



LION ENGINEERING CONSULTANTS

"Contributing in Building the Infrastructure of the Nation"

In Association with

INFINITE
CIVIL SOLUTIONS PVT. LTD

Letter No. LEC/AE/NHAI/Pkg-II/2017-18/1022

Date: 29/05/2018

To,

The Project Manager,
M/s Larsen & Toubro Ltd,
Raipur - Bilaspur Road Project, Pkg-II,
C/O Milan Krishi Farm,
Km72, Raipur-Bilaspur Highway,
Village Khaira, PO-Nandghat, Tehsil-Nawagarh
Distt.-Bemetra, Chattisgarh(C.G.) - 491340.

Sub: Construction of 4-laning of Simga-Saragaon section of NH200 (New NH 130) (Package-II) from km 48+580 to km 91+026 (Total length-42.446km) of Raipur-Bilaspur Road in the State of Chhattisgarh under NHDP-IV on EPC mode - Revised Strip Seal Expansion Joint system drawing for Major and Minor Bridges- Regarding.

Ref:-

1. L&T/TIIC/RBRP/618, Dated: 12/05/2018.
2. Authority Engineer's mail dated 22/05/2018.
3. L&T/TIIC/RBRP/637, Dated: 30/05/2018.

Dear Sir,

With reference to above cited subject Revised Strip Seal Expansion Joint system drawing for major and minor bridges has been reviewed and found in order.

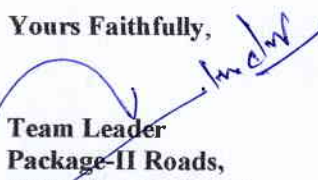
Drawing / Document Detail given below:-

S. No.	Drawing/Document No.	Description	Rev. No.
1	016070-C-RP-MB-EJ-0001	STRIP SEAL EXPANSION JOINT SYSTEM FOR 50+615(MNB),68+385 (MJB) & 69+156(MNB)	1
2	016070-C-RP-MB-EJ-0002	STRIP SEAL EXPANSION JOINT SYSTEM	1

Thanking you and assuring our best services in faith of good engineering practices.

For & On Behalf of Lion Engineering Consultants,
In Association with Infinite Civil Solution Pvt. Ltd.,

Yours Faithfully,


Team Leader
Package-II Roads,
PIU, Bilaspur (C.G.).

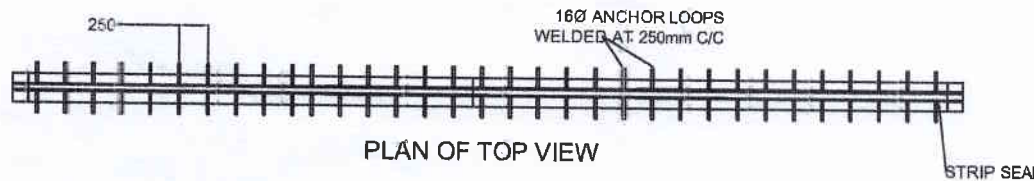
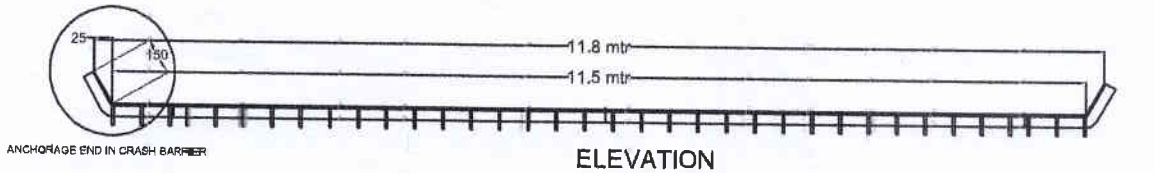
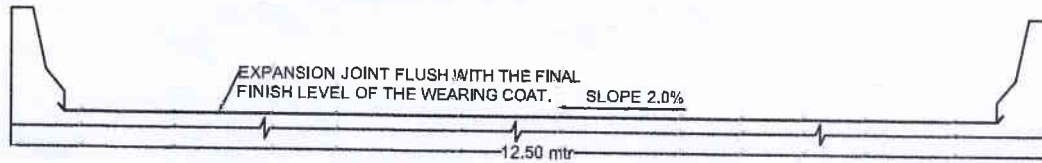
Copy for information: 1. Project Director NHAI - PIU Bilaspur.



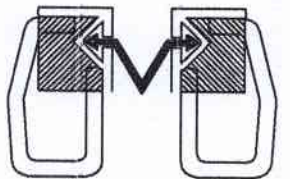
Project Office : Lion Engineering Consultants in Association with Infinite Solution Pvt. Ltd., HIG-II, D-2, Awantika Abhilasha Parishad, Near New Bus Stand, Sirgitti, Titra, Bilaspur-495001 (C.G.).



DECK PROFILE -12.50M



*ONE EXPANSION JOINT i.e 11.8 MTR LENGTH CONSISTING OF
5.75 MTR STRAIGHT LENGTH + 0.15 MTR TAPER = (5.9 mtr) x 2nos



CROSS SECTION VIEW

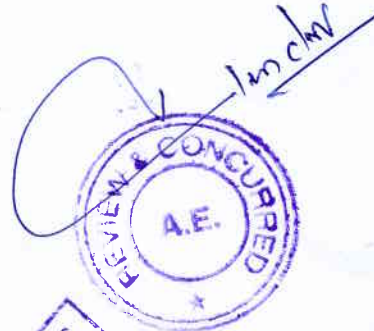
NOTES:

1. MATERIAL AS PER SPEC IRC: SP-69-2011/MORTH (5th Rev.).
2. CROSS SECTIONAL DETAILS OF EDGE BEAM IS 1500 SQ.MM.
3. CROSS SECTIONAL AREA OF ANCHOR LOOP IS 1600 SQ.MM.
4. GRADE OF THE STEEL EDGE BEAM.
THE STEEL OF EDGE BEAM CONFIRMS TO GRADE B OF IS:2062
5. PROTECTION OF ALL STEEL SECTION.
ALL STEEL SECTIONS PROTECTED BY ANTI CORROSION PAINT WITH A MINIMUM FILM THICKNESS OF 150 MICRON
6. GRADE OF THE STEEL ANCHORAGE
THE STEEL OF ANCHORAGE CONFIRMS TO GRADE B OF IS:2062
7. GAP FOR INSERTING CHLOROPRENE SEAL
MINIMUM GAP IS 40MM & MAXIMUM GAP EXPANDING MOVEMENT UP TO 80MM
8. WELDING AND MANUFACTURING AS PER IRC: SP:69-2011
9. TESTING AND ACCEPTANCE AS PER CL.NO. 8 OF IRC:SP:69-2011.
10. ALL DIMENSIONS ARE IN MM
11. DIMENSIONS ARE NOT TO SCALE
12. MINIMUM WELDING THICKNESS OF ANCHOR LOOP & DECK REINFORCEMENT SHALL BE 6MM THK. AS STANDARD PRACTICE

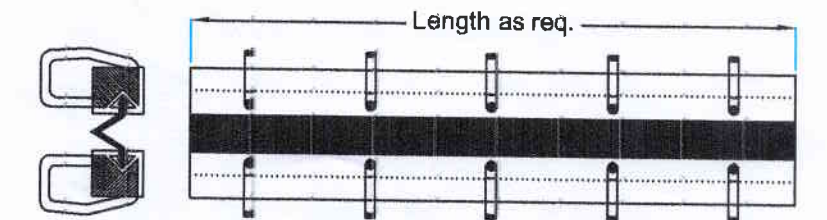
L&T Construction
TIIC RBRP- II

S.NO	STRUCTURE	CHAINAGE
1.	MINOR BRIDGE	50+615 (NEW CONSTRUCTION)
2.	MAJOR BRIDGE	68+385 (NEW CONSTRUCTION)
3.	MINOR BRIDGE	69+153 (NEW CONSTRUCTION)

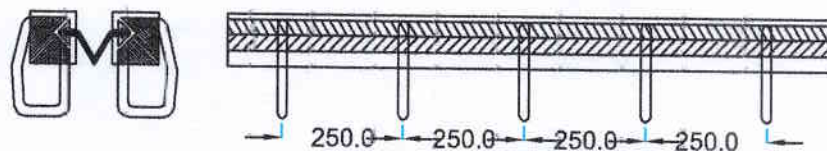
H.C. Srivastava
Resident Engineer
Safety Expert
N.H.A. Hyderabad



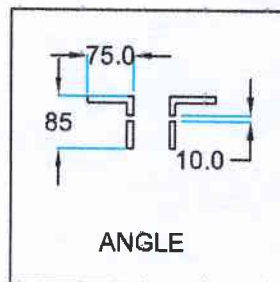
CLIENT: NATIONAL HIGHWAYS AUTHORITY OF INDIA (MINISTRY OF ROAD TRANSPORT & INFRASTRUCTURE DEVELOPMENT)		PROJECT: FOUR LANE OF SH-6 SAHARANWADI (NAGAR-0) OF NH-208 (NH 204-120) FROM Km 43.880 TO Km 64.880 SECTION OF RAIPUR - BHILAPUR ROAD IN STATE OF CHHATTISGARH UNDER NHSP - IV ON EPC MODE.		CONTRACTOR: LARSEN & TOUBRO LIMITED L&T Construction Transportation Infrastructure		MANUFACTURER: AMEENJI RUBBER PVT.LTD. ROAD NO.8, IDA NACHARAM, HYDERABAD-500078		TITLE: STRIP SEAL EXPANSION JOINT DRAWING	REC 1 REV A2
DESIGNED: <i>[Signature]</i> CHECKED: <i>[Signature]</i> APPROVED: <i>[Signature]</i>		DATE: <i>[Date]</i>		SCALE: <i>[Scale]</i>		PROJECT NO: <i>[Project No]</i>		DRAWING NO: <i>[Drawing No]</i>	



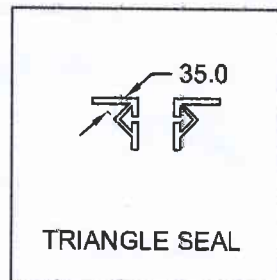
TOP VIEW



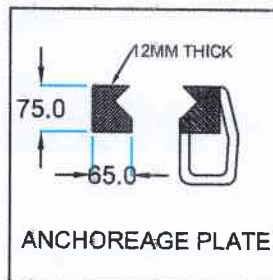
SIDE VIEW



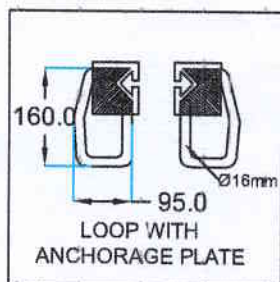
ANGLE



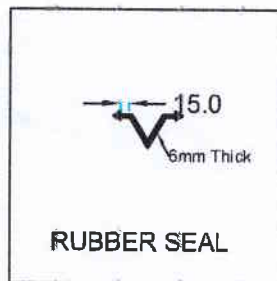
TRIANGLE SEAL



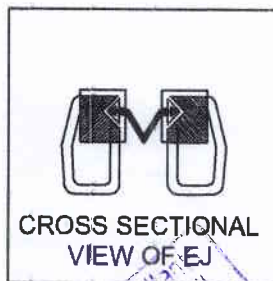
ANCHOREAGE PLATE



LOOP WITH ANCHORAGE PLATE



RUBBER SEAL



CROSS SECTIONAL VIEW OF EJ

SPECIFICATION FOR EDGE BEAM AND ANCHORAGE

1. The steel for edge beam shall conform to any steel grade corresponding to RST 37-2 or 37-3 (DIN), ASTM A36, or A588, CAN/CSA Standard G40.21 Grade 300W IS2062/E250Gr.B or equivalent.
2. Anchorage steel shall conform to IS:2062 or equivalent.
3. All steel sections shall be protected against corrosion by hot dip galvanising with thick of 80 micron or any other approved anti corrosive coating with thickness of 160 micron.

CHLOROPRENE STRIP SEAL ELEMENT SPECIFICATION	
PROPERTY	SPECIFIED VALUES
Hardness	63±5 Shore A
Tensile Strength	Min.11Mpa
Elongation at Fracture	Min.350 %
Tear propagation strength LONGITUDINAL TRANSVERSE	Min.10N/mm Min.1N/mm
Abrasion	Max 220 cu.mmr
Residual Compressive Strain (22hr/70°C/30% Strain)	Max.28%
Aging in hot air (14 Days/70°C)	
Change in Hardness	Max. +7 Shore A
Change in Tensile Strength	Max. -20%
Change in Elongation at fracture	Max.-20%
Change in Ozone (24hr/50 pphm/25°C/20% elongation)	No Cracks
Swelling behaviour in oil (168 hr/25°C) ASTM Oil No.1	
Change in Volume	Max. +5%
Change in Hardness	Max.-10 Shore-A
ASTM Oil No.3	
Change in Volume	Max.+25%
Change in Hardness	Max.-20 Shore A
Cold hardening point	Max. -35°C
IS 3400/Specification shall be followed for testing	

[Signature]
 Pavement Specialist Cum Safety Engineer
 Authority Engineer
 RBRP/SS/Pkg-II, NHAI
 PIO- Bilaspur, Bilaspur



L&T Construction
TIIC RBRP- II

1. 10-0-0. REVISED AS PER COMMENTS	CLIENT: NATIONAL HIGHWAYS AUTHORITY OF INDIA (MINISTRY OF ROAD TRANSPORT & HIGHWAYS, GOVERNMENT OF INDIA)	AUTHORITY'S ENGINEER: Lion ENGINEERING CONSULTANTS In Association with Infinite Civil Solutions PVT. LTD.	CONTRACTOR: LARSEN & TOUBRO LIMITED L&T Construction Transportation Infrastructure	MANUFACTURER: AMEENJI RUBBER PVT. LTD. ROAD NO.8, IDA NACHARAM, HYDERABAD-500076	TITLE: STRIP SEAL EXPANSION JOINT DRAWING	REV. 1
2. 00-0-0. FOR APPROVAL	PROJECT: FOUR LANE OF 2000-SECTION BYPASS (KARNATAKA-0) OF NH-668 DIV. NH-150 FROM Km 48.50 TO Km 51.25 SECTION OF BANGALORE - MANGALURU ROAD IN STATE OF KARNATAKA UNDER NHDP - IV ON CPC ROAD.				DESIGNED NO: 018070-C-RP-NB-EJ-0002	REV. A2
REV. DATE	DESCRIPTION	DESIGNED BY	CHECKED	APPROVED		SHEET 1 OF 1