Notes:

1. All the dimensions are in kilometers unless otherwise specified.
2. Reflective sheeting shall conform to ASTM D-4956-01, Type VII or Type IX.
3. Signs shall be erected as per drawing No. 400/WPCMP/PH-4/1/5-4/105/05.

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

M/s Lion Engineering Consultants, Bhopal
Plot No-57, "Lion Tower", Elegant Estate
Near Mother Teresa School, Kolar Road
Bhopal (M.P.)
SCHOOL
SPEED BUMP
GAP IN MEDIAN
NARROW BRIDGE
NARROW ROAD AHEAD
UNGUARDED RAILWAY CROSSING
200 METRES
50-100 METRES
200 METRES
50-100 METRES
UNGUARDED RAILWAY CROSSING
GUARDED RAILWAY CROSSING
EATING PLACE
PETROL PUMP
HAZARD BOARDS
Notes:
1. ALL THE DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. RETRO-REFLECTIVE SHEETING SHALL BE CONFORMING TO ASTM D-4959-01, TYPE VIII OR TYPE IX.
3. SIGNS SHALL BE ERECTED AS PER DRAWING NO. 408/AR/00/05
4. DRAWING NO.

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

M/s Lion Engineering Consultants, Bhopal
Plot No.97, "Lion Tower", Elegant Estates Near Malhari Town School, Kolar Road, Bhopal (M.P.)

NATIONAL HIGHWAYS INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (NHIDCL)

Package-1
MANU-LALCHERA-CHALENGTA SECTION OF NH-44A
Consultancy Services for Preparation of Feasibility Study and Detailed Project Report For Two Lane With Paved Shoulders of Manu – Simlung Section of NH-44A (86 Kms) In The State of Tripura on EPC Mode.

M/s Lion Engineering Consultants, Bhopal
Plot No-97, “Lion Tower”, Elegant Estate, Near Mother Teresa School, Kolar Road, Bhopal (M.P.)

NATIONAL HIGHWAYS INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (NHIDCL)

Consultant:

PACKAGE-1 
MANU-LALCHERA-CHALENTA SECTION OF NH-44A
NOTE:

1. All the dimensions are in millimeter unless otherwise specified.
2. Footing shall be in plain cement concrete of M20 grade.
4. Such weld shall be done using E6015 welding rods.
5. Welding shall be done by MIG welding.
6. Electrode used shall conform to IS:1153 specifications.
7. Foot-end in concrete footing shall be designed to serve the purpose of hold fast.
8. The chemical composition of electrode is the MS bar shield match.
9. Footings shall be removed before welding the diagonals of fillet weld.
10. Structural steel shall conform to IS:2062-1968.

Consultancy Services for Preparation of Feasibility Study and Detailed Project Report For Two lane With Paved Shoulders of Manu - Similung Section of NH-44A (86 Kms) In The State of Tripura on EPC Mode.
SECTION X-X
DETAIL B
KERB TRANSITION ON ISLANDS

SECTION Y-Y
DETAIL C
METHOD OF DEPRESSING CURBS ON ISLANDS

DETAIL A
KERB DROP ON MEDIAN ALONG MAIN CARRIAGEWAY
SCALE 1:50

DETAIL C
METHOD OF DEPRESSING CURBS ON ISLANDS
SCALE 1:50

KERB & FOOTPATH DETAILS
SCALE 1:50

NOTES:
1. THIS DETAIL SHALL BE USED ONLY WHEN THE POSTED SPEED LIMIT DOES NOT EXCEED 60 km/hr OR THE TERMINAL IS BEYOND THE CLEAR ZONE.

NOTES:
1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
2. CONCRETE GRADIENT SHALL BE W-20 UNLESS OTHERWISE SPECIFIED.

M/s Lion Engineering Consultants, Bhopal
Plot No 57, “Lion Tower”, Elegant Estate,
Near Mother Teresa School, Kolar Road,
Bhopal (M.P.)

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 – Simlung Section of NH-44A (86 Kms) In The State of Tripura on EPC Mode.

PACKAGE 1
MANU-LALCHERA-CHALENGTA
SECTION OF NH-44A
DETAILS OF DIAGONAL AND CHEVRON MARKING

RM-12 TYPICAL DETAIL FOR SPEED BREAKER
(Scale 1:100)

RM-13 STRAIGHT
(RM-14 LEFT
(Scale 1:20)
RM-15 RIGHT
(Scale 1:20)
RM-16 STRAIGHT & RIGHT
(RM-17 STRAIGHT & LEFT
(Scale 1:20)
RM-19 STRAIGHT & BOTH LEFT & RIGHT
(Scale 1:20)

ARROW MARKING FOR ROUTE DIRECTION

RM-22
RM-23
RM-24

DETAILS OF DIAGONAL AND CHEVRON MARKING

GENERAL NOTES:
1. Road markings shall be of hot applied thermoplastic materials with glass reflectorizing beads of type 2 as per clauses of Section 802 of Modern Specifications.

M/s Lion Engineering Consultants, Bhopal

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

PACKAGE-1 MANU-LALCHERA-CHALENGTA SECTION OF NH-44A
### TABLE FOR RECOMMENDED SPACING FOR ROADWAY DELINEATORS ON HORIZONTAL CURVES

<table>
<thead>
<tr>
<th>RADIUS OF CURVE (METERS)</th>
<th>SPACING ON CURVE, S (METERS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>300</td>
<td>25</td>
</tr>
<tr>
<td>400</td>
<td>30</td>
</tr>
<tr>
<td>500</td>
<td>35</td>
</tr>
<tr>
<td>600</td>
<td>38</td>
</tr>
<tr>
<td>700</td>
<td>42</td>
</tr>
<tr>
<td>800</td>
<td>45</td>
</tr>
<tr>
<td>900</td>
<td>48</td>
</tr>
<tr>
<td>1000</td>
<td>50</td>
</tr>
</tbody>
</table>

**Notes:**

1. ALL THE DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
2. ADJUST DISTANCE “S” SUITABLY SO THAT THE LAST ROADWAY DELINEATOR IS AT THE END OF THE CURVE.
3. INSTALL ALL DELINEATORS PERPENDICULAR TO THE ONCOMING TRAFFIC.
4. SEE TABLE FOR VALUE OF “S” i.e. SPACING OF DELINEATORS ON THE CURVE.
5. THE SPACING OF FIRST, SECOND & THIRD DELINEATORS ON THE APPROACHES SHALL BE 1.805, 3.5 & 6.5 RESPECTIVELY BUT NOT EXCEEDING 50mm.
6. INDICATORS SHALL BE DE CAST IN ALUMINIUM, RESISTANT TO CORROSIVE EFFECT OF SALT AND GRIT, FITTED WITH LENS REFLECTORS.
7. STEEL REINFORCEMENT SHALL BE OF M.S. 7x4 415 GRADE.

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**Details of Indicator**

- MATERIAL: RETRO-REFLECTIVE SHEETING IN ALTERNATE RED AND WHITE BANDS OF 40 MM THICK WIRE MESH
- SECTION A-A
- DETAILS:
  - FOUNDATION IN M15
  - EARTEN SHOULDER

---

**Consultancy Services for Preparation of Feasibility Study and Detailed Project Report For Two Lane With Paved Shoulders of Manu – Simlung Section of NH-44A (86 Kms) In The State of Tripura on EPC Mode.**
DETAILS OF CRASH BARRIER FOR DECK SLAB / RCC BOX

SCALE 1:25

SECTION FOR
CRASH BARRIER
(REINFORCEMENT ONLY)

SECTION FOR
CRASH BARRIER
(DIMENSIONS ONLY)

DETAILS OF CRASH BARRIER FOR DECK WITH EARTH CUSHION

SCALE 1:125

CLIENT: M/s Lion Engineering Consultants, Bhopal

CONSULTANTS: M/s Lion Engineering Consultants, Bhopal

ENGINEERING CONSULTANTS: M/s Lion Engineering Consultants, Bhopal

PACKAGE-1: NATIONAL HIGHWAYS INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (NHIDCL)

PROJECT TITLE: Consultancy Services for Preparation of Feasibility Study and Detailed Project Report For Two lane With Paved Shoulders of Manu – Similig Section of NH-44A (86 Kms) In The State of Tripura on EPC Mode.

RECOMMENDATION: 15
M/s Lion Engineering Consultants, Bhopal

ENGINEERING CONSULTANTS
Consultancy Services for Preparation of Feasibility Study and Detailed Project Report For Two lane With Paved Shoulders of Manu - Simlung Section of NH-44A (86 Kms) In The State of Tripura on EPC Mode.

PACKAGE 1
MANU-LALCHERA-CHALENGTA SECTION OF NH-44A

CRASH BARRIER AS PER SPECIFICATION

DETAILS OF REINF. IN STEM & FOOTING

- TYP. DETAILS OF RETAINING WALL

NOTES:
1. ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE SPECIFIED.
2. SIZE OF COARSE AGGREGATE AS PER M.O.S.T. SPECIFICATIONS.
3. CLEAR COVER TO REINF 40 MM.
5. 8 INDICATES REINFORCEMENT CONFORMING TO BIS/IS 1494.
6. 800 MM THICK. SUITABLE FILTER MESH SHALL BE PROVIDED BESIDE RETAINING WALL ABOVE GROUND LEVEL.
7. TYP. EDGE OF 100 MM DIA A.C. PIPE 1.0 M C/C.
8. HORIZONTAL & VERTICAL STAIRCASES SHALL BE PROVIDED IN RETAINING WALL ABOVE GROUND LEVEL.
9. FILLING SHALL BE PROVIDED AT TOP OF RETAINING WALL AS PER STANDARD.
10. FOUNDATION OF RETAINING WALL SHALL BE FIRST ON HARD FOUNDING SURFACE.

DESIGN SRC: 20F/80M

M/s Lion Engineering Consultants, Bhopal
Plot No-97, "Lion Tower", Elegant Estates
Near Mother Teresa School, Kolar Road
Bhopal (M.P.)
Consultancy Services for Preparation of Feasibility Study and Detailed Project Report For Two lane With Paved Shoulders of Manu - Similung Section of NH-44A (86 Kms) In The State of Tripura on EPC Mode.
2.5m EARTHEN SHOULDER

TYPE - II

20m

120m

RM-O9

5-25

P-DP-BARRIER

2.5m EARTHEN SHOULDER

120m

5-25

RM-05

0.15m EDGE LINE MARKING

0.1m THICK CENTRE LINE MARKING

TYPE - II

Consultancy Services for Preparation of Feasibility Study and Detailed Project Report For Two Lane With Paved Shoulders of Manu – Simulung Section of NH-44A (66 Kms) In The State of Tripura on EPC Mode.
TYPE - III

CHANNELISED JUNCTION

TYPICAL LAYOUT OF FOUR LEGGED

17(c)

DRG. NO. :

DESIGNED BY :

APPROVED BY :

CONSULTANTS :

CLIENT :

M/s Lion Engineering Consultants, Bhopal

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 - Similung Section of NH-44A (86 Kms) In The State of Tripura on EPC Mode.

MANU-LALCHERA-CHALENGTA SECTION OF NH-44A

PACKAGE-1
M/s Lion Engineering Consultants, Bhopal

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 – Simulung Section of NH-44A (86 Kms) In The State of Tripura on EPC Mode.

PACKAGE-1
MANU-LALCHERA-CHALENGTA SECTION OF NH-44A

17(d)

TYPE - IV
M/s Lion Engineering Consultants, Bhopal

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-Chailengta-Lalchera Section of NH-44A (86 Kms) In The State of Tripura on EPC Mode.

PACKAGE-1
MANU- CHAILENGA-TA-LALCHERA SECTION OF NH-44A

TYP. DETAILS OF BREAST WALL

NOTES:
1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
2. USE OF COARSE AGGREGATE AS PER M.O.C.C. SPECIFICATIONS.
3. CLEAR COVER TO BE SHOWN 10 MM.
4. GRADE OF CONCRETE - RCC-40.
5. STEEL REFER PLAN & SHEET NO.12.
6. 200 MM THICK UPON FILTER MASONRY SHALL BE PROVIDED BEHIND RETAINING WALL ABOVE GROUND LEVEL.
7. NURCH BASE OF 100 MM R.L. C.F. LAYER 1.5 M C/C.
8. HORIZONTAL & VERTICAL STABILIZED SHAKE-UP FILTER MASONRY SHALL BE PROVIDED IN RETAINING WALL ABOVE GROUND LEVEL.
9. FOUNDATION OF BREAST WALL SHALL BE KEPT ON HARD FOUNDATION STEEL.
10. DESIGN BC= 807/90M

DETAILS OF REINF. IN STEM & FOOTING

*NATURAL DIMENSIONS ARE TO BE USED UNLESS OTHERWISE SPECIFIED.

CONSULTANTS: M/s Lion Engineering Consultants, Bhopal

CLIENT: NATIONAL HIGHWAYS INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED (NHIDCL)

DESIGN NO.: 18

APPROVED BY:

PROJECT TITLE:
Consultancy Services for Preparation of Feasibility Study and Detailed Project Report For Two Lane With Paved Shoulders of Manu-Chailengta-Lalchera Section of NH-44A (86 Kms) In The State of Tripura on EPC Mode.

BREAST WALL DRAWING:

PACKAGE-1
MANU-CHAILENGA-TA-LALCHERA SECTION OF NH-44A

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-Chailengta-Lalchera Section of NH-44A (86 Kms) In The State of Tripura on EPC Mode.

PACKAGE-1
MANU-CHAILENGA-TA-LALCHERA SECTION OF NH-44A

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-Chailengta-Lalchera Section of NH-44A (86 Kms) In The State of Tripura on EPC Mode.

PACKAGE-1
MANU-CHAILENGA-TA-LALCHERA SECTION OF NH-44A

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-Chailengta-Lalchera Section of NH-44A (86 Kms) In The State of Tripura on EPC Mode.

PACKAGE-1
MANU-CHAILENGA-TA-LALCHERA SECTION OF NH-44A

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-Chailengta-Lalchera Section of NH-44A (86 Kms) In The State of Tripura on EPC Mode.