



गेल मैंगलोर पेट्रोकेमिकल्स लिमिटेड (पूर्ववर्ती जे बी एफ पेट्रोकेमिकल्स लिमिटेड)
गेल (इंडिया) लिमिटेड की पूर्ण स्वामित्व वाली अनुषंगी कंपनी

GAIL Mangalore Petrochemicals Limited (Erstwhile JBF Petrochemicals Limited)

A wholly owned subsidiary of GAIL (India) Limited

नंबर: 4-214, इंडस्ट्रियल प्लॉट नंबर-9,
बाजपे विलेज, मैंगलोर एस ई जेड लिमिटेड,
मंगलुरु, दक्षिणा कन्नडा ज़िला,
कर्नाटका- 574142, इंडिया.

NO: 4-214, INDUSTRIAL PLOT NO - 9,
BAJPE VILLAGE, MANGALORE SEZ LIMITED,
MANGALURU, DAKSHINA KANNADA DISTRICT,
KARNATAKA - 574142, INDIA.

फ़ोन / PHONE: 0824-2889925 / 27
info.gmpl@gail.co.in

Date: 15th September 2025

File Ref No: GMPL/PTA/MECH/2024/61-11-14/231/PNGRB-2

To

The Secretary,
Petroleum and Natural Gas Regulatory Board,
1st Floor, World Trade Centre, Babar Road,
New Delhi - 110001.

Respected Sir,

Subject: Intimation Regarding Laying of Dedicated Cross-Country Pipeline for Transportation of Paraxylene from New Mangalore Port to GAIL Mangalore Petrochemicals Limited (GMPL) PTA Plant under Regulation 19(2) of the PNGRB (Authorizing Entities to Lay, Build, Operate or Expand Petroleum and Petroleum Product Pipelines) Regulations, 2010.

We would like to formally intimate the Petroleum and Natural Gas Regulatory Board (PNGRB) regarding the proposed laying of a dedicated cross-country pipeline for the transportation of Paraxylene, a Class-B petroleum product, from New Mangalore Port to the PTA plant of GAIL Mangalore Petrochemicals Limited (GMPL), located within the Mangalore Special Economic Zone (MSEZ), Karnataka.

GMPL, a wholly owned subsidiary of GAIL (India) Limited, has recently acquired the 1.25 MMTPA capacity PTA manufacturing facility, which was originally established by M/s JBF Petrochemicals, through the corporate insolvency resolution process under the Hon'ble National Company Law Tribunal (NCLT). The plant, which had remained non-operational for over eight years, is currently undergoing a comprehensive revamp and is expected to be commissioned by February 2026.

The primary feedstock for the production of Purified Terephthalic Acid (PTA) is Paraxylene, a Class-B aromatic hydrocarbon and petroleum product. To operate the plant at its design capacity, an estimated 0.82 million tonnes of Paraxylene per annum will be required. The entire volume is proposed to be imported through New Mangalore Port and transported to the GMPL plant via a dedicated pipeline.

The brief details of the proposed dedicated pipeline are given below:

Pipeline length : 12.5 Kms (Approx).
Pipeline Diameter : 18 Inch
Pipeline Route : New Mangalore Port to GMPL PTA Plant
Design Throughput : 1.02 MMTPA
Design Pressure : 32 kg/cm²(g)
Product to be transported : Paraxylene

पंजीकृत कार्यालय:
गेल भवन, 16 भीकाएजी कामा प्लेस, आर.के. पुरम
नई दिल्ली-110066, इंडिया

REGD. OFFICE:
GAIL BHAWAN, 16 BHIKAIJI CAMA PLACE, R.K. PURAM
NEW DELHI-110 066, INDIA

सीआईएन/CIN
U24290DL2008G01423872

www.gmplonline.in



गेल मैंगलोर पेट्रोकेमिकल्स लिमिटेड (पूर्ववर्ती जे बी एफ पेट्रोकेमिकल्स लिमिटेड)

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The proposed pipeline shall be laid along the existing pipeline corridor connecting MSEZ and New Mangalore Port, for which the Right of Way (RoW) has already been obtained from M/s Mangalore SEZ Limited (MSEZL).

In compliance with Regulation 19(2) of the PNGRB (Authorizing Entities to Lay, Build, Operate or Expand Petroleum and Petroleum Product Pipelines) Regulations, 2010, we hereby submit the following documents for your kind consideration:

Project Brief : Annexure – I
Pipeline Route Map : Annexure – II
Pipeline Schematics : Annexure – III

We request you to kindly take the above submission on record as an intimation under the said Regulation.

Yours Sincerely

A K Naskar

CEO (GMPL)

ED (PTA – Projects)

A. K. NASKAR

CHIEF EXECUTIVE OFFICER

GAIL MANGALORE PETROCHEMICALS LIMITED

Mangalore SEZ, Karnataka - 574 142

Enclosures:

- Same as submitted along with Letter No GMPL/PTA/MECH/2024/61-11-14/231/PNGRB-1.

पंजीकृत कार्यालय:

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NEW DELHI-110 066, INDIA

सीआईएन/CIN

U24290DL2008GO1423872

www.gmplonline.in

JULY 21, 2025



PROJECT BRIEF

LAYING OF 18-INCH CROSS COUNTRY PIPELINE FOR THE
TRANSPORTATION OF PARAXYLENE FROM SILVER JUBILEE GATE OF
NEW MANGALORE PORT TO GMPL PTA PLANT

GAIL MANGALORE PETROCHEMICALS LIMITED
Mangalore SEZ, Karnataka.



Project brief for 18 Inch Paraxylene Cross Country Pipeline from New Mangalore Port to GMPL PTA Plant.

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Project brief for 18 Inch Paraxylene Cross Country Pipeline from New Mangalore Port to GMPL PTA Plant.

1. Introduction

- 1.1 GAIL (India) Limited, a Maharatna Public Sector Undertaking under the Ministry of Petroleum and Natural Gas, Government of India, is the country's leading gas transmission and marketing company. In addition to natural gas transmission, GAIL is also engaged in gas processing, petrochemicals, LPG transmission, and telecommunications. With a dominant market share of approximately 70% in the domestic gas transmission sector, GAIL also has global footprints in the USA, Singapore, Myanmar, and other countries.
- 1.2 As part of its strategic expansion into the petrochemical sector, GAIL successfully participated in the Corporate Insolvency Resolution Process (CIRP) of M/s JBF Petrochemicals Ltd. (JBFPL)—a company originally set up in 2008 by M/s JBF Industries to operate a 1.25 MMTPA Purified Terephthalic Acid (PTA) plant at Mangalore, Karnataka. Although the plant was on the verge of commissioning in 2017, operations ceased due to financial default by JBFPL, leading to insolvency proceedings initiated by lenders in February 2022.
- 1.3 Through a competitive bidding process involving major Indian petrochemical players, GAIL emerged as the Successful Resolution Applicant. The Hon'ble National Company Law Tribunal (NCLT) approved GAIL's Resolution Plan on 13.03.2023. The entire transaction, including pay-out and transfer of ownership was completed in record time. Following this, GAIL infused the full Resolution Plan amount of INR 2,101 Crores, acquiring 100% equity in JBFPL, which was subsequently renamed as GAIL Mangalore Petrochemicals Limited (GMPL) with effect from 18.07.2023.
- 1.4 The PTA plant at GMPL requires approximately 0.82 MMTPA of Paraxylene, a Class-B petroleum product, as its primary feedstock to operate at full capacity. In order to ensure uninterrupted feedstock supply, GMPL is in the process of developing a Paraxylene import and transfer facility at New Mangalore Port (NMP). The proposed facility includes port-side unloading infrastructure, pumping stations, and a dedicated 18-inch cross-country pipeline to transport Paraxylene from NMP to GMPL's storage tanks located within Mangalore SEZ.
- 1.5 This project brief specifically pertains to the laying, erection, and commissioning of the above-ground 18-inch pipeline from the Silver Jubilee Gate of NMP up to the Battery limit of Paraxylene storage tanks inside GMPL PTA Plant. Other components of the Paraxylene import infrastructure that are currently under design shall be detailed and communicated separately as the project progresses.
- 1.6 M/s Technip Energies has been engaged as the Engineering Consultant for the revival of the GMPL PTA Plant and has also carried out the design and engineering of the proposed cross-country pipeline from New Mangalore Port to the GMPL PTA Plant.



Project brief for 18 Inch Paraxylene Cross Country Pipeline from New Mangalore Port to GMPL PTA Plant.

2. Pipeline Overview

2.1 The pipeline is designed in accordance with the latest editions of the following codes and standards:

- ASME B31.4 – Pipeline Transportation Systems for Liquid Hydrocarbons
- API 5L – Specification for Line Pipe
- OISD Standard 141
- PNGRB Technical Standards and Specifications, as applicable

2.2 The brief details of the proposed dedicated pipeline are given below:

Parameter	Details
Product	Paraxylene (Class-B petroleum product)
Pipeline Length	Approx. 12.5 km
Pipeline Diameter	18 Inch
Pipe Specification	API 5L PSL2, Grade B, HFW, 12.7 mm thick
Design Throughput	1.02 MMTPA
Pipeline Type	Above-ground cross-country pipeline
Route	From Silver Jubilee Gate of NMP to GMPL PTA Plant.

3. Pipeline Design Details

Parameter	Details
Pipeline Economic design life	30 years
Basis for hydraulic Calculation	Ship size of 40,000 MT to be emptied within 40 hrs, through Paraxylene booster pumps located near NMP to Paraxylene tanks located in GMPL premises. Based on pressure drop and velocity limitation, optimum pipeline size of 18 Inch has been selected. Paraxylene supply temperature is 32 deg C and Density is 864 kg/m ³ . (Refer Annexure A for detail specification of Paraxylene.)
Pipeline Corrosion Allowance	3.2 mm
Pigging Facilities	No
Design Pressure	32 barg
Maximum Allowable Operating Pressure	10% below design pressure.



Project brief for 18 Inch Paraxylene Cross Country Pipeline from New Mangalore Port to GMPL PTA Plant.

Design temperature	65 deg C	
Pipeline corrosion protection system	Above ground pipeline (Anticorrosion painting)	
Corrosion Monitoring System	Not applicable	
Design margin (for pipeline)	On flow	10 %
	On length (%)	5%
Pipeline operating per annum	840 hrs. (intermittent flow as and when ship arrives) Pipeline will always remain filled with paraxylene	
Surge control	Surge analysis will be carried out.	
Sectionalizing Valves	Not required because pipeline length is less.	

4. Dispatch and Receiving Station Parameters

4.1 Dispatch Terminal details

Parameter	Details
Location	Silver Jubilee Gate of New Mangalore Port
Source of Paraxylene	From Jetty booster pump
Design pressure	32 barg
Battery limit conditions	Paraxylene will be made available at 22.57 barg and 32 deg C
Max./ Min. pumping temperature	32 deg C /16 deg C

4.2 Receipt Terminal Details

Parameter	Details
Location	B/L of GMPL PTA Plant
Arrival temperature at B/L	32 deg C
Arrival pressure at B/L	4 barg

5. Right of Way (ROW) Details

5.1 GMPL has secured the required Right of Way (RoW) from Mangalore SEZ Limited (MSEZL) for the complete pipeline stretch. The route is entirely within the existing pipeline corridor maintained by MSEZL and comprises:

Part A – External Pipeline Corridor:

- Multi-tier pipe racks (up to 20 m elevation)
- RCC box culverts under National Highway and Railway lines
- Above-ground sleepers, framed structures across swampy/CRZ terrain



Project brief for 18 Inch Paraxylene Cross Country Pipeline from New Mangalore Port to GMPL PTA Plant.

Part B – Internal Corridor within MSEZ:

- RCC trench sleepers connecting external corridor to GMPL battery limit

Dedicated RoW Allocation to GMPL:

- Part A: 0.80 m width in cantilever portion (roadside and riverside) for laying the 18” pipeline
- Part B: 1.20 m on RCC trench sleepers (shared with existing GMPL pipelines for Paraxylene, Hydrogen, and Wastewater)

Terrain Summary of Pipeline Route:

Description	Approx. Length (m)
On ground sleepers	7,750
Elevated sleepers/swampy terrain	350
Road/culvert crossings	450
Railway underpass (RCC box)	50
Elevated pipe rack (up to 20 m)	400
Elevated pipe rack (up to 5 m)	3,500

Total Length of Proposed Pipeline: ~12,500 meters

- 5.2 The RoW is fully licensed and available for the limited purpose of laying and operating this dedicated Paraxylene pipeline between NMP and the GMPL PTA Unit.

6. Project Scope

Subject project for the laying of Paraxylene Cross Country Pipeline has been awarded to M/s Tolani Projects Pvt. Ltd., and the scope of the contract is as follows:

- 6.1 The scope of the project includes the execution of a LiDAR/DGPS-based survey along the Right of Way, preparation of alignment sheets, detailed engineering, surge, and stress analysis. The detailed design will also include engineering for crossings, supports, and all pipeline appurtenances.
- 6.2 The construction scope includes fabrication, cold bending, welding, and erection of the 18” cross-country pipeline; installation of saddle supports; hydrotesting using potable water with corrosion inhibitors; drying, nitrogen purging, and preservation. It also covers surface preparation, painting, stencilling, and installation of valves, fittings, and other mechanical components. Civil and structural works such as scaffolding, fabrication and erection of supports, and execution of culvert and road/railway crossings are also included.



Project brief for 18 Inch Paraxylene Cross Country Pipeline from New Mangalore Port to GMPL PTA Plant.

- 6.3 The scope also includes the supply and installation of armoured Optical Fibre Cable (OFC) along the entire pipeline length. The OFC shall be laid in HDPE conduits and shall include splicing, termination, testing, and integration with GMPL's communication systems.
- 6.4 All works shall be executed in compliance with PNGRB guidelines, relevant Indian and international codes, and health, safety, and environmental (HSE) requirements.
- 7. SCADA and Telecommunication System**
- 7.1 SCADA is not considered for this proposed pipeline
- 8. Metering System**
- 8.1 The metering station forms part of the import facility infrastructure, which is currently in the design and engineering phase. Accordingly, the metering system is not included within the scope of the present job for laying the pipeline from the Silver Jubilee Gate of NMPT to the battery limit of the GMPL PTA Plant.
- 9. Annexures: -**
- 1) Annexure A - Paraxylene Specification
 - 2) Annexure B - Pipeline PID

This Project Brief is submitted as part of the intimation under Regulation 19(2) of the PNGRB (Authorizing Entities to Lay, Build, Operate or Expand Petroleum and Petroleum Product Pipelines) Regulations, 2010 for the above-mentioned dedicated Paraxylene pipeline project.

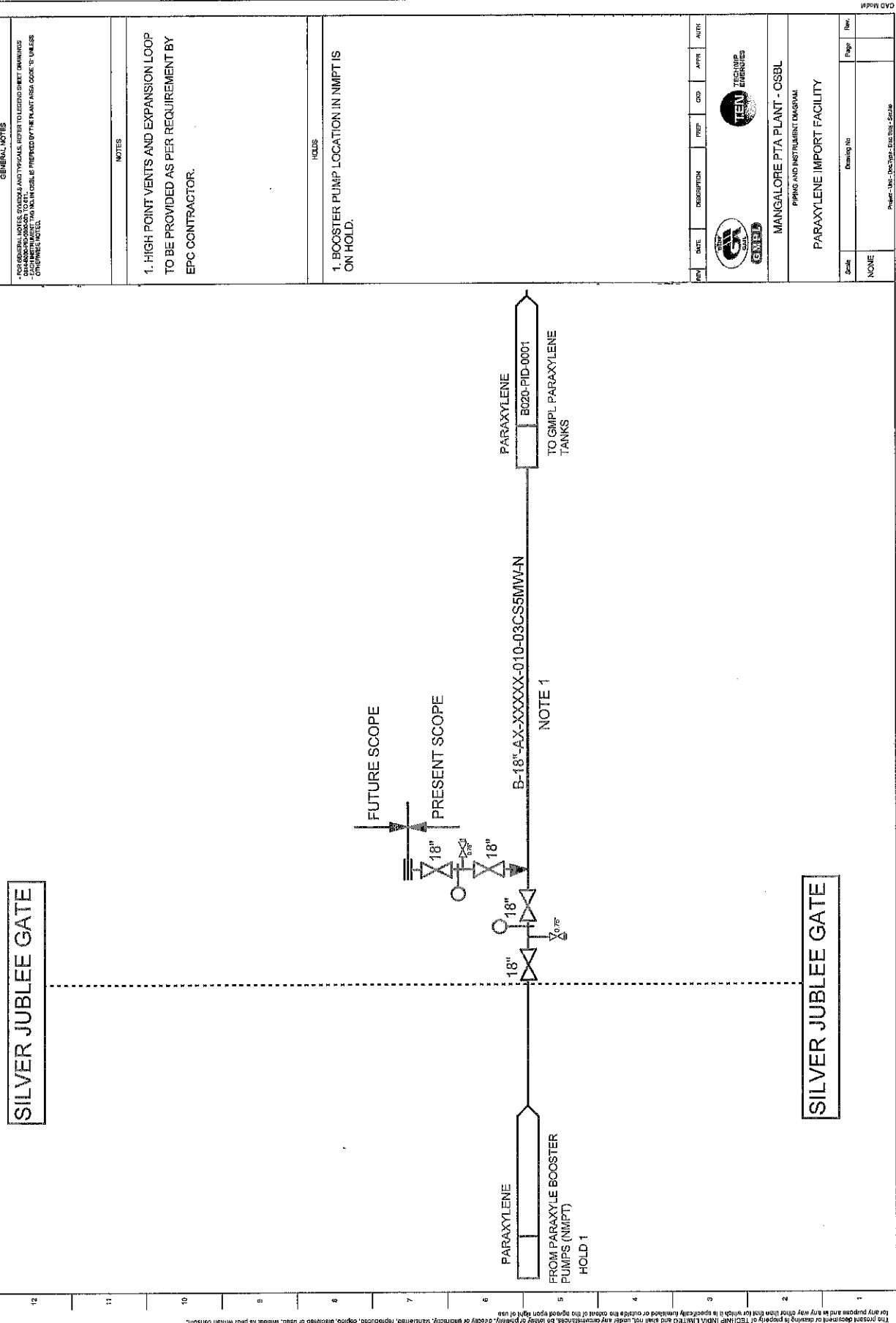


Project brief for 18 Inch Paraxylene Cross Country Pipeline from New Mangalore Port to GMPL PTA Plant.

ANNEXURE A

Paraxylene Purchasing Specifications		
Item	Units	Standard
Purity	wt%	99.7 min *
M-xylene	wt%	0.3 max **
O-xylene	wt%	0.1 max **
Toluene	wt%	0.1 max **
Ethyl benzene	wt%	0.3 max **
Non-aromatics	wt%	0.4 max *
Sulfur, as S	mg/kg	1 max *
Chlorine, as Cl	mg/kg	10 max *
Distillation Range (including 138.3°C at 101.3kPa)	°C	2 max *
Freeze Point	°C	13.05 min **
Acid Wash Color		2.0 max *
Pt - Co Color, APHA		20 max *
Appearance	Clear Liquid free of sediment and haze when observed at 30 °C *	
* Value is specified in Attachment A-1 of July-2012 TLA.		
** Value is referenced in April 2012 technology overview		
Paraxylene Specification OPTION: Industry standard ASTM D5136-09 can be used in place of above pX purchasing specification.		

A B C D E F G H I J K L M N O P



GENERAL NOTES

1. HIGH POINT VENTS AND EXPANSION LOOP TO BE PROVIDED AS PER REQUIREMENT BY EPC CONTRACTOR.

NOTES

HOLD

1. BOOSTER PUMP LOCATION IN NMPT IS ON HOLD.

REV	DATE	DESCRIPTION	PREP	CRD	APPR	AUTH

MANGALORE PTA PLANT - OSBL
 PIPING AND INSTRUMENT DIAGRAM
PARAXYLENE IMPORT FACILITY

Scale	None	Drawing No	Page	Rev
Scale	NONE	Drawing No		

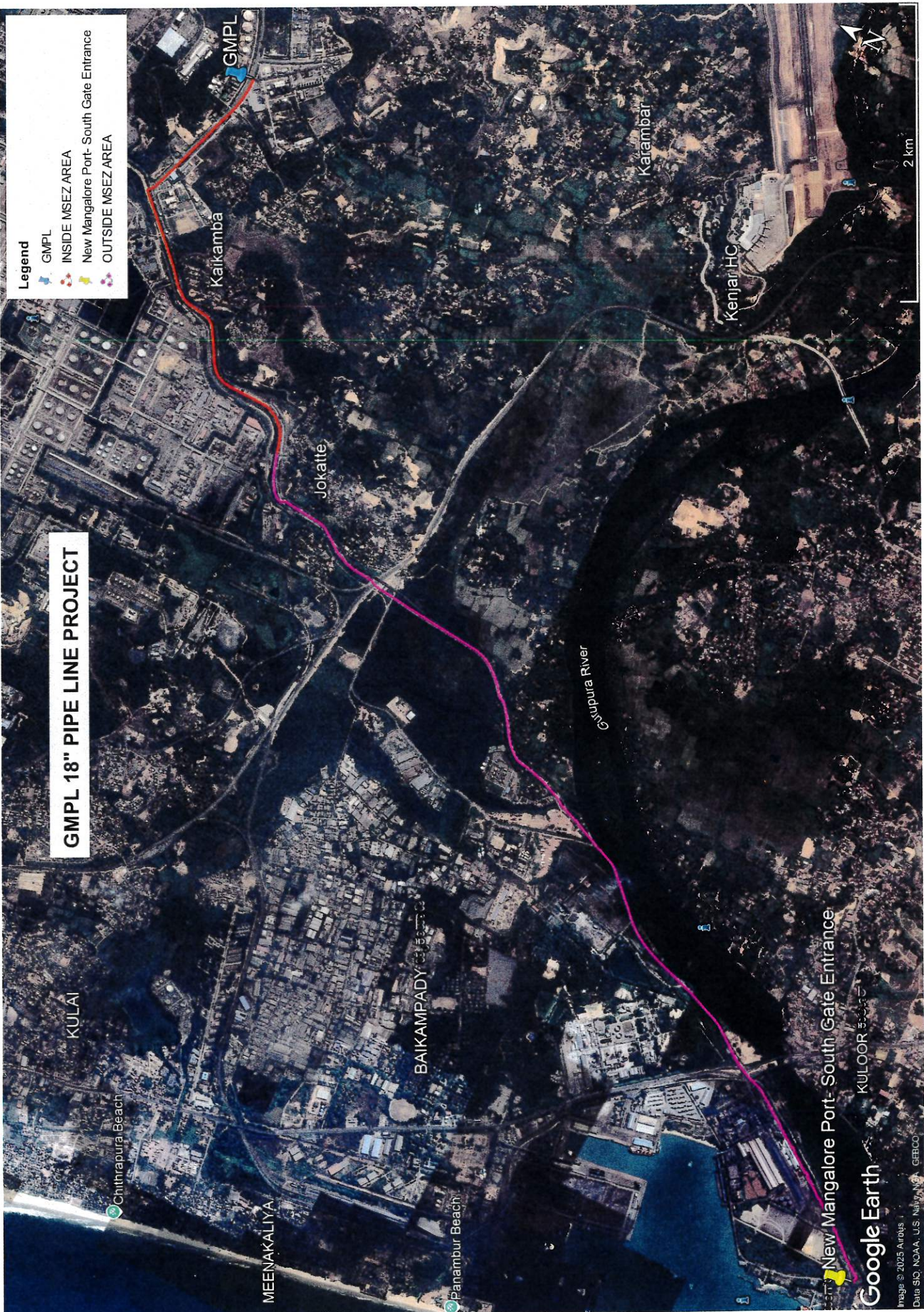
Project No: DES-01-001-001-001-001
 TECHTOP INDIA LIMITED

This project design or drawing is property of TECHTOP INDIA LIMITED and shall not be used, reproduced, copied, displayed or used, without the prior written consent, for any purpose and in any form, without the prior written consent of TECHTOP INDIA LIMITED.

GMPL 18" PIPE LINE PROJECT

Legend

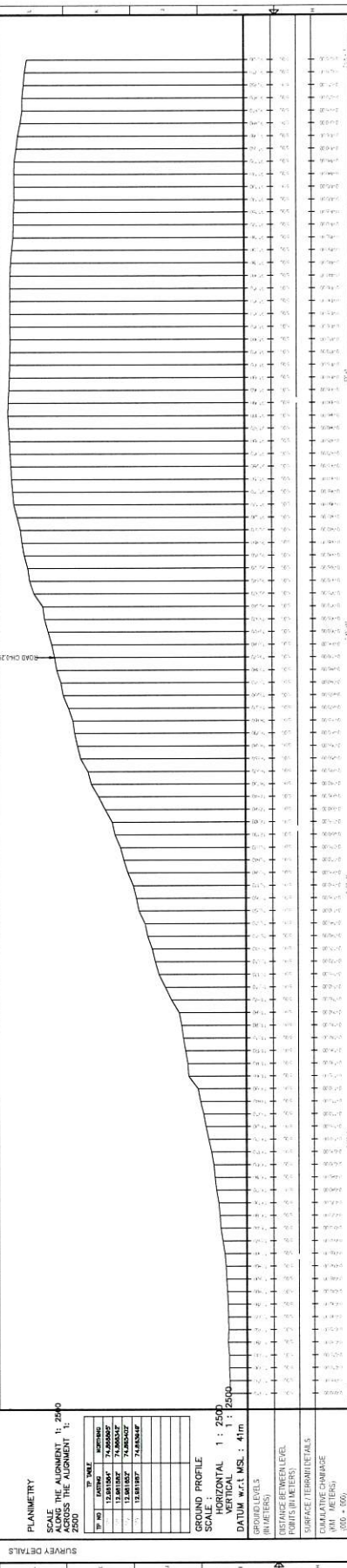
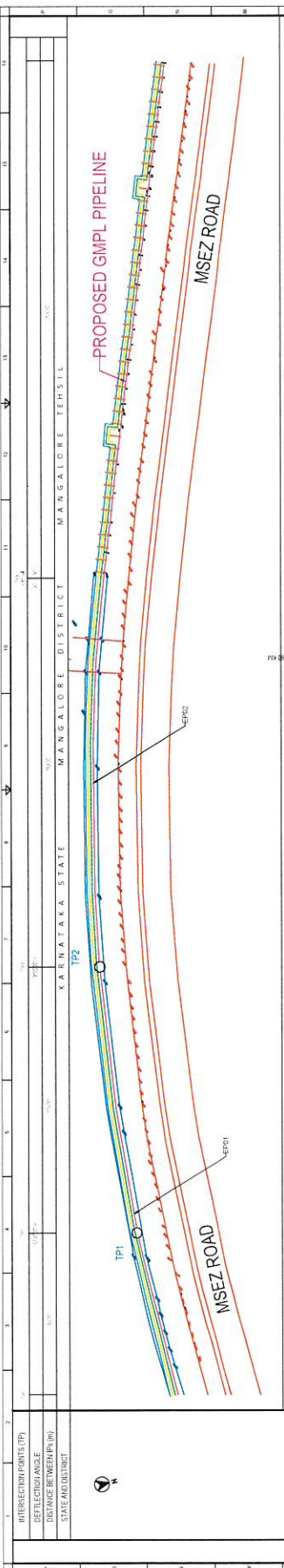
- GMPL
- INSIDE MSEZ AREA
- New Mangalore Port- South Gate Entrance
- OUTSIDE MSEZ AREA



New Mangalore Port- South Gate Entrance

Google Earth

Image © 2025 Airbus
Data SIO, NOAA, U.S. Navy, NGA, GEBCO



PLANIMETRY
SCALE THE ALIGNMENT 1: 2500
SCALE CROSS SECTION 1: 41m

TP NO	TP NAME	TP ELEVATION (MSL)
1	TP1	74.00000
2	TP2	74.00000

GROUND PROFILE
SCALE 1: 2500
HORIZONTAL SCALE 1: 41m
VERTICAL SCALE 1: 2500
DATUM w.r.t. M.S.L. + 41m

GROUND LEVELS
(METERS)

DISTANCE BETWEEN LEVEL POINTS (METERS)

SURFACE ELEVATIONS
(METERS)

COMPARATIVE CHANGE
(METERS)

SOIL CLASSIFICATION
(METERS)

SOIL CLASS

WALL THICKNESS (mm)

CO-ORDINATE (MATERIAL AND GRADE)

RESIGN/QUALITATIVE CHANGE
(MM, METERS)
(500 + 000)

SPECIAL PROVISIONS

PIPELINE COVERS

SPECIAL INSTALLATIONS / FITTINGS / MARKERS

CROSSINGS

COATINGS

JOINTS/PROTECTION

SOIL RESISTIVITY @ 500MM (OHM.M)

SOIL STRATIFICATION

TOPOGRAPHIC SYMBOLS

PIPELINE SYMBOLS

SOIL SYMBOLS

GENERAL NOTES:

1. ALL LEVELS ARE WITH RESPECT TO M.S.L.
2. THE DRAWING SHALL BE WITH RESPECT TO M.S.L.
3. ALL LEVELS ARE WITH RESPECT TO M.S.L.

REFERENCE DRAWINGS

DRAWING NO.	DRAWING TITLE
...	...

ISSUE RECORD

NO.	DATE	DESCRIPTION
1

CLIENT: GAIL Mangalore Petrochemicals Limited.

PMC: Technip Energies

CONTRACTOR: Tolini Projects (Pvt.) Ltd.

PROJECT: Mangalore GMPL Project

DWG. TITLE: ALIGNMENT SHEET (PROPOSED GAS PIPELINES)

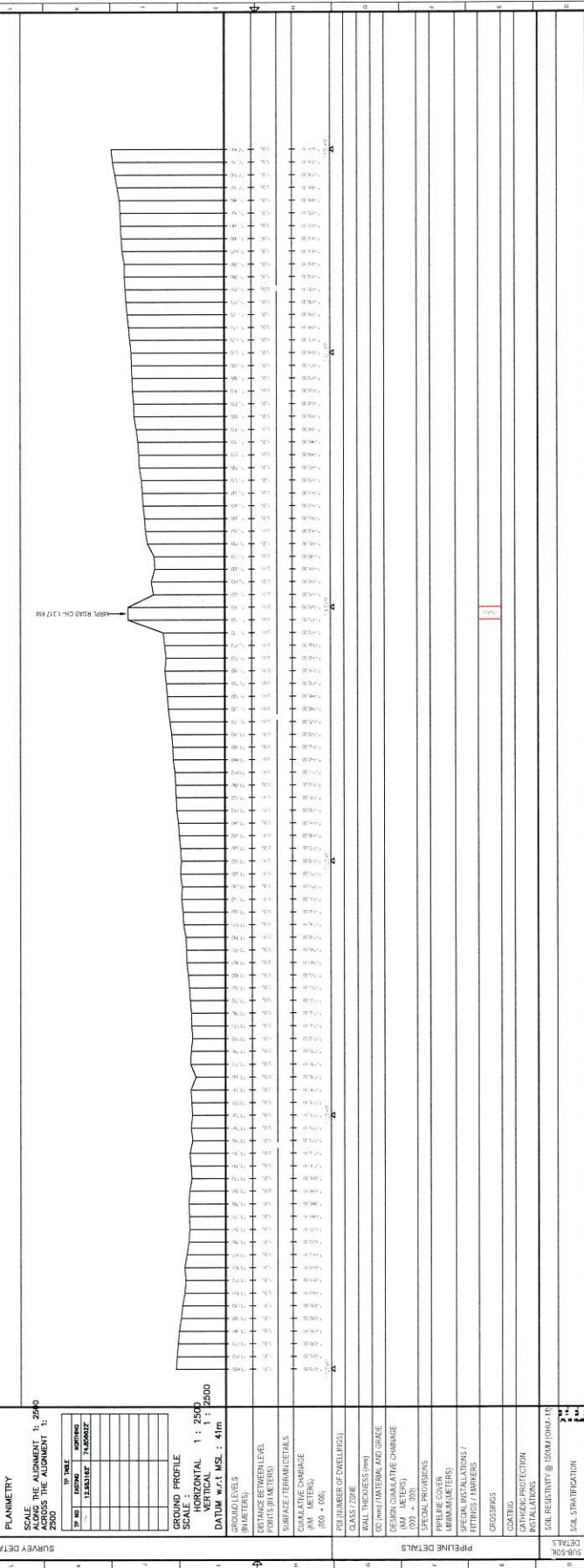
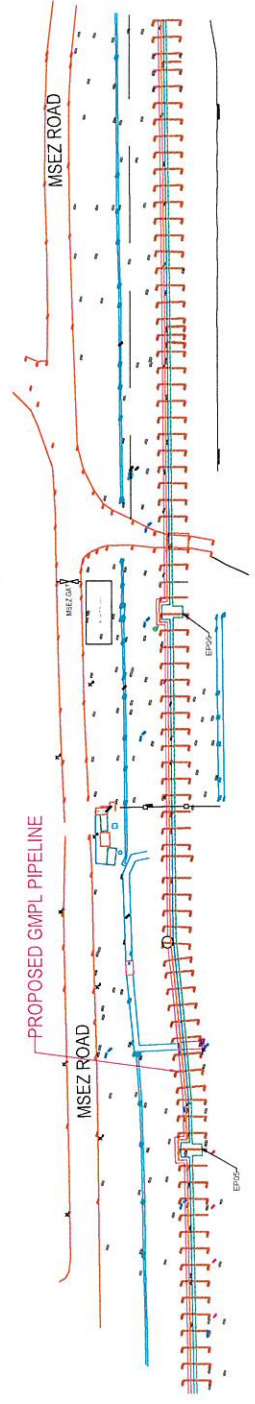
SECTION: FROM 0.00 KM TO 0.525 KM

SCALE: AS SHOWN

DRAWING NO.: TPL/DMPL/LEV/DWG-01

SHEET NO.: 1 OF 22

REV.: 03



PLANIMETRY
SCALE THE ALIGNMENT 1: 2500
SCALE THE CROSS SECTION 1: 2500

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
1	PIPE	12.583187	74.500000Z
2

GENERAL NOTES:
1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. THE CROSS SECTION SHALL BE AS SHOWN.
3. ALL DIMENSIONS ARE WITH RESPECT TO B.M. SL. LEVEL.

TOPOGRAPHIC SYMBOLS

- PROPOSED PIPELINE
- EXISTING PIPELINE
- ROAD
- RAILWAY
- ...

PIPELINE SYMBOLS

- UNION
- WELDED
- ...

SOIL SYMBOLS

- CLAY
- SAND
- ...

GENERAL NOTES:

- ...
- ...
- ...

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NO.
...	...

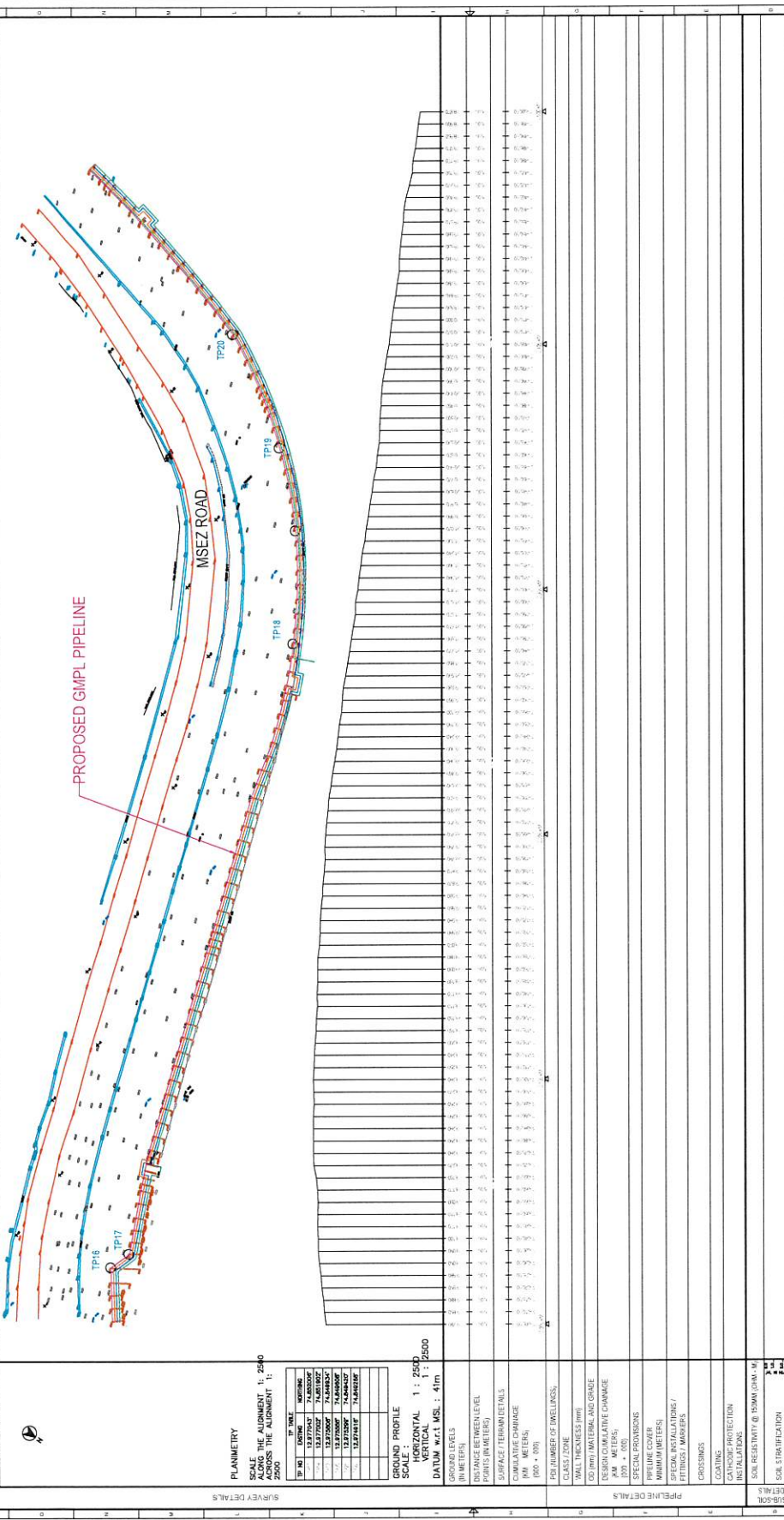
BILL OF MATERIAL FOR THIS DRAWING

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
1

CLIENT: GAIL Mangalore Petrochemicals Limited.
PMC: Technip Energies
CONTRACTOR: Tolani Projects (Pvt.) Ltd.

PROJECT: ...
DWG. TITLE: ALIGNMENT SHEET (PROPOSED GAS PIPELINE)
SECTION: ...
FROM: ...
SCALE: 1:1000 KM TO 1:500 KM
AS SHOWN: ...
DRAWING NO.: ...
SHEET NO.: ...
REV.: ...

KARNATAKA STATE MANGALORE DISTRICT MANGALORE TEHSIL



INTERSECTION POINTS (IP)

IP NO	DATE	DESCRIPTION
1	12/27/2006	74.400000
2	12/27/2006	74.400000
3	12/27/2006	74.400000
4	12/27/2006	74.400000

PLANIMETRY
SCALE: 1:2500
ALONG THE ALIGNMENT 1: 2500
ACROSS THE ALIGNMENT 1: 2500

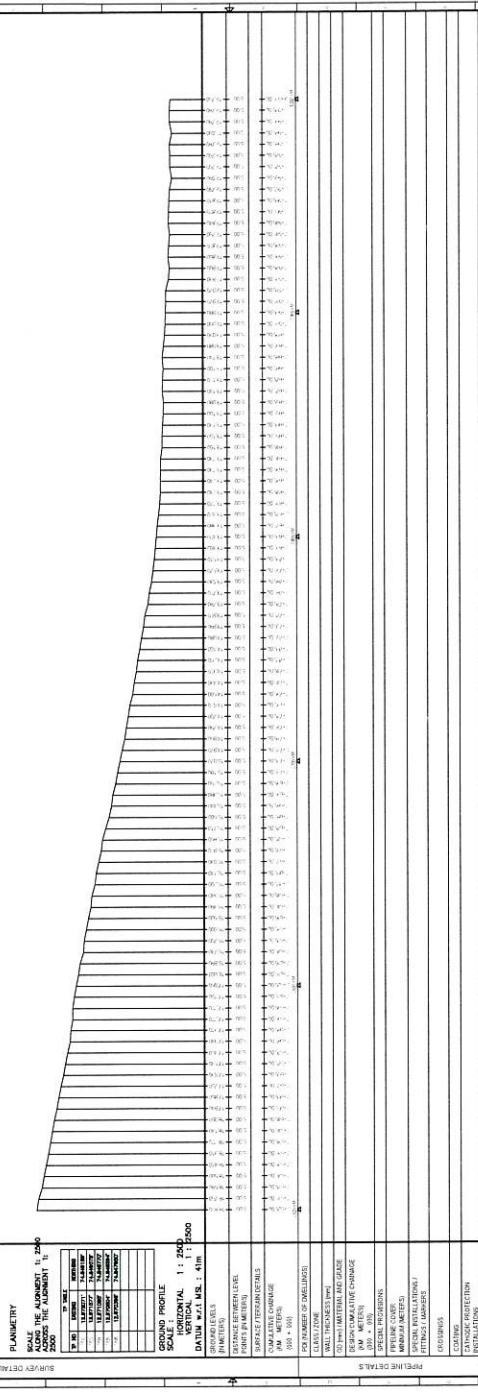
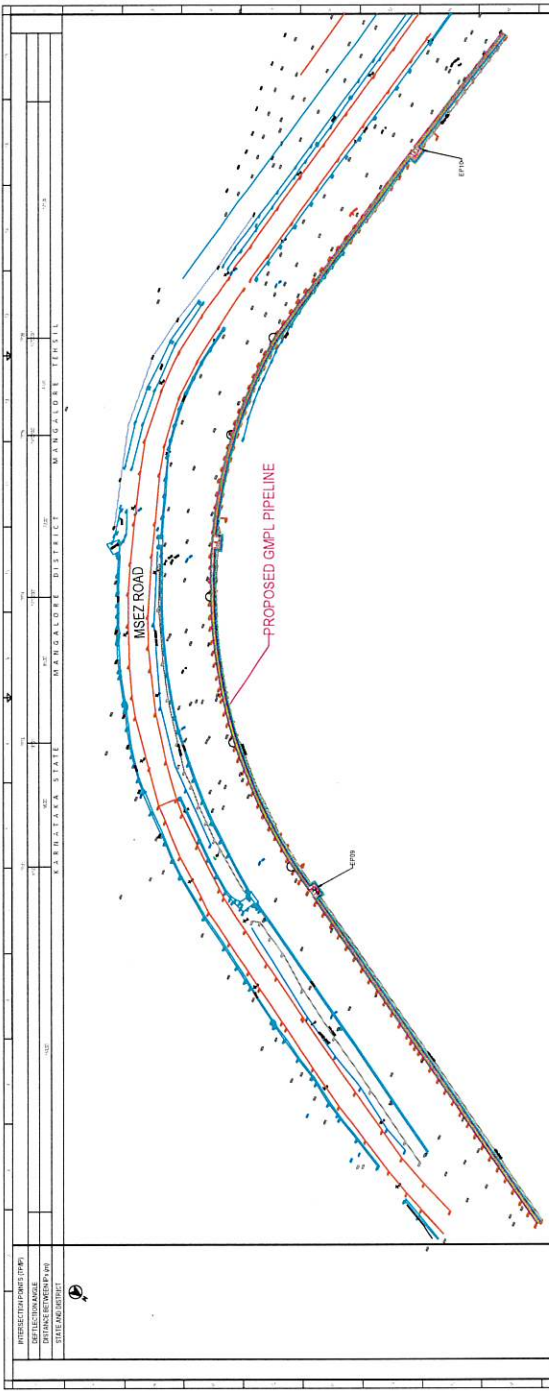
GROUND PROFILE
SCALE: HORIZONTAL 1: 2500
VERTICAL 1: 2500
DATUM w.r.t. MSL. ± 41m

GENERAL NOTES:

- ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE MENTIONED.
- ALL DIMENSIONS ARE WITH RESPECT TO MSL UNLESS OTHERWISE MENTIONED.

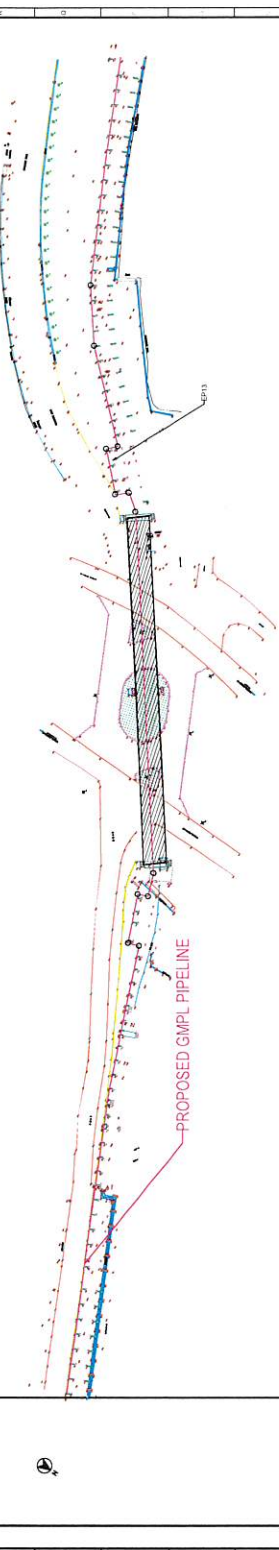
ITEM NO.	DESCRIPTION	UNIT	QUANTITY	REMARKS
1	PIPE	M		
2	TEE	NO.		
3	ELBOW	NO.		
4	BEND	NO.		
5	FLANGE	NO.		
6	VALVE	NO.		
7	ANCHOR BOLT	NO.		
8	WELDING	M		
9	PAINT	M ²		
10	MARKERS	NO.		
11	CONCRETE	M ³		
12	STEEL	KG		
13	WOOD	M ³		
14	LABOR	MAN-DAYS		
15	TRANSPORT	M ³		
16	TESTING	NO.		
17	INSULATION	M ²		
18	GRADING	M ²		
19	CONCRETE	M ³		
20	STEEL	KG		
21	WOOD	M ³		
22	LABOR	MAN-DAYS		
23	TRANSPORT	M ³		
24	TESTING	NO.		
25	INSULATION	M ²		
26	GRADING	M ²		
27	CONCRETE	M ³		
28	STEEL	KG		
29	WOOD	M ³		
30	LABOR	MAN-DAYS		
31	TRANSPORT	M ³		
32	TESTING	NO.		
33	INSULATION	M ²		
34	GRADING	M ²		
35	CONCRETE	M ³		
36	STEEL	KG		
37	WOOD	M ³		
38	LABOR	MAN-DAYS		
39	TRANSPORT	M ³		
40	TESTING	NO.		
41	INSULATION	M ²		
42	GRADING	M ²		
43	CONCRETE	M ³		
44	STEEL	KG		
45	WOOD	M ³		
46	LABOR	MAN-DAYS		
47	TRANSPORT	M ³		
48	TESTING	NO.		
49	INSULATION	M ²		
50	GRADING	M ²		
51	CONCRETE	M ³		
52	STEEL	KG		
53	WOOD	M ³		
54	LABOR	MAN-DAYS		
55	TRANSPORT	M ³		
56	TESTING	NO.		
57	INSULATION	M ²		
58	GRADING	M ²		
59	CONCRETE	M ³		
60	STEEL	KG		
61	WOOD	M ³		
62	LABOR	MAN-DAYS		
63	TRANSPORT	M ³		
64	TESTING	NO.		
65	INSULATION	M ²		
66	GRADING	M ²		
67	CONCRETE	M ³		
68	STEEL	KG		
69	WOOD	M ³		
70	LABOR	MAN-DAYS		
71	TRANSPORT	M ³		
72	TESTING	NO.		
73	INSULATION	M ²		
74	GRADING	M ²		
75	CONCRETE	M ³		
76	STEEL	KG		
77	WOOD	M ³		
78	LABOR	MAN-DAYS		
79	TRANSPORT	M ³		
80	TESTING	NO.		
81	INSULATION	M ²		
82	GRADING	M ²		
83	CONCRETE	M ³		
84	STEEL	KG		
85	WOOD	M ³		
86	LABOR	MAN-DAYS		
87	TRANSPORT	M ³		
88	TESTING	NO.		
89	INSULATION	M ²		
90	GRADING	M ²		
91	CONCRETE	M ³		
92	STEEL	KG		
93	WOOD	M ³		
94	LABOR	MAN-DAYS		
95	TRANSPORT	M ³		
96	TESTING	NO.		
97	INSULATION	M ²		
98	GRADING	M ²		
99	CONCRETE	M ³		
100	STEEL	KG		
101	WOOD	M ³		
102	LABOR	MAN-DAYS		
103	TRANSPORT	M ³		
104	TESTING	NO.		
105	INSULATION	M ²		
106	GRADING	M ²		
107	CONCRETE	M ³		
108	STEEL	KG		
109	WOOD	M ³		
110	LABOR	MAN-DAYS		
111	TRANSPORT	M ³		
112	TESTING	NO.		
113	INSULATION	M ²		
114	GRADING	M ²		
115	CONCRETE	M ³		
116	STEEL	KG		
117	WOOD	M ³		
118	LABOR	MAN-DAYS		
119	TRANSPORT	M ³		
120	TESTING	NO.		
121	INSULATION	M ²		
122	GRADING	M ²		
123	CONCRETE	M ³		
124	STEEL	KG		
125	WOOD	M ³		
126	LABOR	MAN-DAYS		
127	TRANSPORT	M ³		
128	TESTING	NO.		
129	INSULATION	M ²		
130	GRADING	M ²		
131	CONCRETE	M ³		
132	STEEL	KG		
133	WOOD	M ³		
134	LABOR	MAN-DAYS		
135	TRANSPORT	M ³		
136	TESTING	NO.		
137	INSULATION	M ²		
138	GRADING	M ²		
139	CONCRETE	M ³		
140	STEEL	KG		
141	WOOD	M ³		
142	LABOR	MAN-DAYS		
143	TRANSPORT	M ³		
144	TESTING	NO.		
145	INSULATION	M ²		
146	GRADING	M ²		
147	CONCRETE	M ³		
148	STEEL	KG		
149	WOOD	M ³		
150	LABOR	MAN-DAYS		
151	TRANSPORT	M ³		
152	TESTING	NO.		
153	INSULATION	M ²		
154	GRADING	M ²		
155	CONCRETE	M ³		
156	STEEL	KG		
157	WOOD	M ³		
158	LABOR	MAN-DAYS		
159	TRANSPORT	M ³		
160	TESTING	NO.		
161	INSULATION	M ²		
162	GRADING	M ²		
163	CONCRETE	M ³		
164	STEEL	KG		
165	WOOD	M ³		
166	LABOR	MAN-DAYS		
167	TRANSPORT	M ³		
168	TESTING	NO.		
169	INSULATION	M ²		
170	GRADING	M ²		
171	CONCRETE	M ³		
172	STEEL	KG		
173	WOOD	M ³		
174	LABOR	MAN-DAYS		
175	TRANSPORT	M ³		
176	TESTING	NO.		
177	INSULATION	M ²		
178	GRADING	M ²		
179	CONCRETE	M ³		
180	STEEL	KG		
181	WOOD	M ³		
182	LABOR	MAN-DAYS		
183	TRANSPORT	M ³		
184	TESTING	NO.		
185	INSULATION	M ²		
186	GRADING	M ²		
187	CONCRETE	M ³		
188	STEEL	KG		
189	WOOD	M ³		
190	LABOR	MAN-DAYS		
191	TRANSPORT	M ³		
192	TESTING	NO.		
193	INSULATION	M ²		
194	GRADING	M ²		
195	CONCRETE	M ³		
196	STEEL	KG		
197	WOOD	M ³		
198	LABOR	MAN-DAYS		
199	TRANSPORT	M ³		
200	TESTING	NO.		

CLIENT : GAIL Mangalore Petrochemicals Limited.
 PHC : Technip Energies
 CONTRACTOR : Technip Projects (Pvt) Ltd.
 PROJECT : Mangalore GMPL Pipeline Project
 DMS TITLE : ALIGNMENT SHEET (PROPOSED GAS PIPELINE)
 SECTION : 2.005 KM TO 2.500 KM
 SCALE : 1:2500
 DRAWING NO. : TPI/01/01/01/01/01
 SHEET NO. : 03
 AS SHOWN : 5 OF 22

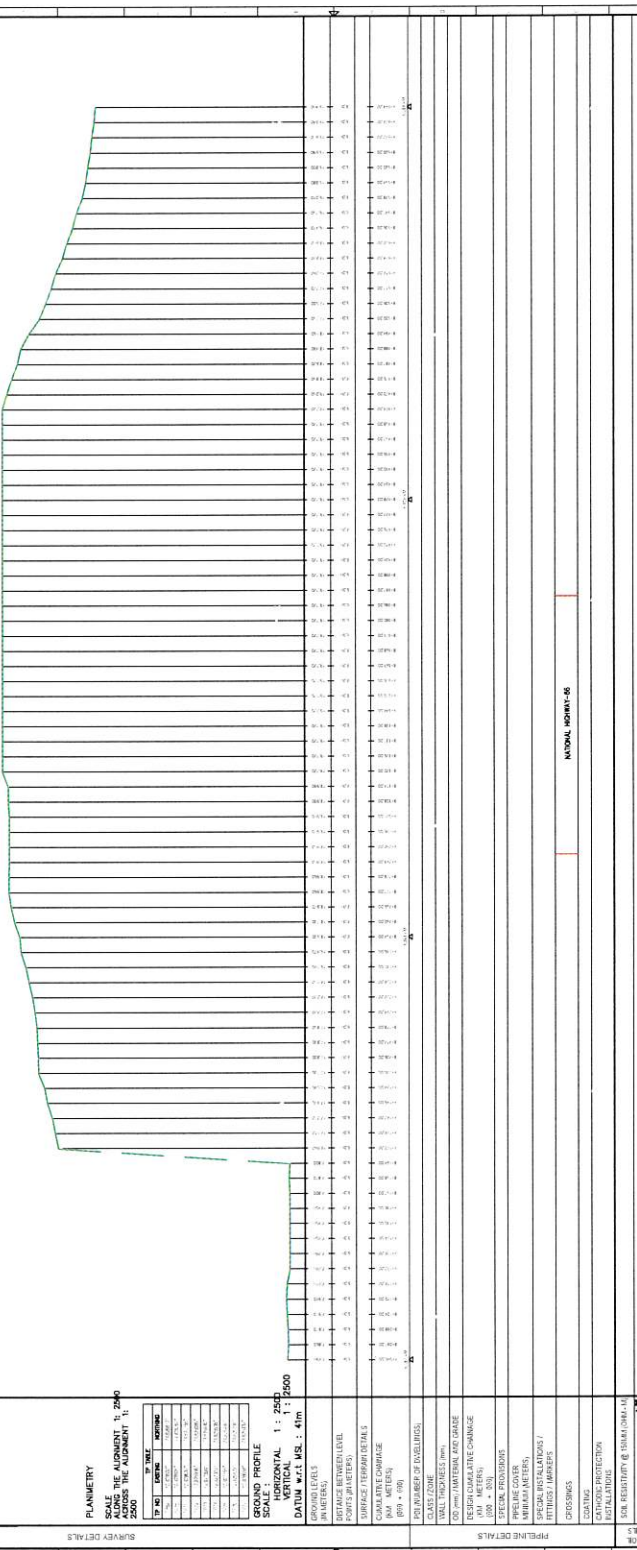


PLANIMETRY		GENERAL NOTES:	
<p>PLANIMETRY</p> <p>SCALE: 1:2000</p> <p>DATE: 2024</p> <p>PROJECT: PROPOSED GMP/L PIPELINE</p> <p>SECTION: 1 OF 2</p>		<p>GENERAL NOTES:</p> <p>1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.</p> <p>2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE RELEVANT AUTHORITIES.</p> <p>3. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AND INFRASTRUCTURE AT ALL TIMES.</p> <p>4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES AND STRUCTURES.</p> <p>5. THE CONTRACTOR SHALL MAINTAIN ADEQUATE DRAINAGE AND EROSION CONTROL MEASURES THROUGHOUT THE CONSTRUCTION PERIOD.</p>	
<p>SOIL SYMBOLS</p> <p>Legend:</p> <ul style="list-style-type: none"> Blank: Natural Ground Diagonal Lines: Excavated Area Horizontal Lines: Backfill Vertical Lines: Compacted Subgrade Stippled: Loose Soil Wavy Lines: Water Table 		<p>PIPELINE SYMBOLS</p> <p>Legend:</p> <ul style="list-style-type: none"> Red Line: Proposed GMP/L Pipeline Blue Line: Existing Water Main Green Line: Existing Sewer Main Black Line: Existing Gas Main Yellow Line: Existing Electrical Cable Circle with Cross: Manhole Circle with Square: Valve Circle with Triangle: Meter Circle with Diamond: Junction Box Circle with Star: Transformer Circle with Hexagon: Vent Circle with Octagon: Access Point 	
<p>SOIL RECORD</p> <p>DATE: 2024</p> <p>LOCATION: [Stationing]</p> <p>DEPTH: [m]</p> <p>SOIL TYPE: [Soil Description]</p> <p>WATER TABLE: [m]</p>		<p>REFERENCE DRAWINGS</p> <p>NO. DATE DESCRIPTION</p> <p>1 2024-01-15 PRELIMINARY PLANIMETRY</p> <p>2 2024-02-01 PRELIMINARY PROFILE</p> <p>3 2024-02-15 PRELIMINARY BILL OF MATERIALS</p>	
<p>CLIENT: [Client Name]</p> <p>DATE: [Date]</p> <p>PROJECT: [Project Name]</p> <p>SECTION: [Section Number]</p>		<p>CONTRACTOR: [Contractor Name]</p> <p>SCALE: 1:2000</p> <p>DWG. TITLE: ALIGNMENT SHEET (PROPOSED GAS PIPELINE)</p>	

INTERSECTION POINTS (TRIP)
 DISTANCE BETWEEN P.O.P.
 STATE AND DISTRICT
 KARNATAKA STATE
 MANGALORE DISTRICT
 MANGALORE TENSIL



PROPOSED GIMPL PIPELINE



PLANIMETRY
 SCALE ALONG THE ALIGNMENT : 1:2000
 SCALE BETWEEN P.O.P.
 2500

TYPE	NO.	DATE	REVISION
1	1	10/10/2024	ISSUED FOR TENDER
2	2	10/10/2024	REVISED FOR COMMENTS
3	3	10/10/2024	REVISED FOR COMMENTS
4	4	10/10/2024	REVISED FOR COMMENTS
5	5	10/10/2024	REVISED FOR COMMENTS
6	6	10/10/2024	REVISED FOR COMMENTS
7	7	10/10/2024	REVISED FOR COMMENTS
8	8	10/10/2024	REVISED FOR COMMENTS
9	9	10/10/2024	REVISED FOR COMMENTS
10	10	10/10/2024	REVISED FOR COMMENTS

VERTICAL PROFILE
 HORIZONTAL SCALE : 1:2500
 SCALE : 1:4000
 DATUM M.S.L. WS. : 41m

GROUND LEVELS (METERS)
 DISTANCE BETWEEN LEVEL (METERS)
 SURFACE TOLERANCES
 CUMULATIVE CHANGE (MM)
 B.M. METERS (899 + 000)

DESIGN PIPE / MATERIAL AND GAUGE
 DESIGN CUMULATIVE CHANGE (MM)
 SPECIAL PROVISIONS
 PIPELINE COVER
 SPECIAL INSULATIONS / FITTINGS / MATERIALS
 CROSSINGS

SOILS
 CATHODIC PROTECTION
 INSULATION

FOR RESISTIVITY & TEMPERATURE
 FOR STRATIFICATION

TOPOGRAPHIC SYMBOLS
 CONTOUR LINE
 SPOT ELEVATION
 BENCH MARK
 WATER BODY
 ROAD
 RAILWAY
 TELEPHONE LINE
 POWER LINE
 FENCE
 DRAINAGE
 CANAL
 TRENCH
 TYPICAL SECTION
 TYPICAL JOINT
 TYPICAL VALVE
 TYPICAL MANHOLE
 TYPICAL JUNCTION
 TYPICAL CROSSING

PIPELINE SYMBOLS
 GAS PIPE
 WATER PIPE
 SEWER PIPE
 CABLE
 FIBER OPTIC
 TRENCH
 TYPICAL SECTION
 TYPICAL JOINT
 TYPICAL VALVE
 TYPICAL MANHOLE
 TYPICAL JUNCTION
 TYPICAL CROSSING

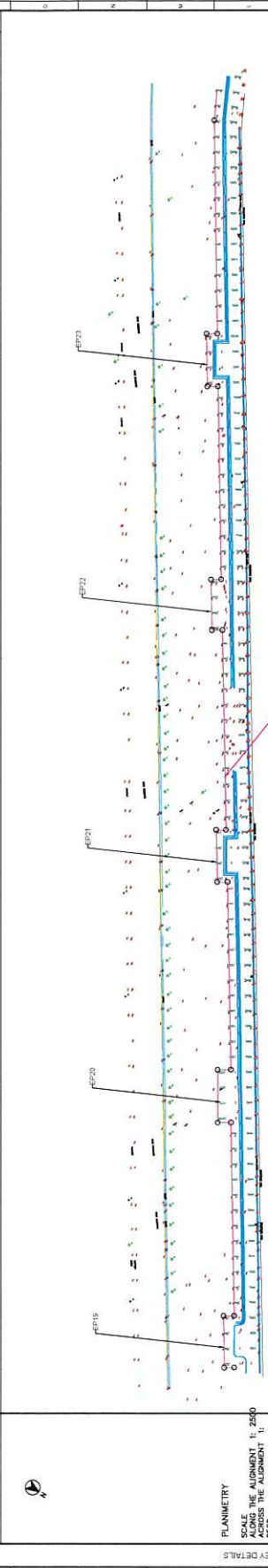
SOIL SYMBOLS
 SAND
 SILT
 CLAY
 GRAVEL
 ROCK
 WATER TABLE
 GROUNDWATER
 TRENCH
 TYPICAL SECTION
 TYPICAL JOINT
 TYPICAL VALVE
 TYPICAL MANHOLE
 TYPICAL JUNCTION
 TYPICAL CROSSING

GENERAL NOTES:
 1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 2. ALL DIMENSIONS ARE TO BE TAKEN TO THE CENTERLINE OF THE PIPE.
 3. ALL DIMENSIONS ARE TO BE TAKEN TO THE EXTERIOR OF THE PIPE UNLESS OTHERWISE SPECIFIED.

NOTES:
 1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 2. ALL DIMENSIONS ARE TO BE TAKEN TO THE CENTERLINE OF THE PIPE.
 3. ALL DIMENSIONS ARE TO BE TAKEN TO THE EXTERIOR OF THE PIPE UNLESS OTHERWISE SPECIFIED.

BILL OF MATERIAL FOR THIS DRAWING		REFERENCE DRAWINGS	
ITEM NO.	DESCRIPTION	DRAWING TITLE	DRAWING NO.
1	PIPE		
2	MANHOLE		
3	JUNCTION		
4	CROSSING		
5	TRENCH		
6	INSULATION		
7	BACKFILL		
8	COVER		
9	VALVE		
10	MANHOLE		
11	JUNCTION		
12	CROSSING		
13	TRENCH		
14	INSULATION		
15	BACKFILL		
16	COVER		
17	VALVE		
18	MANHOLE		
19	JUNCTION		
20	CROSSING		
21	TRENCH		
22	INSULATION		
23	BACKFILL		
24	COVER		
25	VALVE		
26	MANHOLE		
27	JUNCTION		
28	CROSSING		
29	TRENCH		
30	INSULATION		
31	BACKFILL		
32	COVER		
33	VALVE		
34	MANHOLE		
35	JUNCTION		
36	CROSSING		
37	TRENCH		
38	INSULATION		
39	BACKFILL		
40	COVER		
41	VALVE		
42	MANHOLE		
43	JUNCTION		
44	CROSSING		
45	TRENCH		
46	INSULATION		
47	BACKFILL		
48	COVER		
49	VALVE		
50	MANHOLE		
51	JUNCTION		
52	CROSSING		
53	TRENCH		
54	INSULATION		
55	BACKFILL		
56	COVER		
57	VALVE		
58	MANHOLE		
59	JUNCTION		
60	CROSSING		
61	TRENCH		
62	INSULATION		
63	BACKFILL		
64	COVER		
65	VALVE		
66	MANHOLE		
67	JUNCTION		
68	CROSSING		
69	TRENCH		
70	INSULATION		
71	BACKFILL		
72	COVER		
73	VALVE		
74	MANHOLE		
75	JUNCTION		
76	CROSSING		
77	TRENCH		
78	INSULATION		
79	BACKFILL		
80	COVER		
81	VALVE		
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83	JUNCTION		
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111	BACKFILL		
112	COVER		
113	VALVE		
114	MANHOLE		
115	JUNCTION		
116	CROSSING		
117	TRENCH		
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119	BACKFILL		
120	COVER		
121	VALVE		
122	MANHOLE		
123	JUNCTION		
124	CROSSING		
125	TRENCH		
126	INSULATION		
127	BACKFILL		
128	COVER		
129	VALVE		
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131	JUNCTION		
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133	TRENCH		
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153	VALVE		
154	MANHOLE		
155	JUNCTION		
156	CROSSING		
157	TRENCH		
158	INSULATION		
159	BACKFILL		
160	COVER		
161	VALVE		
162	MANHOLE		
163	JUNCTION		
164	CROSSING		
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166	INSULATION		
167	BACKFILL		
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169	VALVE		
170	MANHOLE		
171	JUNCTION		
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174	INSULATION		
175	BACKFILL		
176	COVER		
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178	MANHOLE		
179	JUNCTION		
180	CROSSING		
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183	BACKFILL		
184	COVER		
185	VALVE		
186	MANHOLE		
187	JUNCTION		
188	CROSSING		
189	TRENCH		
190	INSULATION		
191	BACKFILL		
192	COVER		
193	VALVE		
194	MANHOLE		
195	JUNCTION		
196	CROSSING		
197	TRENCH		
198	INSULATION		
199	BACKFILL		
200	COVER		
201	VALVE		
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203	JUNCTION		
204	CROSSING		
205	TRENCH		
206	INSULATION		
207	BACKFILL		
208	COVER		
209	VALVE		
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212	CROSSING		
213	TRENCH		
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222	INSULATION		
223	BACKFILL		
224	COVER		
225	VALVE		
226	MANHOLE		
227	JUNCTION		
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229	TRENCH		
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231	BACKFILL		
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233	VALVE		
234	MANHOLE		
235	JUNCTION		
236	CROSSING		
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238	INSULATION		
239	BACKFILL		
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256	COVER		
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258	MANHOLE		
259	JUNCTION		
260	CROSSING		
261	TRENCH		
262	INSULATION		
263	BACKFILL		
264	COVER		
265	VALVE		
266	MANHOLE		
267	JUNCTION		
268	CROSSING		
269	TRENCH		
270	INSULATION		
271	BACKFILL		
272	COVER		
273	VALVE		
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279	BACKFILL		
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292	CROSSING		
293	TRENCH		
294	INSULATION		
295	BACKFILL		
296	COVER		
297	VALVE		
298	MANHOLE		
299	JUNCTION		
300	CROSSING		
301	TRENCH		
302	INSULATION		
303	BACKFILL		

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PROPOSED GMPL PIPELINE

PLANIMETRY
 SCALE: 1:2500
 ALONG THE ALIGNMENT: 1:2500
 ACROSS THE ALIGNMENT: 1:2500

TP NO.	DATE	REVISION
1	15/07/2024	ISSUED FOR PERMIT
2	15/07/2024	ISSUED FOR PERMIT
3	15/07/2024	ISSUED FOR PERMIT
4	15/07/2024	ISSUED FOR PERMIT
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99	15/07/2024	ISSUED FOR PERMIT
100	15/07/2024	ISSUED FOR PERMIT

GROUND PROFILE
 HORIZONTAL SCALE: 1:2500
 VERTICAL SCALE: 1:2500
 DATUM: M.S.L. ± 4m

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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