भारतीय राष्ट्रीय राजमार्ग प्राधिकरण
(सड़क परिवहन एवं राजमार्ग मंत्रालय)
National Highway Authority of India
(Ministry of Road Transport and Highway)
परियोजना कार्यान्वयन इकाई-छपरा
Project Implementation Unit - Chhapra
मकान– श्रीमति गायत्री देवी, ए1, प्रभुनाथ नगर, पोस्ट–तारी, थाना–मुफस्सिल, जिला–सारण (छपरा), बिहार, पिन –841301
H/o- Smt. Gayatri Devi, A1, Prabhunath Nagar, PO-Tari, PS-Mufsil, District-Saran (Chhapra), Bihar, Pin - 841301
BHARATMALA
ROAD TO PROSPERITY
Ph: 06152-248058 & 248052
Email: hailpur@nhai.org,
nhaichhapra@gmail.com

No.:NHAI/PIU/Chhapra/NH-77/IOCL/PP/2021/ 636 Date: 02.08.2021

Invitation of Public Comments

Sub: Proposal for permission for laying of Indian Oil Corporation Limited (IOCL)'s proposed Muzaffarpur-Motihari LPG Pipelince (MMPL) along & across NH-77 in Muzaffarpur District of Bihar between NH approx. Ch.0.000 to 1.450 km (1.450 km).

The Construction Manager, M/S Indian Oil Corporation Limited, Motihari has submitted the aforesaid proposal for laying of Indian Oil Corporation Limited (IOCL)'s proposed Muzaffarpur-Motihari LPG Pipelince (MMPL) along & across NH-77 in Muzaffarpur District of Bihar between NH approx. Ch.0.000 to 1.450 km (1.450 km) and crossing at NH 77(km 5.924).

2. From the submitted proposal, it is seen that the main carrier pipe to be laid along NH shall be 12.75"ODx0.375" WTxAPI 5L-X60 grade and OFC cable along with carrier pipe shall be encased in 89 mm OD SCH-80 MS pipe. Method of crossing will be HDD (Horizontal Direction Drilling). The Pipeline along with OFC cable will be raid along the NH-77 near extreme edge of NH ROW through open cut method and crossing shall be carried out by trenchless technology (HDD method) so as to ensure safe and smooth execution. The proposed gas pipeline shall be laid as per the standards/procedures recommended by Petroleum & Natural Gas Regulatory Board (PNGRB) without causing any traffic disruption & inconvenience to public. Parallel pipeline shall be laid at depth of minimum 1.5 m along the road side. During the execution of work, proper safety measures will be ensured. However, if the proposal found in order, permission will be given only HDD method for executing the work, so that surface can be damaged minimum and work can be executed rapidly.

3. As per the guidelines issued by the Ministry vide OM No.RW/NH-33044/29/2015/S&R(R) dated 22.11.2016, the application shall be put out in the public domain for 30 days for seeking claims and objections (on grounds of public inconvenience, safety and general public interest).

In view of the above, comments of the public on the above application is invited to the below mentioned address, which should reach by this office within 30 days from the date of publication beyond which no comments shall be entertained.

Project Director
National Highways Authority of India,
PIU-Chhapra
H/o- Gayatri Devi,Plot No:-A1
Parbhunath Nagar,P.o- Tari,
P.s- Muffasil,Dist: Saran,Pin:-841301
E-mail: nhaichhapra@gmail.com

Encl: As above.

(Bibhuti Bhushan Kumar)
Project Director

Copy to:
1. Web Admin, NHAI, HQ-with a request for uploading on the NHAI website.
2. The Technical Director, NIC, Transport Bhawan, New Delhi-with a request for uploading on Ministry's website.
3. RO, NHAI, Patna.
4. Sh. H. K. Suman, Construction Manager, IOCL, Motihari.

स्वच्छ भारत
एक कदम स्वच्छता की ओर

इंडियन ऑयल कॉर्पोरेशन लिमिटेड
निर्माण कार्यालय , मोतिहारी
ग्राम+पो.–छपरा बहास, अंचल+थाना–सुगौली
मोतिहारी, पूर्वी चम्पारण -845435
दूरभाष-06252-231011

इंडियनऑयल
IndianOil

Indian Oil Corporation Limited
Construction Office, Motihari
Village+Post- Chhapra Bahas, Block+Thana-Sugauli
Motihari, East Champaran - 845435
Tel.- 06252-231011

पाइपलाइन्स प्रभाग
Pipelines Division

Ref.: IOC/MMPL/NH/2020/02

NHAI, PIU-CHHAPRA
Receipt No 8885
Date 15.01.21
File No.....

Date: 29.12.2020

To,
The Project Director
National Highways Authority of India
Project Implementation Unit-Chhapra
Saran

Sub. : Permission for laying of Indian Oil Corporation Limited (IOCL)'s proposed Muzaffarpur-Motihari LPG Pipeline (MMPL) along & across NH 77 in Muzaffarpur District between NH approx. Ch. 0.000 to 1.450 Km (1.450 km)

Dear Sir,

Indian Oil Corporation Ltd. (IOCL), a Government of India Undertaking is engaged in petroleum Refining, Marketing, Transportation of crude oil and petroleum products through underground cross-country pipelines. Indian Oil Corporation Limited operates a network of about 14864 km pipelines of crude oil, petroleum products and gas pipelines. Cross country pipelines are globally recognized as the safest, cost-effective, energy efficient and environment friendly mode of transportation.

Here we would like to mention that Indian Oil Corporation Limited (IOCL) has decided to lay Muzaffarpur to Motihari LPG Pipeline to cater LPG demands of Champaran Region as well as to meet future LPG requirement of Nepal.

This proposed Muzaffarpur-Motihari LPG Pipeline shall be laid underground as per latest Oil Industry Safety Directorate (OISD) & American Petroleum Institute (API) standards. It is planned to originate from IOCL's Muzaffarpur terminal and terminate at IOCL's Motihari terminal after covering approx. 107 km in Bihar state.

The Pipeline along with OFC cable will be laid along the NH-77 near extreme edge of NH ROW through open cut method and crossing shall be carried out by trenchless technology (HDD method) so as to ensure safe and smooth execution. The proposed gas pipeline shall be laid as per the standards/procedures recommended by Petroleum & Natural Gas Regulatory Board (PNGRB) without causing any traffic disruption & inconvenience to public.

Details of Pipe are as follows:
Carrier Pipe: 12.75"OD x 0.375" WT x API 5L –X60 grade
OFC cable along with carrier pipe: OFC cable encased in 89 mm OD SCH-80 MS Pipe

29/12/2020

The said pipeline will be laid along & across National Highway 77 in Muzaffarpur District. Details are mentioned below:

Sr. No	Along/Across NH-77	NH-77 Chainage (Approx.)	Proposed Pipeline Chainage	Description
1	Along NH-77 (LHS towards Patna)	Km 0.000 to Km 1.450 km(1.450 km)	Km 4.474 to Km 5.924 (1.450 km)	From Ramdayalu flyover to Junction Point of New MFP under construction bypass road (Fardo Nala).
2	NH 77Crossing	Km 1.450	Km 5.924 km	Junction Point of New MFP under construction bypass road (Fardo Nala).

IOCL propose to cross and lay LPG pipeline along the aforesaid road as per the following details: -

1. The main carrier pipe to be laid along NH shall be 12.75"OD x 0.375" WT x API 5L –X60 grade and OFC cable along with carrier pipe shall be encased in 89 mm OD SCH-80 MS Pipe
2. Method of crossing will be HDD (Horizontal Directional Drilling).
3. Depth of the pipeline below the center line of NH will be 3.0 m minimum for road crossing.
4. Parallel pipeline shall be laid at depth of minimum 1.5 m along the road side.
5. Once the pipeline is laid underground, the road will be restored to its original conditions.
6. During the execution of work, proper safety measures will be ensured.
7. All works will be carried out as per the approved drawings.
8. Cost of crossing/laying along road will be borne by IOCL.

In view of above, we therefore request you to kindly grant necessary permission to lay pipeline across National Highway.

Since, it is a time bound project, contributing prosperity yours most expenditures action is requested to grant the permission for the above said crossings. IOCL is ready to pay the necessary fee/ charges as per the norms as and when intimated by your good office.

Thanking you,

Encl.: A/a

Yours Sincerely,
For Indian Oil Corporation Limited

29/12/2020

(H. K. Suman)
Const. Manager
IOCL, Motihari
SUMANHK@INDIANOIL.IN

CHECK LIST
Guidelines for processing the proposal for laying gas pipeline along with optical fiber cable in the land along / across National Highway vested with NHAI
Relevant circulars
1. Ministry circular No. NH-41(58)/68 dated 31-01-1969
2. Ministry circular No. NH-III/P/66/76 dated 18-11-1976
3. Ministry circular No. RW-NJ-III/P/66/76 dated 01-05-1982
4. Ministry circular No. RW/NH-11037/1/86-DOI(II) dated 28-07-1993
5. Ministry circular No. RW/NH-11037/1/86-DOI dated 19-01-1995
6. Ministry Circular No.RW/NH-34066/2/95/S&R dated 25-10-1999
7. Ministry Circular No.RW/NH-34066/7/2003 S&R (B) dated 17-09-2003
8. Ministry Circular No.RW/NH-33044/29/2015/S&R(R) dated 22.11.2016

Checklist for getting approval for laying of LPG pipeline on NH land

S.No.	Item	Information/Status	Remarks
1	General Information	**Permission for laying of Indian Oil Corporation Limited (IOCL)'s proposed Muzaffarpur-Motihari LPG Pipeline (MMPL) along & across NH 77 in Muzaffarpur District between NH approx. Ch. 0.000 to 1.450 Km (1.450 km)**	
1.1	Name and address of the Applicant/Agency	Indian oil corporation limited , Hira Nikethan, Kaliketh Nagar, Bailey Road, Patna.	
1.2	National Highway Number	NH 77	
1.3	State	Bihar	
1.4	Location	**NH chainage:** From Ramdayalu flyover to Junction Point of New MFP under construction bypass road (Fardo Nala).	
1.5	(Chainage in km)	Between NH approx. Km 0.000 to Km 1.450 km(1.450 km)	
1.6	Length in Meters	Along the NH = 1450 m and Crossing Length = 45 m	
1.7	Width of available ROW		
	(a) Left side from center line towards decreasing chainage/km direction		
	(b) Right side from centre line towards decreasing chainage/km direction		

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S. K. NANDY
मुख्य महाप्रबंधक (निर्माण)/Chief General Manager (Const.)
इंडियन ऑयल कार्पोरेशन लिमिटेड/Indian Oil Corp. Ltd.
प्रोजेक्ट निर्माण कार्यालय, पटना/Project Construction Office, Patna
हीरा निकेतन, कालीकेत नगर, बेली रोड, पटना-801503
Hira Niketan Kalket Nagar, Bailey Road, Patna-801503

1.8	Proposal to lay underground gas pipeline for supply of gas products		
	(a) Left side from center line towards increasing chainage/km direction	Extreme edge of RoW/As per site condition	
	(b) Right side from centre line towards increasing chainage/km direction	N/A	
1.9	Proposal to acquire land		
	(a) Left side from center line	N/A	
	(b) Right side from center line	N/A	
1.10	Whether proposal is in the same side where land is not to be acquired	N/A	
	If not then where to lay the cable.	N/A	
1.11	Details of already laid services, if any along the proposed route	NIL	
1.12	Number of existing lanes (2/4/6/8 lanes).	2	
1.13	Proposed number of lanes (2 lane with paved shoulders/4/6/8 lanes).	N/A	
1.14	Service road existing or not	No	
	If yes then which side		
	(a) Left side from center line	N/A	
	(b) Right side from center line	N/A	
1.15	Proposed service road	NA	
	(a) Left side from center line		
	(c) Right side from center line		
1.16	Whether proposal to lay the gas pipeline is after the service road or between the service road and main carriageway	Extreme edge of RoW/As per site condition	
1.17	Whether carrying of sewage/gas pipeline has	NA	

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मोतिहारी (पूर्वी चम्पारण)

मुख्य महाप्रबंधक (निर्माण/C... ...neral Manager (Coast.)
इंडियन ऑयल कार्पोरेशन लिमिटेड/Indian Oil Corp. Ltd.
प्रोजेक्ट निर्माण कार्यालय, पटना/Project Construction Office, Patna
हीरा निकेतन, कलिकोट नगर, बेली रोड, पटना-801503
Hira Niketan Kalikot Nagar, Bailey Road, Patna-801503

	been proposed on highway Bridges. If yes, then mention the methodology proposed for the same.		
1.18	Whether carrying of sewage/gas pipeline has been proposed on the parapet/ any part of the bridges. If Yes, then mention the methodology proposed for the same.	NA	
1.19	If crossings of the road involved If yes, it shall be either encased in pipes or through structure or conduits specially built for the purpose at the expenses of the agency owing the line	Yes	
	(a) Whether existing drainage structures are allowed to carry gas pipeline	NA	
	(b) It is on a line normal to NH	Yes	
	(c) What is the distance of crossing the gas pipelines from the existing structures. Crossings shall not be too near the existing structures on the National Highway, minimum distance being 15 meter.	As per site condition	
	(d) The casing pipe(or conduit pipe in the case of electric cable) carrying the gas line shall be of steel, cast iron, or reinforced cement concrete and have adequate strength and be large enough to permit ready withdrawal of the carrier	89 mm MS Pipe will be used for duct for crossing the NH & 40 mm OD HDPE duct will be used along the Road for OFC cable.	

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इंडियन ऑयल कार्पोरेशन लिमिटेड/Indian Oil Corp. Ltd.
प्रोजेक्ट निर्माण कार्यालय, पटना/Project Construction Office, Patna
हीरा निकेतन, कलिकेत नगर, बेली रोड, पटना-801503
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	pipe/cable. Mention type of casing.		
	(e) Ends of casing /conduit pipe shall be sealed from the outside, so that it does not act as a drainage path.	Yes	
	(f) The casing/conduit pipe should, as minimum extend from drain to drain in cuts and toe of slope in the fills.	Yes	
	(g) 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 lease 0.3m below the drain inverts. Mention the proposed details.	Yes	
	(h) Mention the methodology proposed for crossings of road for the proposed Sewage/gas pipe line. Crossings shall be by boring method (HDD) (Trenchless Technology), specially, where the existing road pavement is of cement concrete or dense bituminous concrete type.	The pipeline will be laid by Horizontal Directional Drilling (HDD) Method which is trenchless method at crossing location and Open Cut will be used for along the road section.	
	(i) The casing/conduit pipe shall be installed with an even bearing throughout its length	Yes	

मोतिहारी (पूर्वी चम्पारण)

मुख्य महाप्रबंधक (निर्माण)/Chief General Manager (Const.)
इंडियन ऑयल कार्पोरेशन लिमिटेड/Indian Oil Corp. Ltd.
प्रोजेक्ट निर्माण कार्यालय, पटना/Project Construction Office, Patna
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Hira Niketan Kaliket Nagar, Bailey Road, Patna-801503

	and in such a manner as to prevent the formation of a waterway along it.		
2	Document/Drawings to be enclosed with the proposal	Yes	
2.1	Cross section showing the size of trench for open trenching method	Yes and drawing attached.	
2.2	Cross section showing the size of pit and location of cable for HDD method	Yes	
2.3	Strip plan/Route plan showing the petroleum/Gas pipe line, chainage, width of ROW, distance of proposed pipe line from the edge of ROW, important mile stone, intersections, cross drainage works etc.	Yes	
2.4	Methodology for laying of the gas pipe line.	The pipeline will be laid by Horizontal Directional Drilling (HDD) Method and Open Cut-detailed procedure and drawing attached.	
2.4.1	Open trenching method. (May be allowed in the petroleum corridor only where pavement is neither cement concrete nor dense bituminous concrete type. If yes, what is the methodology of refilling of trench.	Yes	
	(a) The trench width should be at least 60cm, but not more than 120 cm wider than the outer diameter of the pipe.	Yes	
	(b) For filling of the trench, bedding shall be at 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 surface without a	Yes	

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निर्माण प्रबंधक
मोतिहारी (पूर्वी चम्पारण)

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मुख्य महाप्रबंधक (निर्माण)/Chief General Manager (Const.)
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प्रोजेक्ट निर्माण कार्यालय, पटना/Project Construction Office, Patna
हीरा निकेतन, कलिंदेल नगर, बेली रोड, पटना-801503
Hira Niketan Kalindi Nagar, Bailey Road, Patna-801503

	sudden change in the bearing value. Unsuitable soil and rock edged should be excavated and replaced by selected material.		
	(c) The backfill shall be completed in two stages (i) side fill to level of the top of the pipe and (ii) overfill to the bottom of the road crust.	Yes	
	(d) The side fill shall consist of granular material laid in15cm layers each consolidated by mechanical tempering and controlled addition of moisture to95% of the proctor's density. Overfill shall be compacted to the same density as the material that has been removed. Consolidation by saturation or ponding will not be permitted	Yes	
	(e) The road crust shall be built to the same strength as the existing crust on either side of the trench. Care shall be taken to avoid the formation of a dip at the trench.	Yes	
	(f) The excavation shall be protected by flagman, signs and barricades, and red lights during night hours.	Yes	
	(g) If required, a	Yes	

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/ निर्माण प्रबंधक
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इंडियन ऑयल कार्पोरेशन लिमिटेड/Indian Oil Corp. Ltd.
प्रोजेक्ट निर्माण कार्यालय, पटना/Project Construction Office, Patna
हीरा निकेतन, कालिकेत नगर, बेली रोड, पटना-801503
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	diversion shall be constructed at the expense of agency owing the petroleum line.		
2.4.2	Horizontal directional drilling (HDD) method.	Yes	
2.4.3	Methodology for laying of pipe line through CD works and method of laying. In cases where the carrying of gas pipe line on the bridge becomes inescapable.	NA	
3	Draft license Agreement is signed by two witnesses	Yes	
3.1	The license fee estimate as per Ministry's guidelines issued vide circular no. RW/NH-33044/29/2015/S&R(R) dated 22.11.2016	Enclosed	
4	Whether performance Bank guarantee as per Ministry's circular no. RW/NH-33044/29/2015/S&R(R) dated 22.11.2016 is obtained	An undertaking for agreement is attached here with	
4.1	Confirmation of BG has been obtained or not as per MoRTH/NHAI guidelines	Yes	An undertaking for agreement is attached here with
5	Affidavit/ Undertaking from the Applicant for the following is to be furnished		
5.1	Undertaking for not to damage any other utility, if damaged then to pay the losses either to NHAI or to the concerned agency.	Yes	
5.2	Undertaking for Renewal of bank guarantee as and when asked by MoRTH/NHAI.	Yes	
5.3	Undertaking for confirming all standard condition of Ministry circulars and NHAI's guidelines.	Yes	
5.4	Undertaking for Indemnity	Yes	

निर्माण प्रबंधक

एस. के. नन्दी/S. K. NANDY

इण्डियन ऑयल कार्पोरेशन लिमिटेड/Indian Oil Corp. Ltd.
प्रोजेक्ट निर्माण कार्यालय, पटना/Project Construction Office, Patna
हीरा निकेतन, कलिकेत नगर, बेली रोड, पटना-801503
Hira Niketan Kalikat Nagar, Bailey Road, Patna-801503

	against all damages and claims.		
5.5	Undertaking for management of traffic movement during laying of gas line without hampering the traffic	Yes	
5.6	Undertaking that if any claim is raised by the concessionaire/contractor then the same has to be paid by the applicant.	Yes	
5.7	Undertaking that prior approval of the NHAI shall be obtained before undertaking any work for installation, shifting or repairs, or alterations to the gas located in the National Highway right-of-ways.	Yes	
5.8	Undertaking that expenditure, if any, incurred by NHAI for repairing any damage caused to the National Highway by the laying, maintenance or shifting of the gas line will be borne by the applicant agency owing the line.	Yes	
5.9	Undertaking that text of the text of the license deed is as per verbatim of MoRTH format (issued vide Ministry's circular no. RW/NH-33044/29/2015/S&R(R) dated 22.11.2016	Yes	
5.10	Undertaking that the applicant has obtained various safety clearances from the representative authorities such as Directorate of Electricity, Chief controller of Explosives, Petroleum and Explosive safety Organization, Oil Industry safety Directorate, State/Central pollution	Yes	

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एस.वे नन्दी/S.V.NANDY
इंडियन ऑयल कार्पोरेशन लिमिटेड/Indian Oil Corp. Ltd.
प्रोजेक्ट निर्माण कार्यालय, पटना/Project Construction Office, Patna
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	control board and any other statutory clearances as applicable, before applying to Highway Administration		
5.11	If the MoRTH/NHAI consider it necessary in future to move the gas line for any work of improvement or repairs to the road, it will be carried out as desired by the MoRTH/NHAI at the cost of the agency owing the gas line within a reasonable time (not exceeding 60 days) of the intimation given.	Yes	
5.12	Certificate from the applicant in the following format (i) Laying of Gas pipe line will not have any deleterious effects on any of the bridge components and roadway safety for traffic. (ii) "We do undertake that I/we will relocate service road/approach road/utilities at my/our own cost notwithstanding the permission granted within such time as will be stipulated by NHAI" for future six-lanning or any other development."	Enclosed	
6	Who will sign the agreement on behalf of Gas pipe line agency.	Chief General Manager , Indian Oil Corporation Limited (Pipelines Division) ERPL Construction Office, Patna.	
	Power of Attorney to sign the agreement is available or not	Yes	
7	The project Director will submit the following Certificates		
7.1	Certificate that the proposal is confirming to all standard conditions issued vide Ministry's circular No: RW/NH-33044/29/2015/S&(R) dated 22.11.2016	Yes	
7.2	Certificate from PD in the	Yes	

हरीश चंद्र गुप्ता
निर्माण प्रबंधक
मोतिहारी (पूर्वी चम्पारण)

एस. के. [illegible] NDY
मुख्य महाप्रबंधक (निर्माण)/C.W... ral Manager (Const.)
इंडियन ऑयल कार्पोरेशन लिमिटेड/Indian Oil Corp. Ltd.
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	following format (i)" It is certified that any other location of the Gas pipe line would be extremely difficult and unreasonable costly and the installation of Product pipe line within ROW will not adversely affect the design, stability & traffic safety of the Highway nor the likely future improvement such as widening of the carriageway, easing of curve etc.". (ii)for 6-lanning (a) Where feasibility is available "I do certify that there will be no hindrance to proposed six-laning based on the feasibility report considering proposed structures at the said location". (b) In case feasibility report is not available "I do certify that sufficient ROW is available at site for accommodating proposed six-lining".		
8	If NH section proposed to be taken up by NHAI on BOT basis – a clause is to be inserted in the agreement. "The permitted Highway on which License has been granted the right to lay gas Pipeline/duct has also been granted as a right of way to the concessionaire under the concession agreement for up-gradation of [----------- section from Km-----------to km-----------------of NH no.--------------------- on Build:	Yes	

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Manager (Const.)
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प्रोजेक्ट निर्माण कार्यालय, पटना/Project Construction Office, Patna
हीरा निकेतन, कालिकेत नगर, बेली रोड, पटना-801503
Hira Niketan, Kalikat Nagar, Bailey Road, Patna-801503

	operate and transfer basis] and therefore, the license shall honour the same."		
9	Who will supervise the work of laying of Gas pipe line		
	(a) On behalf of the Applicant	Yes (IOCL, Pipelines Division)	
	(b) On behalf of the MoRTH/NHAI	PD/Consultant	
10	Who will ensure that the defects in road portion after laying of gas pipe line are corrected and if not corrected then what action will be taken.		
	(a) On behalf of the applicant	Yes (Chief General Manager, IOCL-Pipelines Division, ERPL Construction Office, Patna)	
	(b) On behalf of NHAI	PD/Consultant	
11	Who will pay the claims for damage done/disruption in working of concessionaire if asked by the concessionaire	Indian Oil Corporation Limited (Pipelines Division) ERPL Construction Office, Patna	
	On behalf of the applicant	Yes	
12	A certificate from PD that he will enter the proposed permission in the register of record of the permission in the prescribed proforma (copy enclosed)	Yes	
13	If any various approval is accorded for laying of underground gas pipe line then Photocopy of register of records of permission accorded (as maintained by PD) be enclosed.	No such permission is accorded	

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निर्माण प्र...
मोतिहारी (पूर्वी ...)

एस.के. ...IC K NANDY
...anager (Const.)
...Oil Corp. Ltd.
...पटना-801503
Hira Niketan Kalikot Nagar, Bailey Road, Patna-801503

एक कदम स्वच्छता की ओर

पाइपलाइन्स प्रभाग
Pipelines Division

इंडियन ऑयल कॉर्पोरेशन लिमिटेड
निर्माण कार्यालय , मोतिहारी
ग्राम+पो.–छपरा बहास, अंचल+थाना–सुगौली
मोतिहारी, पूर्वी चम्पारण -845435
दूरभाश-06252-231011

IndianOil

Indian Oil Corporation Limited
Construction Office, Motihari
Village+Post- Chhapra Bahas, Block+Thana-Sugauli
Motihari, East Champaran - 845435
Tel.- 06252-231011

UNDERTAKING- I

Indian Oil Corporation Ltd., is hereby undertake that we are ready to deposit Bank Guarantee/ Security Deposit of required amount, as and when intimated by NHAI against laying pipeline across NH- at as per below:

Sr. No	Along/Across NH-77	NH-77Chainage (Approx.)	Proposed Pipeline Chainage	Description
1	Along NH-77 (LHS towards Patna)	Km 0.000 to Km 1.450 km(1.450 km)	Km 4.474 to Km 5.924 (1.450 km)	From Ramdayalu flyover to Junction Point of New MFP under construction bypass road (Fardo Nala).
2	NH 77 Crossing	Km 1.450	Km 5.924 km	Junction Point of New MFP under construction bypass road (Fardo Nala).

We also undertake that if the construction activity will not be completed within the validity of Bank Guarantee to the satisfaction of NHAI, Bank Guarantee / Security Deposit shall be renewed till completion of construction activity to the satisfaction of NHAI.

हरीश चन्द्र सुमन
निर्माण प्रबंधक
मोतिहारी (पूर्वी चम्पारण)

एस. [illegible] NANDY
[illegible]ager (Const.)
[illegible] Oil Corp. Ltd.
[illegible] Patna
[illegible], पटना-801503

UNDERTAKING-2

Indian Oil Corporation Ltd., is hereby confirm that we shall fulfill' all conditions of Ministry of Road Transport and Highway guidelines as well as NHAI Circulars for the proposed NH/SH/MDR crossing proposals at NH- as per below:

Sr. No	Along/Across NH-77	NH-77Chainage (Approx.)	Proposed Pipeline Chainage	Description
1	Along NH-77 (LHS towards Patna)	Km 0.000 to Km 1.450 km(1.450 km)	Km 4.474 to Km 5.924 (1.450 km)	From Ramdayalu flyover to Junction Point of New MFP under construction bypass road (Fardo Nala).
2	NH 77 Crossing	Km 1.450	Km 5.924 km	Junction Point of New MFP under construction bypass road (Fardo Nala).

UNDERTAKING-3

Indian Oil Corporation Limited is hereby undertaking that we shall take proper Insurance coverage (Indemnity) for prospects damages and claims during crossing of NH- as per below:

Sr. No	Along/Across NH-77	NH-77Chainage (Approx.)	Proposed Pipeline Chainage	Description
1	Along NH-77 (LHS towards Patna)	Km 0.000 to Km 1.450 km(1.450 km)	Km 4.474 to Km 5.924 (1.450 km)	From Ramdayalu flyover to Junction Point of New MFP under construction bypass road (Fardo Nala).
2	NH 77 Crossing	Km 1.450	Km 5.924 km	Junction Point of New MFP under construction bypass road (Fardo Nala).

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निर्माण प्रबंधक
मोतिहारी (पूर्वी चम्पारण)

एस.के. नन्दी/S K NANDY
मुख्य महाप्रबंधक (निर्...ural Manager (Const.)
इंडियन ऑयल कॉर्पो...dian Oil Corp. Ltd.
प्रोजेक्ट निर्माण ...uction Office, Patna
हीरा निकेतन, कालिकट नगर, बेली रोड, पटना-801503
Hira Niketan Kalikat Nagar, Bailey Road, Patna-801503

UNDERTAKING-4

Indian Oil Corporation Limited, is hereby undertake that pipeline shall be laid across NH- at NHAI as per below table, through HDD method during laying of various Petroleum Products pipeline along with OFC.

Sr. No	Along/Across NH-77	NH-77Chainage (Approx.)	Proposed Pipeline Chainage	Description
1	Along NH-77 (LHS towards Patna)	Km 0.000 to Km 1.450 km(1.450 km)	Km 4.474 to Km 5.924 (1.450 km)	From Ramdayalu flyover to Junction Point of New MFP under construction bypass road (Fardo Nala).
2	NH 77 Crossing	Km 1.450	Km 5.924 km	Junction Point of New MFP under construction bypass road (Fardo Nala).

UNDERTAKING-5

Indian Oil Corporation Limited, is hereby undertake that if any claim raised by Concessionaire for laying of various Petroleum Products pipeline along with OFC, across NH- at as per below table, then the same shall be paid by Indian Oil Corporation Limited.

Sr. No	Along/Across NH-77	NH-77Chainage (Approx.)	Proposed Pipeline Chainage	Description
1	Along NH-77 (LHS towards Patna)	Km 0.000 to Km 1.450 km(1.450 km)	Km 4.474 to Km 5.924 (1.450 km)	From Ramdayalu flyover to Junction Point of New MFP under construction bypass road (Fardo Nala).
2	NH 77 Crossing	Km 1.450	Km 5.924 km	Junction Point of New MFP under construction bypass road (Fardo Nala).

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निर्माण प्रबंधक
मोतिहारी (पूर्वी चम्पारण)

एस.के.नन्दी/S.K.NANDY
Chief Manager (Const.)
Indian Oil Corp. Ltd.
Marketing Office, Patna
पटना-801503
Hira Niketan Kaiket Nagar, Bailey Road, Patna-801503

UNDERTAKING-6

Indian Oil Corporation Limited, is hereby undertake that prior approval shall be taken with NHAI before U N D E R T A K I N G any work of installation, shifting or repairs or any alterations of various Petroleum Products pipeline along with OFC, any other utility located in the NHAI ROW.

UNDERTAKING-7

Indian oil Corporation Limited is hereby undertake the expenditure, if any, incurred by MSRDC for repairing any damage caused to the NHAI by the laying, maintenance or shifting of various Petroleum Products pipeline along with OFC, will be borne by the Indian Oil Corporation Limited.

UNDERTAKING-8

Indian Oil Corporation Limited, is hereby undertake that if the National Highways Authority Of India's Division considers it necessary in future to move the utility line for the work of improvement or repairs to the road, it will be carried out as desired by the NHAI at the cost of Indian Oil Corporation Limited within a reasonable time (not exceeding 60 days) of the intimation given.

UNDERTAKING-9

Indian Oil Corporation Limited is hereby undertaking that "Laying of various Petroleum Products pipeline along with OFC will not have any deleterious effects on any of the bridge components and roadway safety for traffic".

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निर्माण प्रबंधक
मोतिहारी (पूर्वी चम्पारण)

एस.के नन्दी/S.K NANDY
मुख्य महाप्रबंधक (निर्माण) / General Manager (Const.)
इंडियन ऑयल कॉर्पोरेशन लि. / Indian Oil Corp. Ltd.
प्रोजेक्ट निर्माण कार्यालय / Construction Office, Patna
हीरा निकेतन, कालिकट नगर, बेली रोड, पटना-801503
Hira Niketan Kaliket Nagar, Bailey Road, Patna-801503

UNDERTAKING-10

Indian Oil Corporation Limited, is hereby undertake that we shall relocate service road approach road utilities at my our own cost notwithstanding the permission granted within such time as will be stipulated by NHAI for any other development.

UNDERTAKING-11

Indian Oil Corporation Ltd, is hereby undertake that we shall take care all existing utilities during laying or pipeline. If any damage or loses noticed to existing utilities, during laying of pipeline, Indian Oil Corporation Limited shall pay all expenses to restore the same to its original condition to concern agency or NHAI Division.

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मोतिहारी (पूर्वी चम्प...)

एस.के.नन्दी/S.K NANDY
मुख्य महाप्रबंधक (निर्माण)/Chief General Manager (Const.)
इंडियन ऑयल कार्पोरेशन लि./Indian Oil Corp. Ltd.
प्रोजेक्ट निर्माण कार्यालय, पटना/Project Construction Office, Patna
हीरा निवेदन, कांकेडेरा नगर, बेली रोड, पटना-801503
Hira Niketan Kankeet Nagar, Bailey Road, Patna-801503

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बिहार BIHAR

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

Agreement to lay 12..75" dia Carrier LPG Pipeline with OFC along & across National Highway No 77 from km 0.000 to 1.450 of land between Ramdayalu Flyover to junction point of new u/c bypass road Muzaffarpur (Fardo Nala) at Muzaffarpur in the State of Bihar. (Crossing at one location at NH Ch. 1:450 km)

This Agreement made this day of (Month) of (year)between Project Director acting in his executive capacity through the President of India/ National Highways Authority of India (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 INDIAN OIL CORPORATION LIMITED, PIPELINES DIVISION, CONSTRUCTION OFFICE, PATNA (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 Proposed Chainage between km 0.000 to 1.450 of NH No. 77 ROW.

Whereas the Licensee proposes to lay gas pipeline referred to as utility services in subsequent paras.

Whereas the Licensee has applied to the Authority for permission to lay the underground LPG pipeline with OFC along NH 77 Ch. km 0.000 to 1.450 of land between Ramdayalu Flyover to junction point of new u/c bypass road Muzaffarpur (Fardo Nala) at Muzaffarpur town Tehsil-Mushahri/kudhni, District-Muzaffarpur in the State of Bihar.

And whereas the Authority has agreed to grant such permission for way leave on the NH RoW as per terms and conditions hereinafter mentioned.

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सहायक निर्माण प्रबंधक
मोतिहारी (पूर्वी चम्पारण)

एम. [illegible] NDY
[illegible] Manager (Const.)
[illegible] Oil Corp. Ltd.
[illegible] Construction Office, Patna
हीरा निकेतन, कार्तिकेय नगर, बेली रोड, पटना-801503
Hira Niketan Kaikot Nagar, Bailey Road, Patna-801503

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 enabling 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 shall be restricted only to the extent of provisions/scope of activities defined in the license agreement & for the purpose for which it is granted.

2. No Licensee shall claim exclusive right on the RoW and 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/month 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. 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 deposition of fee shall attract interest @ 15% per annum compounded annually.

6. 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.

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मोतिहारी (पूर्वी चम्पा.)

...NDY
...anager (Const.)
...Oil Corp. Ltd.
...Construction Office, Patna
..., पटना-801503
हीरा निकेतन, कालिकेत ...
Hira Niketan Kaliket Nagar, Bailey Road, Patna-801503

9. In exceptional cases, where RoW is restricted the utility services can be allowed beneath the carriageway of 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 IRC and executed following the Specifications of the Ministry.

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 lease 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 cm. but not more than 60 cm 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-till 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 cm. 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

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मुख्य महाप्रबंधक (निर्माण)/Chief General Manager (Const.)
इंडियन ऑयल कार्पोरेशन लिमिटेड/Indian Oil Corp. Ltd.
प्रोजेक्ट निर्माण कार्यालय, पटना/Project Construction Office, Patna
हीरा निकेतन, कालिकेत नगर, बेली रोड, पटना-801503
Hira Niketan Kalikat Nagar, Bailey Road, Patna-801503

the trench, clearing debris/loose earth produced due to execution of trenching at least 50m 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 11 months 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.

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 be solely responsible/ liable for full compensation/indemnification 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 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.

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निर्माण प्रबंधक
मोतिहारी

एस.के.नन्दी/S.K NANDY
Chief General Manager (Const.)
Indian Oil Corp. Ltd.
Construction Office, Patna
पटना-801503
Hira ... Road, Patna-801503

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 of 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 day 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 is 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 deposition 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 coordination 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.

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.

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निर्माण प्रबंधक
मोति... (पूर्वी चम्...

एस.के.नन्दी/S.K NANDY
मुख्य महाप्रबंधक (निर्माण)/Chief General Manager (Const.)
इंडियन ऑयल कारपोरेशन लिमिटेड/Indian Oil Corp. Ltd.
प्रोजेक्ट निर्माण कार्यालय, पटना/Project Construction Office, Patna
हीरा निकेतन, कालिकेत नगर, बेली रोड, पटना-801503
Hira Niketan Kalikot Nagar, Bailey Road, Patna-801503

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 not 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

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निर्माण प्र...
मोतिहारी (पूर्वी ...)

NANDY
Manager (Const.)
Oil Corp. Ltd.
...ction Office, Patna
हीरा निकेतन, कलिकट ..., ..., पटना-801503
Hira Niketan Kalikat Nagar, Bailey Road, Patna-801503

concessionaires. MoRT&H/ NHAI/ implementing authorities for the project shall not be liable to the concessionaire in any way in this regard.

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.

हरीश कु0 सुमन
निर्माण प्रबंधक
मोतिहा[illegible] धमारण)

SIGNED SEALED AND DELIVERED FOR AND ON BEHALF OF AUTHORITY.

BY SHRI.....

(Signature, name & address with stamp)

SIGNED ON BEHALF OF M/S Indian Oil Corporation Limited (LICENSEE)

एस.के.नन्दी/S K NANDY
[illegible] Manager (Const.)
[illegible] Oil Corp. Ltd.
[illegible] Office, Patna
[illegible] 801503

BY SHRI S.K. NANDY

(Signature, name & address with stamp)

HOLDER OF GENERAL POWER OF ATTORNEY DATED.....

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

IN THE PRESENCE OF (WITNESSES):

1.

2. (ARUNESH MISHRA)

Calculations for License Fee & Performance bank guarantee

The following calculations are based on MORTH circular (F No: RW/NH-33044/29/2015/S&(R) dated: 22.11.2016)

Methodology:

1) Utilized NH land area = length of pipeline to be laid X dia of pipe. (1 Sq m =0.0247157686604 Decemils).
2) Industrial License Fee (Rs/month) for industrial utility= (Utilized NH land area X Prevailing circle Rate of land per unit area)/(10X12)
3) Performance Bank Guarantee = running length of pipeline X rate per Meter (Rs 100/- per meter as the pipe dia is <=300mm & Rs. 250/-per meter as the pipe dia is >300mm)
4) The license fee for public utilities shall be 33% of the fee prescribed for industrial utilities.
5) Prevailing circle rate is attached.

License Fee

Particulars: Utilized NH land area of NH 77 (12.75" MS Pipe + 40 mm OFC Duct) Along the NH total 1.450 km

S.No	Village	Ch. Start	Ch. End	Length (Km)	Area of Pipeline (Decimils)	Area of OFC (Decimils)	Total Area (Decimils)	Prevailing circle rate / Decimil	Total cost (Total area X Circle rate)
1	Madhaul	0.000	1.450	1.450	11.61	1.43	13.04	180000	2090064.26
	Total			**1.450**	**11.61**	**1.43**	**13.0450**		**2090064.26**
								Rent per Month(total cost/(10*12))	17417.20
								License fee for 5 years for NH-77 area utilization = Rent per month X 60 X (33/100) (considering LPG pipeline as public utility) (A)	**344860.60**

Particulars: Utilized NH land area of NH 77 (12.75" MS Pipe + 89 mm MS pipe for OFC) Crossing the NH (01 times)

Sl. No.	Village/ Block/ District	Crossing length (in mtr) NH ROW	Outer dia/Width of concern utility line (in mtr) Outer Dia of carrier pipe 12.75"+89 mm MS pipe	Utilized NH land Area (in sqm)	Circle rate per decimal (MVR Copy attached)	Circle Rate (in Rs. per Sq.mtr.)	Licence fee (Rs./Sq m/ Month)	Licence fee for 5 years (in Rs.)	33% of licence fee through Demand Draft for 5 years for public utilities(Rs.)
1	Madhaul	45	0.324	14.58	180000	4444.000	539.95	32,396.76	10,690.93
2	Madhaul	45	0.089	4.005	180000	4444.000	148.32	8,899.11	2,936.71
								License fee for 5 years for NH-77 area crossing utilization = Rent per month X 60 X (33/100) (considering LPG pipeline as public utility) (B)	13,627.64
								Total license fee for 05 years (Along+Across) (C= A+B)	**358,488.24**

Performance Bank gaurantee

S.NO	Description	Total utilized Length(m)	Dia of utility(mm)	Rate per meter as per dia	Total BG amount
1	12.75" OD MS Pipe along NH 77 for 1.450 km	1450	324 mm	250	362500
2	40 mm OFC Duct along NH 77 for 1.450 km	1450	40 mm	100	145000
3	12.75" OD MS Pipe crossing NH 77 (crossing length=45 m)	45	324 mm	250	11250
4	89 mm OD MS Pipe crossing NH 77 (crossing length=45 m)	45	89 mm	100	4500
			Total amount		**523,250.00**

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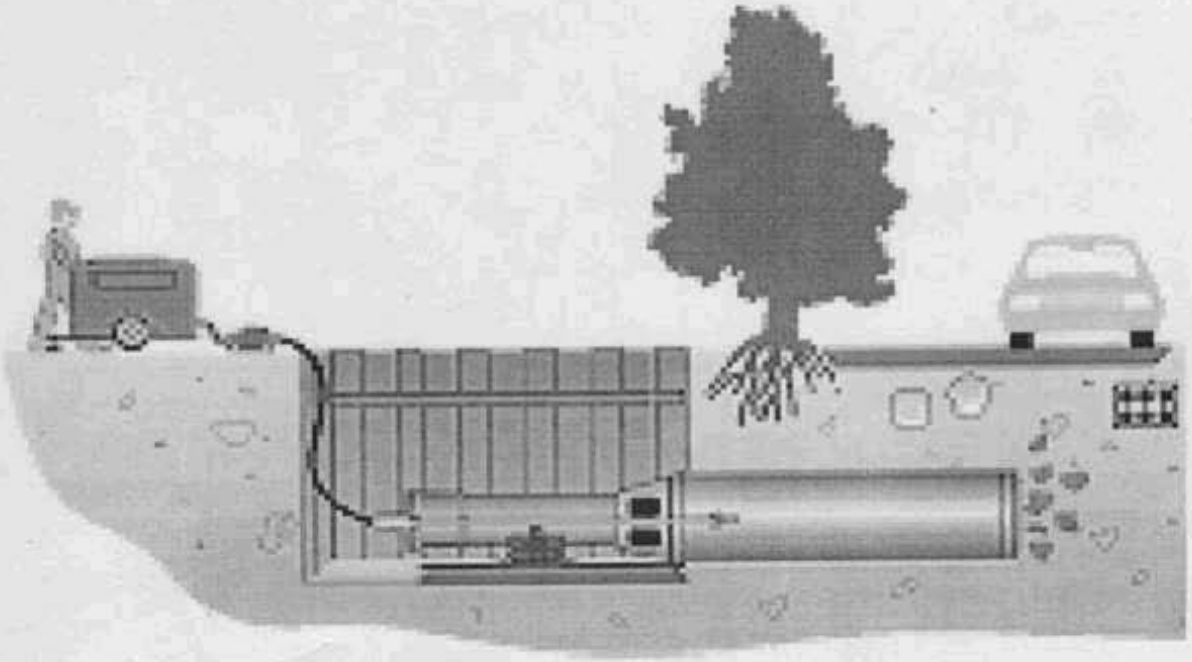
IndianOil

Indian Oil Corporation Limited

CONSTRUCTION METHODOLOGY:

For laying underground pipeline
Crossing National highways by
Horizontal Boring Method



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निर्माण प्रबंधक
मोतिहारी (बिहार)

HORIZONTAL DIRECTIONAL DRILLING

GENERAL

Horizontal Directional Drilling or HDD, is a steerable trenchless method of installing underground pipes, conduits and cables in a shallow arc along a prescribed bore path by using a surface launched drilling rig, with minimal impact on the surrounding area. HDD is used when trenching or open excavation is not possible/practical. Directional boring minimizes environmental disruption. It is suitable for a variety of soil conditions and jobs including road, landscape and river crossings. Pipes can be made of materials such as Steel, PVC, etc. if the pipes can be pulled through the drilled hole.

Technique

Directional boring is used for installing infrastructure such as telecommunications and power cable conduits, water lines, sewer lines, gas lines, oil lines, product pipelines and environmental remediation casings. It is used for crossing waterways, roadways, shore approaches, congested areas, environmentally sensitive areas, and areas where other methods are costlier. It is used instead of other techniques to provide less traffic disruption, lower cost, deeper and/or longer installation, no access pit, shorter completion times, directional capabilities, and environmental safety. The technique has extensive use in urban areas for developing subsurface utilities as it helps in avoiding extensive open cut trenches.

The method comprises a three stage process wherein first stage drills a pilot hole on the designed path and the second stage enlarges the hole by passing a larger cutting tool known as the back reamer. The third stage places the product or casing pipe in the enlarged hole. The directional control capabilities assist the rig operator in making necessary changes in the directions of the drilling head.

Horizontal directional drilling is done with the help of a viscous fluid known as drilling fluid. It is a mixture of water and, usually, bentonite or polymer continuously pumped to the cutting head or drill bit to facilitate the removal of cuttings, stabilize the bore hole, cool the cutting head, and lubricate the passage of the product pipe.

Location and guidance of the drilling is a very important part of the drilling operation, as the drilling head is under the ground while drilling and, in most cases, not visible from the ground surface.

Advantages

HDD offers several advantages when compared to other trenchless construction methods:

(a) Complicated crossings can be quickly and economically accomplished with a great degree of accuracy since it is possible to monitor and control the drilling operation.
(b) Sufficient depth can be accomplished to avoid other utilities.
(c) In river crossing applications, danger of river bed erosion and possible damage from river traffic is eliminated.
(d) Requires only a small construction footprint.

The Horizontal Directional Drilling Process

The tools and techniques used in the horizontal directional drilling (HDD) process are an outgrowth of the oil well drilling industry. The components of a horizontal drilling rig used for pipeline construction are similar to those of an oil well drilling rig with the major exception being that a horizontal drilling rig is equipped with an inclined ramp as opposed to a vertical mast. HDD

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pilot hole operations are not unlike those involved in drilling a directional oil well. Drill pipe and downhole tools are generally interchangeable and drilling fluid is used throughout the operation to transport drilled spoil, reduce friction, stabilize the hole, etc. Because of these similarities, the process is generally referred to as drilling as opposed to boring.

Installation of a pipeline by HDD is generally accomplished in three stages as illustrated in Figure 1. The first stage consists of directionally drilling a small diameter pilot hole along a designed directional path. The second stage involves enlarging this pilot hole to a diameter suitable for installation of the pipeline. The third stage consists of pulling the pipeline back into the enlarged hole.

Pilot Hole Directional Drilling

Pilot hole directional control is achieved by using a non-rotating drill string with an asymmetrical leading edge.

It is common in soft soils to achieve drilling progress by hydraulic cutting with a jet nozzle. In this case, the direction of flow from the nozzle can be offset from the central axis of the drill string thereby creating a steering bias. This may be accomplished by blocking selected nozzles on a standard roller cone bit or by custom fabricating a jet deflection bit. If hard spots are encountered, the drill string may be rotated to drill without directional control until the hard spot has been penetrated.

Pre-reaming

For a pre-reaming pass, reamers attached to the drill string at the exit point are rotated and drawn to the drilling rig thus enlarging the pilot hole. Drill pipe is added behind the reamers as they progress toward the drill rig. This insures that a string of pipe is always maintained in the drilled hole..

Pullback

Pipe installation is accomplished by attaching the prefabricated pipeline pull section behind a reaming assembly at the exit point and pulling the reaming assembly and pull section back to the drilling rig. This is undertaken after completion of pre-reaming or, for smaller diameter lines in soft soils, directly after completion of the pilot hole. A swivel is utilized to connect the pull section to the leading reaming assembly to minimize torsion transmitted to the pipe.

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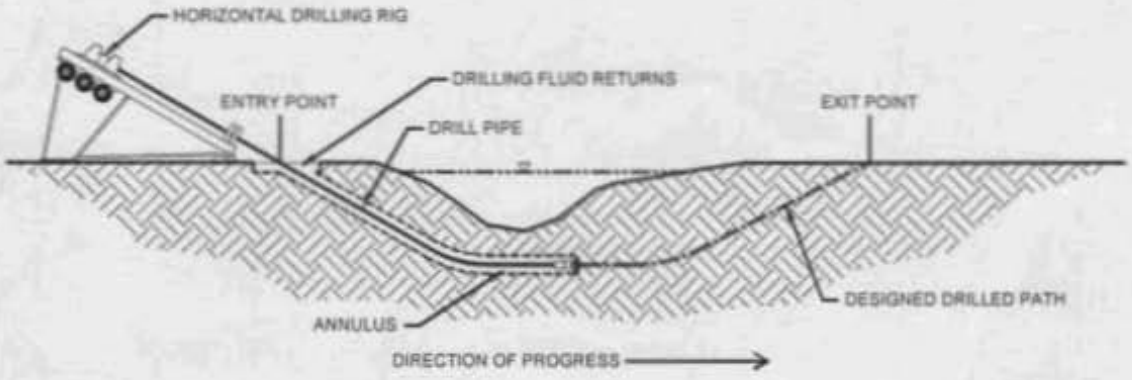
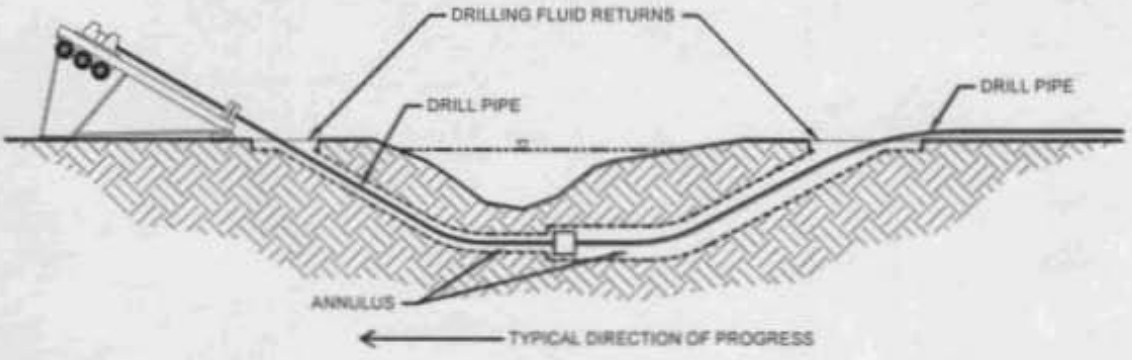
PILOT HOLE



PREREAMING



PULLBACK

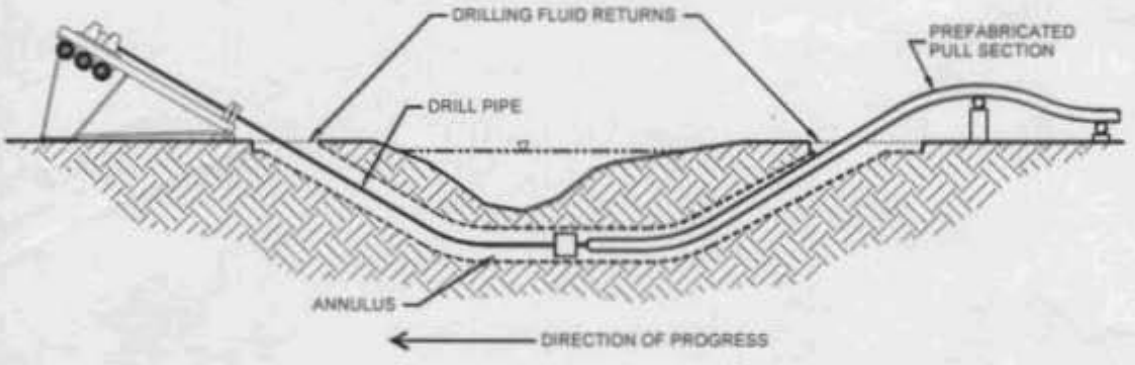


Figure 1
The HDD Process

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मोतिहारी (पूर्वी चम्पारण)

Disadvantages of Cased Crossing:

Cased Crossings are being worldwide discouraged due to technical & operational issues/problems being faced by people involved in installing & maintaining pipelines. Some of the points going against cased crossings are as follows:

- For installing a pipeline by cased crossing method, large launching & receiving pits are required to be excavated on both sides of the crossing (highway/ railway etc.). In case of high water table conditions, it is very difficult to keep these pits in stable/ dry condition. De-watering and sheet piling / shoring methods may be required especially for higher depth crossings.

- Collapse of the pits may lead to severe accidents. Several such accidents, fatal in some cases, have been reported in the past due to collapse of deep pits excavated at cased crossing locations.

- Due to requirement of deep pits and water table, depths more than of 3-4m are practically difficult to be achieved by this technique and may be risky.

- The installation is done by horizontal auger boring machine placed in the launching pit. The boring process is un-guided and at times may deviate considerably from the intended straight path due to soft soil conditions and/or presence of rock/ hard strata beneath the road/ rail surface. Under such conditions the hole may have to be abandoned and a new boring at a separate location may be required. Filling the abandoned hole is very difficult and settlement of road/ ground surface may occur in future.

- Maximum length of boring which can be practically achieved depends on the soil conditions and size of boring. However any length beyond 50-60m is difficult, risky & time consuming. As highway crossings, especially NH & SH are of longer lengths, this method has got limitations of installation.

- Problems of short-circuiting between casing & carrier pipes is another problem prevalent in cased crossings. This leads to loss of cathodic protection current thereby reducing the secondary protection to the carrier pipe. Any damage to pipe coating at such locations may lead to development of corrosion spots and potential areas for leakage of petroleum products in future.

- In case widening of the highway is undertaken in future, the low depth of the pipe may become a hindrance. Extension of the casing to cover the new width of crossing is very cumbersome and time consuming.

Advantages of HDD Technique:

- Horizontal Directional Drilling (HDD) technique is a trenchless technique used worldwide for crossing of obstacles like rivers, canals, drains, highways etc. by petroleum pipelines (liquid / gas), sewer lines etc.

- It is a environment friendly technique for pipeline crossings

- It is a much safer technique as compared to other techniques of pipeline crossings.

- Small excavation is required at both ends

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- By the use of this technique the pipeline can be installed at a much greater depth from the obstacle as per requirement of client. In PRRPL project, the depth below highway has been kept more than 5m. Such depths may not be possible by cased crossing technique.

- In this technique, use of casing pipe is not required as the hole drilled for installation of the carrier pipe is kept stable due to presence of drilling fluid (bentonite) under pressure and the drill pipe / product pipe being always present in the hole.

- Much longer crossing lengths can be achieved by HDD technique. Thus highway widening activities can be carried out without any hindrance as the pipeline is laid at much higher depth and for longer length as compared to cased crossing. In PRRPL project HDD crossing length of more than 100m have been envisaged. Such lengths cannot be obtained by cased crossing method.

- Success rate of HDD technique is much higher than auger boring. Problems of abandonment of hole which have been mentioned above in cased crossings are almost nil in case of HDD crossings of small lengths for highways, small canals etc.

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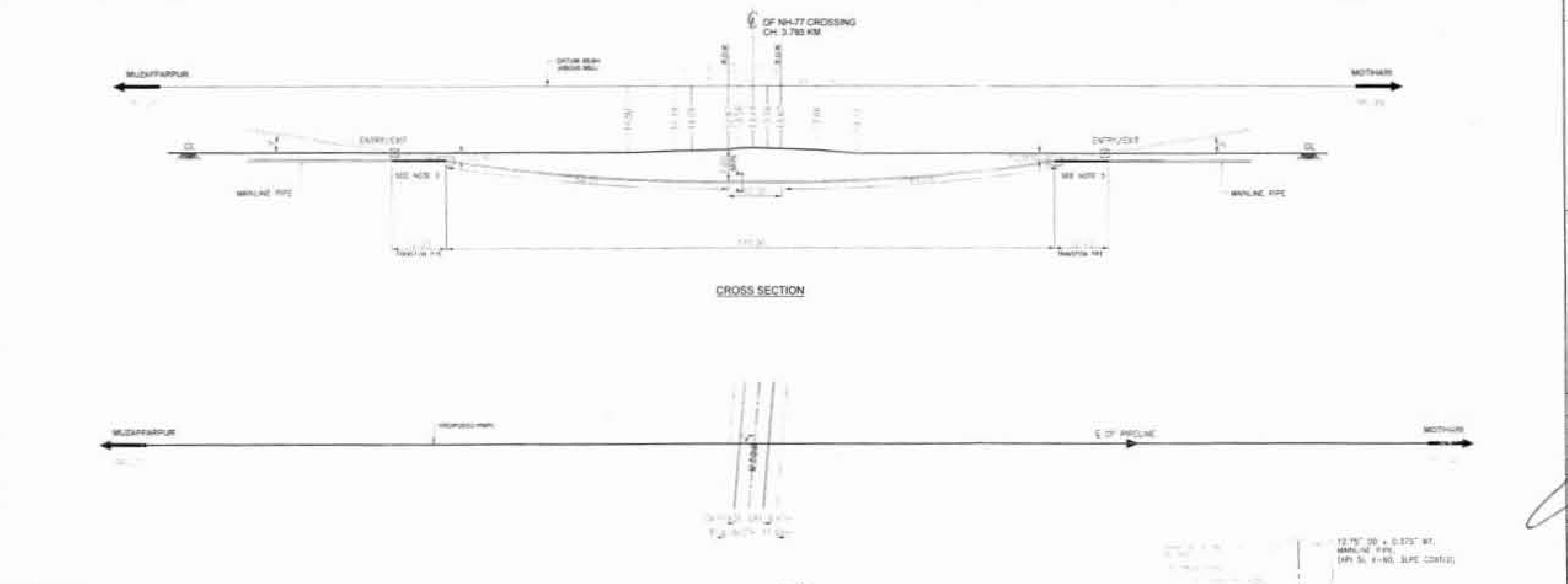
निर्माण प्रबंधक
मोतिहारी (पूर्वी चम्पारण)

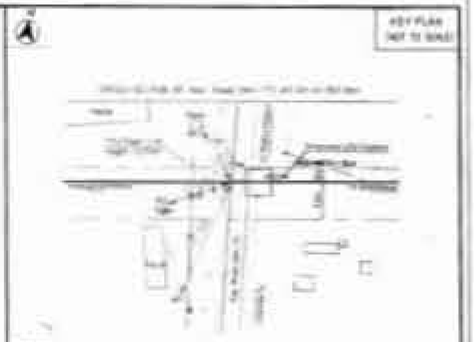
CGM(C), ERPL Patna

एस.के.नन्दी/S.K NANDY
मुख्य महाप्रबंधक (निर्माण)/Chief General Manager (Const.)
इंडियन ऑयल कार्पोरेशन लिमिटेड/Indian Oil Corp. Ltd.
प्रोजेक्ट निर्माण कार्यालय, पटना/Project Construction Office, Patna
हीरा निकेतन, कालिकेत नगर, बेली रोड, पटना-801503
Hira Niketan Kalikat Nagar, Bailey Road, Patna-801503



PIPE DETAILS

MAINLINE PIPE	12.75" OD x 0.250" WT, (API 5L X-60, 3LPE COATED)
HDD CARRIER PIPE	12.75" OD x 0.375" WT, (API 5L X-60, 3LPE COATED)
TRANSITION PIPE	12.75" OD x 0.312" WT, (API 5L X-60, 3LPE COATED)



NOTES:-

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE MENTIONED.
2. INSTALLATION OF CARRIER PIPE & CONDUIT FOR OFC SHALL BE DONE TOGETHER BY A SINGLE HORIZONTAL DIRECTIONAL DRILLING (HDD) OPERATION AS PER APPROVED DRAWING.
3. PIPELINE SECTION INSTALLED BY HDD TECHNIQUE TO BE CUT AND HOOKED UP WITH THE MAINLINE SECTION ON BOTH SIDES OF THE CROSSING.
4. RADIUS OF CURVATURE = 450M
5. THE PROPOSED PIPELINE SHALL BE LAID AT A MIN. CLEAR DISTANCE OF 5.0M FROM EXISTING PIPELINE.
6. DEPTH OF MAINLINE COVER BEYOND TRANSITION PUP SHALL BE GRADUALLY BROUGHT TO NOMINAL COVER OF 1.50M (MIN.)
7. TRANSITION PIPE SHALL BE PROVIDED AS PER TABLE-2
8. FOR CARRIER PIPE WALL THICKNESS PLEASE REFER TABLE-1 BASED ON PIA CLASSIFICATION.

PURPOSE: PERMISSION / TENDER

इंडियनऑयल कॉर्पोरेशन लिमिटेड - पाइपलाइन्स
INDIAN OIL CORPORATION LIMITED (PIPELINES)

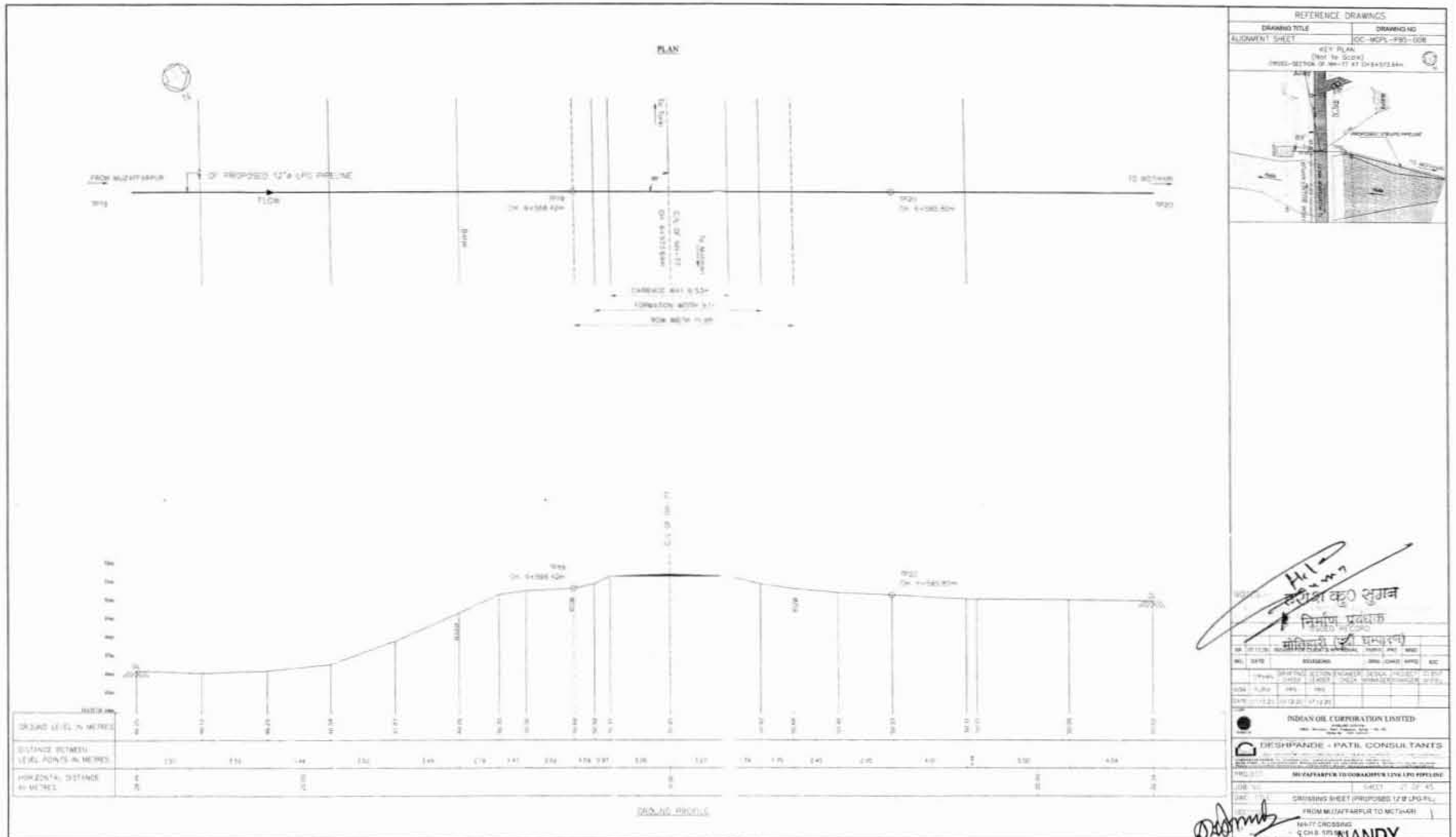
MUZAFFARPUR - MOTIHARI PIPELINE PROJECT

NH-77 CROSSING AT CH.3.793 KM

NEW Ch. 6.573 Km

DWG. NO. 8200-12300-30110-003-00

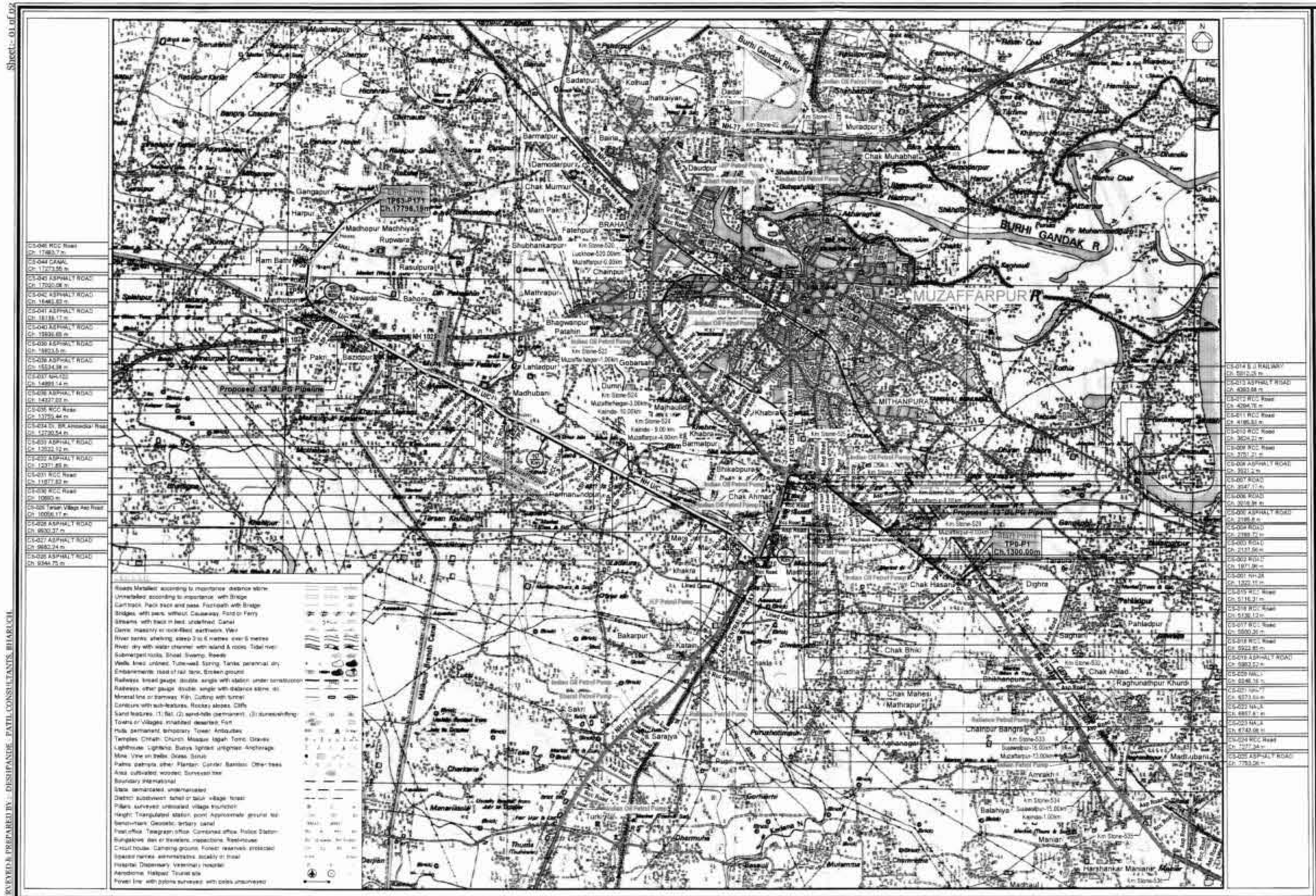
एस.के.नन्दी/S.K NANDY
मुख्य महाप्रबंधक (निर्माण)/Chief General Manager (Const.)
इंडियन ऑयल कॉर्पोरेशन लिमिटेड/Indian Oil Corporation Ltd.
परियोजना निर्माण कार्यालय/Project Construction Office
हीरा निकेतन, कालिकेत नगर, बेली रोड, पटना
Hira Niketan Kaliket Nagar, Bailey Road, Patna-801503



NAME OF CROSSING	TAHSIL	DISTRICT	STATE	CROSSING CHAINAGE IN METRES	Start Chainage	End Chainage
NH-77	KURHANI	MUZAFFARPUR	BIHAR	℄ CH 8+573.64m	℄ CH 8+568.42m	℄ CH 8+585.87m

S. K. NANDY
Chief Manager (Const.)
Indian Oil Corp. Ltd.
Construction Office, Patna
हीरा निकेतन, कालिकेत नगर, बेली रोड, पटना-801503
Hira Niketan Kaliket Nagar, Bailey Road, Patna-801503

Sheet : 01 of 02



ROUTE MAP

FROM MUZAFFARPUR TO MOTIHARI

TP TABLE:-

TPNO.	CHAINAGE	TPNO.	CHAINAGE	TPNO.	CHAINAGE
TP0	1300.00	TP22	7131.89	TP44	14984.65
TP1	1350.88	TP23	9914.34	TP45	15013.68
TP2	1631.44	TP24	11471.92	TP46	15541.11
TP3	1680.81	TP25	11642.42	TP47	15649.69
TP4	2491.87	TP26	11697.38	TP48	15734.29
TP5	2751.58	TP27	11818.96	TP49	15783.52
TP6	2850.16	TP28	11949.38	TP50	15902.36
TP7	4410.29	TP29	12018.97	TP51	16005.81
TP8	4461.68	TP30	12130.56	TP52	16044.72
TP9	4514.22	TP31	12330.89	TP53	16084.11
TP10	4557.38	TP32	12365.99	TP54	16145.62
TP11	4902.84	TP33	12848.93	TP55	16226.43
TP12	5032.36	TP34	12909.56	TP56	16302.11
TP13	5065.78	TP35	13230.89	TP57	16358.59
TP14	5643.72	TP36	13366.43	TP58	16437.52
TP15	5991.15	TP37	13488.34	TP59	16778.19
TP16	6035.54	TP38	13595.11	TP60	16811.78
TP17	6091.68	TP39	13725.21	TP61	16905.29
TP18	6212.59	TP40	13852.84	TP62	16990.54
TP19	6568.43	TP41	13923.5	TP63	17798.19
TP20	6585.82	TP42	14412.54		
TP21	7027.86	TP43	14925.05		

Sheet to Index:-

STRETCH DETAIL :-

Sr. No.	Stretch	Description	Chainage (m) From	Chainage (m) To	Length (m)
1	A - B	Across NH-28 (Muzaffarpur-Barauni)	1300.00	1350.88	50.88
2	B - C	Along NH-28 (Muzaffarpur-Barauni)	1350.88	5065.78	3714.90
3	C - D	Along NH-77 (Muzaffarpur-Bhagwanpur)	5065.78	6568.43	1502.65
4	D - E	Across NH-77 (Muzaffarpur-Bhagwanpur)	6568.43	6580.41	11.98
5	E - F	Along U/C NH	6580.41	14925.05	8344.64
6	F - G	Along NH-102 (Bapatti - Rasalpur)	14925.05	14984.65	59.60
7	G - H	Across NH-102 (Bapatti - Rasalpur)	14984.65	15013.68	29.03
8	H - I	Along U/C NH	15013.68	17798.19	2784.51
				TOTAL LENGTH (m)	16498.19

LENGTH STATEMENT

SR NO	DESCRIPTION	ROUTE	Length (Km.)
1	Proposed ... From Muzaffarpur To Motihari		17.799

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मोतिहारी

INDIAN OIL CORPORATION LIMITED
PIPELINES DIVISION
MBPL, Motihari, East Champaran, Bihar - 845 401
Phone No : 0625 2231011

MUZAFFARPUR TO GORAKHPUR LINK LPG PIPELINE

FROM MUZAFFARPUR TO MOTIHARI

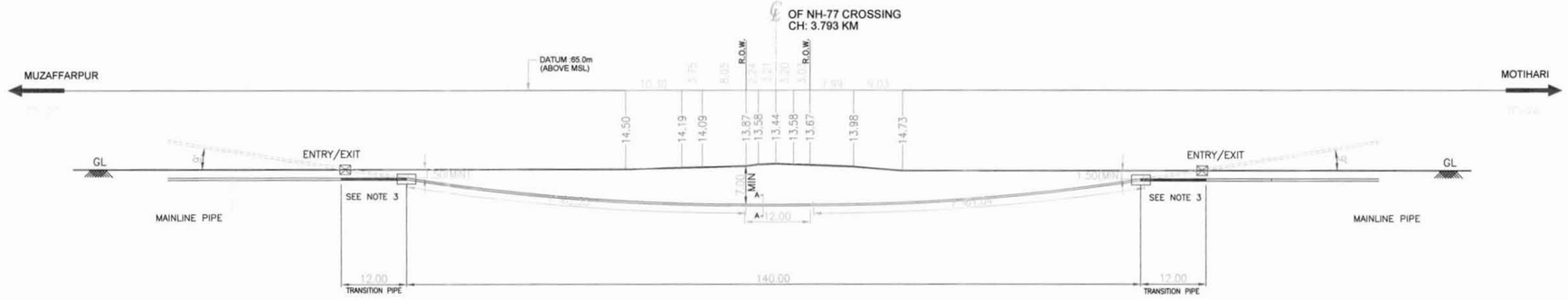
ROUTE MAP

DESHPANDE - PATIL CONSULTANTS

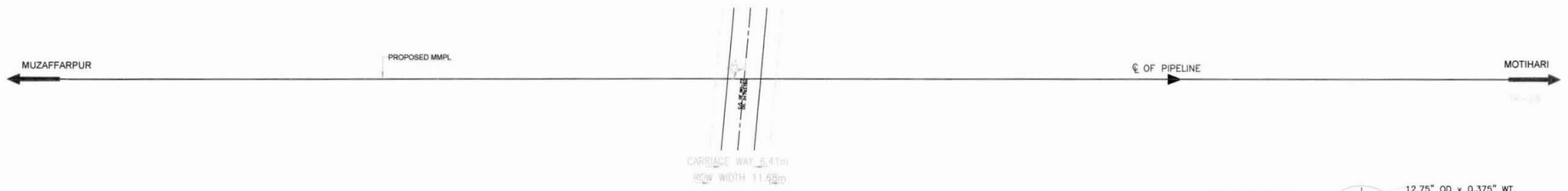
SURVEYED & PREPARED BY :- DESHPANDE - PATIL CONSULTANTS, BHARUCH

एस.

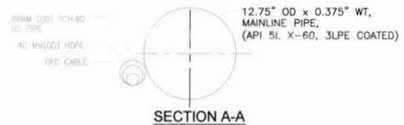
मुख्य महाप्रबंधक (निर्माण) / Chief General Manager (Const.)
इंडियन ऑयल कॉर्पोरेशन लिमिटेड / Indian Oil Corp. Ltd.
प्रोजेक्ट निर्माण कार्यालय, पटना/Project Construction Office, Patna
हीरा निकेतन, कालिकेत नगर, बेली रोड, पटना-801503
Hira Niketan Kaliket Nagar, Bailey Road, Patna-801503



CROSS SECTION



PLAN



SECTION A-A

PIPE DETAILS

MAINLINE PIPE	12.75" OD x 0.250" WT, (API 5L X-60, 3LPE COATED)
HDD CARRIER PIPE	12.75 OD x 0.375" WT, (API 5L X-60, 3LPE COATED)
TRANSITION PIPE	12.75" OD x 0.312" WT, (API 5L X-60, 3LPE COATED)

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KEY PLAN
(NOT TO SCALE)

NOTES:-

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE MENTIONED.
2. INSTALLATION OF CARRIER PIPE & CONDUIT FOR OFC SHALL BE DONE TOGETHER BY A SINGLE HORIZONTAL DIRECTIONAL DRILLING (HAJ) OPERATION AS PER APPROVED DRAWING.
3. PIPELINE SECTION INSTALLED BY HAJ TECHNIQUE TO BE CUT AND HOOKED UP WITH THE MAINLINE SECTION ON BOTH SIDES OF THE CROSSING.
4. RADIUS OF CURVATURE = 400M
5. THE PROPOSED PIPELINE SHALL BE LAID AT A MIN. CLEAR DISTANCE OF 5.0M FROM EXISTING PIPELINE.
6. DEPTH OF MAINLINE COVER BEYOND TRANSITION PUP SHALL BE GRADULALY BROUGHT TO NOMINAL COVER OF 1.50M (MIN.).
7. TRANSITION PIPE SHALL BE PROVIDED AS PER TABLE-2
8. FOR CARRIER PIPE WALL THICKNESS PLEASE REFER TABLE-1 BASED ON PDI CLASSIFICATION.

S.NO.	REFERENCE DRAWING	DWG. NO.
1	NH-77 CROSSING AT C CH.3+793.16m	IOC-MGPL-CS-010

PURPOSE: PERMISSION / TENDER

NO	DATE	INI.	SIG.	INI.	SIG.	INI.	SIG.	INI.	SIG.	SUBJECT OF REVISION
00	23.07.20	PPM	malik	PK		BK		JKR		
REVISION		DRAWN		DESIGNED		CHECKED		APPROVED		

इंडियनऑयल कॉर्पोरेशन लिमिटेड - पाइपलाइन्स
IndianOil INDIAN OIL CORPORATION LIMITED (PIPELINES)
MUZAFFARPUR – MOTIHARI PIPELINE PROJECT

NH-77 CROSSING AT CH.3.793 KM

CAD FILE NO.	DWG. NO.	SCALE	SIZE	SHEET
MMPL-09-00	9200-12300-30110-003-00	1:750	XING	1 OF 1

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प्रोजेक्ट निर्माण कार्यालय, पटना/Project Construction Office, Patna
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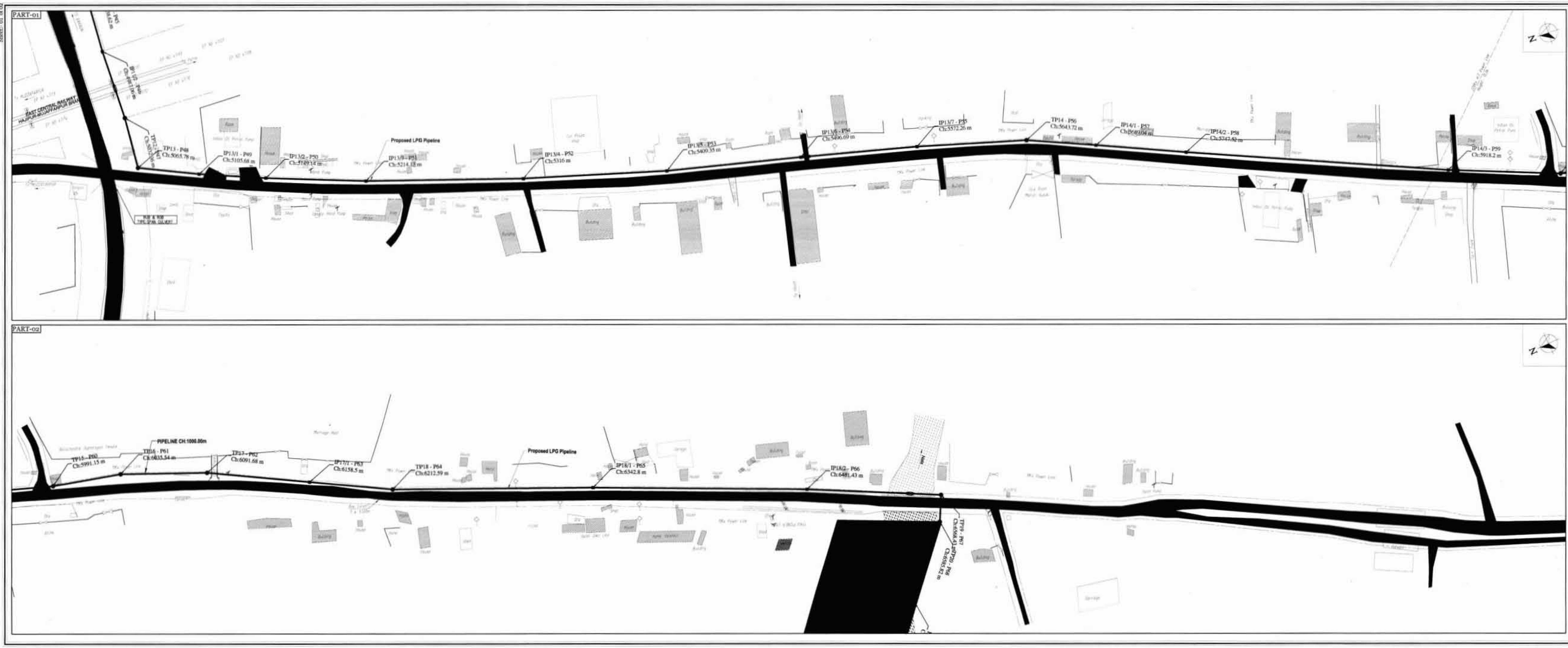

Sheet:- 01 of 02

CONTINUOUS ROUTE MAP

LEGEND :

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
[illegible]	[illegible]	[illegible]	[illegible]

INDIAN OIL CORPORATION LIMITED
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BMBPL, Motihari, East Champaran, Bihar-845401
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MUZAFFARPUR TO GORAKHPUR LINK LPG PIPELINE

FROM MUZAFFARPUR to GORAKHPUR

CONTINUOUS ROUTE MAP

DESIGN CONSULTANTS

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