TO 526+000) OF NH-37 IN THE STATE OF ASSAM UNDER SANCTIONING OF ASSAM UNDER PROPOSED INTERSECTION (EPC) MODEL

CONTRACTOR: M/S KAMAC ENGINEERS PVT. LTD. N/S SHIVA HARJALKA (P)

DESIGN DIRECTOR: Prateek Srivastava

PROF CONSULTANT: SKA TASPIL TECHNOCRATS ADVISORY SERVICES PVT. LTD. NEW DELHI-110062

SAFETY CONSULTANT: UA INFRASTRUCTURE & CO. NEW DELHI-110062

AUTHORITY ENGINEER: VOYANTO ENGINEERS PVT. LTD.

APPROVED: DATE: 02.02.2022

REVISION: R0

TITLE PLAN & PROFILE: CE-KM 526 000 TO KM 527 000

VERTICAL: 1:200

HORIZONTAL: 1:2000

CHECKED: DESIGNED: PREPARED: N.K.

P.S. C.R. P.S.

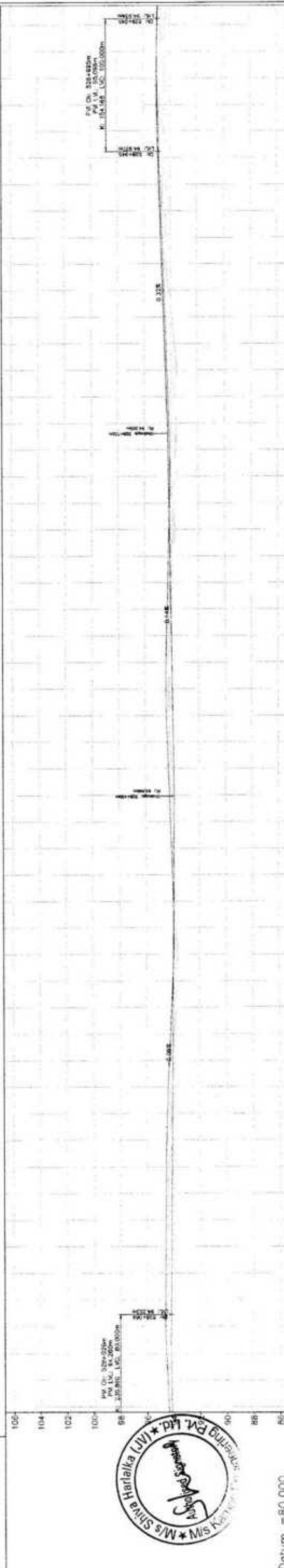
HORIZONTAL PLAN

Proposed C/L
Prop Median
Prop Carriageway
Prop Paved Shoulder
Prop Laidoff Shoulder
Prop Footpath
Road P/L Marking
Proposed Revy
Service Road
Retaining Wall
Existing Road



Cur. # 50-232, WP. Ch. 525 + 405 + 336 (X. 649214 2508. = 2997220 2662)			
R	5000-6000m	La	-
Size	Height	Δ	0° 45' 51"
La	66.67km	∇	100 km/h
La	-	Δ	NB
Sp	-	-	-

Curve No. 525/1, 10P, S. 5249 + 193.456 (X. 689+09.3/23, Y. 29275.70/33.3)					
R	10000.000m	Cs	-	-	-
Stake	Right	A	0° 07' 34"		
Lc	21.517m	V	100 km/h		
Lw	-	S	100		
W	-				



94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950	94.950
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CLIENT	PROJECT	CONTRACTOR	DESIGN DIRECTOR	PROJECT CONSULTANT	AUTHORITY EMPLOYER	SCALE	VERTICAL - 1:200 HORIZONTAL - 1:2000			APPROVED	
 National Highways & Motorways Development Corporation Limited	FOUR LANE OF HANJAN TO HANJAN 48+450 TO 539+200 (DIBBEN KM) 48+450 TO 539+200 (DIBBEN KM) IN THE STATE OF ASSAM UNDER SHARP ON ENGINEERING PROPOSED FOR CONSTRUCTION (RSC) MODEL	 M/S KAMAL ENGINEERS PVT. LTD. N/3 SHIVA HAPALGA (W)	 Prateek Singh	 SKS	 IA Infrastructure Legato & Co New Delhi - 110092	 GOVERNMENT OF INDIA					

LEGEND

HORIZONTAL PLAN

- Proposed CL
- Proposed Median
- Proposed Carriageway
- Proposed Paved Shoulder
- Proposed Earthen Shoulder
- Proposed Footpath
- Road P.C.I. Marking
- Proposed Row
- Access Road
- Retaining Wall
- Existing Road

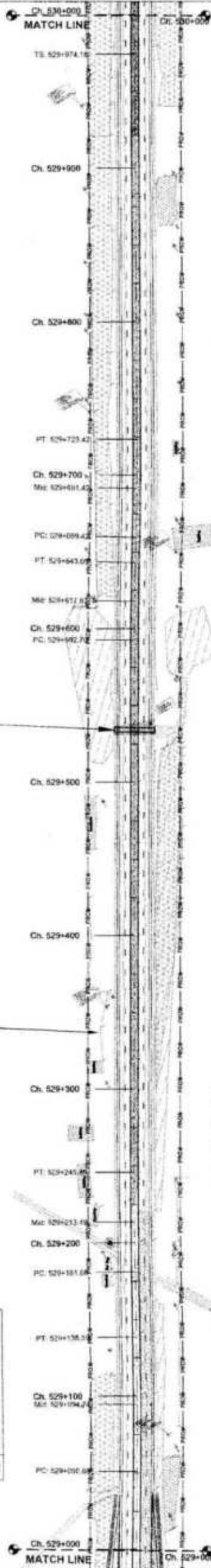
To JHANJHI

To DEMOW

Curve No. 529/1, HP Ch. 529+084.233
(X: 689338.426, Y: 298833.141)

R	Ea	Δ	1" 24" 05"	100 m/h	100
2500.000m	1	17.24°	0.01	100	100
2500.000m	1	17.24°	0.01	100	100
2500.000m	1	17.24°	0.01	100	100

Median 5m+ Carriageway 7m+
Paved Shoulder 1.5m+
Earthen Shoulder 2m



Curve No. 529/2, HP Ch. 529+213.408
(X: 689395.237, Y: 298838.233)

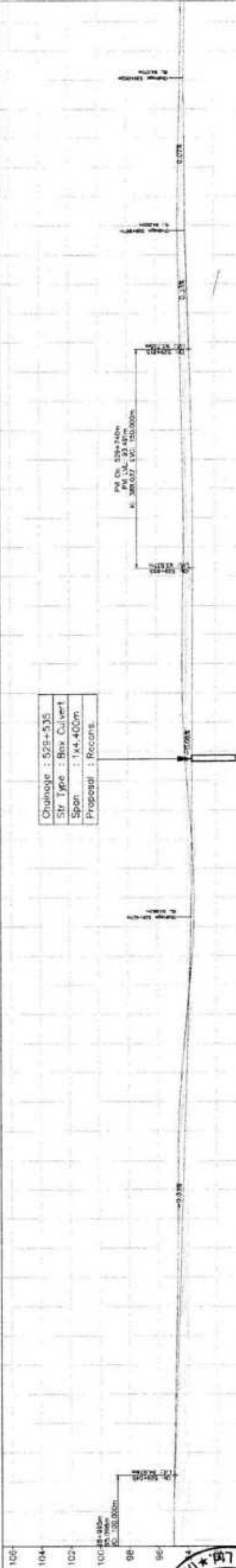
R	Ea	Δ	1" 01' 38"	100 m/h	100
2500.000m	1	17.24°	0.01	100	100
2500.000m	1	17.24°	0.01	100	100
2500.000m	1	17.24°	0.01	100	100

Curve No. 529/3, HP Ch. 529+477.875
(X: 689455.875, Y: 298878.752)

R	Ea	Δ	1" 18' 41"	100 m/h	100
2500.000m	1	17.24°	0.01	100	100
2500.000m	1	17.24°	0.01	100	100
2500.000m	1	17.24°	0.01	100	100

Curve No. 529/4, HP Ch. 529+641.422
(X: 689513.872, Y: 298932.833)

R	Ea	Δ	1" 40' 01"	100 m/h	100
2500.000m	1	17.24°	0.01	100	100
2500.000m	1	17.24°	0.01	100	100
2500.000m	1	17.24°	0.01	100	100



Chainage : 529+535
Str. Type : Box Culvert
Span : 1x4.400m
Proposed : Recens.



Natum = 80.000

Station	Finished Road Level LHS (FRL) (m)	Finished Road Level RHS (FRL) (m)	Ground Level (G.L.) (m)	Existing Road Level (m)	Vertical Alignment LHS	Vertical Alignment RHS	Horizontal Alignment	Superelevation (%)	Change (m)
529+000	80.000	80.000	80.000	80.000	80.000	80.000	80.000	0.00	0.00
529+050	80.000	80.000	80.000	80.000	80.000	80.000	80.000	0.00	0.00
529+100	80.000	80.000	80.000	80.000	80.000	80.000	80.000	0.00	0.00
529+150	80.000	80.000	80.000	80.000	80.000	80.000	80.000	0.00	0.00
529+200	80.000	80.000	80.000	80.000	80.000	80.000	80.000	0.00	0.00
529+250	80.000	80.000	80.000	80.000	80.000	80.000	80.000	0.00	0.00
529+300	80.000	80.000	80.000	80.000	80.000	80.000	80.000	0.00	0.00
529+350	80.000	80.000	80.000	80.000	80.000	80.000	80.000	0.00	0.00
529+400	80.000	80.000	80.000	80.000	80.000	80.000	80.000	0.00	0.00
529+450	80.000	80.000	80.000	80.000	80.000	80.000	80.000	0.00	0.00
529+500	80.000	80.000	80.000	80.000	80.000	80.000	80.000	0.00	0.00

CLIENT: National Highway & Motorway Development Corporation Limited

PROJECT: ROAD NO. 529/1, HP Ch. 529+084.233 (X: 689338.426, Y: 298833.141)

CONTRACTOR: M/S. KAMAC ENGINEERS PVT. LTD. M/S. SHIVA HARILAKA (PVT.) LTD.

DESIGN DIRECTOR: Prateek Srivastava

PROOF CONSULTANT: TASPL TECHNOLOGICAL ADVISORY SERVICES PVT. LTD. NEW DELHI - 110092

SAFETY CONSULTANT: LA INFRATECH LEGATO & CO NEW DELHI - 110092

APPROVED: [Signature]

DATE: DEC. 2022

REVISION: R0

TITLE: PLAN & PROFILE

CH-KM 529+000 TO KM 530+000

To DEMOW

1753-4077

Curve No. 537/2, Hse Co. 5304548 525 (X 670454.8496, Y 55049581.2203)	R	10000.000m	Ea	-
	Side	Left	Δ	0° 04' 33"
	Lc	13.54m	V	100 km/h
	Sk	-	φ	100

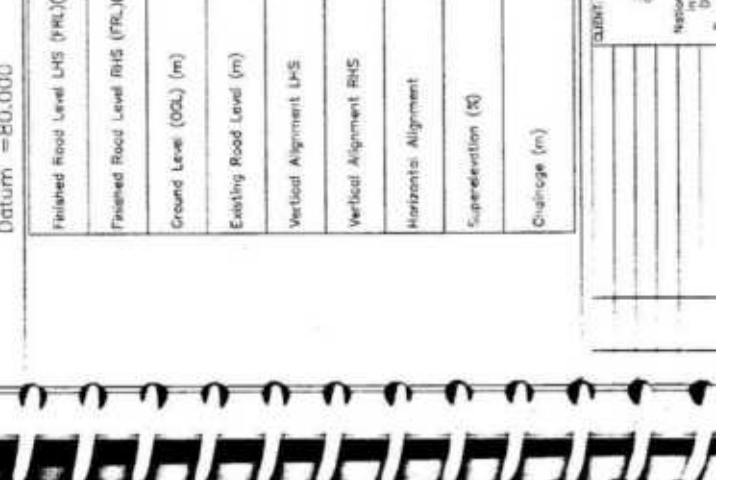
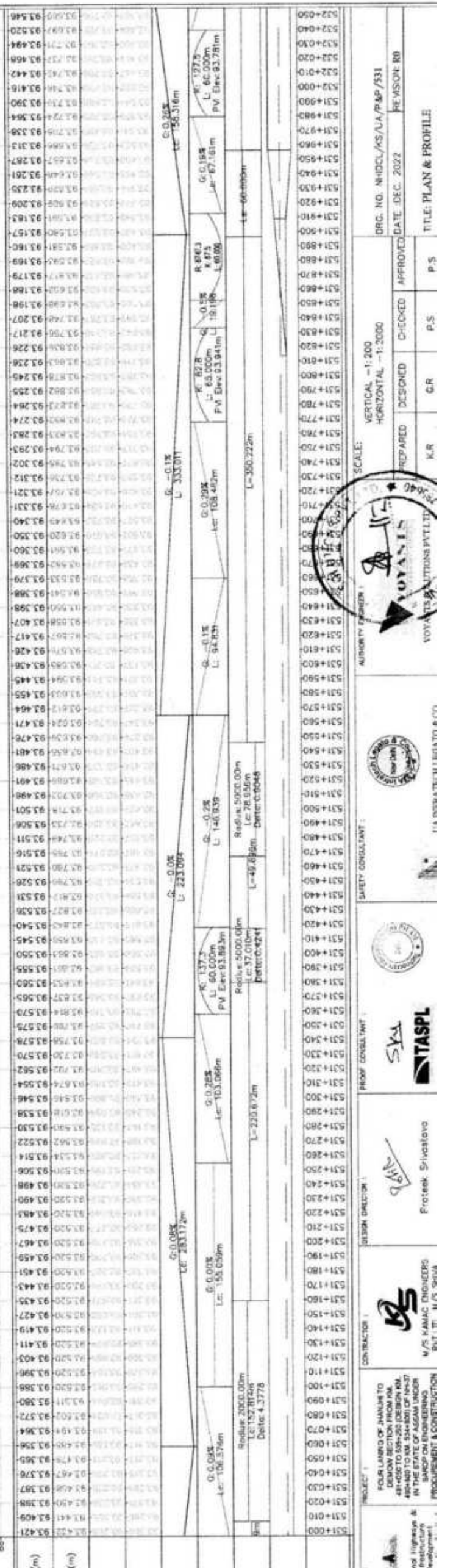
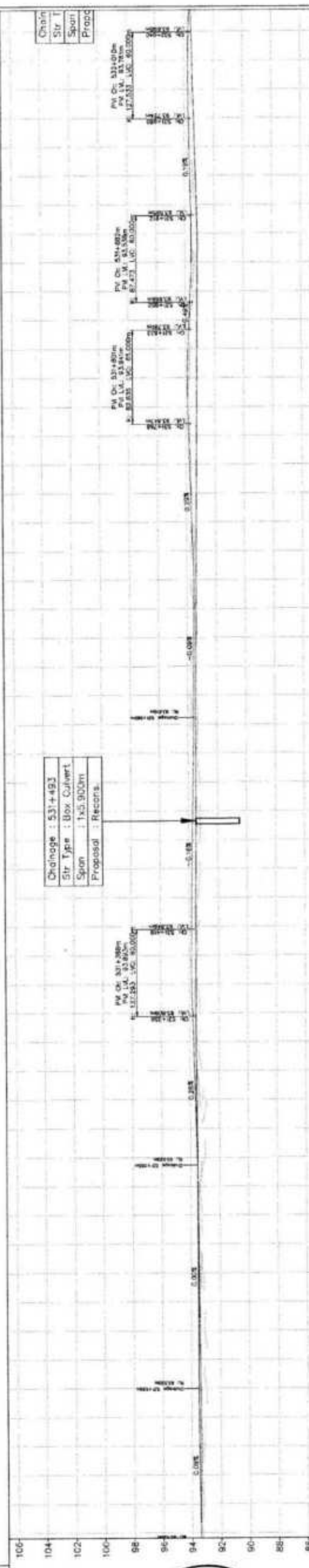


Station	Finished Road Level LHS (FRL _L) (m)	Finished Road Level RHS (FRL _R) (m)	Ground Level (G.L.) (m)	Existing Road Level (m)	Vertical Alignment LHS	Vertical Alignment RHS	Horizontal Alignment	Elevation (m)
0+00	94.326	94.326	94.326	94.326	Radius 1500.00m LC=3000m Delta=3.200	Radius 1500.00m LC=3000m Delta=3.200	Radius 2000.00m LC=1433.765m Delta=4.1166	L=75.999m
0+10	94.307	94.307	94.307	94.307	0.00%	0.00%	0.00%	
0+20	94.287	94.287	94.287	94.287	0.00%	0.00%	0.00%	
0+30	94.268	94.268	94.268	94.268	0.00%	0.00%	0.00%	
0+40	94.249	94.249	94.249	94.249	0.00%	0.00%	0.00%	
0+50	94.230	94.230	94.230	94.230	0.00%	0.00%	0.00%	
0+60	94.211	94.211	94.211	94.211	0.00%	0.00%	0.00%	
0+70	94.192	94.192	94.192	94.192	0.00%	0.00%	0.00%	
0+80	94.173	94.173	94.173	94.173	0.00%	0.00%	0.00%	
0+90	94.154	94.154	94.154	94.154	0.00%	0.00%	0.00%	
1+00	94.135	94.135	94.135	94.135	0.00%	0.00%	0.00%	
1+10	94.116	94.116	94.116	94.116	0.00%	0.00%	0.00%	
1+20	94.097	94.097	94.097	94.097	0.00%	0.00%	0.00%	
1+30	94.078	94.078	94.078	94.078	0.00%	0.00%	0.00%	
1+40	94.059	94.059	94.059	94.059	0.00%	0.00%	0.00%	
1+50	94.040	94.040	94.040	94.040	0.00%	0.00%	0.00%	
1+60	94.021	94.021	94.021	94.021	0.00%	0.00%	0.00%	
1+70	94.002	94.002	94.002	94.002	0.00%	0.00%	0.00%	
1+80	93.983	93.983	93.983	93.983	0.00%	0.00%	0.00%	
1+90	93.964	93.964	93.964	93.964	0.00%	0.00%	0.00%	
2+00	93.945	93.945	93.945	93.945	0.00%	0.00%	0.00%	
2+10	93.926	93.926	93.926	93.926	0.00%	0.00%	0.00%	
2+20	93.907	93.907	93.907	93.907	0.00%	0.00%	0.00%	
2+30	93.888	93.888	93.888	93.888	0.00%	0.00%	0.00%	
2+40	93.869	93.869	93.869	93.869	0.00%	0.00%	0.00%	
2+50	93.850	93.850	93.850	93.850	0.00%	0.00%	0.00%	
2+60	93.831	93.831	93.831	93.831	0.00%	0.00%	0.00%	
2+70	93.812	93.812	93.812	93.812	0.00%	0.00%	0.00%	
2+80	93.793	93.793	93.793	93.793	0.00%	0.00%	0.00%	
2+90	93.774	93.774	93.774	93.774	0.00%	0.00%	0.00%	
3+00	93.755	93.755	93.755	93.755	0.00%	0.00%	0.00%	
3+10	93.736	93.736	93.736	93.736	0.00%	0.00%	0.00%	
3+20	93.717	93.717	93.717	93.717	0.00%	0.00%	0.00%	
3+30	93.698	93.698	93.698	93.698	0.00%	0.00%	0.00%	
3+40	93.679	93.679	93.679	93.679	0.00%	0.00%	0.00%	
3+50	93.660	93.660	93.660	93.660	0.00%	0.00%	0.00%	
3+60	93.641	93.641	93.641	93.641	0.00%	0.00%	0.00%	
3+70	93.622	93.622	93.622	93.622	0.00%	0.00%	0.00%	
3+80	93.603	93.603	93.603	93.603	0.00%	0.0		

5.31+0.05
 5.31+0.04
 5.31+0.30
 5.31+0.30
 5.31+0.30
 5.30+980
 5.30+980
 5.30+970
 5.30+950
 5.30+930
 5.30+920
 5.30+910
 5.30+890
 5.30+880
 5.30+870
 5.30+860
 5.30+850
 5.30+840
 5.30+830
 5.30+820
 5.30+810
 5.30+790
 5.30+770
 5.30+760
 5.30+750
 5.30+750
 5.30+730
 5.30+720
 5.30+710
 5.30+690
 5.30+680
 5.30+650
 5.30+640
 5.30+630
 5.30+620
 5.30+610
 5.30+600
 5.30+580
 5.30+580
 5.30+570
 5.30+560
 5.30+550
 5.30+540
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 5.30+520
 5.30+510
 5.30+500
 5.30+480
 5.30+470
 5.30+460
 5.30+450
 5.30+440
 5.30+430
 5.30+420
 5.30+410
 5.30+400
 5.30+390
 5.30+380
 5.30+370
 5.30+360
 5.30+350
 5.30+340
 5.30+330
 5.30+320
 5.30+310
 5.30+300
 5.30+290
 5.30+280
 5.30+270
 5.30+260
 5.30+250
 5.30+240
 5.30+230
 5.30+220
 5.30+210
 5.30+200
 5.30+190
 5.30+180
 5.30+160
 5.30+150
 5.30+140
 5.30+130
 5.30+120
 5.30+110
 5.30+100
 5.30+090
 5.30+080
 5.30+070
 5.30+060
 5.30+050
 5.30+040
 5.30+030
 5.30+020
 5.30+010
 5.30+000

<p>QUBT:</p>  <p>QUBT</p>	<p>PROJECT :</p> <p>FOUR LANE OF JHARKH TO DEMON SECTION FROM KM. 481+000 TO 504+250 (DEMON ROL 485+000 TO 504+250) OF NH-7 IN SAMOI ON ENGINEERING PROCUREMENT & CONSTRUCTION (EPC) MODE.</p>	<p>CONTRACTOR :</p>  <p>M/S KAMAK ENGINEERS PVT.LTD. M/3 SHIVA HARIDWAR (U).</p>	<p>DESIGN DIRECTOR :</p>  <p>SKA</p> <p>TASPL TECHNOGRANTS ADVISORY SERVICES PVT. LTD. NEW DELHI-110092</p>	<p>PROOF CONSULTANT :</p>  <p>SKA</p> <p>IA INFRASTRUCTURE LEGATO & CO NEW DELHI-110092</p>	<p>SAFETY CONSULTANT :</p>  <p>SKA</p>	<p>AUTHORITY ENGINEER :</p>  <p>VOYANTS</p> <p>VOYANTS CONSULTANTS PVT.LTD. NEW DELHI-110092</p>	<p>SCALE:</p> <p>VERTICAL - 1:200 HORIZONTAL - 1:2000</p> <p>DATE DEC. 2022</p> <p>REVISION: R0</p> <p>DRG. NO. NHDC/LKS/JA/P&P/530</p>	<p>APPROVED:</p> <p>DESIGNED</p> <p>CHECKED</p> <p>PREPARED</p> <p>K.R</p> <p>G.R</p> <p>P.S</p> <p>P.S</p>	<p>TITLE: PLAN & PROFILE</p> <p>CH-KM 530.000 TO KM 531.000</p>
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THESE RESULTS



HORIZONTAL PLAN

TO JHANJHI

1

1

1

To DEMONSTRATE

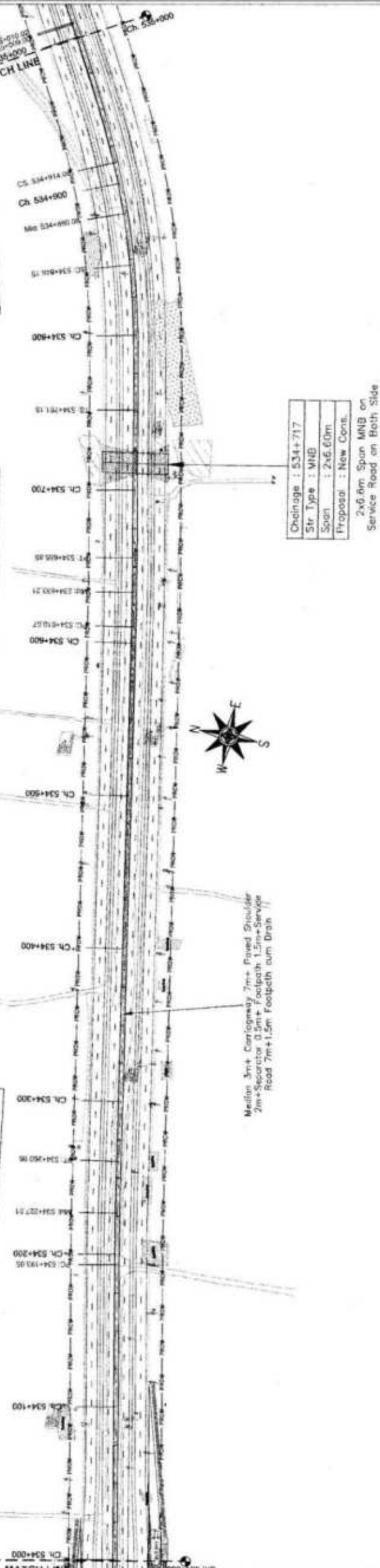
1

HORIZONTAL PLAN	
Proposed Ct.	_____
Prop Median	_____
Prop Curbsideway	_____
Prop Pavement Shoulder	_____
Prop Lane then Shoulder	_____
Prop Footpath	_____
Prop PCL Marking	_____
Proposed Rove	_____
Service Road	_____
Retaining Wall	_____
Existing Road	_____

Case No. 228-718P	Ch. 834-227-008
(N 673040 7084, E 300181 3081)	
Alt	5000 000m
Side	Right
Lat	1° 17' 49"
Long	102° 00' 00"
Mag	148

Curve No. 205/21, 180 Ch. 534+623.913
(X 672402.5567, Y 302092.0087)

Curve No. 525/3, H.P. Co. 9254-805/525 (K-67268) (S&C, V. 393277-64621)	7.465	
	2.52 0.00m	2.8
	Left	Δ
	67.69m	Δ
	95.000m	Δ
		5.00%



Chainage : 534+717	2x6.6m Span MNB on
Str Type : MNB	Service Road on Both Sides
Span : 2x6.60m	
Proposal : New Const.	

Chainage : 534+717
Str. Type : MNB
Span : 2x6.60m
Proposed : New Cont.

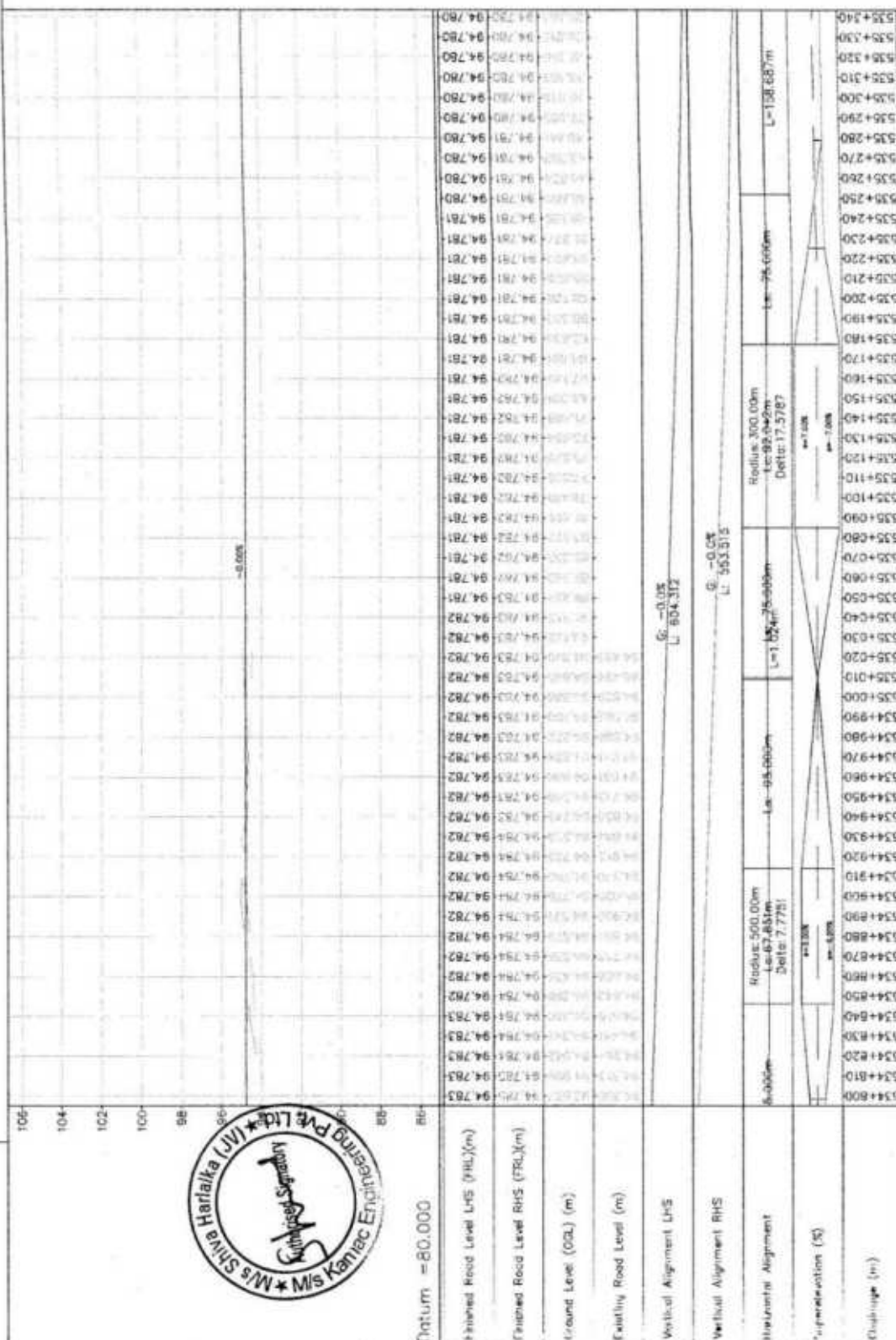
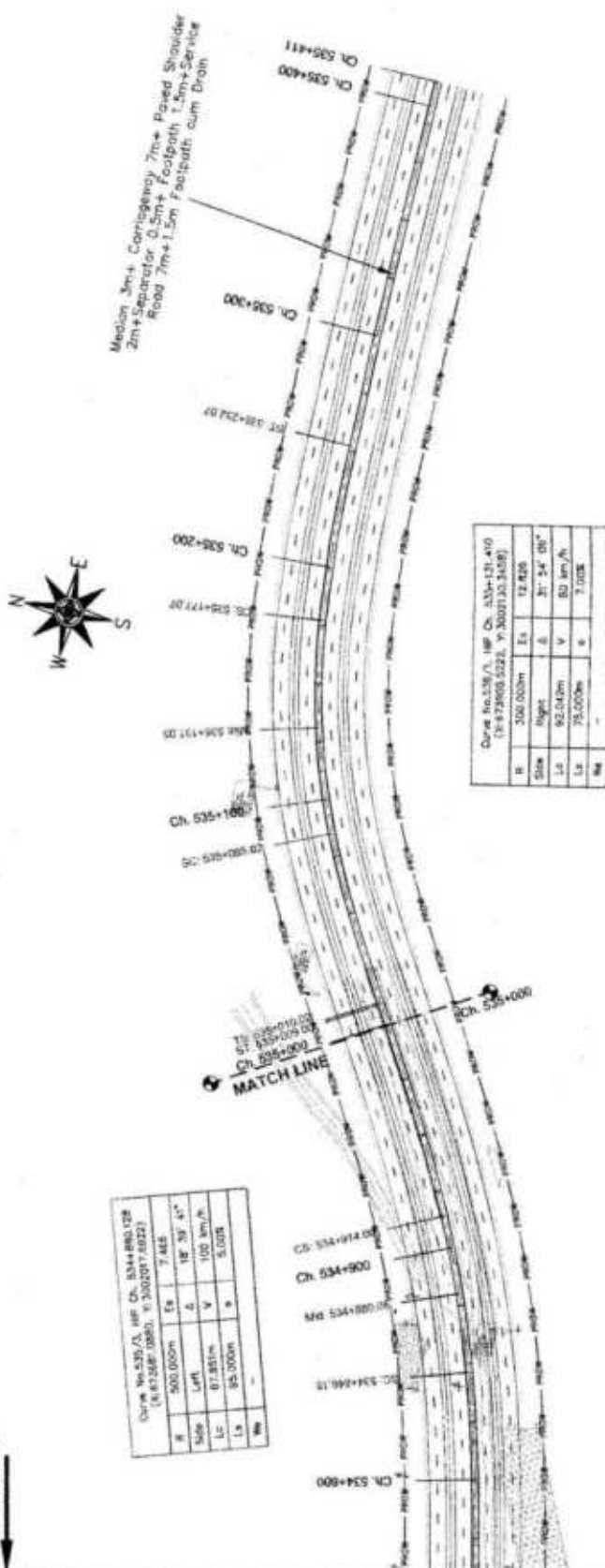
Datum = 80.000

Finished Road Level LHS (FRL)(m)	Finished Road Level RHS (FRL)(m)	Ground Level (GOL) (m)	Existing Road Level (m)	Vertical Alignment LHS	Vertical Alignment RHS	Horizontal Alignment	Superelevation (%)	Challenger (m)
94.688	94.688	94.688	94.688	R 5403.2 K 345 L 120.000	R 5478.5 K 348 L 120.000	L=312.546m		534+000
94.267	94.267	94.267	94.267					534+020
94.516	94.516	94.516	94.516					534+040
94.011	94.011	94.011	94.011					534+060
93.930	93.930	93.930	93.930					534+080
93.806	93.806	93.806	93.806					534+095
93.794	93.794	93.794	93.794					534+110
93.765	93.765	93.765	93.765					534+120
93.735	93.735	93.735	93.735					534+130
93.679	93.679	93.679	93.679					534+140
93.648	93.648	93.648	93.648					534+150
93.626	93.626	93.626	93.626					534+160
93.590	93.590	93.590	93.590					534+170
93.590	93.590	93.590	93.590					534+180
93.590	93.590	93.590	93.590					534+190
93.603	93.603	93.603	93.603					534+200
93.617	93.617	93.617	93.617					534+210
93.637	93.637	93.637	93.637					534+220
93.657	93.657	93.657	93.657					534+230
93.661	93.661	93.661	93.661					534+240
93.691	93.691	93.691	93.691					534+250
93.724	93.724	93.724	93.724					534+260
93.756	93.756	93.756	93.756					534+270
93.789	93.789	93.789	93.789					534+280
93.821	93.821	93.821	93.821					534+290
93.886	93.886	93.886	93.886					534+300
93.916	93.916	93.916	93.916					534+310
93.951	93.951	93.951	93.951					534+320
93.986	93.986	93.986	93.986					534+330
94.016	94.016	94.016	94.016					534+340
94.048	94.048	94.048	94.048					534+350
94.081	94.081	94.081	94.081					534+360
94.113	94.113	94.113	94.113					534+370
94.145	94.145	94.145	94.145					534+380
94.176	94.176	94.176	94.176					534+390
94.210	94.210	94.210	94.210					534+400
94.243	94.243	94.243	94.243					534+410
94.261	94.261	94.261	94.261					534+420
94.257	94.257	94.257	94.257					534+430
94.253	94.253	94.253	94.253					534+440
94.249	94.249	94.249	94.249					534+450
94.245	94.245	94.245	94.245					534+460
94.236	94.236	94.236	94.236					534+470
94.230	94.230	94.230	94.230					534+480
94.228	94.228	94.228	94.228					534+490
94.220	94.220	94.220	94.220					534+500
94.224	94.224	94.224	94.224					534+510
94.234	94.234	94.234	94.234					534+520
94.244	94.244	94.244	94.244					534+530
94.249	94.249	94.249	94.249					534+540
94.253	94.253	94.253	94.253					534+550
94.257	94.257	94.257	94.257					534+560
94.261	94.261	94.261	94.261					534+570
94.265	94.265	94.265	94.265					534+580
94.269	94.269	94.269	94.269					534+590
94.273	94.273	94.273	94.273					534+600
94.277	94.277	94.277	94.277					534+610
94.281	94.281	94.281	94.281					534+620
94.285	94.285	94.285	94.285					534+630
94.289	94.289	94.289	94.289					534+640
94.293	94.293	94.293	94.293					534+650
94.297	94.297	94.297	94.297					534+660
94.301	94.301	94.301	94.301					534+670
94.305	94.305	94.305	94.305					534+680
94.309	94.309	94.309	94.309					534+690
94.313	94.313	94.313	94.313					534+700
94.317	94.317	94.317	94.317					534+710
94.321	94.321	94.321	94.321					534+720
94.325	94.325	94.325	94.325					534+730
94.329	94.329	94.329	94.329					534+740
94.333	94.333	94.333	94.333					534+750
94.337	94.337	94.337	94.337					534+760
94.341	94.341	94.341	94.341					534+770
94.345	94.345	94.345	94.345					534+780
94.349	94.349	94.349	94.349					534+790
94.353	94.353	94.353	94.353					534+800
94.357	94.357	94.357	94.357					534+810
94.361	94.361	94.361	94.361					534+820
94.365	94.365	94.365	94.365					534+830
94.369	94.369	94.369	94.369					534+840
94.373	94.373	94.373	94.373					534+850
94.377	94.377	94.377	94.377					534+860
94.381	94.381	94.381	94.381					534+870
94.385	94.385	94.385	94.385					534+880
94.389	94.389	94.389	94.389					534+890
94.393	94.393	94.393	94.393					534+900
94.397	94.397	94.397	94.397					534+910
94.401	94.401	94.401	94.401					534+920
94.405	94.405	94.405	94.405					534+930
94.409	94.409	94.409	94.409					534+940
94.413	94.413	94.413	94.413					534+950
94.417	94.417	94.417	94.417					534+960
94.421	94.421	94.421	94.421					534+970
94.425	94.425	94.425	94.425					534+980
94.429	94.429	94.429	94.429					534+990
94.433	94.433	94.433	94.433					535+000
94.437	94.437	94.437	94.437					535+010
94.441	94.441	94.441	94.441					535+020
94.445	94.445	94.445	94.445					535+030
94.449	94.449	94.449	94.449					535+040
94.453	94.453	94.453	94.453					535+050

 National Highway & Infrastructure Development Corporation Limited	PROJECT : FOUR LANE OF JAMNATI DIVISION SECTION FROM KM 491+056 TO 534+250 (DEBRIN NH- 49B-800 TO KM. 534+800) OF NH-37 IN THE STATE OF ASSAM UNDER PROCUREMENT & CONSTRUCTION (BPCU) MODE	CONTRACTOR :  M/S KAMAK ENGINEERS PVT. LTD. M/S SHIVA NARAIKA (PVT.)	DESIGN DIRECTOR :  Prottek Srivastava	PROOF CONSULTANT :  TASPIL TECHNOCRATS ADVISORY SERVICES PVT. LTD. NEW DELHI - 110092	SAFETY CONSULTANT :  UA INFRATECH LEGATO & CO NEW DELHI - 110092	AUTHORITY ENGINEER :  VOYANG BUILDERS PVT LTD	DATE : 11/01/2022	VERTICAL : 1:200 HORIZONTAL : 1:1000	DRG. NO. NHIDCL/KS/AJA/P&P/S34	DATE : DEC. 2022	REVISION : B0
										TITLE PLAN & PROFILE CH-KM 534.000 TO KM 535.000	APPROVED : P.S

HORIZONTAL PLAN

Proposed CL
Prop Median
Prop Carriageway
Prop Paved Shoulder
Prop Earthen Shoulder
Prop Footpath
Road PCL Marking
Proposed Rove
Services Road
Retaining Wall
Existing Road



<p>CLIENT :</p> <p>National Highways & Infrastructure Development Corporation Limited.</p>	<p>PROJECT :</p> <p>FOUR LANE OF HARJALIA TO SECTION SECTION FROM RD 481+000 TO 539+250 (SECTION KM. 480+800 TO KM. 534+000) OF NH-37 IN THE STATE OF ASSAM UNDER SBROD ON ENGINEERING PROCUREMENT & CONSTRUCTION (EPC) MODE.</p>	<p>CONTRACTOR :</p> <p> M/S KAMAC ENGINEERS PVT. LTD. M/S SHIVA HARJALIA (JV).</p>	<p>DESIGN DIRECTOR :</p> <p> Proteek Srivastava</p>	<p>PROJECT CONSULTANT :</p> <p> TASPL TECHNOGRATS ADVISORY SERVICES PVT. LTD. NEW DELHI</p>	<p>SAFETY CONSULTANT :</p> <p> NEW DPM CONSULTANTS 118 Bhambhani Estate, Phase II, NEW DELHI - 110002</p>	<p>AUTHORITY ENGINEER :</p> <p> GOVERNMENT OF INDIA MINISTRY OF ROAD TRANSPORT & HIGHWAYS NEW DELHI</p>	<p>DATE :</p> <p>VERTICAL - 11/2000 HORIZONTAL - 11/2000</p>	<p>DRG. NO. NHDC/AS/A/P&P/535</p>	<p>DATE DEC. 2022</p>	<p>REVISION: R0</p>	<p>TITLE: PLAN & PROFILE</p> <p>CH-524 535.000 TO KM 535.340</p>
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TCS Schedule					
Sl No	From	To	Length	TCS Type	Median Width
1	490+800	491+600	800	TCS-1C1	1.5
2	491+600	492+150	550	TCS-1C1	1.5
3	492+150	492+550	400	TCS-1CA	1.5
4	492+550	493+700	1150	TCS-1C1	1.5
5	493+700	493+800	100	TCS-1C1	5
6	493+800	497+100	3300	TCS-1B	5
7	497+100	497+500	400	TCS-1C1	5
8	497+500	500+000	2500	TCS-1B	5

Description

4 Lane Carriageway without Service Road Concentric Widening

4 Lane Carriageway without Service Road Concentric Widening

4 Lane Carriageway without Service Road RHS Widening







4 Lane Carriageway without Service Road RHS Widening

4 Lane Carriageway without Service Road RHS Widening

4 Lane Carriageway without Service Road LHS Widening

4 Lane Carriageway without Service Road RHS Widening

4 Lane Carriageway without Service Road LHS Widening

 National Highways & Infrastructure Development Corporation Limited		PROJECT : FOUR LANE OF JAMUNA TO 491+600 TO 500+000 (DESIGN KSI) APPROVED TO AM 334+000 OF NH-37 IN THE STATE OF ASSAM UNDER SAROP ON ENGINEERING PROCUREMENT & CONSTRUCTION (EPC) MODEL		CLIENT :  M/S K. S. Sharma PVT. LTD. (INCORPORATED IN INDIA)		PROJECT DIRECTOR :  Prateek Srivastava		PROJECT CONSULTANT :  SKA TECHNICAL ADVISORY SERVICES PVT. LTD. NEW DELHI - 110094		SAFETY CONSULTANT :  LIA Infrastructure Legato & Co NEW DELHI - 110092		AUTHORITY :  VOYA SOLUTIONS PVT. LTD. NEW DELHI - 110092		SCALE : NTS PREPARED : DESIGNED : CHECKED : APPROVED : DATE : DEC. 2022 REVISION: R0		TITLE : TCS SCHEDULE	
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Horizontal Alignment Report

HIP/curve No.	HIP		Deflection	Element	Start			End			Radius	Speed Km/hr	Se	We	Hand Of Arc
	Easting	Northing			Chainage	Easting	Northing	Chainage	Easting	Northing					
1	648842.376	2972041.381	01° 29' 11.7261"	Straight	490+000.000	648672.493	2971757.459	490+285.457	648819.062	2972002.416	285.457				
				Arc	490+285.457	648819.062	2972002.416	490+376.268	648866.694	2972079.729	3500	100	NR		RIGHT
2	649040.945	2972354.509	02° 27' 28.3468"	Straight	490+376.268	648866.694	2972079.729	490+658.737	649017.968	2972318.276	282.469				
				Arc	490+658.737	649017.968	2972318.276	490+744.533	649065.455	2972389.724	85.796	100	NR		RIGHT
3	649108.988	2972452.271	04° 04' 13.2494"	Straight	490+744.533	649065.455	2972389.724	490+891.749	649145.345	2972513.338	5.134	100	NR		LEFT
				Arc	490+891.749	649145.345	2972513.338	490+962.803	649182.572	2972573.856	6.926	100	NR		RIGHT
4	649165.293	2972546.842	01° 50' 13.7496"	Straight	490+962.803	649182.572	2972573.856	491+299.685	649364.1	2972857.645	336.881				
				Arc	491+299.685	649364.1	2972857.645	491+553.200	649499.754	2973071.813	23.332	100	NR		LEFT
5	649370.386	2972867.473	00° 16' 02.5032"	Straight	491+553.200	649499.754	2973071.813	491+603.200	649526.205	2973114.242	230.183				
				Transition	491+603.200	649526.205	2973114.242	491+817.792	649620.222	2973306.825	50	100	3.70%		LEFT
6	649581.846	2973206.319	10° 14' 45.7304"	Arc	491+817.792	649620.222	2973306.825	491+867.792	649637.407	2973353.778	50				
				Transition	491+867.792	649637.407	2973353.778	492+109.954	649719.057	2973581.76	242.162				
7	649729.619	2973611.253	01° 47' 41.2194"	Straight	492+109.954	649719.057	2973581.76	492+172.604	649741.1	2973640.401	62.65	100	NR		RIGHT
				Arc	492+172.604	649741.1	2973640.401	492+237.146	649764.754	2973700.452	64.542				
8	649791.178	2973767.534	04° 07' 44.8953"	Straight	492+237.146	649764.754	2973700.452	492+381.280	649812.702	2973836.344	144.134	100	NR		LEFT
				Arc	492+381.280	649812.702	2973836.344	492+479.910	649843.745	2973929.953	16.634				
9	649829.91	2973891.353	02° 20' 56.4326"	Straight	492+479.910	649843.745	2973929.953	493+467.040	650176.813	2974859.195	81.996	100	NR		RIGHT
				Arc	493+467.040	650176.813	2974859.195	493+530.638	650199.22	2974918.712	987.13				
10	650187.543	2974889.132	01° 49' 18.9266"	Straight	493+530.638	650199.22	2974918.712	493+549.848	650206.273	2974936.58	63.597	100	NR		RIGHT
				Arc	493+549.848	650206.273	2974936.58	493+622.684	650231.777	2975004.801	19.211				
11	650219.646	2974970.458	02° 05' 11.6978"	Straight	493+622.684	650231.777	2975004.801	493+630.921	650234.52	2975012.568	72.835	100	NR		LEFT
				Arc	493+630.921	650234.52	2975012.568	493+773.972	650278.281	2975148.741	8.238				
12	650258.349	2975080.028	03° 16' 42.5688"	Straight	493+773.972	650278.281	2975148.741	493+823.418	650292.056	2975196.229	143.051	100	NR		LEFT
				Arc	493+823.418	650292.056	2975196.229	493+943.693	650329.015	2975310.665	49.446				
13	650308.815	2975254.003	03° 26' 44.2026"	Straight	493+943.693	650329.015	2975310.665	496+108.731	651056.052	2977349.981	120.275	100	NR		RIGHT
				Transition	496+108.731	651056.052	2977349.981	496+203.731	651085.121	2977440.384	2165.038				
14	651147.401	2977685.927	53° 16' 42.5743"	Arc	496+203.731	651085.121	2977440.384	496+673.323	650987.825	2977882.664	95	100	5.00%		LEFT
				Transition	496+673.323	650987.825	2977882.664	496+768.323	650923.499	2977952.522	469.592				
15	650552.74	2978363.407	57° 35' 23.1868"	Straight	496+768.323	650923.499	2977952.522	497+027.458	650742.078	2978137.555	95	80			RIGHT
				Transition	497+027.458	650742.078	2978137.555	497+102.458	650691.289	2978192.701	75				
16	650926.884	2979264.4	00° 33' 53.7227"	Arc	497+102.458	650691.289	2978192.701	497+504.510	650622.595	2978571.869	402.052	100	5.00%		LEFT
				Transition	497+504.510	650622.595	2978571.869	497+579.510	650650.81	2978641.328	75				
17	651105.513	2979678.523	00° 49' 00.3249"	Straight	497+579.510	650650.81	2978641.328	498+211.706	650906.913	2979219.327	632.196	100	NR		RIGHT
				Arc	498+211.706	650906.913	2979219.327	498+310.304	650946.41	2979309.668	98.598				
18	651222.066	2979938.48	00° 39' 52.4497"	Straight	498+310.304	650946.41	2979309.668	498+640.734	651077.283	2979613.075	330.43	100	NR		RIGHT
				Arc	498+640.734	651077.283	2979613.075	498+783.285	651134.674	2979743.562	142.551				
19	651307.273	2980122.767	00° 54' 58.6253"	Straight	498+783.285	651134.674	2979743.562	498+938.903	651198.339	2979885.561	155.618	100	NR		RIGHT
				Arc	498+938.903	651198.339	2979885.561	499+054.892	651246.405	2979991.121	115.989				
				Straight	499+054.892	651246.405	2979991.121	499+119.966	651273.715	2980050.187	65.074	100	NR		LEFT
				Arc	499+119.966	651273.715	2980050.187	499+279.888	651339.666	2980195.875	159.922				
				Straight	499+279.888	651339.666	2980195.875	499+413.540	651393.809	2980318.069	133.653	100	NR		LEFT

M/S Shree Mahadevi Engineering Pvt. Ltd.
 FOUR LANE OF JHARKH TO
 COMMON SECTION FROM AM
 ROAD TO AM ROAD OF INAT
 IN THE STATE OF ASSAM UNDER
 BANK OF ENGINEERING
 PROCUREMENT & CONSTRUCTION
 (BPC) MODEL

CLIENT: **Assam Highway & Infrastructure Corporation Limited**

PROJECT: **FOUR LANE OF JHARKH TO COMMON SECTION FROM AM ROAD TO AM ROAD OF INAT IN THE STATE OF ASSAM UNDER BANK OF ENGINEERING PROCUREMENT & CONSTRUCTION (BPC) MODEL**

DESIGN: **Assam Highway & Infrastructure Corporation Limited**

DATE: **2022**

REVISION: **R0**

TITLE: **HORIZONTAL REPORT**

DATE: **DEC. 2022**

REVISION: **R0**

TITLE: **HORIZONTAL REPORT**

TASPL
 TECHNICAL SUPPORT
 PVT. LTD. M/S SHIVA
 HARLAHA (W)

PROJECT: **FOUR LANE OF JHARKH TO COMMON SECTION FROM AM ROAD TO AM ROAD OF INAT IN THE STATE OF ASSAM UNDER BANK OF ENGINEERING PROCUREMENT & CONSTRUCTION (BPC) MODEL**

DESIGN: **Assam Highway & Infrastructure Corporation Limited**

DATE: **2022**

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TASPL
 TECHNICAL SUPPORT
 PVT. LTD. M/S SHIVA
 HARLAHA (W)

PROJECT: **FOUR LANE OF JHARKH TO COMMON SECTION FROM AM ROAD TO AM ROAD OF INAT IN THE STATE OF ASSAM UNDER BANK OF ENGINEERING PROCUREMENT & CONSTRUCTION (BPC) MODEL**

DESIGN: **Assam Highway & Infrastructure Corporation Limited**

DATE: **2022**

REVISION: **R0**

TITLE: **HORIZONTAL REPORT**

DATE: **DEC. 2022**





REVISION: **R0**

TITLE: **HORIZONTAL REPORT**

Horizontal Alignment Report																
HPI/Curve No.	HPI		Deflection	Element	Start			End			Length	Radius	Speed Km/hr	Se	We	Hand Of Arc
	Easting	Northing			Chainage	Easting	Northing	Chainage	Easting	Northing						
20	651403.383	2980339.676	00° 32' 29.8379"	Arc	499+413.540	651393.809	2980318.069	499+460.805	651413.161	2980361.191	47.265	5000	100	NR		RIGHT
				Straight	499+460.805	651413.161	2980361.191	499+529.283	651441.492	2980423.534	68.478					
21	651452.569	2980447.91	00° 36' 49.0733"	Arc	499+529.283	651441.492	2980423.534	499+582.833	651463.385	2980472.403	53.549	5000	100	NR		LEFT
				Straight	499+582.833	651463.385	2980472.403	499+844.094	651568.923	2980711.399	261.261					
22	651579.271	2980734.833	00° 17' 36.7563"	Arc	499+844.094	651568.923	2980711.399	499+895.327	651589.738	2980758.213	51.233	10000	100	NR		RIGHT
				Straight	499+895.327	651589.738	2980758.213	500+100.000	651673.375	2980945.018	204.673					

Horizontal Alignment Report																
HPI/Curve No.	HIP		Deflection	Element	Start			End			Length	Radius	Speed Km/hr	Se	We	Hand Of Arc
	Easting	Northing			Chainage	Easting	Northing	Chainage	Easting	Northing						
20	651403.383	2980339.676	00° 32' 29.8379"	Arc	499+413.540	651393.809	2980318.069	499+460.805	651413.161	2980361.191	47.265	5000	100	NR		RIGHT
				Straight	499+460.805	651413.161	2980361.191	499+529.283	651441.492	2980423.534	68.478					
21	651452.569	2980447.91	00° 36' 49.0733"	Arc	499+529.283	651441.492	2980423.534	499+582.833	651463.385	2980472.403	53.549	5000	100	NR		LEFT
				Straight	499+582.833	651463.385	2980472.403	499+844.094	651568.923	2980711.399	261.261					
22	651579.271	2980734.833	00° 17' 36.7563"	Arc	499+844.094	651568.923	2980711.399	499+895.327	651589.738	2980758.213	51.233	10000	100	NR		RIGHT
				Straight	499+895.327	651589.738	2980758.213	500+100.000	651673.375	2980945.018	204.673					

M/S Shiv Hariloka (JV) Ltd.
Authorized Signatory
S
S KAMAC ENGINEERS
PARTED M/S SHIVA
HARILOKA (JV).

 National Highway Infrastructure Development Corporation Limited		PROJECT : FOUR LANE OF JHARKH TO DEMON SECTION FROM KM. 481+005 TO 335+350 DESIGN KM. 480+000 TO 475+000 OF ASSAM UNDER THE CONTRACT OF THE GOVT. OF SARDAR CH. ENGINEERING (BPC) MODE.		CONTRACT :  M/S KAMAL ENGINEERS PVT. LTD. M/S SHIVA HARILALIA (JV)		DRAWING :  Jharkhand State Road Transport Corporation		SECTION :  SPV		PROOF CONSULTANT :  TASPL TCS-ROADS AND CIVIL SERVICES PVT. LTD. NEW DELHI-110092		SAFETY CONSULTANT :  IIA INFRASTRUCTURE & CIVIL ENGINEERING NEW DELHI-110092		AUTHORITY :  Jharkhand State Road Transport Corporation		SCALE : NTS		DATE : DEC. 2021 REVISION: R0		DRG. NO. NHDC/MS/JA/HOR/BA (2R-2)		TITLE : HORIZONTAL REPORT	
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Vertical Alignment Report

SI No	PVI Station	Elevation (m)	Grade IN (%)	Grade Out (%)	Algebraic Diff	Curve type	Curve Length (m)	K Value	Speed km/hr
Left Side Alignment									
1	490+108.273	93.618	0.113%	-0.441%	0.55%	Crest	100	180.543	100
2	490+300.008	92.773	-0.441%	-0.081%	0.360%	Sag	100	277.804	100
3	490+483.644	92.625	-0.081%	-0.275%	0.194%	Crest	60	308.809	100
4	490+823.634	91.690	-0.275%	0.258%	0.533%	Sag	120	224.973	100
5	491+157.638	92.553	0.258%	-0.424%	0.682%	Crest	100	146.624	100
6	491+379.342	91.614	-0.424%	0.109%	0.533%	Sag	100	187.613	100
7	491+571.040	91.824	0.109%	-0.125%	0.235%	Crest	100	425.827	100
8	491+832.999	91.495	-0.125%	0.362%	0.488%	Sag	100	205.054	100
9	491+973.280	92.004	0.362%	0.086%	0.276%	Crest	110	397.873	100
10	492+070.020	92.087	0.086%	-0.135%	0.221%	Crest	60	271.633	100
11	492+347.695	91.711	-0.135%	-0.299%	0.164%	Crest	60	365.419	100
12	492457.086,	91.384	-0.299%	-0.310%	0.011%	Crest	60	5433.897	100
13	492+610.865	90.907	-0.310%	-0.043%	0.267%	Sag	60	224.334	100
14	492+747.657	90.848	-0.043%	0.374%	0.416%	Sag	145	348.233	100
15	493+010.699	91.831	0.374%	-0.767%	1.140%	Crest	120	105.241	100
16	493+170.996	90.602	-0.767%	-0.224%	0.542%	Sag	150	276.554	100
17	493+469.260	89.933	-0.224%	0.216%	0.440%	Sag	60	136.284	100
18	493+675.478	90.378	0.216%	-0.485%	0.701%	Crest	65	92.725	100
19	493+794.116	89.803	-0.485%	0.236%	0.721%	Sag	60	83.194	100
20	494+011.892	90.317	0.236%	-0.214%	0.450%	Crest	60	133.413	100
21	494+104.630	90.119	-0.214%	0.265%	0.479%	Sag	60	125.373	100
22	494+223.034	90.433	0.265%	-0.209%	0.474%	Crest	60	126.682	100
23	494+388.971	90.086	-0.209%	0.374%	0.583%	Sag	60	102.947	100
24	494478.546,	90.422	0.374%	-0.048%	0.423%	Crest	60	141.973	100
25	495+006.659	90.166	-0.048%	0.221%	0.269%	Sag	150	557.055	100
26	495+167.025	90.520	0.221%	0.321%	0.100%				100
27	495+344.850	91.090	0.321%	-0.229%	0.550%	Crest	60	109.092	100
28	495+490.000	90.757	-0.229%	0.190%	0.419%	Sag	60	143.040	100
29	495+616.680	90.998	0.190%	-0.185%	0.375%	Crest	60	159.789	100
30	495+880.000	90.510	-0.185%	0.072%	0.257%				100
31	496+109.966	90.675	0.072%	-0.216%	0.288%				100
32	496+252.435	90.367	-0.216%	-0.024%	0.192%				100
33	496+532.476	90.300	-0.024%	-0.182%	0.158%				100
34	496+717.382	89.963	-0.182%	0.043%	0.226%				100
35	496+885.357	90.036	0.043%	0.313%	0.269%				100
36	497+037.873	90.513	0.313%	-0.034%	0.347%	Crest	60	172.995	100
37	497+393.770	90.391	-0.034%	-0.182%	0.147%				100
38	497+696.803	89.841	-0.182%	-0.413%	0.231%	Crest	60	259.644	100
39	497+799.398	89.417	-0.413%	0.273%	0.685%	Sag	60	87.558	100
40	497+962.205	89.861	0.273%	0.468%	0.195%	Sag	60	307.577	100
41	498+093.321	90.474	0.468%	-0.225%	0.693%	Crest	100	144.330	100
42	498+319.881	89.963	-0.225%	0.372%	0.597%	Sag	100	167.429	100


 M/S SHIVA HARILAKA (JV)
 Authorised Signatory

 M/S K
 M/S KAMAC ENGINEERS
 P/LTD M/S SHIVA
 HARILAKA (JV)



LEGATO & CO.
1867


 A small logo for 'SAFETY CONSULTANT' featuring a stylized figure and the text 'SAFETY CONSULTANT' and 'of Advanced Design Ltd'.


SKA

240/

Harika (JV) ★ P17

U.S. S/W M/S Y-1

FOR LAMING OF JIANHUA
FROM SECTION FROM
50 TO 318-250 (JEB)
TO NM 534-800) OF
E STATE OF ASSAM U
ON ENGINEERING
REQUIREMENT & CONSTRUCTION
(EPC) MODE.

 **Andi Higway & Infrastructure Development Corporation Limited.**

11/11/11

Vertical Alignment Report

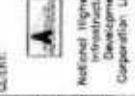







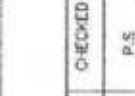

Sl No	PVI Station	Elevation (m)	Grade IN (%)	Grade Out (%)	Algebraic Diff	Curve type	Curve Length (m)	K Value	Speed km/hr
Left Side Alignment									
43	498+500.275	90.634	0.372%	-0.057%	0.429%	Crest	60	139.886	100
44	498+649.056	90.550	-0.057%	0.057%	0.114%	Sag	60	527.004	100
45	498+790.000	90.030	0.057%	-0.319%	0.319%				100
46	499+048.208	89.806	-0.319%	-0.138%	0.181%	Sag	60	331.565	100
47	499+222.595	89.566	-0.138%	-0.250%	0.11%	Crest	60	534.679	100
48	499+483.161	88.913	-0.250%	0.117%	0.117%	Sag	150	407.983	100
49	499+821.170	89.310	0.117%	-0.143%	0.261%	Crest	60	230.004	100
50	499+976.116	89.088	-0.143%	0.245%	0.388%	Sag	60	154.454	100
51	500+070.000	89.318	0.245%						100



CLIENT: Noida Highway & Infrastructure Development Corporation Limited
 PROJECT: FOUR LANE OF JHARKH TO DEMON SECTION FROM KM. 481+000 TO 524+000 (DEMON KM. 480+000 TO KM. 524+000) OF NH-27 IN THE STATE OF ASSAM UNDER THE ASSAM INFRASTRUCTURE DEVELOPMENT PROJECT UNDER PROCEEDURE & CONSTRUCTION (EPC) MODE.
 PROJECT CONSULTANT: SKA
 SAFETY CONSULTANT: UJA INTRATECH LEGATO & CO. NEW DELHI - 110002
 AUTHORITY ENGINEER: NTS
 PREPARED: K.R.
 CHECKED: P.S.
 DESIGNED: Q.R.
 APPROVED: P.S.
 DATE: 08.07.2022
 TITLE: VERTICAL REPORT

Vertical Alignment Report

SI No	PVI Station	Elevation (m)	Grade IN (%)	Grade Out (%)	Algebraic Diff	Curve type	Curve Length (m)	K Value	Speed km/hr
Right Side Alignment									
1	490+000.000	93.495		0.114%					100
2	490+108.921	93.619	0.114%	-0.443%	0.557%	Crest	100.000m	179.680	100
3	490+301.571	92.766	-0.443%	-0.071%	0.372%	Sag	100.000m	269.035	100
4	490+480.441	92.638	-0.071%	-0.276%	0.204%	Crest	100.000m	489.218	100
5	490+823.720	91.693	-0.276%	0.256%	0.532%	Sag	120.000m	225.691	100
6	491+157.650	92.548	0.256%	-0.421%	0.677%	Crest	100.000m	147.610	100
7	491+379.342	91.614	-0.421%	0.181%	0.602%	Sag	100.000m	166.015	100
8	491+565.921	91.952	0.181%	-0.157%	0.338%	Crest	100.000m	295.786	100
9	491+673.424	91.783	-0.157%	-0.111%	0.046%				100
10	491+846.764	91.591	-0.111%	0.303%	0.414%	Sag	65.000m	156.906	100
11	492+037.958	92.171	0.303%	-0.150%	0.453%	Crest	200.000m	441.475	100
12	492+345.028	91.712	-0.150%	-0.294%	0.144%	Crest	60.000m	415.300	100
13	492+623.362	90.894	-0.294%	-0.036%	0.258%	Sag	60.000m	232.949	100
14	492+747.492	90.849	-0.036%	0.373%	0.410%	Sag	150.000m	366.226	100
15	493+010.699	91.831	0.373%	-0.767%	1.140%	Crest	120.000m	105.285	100
16	493+170.996	90.602	-0.767%	-0.224%	0.542%	Sag	150.000m	276.597	100
17	493+469.260	89.933	-0.224%	0.119%	0.343%	Sag	60.000m	174.864	100
18	493+610.000	90.100	0.119%	-0.162%	0.280%				100
19	493+794.116	89.803	-0.162%	0.236%	0.398%	Sag	60.000m	150.841	100
20	494+011.892	90.317	0.236%	-0.214%	0.450%	Crest	60.000m	133.398	100
21	494+104.630	90.119	-0.214%	0.265%	0.479%	Sag	60.000m	125.373	100
22	494+223.034	90.433	0.265%	-0.209%	0.474%	Crest	60.000m	126.682	100
23	494+388.971	90.086	-0.209%	0.374%	0.583%	Sag	60.000m	102.947	100
24	494+478.546	90.422	0.374%	-0.061%	0.435%	Crest	60.000m	138.009	100
25	494+742.037	90.262	-0.061%	-0.015%	0.046%	Sag	60.000m	1311.643	100
26	495+001.931	90.223	-0.015%	0.190%	0.204%	Sag	60.000m	293.480	100
27	495+179.917	90.561	0.190%	0.321%	0.131%				100
28	495+344.850	91.090	0.321%	-0.229%	0.550%	Crest	60.000m	109.032	100
29	495+490.000	90.757	-0.229%	0.190%	0.420%	Sag	60.000m	143.022	100
30	495+616.680	90.998	0.190%	-0.185%	0.375%	Crest	60.000m	159.789	100
31	495+880.000	90.510	-0.185%	0.072%	0.257%				100
32	496+141.564	90.698	0.072%	-0.197%	0.269%				100
33	496+262.454	90.460	-0.197%	-0.022%	0.175%				100
34	496+532.265	90.401	-0.022%	-0.177%	0.155%				100
35	496+766.808	89.985	-0.177%	0.043%	0.220%				100
36	496+885.357	90.036	0.043%	0.313%	0.270%				100
37	496+975.471	90.318	0.313%	-0.122%	0.434%	Crest	60.000m	138.171	100
38	497+136.114	90.123	-0.122%	0.128%	0.250%	Sag	60.000m	240.085	100
39	497+306.950	90.342	0.128%	-0.065%	0.193%				100
40	497+440.014	90.256	-0.065%	-0.288%	0.223%				100
41	497+587.565	89.831	-0.288%	0.009%	0.297%				100
42	497+696.803	89.841	0.009%	-0.413%	0.422%	Crest	60.000m	142.272	100
43	497+799.398	89.417	-0.413%	0.273%	0.685%	Sag	60.000m	87.540	100
44	497+962.205	89.861	0.273%	0.468%	0.195%	Sag	60.000m	307.577	100
45	498+093.321	90.474	0.468%	-0.225%	0.693%	Crest	100.000m	144.330	100
46	498+319.881	89.963	-0.225%	0.372%	0.597%	Sag	100.000m	167.429	100

																					
CLIENT: National Highway & Infrastructure Development Corporation Limited		PROJECT: FOUR LANE OF JHARKHAND DIVISION SECTION FROM KM 481+000 TO 525+000 (DESIGN NO. 480-000 TO KM 524+000) OF NH-37 IN THE STATE OF ASSAM UNDER BRIDGE ON ENGINEERING PROVISIONS OF INDIA (BRI) CODE.		COUNTY: JHARKHAND		DISTRICT: PATNA		DIVISION: PATNA		ZONE: PATNA		REGION: PATNA		COUNTRY: INDIA		PROJECT NO: NH/DC/MS/UA/VERT/0A SP-3		DATE: DEC. 2022		REVISION: 00	
AUTHORITY ENGINEER:		SAFETY CONSULTANT:		PROOF CONSULTANT:		DESIGNER:		CHECKED:		APPROVED:		DESIGNED:		C.R.		P.S.		TITLE: VERTICAL REPORT			

Vertical Alignment Report									
Sl No	PVI Station	Elevation (m)	Grade IN (%)	Grade Out (%)	Algebraic Diff	Curve type	Curve Length (m)	K Value	Speed km/hr
Right Side Alignment									
47	498+500.275	90.634	0.372%	-0.057%	0.429%	Crest	60.000m	139.886	100
48	498+649.056	90.550	-0.057%	0.057%	0.114%	Sag	60.000m	527.004	100
49	498+790.000	90.630	0.057%	-0.319%	0.376%				
50	499+048.208	89.806	-0.319%	-0.138%	0.181%	Sag	60.000m	331.565	100
51	499+222.595	89.566	-0.138%	-0.250%	0.112%	Crest	60.000m	534.679	100
52	499+483.161	88.913	-0.250%	0.117%	0.368%	Sag	150.000m	407.983	100
53	499+821.170	89.310	0.117%	-0.143%	0.261%	Crest	60.000m	230.004	100
54	499+974.465	89.090	-0.143%	0.238%	0.382%	Sag	60.000m	157.168	100
55	500+070.000	89.318	0.238%						

[illegible]

SAFETY CONSULTANT

**U/A INFRA TECH LEGATO & CO
NEW DELHI - 110072**

PROOF CONSULTANT

SKS


TASPL

TECHNOLOGY'S ADVISORY SERVICES INT.
NEW YORK - 110992
INT.






Prateek Silvastava

Client:  Hatch Mott MacDonald
National Highways &
Infrastructure
Development
Corporation Limited.



Sl No	From	To	Length	TCS Type	Median Width	Description
1	500+000	500+640	640	TCS-1B	5	4 Lane Road Without Service Road LHS Widening
2	500+640	501+280	640	TCS-7A	3	4 Lane VUP/PUP Approach with RE Wall and Service Road on Both Side
3	501+280	501+890	610	TCS-2A	3	4 Lane Road With Service Road Both Side Concentric Widening Built up Section
4	501+890	502+290	400	TCS-4	3	4 Lane Road with Service Road Both Side Built Up Section New/Reconstruction
5	502+290	502+810	520	TCS-7A	3	4 Lane VUP/PUP Approach with RE Wall and Service Road on Both Side
6	502+810	503+160	350	TCS-2C	3	4 Lane Road With Service Road Both Side RHS Widening Built up Section
7	503+160	504+680	1520	TCS-1C	3	4 Lane Road Without Service Road RHS Widening
8	504+680	505+460	780	TCS-7A	3	4 Lane VUP/PUP Approach with RE Wall and Service Road on Both Side
9	505+460	507+870	2410	TCS-1C	3	4 Lane Road Without Service Road RHS Widening
10	507+870	507+910	40	TCS-1A	3	4 Lane Road Without Service Road Concentric Widening
11	507+910	508+380	470	TCS-1B	3	4 Lane Road Without Service Road LHS Widening
12	508+380	508+830	450	TCS-3	3	4 Lane Road New/Reconstruction
13	508+830	509+590	760	TCS-1B	3	4 Lane Road Without Service Road LHS Widening
14	509+590	509+700	110	TCS-1A	3	4 Lane Road Without Service Road Concentric Widening
15	509+700	513+000	3300	TCS-1B	3	4 Lane Road Without Service Road LHS Widening



 			SAFETY CONSULTANT
OF CONSULTANT	CHAIRMAN'S ADVISORY BOARD NEW DELHI-110002	T. S.	T. S.

Prateek Srivastava

CONTRACTOR :  M/S KAMAC ENGINEERS
PVT.LTD M/S SHIVA
HARILAKA (JY)

PROJECT :

FOUR LANE OF JHARKH TO
DEMOW SECTION FROM KM.
481+500 TO 520+250 (S&S) KM.
490+800 TO KM. 504+800) OF NH-37
IN THE STATE OF ASSAM UNDER
SATEP ON ENGINEERING
PROCUREMENT & CONSTRUCTION
(EPC) MODEL.

CLIENT:	 National Highways & Infrastructure Development Corporation Limited
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[illegible]

Horizontal Alignment Report													
HPI/ Curve No.	HPI Chaining		HPI		Element	Deflection		Start		End		Length	Chord Length
	Easting	Northing	Easting	Northing		Chaining	Easting	Chaining	Easting	Northing	Easting		
1	500+203.724	651715.76	2981039.686	02° 14' 07.9923"	Straight	500+000.000	651032.512	2980853.748	500+145.190	651691.841	2980986.262	145.19	N 24° 07' 08.9031" E
2	500+515.924	651832.13	2981329.404	01° 53' 23.347"	Arc	500+262.243	651737.577	2981094.003	500+474.691	651816.761	2981291.142	212.447	N 21° 53' 00.9108" E
3	500+859.965	651991.457	2981633.129	44° 05' 13.5647"	Transition	500+557.149	651848.752	2981367.138	500+755.903	651933.559	2981546.661	90	N 23° 46' 24.2455" E
4	501+129.854	652268.822	2981666.563	03° 03' 40.8828"	Arc	500+665.903	651892.592	2981466.663	500+933.655	652093.204	2981654.956	197.753	N 87° 55' 30.6218" E
5	501+441.852	652579.593	2981694.496	00° 27' 02.8759"	Straight	501+043.655	652182.68	2981663.442	501+076.410	652215.413	2981671.347	106.861	N 84° 51' 49.7390" E
6	501+591.795	652778.824	2981709.094	00° 32' 17.0241"	Straight	501+183.272	652322.051	2981671.347	501+422.182	652560.002	2981692.735	238.911	N 84° 24' 46.8630" E
7	501+931.758	653065.895	2981749.764	20° 33' 42.4133"	Transition	501+568.317	652705.458	2981706.808	501+861.522	652959.169	2981711.16	46.955	N 84° 57' 03.8871" E
8	502+412.486	653444.536	2982046.471	21° 42' 42.3227"	Arc	501+795.518	652931.756	2981727.023	501+875.518	653011.002	2981737.531	80	N 49° 01' 39.2296" E
9	502+870.157	653902.324	2982066.623	04° 09' 51.3889"	Straight	502+268.790	653327.95	2981830.499	502+666.748	653175.403	2981830.499	80	N 89° 09' 20.9543" E
10	503+595.904	654625.364	2982129.988	00° 18' 22.1247"	Transition	503+582.546	654612.056	2982128.822	503+806.448	654835.199	2982147.248	197.186	N 84° 59' 29.5654" E
11	503+828.986	654857.661	2982149.096	00° 15' 29.7384"	Arc	503+609.262	654638.677	2982131.083	503+851.523	654880.131	2982150.842	45.075	N 85° 17' 51.6901" E
12	504+728.286	655754.257	2982218.778	02° 34' 25.4478"	Straight	504+672.126	655088.267	2982214.427	504+784.427	655099.966	2982225.64	112.3	N 85° 33' 21.4286" E
13	505+242.708	656258.457	2982316.06	55° 14' 31.6663"	Transition	504+894.859	655919.602	2982239.132	505+009.859	656032.945	2982258.069	115	N 82° 58' 55.9808" E
14	505+612.571	656383.028	2982702.356	02° 46' 47.1377"	Arc	505+009.859	656032.945	2982258.069	505+553.909	656369.899	2982534.394	429.05	N 12° 55' 59.9763" E
15	506+810.602	656594.228	2983881.643	00° 34' 51.3752"	Straight	505+438.909	656339.381	2982534.394	505+661.077	656585.291	2983831.74	101.363	N 10° 09' 12.7886" E
16	507+777.831	656777.442	2984831.323	09° 36' 39.7171"	Transition	506+861.298	656603.671	2983931.453	506+861.298	656603.671	2983931.453	772.464	N 10° 44' 04.1638" E
17	508+166.362	656915.757	2985194.244	36° 33' 22.2179"	Arc	507+633.761	656747.549	2984690.399	507+633.761	656747.549	2984690.399	80	N 23° 46' 59.7693" E
18	508+692.004	656996.202	2985678.37	32° 07' 15.6351"	Transition	508+405.622	656887.535	2985097.538	508+602.220	656880.828	2985288.734	194.598	N 27° 48' 04.6928" W
19	509+626.291	657009.958	2986560.529	42° 11' 19.2834"	Straight	508+602.220	656887.535	2985097.538	508+803.935	657189.532	2986008.899	90	N 81° 55' 15.1833" E
20	509+995.874	657379.566	2986635.874	01° 07' 51.9122"	Arc	509+439.852	656928.135	2986393.522	509+439.852	656928.135	2986393.522	583.302	N 80° 47' 23.2711" E
21	510+439.269	657817.251	2986706.844	00° 28' 06.2959"	Straight	509+803.935	657189.532	2986608.899	509+803.935	657189.532	2986608.899	90	N 80° 19' 16.9753" E
22	510+861.616	658233.586	2986777.849	00° 25' 31.6952"	Arc	510+418.831	657797.076	2986710.28	510+874.486	658270.232	2986783.819	74.259	N 80° 44' 48.6705" E
23	512+038.336	659394.994	2986967.062	00° 31' 02.2994"	Straight	510+874.486	658196.985	2986771.607	511+970.620	659328.16	2986977.347	135.43	N 81° 15' 50.9698" E
24	512+634.437	659984.181	2987057.597	00° 36' 07.8946"	Straight	511+970.620	659328.16	2986977.347	512+555.610	659906.268	2987045.625	449.559	
						512+106.050	659461.924	2987045.625	512+555.610	659906.268	2987045.625	157.654	
						512+555.610	659906.268	2987045.625	512+555.610	659906.268	2987045.625	286.285	

PROJECT : FOUR LANE OF JHARKHAND
ROADWAY PROJECT (JHARKHAND)
APPROXIMATE 500+000 OF INH-7
IN THE STATE OF JHARKHAND
SAROP ON ENGINEERING
PROCUREMENT & CONSTRUCTION

DESIGNER :

CONTRACTOR :

DESIGN DIRECTOR :

PROJ. CONSULTANT :

SAFETY CONSULTANT :

APPROVED :

DATE : DEC. 2022

REVISION: R0

TITLE : TCS SCHEDULE

SCALE: NTS

APPROVED :

DESIGNED :

CHECKED :

APPROVED :

DATE : DEC. 2022

REVISION: R0

TITLE : TCS SCHEDULE


Vertical Alignment Report									
Sl No	PVI Station	Elevation (m)	Grade IN (%)	Grade Out (%)	Algebraic Diff	Curve type	Curve Length (m)	K Value	Speed km/hr
Left Side Alignment									
1	500+000.000	89.146		0.246%					
2	500+160.898	89.542		0.246%	0.308%	Crest	60	195.042	100
3	500+355.313	89.422		-0.062%	1.561%	Sag	100	64.057	100
4	500+511.936	91.771		1.499%	1.499%	Crest	115	76.737	100
5	500+685.872	91.772		0.001%	2.499%	Sag	120	48.020	100
6	500967.595	98.815		2.500%	5.000%	Crest	370	74.003	100
7	501+343.064	89.428		-2.500%	2.890%	Sag	130	44.977	100
8	501+540.869	90.200		0.390%	0.377%	Crest	60	158.954	100
9	501+993.577	90.258		0.013%	1.646%	Sag	115	69.848	100
10	502+154.304	92.925		1.659%	1.660%	Crest	125	75.295	100
11	502+326.619	92.924		-0.001%	1.044%	Sag	60	57.424	100
12	502+601.237	95.791		1.044%	3.244%	Crest	200	61.649	100
13	502+831.716	90.720		-2.200%	2.313%	Sag	100	43.237	100
14	503+404.455	91.366		0.113%	0.155%				100
15	504+230.030	91.015		-0.043%	0.056%				100
16	504+510.000	90.738		-0.099%	0.151%				100
17	504+740.000	90.858		0.052%	2.448%	Sag	150	61.286	100
18	505+088.647	99.574		2.500%	5.000%	Crest	370	74.006	100
19	505+416.372	91.381		-2.500%	2.331%	Sag	120	51.470	100
20	505+690.242	90.920		-0.168%	0.301%				100
21	505+903.236	91.203		0.133%	0.144%				100
22	506+679.975	91.119		-0.011%	0.124%				100
23	506+870.000	91.334		0.113%	0.096%				100
24	507+020.000	91.647		0.209%	0.404%				100
25	507+133.944	91.425		-0.195%	0.381%				100
26	507+404.314	91.927		0.186%	0.089%				100
27	507+675.000	92.188		0.096%	0.110%	Sag	160	82.312	100
28	508+013.285	92.886		0.206%	1.944%	Crest	160	74.410	100
29	508+321.777	99.519		2.150%	2.150%	Crest	165	82.644	100
30	508+623.904	99.519		0.000%	1.997%	Sag	170	100.913	100
31	508+986.861	92.272		-1.997%	1.685%	Sag	60	157.233	100
32	509+264.913	91.405		-0.312%	0.382%	Sag			100
33	509+787.964	91.769		0.070%	0.222%				100
34	509+987.805	91.465		-0.152%	0.151%				100
35	511+063.644	91.458		-0.001%	0.086%				100
36	511+236.441	91.606		0.086%	0.087%				100
37	512+770.000	91.588		-0.001%	0.000%				100
38	512+999.548	91.585		-0.001%					100



TECH-EDUTO & CO.

100% CONSULTANT
SPL
TASPL

Prateek Srivastava



FOUR LANE OF JHARKH TO
DEMON SECTION FROM KM.
71-450 TO 535-250 (GOLDEN KM.
5-400 TO KM. 534-800) OF NH-37
THE STATE OF ASSAM UNDER
BARO C ENGINEERING

Australian Highways is
infrastructure

[illegible][illegible]

Vertical Alignment Report

SI No	PVI Station	Elevation (m)	Grade IN (%)	Grade Out (%)	Algebraic Diff	Curve type	Curve Length (m)	K Value	Speed km/hr
Right Side Alignment									
1	500+000.000	89.146		0.246%					
2	500+161.124	89.543	0.246%	-0.062%	0.308%	Crest	60.000m	194.644	100
3	500+390.086	89.401	-0.062%	2.000%	2.062%	Sag	100.000m	48.498	100
4	500+533.632	92.272	2.000%	0.000%	2.000%	Crest	70.000m	34.999	100
5	500+705.872	92.272	0.000%	2.500%	2.500%	Sag	120.000m	48.007	100
6	500+967.595	98.814	2.500%	-2.500%	4.999%	Crest	370.000m	74.008	100
7	501+343.064	89.428	-2.500%	0.390%	2.890%	Sag	130.000m	44.979	100
8	501+540.869	90.2	0.390%	0.060%	0.331%	Crest	60.000m	181.486	100
9	501+999.131	90.474	0.060%	1.579%	1.519%	Sag	100.000m	65.820	100
10	502+154.304	92.924	1.579%	0.000%	1.579%	Crest	125.000m	79.156	100
11	502+340.660	92.924	0.000%	1.100%	1.100%	Sag	60.000m	54.553	100
12	502+601.237	95.79	1.100%	-2.199%	3.299%	Crest	200.000m	60.619	100
13	502+831.716	90.72	-2.199%	0.113%	2.312%	Sag	100.000m	43.248	100
14	503+404.455	91.366	0.113%	-0.043%	0.155%				
15	504+230.030	91.015	-0.043%	-0.099%	0.056%				
16	504+510.000	90.738	-0.099%	0.052%	0.151%	Sag	150.000m	61.286	100
17	504+740.000	90.858	0.052%	2.500%	2.448%	Crest	370.000m	74.003	100
18	505+088.648	99.574	2.500%	-2.500%	5.000%	Sag	150.000m	60.361	100
19	505+428.437	91.079	-2.500%	-0.015%	2.485%				
20	506+294.460	90.949	-0.015%	-0.246%	0.231%				
21	506+411.832	90.66	-0.246%	0.042%	0.288%				
22	506+685.302	90.774	0.042%	0.148%	0.107%				
23	507+036.865	91.295	0.148%	0.041%	0.107%				
24	507+275.000	91.393	0.041%	0.180%	0.138%				
25	507+716.570	92.186	0.180%	0.233%	0.053%				
26	508+007.584	92.863	0.233%	2.142%	1.910%	Sag	160.000m	83.778	100
27	508+339.887	99.983	2.142%	0.013%	2.130%	Crest	160.000m	75.120	100
28	508+598.666	100.015	0.013%	-2.200%	2.212%	Crest	165.000m	74.581	100
29	508+973.715	91.765	-2.200%	0.020%	2.220%	Sag	170.000m	76.594	100
30	509+612.353	91.891	0.020%	-0.029%	0.049%				
31	510+742.102	91.561	-0.029%	0.124%	0.153%				
32	510+901.940	91.759	0.124%	0.007%	0.117%				
33	511+440.008	91.795	0.007%	0.051%	0.044%				
34	511+630.030	91.892	0.051%	-0.047%	0.098%				
35	511+890.383	91.769	-0.047%	0.012%	0.059%				
36	512+358.588	91.825	0.012%	-0.057%	0.069%				
37	512+516.976	91.735	-0.057%	0.085%	0.142%				
38	512+646.626	91.846	0.085%	-0.554%	0.639%	Crest	60.000m	93.832	100
39	512+729.572	91.386	-0.554%	0.350%	0.904%	Sag	60.000m	66.372	100
40	512+836.005	91.758	0.350%	0.018%	0.332%	Crest	60.000m	180.887	100
41	512+999.548	91.788	0.018%						



 S. Siva Harilal (Jr)

 Authorised Signatory

PROJECT : FOUR LANE OF JHARKHAND DIVISION SECTION FROM KM. 480+000 TO 550+250 (DEBUN KOL IN THE STATE OF JHARKHAND) BASED ON ENGLISH UNIT SYSTEM		CONTRACTOR :  M/S. KAMAL ENGINEERS 11/2, SHALU	DESIGN :  Prateek Singh	PROJECT CONSULTANT :  TASPL TAMIL NADU STATE PUBLIC WORKS DEPARTMENT	SAFETY CONSULTANT :  SVA	AUTHORITY ENGINEER :  JHARKHAND PUBLIC WORKS DEPARTMENT	SCALE: NTS  JHARKHAND PUBLIC WORKS DEPARTMENT	DRG. NO. N-HCCL/KS/JA/REP/3 DATE : DEC. 2022 TITLE: R/S VERTICAL REPORT
APPROVED	CHECKED	DESIGNED	PREPARED	K.R.	C.R.	P.S.	P.S.	

TCS Schedule

Sl No	From	To	Length	TCS Type	Median Width	Description
1	512+500	512+890	390	TCS-1B	3	4 Lane Carriageway without Service Road LHS Widening
2	512+890	514+100	1210	TCS-7A	3	4 Lane Carriageway at VUP/PUP approaches with Service Road Both Side
3	514+100	514+360	260	TCS-1C	1.5	4 Lane Carriageway without Service Road RHS Widening
4	514+360	515+020	660	TCS-6	1.5	4 Lane Carriageway without Service Road RHS Widening with RHS side Retaining Wall
5	515+020	515+110	90	TCS-5	1.5	4 Lane Carriageway without Service Road RHS Widening with Both side Retaining Wall
6	515+110	515+390	280	TCS-6	1.5	4 Lane Carriageway without Service Road RHS Widening with RHS side Retaining Wall
7	515+390	515+500	110	TCS-1B	1.5	4 Lane Carriageway without Service Road LHS Widening
8	515+500	515+740	240	TCS-1A	1.5	4 Lane Carriageway without Service Road Concentric Widening
9	515+740	516+040	300	TCS-1B	1.5	4 Lane Carriageway without Service Road LHS Widening
10	516+040	516+090	50	TCS-1A	1.5	4 Lane Carriageway without Service Road Concentric Widening
11	516+090	516+260	170	TCS-1C	1.5	4 Lane Carriageway without Service Road RHS Widening
12	516+260	516+360	100	TCS-1A	1.5	4 Lane Carriageway without Service Road Concentric Widening
13	516+360	519+470	3110	TCS-1B	5	4 Lane Carriageway without Service Road LHS Widening
14	519+470	519+610	140	TCS-3	5	4 Lane Carriageway New Construction
15	519+610	520+880	1270	TCS-1B	5	4 Lane Carriageway without Service Road LHS Widening
16	520+880	520+960	80	TCS-1A	5	4 Lane Carriageway without Service Road Concentric Widening
17	520+960	525+000	4040	TCS-1B	5	4 Lane Carriageway without Service Road LHS Widening



DESIGN DIRECTOR :
Prateek Srivastava

CONTRACTOR :
M/S. KAMAC ENGINEERS
PVT. LTD. M/P. CHAL.

PROJECT :
FOUR LANE OF JHARKHAND
ROADWAY PROJECT FROM KAMAC
487400 TO 519400 OF INHAT
IN THE STATE OF ASSAM UNDER
SARUP ON ENGINEERING
PROCUREMENT & CONSTRUCTION

CLIENT :
National Highways &
Infrastructure Development
Corporation Limited

DATE :
DRG. NO. NHICL/MS/UA/TCS Schedule/1A
DATE : 18.01.2022
REVISION: R0

APPROVED :
CHECKED :
DESIGNED :
PREPARED :
SCALE: NTS

Horizontal Alignment Report																		
HPI/Curve No.	HPI		Deflection	Element	Start			End			Length	Chord Length	Bearing	Radius	Speed Km/hr	e%	Extra Widening	Hand Of Arc
	Eastings	Northings			Chainage	Eastings	Northings	Chainage	Eastings	Northings								
1	659984.181	2987057.597	00° 36' 05.3279"	Straight	512+500.101	659851.304	2987037.179	512+555.804	659906.361	2987045.639	55.703	N 81° 15' 50.9698" E						
				Arc	512+555.804	659906.361	2987045.639	512+713.271	660061.872	2987070.372	512+713.271	660061.872	2987070.372	157.467		15000	100	NR
2	660425.377	2987130.141	00° 34' 39.7455"	Straight	512+713.271	660061.872	2987070.372	513+056.450	660400.504	2987126.051	343.178	N 80° 39' 45.6419" E						
				Arc	513+056.450	660400.504	2987126.051	513+106.864	660450.291	2987133.98	513+106.864	660450.291	2987133.98	50.414		5000	100	NR
3	660669.496	2987167.757	01° 47' 29.4949"	Straight	513+106.864	660450.291	2987133.98	513+250.480	660592.231	2987155.851	143.616	N 81° 14' 25.3874" E						
				Arc	513+250.480	660592.231	2987155.851	513+406.820	660746.35	2987182.072	513+406.820	660746.35	2987182.072	156.34		5000	100	NR
4	661059.846	2987233.411	09° 28' 04.9855"	Straight	513+406.820	660746.35	2987182.072	513+588.281	660924.744	2987215.3	181.462	N 79° 26' 55.8926" E						
				Transition	513+588.281	660924.744	2987215.3	513+683.281	661018.604	2987229.724	513+683.281	661018.604	2987229.724	95	94.962			
5	661472.557	2987169.137	03° 18' 14.0454"	Arc	513+683.281	661018.604	2987229.724	513+765.906	661101.132	2987230.263	82.624		500	100	5.00%	NR	RIGHT	
				Transition	513+765.906	661101.132	2987230.263	513+860.906	661195.173	2987217.065	513+860.906	661195.173	2987217.065	95	94.962			
6	661671.272	2987146.499	02° 31' 33.3600"	Straight	513+860.906	661195.173	2987217.065	514+084.720	661415.719	2987178.958	223.815	S 80° 11' 48.8087" E						
				Arc	514+084.720	661415.719	2987178.958	514+200.048	661529.866	2987162.608	514+200.048	661529.866	2987162.608	115.328		2000	100	NR
7	663115.029	2986937.321	60° 25' 43.3101"	Straight	514+200.048	661529.866	2987162.608	514+298.275	661627.462	2987151.49	98.227	S 83° 30' 02.8541" E						
				Arc	514+298.275	661627.462	2987151.49	514+386.447	661714.819	2987139.582	514+386.447	661714.819	2987139.582	88.172		2000	100	NR
8	663530.457	2987529.851	01° 07' 23.0773"	Straight	514+386.447	661714.819	2987139.582	515+314.285	662631.169	2986994.034	927.838	S 80° 58' 29.4941" E						
				Transition	515+314.285	662631.169	2986994.034	515+379.285	662695.504	2986984.799	515+379.285	662695.504	2986984.799	65	64.994			
9	663597.027	2987626.411	01° 57' 24.5192"	Arc	515+379.285	662695.504	2986984.799	516+143.927	663363.361	2987278.769	764.643		725	100	5.00%	NR	LEFT	
				Transition	516+143.927	663363.361	2987278.769	516+208.927	663400.002	2987332.451	516+208.927	663400.002	2987332.451	65	64.994			
10	663667.938	2987737.182	04° 36' 38.0721"	Straight	516+208.927	663400.002	2987332.451	516+416.136	663514.246	2987505.32	207.209	N 33° 27' 34.4889" E						
				Arc	516+416.136	663514.246	2987505.32	516+474.941	663547.146	2987554.058	516+474.941	663547.146	2987554.058	58.804		3000	100	NR
11	663908.734	2988042.434	02° 59' 30.2353"	Straight	516+474.941	663547.146	2987554.058	516+528.665	663577.64	2987598.29	53.724	N 34° 34' 57.5662" E						
				Arc	516+528.665	663577.64	2987598.29	516+596.970	663615.442	2987655.177	516+596.970	663615.442	2987655.177	68.306		2000	100	NR
12	664102.3	2988184.61	07° 37' 35.5168"	Straight	516+596.970	663615.442	2987655.177	516+613.825	663624.53	2987669.373	16.855	N 32° 37' 33.0470" E						
				Transition	516+613.825	663624.53	2987669.373	516+774.765	663716.657	2987801.282	516+774.765	663716.657	2987801.282	160.939		2000	100	NR
13	664276.699	2988424.112	00° 05' 28.6858"	Straight	516+774.765	663716.657	2987801.282	516+957.884	663827.463	2987947.071	183.119							
				Transition	516+957.884	663827.463	2987947.071	517+072.884	663901.287	2988035.11	517+072.884	663901.287	2988035.11	115	114.894			
14	664392.607	2988589.178	00° 11' 02.0059"	Arc	517+072.884	663901.287	2988035.11	517+093.770	663916.553	2988049.361	20.886		400	100	5.00%	NR	RIGHT	
				Transition	517+093.770	663916.553	2988049.361	517+208.770	664009.453	2988116.966	517+208.770	664009.453	2988116.966	115	114.894			
15	664582.689	2988858.035	00° 04' 11.5122"	Straight	517+208.770	664009.453	2988116.966	517+228.449	664025.901	2988127.77	19.679	N 56° 42' 02.4862" E						
				Transition	517+228.449	664025.901	2988127.77	517+303.449	664086.806	2988171.45	517+303.449	664086.806	2988171.45	75	74.95			
16	664709.222	2989036.546	00° 15' 23.0100"	Arc	517+303.449	664086.806	2988171.45	517+344.047	664115.911	2988199.711	40.598		305	80	7.00%	NR	LEFT	
				Transition	517+344.047	664115.911	2988199.711	517+419.047	664161.364	2988259.305	517+419.047	664161.364	2988259.305	75	74.95			
17	664956.333	2989388.493	04° 30' 53.9790"	Straight	517+419.047	664161.364	2988259.305	517+616.219	664274.415	2988420.848	197.172	N 34° 59' 06.1154" E						
				Arc	517+616.219	664274.415	2988420.848	517+624.186	664278.988	2988427.372	517+624.186	664278.988	2988427.372	7.968		5000	100	NR
18	665219.338	2989706.539	00° 19' 42.1295"	Straight	517+624.186	664278.988	2988427.372	517+813.875	664387.996	2988582.612	189.689	N 35° 04' 34.8012" E						
				Arc	517+813.875	664387.996	2988582.612	517+829.923	664397.239	2988595.73	517+829.923	664397.239	2988595.73	16.047		5000	100	NR
19	665414.526	2989964.708	22° 03' 35.8546"	Straight	517+829.923	664397.239	2988595.73	518+148.115	664580.929	2988855.546	318.192	N 35° 15' 36.8071" E						
				Arc	518+148.115	664580.929	2988855.546	518+154.212	664584.451	2988860.522	518+154.212	664584.451	2988860.522	6.097		5000	100	NR
20	665514.404	2990755.946	00° 04' 53.6433"	Straight	518+154.212	664584.451	2988860.522	518+358.784	664702.753	2989027.419	204.573	N 35° 19' 48.3193" E						
				Transition	518+358.784	664702.753	2989027.419	518+381.159	664715.651	2989045.702	518+381.159	664715.651	2989045.702	22.374		5000	100	NR
21	665536.797	2990955.72	00° 01' 58.9572"	Straight	518+381.159	664715.651	2989045.702	518+701.454	664899.702	2989307.836	320.295	N 35° 04' 25.3093" E						
				Arc	518+701.454	664899.702	2989307.836	518+898.457	665019.138	2989464.441	518+898.457	665019.138	2989464.441	197.004		2500	100	NR
22	665536.797	2990955.72	00° 01' 58.9572"	Straight	518+898.457	665019.138	2989464.441	519+198.281	665210.207	2989695.497	299.824	N 39° 35' 19.2883" E						
				Arc	519+198.281	665210.207	2989695.497	519+226.937	665228.405	2989717.632	519+226.937	665228.405	2989717.632	28.656		5000	100	NR
23	665536.797	2990955.72	00° 01' 58.9572"	Straight	519+226.937	665228.405	2989717.632	519+344.091	665302.546	2989808.343	117.155	N 39° 15' 37.1588" E						
				Transition	519+344.091	665302.546	2989808.343	519+439.091	665360.284	2989883.736	519+439.091	665360.284	2989883.736	95	94.962			
24	665536.797	2990955.72	00° 01' 58.9572"	Straight	519+439.091	665360.284	2989883.736	519+631.601	665434.386	2990060.125	192.509	N 06° 18' 50.9910" E						
				Arc	519+631.601	665434.386	2990060.125	519+726.601	665447.812	2990154.133	519+726.601	665447.812	2990154.133	95	94.962			
25	665536.797	2990955.72	00° 01' 58.9572"	Straight	519+726.601	665447.812	2990154.133	520+324.968	665513.621	2990748.871	598.367	N 06° 23' 44.6343" E						
				Transition	520+324.968	665513.621	2990748.871	520+339.204	665515.197	2990952.854	520+339.204	665515.197	2990952.854	14.236		10000	100	NR
26	665536.797	2990955.72	00° 01' 58.9572"	Straight	520+339.204	665515.197	2990952.854	520+530.228	665536.476	2990958.586	5.767	N 06° 21' 45.6771" E						
				Arc	520+530.228	665536.476	2990952.854	520+535.995	665537.116	2991158.605	520+535.995	665537.116	2991158.605	201.259		10000	100	NR
27	665536.797	2990955.72	00° 01' 58.9572"	Straight	520+535.995	665537.116	2990958.586	520+737.254	665559.42	2991208.248	50							
				Transition	520+737.254	665559.42	2991158.605	520+787.254	665565.375	2991208.248	520+787.254	665565.375	2991208.248	49.999				



PROJECT : FOUR LANE OF JALAN TO DEMON SECTION FROM KM 481+400 TO 534+200 (DESIGN KM 480+800 TO KM 534+800) OF NH37 IN THE STATE OF ACEH UNDER THE SHIP ON A CONSTRUCTION...
 CONTRACTOR : M/S KAMAC ENGINEERS
 DESIGN DIRECTOR : Prateek Shrivastava
 PROJ. CONSULTANT : SKA
 SAFETY CONSULTANT : TASPL
 AUTHORITY ENGINEER : NTS
 ORG. NO. NHCOL/KS/JA/NH37/2A (SH-1)
 DATE : DEC. 2022
 REVISION: R0
 TITLE : HORIZONTAL ALIGNMENT REPORT

Horizontal Alignment Report															
HIP/curve No.	HIP		Deflection	Element	Start			End			Length	Chord Length	Bearing	Radius	Speed Km/hr
	Eastings	Northings			Chainage	Eastings	Northings	Chainage	Eastings	Northings					
22	665581.743	2991377.813	13° 45' 44.3679"	Arc	520+787.254	665565.375	2991208.248	521+027.452	665626.085	2991440.051	240.198			1000	100
				Transition	521+027.452	665626.085	2991440.051	521+077.452	665645.228	2991486.239	50	49.999			
				Straight	521+077.452	665645.228	2991486.239	521+295.754	665730.49	2991687.203	218.302		N 22° 59' 23.2853" E		
23	665735.149	2991698.184	00° 08' 12.1053"	Arc	521+295.754	665730.49	2991687.203	521+319.612	665739.782	2991709.177	23.858			10000	100
				Straight	521+319.612	665739.782	2991709.177	521+795.064	665924.433	2992147.307	475.452		N 22° 51' 11.1801" E		
24	665934.957	2992172.277	00° 37' 15.6514"	Arc	521+795.064	665924.433	2992147.307	521+849.258	665945.209	2992197.36	54.194			5000	100
				Straight	521+849.258	665945.209	2992197.36	522+090.993	666036.672	2992421.124	241.735		N 22° 13' 55.5287" E		
25	666048.907	2992451.058	00° 44' 28.0256"	Arc	522+090.993	666036.672	2992421.124	522+155.668	666061.529	2992480.831	64.675			5000	100
				Straight	522+155.668	666061.529	2992480.831	522+504.982	666197.866	2992802.44	36.826		N 22° 58' 23.5543" E		
26	666205.053	2992819.393	00° 25' 19.1985"	Arc	522+504.982	666197.866	2992802.44	522+541.808	666212.364	2992836.293	109.432			5000	100
				Straight	522+541.808	666212.364	2992836.293	522+651.241	666255.817	2993022.646	95	94.962	N 23° 23' 42.7527" E		
27	666304.173	2993037.009	03° 45' 23.3817"	Transition	522+651.241	666255.817	2992836.293	522+746.241	666296.264	2993022.646	32.782			500	80
				Arc	522+746.241	666296.264	2993022.646	522+779.022	666313.005	2993050.823	95	94.962			
				Transition	522+779.022	666313.005	2993050.823	522+874.022	666369.122	2993127.431	37.775		N 38° 02' 16.4476" E		
				Straight	522+874.022	666369.122	2993127.431	522+911.798	666392.399	2993157.183	95	94.848			
				Transition	522+911.798	666392.399	2993157.183	523+006.798	666445.998	2993235.433	65.407				
28	666461.008	2993264.7	14° 59' 24.5243"	Arc	523+006.798	666445.998	2993235.433	523+072.205	666467.938	2993296.853	95			250	80
				Transition	523+072.205	666467.938	2993296.853	523+167.205	666476.044	2993391.353	194.179		N 01° 16' 31.2965" E		
				Straight	523+167.205	666476.044	2993391.353	523+361.383	666480.366	2993585.484	75	74.95			
				Transition	523+361.383	666480.366	2993585.484	523+436.383	666485.102	2993660.284	171.612			305	80
29	666497.857	2993747.5	32° 14' 17.7214"	Arc	523+436.383	666485.102	2993660.284	523+607.995	666555.17	2993814.467	75	74.95			
				Transition	523+607.995	666555.17	2993814.467	523+682.995	666608.402	2993867.228	195.715		N 47° 36' 09.8723" E		
				Straight	523+682.995	666608.402	2993867.228	523+878.710	666752.935	2993999.192	95	94.962			
				Transition	523+878.710	666752.935	2993999.192	523+973.710	666821.001	2994065.41	101.785			500	100
30	666855.279	2994103.266	11° 39' 49.1910"	Arc	523+973.710	666821.001	2994065.41	524+075.495	666881.195	2994147.27	95	94.962			
				Transition	524+075.495	666881.195	2994147.27	524+170.495	666924.11	2994231.982	60.471		N 25° 03' 10.3682" E		
				Straight	524+170.495	666924.11	2994231.982	524+230.966	666949.717	2994286.764	62.342			5000	100
31	666962.917	2994315.002	00° 42' 51.7829"	Arc	524+230.966	666949.717	2994286.764	524+293.308	666975.763	2994343.403	172.829		N 24° 20' 18.5853" E		
				Transition	524+293.308	666975.763	2994343.403	524+466.137	667046.991	2994500.873	73.824			5000	100
32	667062.204	2994534.505	00° 50' 45.4785"	Arc	524+466.137	667046.991	2994500.873	524+539.962	667077.911	2994567.909	76.015		N 25° 11' 04.0638" E		
				Straight	524+539.962	667077.911	2994567.909	524+615.977	667110.258	2994636.699	13.291			10000	100
33	667113.086	2994642.713	00° 04' 34.1548"	Arc	524+615.977	667110.258	2994636.699	524+629.268	667115.906	2994648.73	296.198		N 25° 06' 29.9089" E		
				Straight	524+629.268	667115.906	2994648.73	524+925.467	667241.592	2994916.94	43			2250	100
34	667250.716	2994936.409	01° 05' 41.9852"	Arc	524+925.467	667241.592	2994916.94	524+968.467	667259.466	2994956.049	131.288		N 24° 00' 47.9237" E		
				Straight	524+968.467	667259.466	2994956.049	525+099.755	667312.893	2995075.974					



DRG. NO. N-HDC/MS/UA/HR/2A (SH-2)
DATE : DEC. 2022
REVISION: R0

APPROVED
CHECKED
DESIGNED
PREPARED
K.R. C.R. P.S. P.S.

NTS
VOTANTS
HORIZONTAL REPORT



SAFETY CONSULTANT



DESIGN DIRECTOR

CONTRACTOR

PROJECT :
FOUR LANE OF JHARKH TO
DUMKAL SECTION FROM KM
0+00 TO KM 14+00 OF N.H. 1
IN THE STATE OF JHARKH
UNDER
NORTH OF ENGINEERING

CLIENT :
M/s. Shree Haritaka Pvt. Ltd.

DESIGN :
M/s. Shree Haritaka Pvt. Ltd.

CONTRACTOR :
M/s. Shree Haritaka Pvt. Ltd.

PROJECT :
FOUR LANE OF JHARKH TO
DUMKAL SECTION FROM KM
0+00 TO KM 14+00 OF N.H. 1
IN THE STATE OF JHARKH
UNDER
NORTH OF ENGINEERING

CLIENT :
M/s. Shree Haritaka Pvt. Ltd.

DESIGN :
M/s. Shree Haritaka Pvt. Ltd.

Vertical Alignment Report

SI No	PVI Station	Elevation (m)	Grade IN (%)	Grade Out (%)	Algebraic Diff	Curve type	Curve Length (m)	K Value	Speed km/hr
Left Side Alignment									
1	512+500.000	91.591	-0.001%	-0.001%	0.001%				100
2	512+770.000	91.588	-0.001%	0.000%	2.502%	Sag	120	47.966	100
3	512+941.713	91.585	-0.001%	2.500%	2.531%	Crest	200	79.009	100
4	513+215.000	98.419	2.500%	-0.031%	2.469%	Crest	200	80.995	100
5	513+820.202	98.231	-0.031%	-2.500%	2.542%	Sag	120	47.202	100
6	514+088.321	91.527	-2.500%	0.042%	0.044%				100
7	514+534.654	91.714	0.042%	-0.002%	0.015%				100
8	515+352.179	91.700	-0.002%	0.013%	0.159%				100
9	516+007.705	91.786	0.013%	-0.146%	0.139%				100
10	516+229.052	91.462	-0.146%	-0.007%	1.780%	Sag	95	53.358	100
11	516+666.090	91.431	0.007%	1.773%	1.773%	Crest	135	76.134	100
12	516+861.737	94.900	1.773%	0.000%	1.634%	Crest	125	76.508	100
13	517+044.196	94.900	0.000%	-1.634%	1.480%	Sag	80	54.060	100
14	517+272.720	91.166	-1.634%	-0.154%	0.112%				100
15	517+488.062	90.835	-0.154%	-0.042%	0.270%				100
16	518+204.351	90.536	-0.042%	0.229%	0.421%				100
17	518+367.976	90.910	0.229%	-0.192%	0.372%	Sag	60	161.319	100
18	518+506.864	90.643	-0.192%	0.180%	0.439%				100
19	518+771.642	91.120	0.180%	-0.259%	0.348%				100
20	518+916.248	90.745	-0.259%	0.089%	0.120%				100
21	519+265.401	91.056	0.089%	0.209%	0.253%				100
22	519+417.659	91.374	0.209%	-0.044%	0.380%				100
23	519+584.579	91.300	-0.044%	0.336%	0.420%				100
24	519+766.756	91.912	0.336%	-0.084%	0.189%				100
25	519+988.127	91.727	-0.084%	0.105%	1.121%	Crest	100	89.214	100
26	520+421.989	92.184	0.105%	-1.016%	1.491%	Sag	150	100.617	100
27	520+578.293	90.596	-1.016%	0.475%	0.438%	Crest	60	137.013	100
28	520+815.589	91.724	0.475%	0.037%	0.424%	Crest	60	141.516	100
29	520+969.977	91.781	0.037%	-0.387%	0.464%				100
30	521+121.272	91.196	-0.387%	0.078%	0.145%				100
31	521+417.677	91.426	0.078%	-0.068%	1.825%	Sag	120	65.763	100
32	521+770.878	91.187	-0.068%	1.757%	1.599%	Crest	150	88.296	100
33	521+918.050	93.774	1.757%	0.058%	0.220%				100
34	522+069.499	93.862	0.058%	-0.161%	0.421%				100
35	522+241.255	93.585	-0.161%	-0.019%	0.379%				100
36	522+430.208	94.264	0.359%	1.992%	2.011%	Sag	100	49.723	100
37	522+939.956	94.165	-0.019%	0.000%	1.992%	Crest	70	35.143	80
38	523+173.659	98.820	1.992%	-2.003%	2.003%	Crest	70	34.942	80
39	523+383.595	98.820	0.000%	-0.294%	1.709%	Sag	150	87.751	100
40	523+601.456	94.455	-2.003%	0.051%	0.345%				100
41	523+925.720	93.502	-0.294%	-0.542%	0.593%	Crest	60	101.230	100
42	524+093.192	93.587	0.051%	0.291%	0.832%	Sag	60	72.087	100
43	524+272.351	92.617	-0.542%	-0.193%	0.483%				100
44	524+466.265	93.180	0.291%	-0.039%	0.154%				100
45	524+744.652	92.643	-0.193%	0.414%	0.452%	Sag	80	176.849	100
46	524+906.408	92.581	-0.039%						100
47	525+069.652	93.256	0.414%						100



PROJECT : FOUR LANE OF JHARKHAND 481+000 TO 525+000 (DESIGN AND CONSTRUCTION) IN THE STATE OF JHARKHAND		CONTRACTOR : M/S. KAMAL ENGINEERS		DESIGN : PRATEEK SRIVASTAVA		CHECKED : P.S.		APPROVED : P.S.		TITLE : VERTICAL REPORT	
CLIENT : M/S. Srinivas Engineering Pvt. Ltd. (India)		SAFETY CONSULTANT : S.K.A. / TASPIL		DESIGN : PRATEEK SRIVASTAVA		CHECKED : P.S.		APPROVED : P.S.		TITLE : VERTICAL REPORT	
DATE : DEC. 2022		REVISION : R0		DESIGN : PRATEEK SRIVASTAVA		CHECKED : P.S.		APPROVED : P.S.		TITLE : VERTICAL REPORT	

Vertical Alignment Report

SI No	PVI Station	Elevation (m)	Grade IN (%)	Grade Out (%)	Algebraic Diff	Curve type	Curve Length (m)	K Value	Speed km/hr
Right Side Alignment									
1	512+500.000	91.745		-0.059%					100
2	512+516.976	91.735	-0.059%	0.086%	0.145%				100
3	512+646.626	91.846	0.086%	-0.555%	0.640%	Crest	60	93.772	100
4	512+729.572	91.386	-0.555%	0.350%	0.904%	Sag	60	66.365	100
5	512+836.005	91.758	0.350%	0.019%	0.331%	Crest	60	181.420	100
6	512+949.465	91.779	0.019%	2.500%	2.482%	Sag	120	48.357	100
7	513+215.000	98.419	2.500%	-0.031%	2.531%	Crest	200	79.009	100
8	513+820.202	98.231	-0.031%	-2.500%	2.469%	Crest	200	80.995	100
9	514+081.283	91.703	-2.500%	-0.039%	2.461%	Sag	120	48.756	100
10	514+257.265	91.634	-0.039%	-0.088%	0.049%				100
11	514+365.427	91.539	-0.088%	0.278%	0.365%				100
12	514+516.705	91.959	0.278%	-0.018%	0.296%				100
13	514+950.000	91.88	-0.018%	-0.047%	0.029%				100
14	515+155.347	91.784	-0.047%	0.014%	0.061%				100
15	515+999.424	91.901	0.014%	-0.146%	0.160%				100
16	516+198.379	91.611	-0.146%	0.010%	0.156%				100
17	516+674.234	91.658	0.010%	1.781%	1.771%	Sag	100	56.462	100
18	516+856.238	94.899	1.781%	0.000%	1.781%	Crest	135	75.817	100
19	517+032.605	94.9	0.000%	-1.632%	1.632%	Crest	125	76.597	100
20	517+260.007	91.19	-1.632%	-0.057%	1.574%	Sag	120	76.226	100
21	517+599.999	90.995	-0.057%	0.071%	0.128%				100
22	517+698.449	91.065	0.071%	-0.180%	0.251%				100
23	517+799.999	90.882	-0.180%	-0.175%	0.006%				100
24	517+913.085	90.685	-0.175%	0.059%	0.234%	Sag	60	256.517	100
25	517+994.512	90.733	0.059%	-0.014%	0.073%				100
26	518+081.390	90.721	-0.014%	0.102%	0.116%				100
27	518+159.999	90.801	0.102%	0.062%	0.039%				100
28	518+252.955	90.859	0.062%	0.269%	0.206%				100
29	518+353.025	91.128	0.269%	-0.179%	0.448%				100
30	518+501.938	90.861	-0.179%	0.197%	0.376%	Sag	60	159.391	100
31	518+590.454	91.036	0.197%	0.060%	0.137%	Crest	60	437.345	100
32	518+667.117	91.082	0.060%	0.352%	0.292%	Sag	60	205.691	100
33	518+773.069	91.455	0.352%	-0.589%	0.941%	Crest	60	63.785	100
34	518+858.970	90.949	-0.589%	0.011%	0.599%	Sag	60	100.093	100
35	519+014.386	90.965	0.011%	0.202%	0.192%	Sag	120	625.377	100
36	519+149.990	91.24	0.202%	0.000%	0.202%				100
37	519+311.242	91.24	0.000%	0.437%	0.437%				100
38	519+420.910	91.719	0.437%	-0.258%	0.694%	Crest	60	86.415	100
39	519+564.609	91.349	-0.258%	0.339%	0.597%				100
40	519+789.465	92.112	0.339%	-0.133%	0.472%				100
41	519+965.796	91.878	-0.133%	0.077%	0.209%				100
42	520+076.709	91.963	0.077%	0.183%	0.106%				100
43	520+243.601	92.268	0.183%	-0.092%	0.275%	Crest	60	218.289	100
44	520+397.437	92.126	-0.092%	-0.727%	0.635%	Crest	150	236.310	100
45	520+564.093	90.914	-0.727%	0.325%	1.052%	Sag	100	95.013	100
46	520+782.585	91.625	0.325%	0.030%	0.295%	Crest	60	203.146	100



Vertical Alignment Report									
Sl No	PVI Station	Elevation (m)	Grade IN (%)	Grade Out (%)	Algebraic Diff	Curve type	Curve Length (m)	K Value	Speed km/hr
Right Side Alignment									
47	520+990.045	91.688	0.030%	-0.242%	0.272%				100
48	521+098.668	91.426	-0.242%	0.067%	0.309%	Sag	60	194.133	100
49	521+458.710	91.688	0.067%	-0.196%	0.263%	Crest	60	227.756	100
50	521+625.110	91.342	-0.196%	0.203%	0.399%				100
51	521+793.636	91.684	0.203%	1.688%	1.485%	Sag	80	53.872	100
52	521+909.945	93.648	1.688%	0.244%	1.444%	Crest	60	41.554	100
53	522+057.976	94.009	0.244%	-0.207%	0.452%	Crest	150	332.123	100
54	522+195.333	93.724	-0.207%	0.222%	0.429%				100
55	522+310.908	93.98	0.222%	0.450%	0.228%				100
56	522+412.032	94.435	0.450%	-0.194%	0.644%	Crest	60	93.120	100
57	522+510.263	94.244	-0.194%	-0.024%	0.171%				100
58	522+931.573	94.144	-0.024%	2.247%	2.271%	Sag	150	66.046	100
59	523+158.749	99.25	2.247%	0.000%	2.247%	Crest	80	35.596	80
60	523+386.474	99.25	0.000%	-1.995%	1.996%	Crest	70	35.079	80
61	523+633.336	94.324	-1.995%	-0.265%	1.731%	Sag	180	104.010	100
62	523+940.190	93.511	-0.265%	0.123%	0.388%				100
63	524+112.857	93.723	0.123%	-0.159%	0.282%				100
64	524+387.310	93.286	-0.159%	-0.438%	0.279%				100
65	524+506.555	92.764	-0.438%	0.216%	0.654%	Sag	60	91.686	100
66	524+609.861	92.987	0.216%	-0.166%	0.383%				100
67	524+789.576	92.688	-0.166%	0.308%	0.474%				100
68	524+977.365	93.266	0.308%	-0.012%	0.320%				100
69	525+090.000	93.252	-0.012%						100

Vertical Alignment Report									
Sl No	PVI Station	Elevation (m)	Grade IN (%)	Grade Out (%)	Algebraic Diff	Curve type	Curve Length (m)	K Value	Speed km/hr
Right Side Alignment									
47	520+990.045	91.688	0.030%	-0.242%	0.272%				100
48	521+098.668	91.426	-0.242%	0.067%	0.309%	Sag	60	194.133	100
49	521+458.710	91.688	0.067%	-0.196%	0.263%	Crest	60	227.756	100
50	521+625.110	91.342	-0.196%	0.203%	0.399%				100
51	521+793.636	91.684	0.203%	1.688%	1.485%	Sag	80	53.872	100
52	521+909.945	93.648	1.688%	0.244%	1.444%	Crest	60	41.554	100
53	522+057.976	94.009	0.244%	-0.207%	0.452%	Crest	150	332.123	100
54	522+195.333	93.724	-0.207%	0.222%	0.429%				100
55	522+310.908	93.98	0.222%	0.450%	0.228%				100
56	522+412.032	94.435	0.450%	-0.194%	0.644%	Crest	60	93.120	100
57	522+510.263	94.244	-0.194%	-0.024%	0.171%				100
58	522+931.573	94.144	-0.024%	2.247%	2.271%	Sag	150	66.046	100
59	523+158.749	99.25	2.247%	0.000%	2.247%	Crest	80	35.596	80
60	523+386.474	99.25	0.000%	-1.995%	1.996%	Crest	70	35.079	80
61	523+633.336	94.324	-1.995%	-0.265%	1.731%	Sag	180	104.010	100
62	523+940.190	93.511	-0.265%	0.123%	0.388%				100
63	524+112.857	93.723	0.123%	-0.159%	0.282%				100
64	524+387.310	93.286	-0.159%	-0.438%	0.279%				100
65	524+506.555	92.764	-0.438%	0.216%	0.654%	Sag	60	91.686	100
66	524+609.861	92.987	0.216%	-0.166%	0.383%				100
67	524+789.576	92.688	-0.166%	0.308%	0.474%				100
68	524+977.365	93.266	0.308%	-0.012%	0.320%				100
69	525+090.000	93.252	-0.012%						100



CLIENT:	PROJECT :	CONTRACTOR :	DESIGN DIRECTOR :	PRINCIPAL CONSULTANT :	SAFETY CONSULTANT :	SCALE :	NTS
	FOUR LANE OF JIANHU TO DEMON SECTION FROM KM. 48+000 TO 59+250 (DESIGN NO. 48+000 TO KM. 53+400) OF NH-37 IN THE STATE OF ASSAM UNDER	 M.C. VASANT ENGINEERS	 Pratikash Sanyal	 			
DWG. NO. N-HDQ/KS/JA/VERT/4A-SH-3	DATE : DEC. 2022	REVISION: NO.	TITLE: VERTICAL REPORT	APPROVED	CHECKED	DESIGNED	PREPARED
				P.S.	P.S.	C.B.	M.B.

TCS Schedule						
SI No	From	To	Length	TCS Type	Median Width	Description
1	525+000	526+720	1720	TCS-1B	5	4 Lane Carriageway without Service Road LHS Widening
2	526+720	526+820	100	TCS-1A	5	4 Lane Carriageway without Service Road Concentric Widening
3	526+820	526+910	90	TCS-1C	5	4 Lane Carriageway without Service Road RHS Widening
4	526+910	527+500	590	TCS-3	5	4 Lane Carriageway New Construction
5	527+500	530+950	3450	TCS-1C	5	4 Lane Carriageway without Service Road RHS Widening
6	530+950	531+000	50	TCS-1A	5	4 Lane Carriageway without Service Road Concentric Widening
7	531+000	532+900	1900	TCS-1B	5	4 Lane Carriageway without Service Road LHS Widening
8	532+900	533+240	340	TCS-2B1	3	4 Lane Carriageway with Service Road Both Side LHS Widening
9	533+240	534+010	770	TCS-7A	3	4 Lane Carriageway at VUP/PUP approaches with Service Road Both Side
10	534+010	534+370	360	TCS-2A1	3	4 Lane Carriageway with Service Road Both Side Concentric Widening
11	534+370	534+810	440	TCS-2B	3	4 Lane Carriageway with Service Road Both Side LHS Widening



DRC. NO. NHDD/MS/JA/TCS Schedule/SA
 DATE: DEC. 2022
 REVISION: R0

APPROVED
 CHECKED
 DESIGNED
 PREPARED

SCALE: NTS
 AUTHORITY NUMBER:



SAFETY CONSULTANT:



PROJ. CONSULTANT:

DESIGN DIRECTOR:

CONTRACTOR:

PROJECT: FOUR LANE OF JALPAIGUJI TO
 GEDOWN SECTION FROM KM.
 481+000 TO 534+010 (DESIGN NO.
 480+000 TO KM. 534+010) OF NH-37

DESIGN:

Horizontal Alignment Report

HPI/Curve No.	HPI		Deflection	Element	Start			End			Length	Radius	Speed Km/hr	Se	We	Hand Of Arc
	Easting	Northing			Chainage	Easting	Northing	Chainage	Easting	Northing						
1	667374.86	2995215.067	02° 29' 55.0879"	Straight	525+000.000	667272.298	2994984.853	525+174.608	667343.354	2995144.349	174.608					
				Arc	525+174.608	667343.354	2995144.349	525+329.421	667409.419	2995284.345	154.813	3550	100	NR		RIGHT
2	667506.606	2995479.171	01° 53' 32.2577"	Straight	525+329.421	667409.419	2995284.345	525+509.984	667490.019	2995445.92	180.563					
				Arc	525+509.984	667490.019	2995445.92	525+584.294	667522.086	2995512.951	74.310	2250	100	NR		LEFT
3	667703.654	2995897.525	04° 27' 23.4697"	Straight	525+584.294	667522.086	2995512.951	525+895.266	667651.634	2995795.653	310.971					
				Transition	525+895.266	667651.634	2995795.653	525+990.266	667693.908	2995880.687	95.000					
4	668117.166	2996398.541	01° 34' 21.3489"	Arc	525+990.266	667693.908	2995880.687	526+029.156	667714.679	2995913.554	38.890	500	100	5.00%		RIGHT
				Transition	526+029.156	667714.679	2995913.554	526+124.156	667773.336	2995988.234	95.000					
5	668257.092	2996565.269	02° 29' 02.1734"	Straight	526+124.156	667773.336	2995988.234	526+590.858	668073.092	2996345.945	466.702					
				Arc	526+590.858	668073.092	2996345.945	526+728.093	668159.781	2996452.327	137.235	5000	100	NR		LEFT
6	668497.208	2996750.511	22° 47' 14.0659"	Straight	526+728.093	668159.781	2996452.327	526+867.559	668250.109	2996558.456	115.000					
				Transition	526+867.559	668250.109	2996558.456	526+887.068	668356.233	2996640.809	42.428					
7	668605.897	2997027.71	10° 29' 33.6981"	Straight	526+887.068	668356.233	2996640.809	527+002.068	668451.195	2996709.761	75.000					
				Transition	527+002.068	668451.195	2996709.761	527+044.496	668523.847	2996805.901	121.302	305	80	7.00%		LEFT
8	668798.11	2997286.805	04° 04' 10.7069"	Arc	527+044.496	668523.847	2996805.901	527+119.496	668658.026	2997103.145	145.468					
				Transition	527+119.496	668658.026	2997103.145	527+240.798	668745.592	2997219.305	50.000					
9	669069.572	2997570.334	00° 07' 33.7141"	Straight	527+240.798	668745.592	2997219.305	527+315.798	668822.119	2997312.995	71.029	1000	100	4.40%		RIGHT
				Transition	527+315.798	668822.119	2997312.995	527+385.694	668911.531	2997349.282	50.000					
10	669214.719	2997720.266	00° 45' 50.5162"	Arc	527+385.694	668911.531	2997349.282	527+440.694	669061.94	2997562.415	296.015					
				Transition	527+440.694	669061.94	2997562.415	527+513.947	669191.531	2997696.314	164.343					
11	669474.198	2997985.551	11° 58' 01.6185"	Straight	527+513.947	669191.531	2997696.314	528+034.472	669367.222	2997873.651	66.674	5000	100	NR		RIGHT
				Transition	528+034.472	669367.222	2997873.651	528+181.458	669402.178	2997909.399	50.000					
12	669638.453	2998263.941	01° 26' 08.6433"	Arc	528+181.458	669402.178	2997909.399	528+203.455	669528.862	2998074.982	208.866					
				Transition	528+203.455	669528.862	2998074.982	528+245.890	669616.524	2998118.071	50.000					
13	669695.24	2998368.237	01° 03' 39.2037"	Straight	528+245.890	669616.524	2998118.071	528+266.431	669659.424	2998302.457	87.704	3500	100	NR		LEFT
				Transition	528+266.431	669659.424	2998302.457	529+050.885	669711.259	2998339.778	42.495					
14	669895.157	2998719.753	01° 18' 40.8860"	Arc	529+050.885	669711.259	2998339.778	529+138.589	669773.336	2998396.404	64.806					
				Transition	529+138.589	669773.336	2998396.404	529+181.084	669822.119	2998471.348	346.808					
15	669932.972	2998782.838	01° 40' 00.5234"	Straight	529+181.084	669822.119	2998471.348	529+245.890	669882.711	2998697.868	50.353	2200	100	NR		RIGHT
				Transition	529+245.890	669882.711	2998697.868	529+266.431	669916.519	2998755.389	16.370					
16	670122.592	2999119.204	05° 13' 11.8232"	Straight	529+266.431	669916.519	2998755.389	529+315.798	670071.232	2999029.489	250.756					
				Transition	529+315.798	670071.232	2999029.489	530+009.178	670088.465	2999059.953	35.000	1500	100	3.00%		RIGHT

MINISTRY OF TRANSPORT AND INFRASTRUCTURE
GOVERNMENT OF INDIA

PROJECT : FOUR LANE OF AHILAI TO DEWANI SECTION FROM KM. 48+400 TO 53+250 (JODKHA NAL. 48+400 TO KM. 53+250) OF NH-37

CONTRACTOR :

DESIGN :

SAFETY CONSULTANT :

PROOF CONSULTANT :

SCALE : NTS

DATE : DEC. 2022

APPROVED :

CHECKED :

DESIGNED :

PREPARED :

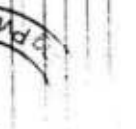
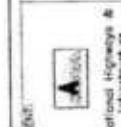
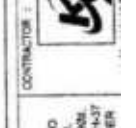
DRG. NO. N-HICOL/MS/MA/106/7A (SP-1)

REVISION : R0

Horizontal Alignment Report

HIP/Curve No.	HIP		Deflection	Element	Start			End			Radius	Speed Km/hr	Se	We	Hand Of Arc
	Easting	Northing			Chainage	Easting	Northing	Chainage	Easting	Northing					
17	670454.95	2999581.123	00° 04' 39.1643"	Transition	530+145.836	670161.968	2999175.104	530+180.836	670182.346	2999203.56					
				Straight	530+180.836	670182.346	2999203.56	530+639.758	670450.988	2999575.636					
				Arc	530+639.758	670450.988	2999575.636	530+653.292	670458.904	2999586.615	10000	100	NR		LEFT
				Straight	530+653.292	670458.904	2999586.615	530+786.902	670536.969	2999695.046					
18	670578.986	2999753.407	04° 07' 06.8480"	Arc	530+786.902	670536.969	2999695.046	530+930.667	670616.704	2999814.636	2000	100	NR		LEFT
				Straight	530+930.667	670616.704	2999814.636	531+006.666	670656.564	2999879.343					
				Arc	531+006.666	670656.564	2999879.343	531+159.479	670741.602	3000006.265	2000	100	NR		RIGHT
				Straight	531+159.479	670741.602	3000006.265	531+380.151	670871.345	3000184.766					
19	670696.658	2999944.429	04° 22' 40.0423"	Arc	531+380.151	670871.345	3000184.766	531+417.161	670892.994	3000214.784	5000	100	NR		LEFT
				Straight	531+417.161	670892.994	3000214.784	531+467.057	670922.031	3000255.361					
				Arc	531+467.057	670922.031	3000255.361	531+546.013	670967.469	3000319.93	5000	100	NR		LEFT
				Straight	531+546.013	670967.469	3000319.93	531+896.235	671166.755	3000607.925					
20	670882.225	3000199.735	00° 25' 26.7749"	Transition	531+896.235	671166.755	3000607.925	531+956.235	671201.498	3000850.527	815	100	5.00%		RIGHT
				Arc	531+956.235	671201.498	3000850.527	532+240.540	671407.647	3000882.156					
				Transition	532+240.540	671407.647	3000882.156	532+310.154	671466.86	3000913.315	1000	100	4.40%		LEFT
				Straight	532+310.154	671466.86	3000913.315	532+440.896	671509.45	3000990.319					
21	671287.507	3000771.845	19° 59' 13.3585"	Arc	532+440.896	671509.45	3000990.319	532+595.802	671696.675	3001056.176					
				Transition	532+595.802	671696.675	3001056.176	532+852.233	671894.062	3001219.866					
				Straight	532+852.233	671894.062	3001219.866	533+263.838	672213.864	3001478.99	5000	100	NR		RIGHT
				Arc	533+263.838	672213.864	3001478.99	533+358.838	672285.773	3001541.013					
22	671543.5	3000935.045	04° 37' 34.1867"	Transition	533+358.838	672285.773	3001541.013	533+466.137	672356.194	3001664.306					
				Arc	533+466.137	672356.194	3001664.306	533+520.534	672454.152	3001734.383					
				Transition	533+520.534	672454.152	3001734.383	533+683.305	672601.483	3001799.443	250	80	7.00%	0.6	RIGHT
				Straight	533+683.305	672601.483	3001799.443	533+778.305	672615.685	3001802.973					
23	671675.212	3001038.377	01° 03' 54.0153"	Transition	533+778.305	672615.685	3001802.973	533+880.405	672701.004	3001884.266	2000	100	NR		RIGHT
				Arc	533+880.405	672701.004	3001884.266	534+193.052	673007.428	3001896.992					
				Transition	534+193.052	673007.428	3001896.992	534+260.960	673074.133	3001958.617	3000	100	NR		RIGHT
				Straight	534+260.960	673074.133	3001958.617	534+610.571	673418.268	3001967.104					
24	671917.719	3001239.485	01° 24' 33.6393"	Arc	534+610.571	673418.268	3001967.104	534+655.854	673462.749	3001986.021					
				Transition	534+655.854	673462.749	3001986.021	534+751.150	673556.148	3002007.809					
				Straight	534+751.150	673556.148	3002007.809	534+846.150	673648.577	3002031.863	500	100	5.00%		LEFT
				Arc	534+846.150	673648.577	3002031.863	535+009.001	673711.965	3002076.879					
25	672290.166	3001545.316	15° 31' 54.9728"	Transition	535+009.001	673711.965	3002076.879	535+010.025	673796.465	3002077.393					
				Arc	535+010.025	673796.465	3002077.393	535+085.025	673862.808	3002112.26					
				Transition	535+085.025	673862.808	3002112.26	535+177.066	673951.704	3002134.687	300	80	7.00%	0.6	RIGHT
				Straight	535+177.066	673951.704	3002134.687	535+252.066	674026.648	3002135.466					
26	672480.127	3001756.468	02° 30' 20.5624"	Transition	535+252.066	674026.648	3002135.466	535+358.838	674185.257	3002130.506					
				Arc	535+358.838	674185.257	3002130.506	535+410.753	674285.773	3002154.013					
				Transition	535+410.753	674285.773	3002154.013	535+466.137	674356.194	3002162.877					
				Straight	535+466.137	674356.194	3002162.877	535+520.534	674454.152	3002173.483					
27	672658.134	3001813.521	01° 17' 49.0659"	Transition	535+520.534	674454.152	3002173.483	535+610.571	674536.969	3002184.766					
				Arc	535+610.571	674536.969	3002184.766	535+683.305	674601.483	3002199.443					
				Transition	535+683.305	674601.483	3002199.443	535+778.305	674615.685	3002207.809					
				Straight	535+778.305	674615.685	3002207.809	535+846.150	674648.577	3002212.26					
28	673040.708	3001891.006	01° 17' 50.2368"	Transition	535+846.150	674648.577	3002212.26	535+914.001	674711.965	3002231.863					
				Arc	535+914.001	674711.965	3002231.863	535+959.001	674796.465	3002276.879					
				Transition	535+959.001	674796.465	3002276.879	535+1010.025	674862.808	3002312.26					
				Straight	535+1010.025	674862.808	3002312.26	535+1085.025	674931.704	3002346.687					
29	673440.557	3001962.609	07° 46' 30.3570"	Transition	535+1085.025	674931.704	3002346.687	535+1177.066	675006.648	3002352.066					
				Arc	535+1177.066	675006.648	3002352.066	535+1252.066	675081.704	3002367.104					
				Transition	535+1252.066	675081.704	3002367.104	535+1327.066	675156.749	3002382.156					
				Straight	535+1327.066	675156.749	3002382.156	535+1402.066	675231.793	3002397.207					
30	673681.088	3002017.682	17° 34' 43.1699"	Transition	535+1402.066	675231.793	3002397.207	535+1477.066	675306.838	3002412.26					
				Arc	535+1477.066	675306.838	3002412.26	535+1552.066	675381.882	3002427.316					
				Transition	535+1552.066	675381.882	3002427.316	535+1627.066	675456.926	3002442.366					
				Straight	535+1627.066	675456.926	3002442.366	535+1702.066	675531.970	3002457.416					
31	673905.522	3002130.346		Transition	535+1702.066	675531.970	3002457.416	535+1777.066	675606.964	3002472.466					
				Arc	535+1777.066	675606.964	3002472.466	535+1852.066	675681.908	3002487.516					
				Transition	535+1852.066	675681.908	3002487.516	535+1927.066	675756.952	3002502.566					
				Straight	535+1927.066	675756.952	3002502.566	535+2002.066	675831.996	3002517.616					
32	674185.257	3002517.616		Transition	535+2002.066	675831.996	3002517.616	535+2077.066	675906.940	3002532.666					
				Arc	535+2077.066	675906.940	3002532.666	535+2152.066	675981.984	3002547.716					
				Transition	535+2152.066	675981.984	3002547.716	535+2227.066	676056.928	3002562.766					
				Straight	535+2227.066	676056.928	3002562.766	535+2302.066	676131.972	3002577.816					

Signature of Engineer
M. S. Harila



DRG. NO. NH/CL/MS/JA/HOR/7A (SH-2)
DATE: DEC. 2

Vertical Alignment Report									
Sl No	PVI Station	Elevation (m)	Grade IN (%)	Grade Out (%)	Algebraic Diff	Curve type	Curve Length (m)	K Value	Speed km/hr
Left Side Alignment									
1	525+000.000	92.968	0.414%	0.414%					100
2	525+069.649	93.256	0.414%	-0.011%	0.425%				100
3	525+615.922	93.196	-0.011%	-0.495%	0.484%	Crest	60	123.904	100
4	525+772.293	92.421	-0.495%	0.499%	0.994%	Sag	160	160.941	100
5	526+010.900	93.612	0.499%	-0.252%	0.751%				100
6	526+149.650	93.262	-0.252%	0.133%	0.385%				100
7	526+277.907	93.433	0.133%	-0.219%	0.352%				100
8	526+413.309	93.137	-0.219%	0.202%	0.420%				100
9	526+568.135	93.449	0.202%	-0.029%	0.231%				100
10	526+787.000	93.385	-0.029%	0.136%	0.165%				100
11	526+965.000	93.672	0.136%	-0.149%	0.285%				100
12	527+288.720	93.146	-0.149%	0.204%	0.352%				100
13	527+436.118	93.446	0.204%	0.135%	0.069%				100
14	527+654.473	93.740	0.135%	-0.612%	0.747%	Crest	70	93.754	100
15	527+767.728	93.047	-0.612%	0.905%	1.517%	Sag	65	42.844	100
16	527+844.061	93.738	0.905%	0.425%	0.480%	Crest	60	125.030	100
17	528+061.058	94.661	0.425%	-0.093%	0.518%				100
18	528+209.799	94.523	-0.093%	-0.455%	0.362%	Crest	60	165.530	100
19	528+355.000	93.862	-0.455%	0.346%	0.801%	Sag	60	74.865	100
20	528+538.171	94.497	0.346%	-0.255%	0.601%	Crest	60	99.796	100
21	528+710.463	94.058	-0.255%	0.339%	0.594%	Sag	60	101.002	100
22	529+005.329	95.058	0.339%	-0.219%	0.558%	Crest	100	179.292	100
23	529+186.093	94.663	-0.219%	-0.041%	0.178%	Sag	60	337.899	100
24	529+292.690	94.619	-0.041%	-0.912%	0.871%	Crest	60	68.879	100
25	529+439.419	93.280	-0.912%	0.852%	1.764%	Sag	100	56.682	100
26	529+565.100	94.351	0.852%	-0.185%	1.037%	Crest	100	96.435	100
27	529+693.236	94.115	-0.185%	0.193%	0.378%	Sag	60	158.614	100
28	529+901.301	94.517	0.193%	-0.193%	0.387%				100
29	530+046.665	94.236	-0.193%	-0.037%	0.156%				100
30	530+264.595	94.155	-0.037%	-0.567%	0.530%	Crest	60	113.252	100
31	530+392.625	93.429	-0.567%	0.026%	0.593%	Sag	100	168.508	100
32	530+877.982	93.557	0.026%	-0.112%	0.138%				100
33	531+058.733	93.355	-0.112%	0.079%	0.191%				100
34	531+341.905	93.579	0.079%	-0.049%	0.128%				100
35	531+564.999	93.469	-0.049%	-0.095%	0.046%				100
36	531898.010	93.152	-0.095%	0.259%	0.354%				100
37	532+056.326	93.562	0.259%	-0.065%	0.324%				80
38	532+559.999	93.234	-0.065%	0.123%	0.188%				80
39	533+021.598	93.800	0.123%	0.083%	0.039%	Sag	120	49.664	100
40	533+286.960	94.021	0.083%	2.500%	2.416%	Crest	370	74.013	100
41	533+654.269	103.202	2.500%	-2.500%	4.999%	Sag	120	54.502	100
42	534+022.599	93.995	-2.500%	0.324%	2.202%	Sag	120	192.840	100
43	534+189.999	93.497	0.324%	-0.042%	0.622%	Sag	120		100
44	534+426.256	94.263	-0.042%	0.380%	0.366%				100
45	534+586.194	94.196	0.380%	0.000%	0.422%				100
46	534+740.784	94.783	0.000%		0.380%				100
47	535+345.096	94.780							100



CLIENT	PROJECT	DESIGN DIRECTOR	PRICE CONSULTANT	SAFETY CONSULTANT	APPROVED	CHECKED	DESIGNED	PREPARED	DATE	REVISION
	FOUR LANE OF JHARKH TO DEMON SECTION FROM KM. 481+000 TO 535+250 (DRIVEN RM. 480+000 TO KM. 534+500) OF NH-27								08.01.2022	01

SCALE: NTS

DWG. NO. NHCL/NS/JA/ART/SA Sh-1
DATE: 08.01.2022
REVISION: 01

Vertical Alignment Report									
SI No	PVI Station	Elevation (m)	Grade IN (%)	Grade Out (%)	Algebraic Diff	Curve type	Curve Length (m)	K Value	Speed km/hr
Right Side Alignment									
1	525+000.000	93.263	-0.011%	-0.011%	0.120%				100
2	525+577.240	93.200	-0.011%	0.109%	0.205%				100
3	525+699.005	93.333	-0.096%	0.391%	0.487%				100
4	525+798.459	93.238	-0.096%	0.391%	0.537%				80
5	525+906.527	93.661	-0.145%	0.213%	0.358%				100
6	526+130.521	93.336	-0.145%	0.213%	0.583%				80
7	526+290.777	93.677	-0.370%	0.182%	0.552%	Sag	80	144.907	100
8	526+384.521	93.330	-0.182%	-0.125%	0.307%				100
9	526+568.296	93.664	-0.125%	0.140%	0.265%				100
10	526+792.739	93.384	-0.140%	0.245%	0.399%				100
11	526+970.993	93.634	-0.154%	0.003%	0.242%				100
12	527+289.726	93.142	-0.154%	0.248%	0.245%				100
13	527+402.040	93.417	0.003%	-0.092%	0.142%				100
14	527+692.276	93.426	0.248%	0.321%	0.179%				100
15	528+029.114	94.260	0.248%	-0.327%	0.649%	Crest	80	235.860	100
16	528+459.416	93.866	-0.092%	0.142%	0.234%				100
17	528+732.414	94.255	0.142%	-0.061%	0.266%				100
18	528+994.679	95.098	-0.327%	0.325%	0.387%				100
19	529+426.835	93.683	-0.061%	0.068%	0.258%				100
20	529+740.523	93.491	0.325%	-0.131%	0.199%				100
21	529+896.911	94.000	0.068%	-0.307%	0.176%				100
22	530+001.559	94.071	-0.131%	-0.390%	0.083%				100
23	530+132.920	93.899	-0.307%	0.286%	0.676%				100
24	530+306.798	93.366	-0.390%	0.017%	0.269%				100
25	530+467.482	92.740	0.286%	0.088%	0.071%	Sag	135	199.700	100
26	530+688.436	93.373	0.017%	0.000%	0.088%				100
27	530+993.360	93.426	0.088%	0.280%	0.437%				100
28	531+099.936	93.520	0.000%	-0.157%	0.068%				100
29	531+254.995	93.520	0.280%	-0.089%	0.379%				100
30	531+388.061	93.893	-0.157%	0.290%	0.785%				100
31	531+565.000	93.616	-0.089%	-0.494%	0.686%				100
32	531+659.831	93.532	-0.089%	-0.279%	0.470%				100
33	531+800.813	93.941	0.290%	0.150%	0.429%	Crest	65	82.835	100
34	531+882.509	93.538	-0.494%	-0.264%	0.414%	Sag	60	87.473	100
35	532+009.670	93.781	0.192%	-0.279%	0.557%	Crest	60	127.533	100
36	532+120.899	93.471	-0.279%	0.293%	0.322%				100
37	532+227.845	93.632	0.150%	-0.029%	0.154%				100
38	532+427.457	93.105	-0.264%	0.124%	0.041%				100
39	532+620.000	93.669	0.293%	0.083%	2.416%				100
40	532+854.097	93.600	-0.029%	0.124%	4.999%				100
41	533+002.073	93.784	0.124%	0.083%	2.190%				100
42	533+280.960	94.016	0.083%	2.500%	0.625%	Sag	120	49.660	100
43	533+648.666	103.207	2.500%	-2.500%	0.353%	Crest	370	74.012	100
44	534+016.879	94.003	-2.500%	-0.309%	0.316%	Sag	120	54.785	100
45	534+179.914	93.499	-0.309%	-0.037%		Sag	120	191.905	100
46	534+422.576	94.266	0.316%						100



PROJECT :	CLIENT :	DESIGN :	CONTRACTOR :	SAFETY CONSULTANT :	APPROVED :	CHECKED :	DESIGNED :	PREPARED :	DATE :	DRG. NO. :	TITLE :
FOUR LANE OF JHARKHAND ROADWAY SECTION FROM KM 48+000 TO 54+000 (JHARKHAND) 48+000 TO 54+000 (JHARKHAND) IN THE STATE OF JHARKHAND	M/s Shiva Harilaka (Pvt) Ltd.	MS	MS	SKA	NTS				DEC. 2022	NHIDCL/MS/UN/VERT/BA SP-2	VERTICAL REPORT

Vertical Alignment Report									
SI No	PVI Station	Elevation (m)	Grade IN (%)	Grade Out (%)	Algebraic Diff	Curve type	Curve Length (m)	K Value	Speed km/hr
Right Side Alignment									
47	534+640.639	94.186	-0.037%	0.496%	0.532%	Sag	150	281.765	100
48	534+761.485	94.785	0.496%	-0.001%	0.497%	Crest	60	120.839	100
49	535+345.000	94.780	-0.001%						



PROJECT :	FOUR LANES OF BARRAGE TO CONNECTION FROM KM 481+000 TO 538+000 (DESIGN KM 481+000 TO 538+000) (DESIGN KM 481+000 TO 538+000) (DESIGN KM 481+000 TO 538+000)	CONTRACTOR :		DESIGN DIRECTOR :		PROF. ENGINEER :		SAFETY CONSULTANT :		ALPHABETIC ENGINEER :		NTS	DRC. NO. H400L/NS/JA/AERT/BA SH-3
DATE :	DEC. 2022	APPROVED :		CHECKED :		DESIGNED :		PREPARED :		REVISION :	RD		