TABLE OF DIMENSIONS FOR ABUTMENT

<table>
<thead>
<tr>
<th>Effective Span</th>
<th>8 M AND 5 M</th>
<th>3 M, 2 M, 1.5 M, AND 1 M</th>
<th>3.6 M and 4 M</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.6 M</td>
<td>2.1 M</td>
<td>2.6 M</td>
</tr>
<tr>
<td>b1</td>
<td>0.89</td>
<td>0.89</td>
<td>0.89</td>
</tr>
<tr>
<td>b2</td>
<td>0.89</td>
<td>0.89</td>
<td>0.89</td>
</tr>
<tr>
<td>b3</td>
<td>0.89</td>
<td>0.89</td>
<td>0.89</td>
</tr>
<tr>
<td>b4</td>
<td>0.89</td>
<td>0.89</td>
<td>0.89</td>
</tr>
<tr>
<td>B1</td>
<td>0.89</td>
<td>0.89</td>
<td>0.89</td>
</tr>
<tr>
<td>B2</td>
<td>0.89</td>
<td>0.89</td>
<td>0.89</td>
</tr>
</tbody>
</table>

NOTES:-

1. ABUTMENT AND WING WALL SECTION ARE APPLICABLE FOR A MINIMUM BEARING CAPACITY OF THE SOIL OF 16.1 T/M2. FOR SOILS HAVING LOWER BEARING CAPACITY THE SECTION SHOULD BE INCREASED SUITABLY.

2. ABUTMENT AND WING WALL SECTION FOR INTERMEDIATE HEIGHT TO BE ADOPTED SUITABLY.

3. THE VARIOUS DIMENSIONS TO BE SUITABLY ADJUSTED TO SUIT THE SIZE OF BRICKS WHERE NECESSARY.

4. THE SECTION ARE APPLICABLE FOR CULVERTS DESIGNED FOR IRC CLASS 70 R OR 2 LANES OF CLASS A LOADING, WHICHEVER IS SEVERER, WITHOUT PROVISION OF APPROACH SLABS.

5. THESE SECTIONS ARE NOT APPLICABLE TO SESMIC ZONE IV AND V.


FOR STRUCTURE DETAIL REF STD, DRG, OR RCC SOLID SLAB

M/s Lies Engineering Consultants, Bhagpur,

National Highways Infrastructure Development Corporation Limited (NHIDCL)

Consultancy Services for Preparation of Feasibility Study and Detailed Project Report for Two Lane With Paved Shoulders of Manu - Simtug Section of NH-44A (86 Kms) in The State of Tripura on EPC Mode.

PACKAGE-1

MANU-LALCHERA-CHALENGTA SECTION OF NH-44A
SECTIONAL ELEVATION AT XX

<table>
<thead>
<tr>
<th>GROUND LVL. IN METERS</th>
<th>62.092</th>
<th>61.372</th>
<th>60.351</th>
<th>59.811</th>
<th>59.171</th>
<th>58.646</th>
<th>58.237</th>
<th>56.639</th>
<th>56.159</th>
<th>55.771</th>
<th>55.401</th>
<th>54.807</th>
<th>53.213</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHANGE IN METERS</td>
<td>11.000</td>
<td>10.000</td>
<td>8.000</td>
<td>6.000</td>
<td>4.000</td>
<td>2.000</td>
<td>2.000</td>
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<td>2.000</td>
<td>2.000</td>
<td>2.000</td>
<td>2.000</td>
</tr>
</tbody>
</table>

SECTIONAL PLAN

TYP. DETAILS OF ABUTMENT

- FORMATION LVL.
  - R.L. 65.894 M
- SOFFIT LEVEL
  - R.L. 63.653 M
- ELASTOMERIC BEARING
  - R.C.C. CHAIR
  - R.C.C. ABT. CAP
- PILE CAP TOP LVL
  - R.L. 60.537 M
- PILE 75MM Dia
- FOUNDATION LVL.
  - R.L. 43.737 M

NOTES:
1. TYPES OF BRIDGE
2. LENGTH OF BRIDGE
3. OVER ALL WIDTH OF BRIDGE
4. CLEAR ROADWAY (CARRIAGE WAY)
5. DESIGN DISCHARGE
6. CATCHMENT AREA
7. DESIGN VELOCITY
8. FORMATION LEVEL
9. SOFFIT LEVEL
10. H.F.L.
11. LWL.
12. SCOUR LEVEL ABUTMENT
13. FOUNDATION LEVEL ABUTMENT
14. TYPE OF SUPER STRUCTURE
15. TYPE OF SUB STRUCTURE
   a) ABUTMENT
   b) PIER
16. WAY OF FOUNDATION
17. FOUNDING STRATA
18. TYPE OF BEARING
19. APPROACH SLAB
20. APPROACH SLAB
21. APPROACH SLAB
22. RAILING
23. WEARING COAT
24. EXPANSION JOINTS
25. SPECIFICATIONS
26. SAFETY BEARING CAPACITY
27. DESIGN LOADING
28. ALL DIMENSIONS IN MM.

MANU CHALINGTA - LALCHERA SECTION OF NH-44A

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ABUTMENT (SECTION @ Y-Y)

NOTES -
1. TYPE OF BRIDGE: HIGH LEVEL
2. SPAN ARRANGEMENT: 12.00 M (TOTAL LENGTH OF BRIDGE: 6.4 M)
3. OVERALL WIDTH (CARRIAGEWAY): 12.00 X 1.00 M
4. FOUNDATION LEVEL: 11.25 M
5. ROAD LEVEL: 11.25 M
6. I.F.: 11.00 M
7. LOWEST WATER LEVEL: Dry Season
8. FOUNDATION LEVEL FOR ABUTMENT & RETURN: 11.04 M
9. SOIL LEVEL FOR ABUTMENT: 11.04 M
10. GATEMENT AREA: 0.25 SQ.M.
11. DESIGN LOADS: 6.22 CUMBER
12. DESIGN LOADS: 2.08 MRC
13. TYPE OF FOUNDATION: OWN FOUNDATION
14. TYPE OF SUPER STRUCTURE: R.C.C. BOX BEAMS (AS SHOWN) AS PER M.O.S.T. STANDARD
15. TYPE OF SUB STRUCTURE: BOX TYPE ABUTMENT (65-35)
16. TYPE OF CRASH BARRIER: R.C.C. NO.
17. STEEL SHOULDER: AS PER M.O.S.T. STANDARD
18. TYPE OF BEARING: TAR PAPER BEARING
19. APPROACH SLAB: R.C.C. M:20
20. WEARING COAT: 20 MM CEMENT CONCRETE
21. EXPANSION joint: AS PER RELEVANT CLAUSES OF SECTION - 2020
22. DESIGN LOADS: ONE LANE OF U.B.C. CLASS X, LOADING WITH ONE LANE OF U.B.C. CLASS X
23. IN EXPOSED FACES OF ABUTMENT AND RETURN 8 MM - HSNC (R.C.M) ENHANCEMENT @ 85 PAIR PROVIDED
24. MIN. 80 MM THICKET MATT BLANKETS SHALL BE PROVIDED BEHIND ABUTMENT & RETURNS ABOVE CL.
25. 100 B.WILL HOLES WITH A CASE @ 12 M G/C VERTICALLY STAGGERED SHALL BE PROVIDED ABOVE CL.
26. DESIGN BLOCK 35 TON (16'
27. ALL DIMENSIONS ARE IN MILL AND R.F., IN METER UNLESS OTHERWISE SPECIFIED.
**Notes:**

1. **Type of Bridge:** H.D.G Level.
2. **Span Arrangement:** 1.2 x 1 M (Total Length of Bridge: 62 M).
3. **Over All Width:** Carriageway: 12000/11020 MNL.
4. **Formation Level:** 77,166 M.
5. **B.P. Level:** 74,275 M.
6. **H.P.:** 74,876 M.
7. **Lowest Water Level:** Dry Season.
8. **Foundation Level for Abutment & Return:** 73,655 M.
9. **Soil (L.V.) for Abutment:** 72,500 M.
10. **Catchment Area:** 12.52 b.w.a.
11. **Design Obs. Mass:** 19.02 b.w.a.
12. **Design of Structure:** 3.81 MNR.
13. **Type of Foundation:** Gravel Bearing Foundation.
14. **Type of Super Structure:** R.C.C. Slab (S.A.R. = 45/50) as per M.O.U.T. Standard.
15. **Type of Sub Structure:** R.C.C. Slab (S.A.R. = 45/50) Abutment Cap & Grill Wall (R.C.C. M.S).
16. **Type of Design:** 8 words, 10 words, 6 words, 12 words.
17. **Type of Bearing:** Tar Paper Bearing.
18. **Approach Slab:** R.C.C. M.S.
19. **Wearing Coat:** 25 mm cement concrete.
20. **Expansion Joint:** (Where Applicable) As per Relevant Clauses of Section - 2000.
21. **Design Loading:** 1 Lane of U.L.G. Class K, Loading with one Lane of U.L.G. Class K Loading on Two Lanes of R.C.C. Class K Loading whenever pole size produces severe effects.
22. **On Exposed Faces of Abutment and Return:** 6 MM H.P.S. (36.34 M) 12 M.
23. **Expansion Holes:** 12.0 M x 12.0 M Vertically staggered shall be provided above C.S.
24. **Design (B.D. 15 T.S.G. B.B.M.):**
25. **A.D. & M.:** 4.2 M x 12 M, 0.6 M x 12 M, 0.6 M x 12 M, 0.6 M x 12 M.

**General Arrangement Drawing**

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