सत्यमेव जयते

भारतीय राष्ट्रीय राजमार्ग प्राधिकरण
(सड़क परिवहन और राजमार्ग मंत्रालय, भारत सरकार)
परियोजना कार्यान्वयन ईकाई : डी–81, गोविन्दपुरी, सचिन तेन्दुलकर मार्ग, ग्वालियर (म. प्र.)–474011

National Highways Authority of India
(Ministry of Road Transport & Highways, Govt. of India)
Project Implementation Unit : D-81, Govindpuri, Sachin Tendulkar Marg, Gwalior (M.P.)-474011
फोन/Phone : 0751-2231485, ई–मेल/E-mail : gwalior@nhai.org; nhaigwalior@gmail.com

भा रा रा प्रा NHAI
BHARATMALA ROAD TO PROSPERITY

भा.रा.रा.प्रा. / पकाई–ग्वालियर / आगरा ग्वालियर / एन.एच.–44 / भूविज्ञान और अनुकरण / 2024 / 14977 दिनांकः– 27.01.2025

सूचना / NOTICE

विषयः–खनिजों के अवैध उत्खनन पर अंकुश लगाने के लिए आई–चेक गेट एआई आधारित प्रणाली की स्थापना हेतु अनुमति के प्रस्ताव का अनुरोध।
Request for proposal of permission for installation of I-Check Gate AI Based system to curb illegal transportation of minerals- reg.

संदर्भः– जिला खनिज अधिकारी मुरैना पत्र कमांक 1039 दिनांक 06.12.2024

1. जिला खनिज अधिकारी मुरैना द्वारा अपने पत्र दिनांक 06.12.2024 के माध्यम से मध्यप्रदेश राज्य में एनएच–44 के किमी 61.750 पर (अल्लाबेली पुलिस चौकी के समीप, मुरैना) आई–चेकगेट की स्थापना के लिए प्रस्ताव प्रस्तुत किया है

   District Mining Officer wide letter dated 06.12.2024 has submitted the proposal for installation of Installation of I-checkgate at the section of NH-44 at km 61.750 (Near Alabeli Police Chowki, Morena) of Agra Gwalior section in the State of MP.

2. मंत्रालय के कार्यालय ज्ञापन संख्या RW/NH–33044 S&R (R) दिनांक 22.11.2016 के अनुसार, दावे और आपत्तियां (सार्वजनिक असुविधा, सुरक्षा और सामान्य सार्वजनिक हित के आधार पर) मांगने के लिए आवेदन को 30दिनों के लिए सार्वजनिक डोमेन में रखा जाएगा।

   As per Ministry vide OM No. RW/NH-33044 S&R (R) dated 22.11.2016, the application shall be put out in public domain for 30 days for seeking claims and objections (on ground of public inconvenience, safety and general public interest).

3. तदनुसार, दावे और आपत्तियां मांगने के लिए उपरोक्त प्रस्ताव (आवेदन की प्रति संलग्न) पर 30 दिनों के भीतर (यानी 26.02.2025 तक) सार्वजनिक पोर्टल (यानी MoRTH की वेबसाइट (www.morth.nic.in)) पर जनता की टिप्पणियां आमंत्रित की जाती हैं, जिसके बाद किसी भी टिप्पणी पर विचार नहीं किया जाएगा। टिप्पणी आमंत्रित करने वाले प्राधिकारी का पता इस प्रकार हैः–

   Accordingly, the public comments are hereby invited on the above proposal (copy of application enclosed) for seeking claims and objections within 30 days (i.e. by 26.02.2025) on public portal (i.e. website of MoRTH (www.morth.nic.in)) beyond which no comments will be considered. The address of comments inviting authority is as under:

राजमार्ग प्रशासक, परियोजना निदेशक कार्यालय भारतीय राष्ट्रीय राजमार्ग प्राधिकरण, डी–81 सचिन तेन्दुलकर मार्ग गोविन्दपुरी ग्वालियर, –474011	The Highway Administrator O/o Project Director, National Highways Authority of India, D-81, Sachin Tendulkar Marg Govindpuri, Gwalior -474011

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यह पत्र राजमार्ग प्रशासक सह् परियोजना निदेशक के अनुमोदन उपरान्त जारी किया जा रहा है।

27/01/2026

(प्रशांत मीना)
प्रबंधक (तक.)

संलग्नः– उपरोक्तानुसार

प्रतिलिपिः–

1. क्षेत्रीय अधिकारी, भा.रा.रा.प्रा. भोपाल की ओर सूचनार्थ प्रेषित।
2. वेब एडमिन, भा.रा.रा.प्रा., मुख्यालय, नई दिल्ली की ओर सर्वजनिक टिप्पणियों के लिए भा.रा.रा.प्रा. की वेबसाइट पर अपलोड करने के अनुरोध के साथ।
3. वरिष्ठ तकनीकी निदेशक, एनआईसी, परिवहन भवन, नई दिल्ली की ओर सार्वजनिक टिप्पणियों के लिए सड़क परिवहन की वेबसाइट पर अपलोड करने के अनुरोध के साथ।
4. जिला खनिज अधिकारी मुरैना की ओर सूचनार्थ प्रेषित ।

कार्यालय कलेक्टर (खनिज शाखा) जिला मुरैना (म0प्र0)

कमांक/खनिज/विविध/2024–25/4039 मुरैना, दिनांक 06/12/2024

प्रति,

परियोजना निदेशक
भारतीय राष्ट्रीय राजमार्ग प्राधिकरण
पी.आई.यू. डी–81, गोविंदपुरी,
सचिन तेंदुलकर मार्ग, ग्वालियर (म0प्र0)।

विषयः–Submission of DGM Project Documents-AI Based System to curb Illegal Transporation of minerals for Approval form your Concern/Esteemed Department/Organization बावत्।

संदर्भः–संचालनालय भौमिकी तथा खनिकर्म, भोपाल का पत्र दिनांक 29.11.2024।

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उपरोक्त विषयांकित संदर्भित पत्र के पालन में संचालनालय भौमिकी तथा खनिकर्म, भोपाल की ओर से प्राप्त ड्राफ्ट रिपोर्ट आगामी कार्यवाही हेतु पत्र के साथ संलग्न कर आपकी ओर सादर प्रेषित है।

संलग्न :– 01 ड्राफ्ट रिपोर्ट।

जिला खनि अधिकारी
(खनिज शाखा)
जिला मुरैना (म0प्र0)

Diary NO. 38556
DATE- 06/12/2024

Directorate of Geology and Mining, Madhya Pradesh

29-A, Khanij Bhawan, Arera Hills Bhopal

Phone & Fax: 0755-2551795, Email: dirgeomn@nic.in

Date: 29-11-2024

To: Project Director – NHAI PIU Gwalior

Title: Document Enclosure Details

Department/Organization: National Highway Authoroties of India

Address: D-81, Govindpuri, Sachin Tendulkar Marg, Madhya Pradesh 474011

Subject: Submission of G&M Project Documents– AI Based system to curb illegal transportation of minerals for Approval from your Concern/Esteemed department/Organization

I am writing to formally submit G&M Project - AI Based system to curb illegal transportation of minerals for your review and approval. Please find the details below:

- **Document Title: AI Based system to curb illegal transportation of minerals**
- **Document Type: Original Hard Copies**
- **Purpose of Submission:** Required NOC certificate for installation of Check gate at site – Alabeli Police chowki Morena

Enclosures:

1. Agreement on Stamp of Rupees 500
2. Undertaking on Stamp of Rupees 100
3. Bank guaranty / Fixed Deposit Calculation Sheet (Demand Note)
4. Check-List Document
5. Detailed Survey report along with Site Photographs
6. Working Drawing - A2
7. 3D Design of gantry with all specifications - A2
8. Receipt of online application submitted in MoRTH Portal
9. Letter of NHAI
10. Document Enclosure Letter
11. Soil Report
12. STAAD Report

सत्यमेव जयते

भारतीय राष्ट्रीय राजमार्ग प्राधिकरण

(सड़क परिवहन और राजमार्ग मंत्रालय, भारत सरकार)

NATIONAL HIGHWAYS AUTHORITY OF INDIA

(Ministry of Road Transport and Highways, Govt. of India)

क्षेत्रीय कार्यालय/ REGIONAL OFFICE

ई-6/47, स्मृति परिसर, सांईबोर्ड के पास, अरेरा कॉलोनी, भोपाल (म.प्र.)-462016

E-6/47, Smriti Parisar, Near Sai Board, Arera Colony, Bhopal (M.P.)-462016

दूरभाष / Phone : 0755-2426638, फैक्स/Fax : 0755-2426698, ई-मेल/E-mail ID - robhopal@nhai.org

भाराराप्रा/क्षे.का.–म.प्र./सामान्य/2024/51203 दिनांक 25/06/2024

प्रति,

क्षेत्रीय अधिकारी,
भारतीय राष्ट्रीय राजमार्ग प्राधिकरण,
क्षेत्रीय कार्यालय,
जबलपुर (म.प्र.)

विषयः **अवैध परिवहन की रोकथाम हेतु स्थापित किये जा रहे i-Checkgate के लिये लागू की जा रही License Fees को Exempt किये जाने बावत।**

सन्दर्भः मध्यप्रदेश शासन, खनिज साधन विभाग, भोपाल का पत्र कमांक 3507/1211282/2023/12/1 दिनांक 13/06/2024.

महोदय,

कृपया विषयांतर्गत संदर्भित पत्र का अवलोकन करें जिसके माध्यम से मध्यप्रदेश शासन, खनिज साधन विभाग, भोपाल द्वारा लेख किया गया है कि अवैध परिवहन की रोकथाम हेतु संपूर्ण प्रदेश में Artificial Intelligence आधारित मानवरहित i-Checkgate स्थापित किये जा रहे हैं। जिसमें से 27 स्थल NHAI की अधिकारिता में आते हैं।

2. उक्त संबंध में लेख है कि आपके क्षेत्रांतर्गत परियोजना निदेशकों को खनिज साधन विभाग के अधिकारियों से समन्वय स्थापित कर भारतीय राष्ट्रीय राजमार्ग प्राधिकेरण के नियमानुसार आवश्यक सहयोग प्रदान करने हेतु निर्देश पारित करने का कष्ट करें।

भवदीय,

संलग्नः उपरोक्तानुसार।

(प्रदीप कुमार लाल)
महाप्रबंधक (तक.)

प्रतिलिपिः

मध्यप्रदेश शासन, खनिज साधन विभाग, भोपाल की ओर सूचनार्थ प्रेषित।

मध्यप्रदेश शासन
खनिज साधन विभाग
मंत्रालय

क्रमांक – 3507 /1211282/2023/12/1 **भोपाल, दिनांक–** 13/06/2024

प्रति,

महाप्रबंधक एवं क्षेत्रीय अधिकारी (पूर्व क्षेत्र),
राष्ट्रीय राजमार्ग प्राधिकरण (NHAI),
जबलपुर, मध्यप्रदेश।

विषयः– **अवैध** परिवहन की **रोकथाम** हेतु स्थापित किये **जा रहे** i-Checkgate **के लिये लागू की जा रही** License Fees को **Exempt** किये जाने बाबत।

उपरोक्त विषयांतर्गत लेख है कि, खनिज साधन विभाग द्वारा अवैध परिवहन की रोकथाम हेतु संपूर्ण प्रदेश में Artificial Intelligence आधारित मानवरहित i-Checkgate स्थापित किये जा रहे हैं। i-Checkgate स्थापित करने हेतु पूरे प्रदेश में कुल 40 स्थल चिन्हांकित किये गये हैं, जिसमें से 27 स्थल NHAI की अधिकारिता में आते हैं।

i-Checkgate की स्थापना राष्ट्रीय राजमार्ग प्राधिकरण (NHAI) द्वारा निर्धारित मापदण्डों के अनुरूप ही की जा रही है, जिसमें किसी भी प्रकार का परिवहन बाधित नहीं होगा। इसके साथ ही उपरोक्त i-Checkgate का उपयोग शासकीय कार्य हेतु किया जा रहा है, जिसमें किसी भी प्रकार का व्यवसायिक प्रचार–प्रसार नहीं किया जाएगा।

अतः अनुरोध है कि, NHAI द्वारा उपरोक्तानुसार स्थापित किये जा रहे i-Checkgate के लिये लागू की जा रही License Fees या अन्य शुल्क को Exempt करने का कष्ट करें।

संलग्नः– उपरोक्तानुसार।

13/6/24
(प्रकाश पन्द्रे)
अवर सचिव
म0प्र0 शासन, खनिज साधन विभाग
भोपाल, दिनांकः– 13/06/2024

पृष्ठ. क्रमांक – 3508 **/1211282/2024/12/1**
प्रतिलिपिः–

1. संचालक (प्रशासन तथा खकिनर्म), संचालनालय, भौमिकी तथा खनिकर्म, मध्यप्रदेश, भोपाल।

की ओर सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।

2. गार्ड फाईल।

13/6/24
अवर सचिव
म0प्र0 शासन, खनिज साधन विभाग

Field Survey Report all MP Districts													
Sr.No.	District	Tehsil	Location	Highway Type	Highway Lane	Highway Number	Latitude	Longitude	Remarks	Application Ref No	Application Tracking No	HEIGHT in mtr	WEIDTH in mtr
1	Gwalior	- Dabra recommended	Jorasi Gwalior MP - 475001	NHA	Four Lane	44	26.06188	78.24562				6.6	25.4
2	Gwalior	NH44 gwalior (recommended)	NH44 Gwalior, Madhya Pradesh – 475001	NHA	Four Lane	44	26.32596	78.1116				6.6	21
3	Morena	Morena	Banmore Tiraha Bypass, A. B. Road	NHA	Four Lane	44	26.32526	78.11211				6.6	20
4	Morena	Morena	Alabeli Police Chauki	NHA	Four Lane	44	26.64395	77.91549				6.6	22.6
5	Rewa	Teothar	Baghedi Chauraha , Chakghat	NHA	Four Lane	30	25.01728	81.72085	NHA			6.6	17
6	Singrauli	Sarai	Village Nigari,Near Bridge of River Gopad	NHA	Two Lane	39	24.42427	82.20086				6.6	9.5
7	Singrauli	Singrauli	Khanhna Barrier	NHA	Two Lane	39	24.22072	82.71134				6.6	11
8	Singrauli	Singrauli	Kachni Telai Bridge	NHA	Four Lane	39	24.07639	82.58289				6.6	11
9	Sidhi	Churhat	Koshtha Kothar	NHA	Four Lane	39	24.41628	81.61996				6.6	13

10	Indore	Khudel	Near Sanawadia Panchayat (Nemawar Road)	NHA	Two Lane	47	22.67554	75.93239				6.6	13
11	Indore (recommended)	Sawer	A. B. Road, Indore MP	NHA	Two Lane	47	22.89844	75.97409				6.6	13
12	Alirajpur	Katthiwada	Chandpur	NHA	Two Lane	56	22.35841	74.23704				6.6	
13	Sagar	Deori	Maharajpur Police Station Deori Sagar	NHA	Four Lane	44	23.28578	79.04455				6.6	22.9
14	Niwari (recommended)	Orchha	Orchha-Pratpura	NHA	Four Lane	39	25.41946	78.64762				6.6	53
15	Chhatarpur	Luvkush Nagar	Pura	NHA	Two Lane	34	25.235	79.92323				6.6	11
16	Chhatarpur	Barigarh	Rampur Ghat(UP-MP Border, Gorihar) Chhatarpur	NHA	Two Lane	35	25.27469	80.35056				6.6	10
17	Jabalpur	Jabalpur	Jotpur near Tilwara Bridge	NHA	Four Lane	34	23.10445	79.87117				6.6	17
18	Jabalpur	Sihora	Village Barnu	NHA	Four Lane	30	23.39057	80.05488				6.6	13
19	Katni (recommended)	Katni	Surkhi Tank, Katni-483501	NHA	Two Lane	10	23.83677	80.45413	NH			6.6	11

20	Umaria	Chandia	Mahanadi Forest Checknost	NHA	Two Lane	43	23.69726	80.67875				6.6	13
21	Chhindwara	Chhindwara	Sarra, Near Kulbehra River	NHA	Four Lane	347	22.00901	78.93021				6.6	18
22	Bhopal	Raisen	Obaidullaganj	NHA	Four Lane	46	23.02401	77.56874	NH/MORTH			6.6	17
23	Sehore	Budhni	Gadariyanala	NHA	Four Lane	46	22.80107	77.70129	NHAI			6.6	17
24	Chhindwara	Parasia	Ambara	NHA	Two Lane	198	22.19105	78.68737	NHAI			6.6	11
25	Jabalpur	Jabalpur	Village Bheeta, Near Bhedaghat Square	NHA	Four Lane	45	23.15656	79.7904	NHAI			6.6	13
26	Bhind	Bhind	Near Barhi Toll Plaza	NHA	Two Lane	719	26.68318	78.91788	NH/MORTH			6.6	12.5
27	Datia	Bhander	Pandokhar Police Station	NH/PWD	Two Lane	552	25.88419	78.79448	NH/PWD			6.6	14.5

Field Survey Report all MP Districts													
Sr.No.	District	Tehsil	Location	Highway Type	Highway Lane	Highway Number	Latitude	Longitude	Remarks	Application Ref No	Application Tracking No	HEIGHT in mtr	WEIDTH in mtr
1	Gwalior	Dabra recommended	Jorasi Gwalior MP - 475001	NHA	Four Lane	44	26.06188	78.245623				6.6	25.4
2	Gwalior	NH44 gwalior (recommended)	NH44 Gwalior, Madhya Pradesh – 475001	NHA	Four Lane	44	26.32596	78.111599				6.6	21
3	Morena	Morena	Banmore Tiraha Bypass, A. B. Road	NHA	Four Lane	44	26.32526	78.11211				6.6	20
4	Morena	Morena	Alabeli Police Chauki	NHA	Four Lane	44	26.64395	77.91549				6.6	22.6
5	Rewa	Teothar	Baghedi Chauraha , Chakghat	NHA	Four Lane	30	25.01728	81.72085	NHA			6.6	17
6	Singrauli	Sarai	Village Nigari,Near Bridge of River Gopad	NHA	Two Lane	39	24.42427	82.20086				6.6	9.5
7	Singrauli	Singrauli	Khanhna Barrier	NHA	Two Lane	39	24.22072	82.71134				6.6	11
8	Singrauli	Singrauli	Kachni Telai Bridge	NHA	Four Lane	39	24.07639	82.582894				6.6	11
9	Sidhi	Churhat	Koshtha Kothar	NHA	Four Lane	39	24.41628	81.619961				6.6	13

Sr.No.	District	Tehsil	Location	Highway Type	Highway Lane	Highway Number	Latitude	Longitude	Remarks	Application Ref No	Application Tracking No	HEIGHT in mtr	WEIDTH in mtr
10	Indore	Khudel	Near Sanawadia Panchayat (Nemawar Road)	NHA	Two Lane	47	22.67554	75.93239				6.6	13
11	Indore (recommended)	Sawer	A. B. Road, Indore MP	NHA	Two Lane	47	22.89844	75.974093				6.6	13
12	Allrajpur	Katthiwada	Chandpur	NHA	Two Lane	56	22.35841	74.237035				6.6	
13	Sagar	Deori	Maharajpur Police Station Deori Sagar	NHA	Four Lane	44	23.28578	79.044554				6.6	22.9
14	Niwari (recommended)	Orchha	Orchha-Pratpura	NHA	Four Lane	39	25.41946	78.647622				6.6	53
15	Chhatarpur	Luvkush Nagar	Pura	NHA	Two Lane	34	25.235	79.92323				6.6	11
16	Chhatarpur	Barigarh	Rampur Ghat(UP-MP Border, Gorihar) Chhatarpur	NHA	Two Lane	35	25.27469	80.350561				6.6	10
17	Jabalpur	Jabalpur	Jotpur near Tilwara Bridge	NHA	Four Lane	34	23.10445	79.87117				6.6	17

Sr.No.	District	Tehsil	Location	Highway Type	Highway Lane	Highway Number	Latitude	Longitude	Remarks	Application Ref No	Application Tracking No	HEIGHT in mtr	WEIDTH in mtr
18	Jabalpur	Sihora	Village Barnu	NHA	Four Lane	30	23.39057	80.05488				6.6	13
19	Katni (recommended)	Katni	Surkhi Tank, Katni-483501	NHA	Two Lane	10	23.83677	80.454132	NH			6.6	11
20	Umaria	Chandia	Mahanadi Forest Checkpost	NHA	Two Lane	43	23.69726	80.67875				6.6	13
21	Chhindwara	Chhindwara	Sarra, Near Kulbehra River	NHA	Four Lane	347	22.00901	78.93021				6.6	18
22	Bhopal	Raisen	Obaidullaganj	NHA	Four Lane	46	23.02401	77.568745	NH/MORTH			6.6	17
23	Sehore	Budhni	Gadariyanala	NHA	Four Lane	46	22.80107	77.70129	NHAI			6.6	17
24	Chhindwara	Parasia	Ambara	NHA	Two Lane	19B	22.19105	78.687367	NHAI			6.6	11
25	Jabalpur	Jabalpur	Village Bheeta, Near Bhedaghat Square	NHA	Four Lane	45	23.15656	79.7904	NHAI			6.6	13
26	Bhind	Bhind	Near Barhi Toll Plaza	NHA	Two Lane	719	26.68318	78.91788	NH/MORTH			6.6	12.5
27	Datia	Bhander	Pandokhar Police Station	NH/PWD	Two Lane	552	25.88419	78.79448	NH/PWD			6.6	14.5

संचालनालय भौमिकी तथा खनिकर्म, मध्यप्रदेश
29-ए खनिज भवन अरेरा हिल्स भोपाल
फोन एवं फैक्स 0755&2551795
e-mail : dirgeomn@nic.in

क्रमांक 6201 /2024 भोपाल, दिनांक 13/06/2024

प्रति,

महाप्रबंधक,
राष्ट्रीय राजमार्ग प्राधिकरण,
क्षेत्रीय कार्यालय, भोपाल,
ई2/167, अरेरा कॉलोनी,
भोपाल (म0प्र0)

विषयः- खनिजों के अवैध परिवहन पर नियंत्रण हेतु Artificial Intelligence आधारित मानव रहित चेक गेट की स्थापना के संबंध में अनुमति प्रदान करने हेतु।

---00---

प्रदेश में खनिजों के अवैध परिवहन पर नियंत्रण हेतु Artificial Intelligence आधारित मानव रहित चेक गेट की स्थापना ऐसे स्थलों पर किये जाने का प्रस्ताव है जहां से खनिजों का परिवहन करने वाले वाहनों का सर्वाधिक आवागमन होता है। अवैध परिवहन की रोक थाम हेतु Artificial Intelligence आधरित मानव रहित i-Checkgate स्थापित किये जाने हैं। i-Checkgate स्थापित करने हेतु पूरे प्रदेश 40 स्थलों का चिन्हांकन किया गया है जिसमें से 27 स्थल NHAI की अधिकारिता में आते है।

चेक गेट की स्थापना इस प्रकार की जायेगी कि, वाहनों का आवागमन अप्रभावित रहेगा। चेक गेट किसी प्रकार का अवरोध उत्पन्न नहीं करेगा। इस चेक गेट में सड़क की चौड़ाई के बाहर दोनो ओर आयरन स्ट्रेक्चर रहेगा, जिसमें कैमरा तथा आर.एफ. टेग रीडर ऊचांई पर स्थापित होगा। चेक गेट की संरचना NHAI द्वारा निर्धारित मापदण्ड के अनुरूप होगी।

अतः अनुरोध है कि चिन्हित स्थल पर चेक गेट की स्थापना हेतु अनुमति प्रदान करने का कष्ट करें।

संलग्न :- (उपरोक्तानुसार चेक गेट की सूची)

संचालक
(प्रशासन एवं खनिकर्म)

Check List - Alabeli Police chowki - Morena - Madhya Pradesh

Project - AI Based system to curb illegal transportation of Minerals

Sr No	Description	As per Site	Remarks
1	State Highway No	NH-44	
2	Crossing Name	Near Alabeli police chowki Morena	
3	System of suppply (i.e. Volatage) frquesncy, no of phases wheather	2 kilo watts	
4	Position of Tower	Latitude-26.6437631,Longitude-77.9158239	
5	Normal / Basic Span of gantry	22.6 MTR	
6	Maximum Sag at Normal Span of gantry	30 MTR	2.5 Mtr both side will be spared from the shoulder of the road. (As per MORTH Norms)
7	Crossing Span of gantry	Both Side of Road	
8	Preceding Span with LOC	Both Side of Road	
9	Successing Span With LOC	Both Side of Road	
10	Height of structure above ground and Below Ground Separately	Above=7mtr & Below=2.30 mtr	both sides of gantry structure
11	gantry height & weidth	height= 6.5 mtr & weidth=30 mtr	
12	Clearance Over Road	7.0 mtr	
13	Hegiht of lower base / founduation of gantry	2.65 mtr	
14	Height / Difference of Lower foundation from level of NH at LOC	2.65 mtr	
15	Angle of Road crossing	90 degree	with respect to ground
16	Distance from NH Boundry from center of tower/ gantry	500 mtr	
17	Perndicular distance from center of Tower to Center of Road	6.5 mtr	
18	Protection of gantry	GI with 86 micron	
19	Foundation Type	square foundation with M-25 grade	
20	No of Stay required	NA	
21	Minimum factor of Safety	2	
22	Two legs of Toweer earthend	Yes as per specification	
23	Plain paper digram	profile enclosed	
24	Earthing	Pipe Type	
25	Praposal to lay underground electrical cable/OFC/Water-Pipeline	Yes as per specification	
25A	Left side from central line towards increasing chainage/km direction.	NA	
25B	Right side from centre line towards increasing chainage/km direction	NA	
26	Proposal to aquire Land		
26A	Left side from centre Line	15 MTR	Includes 2.5 meters from shoulder of road as spare
26B	Right side from centre line	15 MTR	Includes 2.5 meters from shoulder of road as spare
27	Whether proposal is in the same side where land is not to be acquired	Yes as per specification	
27 A	if not then where to lay the cable	NA	
28	Details of already laid services, if any, along with the proposed route	NA	
29	Number of Existing Lanes (2/4/6/8 Lanes)	4 Lane	
30	Proposed number of Lanes (2 Lanes with paved shoulders/4/6/8 lanes)	NA	
31	Service road existing or not	NA	
	if yes then which side	NA	
31A	Left side from centre line	NA	
31B	Right side of centre line	NA	
32	Proposed service road	NA	
32A	Left side from centre line	NA	
32B	Right side of centre line	NA	
33	Whether proposal to lay water pipeline is after the service roador between the service road or main carriageway	NA	
34	Whether carrying of sewage / water pipeline has been proposed on highway bridges, if yes then mention the methodology proposed for same	NA	
35	Whether carrying of sewage / water pipeline has been proposed on the parapet/any part of the bridges, if yes then mention the methodology proposed for the same	NA	
36	if crossing of the road involved	Yes	
37	if yes it shall be either encased in pipes or through structure or conduits specially built for that purpose at the expenses of the agency owning the line	Yes as per specification	
38	whether exisiting drainage structure are allowed to carry sewage / water pipeline	NA	
39	is it on a line Normal to NH	Yes	
40	What is the distance of crossing the sewage /water pipeline from the existing structures, shall not be too near the existing structure on the national highway, the minimum distance being 15 meters.	NA	
41	the casing pipe (or conduit pipe in the case of electric / OFC cable) carrying the utility line shall be of steel. Cast iron or reinforced cement concerete and have adequate strength and be large enough to permit ready withdrawal of the carrier pipe/cable, Mention type of casing	Yes	
42	Ends of the casing conduit pipe shall be sealed from the outside so that it does not act as a drainage path	Yes	
43	the casing/conduit pipe should be at least 1.2 meter below the surface of the road subject to being atleast 0.3 meter below the drain inverts, Mention the proposed details	Yes as per specification	

प्रबंधक (तक.)
Manager (Tech.)
प.का.ई. (PIU)-भा.रा.रा.प्रा. (NHAI)
(म.प्र.)

प्रबंधक (तक.)
Manager (Tech.)
(PIU)-भा.रा.रा.प्रा. (NHAI)
ग्वालियर (म.प्र.)

कार्यालय प्रमुख
संधालनालय भौमिकी तथा खनिकर्म
भोपाल (म.प्र.)

परियोजना निदेशक
PROJECT DIRECTOR
प.का.ई. (PIU)-भा.रा.रा.प्रा. (NHAI)
ग्वालियर (म.प्र.)

44	Mention the methodology proposed for crossing of road for the proposed water pipeline crossing shall be by boring method (Trench-less technology) especially where the existing road Pavement is of cement concerete or dense bituminous concerete type	NA	
45	The casing /conduit pipe shall be installed with an even bearing throughout its length and in such a manner as to prevent the formation of a waterway along it.	Yes	
46	Document / Drawing to be enclosed with the proposal	Yes , Enclosed	
47	gross section showing the size of trench for open trenching method (Is it normal sizeof 1.2 m deep X0.3m wide	Yes	
48	Should not be greater than 60cm wider than the outer diameter of the pipe	Yes as per specification	
49	Located as close to the extreme edge of the right of way as possible but not less than 10meters from the centrelines of the nearest carriageway	Yes as per specification	
50	shall not be permitted to run along the national highways when the road formation is situated in double cutting nor shall these be laid over the existing culverts and bridges	NA	
51	These should be so laid that their top is atleast 0.6 meter below the ground level so as not to obstruct drainage of the road land	Yes as per specification	
52	Cross section showing the size of pit and location of cable for HDD method	Yes as per specification	
53	Strip plan / route plan showing water pipeline chainage width of ROW, distance of Proposed water pipeline with OFC from the edge of ROW inportant milestone intersection, cross drainage works etc	Yes as per enclosed Drawing	
54	Methodology for laying of water pipeline	NA	
55	open trenching method (may be allowed in utility corridor only where pavement is neither cement concerete nor dense bituminous concerete type if if yes what is the methodology of refilling of trench	NA	
56	The trench width should be at least 30cm but not more than 60cm wider than the outer diameter of the pipe	NA	
57	for filling of the trench, bedding shall be to a depth of not less than 30cm it shall consist of granular material free of lumps, clods and cobbles and graded to yield a firm surfacewithout sudden change in the bearing value, unsuitable soil and rock edged should be excavated and replaced by selected material	NA	
58	the backfill shall be completed in two stages 1) side fill to the level of the top to the pipe and 2) overfill to the bottom of the road crust	Yes as per enclosed Drawing	
59	the side fill shall bconsist of granular material laid in 15cm layesrs each consolidated by mechanical tampering and controlled addition of moisture to 95% of the proctors density, over fill shall be compacted to the same density as the material thathad been removed, consolidation by saluration of pending will not be permitted	Yes as per enclosed Drawing	
60	The road crust shall be built to the same strength as the exisiting crust on either side of the trench, care shall be taken to avoid the formation of dip at the trench	Yes	
61	The excavation shall ve protected by flagman signs and baricades and red light during night hours	Yes as per specification	

कार्यालय प्रमुख
सर्वेक्षणालय भौमिकी तथा खनिकर्म
भोपाल (म.प्र.)

प्रबंधक (तक.)
Manager (Tech.)
प.का.ई. (PIU)-भा.रा.रा.प्रा. (NHAI)
ग्वालियर (म.प्र.)

SITE ENGINEER
NHAI, PIU,
GWALIOR (M.P.)

परियोजना निदेशक
PROJECT DIRECTOR
प.का.ई. (PIU)-भा.रा.रा.प्रा. (NHAI)
ग्वालियर (म.प्र.)

Application Details [20240514/1/4/27691/8535]	
Highway	NH44 [NH44]
Name of Highway Authority	**NHAI** Dwarka New delhi
Highway Administration Address	**RO-UP West** RO-UP West
Whether the Fuel Station is part of Rest-area complex	No
Name of Applicant/Oil Company	Mineral Resources Departmen Address: 29 A Khanij Bhawan Arera Hills Bhopal MP 462010, BHOPAL (MADHYA PRADESH), PIN: 462010 Phn: 9425014339 Email: vinod.bagde@mp.gov.in
Application Category	Public Utility
Utility	Towers
State	MADHYA PRADESH
Type	New
Remarks	Geology and Mining team has esteem project AI-based Smart Enforcement System to curb illegal transportation of mineral. We need to implement various check gates across the Madhya Pradesh State. Hence we require permission for implement the Gantry / checkgates
Submitted On	14 May 2024 15:54:31

SURVEY REPORT

AI-Based Smart Enforcement System to Curb Illegal Transportation of Minerals

The survey covered various aspects, including structural integrity, equipment functionality, safety measures, and Soil bearing capacity. Through on-site inspections, interviews with relevant stakeholders, and the examination of technical specifications, the report provides a detailed overview of the surveyed areas.

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- Soil Bearing Capacity....9.
- Gantry Design....21

Executive Summary

To combat unauthorized mineral transportation and strengthen environmental and regulatory compliance, the Government of Madhya Pradesh, through its Directorate of Geology & Mining, has partnered with RailTel Corporation India Limited. As per the state requirement we will deploy AI-powered Smart Enforcement System at 40 designated Check Gates across the state of Madhya Pradesh.

This initiative directly addresses the pressing issue of illegal mineral conveyance, which posesa significant challenge to revenue security and environmental protection. The system itself seamlessly integrates with existing Electronic Transit Pass (eTP) services, leveraging advanced AI technology to significantly enhance the Directorate's ability to monitor, regulate, and prevent such activities. By implementing AI-powered Check Gates equipped with RFID Tag technology, the system is designed to streamline and increase the accuracy of eTP validation processes. This, in turn, is expected to yield substantial benefits for the state, including preserving revenue, ensuring adherence to mining regulations, and upholding environmental clearances. This project marks a significant step forward for the Directorate, harnessing the power of advanced technology for responsible resource management and environmental protection within Madhya Pradesh.

Implementation Strategy

Responding to the critical objectives of the Directorate of Geology & Mining, Government of Madhya Pradesh, the strategy is meticulously tailored to address the Department's unique operational challenges, particularly the significant volume of mineral transportation with in the state (~35,000 vehicles) and across its borders (Uttar Pradesh, Rajasthan, Chhattisgarh, Maharashtra, and Gujarat).

Strategic Implementation Approach

- Site Survey and System Study : Initial phases will involve detailed site surveys and system studies to identify strategic locations for check gate installations, assess infrastructural and technical requirements, and draft detailed project plans and designs. This will be complemented by rigorous data collection efforts to ensure that all technical and administrative aspects are thoroughly addressed.
- Technical Infrastructure: The implementation of high-level and low-level technical infrastructure is crucial. This includes application architecture, database designs, data modelling documents, physical infrastructure design, and the setup of field devices, ensuring scalability, availability, security, manageability, interoperability, and adherence to open standards.
- Operational Components: Key operational components include the installation of check gates equipped with advanced surveillance and monitoring technologies, the establishment of Command and Control Centers for real-time over sight and

management, and the deployment of a mobile and web application ecosystem for comprehensive data capture, analysis, and decision support.

- Security and Compliance: The project will incorporate robust security measures to protect against malicious attacks and ensure data integrity, while also facilitating seamless integration with third-party systems and adhering to open standards wherever possible.
- Stakeholder Engagement and Support: The project will provide extensive support to stakeholders, including the setup of a 24x7 helpdesk, the development of a web portal and mobile app for transporter engagement, and the supply, installation, and testing of RFID tags on registered vehicles, ensuring transparency and ease of compliance.

Expected Outcomes

The deployment of the AI-based Smart Enforcement System is anticipated to yield significant benefits, including:

- Reduction in Illegal Mining Activities: Enhanced monitoring and enforcement capabilities are expected to deter illegal mining operations.
- Increased Revenue Collection: By curbing illegal transportation of minerals, the project aims to secure state revenues that were previously lost.
- Environmental Conservation: The system supports sustainable mining practices by ensuring compliance with environmental norms.

Scope of Survey for Smart Enforcement System to Curb Illegal Transportation of Minerals Project Implementation

As the appointed System Integrator (SI) for the implementation of the Smart Enforcement System to Curb Illegal Transportation of Minerals by the Directorate of Geology and Mining, Govt. of Madhya Pradesh (GoMP). RailTel Corporation India Limited is committed to executing a comprehensive survey and system analysis. This document delineates the scope of survey activities essential for the strategic deployment and operational success of the Smart Enforcement System, aimed at curtailing illegal mineral transportation within the state.

Scope of Survey

- Site Identification and Evaluation: Conduct detailed site surveys to identify strategic locations for the installation of Check Gates

- (CGs). This will involve collaboration with Competent Authorities to ensure sites are selected based on vulnerability to illegal mineral transport, operational efficacy of Smart Enforcement System, and compliance with environmental and infrastructural suitability.
- Infrastructure Assessment: Assess existing infrastructure capabilities and technical enhancements required to support the Smart Enforcement System. This includes evaluating the requirements for SITC of necessary technologies such as AI and RFID systems. Engagement with the Client will facilitate comprehensive data gathering like soil report etc.

- Compliance and Environmental Impact: Evaluate the Smart Enforcement System deployment's environmental impact, ensuring compliance with applicable guidelines and regulations. Prepare necessary documentation for obtaining approvals from relevant authorities, adhering to safety, regulatory, and environmental standards.
- Risk Management: Identify potential risks associated with Smart Enforcement System deployment, including operational, technical, and environmental challenges. Development mitigation strategy outlining preventive measures and contingency plans, detailing roles and responsibilities within the project management framework.
- Project Planning: Prepare a detailed project plan, outlining timelines, milestones, and deliverablesforSmartEnforcementSystemimplementation.Thisincludesgeographical mapping of installation sites, infrastructure upgrade schedules, and a phased strategy for the SITC process, ensuring alignment with RFP specifications.

Data Collection for Smart Enforcement System Framework: Undertake targeted data collection to support the development of the Smart Enforcement System operational framework. Gather essential technical and administrative data to inform AI algorithm optimization and real-time dashboard development , enhancing the Smart Enforcement System's effectiveness in monitoring and enforcement

Site Name	**Alabeli Police chauki, Morena**		
Address/ Location	Alabeli Police chauki, Morena, Madhya Pradesh – 476001		
District	**Morena**	**Tehsil**	Morena
Site Visit Date	20-02-2024	**Survey Number**	08
Latitude	26.6437631	**Longitude**	77.9158239
Lane type	# 4	**Nearby Outpost / Toll Plaza**	Alabeli Police chauki
Internet Connectivity	Internet is not available	**Electricity Connectivity**	Yes, Need permission from Govt. Officials
Temperature Condition	25 C	**Dust Condition**	Normal dust
Wind Condition	8 KM/Hr	**Rain Condition**	Normal
Survey Points			
Sr. No.	**Particular**		
#1	National Highway 44		
#2	Heavy Traffic. Road condition is good and fast movement as its NH		

कार्यालय प्रमुख
संचालनालय भौमिकी तथा खनिकर्म
भोपाल (म.प्र.)

#3	Most of vehicle carry Sand and Gitti (Crushed Stone)
#4	Average speed of vehicle is around 60/70 KM/Hr

Attachment/ Photo

Photo 1

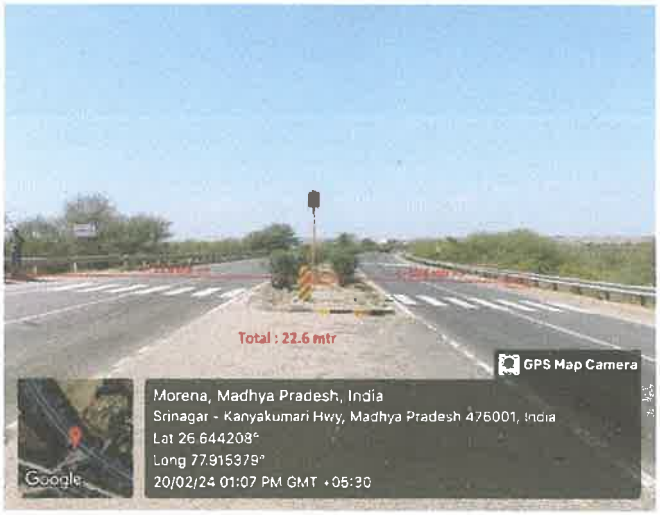

Photo 2

Photo 3

Photo 4

कार्यालय प्रमुख
संचालनालय भौमिकी तथा खनिकर्म
भोपाल (म.प्र.)

Approval Authority		
Sr. No.	**Prepared By / Department**	**Approved By / Reviewed By & Department**
01	**Mr. Rohit Pawar / Mr. Mohit Kamble**	

Surveyor	
Name	**Team/ Dept.**
Mr. Surendra patle	Mining dept. Morena
Mr. Prashant Gupta	Project Coordinator
Mr. Mohit Kamble	Site Survey
Mr. Rohit Pawar	Site Survey

Remark

Site Survey done on 20-02-2024.

Distance measured by Rodo meter and laser distance meter.

Its National Highway and need permission from State Govt. Department.

Electricity (meter) permission from police chauki and installation to be done. Nearby distance and cabling can be done easily.

4 Lane : 4 box cameras , 4 varifocal cameras , 4 RFID , 4 IR illuminator, 4 LED.

Total length is 22.6 meter.

There is a recommendation from mining dept. splitting 4 lane Gantry into two 2 lane Gantry , so that our objective should be fulfilled. One 2 lane gantry towards UP state road and one 2 lane gantry towards Morena road keeping 50/60 mtr distance between them.

Registration and Stamp Department
Madhya Pradesh

Certificate of Stamp Duty

E-Stamp Details

E-Stamp Code	0101052611202400478 8		
Total E-Stamp Amount	500		
Govt. Stamp Duty (Rs.)	500	Municipality Duty (Rs.)	0
Janpad Duty (Rs.)	0	Upkar Amount (Rs.)	0
Exempted Amount(Rs.)	0		
E-Stamp Type	NON-JUDICIAL		
Issue Date & Time	26/11/2024 13:23:40		
Service Provider or Issuer Details	Babita Yadav/SP010541705201600314		
SP/SRO/DRO/HO Details	Shop No. 2, Zone-1,M.P.Nagar, Bhopal M.P. HUZUR BHOPAL		

Deed Details

Deed Type	Agreement/Memorandum of an agreement
Deed Instrument	If relating to secure repayment of a loan or debt.- 0.25 percent of the amount of loan or debt, subject to a maximum of five lakh rupees
Purpose	Agreement

First Party Details

Organization Name	Directorate of Geology and Mining, Madhya Pradesh
Address	29-A, Khanij Bhawan, Arera Hills BHOPAL Madhya Pradesh INDIA
Number of Persons	1

Second Party Details

Organization Name	National Highway Authority of India
Address	NHAI, D-81, Govindpuri, Sachin Tendulkar Marg, 474011 GWALIOR Madhya Pradesh INDIA
Number of Persons	1

Agreement

Digitally signed by BABITA YADAV
Date: 2024.11.26 13:37:09 IST

कार्यालय प्रमुख
संचालनालय भौमिकी तथा खनिकर्म
भोपाल (म.प्र.)

Enclosure to Ministry of Road Transport & Highways letter No. 33044/29/2015 /S&R(R) dated 22.11.2016

AGREEMENT REGARDING GRANTING OF RIGHT OF WAY PERMISSIONS FOR LAYING UTILITY SERVICES ON NATIONAL HIGHWAYS

Agreement to lay Telecom cable / OFC cable / electrical cable / pipe line/ ducts / Gantry and Junction box etc. from 30 meters in length and 6.60 meters in height to 0.50 meters of Alabeli Police chauki, Morena land.

Details of location is :

1. Site Name : Alabeli Police chauki, Morena
2. Location : Alabeli Police chauki, Morena, Madhya Pradesh – 476001
3. Latitude : 26.644255 and Longitude : 77.91518 Lane type : 4 Lane

This Agreement made **26 day of November month 2024** of (year) between Directorate of Geology and Mining, Madhya Pradesh and National Highway Authority of India acting in his executive capacity through Shri Vinod Bagdey, Additional Director, Bhopal

(Hereinafter referred to as the "Authority". which expression shall unless excluded by or repugnant to the context, include his successors in office and assigns) on the one part,

and Directorate of Geology and Mining, Madhya Pradesh, a State Government Department and having its Registered Office at 29-A, Khanij Bhawan, Arera Hills, Bhopal, Madhya Pradesh - 462010

(hereinafter called the "Licensee") which expression shall unless excluded by repugnant to the context, include his successors/administrator assignees on the second part.

Whereas the Authority is responsible, inter-alia, for development and maintenance of lands in Km 30 Meters to 50 Meters 0f State Highway No 44 RoW

Whereas the Licensee proposes to lay Telecom cable / OFC cable / electrical cable / pipe line / ducts / Gantry and Junction box etc. referred to as utility services in subsequent paras.

Whereas the Licensee has applied to the Authority for permission to lay utility services from 30 meters in length and 6.60 meters in height to 0.50 meters of road/route up to 10 Meters and from 30 meters in length and 6.60 meters in height to 0.50 meters of road/route up to10 Meters

And whereas the Authority has agreed to grant such permission for way leave on the State Highway RoWasper terms and conditions hereinafter mentioned.

Now this agreement witnessed that in consideration of the conditions hereinafter contained and on the part of the Licensee to be observed and performed, the Authority hereby grants to the Licensee permission to lay utility services as per the approved drawing attached hereto subject to the following conditions, namely.

1. RoW permissions are only enabled in nature. The purpose of extending the way leave facility on the National Highway RoW is not for enhancing the scope of activity of a utility service provider, either by content or by intent. Further, enforceability of the permission so granted

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agreement & for the purpose for which it is granted

2. No Licensee shall claim exclusive right on the RoWand any subsequent user will be permitted to use the RoW, either above or below, or by the side of the utilities laid by the first user, subject to technical requirements being fulfilled. Decision of the Authority in relation to fulfilment of technical requirements shall be final and binding on all concerned parties. In case any disruption damage is caused to any existing user by the subsequent user, the Authority shall not be held accountable or liable in any manner.
3. The Licensee shall be responsible for undertaking all activities including, but not limited to site identification, survey, design, engineering, arranging finance, project management, obtaining regulatory approvals & necessary clearances, supply of equipment, material, construction, erection, testing and commissioning, maintenance and operation and all other activities essential or required for efficient functioning of their own utility/ industrial infrastructure facilities.
4. The Licensee shall pay license fees @ Rs _____ /sq m/ 5 years to the Authority. The License fee shall become payable from the date of handing over of RoW land to the Licensee, for laying of utilities/cables/conduits/pipelines for infrastructure/ service provider / gantry and Junction box . As regards Tariff and Terms and conditions for providing common utility ducts along National Highways, there shall be a separate agreement regime
5. Fee shall have to be paid in advance for the period for which permission is granted for entering into a license agreement. In case of renewal, rate prevailing at the time of renewal shall be charged. Delay in deposit of fee shall attract interest @15%per annum compounded annually.
6. The present policy of the MoRT&H is to provide a 2.00 m wide utility corridor on either side of the extreme edge of RoW. In cases where utility ducts with sufficient space are already available along NH, the utility services shall be laid in such ducts subject to technical requirements being fulfilled.
7. The utility services shall be laid at the edge of the RoW. In case of restricted width of RoW, which may be adequate only to accommodate the carriageway, central verge, shoulders, slopes of embankment, drains, other road side furniture etc; the utility services shall be laid beyond the toe line of the embankments and clear of the drain.
8. The Licensee shall make his own arrangement for crossing of cross drainage structure, rivers, etc. below the bed. In case, this is not feasible, the utility services may be carried outside the railings/parapets and the bridge superstructure. The fixing and supporting arrangement with all details shall be required to be approved in advance from the concerned Highway Administration. Additional cost on account of fixing and supporting arrangement as assessed by the Authority shall be payable by the Licensee.
9. In exceptional cases, where RoW is restricted the utility services can be allowed beneath the carriageway or service road, if available, subject to the condition that the utility services be laid in concrete ducts, which will be designed to carry traffic on top. The width of the duct shall not be less than one lane. In such cases, it also needs to ensure that maintenance of the utility services shall not interfere with the safe and smooth flow of traffic. The cost of operation and maintenance will have to be borne by the Licensee.
10. It is to be ensured that at no time there is interference with the drainage of the road land and maintenance of the National Highways. Towards this, the top of the utility services shall be at least 0.6 metre below the ground level. However, any structure above ground shall be aesthetically provided for / landscaped with required safety measures as directed by the concerned Authority;
11. The utility services shall be permitted to cross the National Highway either through structure or conduits specially built for that purpose. The casing / conduit pipe should, as minimum, extend from drain to drain in cuts and toe of slope to toe of slope in the fills and shall be designed in accordance with the provision of IRe and executed following the Specifications of the Ministry

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12. Existing drainage structures shall not be allowed to carry the lines across
13. The top of the casing/conduit pipe containing the utility services to cross the road shall be at least 1.2m below the top of the sub grade or the existing ground level whichever is lower, subject to being at least 0.3m below the drain inverts. A typical sketch showing the clearances is given in Attachment-I
14. The utility services shall cross the National Highway preferable on a line normal to it or as nearly so as practicable
15. The casing/conduit pipe for crossing the road may be installed under the road embankment either by boring or digging a trench. Installation by boring method shall be preferred
16. .In case of trenching, the sides of the trench should be done as nearly vertical as possible. The trench width should be at least 30 em. but not more than 60 ems wider than the outer diameter of the pipe. Filling of the trench shall conform to the specifications contained here-in-below or as supplied by the Highway Authority
    a. Bedding shall be to a depth not less than 30 cm. It shall consist of granular material, free of lumps, clods and cobbles, and graded to yield a firm surface without sudden change in the bearing value. Unsuitable soil and rock edges should be excavated and replaced by selected material.
    b. The backfill shall be completed in two stages (i) Side-fill to the level of the top of the pipe (ii) Overfill to the bottom of the road crust.
    c. The side fill shall consist of granular material laid in 15 ern. Layers each consolidated by mechanical tamping and controlled addition of moisture to 95% of the Proctor's Density. Overfill shall be compacted to the same density as the material that had been removed. Consolidation by saturation or ponding will not be permitted.
    d. The road crust shall be built to the same strength as the existing crust on either side of the trench or to thickness and specifications stipulated by the Highway Authority.
17. The Licensee shall ensure making good the excavated trench for laying utility services by proper filling and compaction, so as to restore the land in to the same condition as it was before digging the trench, clearing debris/loose earth produced due to execution of trenching at least SOm away from the edge of the right of way
18. All required restoration work subsequent to laying of the cable shall be required to be undertaken by the Licensee at its cost either by itself or through its authorized representative in consultation with the Authority as per predetermined time schedule and quality standards
19. Prior to commencement of any work on the ground, a performance Bank Guarantee @ Rs. per route metre / Rs per sq m with a validity of one year initially (extendable if required till satisfactory completion of work) shall have to be furnished by the Licensee to the Authority/its designated agency as a security against improper restoration of ground in terms of filling/unsatisfactory compaction damages caused to other underground installations/utility services & interference, interruption, disruption or failure caused thereof to any services etc. In case of the Licensee failing to discharge the obligation of making good of the excavated trench/other restoration work, the Authority shall have a right to make good the damages caused by excavation, at the cost of the Licensee and recover the amount by forfeiture of the Bank Guarantee
20. In case, the Performance Bank Guarantee is invoked as mentioned above, the Licensee shall be required to replenish and reinstate the required Performance Bank Guarantee within one month of such invoking. In case the work contemplated herein is not completed to the satisfaction of the Authority, which has granted the permission, within a period of 11months from the date of issue of the Bank Guarantee, the Licensee shall either furnish a fresh guarantee or extend the guarantee for a further period of one year. Notwithstanding this, the Licensee shall be liable to pay full compensation to the aggrieved Authority/ its designated agency for any damage sustained by them by reason of the exercise of the RoW facility;

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21. The Licensee shall shift the utility services within 90 days (or as specified by the respective Authority) from the date of issue of the notice by the concerned Authority to shift/relocate the utility services, in case it is so required for the purpose of improvement/widening of the road/route/highway or construction of flyover/bridge and restore the road/land to its original condition at his own cost and risk.
22. The Licensee shall be responsible to ascertain from the respective agency in co-ordination with Authority, regarding the location of other utilities /underground installations/ facilities etc. The Licensee shall ensure the safety and security of already existing underground installations/utilities/facilities etc. before commencement of the excavation/using the existing cable ducts. The Licensee shall procure insurance from a reputed insurance company against damages to already existing underground installations/utilities/facilities etc.
23. The Licensee shall compensation/indemnification be solely responsible/ liable for full of concerned agency / aggrieved Authority for any direct, indirect or consequential damage caused to them/claims or replacements sought for, at the cost and risk of the Licensee. The concerned agency in co-ordination with Authority shall also have a right to make good such damages/ recover the claims by forfeiture of Bank Guarantee.
24. If the Licensee fails to comply with any condition to the satisfaction of the Authority, the same shall be executed by the Authority at the cost and risk of the Licensee.
25. Grant of License is subject to the Licensee satisfying (a) minimum disruption of traffic and (b) no damage to the highways. As far as possible, the Licensee should avoid cutting off the road for crossing highway, and other roads and try to carry out the work by trenchless technology. In case any damage is caused to the road pavement in this process, the Licensee will be required to restore the road to the original condition at its cost. If due to unavoidable reasons the road needs to be cut for crossing or laying utility services, the Licensee has to execute the restoration work in a time bound manner at its cost either by itself or through its authorized representative in consultation with the Authority as per predetermined time schedule and quality standards. In case of the Licensee failing to discharge the obligation of making good of the excavated trench/other restoration work, the Authority shall have a right to make good the damages caused by excavation, at the cost of the Licensee and recover the amount by forfeiture of the Bank Guarantee.
26. The Licensee shall inform/give a notice to the concerned agency designated by the Authority at least 15 days in advance with route details prior to digging trenches, for fresh or maintenance/repair works. A separate performance Bank Guarantee for maintenance/repair works shall have to be furnished by the Licensee.
27. Each day, the extent of digging the trenches should be strictly regulated so that utility services are laid and trenches filled up before the close of the work that day. Filling should be completed to the satisfaction of the concerned agency designated by the Authority.
28. The licensee shall indemnify the concerned agency in co-ordination with Authority, against all damages and claims, if any due to the digging of trenches for laying cables/ducts.
29. The permission for laying utility services is granted maximum for 5 years at a time, which can thereafter be considered for renewal. On payment of additional fee at the time of renewal, the permission shall automatically be renewed, unless defaults exist. In case of renewal, rate prevailing at the time of renewal shall be charged. Delay in deposit of fee shall attract interest @ 15% per annum compounded annually.
30. The permission shall be valid only for the period it is issued and fee deposited. However, the Authority also has a right to terminate the permission or to extend the period of Agreement.
31. That the Licensee shall not undertake any work of shifting, repairs or alterations to the utility services without prior written permission of the concerned agency in co-ordination with the Authority.
32. The permission granted shall not in any way be deemed to convey to the Licensee any ownership right or any interest in route/road/highway land /property, other than what is herein expressly granted. No use of NH RoW will be permitted for any purpose other than that specified in the Agreement.

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33. During the subsistence of this Agreement, the utility services located in highway land / property shall be deemed to have been constructed and continued only by the consent and permission of the Authority so that the right of the Licensee to the use thereof shall not become absolute and indefeasible by lapse of time
34. The Licensee shall bear the Stamp Duty charged on this Agreement
35. Three copies of 'as laid drawings' of utilities (hard and soft copies) with geo tagged photographs and geo-tagged video recordings of laying of cables in the trench (with respect to the NH) and after complete restoration shall be submitted to the Authority for verification and record within a month of completion of works.
36. The Licensee shall allow free access to the Site at all times to the authorised representatives of Authority to inspect the Project Facilities and to investigate any matter within their Authority, and upon reasonable notice, shall provide reasonable assistance necessary to carry out their respective duties and functions.
37. The utility services shall not be made operational by the Licensee unless a completion certificate to the effect that the utility services has been laid in accordance with the approved specifications and drawings and the trenches have been filled up to the satisfaction of the concerned agency in co-ordination with the Authority has been obtained. Notwithstanding anything contained herein, this Agreement may be cancelled at any time by Authority for breach of any condition of the same and the Licensee shall neither be entitled to any compensation for any loss caused to it by such cancellation nor shall it be absolved from any liability already incurred.
38. The Licensee shall ensure adherence to relevant Indian standards and follow best industry practices, methods and standards for the purpose of ensuring the safe, efficient and economic design, construction, commissioning, operation, repair and maintenance of any part of the utility lines/industrial infrastructure facilities and which practices, methods and standards shall be adjusted as necessary, to take account of:
    a. operation, repair and maintenance guidelines given by the manufacturers,
    b. the requirements of Law,
    c. the physical conditions at the Site, and
    d. The safety of operating personnel and human beings
39. The Licensee shall have to provide safety measures like barricading, danger lighting and other necessary caution boards while executing the work.
40. While laying utility services, at least one lane of road shall be kept open to traffic at all times. In case of single lane roads, a diversion shall be constructed. If any traffic diversion works are found necessary during the working period such diversion shall be provided at the cost of Licensee.
41. After the termination/expiry of the agreement, the Licensee shall remove the utility services within 90 days and the site shall be brought back to the original condition failing which the Licensee will lose the right to remove the utility services. However before taking up the work of removal of utility services the Licensee shall furnish a Bank Guarantee to the Authority for a period of one year for an amount assessed by the Authority as a security for making good the excavated trench by proper filling and compaction, clearing debris, loose earth produced due to excavation of trenching at least 50m away from the edge of the RoW.
42. Any disputes in interpretation of the terms and conditions of this Agreement or their implementation shall be referred to the redress mechanism prevailing in the Ministry and the decision of the redress mechanism shall be final and binding on all
43. For PPP Projects, in case of any financial loss incurred by the respective project concessionaires due to such laying/shifting of utility services by the Licensee, compensation for the same shall be required to be borne by the Licensee in mutual agreement with the respective project concessionaires. MoRT&H/ NHAII implementing authorities for the project shall not be liable to the concessionaire in any way in this regard.
44. Necessary alteration including complete removal/ shifting for the approach roads as our own cost by Directorate of Geology and Mining, only if so required by National Highway for

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the development of National Highway for in the interest of safety in this section as per circular no. RW/NH-33032/01/17S&R (R) Dated 26 june 2020.

This agreement has been made in duplicate, each on a Stamp Paper, Each party to this Agreement has retained one stamped copy each

IN WITNESS WHEREOF THE PARTIES HERETO HAVE CAUSED THIS AGREEMENT TO BE EXECUTED THROUGH THEIR RESPECTIVE AUTHORISED REPRESENTATIVES THE DAY AND THE YEAR FIRST ABOVE WRITTEN.

SIGNED SEALED AND DELIVERED FOR AND ON BEHALF OF AUTHORITY

BY **Shri** _____

(Signature, name & address with stamp)

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भोपाल (म.प्र.)

SIGNED ON BEHALF OF Directorate of Geology and Mining, Madhya Pradesh (LICENSEE)

BY **Shri Vinod Bagdey**, Additional Director, Bhopal, MP

(Signature, name & address with stamp)

HOLDER OF GENERAL POWER OF ATTORNEY Dated 26/11/2024

EXECUTED IN ACCORDANCE WITH THE RESOLUTION NO._____ DATED _____PASSED BY THE BOARD OF DIRECTORS IN THE MEETING HELD ON

IN THE PRESENCE OF (WITNESSES):

1. Shri. Rajesh Sharma, IT Officer, Directorate of Geology and Mining
2. Shri. Ashish Mohan Shrivastav, Assistant Mineral Economist, Directorate of Geology and Mining

A. M. Shrivastava

Ashish Mohan Shrivastava
Assistant Mineral Economist
Directorate of Geology and Mining,
M.P.

NOTARY
MADHYA PRADESH
GOVT. OF INDIA

IDENTIFIED BY ME

SIGNATURE.....

NAME.....

ADDRESS.....

.....

भारतीय गैर न्यायिक

एक सौ रुपये Rs. 100

रु. 100 ONE HUNDRED RUPEES

सत्यमेव जयते

भारत INDIA

INDIA NON JUDICIAL

मध्य प्रदेश MADHYA PRADESH CS 363892

Undertaking

I/we hereby certify that following terms and conditions will be adhered to during the overhead gantry crossing Near Alabeli Police Chowki Morena, with latitude 26.644255 & longitude 77.91518 associated work from AI Based Smart Enforcement System (Madhya Pradesh) Project.

1- The overhead said gantry (I- check gate) with span of 30 Meter project shall be laid in strict observance of the norms prescribed for the purpose and in compliance with the instruction to be obtained from the project officer of concerned road authority.
2- Adequate arrangement for caution by way of caution board during the day-time danger light at night will be provided by us and in consultation with concerned local authority as and when required.
3- If any Trees (Under Revenue) shall fall across our gantry work, then the necessary permission shall be obtained from the concerned authority for the purpose of desired alternation (if any).
4- We ensure that we shall intimate to the concerned authority prior to the commencement of gantry installation work.

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5- AI Based Smart Enforcement System shall not construct or develop any type of permanent structures along/across the developed surface area of NH.

6- We ensure that if any claim is reported by the concessionaire towards any damage, during the aforesaid work then the same shall be repaired/restored by us.

7- We ensure that no claim shall be made by the agency in case any revenue losses shall be raised during the transmission line stringing work.

8- We ensure that while laying of the installation/ implementation across the national highway, we shall take care of the existing utilities and services line that have been previously laid. In case of any damage happening during the transmission line stringing work, then we shall repair/restore the actual damages accordingly.

9- We ensure that we shall follow and abide by all those standard conditions of ministry circular /NH/MPRDC guidelines regarding overhead Transmission line crossing work.

10- We ensure that we shall manage and control the ongoing traffic movement while stringing work of above Transmission line work across National Highway.

11- Directorate of Geology and Mining, Madhya Pradesh would pay necessary fees for the use of National Highway/ authorities in future as per circular no RW/NH-33032/01/17/S&R(R) Dated 2 June 2020.

Deponent

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भोपाल (म.प्र.)

IDENTIFIED BY ME
SIGNATURE
NAME Apurv Sharma
ADDRESS B-5 Nikhil Bunglows Saatkedi
Bhopal

IDENTIFIED BY ME
SIGNATURE.....
NAME.....
ADDRESS.....

ATTESTED
Madhu Sudan Tiwari
Notary & Advocate Bhopal (M.P.)

GEOTECHNICAL

SAFEBEARING CAPACITY REPORT

FOR

PROPOSED WORK FOR GANTRY AT ALABELI POLICE CHAUKI, DISTT. MORENA.

FOR

M/S. RAIL TEL CORPORATION,

SITE : ALABELI POLICE CHAUKI, DISTT. MORENA.

REPORTED BY

Bhoj Geotech Laboratory

(NABL Accredited As Per ISO/IEC-17025:2017)

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BRIEF DETAILS

Name of Work	: Soil Testing Work for Gantry at Alabeli Police Chauki, Distt. Morena.
Client	: **M/s. Rail Tel Corporation,**
Testing Agency	: **M/s. Bhoj Geotech Laboratory**
	: B-27, Jai Bhavani Society, Phase-II,
	Opp. Extol College, Bawadiyakalan, Bhopal. (M.P.)
Location of Pit	: Alabeli Police Chauki, Distt. Morena.
Open Pit.	: 1 No. (Pit –27)
Date	: 17/07/2024
Pit Depth	: 2.00 mtr.
Type of Pit	: Hand Axe

1.0 GENERAL

1.1 The Soil sample received from the proposed work for Gantry at Alabeli Police Chauki, Distt. Morena for test in the Laboratory.

1.2 The Sample was received at Lab. for Testing Purpose.

1.3 The soil properties are based on the sample received for the tests. The To Trial Pit is up to 2.0m depth.

2.0 LABORATORY INVESTIGATION :

Following laboratory tests & studies were conducted on the soil samples collected from the bore holes:

(I) Grain Size Analysis

(II) Atterbergs Limits

(III) Maximum Dry Density

(IV) Optimum Moisture Content

(V) IS Soil Classification

(VI) Chemical Analysis

(VII) Shear test

2.1.COMPUTATION OF SAFE BEARING CAPACITY

- *BASED ON SHEAR CONSIDERTION*

There are various types of shear tests but here we have performed the unconsolidated undrained test (UU) to get shear parameters for the samples. The safe bearing capacity is calculated as per IS: 6403-1981.

For local and general shear failure the net safe bearing capacity is given as

$$Q = [C N_c S_c d_c + q (N_q - 1) S_q d_q + 0.5 B y N_y S_y d_y] \quad \text{(for General shear)}$$

$$Q = [2/3 C N'_c S_c d_c + q (N'_q - 1) S_q d_q + 0.5 B y N y S y d y] \quad \text{(for Local shear)}$$

Where,

c	=	Cohesion
ø	=	Angle of internal friction
y	=	Density
B	=	Width of the Footing
N c, Nq, Ny	=	Bearing capacity Factor
Sc, Sq,Sy	=	Shape Factor
d_c, d_q, d_y	=	Depth Factor

- *COMPUTATION OF SAFE BEARING CAPACITY FOR ROCK*

(1) Based on Point Load Strength Index of Core

(as per IS: 8764 : 1998 & IS : 12070:1987)

$$I_s(50) = \frac{P}{D^{1.5} \sqrt{D50}} \quad MN/m^2 \ (kg/cm^2)$$

Uniaxial Compressive Strength

$q_c = 22 \times Is\ (50)$

The safe bearing pressure should be estimated from the equation:

$$q_s = q_c x\ N_f$$

q_s = safe bearing pressure (gross)

q_c = average uniaxial compressive strength of rock cores,

N_f= empirical coefficient depending on the spacing of discontinuities

3.0 CONCLUSION & RECOMMENDATION

1. The present report covers the Geotechnical Investigation carried out for Open Pits locations of Alabeli Police Chauki, Distt. Morena. The above report is based on the strata encountered at depth of Investigation

2. Based on the proposed type of project, bore log data, Laboratory test Compelling & Analyzing data as per various code guidelines & Safe Bearing Capacities considering Factor of safety of Soil Stara 3.0 & Rock/Boulder 8.0 as shown in report.

3. The recommendations are based on the collected field data, laboratory tests results conducted on Soil considering factor of safety 3.0 as in recommendation.

4. The Recommended foundation depth & corresponding Safe Bearing Capacity is provided in as under.

Pit No.	Depth of Foundation Mtr.	SBC T/m²	Type of Strata
Pit-27 (Alabeli Police Chauki, Distt. Morena)	**1.50**	**12.59**	**Yellow Soil**
	2.00	**14.16**	**Yellow Soil**

For **BHOJ GEOTECH LABORATORY**
Tech. Manager

BHOJGEOTECH LABORATORY

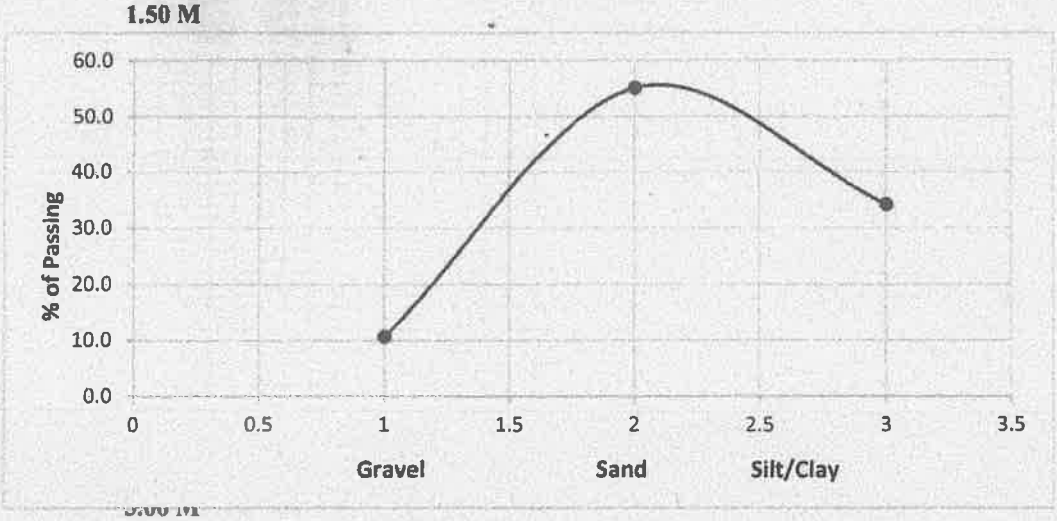
(B-27, Jai Bhawani, Phase-II, Opp. Extol College, Bawadiya Kalan, Bhopal)

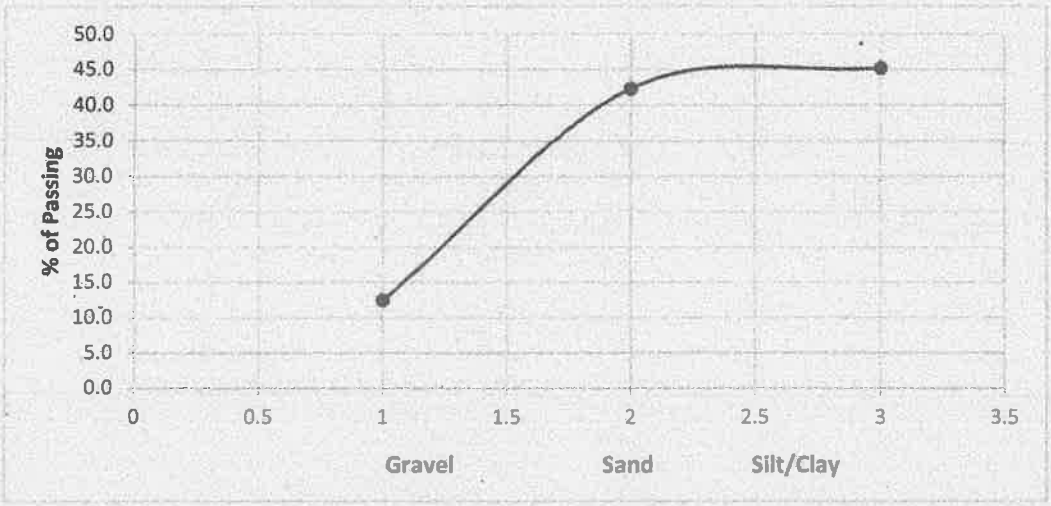
SOIL PROPERTIES

S. NO.	SOIL DESCRIPTION	SIEVE ANALYSIS		
		Depth (m)	1.50	3.0
1	Yellow Soil	Gravel (%)	10.7	12.5
2		Sand (%)	55.1	42.3
3		Silt /Clay (%)	34.2	45.2

SIVES ANALYSIS

1.50 M





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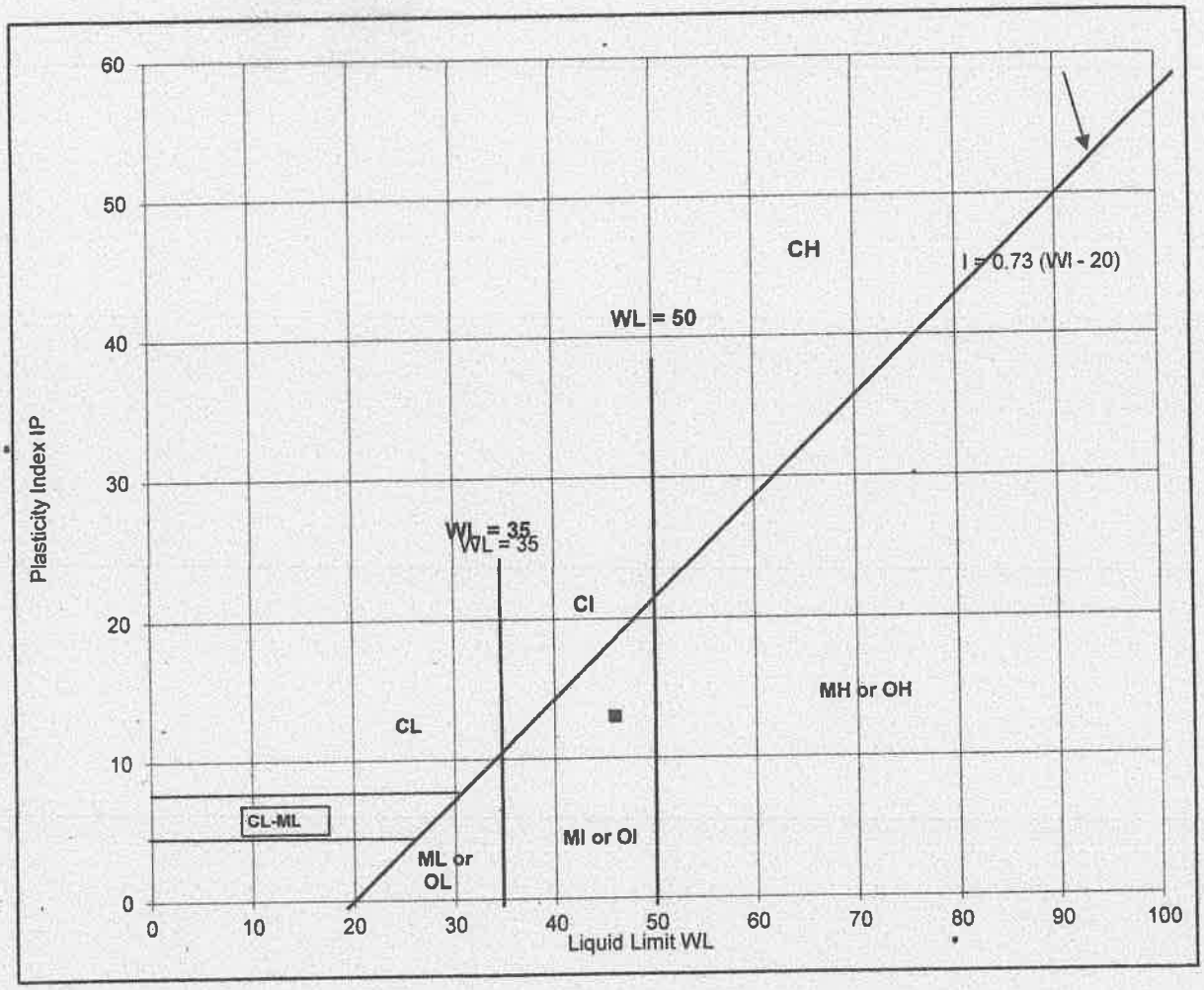
Classification of Soil

S. No.	Depth in Mtr.	LL	PL	PI	Classification
1	2.00	46	33	13	MI or OI



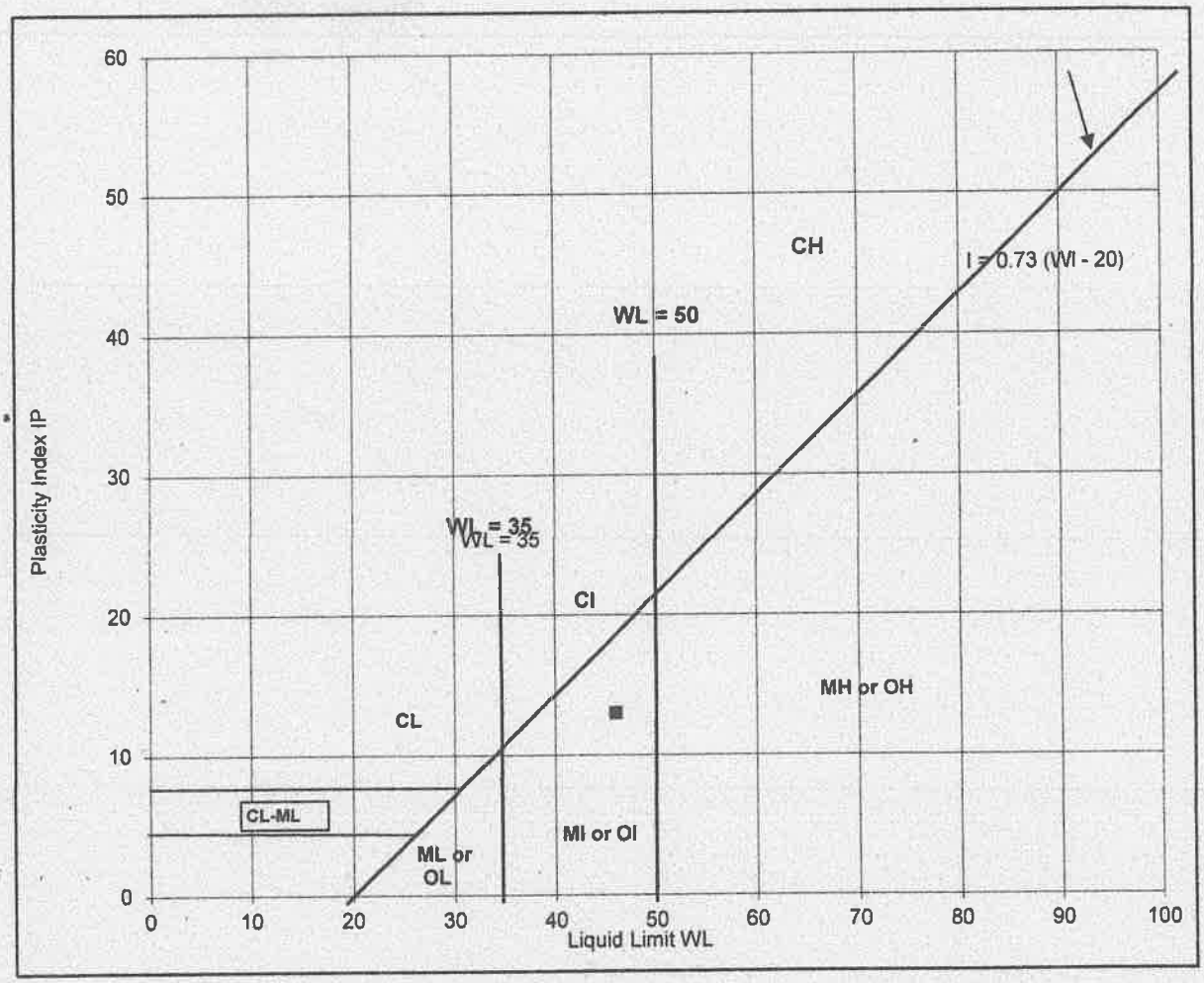
Name of Laboratory: BHOJ GEOTECH LABORATORY			
Report No: BGL/240826-06A	Document Name : **SOIL INVESTIGATION REPORT**		
Date : 26.08.2024	Checked by	Authorised Signatory	Page 8

BHOJGEOTECH LABORATORY

(B-27, Jai Bhawani, Phase-II, Opp. Extol College, Bawadiya Kalan, Bhopal)

Classification of Soil

S. No.	Depth in Mtr.	LL	PL	PI	Classification
1	2.00	42	34	8	MI or OI



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REULTS OF CHEMICAL ANALYSIS OF SOIL

S. No	SOIL DESCRIPTION	DEPTH (M)	pH VALUE	Chloride (Cl %)	Sulphate (So3)
01	Yellow Soil	1.50	8.17	0.19	0.17
02	Yellow Soil	2.00	8.15	0.16	0.19

COMPRESSION TEST RESULTS

S. No.	DEPTH (M)	Wt. Density gm/cc	N.M.C. %	Dry Density gm/cc	C kg/sq.cm	Ø (Degree)
01	1.50	1.86	12.2	1.84	0.48	12
02	2.00	1.88	12.5	1.86	0.48	14

SBC CALCULATION

Site : Alabeli Police Chauki, Morena (Pit-27)

Depth, D	1.50	2.00	
Ø	12	14	From Test Result
C (Kn/M2)	48	48	From Test Result
Bulk Density y (KN/M3)	18.40	18.68	From Test Result
Df (M)	1.50	2.00	Depth of Foundation
B (M)	1.50	1.50	Width of Footing in Mtr.
SBC Based on Local Shear Failure	8.09	8.78	
Nc	7.35	7.71	IS 6403 : 1981 Pg. 8 Table-1
Nq	1.91	2.11	IS 6403 : 1981 Pg. 8 Table-1
Ny	0.68	0.87	IS 6403 : 1981 Pg. 8 Table-1
Sc	1.30	1.30	IS 6403 : 1981 Pg. 8 Table-2
Sq	1.20	1.20	IS 6403 : 1981 Pg. 8 Table-2
Sy	0.60	0.60	IS 6403 : 1981 Pg. 8 Table-2
dc =1+0.2 Df/BVNØ	1.02	1.03	IS 6403 : 1981 Pg. 9
dq = dy if Ø<10	1.01	1.02	IS 6403 : 1981 Pg. 9
dq = dy if Ø<10 = dq = 1.0.1 Df/BVN Ø	1.01	1.02	IS 6403 : 1981 Pg. 9
dy	1.01	1.02	IS 6403 : 1981 Pg. 9
W' (M)	1.00	1.00	IS 6403 : 1981 Pg. 9
Net Ultimate Bearing Capacity	370	417	
F = Factor of Safety	3.00	3.00	
SBC KN/Sq. M	123.4	138.9	
SBC T/Sq. M	12.59	14.16	

BHOJGEOTECH LABORATORY

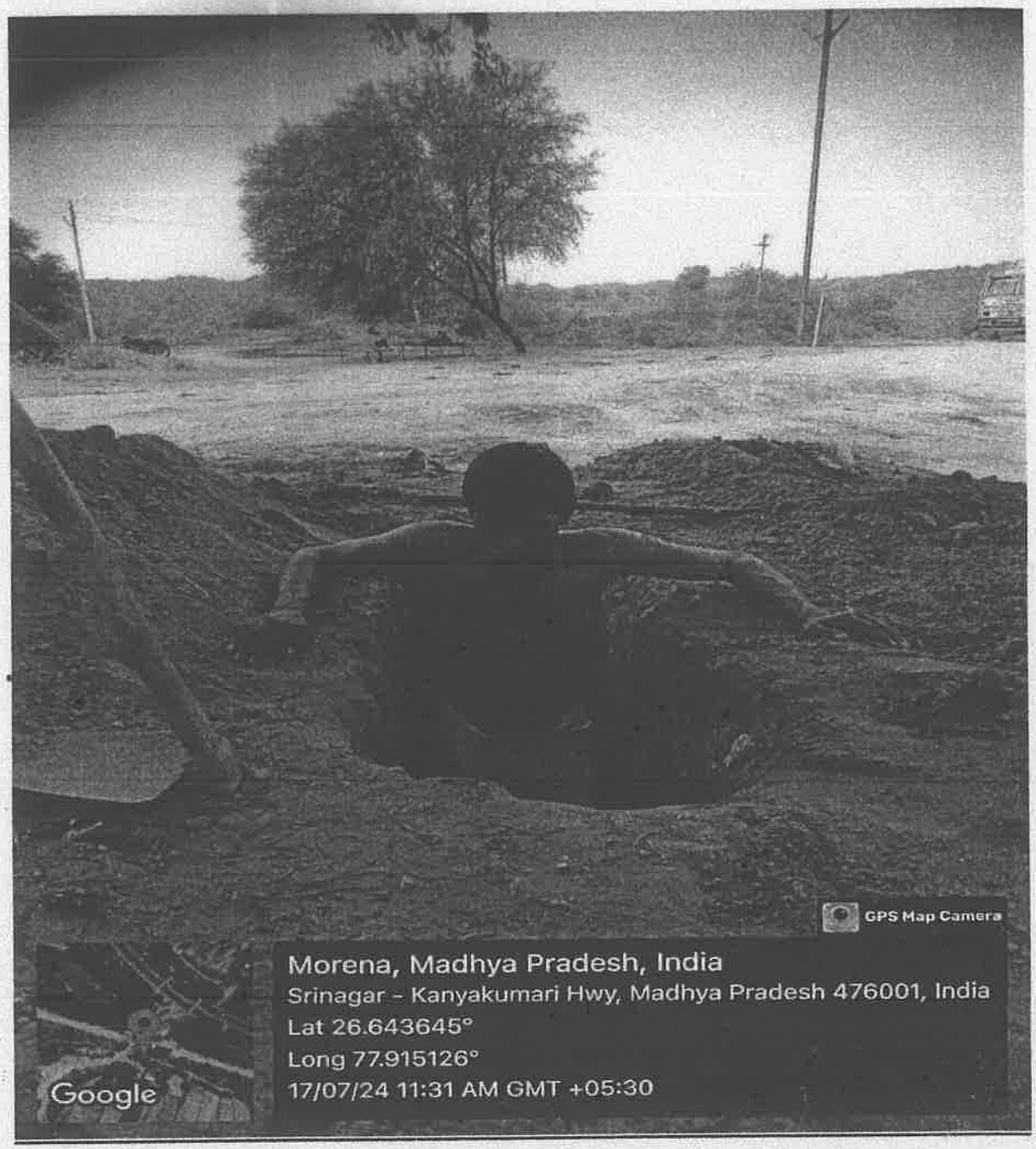
(B-27, Jai Bhawani, Phase-II, Opp. Extol College, Bawadiya Kalan, Bhopal)

SUMMERY

ELEVATION IN METERS	DEPTH IN METERS BELOW REFERENCE	DATE OF SAMPLE	NATURE OF SAMPLE	DEPTH OF SAMPLEBE LOW REFERNCE LAVEL	SAMPLE REFERENCE NO.	VISUAL DESCRIPTION OF SOIL/ROCK	% Gravels	%Sand 2.00-6.00 mm	Silt/Clay %	Liquid Limit	Plastic Limit	Plasticity Index	Soil Classification	DRY DENSITY, GM/CC	%WATER ABSORPTION	UNCOMFINED COMPRESSIVE STRENGTH THEN KG/CM²		SHEARING STERENGTH CHARACTERIS TIC		IF FACTOR OF SAFTY 3.00	SBC (T/M²)
																UCS Kg/cm²	Point Load Strength Kg/cm²	Cohesion 'c' In Kg/cm²	Angle of Shearing		
-1.50	0.0-1.5	17/07/2024	D.S	1.5	Alabeli, Morena (Pit-27)	Yellow Soil	10.7	55.1	34.4	46	33	13	MI or OI	1.84	12.2			0.48	12	3.0	**12.59**
-2.00	1.5-2.0		D.S.	2.0		Yellow Soil	12.5	42.3	45.2	42	34	8	MI or OI	1.86	12.5			0.48	14	3.0	**14.16**

BHOJ GEOTECH LAB BHOPAL

Site Photograph



```
*****************************************************
*                                                   *
*           STAAD.Pro V8i SELECT series 5           *
*           Version 20.07.10.64                     *
*           Proprietary Program of                  *
*           Bentley System, Inc.                    *
*           Date=    OCT16, 2024                    *
*           Time=    14:32:32                       *
*                                                   *
*      USER ID:                                     *
*****************************************************
```

```
     1. STAAD SPACE
INPUT FILE: trussgantry.STD
     2. START JOB INFORMATION
     3. ENGINEER DATE 20-FEB-24
     4. JOB CLIENT DIRECTORATE OF GEOLOGY AND MINING - BHOPAL
     5. JOBNO1
     6. JOBREV3
     7. JOBPART1
     8. JOB REFIS-800(2007),IS456-2000
WARNING- One or more lines are too long and will be split into 2 lines.
         This may not work for all commands. Please check.
     9. JOB COMMENT 22.2M CLEAR SPAN GANTRY DESIGN IN WIND SPEED 150 KMPH TO CARRY DEAD-
    10. LOAD OF MAX 200KG.
    11. ENGINEER NAME LNT
    12. JOB NAME 22.2 MT SPAN GANTRY
    13. END JOB INFORMATION
    14. INPUT WIDTH 79
    15. UNIT METER KN
    16. JOINT COORDINATES
    17.1000;2060;4060.22;606-0.22;71700;81760;91760.22
    18.10176-0.22;110.660.22;120.66-0.22;131.260.22;141.26-0.22
    19.15  1.8 60.22;161.86-0.22;172.460.22;182.46-0.22;19360.22
    20.20   36 -0.22;213.660.22;223.66-0.22;234.260.22;244.26-0.22
    21.25  4.8 60.22;264.86-0.22;275.460.22;285.46-0.22;29660.22
    22.30   66 -0.22;316.660.22;326.66-0.22;337.260.22;347.26-0.22
    23.35  7.8 60.22;367.86-0.22;378.460.22;388.46-0.22;39960.22
    24.40   96 -0.22;419.660.22;429.66-0.22;4310.260.22;4410.26-0.22
    25. 45 10.860.22;4610.86-0.22;4711.460.22;4811.46-0.22;491260.22
    26. 50 126-0.22;5112.660.22;5212.66-0.22;5313.260.22
    27. 54 13.26-0.22;5513.860.22;5613.86-0.22;5714.460.22
    28. 58 14.46-0.22;591560.22;60156-0.22;6115.660.22;6215.66-0.22
    29. 63 16.260.22;6416.26-0.22;6516.860.22;6616.86-0.22
    30. 67 06.60.22;6806.6-0.22;69176.60.22;70176.6-0.22
    31. 71 0.66.60.22;720.66.6-0.22;731.26.60.22;741.26.6-0.22
    32. 75 1.86.60.22;761.86.6-0.22;772.46.60.22;782.46.6-0.22
    33. 79 36.60.22;8036.6-0.22;813.66.60.22;823.66.6-0.22
    34. 83 4.26.60.22;844.26.6-0.22;854.86.60.22;864.86.6-0.22
    35. 87 5.46.60.22;885.46.6-0.22;8966.60.22;9066.6-0.22
    36. 91 6.66.60.22;926.66.6-0.22;937.26.60.22;947.26.6-0.22
```

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37. 95 7.8 6.6 0.22; 96 7.8 6.6 -0.22; 97 8.4 6.6 0.22; 98 8.4 6.6 -0.22
38. 99 9 6.6 0.22; 100 9 6.6 -0.22; 101 9.6 6.6 0.22; 102 9.6 6.6 -0.22
39. 103 10.2 6.6 0.22; 104 10.2 6.6 -0.22; 105 10.8 6.6 0.22; 106 10.8 6.6 -0.22
40. 107 11.4 6.6 0.22; 108 11.4 6.6 -0.22; 109 12 6.6 0.22; 110 12 6.6 -0.22
41. 111 12.6 6.6 0.22; 112 12.6 6.6 -0.22; 113 13.2 6.6 0.22; 114 13.2 6.6 -0.22
42. 115 13.8 6.6 0.22; 116 13.8 6.6 -0.22; 117 14.4 6.6 0.22; 118 14.4 6.6 -0.22
43. 119 15 6.6 0.22; 120 15 6.6 -0.22; 121 15.6 6.6 0.22; 122 15.6 6.6 -0.22
44. 123 16.2 6.6 0.22; 124 16.2 6.6 -0.22; 125 16.8 6.6 0.22; 126 16.8 6.6 -0.22
45. MEMBER INCIDENCES
46. 1 1 2; 4 6 2; 5 7 8; 6 10 8; 7 4 11; 8 10 66; 9 11 13; 10 12 6; 11 12 11
47. 12 13 15; 13 14 12; 14 14 13; 15 15 17; 16 16 14; 17 16 15; 18 17 19; 19 18 16
48. 20 18 17; 21 19 21; 22 20 18; 23 20 19; 24 21 23; 25 22 20; 26 22 21; 27 23 25
49. 28 24 22; 29 24 23; 30 25 27; 31 26 24; 32 26 25; 33 27 29; 34 28 26; 35 28 27
50. 36 29 31; 37 30 28; 38 30 29; 39 31 33; 40 32 30; 41 32 31; 42 33 35; 43 34 32
51. 44 34 33; 45 35 37; 46 36 34; 47 36 35; 48 37 39; 49 38 36; 50 38 37; 51 39 41
52. 52 40 38; 53 40 39; 54 41 43; 55 42 40; 56 42 41; 57 43 45; 58 44 42; 59 44 43
53. 60 45 47; 61 46 44; 62 46 45; 63 47 49; 64 48 46; 65 48 47; 66 49 51; 67 50 48
54. 68 50 49; 69 51 53; 70 52 50; 71 52 51; 72 53 55; 73 54 52; 74 54 53; 75 55 57
55. 76 56 54; 77 56 55; 78 57 59; 79 58 56; 80 58 57; 81 59 61; 82 60 58; 83 60 59
56. 84 61 63; 85 62 60; 86 62 61; 87 63 65; 88 64 62; 89 64 63; 90 65 9; 91 66 64
57. 92 66 65; 93 4 67; 94 6 68; 95 9 69; 96 10 70; 97 11 71; 98 12 72; 99 13 73
58. 100 14 74; 101 15 75; 102 16 76; 103 17 77; 104 18 78; 105 19 79; 106 20 80
59. 107 21 81; 108 22 82; 109 23 83; 110 24 84; 111 25 85; 112 26 86; 113 27 87
60. 114 28 88; 115 29 89; 116 30 90; 117 31 91; 118 32 92; 119 33 93; 120 34 94
61. 121 35 95; 122 36 96; 123 37 97; 124 38 98; 125 39 99; 126 40 100; 127 41 101
62. 128 42 102; 129 43 103; 130 44 104; 131 45 105; 132 46 106; 133 47 107
63. 134 48 108; 135 49 109; 136 50 110; 137 51 111; 138 52 112; 139 53 113
64. 140 54 114; 141 55 115; 142 56 116; 143 57 117; 144 58 118; 145 59 119
65. 146 60 120; 147 61 121; 148 62 122; 149 63 123; 150 64 124; 151 65 125
66. 152 66 126; 153 68 67; 154 70 69; 155 67 71; 156 70 126; 157 71 73; 158 72 68
67. 159 72 71; 160 73 75; 161 74 72; 162 74 73; 163 75 77; 164 76 74; 165 76 75
68. 166 77 79; 167 78 76; 168 78 77; 169 79 81; 170 80 78; 171 80 79; 172 81 83
69. 173 82 80; 174 82 81; 175 83 85; 176 84 82; 177 84 83; 178 85 87; 179 86 84
70. 180 86 85; 181 87 89; 182 88 86; 183 88 87; 184 89 91; 185 90 88; 186 90 89
71. 187 91 93; 188 92 90; 189 92 91; 190 93 95; 191 94 92; 192 94 93; 193 95 97
72. 194 96 94; 195 96 95; 196 97 99; 197 98 96; 198 98 97; 199 99 101; 200 100 98
73. 201 100 99; 202 101 103; 203 102 100; 204 102 101; 205 103 105; 206 104 102
74. 207 104 103; 208 105 107; 209 106 104; 210 106 105; 211 107 109; 212 108 106
75. 213 108 107; 214 109 111; 215 110 108; 216 110 109; 217 111 113; 218 112 110
76. 219 112 111; 220 113 115; 221 114 112; 222 114 113; 223 115 117; 224 116 114
77. 225 116 115; 226 117 119; 227 118 116; 228 118 117; 229 119 121; 230 120 118
78. 231 120 119; 232 121 123; 233 122 120; 234 122 121; 235 123 125; 236 124 122
79. 237 124 123; 238 125 69; 239 126 124; 240 126 125; 242 71 13; 243 13 75
80. 244 17 75; 245 17 79; 246 79 21; 247 21 83; 248 25 83; 249 25 87; 250 87 29
81. 251 29 91; 252 33 91; 253 33 95; 254 95 37; 255 37 99; 256 99 41; 257 41 103
82. 258 103 45; 259 45 107; 260 107 49; 261 49 111; 262 111 53; 263 53 115
83. 264 115 57; 265 57 119; 266 119 61; 267 61 123; 268 123 65; 269 65 69
84. 284 4 71; 285 6 72; 286 72 14; 287 14 76; 288 76 18; 289 18 80; 290 80 22
85. 291 22 84; 292 84 26; 293 26 88; 294 88 30; 295 30 92; 296 92 34; 297 34 96
86. 298 96 38; 299 38 100; 300 100 42; 301 42 104; 302 104 46; 303 46 108
87. 304 108 50; 305 50 112; 306 112 54; 307 54 116; 308 116 58; 309 58 120
88. 310 120 62; 311 62 124; 312 124 66; 313 66 70; 314 2 4; 315 8 9
89. DEFINE MATERIAL START
90. ISOTROPIC STEEL
91. E 2.05E+008
92. POISSON 0.3
```

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 93. DENSITY 76.8195
 94. ALPHA 1.2E-005
 95. DAMP 0.03
 96. TYPE STEEL
 97. STRENGTH FY 253200 FU 407800 RY 1.5 RT 1.2
 98. END DEFINE MATERIAL
 99. MEMBER PROPERTY TATASTRUCTURA
100. 1 4 TO 8 10 90 314 315 TABLE ST 273X6CHS
101. 9 12 13 15 16 18 19 21 22 24 25 27 28 30 31 33 34 36 37 39 40 42 43 45 46 -
102. 48 49 51 52 54 55 57 58 60 61 63 64 66 67 69 70 72 73 75 76 78 79 81 82 84 -
103. 85 87 88 91 155 TO 158 160 161 163 164 166 167 169 170 172 173 175 176 178 -
104. 179 181 182 184 185 187 188 190 191 193 194 196 197 199 200 202 203 205 206 -
105. 208 209 211 212 214 215 217 218 220 221 223 224 226 227 229 230 232 233 235 -
106. 236 238 239 TABLE ST 50X50X4.5SHS
107. 11 14 17 20 23 26 29 32 35 38 41 44 47 50 53 56 59 62 65 68 71 74 77 80 83 -
108. 86 89 92 TO 154 159 162 165 168 171 174 177 180 183 186 189 192 195 198 201 -
109. 204 207 210 213 216 219 222 225 228 231 234 237 240 242 TO 269 284 TO 312 -
110. 313 TABLE ST 32X32X3.2SHS
111. CONSTANTS
112. MATERIAL STEEL ALL
113. SUPPORTS
114. 1 7 FIXED
115. DEFINE WIND LOAD

*** NOTE: If any floor diaphragm is present in the model Wind Load definition
          should be defined after Floor Diaphragm definition. Otherwise wind
          load generation may be unsuccessful during analysis.

116. TYPE 1 WIND 1
117. <! STAAD PRO GENERATED DATA DO NOT MODIFY !!!
118. ASCE-7-2010:PARAMS 150.000 KMPH 0 1 1 0 0.000 FT 0.000 FT 0.000 FT 1 -
119. 1 40.000 FT 30.000 FT 25.000 FT 2.000 0.010 0 -
120. 0 0 0 0 0.761 1.000 1.000 0.850 0 -
121. 0 0 0 0.866 0.800 -0.550
122. !> END GENERATED DATA BLOCK
123. INT 0.738938 0.738938 0.751572 0.763219 0.774045 0.784176 0.793712 0.80273 -
124. 0.811292 0.81945 0.827247 0.83472 0.841898 0.848809 0.855474 HEIG  0  4.572 -
125. 5.15815  5.74431  6.33046  6.91662  7.50277  8.08892  8.67508  9.26123 -
126. 9.84739  10.4335  11.0197  11.6059  12.192
127. EXP 1 JOINT 1 2 4 6 TO 126
128. DEFINE REFERENCE LOADS
129. LOAD R1 LOADTYPE DEAD  TITLE DEAD LOAD
130. SELFWEIGHT Y -1
131. MEMBER LOAD
132. 186 216 CON GY -1.
133. END DEFINE REFERENCE LOADS
134. LOAD 1 LOADTYPE WIND  TITLE WL+X
135. WIND LOAD X 1 TYPE 1 YR 0 15 OPEN
136. LOAD 2 LOADTYPE WIND  TITLE WL-X
137. WIND LOAD -X -1 TYPE 1 YR 0 15 OPEN
```

```
138. LOAD 3 LOADTYPE WIND  TITLE WL+Z
139. WIND LOAD Z 1 TYPE 1 YR 0 15 OPEN
140. LOAD 4 LOADTYPE WIND  TITLE WL-Z
141. WIND LOAD -Z -1 TYPE 1 YR 0 15 OPEN
142. LOAD 5 LOADTYPE DEAD  TITLE DEAD LOAD
143. REFERENCE LOAD
144. R1 1.0
145. LOAD COMB 6 GENERATED INDIAN CODE GENRAL_STRUCTURES 1
146. 5 1.5
147. LOAD COMB 7 GENERATED INDIAN CODE GENRAL_STRUCTURES 2
148. 5 1.2 1 1.2
149. LOAD COMB 8 GENERATED INDIAN CODE GENRAL_STRUCTURES 3
150. 5 1.2 2 1.2
151. LOAD COMB 9 GENERATED INDIAN CODE GENRAL_STRUCTURES 4
152. 5 1.2 3 1.2
153. LOAD COMB 10 GENERATED INDIAN CODE GENRAL_STRUCTURES 5
154. 5 1.2 4 1.2
155. LOAD COMB 11 GENERATED INDIAN CODE GENRAL_STRUCTURES 6
156. 5 1.2 1 -1.2
157. LOAD COMB 12 GENERATED INDIAN CODE GENRAL_STRUCTURES 7
158. 5 1.2 2 -1.2
159. LOAD COMB 13 GENERATED INDIAN CODE GENRAL_STRUCTURES 8
160. 5 1.2 3 -1.2
161. LOAD COMB 14 GENERATED INDIAN CODE GENRAL_STRUCTURES 9
162. 5 1.2 4 -1.2
163. LOAD COMB 15 GENERATED INDIAN CODE GENRAL_STRUCTURES 10
164. 5 1.2
165. LOAD COMB 16 GENERATED INDIAN CODE GENRAL_STRUCTURES 11
166. 5 1.5 1 1.5
167. LOAD COMB 17 GENERATED INDIAN CODE GENRAL_STRUCTURES 12
168. 5 1.5 2 1.5
169. LOAD COMB 18 GENERATED INDIAN CODE GENRAL_STRUCTURES 13
170. 5 1.5 3 1.5
171. LOAD COMB 19 GENERATED INDIAN CODE GENRAL_STRUCTURES 14
172. 5 1.5 4 1.5
173. LOAD COMB 20 GENERATED INDIAN CODE GENRAL_STRUCTURES 15
174. 5 1.5 1 -1.5
175. LOAD COMB 21 GENERATED INDIAN CODE GENRAL_STRUCTURES 16
176. 5 1.5 2 -1.5
177. LOAD COMB 22 GENERATED INDIAN CODE GENRAL_STRUCTURES 17
178. 5 1.5 3 -1.5
179. LOAD COMB 23 GENERATED INDIAN CODE GENRAL_STRUCTURES 18
180. 5 1.5 4 -1.5
181. LOAD COMB 24 GENERATED INDIAN CODE GENRAL_STRUCTURES 19
182. 5 0.9
183. PERFORM ANALYSIS
```

P R O B L E M S T A T I S T I C S

NUMBER OF JOINTS	124	NUMBER OF MEMBERS	298
NUMBER OF PLATES	0	NUMBER OF SOLIDS	0
NUMBER OF SURFACES	0	NUMBER OF SUPPORTS	2

SOLVER USED IS THE OUT-OF-CORE BASIC SOLVER

ORIGINAL/FINAL BAND-WIDTH= 66/ 6/ 42 DOF
TOTAL PRIMARY LOAD CASES = 5, TOTAL DEGREES OF FREEDOM = 732
TOTAL LOAD COMBINATION CASES = 19 SO FAR.
SIZE OF STIFFNESS MATRIX = 31 DOUBLE KILO-WORDS
REQRD/AVAIL. DISK SPACE = 12.8/ 119887.5 MB

184. PARAMETER 1
185. CODE INDIAN
186. FYLD 250000 ALL
187. CHECK CODE ALL

STAAD.Pro CODE CHECKING - (IS-800:1984) v1.1
****

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
1 ST	273X6CHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.639	18
		10.93 C	29.69	-3.52	0.00
4 ST	273X6CHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.054	19
		1.86 T	1.45	1.32	0.22
5 ST	273X6CHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.645	18
		10.69 C	28.84	4.56	0.00
6 ST	273X6CHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.053	19
		1.76 T	-1.41	1.33	0.22
7 ST	273X6CHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.150	17
		9.95 C	-0.08	7.34	0.00
8 ST	273X6CHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.112	16
		2.14 C	-0.04	5.86	0.00
9 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.465	19
		5.22 C	-0.58	0.12	0.00
10 ST	273X6CHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.150	17
		9.95 C	-0.08	7.34	0.60
11 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.056	18
		0.06 T	-0.01	0.01	0.00

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
12 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.207	18
		5.37 T	0.25	-0.02	0.00
13 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.465	18
		5.22 C	-0.58	0.12	0.60
14 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	7.1.2 BEND C	0.859	18
		0.00 T	0.34	0.06	0.44
15 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.189	18
		7.12 T	-0.21	0.00	0.60
16 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.207	19
		5.37 T	0.25	-0.02	0.60
17 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	7.1.2 BEND C	0.857	18
		0.00 T	0.38	0.02	0.44
18 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.255	18
		13.64 T	-0.20	-0.03	0.60
19 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.189	19
		7.12 T	-0.21	0.00	0.00
20 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	7.1.2 BEND C	0.803	18
		0.00 T	0.36	0.01	0.44

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
21	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.246	18
		15.15 T	-0.19	0.01	0.60
22	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.255	19
		13.64 T	-0.20	-0.03	0.00
23	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	7.1.2 BEND C	0.707	18
		0.00 T	-0.33	0.00	0.00
24	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.306	18
		20.63 T	-0.17	-0.04	0.60
25	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.246	19
		15.15 T	-0.19	0.01	0.00
26	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	7.1.2 BEND C	0.651	18
		0.00 T	0.30	0.01	0.44
27	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.289	18
		21.84 T	-0.16	0.01	0.60
28	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.306	19
		20.63 T	-0.17	-0.04	0.00
29	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.571	18
		0.00 T	-0.26	0.01	0.00

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
30 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.342	18
		26.36 T	-0.14	-0.05	0.60
31 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.289	19
		21.84 T	-0.16	0.01	0.00
32 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	7.1.2 BEND C	0.506	18
		0.01 T	0.23	0.01	0.44
33 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.317	18
		27.24 T	-0.13	0.01	0.60
34 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.342	19
		26.36 T	-0.14	-0.05	0.00
35 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	7.1.2 BEND C	0.426	18
		0.01 T	-0.19	0.01	0.00
36 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.356	18
		30.02 T	-0.11	-0.05	0.60
37 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.317	19
		27.24 T	-0.13	0.01	0.00
38 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.361	18
		0.06 T	0.16	0.01	0.44

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
39 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.332	18
		30.56 T	-0.10	0.02	0.60
40 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.356	19
		30.02 T	-0.11	-0.05	0.00
41 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	7.1.2 BEND C	0.274	18
		0.01 T	-0.12	0.01	0.00
42 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.351	18
		31.58 T	-0.07	-0.05	0.60
43 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.332	19
		30.56 T	-0.10	0.02	0.00
44 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	7.1.2 BEND C	0.201	18
		0.01 T	0.08	0.01	0.44
45 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.325	18
		31.79 T	-0.03	-0.05	0.00
46 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.351	19
		31.58 T	-0.07	-0.05	0.00
47 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.118	18
		0.00 T	-0.05	0.01	0.00

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
48 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.331	18
		31.79 T	-0.04	-0.05	0.60
49 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.325	19
		31.79 T	-0.03	-0.05	0.60
50 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	7.1.2 BEND C	0.044	18
		0.00 T	0.01	0.01	0.44
51 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.346	18
		31.67 T	-0.06	-0.05	0.00
52 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.331	19
		31.79 T	-0.04	-0.05	0.00
53 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	7.1.2 BEND C	0.074	18
		0.00 T	0.03	0.01	0.00
54 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.326	18
		30.64 T	-0.09	0.02	0.00
55 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.346	19
		31.67 T	-0.06	-0.05	0.60
56 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	7.1.2 BEND C	0.158	18
		0.00 T	-0.06	0.01	0.44

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
57	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.353	18
		30.18 T	-0.10	-0.05	0.00
58	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.326	19
		30.64 T	-0.09	0.02	0.60
59	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.229	18
		0.00 T	0.10	0.01	0.00
60	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.323	18
		28.12 T	-0.12	0.01	0.00
61	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.353	19
		30.18 T	-0.10	-0.05	0.60
62	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	7.1.2 BEND C	0.316	18
		0.01 T	-0.14	0.01	0.44
63	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.345	18
		27.34 T	-0.13	-0.05	0.00
64	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.323	19
		28.12 T	-0.12	0.01	0.60
65	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	7.1.2 BEND C	0.385	18
		0.01 T	0.17	0.01	0.00

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MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
66 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.297	18
		23.49 T	-0.15	0.00	0.00
67 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.345	19
		27.34 T	-0.13	-0.05	0.60
68 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.477	18
		0.06 T	-0.21	0.01	0.44
69 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.318	18
		22.36 T	-0.17	-0.04	0.00
70 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.297	19
		23.49 T	-0.15	0.00	0.60
71 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	7.1.2 BEND C	0.538	18
		0.01 T	0.24	0.01	0.00
72 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.256	18
		16.74 T	-0.18	0.00	0.00
73 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.318	19
		22.36 T	-0.17	-0.04	0.60
74 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	7.1.2 BEND C	0.625	18
		0.01 T	-0.28	0.01	0.44

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MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
75 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.269	18
		15.28 T	-0.20	-0.03	0.00
76 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.256	19
		16.74 T	-0.18	0.00	0.60
77 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.683	18
		0.00 T	0.32	0.00	0.00
78 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.201	18
		8.60 T	-0.21	0.00	0.00
79 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.269	19
		15.28 T	-0.20	-0.03	0.60
80 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	7.1.2 BEND C	0.777	18
		0.00 T	-0.36	0.01	0.44
81 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.203	18
		6.84 T	-0.22	-0.02	0.00
82 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.201	19
		8.60 T	-0.21	0.00	0.60
83 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	7.1.2 BEND C	0.830	18
		0.00 T	-0.38	0.01	0.44

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MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
84 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.232	19
		3.61 C	-0.29	-0.05	0.60
85 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.203	19
		6.84 T	-0.22	-0.02	0.60
86 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	7.1.2 BEND C	0.920	18
		0.00 T	-0.40	0.03	0.44
87 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.568	18
		2.96 C	0.56	0.34	0.60
88 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.232	18
		3.61 C	-0.29	-0.05	0.00
89 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	7.1.2 BEND C	0.818	18
		0.00 T	-0.35	0.03	0.44
90 ST	273X6CHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.112	16
		2.14 C	-0.04	5.86	0.20
91 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.568	19
		2.96 C	0.56	0.34	0.00
92 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.013	18
		0.09 T	0.00	0.00	0.00

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MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
93	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.157	18
		0.19 C	0.05	0.03	0.00
94	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.157	19
		0.19 C	-0.05	0.03	0.00
95	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.708	16
		20.80 T	0.00	-0.14	0.00
96	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.708	16
		20.80 T	0.00	-0.14	0.00
97	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.406	18
		6.88 C	0.11	0.01	0.00
98	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.406	19
		6.88 C	-0.11	0.01	0.00
99	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.173	18
		0.28 C	0.06	-0.02	0.00
100	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.173	19
		0.28 C	-0.06	-0.02	0.00
101	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.060	19
		0.11 T	-0.02	-0.01	0.00

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MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
102	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.060	18
		0.11 T	0.02	-0.01	0.00
103	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.035	18
		0.20 C	0.00	-0.01	0.00
104	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.035	19
		0.20 C	0.00	-0.01	0.00
105	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.029	19
		0.22 T	0.00	0.01	0.60
106	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.029	18
		0.22 T	0.00	0.01	0.60
107	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.025	18
		0.23 C	0.00	-0.01	0.00
108	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.025	19
		0.23 C	0.00	-0.01	0.00
109	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.030	19
		0.28 T	0.00	0.01	0.60
110	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.030	18
		0.28 T	0.00	0.01	0.60

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
111	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.025	18
		0.27 C	0.00	-0.01	0.00
112	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.025	19
		0.27 C	0.00	-0.01	0.00
113	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.040	19
		0.33 T	-0.01	0.01	0.60
114	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.040	18
		0.33 T	0.01	0.01	0.60
115	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.087	18
		0.99 C	-0.03	0.00	0.60
116	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.087	19
		0.99 C	0.03	0.00	0.60
117	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.030	19
		0.35 T	-0.01	0.00	0.60
118	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.030	18
		0.35 T	0.01	0.00	0.60
119	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.017	18
		0.33 C	0.00	0.00	0.00

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
120	ST 32X32X3.2SHS		(TATA STRUCTURA	SECTIONS)	
		PASS	IS-7.1.1(A)	0.017	19
		0.33 C	0.00	0.00	0.00
121	ST 32X32X3.2SHS		(TATA STRUCTURA	SECTIONS)	
		PASS	IS-7.1.2	0.017	19
		0.36 T	0.00	0.00	0.60
122	ST 32X32X3.2SHS		(TATA STRUCTURA	SECTIONS)	
		PASS	IS-7.1.2	0.017	18
		0.36 T	0.00	0.00	0.60
123	ST 32X32X3.2SHS		(TATA STRUCTURA	SECTIONS)	
		PASS	IS-7.1.1(A)	0.015	18
		0.34 C	0.00	0.00	0.00
124	ST 32X32X3.2SHS		(TATA STRUCTURA	SECTIONS)	
		PASS	IS-7.1.1(A)	0.015	19
		0.34 C	0.00	0.00	0.00
125	ST 32X32X3.2SHS		(TATA STRUCTURA	SECTIONS)	
		PASS	IS-7.1.2	0.016	19
		0.36 T	0.00	0.00	0.60
126	ST 32X32X3.2SHS		(TATA STRUCTURA	SECTIONS)	
		PASS	IS-7.1.2	0.016	18
		0.36 T	0.00	0.00	0.60
127	ST 32X32X3.2SHS		(TATA STRUCTURA	SECTIONS)	
		PASS	IS-7.1.1(A)	0.018	18
		0.34 C	0.00	0.00	0.00
128	ST 32X32X3.2SHS		(TATA STRUCTURA	SECTIONS)	
		PASS	IS-7.1.1(A)	0.018	19
		0.34 C	0.00	0.00	0.00

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
129 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.019	19
		0.35 T	0.00	0.00	0.60
130 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.019	18
		0.35 T	0.00	0.00	0.60
131 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.020	18
		0.31 C	0.00	0.00	0.00
132 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.020	19
		0.31 C	0.00	0.00	0.00
133 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.031	19
		0.33 T	-0.01	0.00	0.60
134 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.031	18
		0.33 T	0.01	0.00	0.60
135 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.090	18
		0.97 C	-0.03	-0.01	0.60
136 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.090	19
		0.97 C	0.03	-0.01	0.60
137 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.040	19
		0.29 T	-0.01	-0.01	0.60

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
138	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.040	18
		0.29 T	0.01	-0.01	0.60
139	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.028	18
		0.23 C	0.00	0.01	0.00
140	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.028	19
		0.23 C	0.00	0.01	0.00
141	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.029	19
		0.23 T	0.00	-0.01	0.60
142	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.029	18
		0.23 T	0.00	-0.01	0.60
143	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.030	18
		0.19 C	0.00	0.01	0.00
144	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.030	19
		0.19 C	0.00	0.01	0.00
145	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.033	19
		0.08 T	0.00	0.01	0.00
146	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.033	18
		0.08 T	0.00	0.01	0.00

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
147 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.061	18
		0.26 C	0.02	0.01	0.00
148 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.061	19
		0.26 C	-0.02	0.01	0.00
149 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.193	18
		0.63 C	0.05	0.03	0.00
150 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.193	19
		0.63 C	-0.05	0.03	0.00
151 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.363	18
		1.83 C	0.08	-0.07	0.00
152 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.363	19
		1.83 C	-0.08	-0.07	0.00
153 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.305	18
		0.00 T	0.09	0.05	0.44
154 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.363	18
		0.00 T	-0.10	0.07	0.44
155 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.070	18
		0.48 T	0.09	-0.02	0.00

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
156 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.220	16
		6.97 T	0.00	0.27	0.20
157 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.170	18
		1.02 T	0.23	0.04	0.00
158 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.070	19
		0.48 T	0.09	-0.02	0.60
159 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.565	18
		0.00 T	0.18	0.08	0.44
160 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.162	18
		2.31 T	0.23	0.01	0.00
161 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.170	19
		1.02 T	0.23	0.04	0.60
162 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.751	18
		0.00 C	0.30	0.05	0.44
163 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.210	19
		8.84 C	0.20	-0.02	0.60
164 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.162	19
		2.31 T	0.23	0.01	0.60

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
165 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.830	18
		0.00 C	0.36	0.02	0.44
166 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.220	19
		10.51 C	0.20	0.01	0.60
167 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.210	18
		8.84 C	0.20	-0.02	0.00
168 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.792	18
		0.00 C	0.36	0.01	0.44
169 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.284	19
		16.99 C	0.19	-0.03	0.60
170 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.220	18
		10.51 C	0.20	0.01	0.00
171 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.743	18
		0.00 C	-0.34	0.01	0.00
172 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.272	19
		18.39 C	0.18	0.01	0.60
173 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.284	18
		16.99 C	0.19	-0.03	0.00

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MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
174 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.654	18
		0.00 C	0.30	0.00	0.44
175 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.330	19
		23.80 C	0.16	-0.05	0.60
176 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.272	18
		18.39 C	0.18	0.01	0.00
177 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.596	18
		0.00 C	-0.27	0.01	0.00
178 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.312	19
		24.85 C	0.15	0.02	0.60
179 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.330	18
		23.80 C	0.16	-0.05	0.00
180 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.498	18
		0.00 C	-0.23	0.00	0.00
181 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.365	19
		29.13 C	0.13	-0.06	0.60
182 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.312	18
		24.85 C	0.15	0.02	0.00

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
183	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.443	18
		0.02 C	0.19	-0.01	0.44
184	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.337	19
		29.83 C	0.11	0.02	0.60
185	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.365	18
		29.13 C	0.13	-0.06	0.00
186	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.479	18
		0.06 C	0.15	0.07	0.44
187	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.362	19
		31.57 C	0.09	-0.06	0.60
188	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.337	18
		29.83 C	0.11	0.02	0.00
189	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.281	18
		0.02 C	0.12	-0.01	0.44
190	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.334	19
		31.92 C	0.08	0.02	0.60
191	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.362	18
		31.57 C	0.09	-0.06	0.00

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MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
192	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.182	18
		0.00 C	-0.08	-0.01	0.00
193	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.349	19
		32.57 C	0.05	-0.06	0.60
194	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.334	18
		31.92 C	0.08	0.02	0.00
195	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.110	18
		0.00 C	-0.04	0.01	0.00
196	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.347	19
		32.58 C	0.05	-0.06	0.00
197	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.349	18
		32.57 C	0.05	-0.06	0.00
198	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.022	18
		0.00 C	0.00	0.01	0.44
199	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.335	19
		32.15 C	0.07	0.02	0.00
200	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.347	18
		32.58 C	0.05	-0.06	0.60

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MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
201	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.098	18
		0.00 C	0.03	0.01	0.00
202	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.362	19
		31.82 C	0.09	-0.06	0.00
203	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.335	18
		32.15 C	0.07	0.02	0.60
204	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.169	18
		0.00 C	-0.07	0.01	0.44
205	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.339	19
		30.33 C	0.11	0.02	0.00
206	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.362	18
		31.82 C	0.09	-0.06	0.60
207	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.257	18
		0.00 C	0.11	0.01	0.00
208	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.363	19
		29.66 C	0.12	-0.05	0.00
209	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.339	18
		30.33 C	0.11	0.02	0.60

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
210	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.327	18
		0.00 C	0.15	-0.01	0.00
211	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.331	19
		27.10 C	0.14	0.02	0.00
212	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.363	18
		29.66 C	0.12	-0.05	0.60
213	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.425	18
		0.02 C	-0.19	-0.01	0.44
214	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.354	19
		26.08 C	0.16	-0.06	0.00
215	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.331	18
		27.10 C	0.14	0.02	0.60
216	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.622	18
		0.06 C	-0.22	0.07	0.44
217	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.294	19
		21.01 C	0.18	0.01	0.00
218	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.354	18
		26.08 C	0.16	-0.06	0.60

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MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
219	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.583	18
		0.02 C	-0.26	-0.01	0.44
220	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.307	19
		19.65 C	0.19	-0.04	0.00
221	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.294	18
		21.01 C	0.18	0.01	0.60
222	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.638	18
		0.00 C	0.29	0.00	0.00
223	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.247	19
		13.51 C	0.20	0.01	0.00
224	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.307	18
		19.65 C	0.19	-0.04	0.60
225	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.725	18
		0.00 C	0.33	0.01	0.00
226	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.249	19
		11.84 C	0.21	-0.03	0.00
227	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.247	18
		13.51 C	0.20	0.01	0.60

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
228 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.782	18
		0.00 C	-0.36	0.01	0.44
229 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.170	19
		4.89 C	-0.21	0.00	0.60
230 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.249	18
		11.84 C	0.21	-0.03	0.60
231 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.841	18
		0.00 C	-0.39	0.01	0.44
232 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.177	19
		3.16 C	-0.25	0.00	0.60
233 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.170	18
		4.89 C	-0.21	0.00	0.00
234 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.853	18
		0.00 C	-0.37	0.02	0.44
235 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.254	18
		4.97 T	0.25	0.11	0.60
236 ST	50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.177	18
		3.16 C	-0.25	0.00	0.00

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
237	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.794	18
		0.00 C	-0.31	0.06	0.44
238	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.220	16
		6.97 T	0.00	0.27	0.00
239	ST 50X50X4.5SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.254	19
		4.97 T	0.25	0.11	0.00
240	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	7.1.2 BEND C	0.465	18
		0.00 T	-0.15	0.06	0.44
242	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.197	18
		4.58 T	0.04	0.01	0.85
243	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.204	18
		4.25 C	0.04	-0.01	0.00
244	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.115	18
		3.73 T	-0.02	0.00	0.85
245	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.148	19
		3.79 C	0.02	0.01	0.85
246	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.106	18
		3.23 T	-0.02	0.00	0.85

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MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
247	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.130	19
		3.35 C	0.01	0.01	0.85
248	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.092	18
		2.84 T	0.01	0.01	0.00
249	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.107	19
		2.88 C	0.01	0.01	0.85
250	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.076	18
		2.39 T	-0.01	0.00	0.85
251	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.063	19
		1.41 C	0.00	-0.01	0.00
252	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.038	18
		0.95 T	0.01	0.00	0.49
253	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.044	19
		0.87 C	0.00	-0.01	0.28
254	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.029	18
		0.49 T	0.00	0.00	0.28
255	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.033	19
		0.36 C	0.00	-0.01	0.21

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
256 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.039	19
		0.74 C	0.00	-0.01	0.57
257 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.041	18
		1.02 T	-0.01	0.00	0.00
258 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.058	19
		1.23 C	0.00	-0.01	0.85
259 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.054	18
		1.47 T	-0.01	0.00	0.00
260 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.079	19
		1.74 C	-0.01	-0.01	0.85
261 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.094	18
		2.93 T	-0.01	0.00	0.00
262 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.121	19
		3.20 C	-0.01	-0.01	0.85
263 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.109	18
		3.39 T	-0.02	0.01	0.00
264 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.140	19
		3.58 C	0.01	0.01	0.00

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
265 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.119	18
		3.84 T	-0.02	0.00	0.00
266 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.157	19
		3.82 C	0.02	0.00	0.00
267 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.140	18
		4.92 T	0.02	0.00	0.85
268 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.430	18
		4.17 C	0.10	0.05	0.85
269 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.657	16
		19.68 C	0.00	-0.12	0.00
284 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.262	17
		11.06 T	0.00	0.02	0.00
285 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.262	17
		11.06 T	0.00	0.02	0.00
286 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.197	19
		4.58 T	-0.04	0.01	0.85
287 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.204	19
		4.25 C	-0.04	-0.01	0.00

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
288	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.115	19
		3.73 T	-0.02	0.00	0.00
289	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.148	18
		3.79 C	-0.02	0.01	0.85
290	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.106	19
		3.23 T	0.02	0.00	0.85
291	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.130	18
		3.35 C	-0.01	0.01	0.85
292	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.092	19
		2.84 T	0.01	0.01	0.85
293	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.107	18
		2.88 C	-0.01	0.01	0.85
294	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.076	19
		2.39 T	0.01	0.00	0.85
295	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.063	18
		1.41 C	0.00	-0.01	0.00
296	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.038	19
		0.95 T	0.00	0.00	0.28

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
297 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.044	18
		0.87 C	0.00	-0.01	0.28
298 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.029	19
		0.49 T	0.00	0.00	0.28
299 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.033	18
		0.36 C	0.00	-0.01	0.21
300 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.039	18
		0.74 C	0.00	-0.01	0.57
301 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.041	19
		1.02 T	0.01	0.00	0.00
302 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.058	18
		1.23 C	0.00	-0.01	0.85
303 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.054	19
		1.47 T	0.01	0.00	0.00
304 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.079	18
		1.74 C	0.01	-0.01	0.85
305 ST	32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.094	19
		2.93 T	0.01	0.00	0.00

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
306	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.121	18
		3.20 C	0.01	-0.01	0.85
307	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.109	19
		3.39 T	0.02	0.01	0.00
308	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.140	18
		3.58 C	-0.01	0.01	0.00
309	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.119	19
		3.84 T	0.02	0.00	0.00
310	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.157	18
		3.82 C	-0.02	0.00	0.00
311	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.140	19
		4.92 T	-0.02	0.00	0.85
312	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(A)	0.430	19
		4.17 C	-0.10	0.05	0.85
313	ST 32X32X3.2SHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.1(B)	0.657	16
		19.68 C	0.00	-0.12	0.00
314	ST 273X6CHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.054	18
		1.86 T	1.45	1.32	0.00

ALL UNITS ARE - KN METE (UNLESS OTHERWISE Noted)

MEMBER	TABLE	RESULT/ FX	CRITICAL COND/ MY	RATIO/ MZ	LOADING/ LOCATION
315	ST 273X6CHS		(TATA STRUCTURA SECTIONS)		
		PASS	IS-7.1.2	0.053	18
		1.76 T	-1.41	1.33	0.00

********** END OF TABULATED RESULT OF DESIGN **********

188. PARAMETER 2
189. CODE INDIAN
190. STEEL MEMBER TAKE OFF ALL

STEEL TAKE-OFF

PROFILE	LENGTH(METE)	WEIGHT(KN)
ST 273X6CHS	14.48	5.598
ST 50X50X4.5SHS	66.40	3.912
ST 32X32X3.2SHS	110.30	2.898
	TOTAL =	12.409

MEMBER	PROFILE	LENGTH (METE)	WEIGHT (KN)
1	ST 273X6CHS	6.00	2.320
4	ST 273X6CHS	0.22	0.085
5	ST 273X6CHS	6.00	2.320
6	ST 273X6CHS	0.22	0.085
7	ST 273X6CHS	0.60	0.232
8	ST 273X6CHS	0.20	0.077
9	ST 50X50X4.5SHS	0.60	0.035
10	ST 273X6CHS	0.60	0.232
11	ST 32X32X3.2SHS	0.44	0.012
12	ST 50X50X4.5SHS	0.60	0.035
13	ST 50X50X4.5SHS	0.60	0.035
14	ST 32X32X3.2SHS	0.44	0.012
15	ST 50X50X4.5SHS	0.60	0.035
16	ST 50X50X4.5SHS	0.60	0.035
17	ST 32X32X3.2SHS	0.44	0.012
18	ST 50X50X4.5SHS	0.60	0.035
19	ST 50X50X4.5SHS	0.60	0.035
20	ST 32X32X3.2SHS	0.44	0.012
21	ST 50X50X4.5SHS	0.60	0.035
22	ST 50X50X4.5SHS	0.60	0.035
23	ST 32X32X3.2SHS	0.44	0.012
24	ST 50X50X4.5SHS	0.60	0.035
25	ST 50X50X4.5SHS	0.60	0.035
26	ST 32X32X3.2SHS	0.44	0.012
27	ST 50X50X4.5SHS	0.60	0.035
28	ST 50X50X4.5SHS	0.60	0.035
29	ST 32X32X3.2SHS	0.44	0.012
30	ST 50X50X4.5SHS	0.60	0.035
31	ST 50X50X4.5SHS	0.60	0.035
32	ST 32X32X3.2SHS	0.44	0.012
33	ST 50X50X4.5SHS	0.60	0.035
34	ST 50X50X4.5SHS	0.60	0.035
35	ST 32X32X3.2SHS	0.44	0.012
36	ST 50X50X4.5SHS	0.60	0.035
37	ST 50X50X4.5SHS	0.60	0.035
38	ST 32X32X3.2SHS	0.44	0.012
39	ST 50X50X4.5SHS	0.60	0.035
40	ST 50X50X4.5SHS	0.60	0.035

41	ST	32X32X3.2SHS	0.44	0.012
42	ST	50X50X4.5SHS	0.60	0.035
43	ST	50X50X4.5SHS	0.60	0.035
44	ST	32X32X3.2SHS	0.44	0.012
45	ST	50X50X4.5SHS	0.60	0.035
46	ST	50X50X4.5SHS	0.60	0.035
47	ST	32X32X3.2SHS	0.44	0.012
48	ST	50X50X4.5SHS	0.60	0.035
49	ST	50X50X4.5SHS	0.60	0.035
50	ST	32X32X3.2SHS	0.44	0.012
51	ST	50X50X4.5SHS	0.60	0.035
52	ST	50X50X4.5SHS	0.60	0.035
53	ST	32X32X3.2SHS	0.44	0.012
54	ST	50X50X4.5SHS	0.60	0.035
55	ST	50X50X4.5SHS	0.60	0.035
56	ST	32X32X3.2SHS	0.44	0.012
57	ST	50X50X4.5SHS	0.60	0.035
58	ST	50X50X4.5SHS	0.60	0.035
59	ST	32X32X3.2SHS	0.44	0.012
60	ST	50X50X4.5SHS	0.60	0.035
61	ST	50X50X4.5SHS	0.60	0.035
62	ST	32X32X3.2SHS	0.44	0.012
63	ST	50X50X4.5SHS	0.60	0.035
64	ST	50X50X4.5SHS	0.60	0.035
65	ST	32X32X3.2SHS	0.44	0.012
66	ST	50X50X4.5SHS	0.60	0.035
67	ST	50X50X4.5SHS	0.60	0.035
68	ST	32X32X3.2SHS	0.44	0.012
69	ST	50X50X4.5SHS	0.60	0.035
70	ST	50X50X4.5SHS	0.60	0.035
71	ST	32X32X3.2SHS	0.44	0.012
72	ST	50X50X4.5SHS	0.60	0.035
73	ST	50X50X4.5SHS	0.60	0.035
74	ST	32X32X3.2SHS	0.44	0.012
75	ST	50X50X4.5SHS	0.60	0.035
76	ST	50X50X4.5SHS	0.60	0.035
77	ST	32X32X3.2SHS	0.44	0.012
78	ST	50X50X4.5SHS	0.60	0.035
79	ST	50X50X4.5SHS	0.60	0.035
80	ST	32X32X3.2SHS	0.44	0.012
81	ST	50X50X4.5SHS	0.60	0.035
82	ST	50X50X4.5SHS	0.60	0.035
83	ST	32X32X3.2SHS	0.44	0.012
84	ST	50X50X4.5SHS	0.60	0.035
85	ST	50X50X4.5SHS	0.60	0.035
86	ST	32X32X3.2SHS	0.44	0.012
87	ST	50X50X4.5SHS	0.60	0.035
88	ST	50X50X4.5SHS	0.60	0.035
89	ST	32X32X3.2SHS	0.44	0.012
90	ST	273X6CHS	0.20	0.077
91	ST	50X50X4.5SHS	0.60	0.035
92	ST	32X32X3.2SHS	0.44	0.012
93	ST	32X32X3.2SHS	0.60	0.016
94	ST	32X32X3.2SHS	0.60	0.016
95	ST	32X32X3.2SHS	0.60	0.016
96	ST	32X32X3.2SHS	0.60	0.016

97	ST	32X32X3.2SHS	0.60	0.016
98	ST	32X32X3.2SHS	0.60	0.016
99	ST	32X32X3.2SHS	0.60	0.016
100	ST	32X32X3.2SHS	0.60	0.016
101	ST	32X32X3.2SHS	0.60	0.016
102	ST	32X32X3.2SHS	0.60	0.016
103	ST	32X32X3.2SHS	0.60	0.016
104	ST	32X32X3.2SHS	0.60	0.016
105	ST	32X32X3.2SHS	0.60	0.016
106	ST	32X32X3.2SHS	0.60	0.016
107	ST	32X32X3.2SHS	0.60	0.016
108	ST	32X32X3.2SHS	0.60	0.016
109	ST	32X32X3.2SHS	0.60	0.016
110	ST	32X32X3.2SHS	0.60	0.016
111	ST	32X32X3.2SHS	0.60	0.016
112	ST	32X32X3.2SHS	0.60	0.016
113	ST	32X32X3.2SHS	0.60	0.016
114	ST	32X32X3.2SHS	0.60	0.016
115	ST	32X32X3.2SHS	0.60	0.016
116	ST	32X32X3.2SHS	0.60	0.016
117	ST	32X32X3.2SHS	0.60	0.016
118	ST	32X32X3.2SHS	0.60	0.016
119	ST	32X32X3.2SHS	0.60	0.016
120	ST	32X32X3.2SHS	0.60	0.016
121	ST	32X32X3.2SHS	0.60	0.016
122	ST	32X32X3.2SHS	0.60	0.016
123	ST	32X32X3.2SHS	0.60	0.016
124	ST	32X32X3.2SHS	0.60	0.016
125	ST	32X32X3.2SHS	0.60	0.016
126	ST	32X32X3.2SHS	0.60	0.016
127	ST	32X32X3.2SHS	0.60	0.016
128	ST	32X32X3.2SHS	0.60	0.016
129	ST	32X32X3.2SHS	0.60	0.016
130	ST	32X32X3.2SHS	0.60	0.016
131	ST	32X32X3.2SHS	0.60	0.016
132	ST	32X32X3.2SHS	0.60	0.016
133	ST	32X32X3.2SHS	0.60	0.016
134	ST	32X32X3.2SHS	0.60	0.016
135	ST	32X32X3.2SHS	0.60	0.016
136	ST	32X32X3.2SHS	0.60	0.016
137	ST	32X32X3.2SHS	0.60	0.016
138	ST	32X32X3.2SHS	0.60	0.016
139	ST	32X32X3.2SHS	0.60	0.016
140	ST	32X32X3.2SHS	0.60	0.016
141	ST	32X32X3.2SHS	0.60	0.016
142	ST	32X32X3.2SHS	0.60	0.016
143	ST	32X32X3.2SHS	0.60	0.016
144	ST	32X32X3.2SHS	0.60	0.016
145	ST	32X32X3.2SHS	0.60	0.016
146	ST	32X32X3.2SHS	0.60	0.016
147	ST	32X32X3.2SHS	0.60	0.016
148	ST	32X32X3.2SHS	0.60	0.016
149	ST	32X32X3.2SHS	0.60	0.016
150	ST	32X32X3.2SHS	0.60	0.016
151	ST	32X32X3.2SHS	0.60	0.016
152	ST	32X32X3.2SHS	0.60	0.016

153	ST	32X32X3.2SHS	0.44	0.012
154	ST	32X32X3.2SHS	0.44	0.012
155	ST	50X50X4.5SHS	0.60	0.035
156	ST	50X50X4.5SHS	0.20	0.012
157	ST	50X50X4.5SHS	0.60	0.035
158	ST	50X50X4.5SHS	0.60	0.035
159	ST	32X32X3.2SHS	0.44	0.012
160	ST	50X50X4.5SHS	0.60	0.035
161	ST	50X50X4.5SHS	0.60	0.035
162	ST	32X32X3.2SHS	0.44	0.012
163	ST	50X50X4.5SHS	0.60	0.035
164	ST	50X50X4.5SHS	0.60	0.035
165	ST	32X32X3.2SHS	0.44	0.012
166	ST	50X50X4.5SHS	0.60	0.035
167	ST	50X50X4.5SHS	0.60	0.035
168	ST	32X32X3.2SHS	0.44	0.012
169	ST	50X50X4.5SHS	0.60	0.035
170	ST	50X50X4.5SHS	0.60	0.035
171	ST	32X32X3.2SHS	0.44	0.012
172	ST	50X50X4.5SHS	0.60	0.035
173	ST	50X50X4.5SHS	0.60	0.035
174	ST	32X32X3.2SHS	0.44	0.012
175	ST	50X50X4.5SHS	0.60	0.035
176	ST	50X50X4.5SHS	0.60	0.035
177	ST	32X32X3.2SHS	0.44	0.012
178	ST	50X50X4.5SHS	0.60	0.035
179	ST	50X50X4.5SHS	0.60	0.035
180	ST	32X32X3.2SHS	0.44	0.012
181	ST	50X50X4.5SHS	0.60	0.035
182	ST	50X50X4.5SHS	0.60	0.035
183	ST	32X32X3.2SHS	0.44	0.012
184	ST	50X50X4.5SHS	0.60	0.035
185	ST	50X50X4.5SHS	0.60	0.035
186	ST	32X32X3.2SHS	0.44	0.012
187	ST	50X50X4.5SHS	0.60	0.035
188	ST	50X50X4.5SHS	0.60	0.035
189	ST	32X32X3.2SHS	0.44	0.012
190	ST	50X50X4.5SHS	0.60	0.035
191	ST	50X50X4.5SHS	0.60	0.035
192	ST	32X32X3.2SHS	0.44	0.012
193	ST	50X50X4.5SHS	0.60	0.035
194	ST	50X50X4.5SHS	0.60	0.035
195	ST	32X32X3.2SHS	0.44	0.012
196	ST	50X50X4.5SHS	0.60	0.035
197	ST	50X50X4.5SHS	0.60	0.035
198	ST	32X32X3.2SHS	0.44	0.012
199	ST	50X50X4.5SHS	0.60	0.035
200	ST	50X50X4.5SHS	0.60	0.035
201	ST	32X32X3.2SHS	0.44	0.012
202	ST	50X50X4.5SHS	0.60	0.035
203	ST	50X50X4.5SHS	0.60	0.035
204	ST	32X32X3.2SHS	0.44	0.012
205	ST	50X50X4.5SHS	0.60	0.035
206	ST	50X50X4.5SHS	0.60	0.035
207	ST	32X32X3.2SHS	0.44	0.012
208	ST	50X50X4.5SHS	0.60	0.035

209	ST	50X50X4.5SHS	0.60	0.035
210	ST	32X32X3.2SHS	0.44	0.012
211	ST	50X50X4.5SHS	0.60	0.035
212	ST	50X50X4.5SHS	0.60	0.035
213	ST	32X32X3.2SHS	0.44	0.012
214	ST	50X50X4.5SHS	0.60	0.035
215	ST	50X50X4.5SHS	0.60	0.035
216	ST	32X32X3.2SHS	0.44	0.012
217	ST	50X50X4.5SHS	0.60	0.035
218	ST	50X50X4.5SHS	0.60	0.035
219	ST	32X32X3.2SHS	0.44	0.012
220	ST	50X50X4.5SHS	0.60	0.035
221	ST	50X50X4.5SHS	0.60	0.035
222	ST	32X32X3.2SHS	0.44	0.012
223	ST	50X50X4.5SHS	0.60	0.035
224	ST	50X50X4.5SHS	0.60	0.035
225	ST	32X32X3.2SHS	0.44	0.012
226	ST	50X50X4.5SHS	0.60	0.035
227	ST	50X50X4.5SHS	0.60	0.035
228	ST	32X32X3.2SHS	0.44	0.012
229	ST	50X50X4.5SHS	0.60	0.035
230	ST	50X50X4.5SHS	0.60	0.035
231	ST	32X32X3.2SHS	0.44	0.012
232	ST	50X50X4.5SHS	0.60	0.035
233	ST	50X50X4.5SHS	0.60	0.035
234	ST	32X32X3.2SHS	0.44	0.012
235	ST	50X50X4.5SHS	0.60	0.035
236	ST	50X50X4.5SHS	0.60	0.035
237	ST	32X32X3.2SHS	0.44	0.012
238	ST	50X50X4.5SHS	0.20	0.012
239	ST	50X50X4.5SHS	0.60	0.035
240	ST	32X32X3.2SHS	0.44	0.012
242	ST	32X32X3.2SHS	0.85	0.022
243	ST	32X32X3.2SHS	0.85	0.022
244	ST	32X32X3.2SHS	0.85	0.022
245	ST	32X32X3.2SHS	0.85	0.022
246	ST	32X32X3.2SHS	0.85	0.022
247	ST	32X32X3.2SHS	0.85	0.022
248	ST	32X32X3.2SHS	0.85	0.022
249	ST	32X32X3.2SHS	0.85	0.022
250	ST	32X32X3.2SHS	0.85	0.022
251	ST	32X32X3.2SHS	0.85	0.022
252	ST	32X32X3.2SHS	0.85	0.022
253	ST	32X32X3.2SHS	0.85	0.022
254	ST	32X32X3.2SHS	0.85	0.022
255	ST	32X32X3.2SHS	0.85	0.022
256	ST	32X32X3.2SHS	0.85	0.022
257	ST	32X32X3.2SHS	0.85	0.022
258	ST	32X32X3.2SHS	0.85	0.022
259	ST	32X32X3.2SHS	0.85	0.022
260	ST	32X32X3.2SHS	0.85	0.022
261	ST	32X32X3.2SHS	0.85	0.022
262	ST	32X32X3.2SHS	0.85	0.022
263	ST	32X32X3.2SHS	0.85	0.022
264	ST	32X32X3.2SHS	0.85	0.022
265	ST	32X32X3.2SHS	0.85	0.022

266	ST	32X32X3.2SHS	0.85	0.022
267	ST	32X32X3.2SHS	0.85	0.022
268	ST	32X32X3.2SHS	0.85	0.022
269	ST	32X32X3.2SHS	0.63	0.017
284	ST	32X32X3.2SHS	0.85	0.022
285	ST	32X32X3.2SHS	0.85	0.022
286	ST	32X32X3.2SHS	0.85	0.022
287	ST	32X32X3.2SHS	0.85	0.022
288	ST	32X32X3.2SHS	0.85	0.022
289	ST	32X32X3.2SHS	0.85	0.022
290	ST	32X32X3.2SHS	0.85	0.022
291	ST	32X32X3.2SHS	0.85	0.022
292	ST	32X32X3.2SHS	0.85	0.022
293	ST	32X32X3.2SHS	0.85	0.022
294	ST	32X32X3.2SHS	0.85	0.022
295	ST	32X32X3.2SHS	0.85	0.022
296	ST	32X32X3.2SHS	0.85	0.022
297	ST	32X32X3.2SHS	0.85	0.022
298	ST	32X32X3.2SHS	0.85	0.022
299	ST	32X32X3.2SHS	0.85	0.022
300	ST	32X32X3.2SHS	0.85	0.022
301	ST	32X32X3.2SHS	0.85	0.022
302	ST	32X32X3.2SHS	0.85	0.022
303	ST	32X32X3.2SHS	0.85	0.022
304	ST	32X32X3.2SHS	0.85	0.022
305	ST	32X32X3.2SHS	0.85	0.022
306	ST	32X32X3.2SHS	0.85	0.022
307	ST	32X32X3.2SHS	0.85	0.022
308	ST	32X32X3.2SHS	0.85	0.022
309	ST	32X32X3.2SHS	0.85	0.022
310	ST	32X32X3.2SHS	0.85	0.022
311	ST	32X32X3.2SHS	0.85	0.022
312	ST	32X32X3.2SHS	0.85	0.022
313	ST	32X32X3.2SHS	0.63	0.017
314	ST	273X6CHS	0.22	0.085
315	ST	273X6CHS	0.22	0.085
			TOTAL =	12.409

********** END OF DATA FROM INTERNAL STORAGE **********

191. PARAMETER 3
192. CODE INDIAN
193. STEEL TAKE OFF ALL

STEEL TAKE-OFF

PROFILE	LENGTH(METE)	WEIGHT(KN)
ST 273X6CHS	14.48	5.598
ST 50X50X4.5SHS	66.40	3.912
ST 32X32X3.2SHS	110.30	2.898
	TOTAL =	12.409

********** END OF DATA FROM INTERNAL STORAGE **********

194. FINISH

********** END OF THE STAAD.Pro RUN **********

**** DATE= OCT 16,2024 TIME= 14:32:37 ****

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*************************************************************
*   For technical assistance on STAAD.Pro, please visit     *
*   http://selectservices.bentley.com/en-US/                *
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*   Bentley and Partners can be found at program menu       *
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