



**OIL AND GAS DEVELOPMENT COMPANY
LIMITED
CHANDA OIL FIELD**

TENDER ENQUIRY # TE/COF/M/01/2022

SCHEDULE OF REQUIREMENT

Construction, Laying, Welding, Fabrication and Hydrotesting of Pipeline 6", Sch-40, Length-2200 meters between Chanda & Mela Plants (as per drawings and engineering documents attached)

Bids are invited for construction of a 6", Sch-40 2,200 meter, pipeline for transportation of hydrocarbons between Chanda and Mela Plant, District Karak, KPK. The construction is required as per detailed engineering documents prepared by OGDCL hired consultant, attached herewith. The scope of work of the pipeline consists of 2,000 meters of buried and 200 meters of above ground piping. The contractor is required to fully execute the construction project as per specifications and codes mentioned in the engineering documents attached with this document with his resources including manpower, tools, vehicles, construction material (other than piping / fittings as described in the terms and conditions).

1. General terms and conditions:

Following are the terms of reference for any interested contracting firm, referred herein as the bidder:

1. The bidder must have previous experience of at least 03 years of providing similar services in the oil & gas upstream industry. Details of projects to be shared in the bid.
2. The bidder must have a valid registration with PEC.
3. The bidder must possess an active NTN and KPST status.
4. Bids are required in PKR inclusive of all taxes as per format provided in this document.
5. Payment will be made as per actual work done through cross-cheque after completion of the job being verified by OGDCL's representative(s) at site.
6. The bidder's skilled manpower should be well experienced in their respective crafts.
7. Management of the plant reserves the right to terminate the services of any hired staff at any time without any justification.
8. OGDCL's HSEQ Rules & Regulations are to be strictly observed. The bidder must depute skilled HSEQ officers / staff at the site all times with firefighting / other safety equipment and medical cover / first aid. All the manpower should use relevant PPEs at all times.

9. HSEQ Rules & Regulations will be strictly observed. HSEQ Officer must be present throughout construction activity.
10. Strict compliance to the engineering documents for construction is required. The compliance shall be observed by OGDCL's Site Engineer and / or Technical Committee consisting of OGDCL's Plant officials.
11. The complete scope of work is to be delivered in 90 days. The contractor must provide a Gantt Chart of the complete project detailing the activities and the resources (manpower, equipment and vehicles) in his bid. However, the actual project activities are to be carried out as per priority / schedule set by OGDCL supervisors and contractor will utilize all its resources to complete the jobs as per time frame given by OGDCL.
12. OGDCL may increase or decrease the scope of work required as per engineering documents. The payment in such a case shall be released as per actual scope of work that shall be carried out.
13. Any required technical clarification/detail regarding scope of work should be cleared before submission of bid. The contact details of relevant persons are mentioned on the page 2 of Tender Notice. No change in substance of bid will be entertained after bid submission date. The bidders may visit the site to fully understand the scope of work, if required.
14. Mob and de-mob charges shall not be paid separately. The services should be inclusive of these charges.
15. The bidder should submit its bid in the format provided at the end of this document. The unit rates for all the project activities (with all resources like crane, lifter, welding generator etc.), not limited to those mentioned in the table, should be provided. In case the scope of work is extended or reduced, the invoices shall be cleared using these unit rates.
16. Bids shall be evaluated on the basis of complete scope of services / total project cost inclusive of taxes.
17. The successful bidder is required to provide police verification certificates of the staff (skilled and non-skilled) as well as the covid vaccination certificates.
18. The successful bidder after execution of the project shall be required to submit the following documents for clearance of payment:
 - i. Final Commercial and Sales tax Invoices.
 - ii. Annexure-C with submitted status and 50% 50% of total tax deposited (as per KPRA rules).
 - iii. Acknowledgement slip of tax deposited as per Annex-C
 - iv. Required Professional Tax certificate
 - v. Required IBAN Account No. details.
 - vi. Job completion certificate

2. Scope of work:

1. Construction, Welding, Fabrication, Installation, and commissioning of buried 2000 metre Pipeline of 6", Sch-40 length between Chanda and Mela Plants Compression Units sale gas suction line.

2. Construction, Welding, Fabrication, Installation, and commissioning of 200metre above ground Pipeline of 6", in Chanda plant from SMS (SNGPL) to Chanda Sale gas Compressor Discharge Line.
3. Complete Civil works scope like site clearance, ROW, excavation and backfilling for pipeline. Pipeline marker, PCC, RCC and steel reinforcement is contractor Scope, and any other Civil Works required for this particular pipeline not mentioned.
4. Receiving, loading of pipes from Chanda Plant yard , transportation, unloading of pipes at site, bends and allied material at site and where required.
5. Stringing of Pipeline along with ROW. Lowering in trench with proper arrangements as per standard.
6. Pipeline will be 90% Buried and 20% NDT will be carried of buried line.
7. Excavation of trench for pipeline should be at least 4x2 Sqft.
8. Installation of Anchor Flanges & insulation joints, installation of factory bends as per requirement.
9. Installation of any Valves and fittings at tie in Points.
10. Fabrication, installation and testing of Field-cold bends as per site requirement.
11. Construction of concrete Line markers (20 no's) 8"x4" and 04' length on each 100metres length for 2000metre total line.
12. Supply and placing of sand bags.
13. Installation of heat shrinkable sleeves on joints, bends, etc.
14. Holiday testing and repair of damage coating if any.
15. Line locating of already laid different pipeline.
16. Arrangements and performance of Hydrostatic test, pigging, cleaning and flushing of complete line as per standard. Supplier to arrange hydrostatic pump, pig launcher and other required associated machinery accordingly.
17. Excavation of Test Pits where required for identification of any underground pipe/structure (distance should be 25m)
18. Area must be cleared and re-instated after completion of work.
19. Tie-in including fit-up with existing tie-in points in plants or provision of new tie-ins where required.
20. Strict compliance with OGDCL HSEQ rules and regulations are to be adhered to for welding activities inside plant premises.
21. Welding & Fabrication of Pipe supports where required.
22. Surface preparation for NDT.
23. NDT of Welding joints will be performed by OGDCL if any joint repair needs, contractor will perform free of cost.

3. Contractor's Responsibilities:

1. All Civil and Welding consumables, welding machinery, excavation machinery and all logistics will be arranged by supplier.
2. Arrangement of Boarding and lodging for hired manpower will be wholly responsibility of contractor. The contractor should establish a camp at nearest suitable location for execution of work at site.
3. Site administration personnel with associated resources like computer, printers, photocopiers etc.
4. Shifting of material from material yard at the Store of Chanda Plant to the place of installation.

5. Provision of PPE (Safety helmet, Coverall, safety shoes, gloves etc.) of all kinds to hired crew.
6. Local labor may be given preference while hiring of unskilled personnel.
7. All kind of tools required for the job.
8. Provision of Rigging and hoisting equipment.
9. Scaffolding material & services required if any.
10. Security of all the Hired Crew.
11. Drinking Water, Boarding/ Lodging, refreshment to all the Crew.
12. Pick and drop from Plant to accommodation and back.
13. In case of any accident, medical treatment or compensation, whichever is applicable.
14. Electrical Supply Boards along with cables as per HSE standard.
15. Proper housekeeping after project completion.
16. Use of mobile phone and camera is prohibited in both plant premises. The bidder must also ensure that no photography of the pipeline outside the plant should take place by its workforce.

4. OGDCL's Responsibilities:

1. Provision of the material as listed in the Mechanical BOQ (document no. 0704358-BOM-001). Available Pipeline is 6", Sch-40 having 12metre length each pipe.
2. Provision of any valves, Fittings, blinds etc. not listed in the above referred BOQ.
3. NDT of Welding joints after completion 20% for Buried portion and 100% for above ground line.

5. Format of bid:

Sr.	Description	Unit	Unit rate	Total rate
1.	Welding / fabrication above ground with all resources	Dia inches		
2.	Welding / fabrication above ground with all resources	Dia inches		
3.	Clearance of ROW	Per meter sq.		
4.	Excavation with all resources	Per meter cube		
5.	Sand filling with all resources	Per meter cube		
6.	Pipeline laying with all resources	Per meter		
7.	Backfilling with all resources	Per meter cube		
8.	Construction of pipeline markers with all resources	Per marker as per drawing / OGDCL's specs		
9.	PCC, RCC and steel reinforcement with all resources	Per Kg		
10.	Pipe support fabrication	Per dia inch		

	with all resources	(OGDCL to supply material)		
11.			
12.			
	Total Cost per meter for below ground piping	Meters		
	Total cost per meter for above ground piping (without supports)	Meters		
Total cost of construction without taxes				
Total cost of construction inclusive of taxes				



OIL & GAS DEVELOPMENT COMPANY LIMITED

0704358: DETAILED DESIGN OF CHANDA MELA PIPELINE CHANDA PLANT TO MELA PLANT (PIPELINE PACKAGE)

CONSULTANTS:

Nov, 2021



Petrochemical Engineering Consultants

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REV	DESCRIPTION	ORIG	REVIEW	PEC APPROVAL	DATE	CLIENT APPROVAL	DATE
0	Interdisciplinary check	<u> </u> MK	<u> </u> SAR	<u> </u> Adeel	Nov, 05 ,2021		
1	Issued for Review	<u> </u> MK	<u> </u> SAR	<u> </u> Adeel	Nov, 06 ,2021		



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BILL OF QUANTITIES FOR MECHANICAL WORKS



OIL & GAS DEVELOPMENT COMPANY LIMITED
DETAILED DESIGN OF CHANDA MELA PIPELINE

DOC. NO. : 0704358-BOM-001

PREP. : MK

REV. : 1

DATE : 03-11-2021



BILL OF QUANTITIES
FOR
PROCUREMENT

SR#	ITEM DESCRIPTION	MDS No.	MATERIAL SPECIFICATION	UNIT	TOTAL	TOTAL (Pak. Rs.)	REMARKS
1.0	PIPE:						
1.1	Pipe, Seamless, Double Random Length, API 5L Gr. X52						
i	Dia. 6", Sch. 40	-	-	m	2,064		
2.0	INDUCTION BENDS:						
2.1	45° 5D Bend, Bevelled ends to match pipe wall, MSS SP-75 Gr. WPHY 52						
i	Dia. 6", Sch. 40	-	-	Nos.	4		
3.0	ANCHOR FLANGES:						
3.1	Anchor Flange, BW, ASTM A694 Gr.F52, bore to match pipe						
i	Dia. 6", Sch. 40, 600#	-	-	Nos.	2		
4.0	INSULATION JOINT						
4.1	Insulation joint, ASTM A694 Gr.F52						
i	Dia. 6", Sch. 40, 600#	-	-	Sets.	2		
					TOTAL(Pak. Rs.)		

NOTE:

- 1 The Quantities taken in this BOQ are actual.
- 2 All material shall comply with NACE MR-0175 requirement.



BILL OF QUANTITIES FOR CONSTRUCTION



**OIL & GAS DEVELOPMENT COMPANY LIMITED
DETAILED DESIGN OF CHANDA MELA PIPELINE
BOQ PIPELINE WORKS**



DOC. NO. :0704358-BOM-002
PREP. : MK
REV. : 1
DATE : 03-11-2021

SR#	ITEM DESCRIPTION	UNIT	QTY.	UNIT RATE (PKR)	TOTAL (PKR)	REMARKS
1.1	PIPELINE WORKS					
	Fabrication, Internal cleaning & welding of pipeline Dia. 6" Sch. 40, Works includes but not limited to the followings:	R.M	2064			All welding to be done in accordance with API 1104 standard Note 6 & 7
	i Receiving, Loading, transportation, unloading of pipes, bends and allied material at site.					
	ii Stringing of Pipeline along with ROW					
	iii Lowering in trench with proper arrangement as per standard.					
	iv Installation of Anchor Flanges & Insulation joints					
	v Installation of factory bends as per requirement.					
	vi Fabrication, Installation and testing of Field-cold bends as per site requirement.					
	vii Supply and placing of sand bags					
	viii Holiday testing and repair of damage coating					
	ix 20% Radiography					
	x Line locating of already layed different pipelines					
	xi Excavation of Test Pits where required for identification of any underground pipe / structure (Distance should be 25m).					
	xii All Consumables and any work required for completion					
	xiii Area must be cleared and re-instated after completion of work					
1.2	DIA INCHES					
	The estimated dia inches of pipeline.	DI	1308			
	Installation of Anchor Flanges	No.s	2			
1.3	INSULATION JOINT					
	Installation of Insulation joint includes the placing of I.J., welding. Work also includes Lifting and Transportation from store and unloading at work site.					
	Dia. 6" Sch. 40.	Nos.	2			
1.4	SAND BAGS FOR PIPELINE PLACEMENT					
	Placement and procurement of sand bags, for pipeline placement adjacent to pipe trench including lifting and placement at site complete in all respect as specified by the client.					Sand bags to be re-utilized at overall pipeline section as per project specification.
	(1 ft x 2 ft) wide 4" thick sand bag	Bags				
1.5	INSTALLATION OF BENDS					
	Installation of Induction bends includes the placing of all kinds of bends between pipes and weld as per specification. Work also includes Lifting and Transportation from store and unloading at work site and operation of pipe bending machine.					See Drawing # 0704358-DT-001
	Dia. 6" Sch. 40.	Nos.	11			
1.6	HEAT SHRINKABLE SLEEVES					
	Heat shrinkable sleeve (preferably Raychem HTLP 80) & patches will be provide by OGDCL at field store. Installation of sleeves which includes shifting of sleeves from store to site, surface preperation, supply & application of primer (Compound A+B) with application KIT complete in all respect.	Nos.	218			
1.7	HYDROSTATIC TESTING & COMMISSIONING					
	Hydrostatic testing of pipeline as per project specification and Client requirements. Contractor shall provide all material, tools, equipment, supply of water, temprory test plugs, couplings, flanges, nuts, bolts, recorder guage, cleaning and flushing and all necessary arrangements required for hydrostatic testing would be responsibility of contractor and should be done as per relevant specification, Code & standard.	M	2064			



**OIL & GAS DEVELOPMENT COMPANY LIMITED
DETAILED DESIGN OF CHANDA MELA PIPELINE
BOQ PIPELINE WORKS**



DOC. NO. :0704358-BOM-002
PREP. : MK
REV. : 1
DATE : 03-11-2021

SR#	ITEM DESCRIPTION	UNIT	QTY.	UNIT RATE (PKR)	TOTAL (PKR)	REMARKS
1.8	PIGGING OF PIPELINE					
	Line shall be cleaned, flush and made dry by using pigs as per specification, standard practice and to the satisfaction of the Engineer Incharge. Scope also include supply of brand new pigs, pigging of pipeline and all arrangements required for completion of work.	R.M	2064			
2.0	CROSSING OF PIPELINE					Note 8
	Crossings along the route, including supply of all material, tools, construction of supports, any civil works, re-instatement, casing pipes, seals, insulators, vent, drains and insulation lining for pipeline as per relevant standard's & Code, drawing's and specifications. Crossings includes Roads, Water Courses, Nallah's and other crossings etc.					
i	Thrust Boring	R.M	-			
ii	Horizontal Directional Drilling	R.M	-			
3.0	AS BUILD DRAWINGS					
	Preparing & Updating of "As build drawings" & should be done parallel with lowering activity. Hard Copy (1 original & 2 Good Quality copy) and soft copy would be submitted to Engineer Incharge.	R.M	2064			
				TOTAL (PKR)		
NOTES:						
1	The Quantities taken in this BOQ are estimated only for bidding purpose. Contractor is responsible to estimate the quantities as per site requirements, drawings & tender documents					
2	Contractor is responsible to add any missing / required item as per scope of works, drawings, specifications & tender documents.					
3	OGDCL reserves the right to increase / decrease the quantum of work. However payment will be made on actual work done.					
4	Contractor to comply with Relevant codes & standards, specifications and drawings are attach in VOL-II & Vol-III respectively.					
5	All area must be cleared and reinstated after completion of work					
6	In case of water logged area, Dewatering should be done by means of Pumps and its rate should be added as per requirement by the contractor.					
7	For Water logged area Buoyancy weights should be placed on Flowline as per requirement and its rate should be added by the contractor.					
8	All crossings will be finalized as per site.					
9	During cold bending operation, angle of bend may vary according to site requirement					
10	Mobilization / De-Mobilization, Equipment, Machinery, Tools, Manpower, Camping, utilities, etc required for completion of work.					
11	Establishment of camp at nearest suitable location for execution of work at site					
12	Approval of client should be taken by the contractor before undertaking any kind of construction and installation work at site.					



BILL OF QUANTITIES FOR CIVIL WORKS



**OIL AND GAS DEVELOPMENT COMPANY LIMITED
DETAILED DESIGN OF CHANDA MELA PIPELINE
BOQ OF CIVIL WORKS**



DOC. NO. : 0704358-CIV-BOQ-001
PREP. : JA
REV. : 1
DATE : 4-11-2021

SR#	ITEM DESCRIPTION	UNIT	QTY.	UNIT RATE (PKR)	TOTAL (PKR)	REMARKS
1.0	SITE CLEARANCE and ROW					
	Marking of ROW, cleaning, grading and leveling of site, including removal of top soil and cut/fill as required including removal of bush cutting, debris, vegetation, trees, plants, crops, any other undesired material within specified ROW as per approval of client's Engineer Incharge.					
1.1	For 20 ft wide Temporary ROW	R.M	1150			
2.0	EXCAVATION & BACKFILLING FOR PIPELINE					
	Excavation in all kinds of soil, dry or wet, hard or soft, including all operations, site clearing, removing of gravel and all debris material upto required depth to attain the profile of pipeline. Backfilling shall be completed with excavated material as per drawing and approval of Engineer Incharge.					
2.1	Pipeline Trench	R.M	2000			Refer detailed drawing
3.0	PIPELINE MARKER					
	Supply of material, construction and installation of pipeline marker during backfilling as per instruction by Engineer Incharge.	Nos	11			Refer detailed drawing
4.0	EXCAVATION					
	Excavation for foundations in all kinds of soil, dry or wet, hard or soft, including all operation, complete with breaking clods, levelling, dressing, dewatering, shoring & compacting. Also include backfilling of excavated earth in plinth and under floors i/c breaking clods, dressing, watering and consolidating by ramming in layers not exceeding 8" depth to obtain 95% modified AASHTO density for foundations and suitable compaction for flowline including lifting, shifting or disposing of surplus earth outside the premises or as per approval of Client (Site Engineer).					
4.1	Anchor block	m ³	24			
4.2	Protection Slab	m ³	6.8			
4.3	MARKERS	m ³	0.3			
5.0	PLAIN CEMENT CONCRETE					
	Providing and laying Plain cement concrete of specified strength using approved quality 3/4" max. size graded crushed aggregate & fine aggregate including approved Steel formwork & its removal, all operations of vibrating, levelling, compacting and curing etc. complete as per approval of Client. PCC 1:4:8 (1 Cement 4 Sand and 8 coarse aggregate) Note: 1. OPC cement should be used for all works. 2. Mix design for each type of sample will be provided by the Contractor					
5.1	Anchor block	m ³	1.2			
6.0	REINFORCED CEMENT CONCRETE					
	Providing and laying Reinforced cement concrete shall be developed 28 days cylindrical strength of 3000psi specified, using approved quality 3/4" max. size graded crushed aggregate & fine aggregate including approved form work & its removal, all operations of vibrating, levelling, compacting and curing etc complete with placing of markers and Road barriers. Works also includes Lifting and Transportation from store and unloading at work site. Note: 1. OPC cement should be used for all sub-structure works. 2. Mix design for each type of sample will be provided by the Contractor					
6.1	Anchor block	m ³	18			
6.2	Protection Slab	m ³	0.65			
6.3	Markers	m ³	0.5			



OIL AND GAS DEVELOPMENT COMPANY LIMITED
DETAILED DESIGN OF CHANDA MELA PIPELINE
BOQ OF CIVIL WORKS



DOC. NO. : 0704358-CIV-BOQ-001
PREP. : JA
REV. : 1
DATE : 4-11-2021

SR#	ITEM DESCRIPTION	UNIT	QTY.	UNIT RATE (PKR)	TOTAL (PKR)	REMARKS
7.0	STEEL REINFORCEMENT					
	Providing and laying hot rolled grade 460 deformed steel reinforcement bars complying with BS-4449 including the cost of straightening, cutting, bending, binding, wastage and such overlaps as are not shown in drawings, placing in position on cement concrete 1:2:4 precast spacer block or M.S chairs, tying with binding wire (GI wire of 18 guage), including cost of chairs and wires etc. in all kinds of RCC works.					
7.1	Anchor block	kg	1150			
7.2	Protection Slab	kg	100			
7.3	Markers	kg	90			
	TOTAL (PKR)					
NOTES:						
1	Where Katch road/area along the ROW is available construction of 20' wide ROW will be required, otherwise 40' wide ROW required					
2	For backfilling material, soft / graded soil required wherever necessary, otherwise excavated material utilized as per approval of engineer incharge					
3	Estimated quantities are presented above, while payment shall be made as per actual work done on site.					
4	Client reserves the right to increase / decrease the quantum of work. However payment will be made on actual work done.					
5	Contractor to comply with Relevant codes & standards, specifications and drawings.					
6	All area must be cleared and reinstated after completion of work					
7	Mobilization / De-Mobilization, Equipment, Machinery, Tools, Manpower, Camping, utilities, etc required for completion of work.					
8	Establishment of camp at nearist suitable location for execution of work at site					
9	Approval of client should be taken by the contractor before undertaking any kind of construction and installation work at site.					



DRAWING LIST



OIL & GAS DEVELOPMENT COMPANY LIMITED

DOC. NO. : 0704358-LT-001



DETAILED DESIGN OF CHANDA MELA PIPELINE

PREP. : MK

REV. : 1

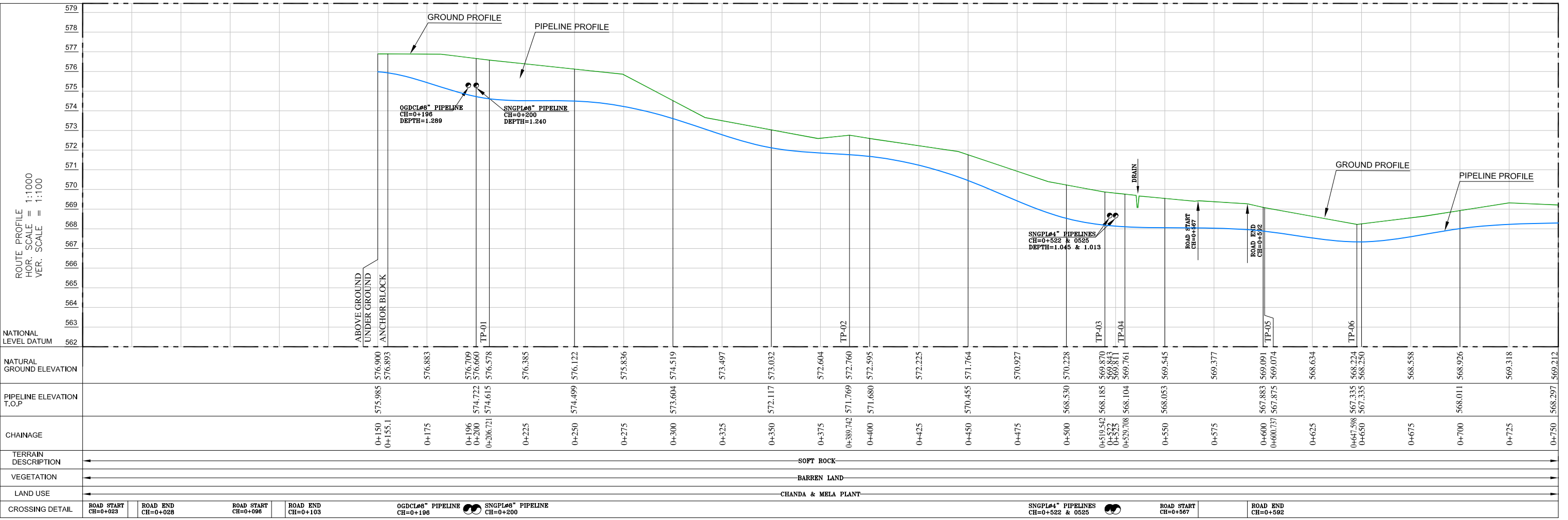
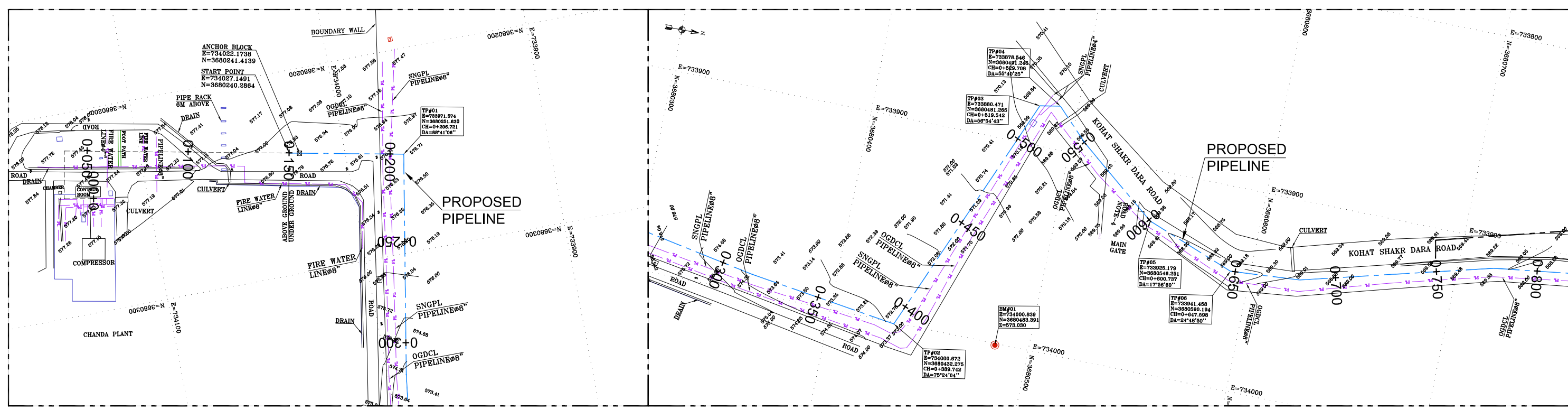
DATE : 06-11-2021

Drawing List

S.NO	DESCRIPTION	DRAWING NO.	REVISION	REMARKS
1.1	PIPELINE ALIGNMENT			
1.1.1	PIPELINE ALIGNMENT DRAWING (0+000 TO 0+750)	0704358-PL-01 SHEET (1 OF 3)	1	ISSUED FOR REVIEW
1.1.2	PIPELINE ALIGNMENT DRAWING (0+750 TO 1+500)	0704358-PL-01 SHEET (2 OF 3)	1	ISSUED FOR REVIEW
1.1.3	PIPELINE ALIGNMENT DRAWING (1+500 TO 1+965.45)	0704358-PL-01 SHEET (3 OF 3)	1	ISSUED FOR REVIEW
1.2	DETAIL DRAWINGS			
1.2.1	Dia 6" COLD BEND DETAIL DRAWING	0704358-DT-001	1	ISSUED FOR REVIEW
1.2.2	Dia 6" PIPELINE RISER AT CHANDA PLANT	0704358-DT-002	1	ISSUED FOR REVIEW
1.2.3	Dia 6" PIPELINE RISER AT MELA PLANT	0704358-DT-003	1	ISSUED FOR REVIEW
1.2.4	TYPICAL PIPELINE CROSSING	0704358-DT-004	1	ISSUED FOR REVIEW
1.2.5	TYPICAL ROAD CROSSING	0704358-DT-005	1	ISSUED FOR REVIEW
1.2.6	TYPICAL WATER COURSE	0704358-DT-006	1	ISSUED FOR REVIEW
1.2.7	TYPICAL MARKER DETAIL	0704358-DT-007	1	ISSUED FOR REVIEW
1.2.8	ANCHOR BLOCK DETAIL FOR Dia 6" PIPELINE	0704358-DT-008	1	ISSUED FOR REVIEW
1.2.9	TYPICAL DITCH DIMENSION	0704358-DT-009	1	ISSUED FOR REVIEW
1.2.10	R.O.W DIMENSIONS FOR PIPELINE	0704358-DT-010	1	ISSUED FOR REVIEW



PIPELINE ALIGNMENT DRAWINGS



LINE PIPE	6 INCH DIA, Sch. 40, CS, API 5L GR.X52
LINE PIPE INSULATION	THREE LAYER POLYETHYLENE COATED
SPECIFICATION / CLASS	-
FLANGE RATING	CLASS 600#, RF
SERVICE LIMIT	-25 TO 180°F
HYDRO TEST PRESSURE	1350 PSIG.
SOIL COVER MIN.	0.915m

LEGEND:

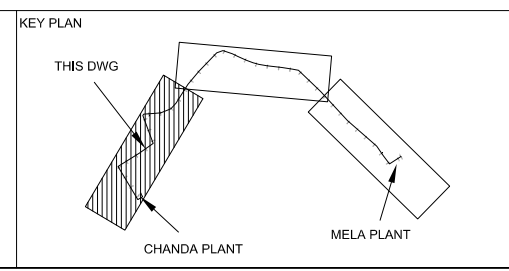
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SURFACED ROAD	
UNSURFACED ROAD	
TRACK / PLATFORM	
FIELD BOUNDARY	
EMBANKMENT	
WALL	
FENCE	
HEDGE	
GAS & CONDENSATE PIPELINE	
PIPELINE-OIL	
PIPELINE-GAS	
ACCESS ROAD CENTER	
ELECTRIC LINE	
EXISTING PIPELINE	
NATURAL GROUND ELEVATION	
TREE (NON FRUIT)	

ABBREVIATIONS:

AT	RADIO ANTENNA	SN	SIGN POST
BP	BOUNDARY MARKER	ST	SETTING OUT MARKER
CTM	CATHODIC MARKER	TP	TELEPHONE POLE
EP	ELECTRICITY POLE	WT	WATER STAND PIPE
FL	FLARE		
KM	KILOMETER MARKER		
LP	LAMP POST		
LPM	LAND PARCEL MARKER		
MS	MAST		
NV	NAVIGATION BEACON		
PM	PIPELINE MARKER		
PL	ELECTRICITY Pylon		
RL	RUNWAY LIGHTS		
RM	RAILWAY MARKERS		
SG	SIGNAL		
SH	SEISMIC SHOT HOLE		

NOTES:

- ALL DIMENSIONS ARE IN METER UNLESS OTHERWISE STATED.
- ALL DIMENSIONS, ELEVATIONS AND ORIENTATIONS TO BE VERIFIED BY THE CONTRACTOR BEFORE UNDERTAKING ANY KIND OF FABRICATION, CONSTRUCTION AND INSTALLATION WORK AT SITE.
- PIPELINE MARKERS SHALL BE INSTALLED AT EVERY 500m IN POPULATED AND INDUSTRIAL AREAS PIPELINE MARKERS SHALL BE INSTALLED EVERY 250m.
- ROAD CROSSINGS OF PIPELINE SHALL BE ACHIEVED BY PARTIALLY OPEN CUT METHOD, CONTRACTOR TO BE ESTABLISH METHODOLOGY ON ROAD CROSSING.



REV	DATE	DESCRIPTION OF REVISION	DRAWN	CHKD	APPR.
1	06-NOV-2021	ISSUED FOR REVIEW	MK	SAR	
0	05-NOV-2021	INTERDISCIPLINARY CHECK	MK	SAR	

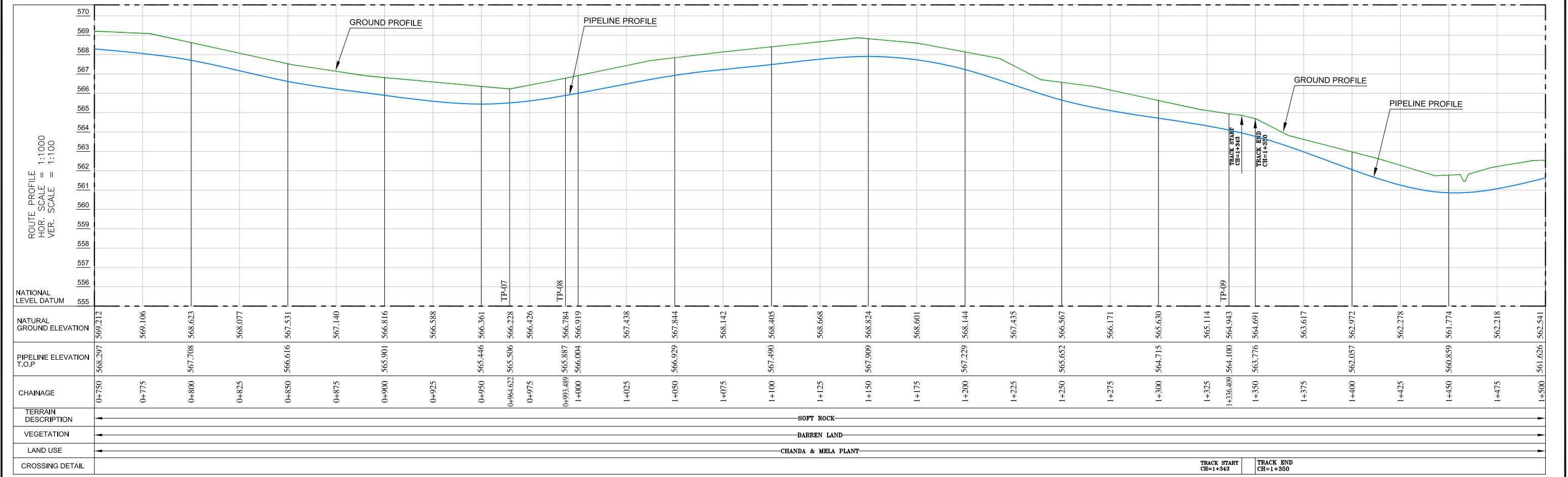
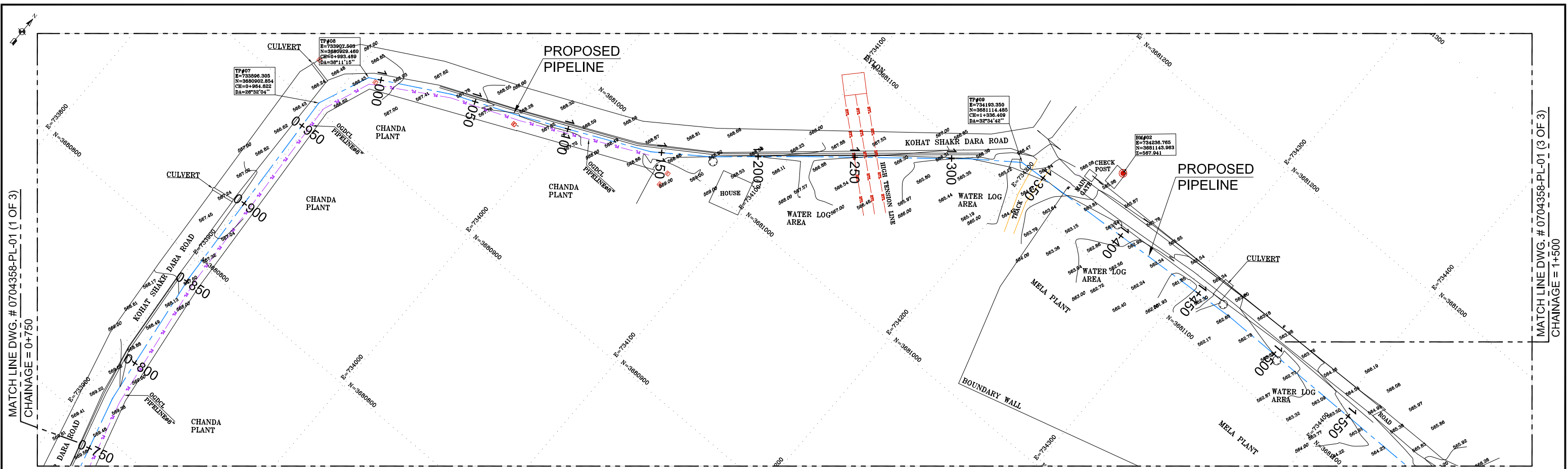
CLIENT: OIL & GAS DEVELOPMENT COMPANY LTD

PROJECT: DETAILED DESIGN OF CHANDA MELA PIPELINE

TITLE: PIPELINE ALIGNMENT (0+000 TO 0+750)

DRAWING NO. 0704358-PL-01 JOB NO. 0704358

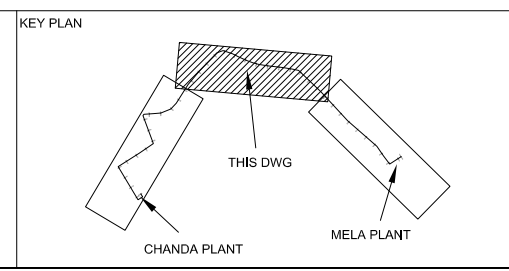
SHEET: 01 OF 03 SHEET SIZE - A3 HOR. SCALE: 1:1000 - VER. 1:100



LINE PIPE	6 INCH DIA. SCH. 40, CS, API 5L GR.X52	LINE PIPE INSULATION	THREE LAYER POLYETHYLENE COATED	SPECIFICATION / CLASS	CLASS 600#, RF	FLANGE RATING	-25 TO 180°F	SERVICE LIMIT	1350 PSIG.	HYDRO TEST PRESSURE	1750 PSIG.	SOIL COVER MIN.	0.915m
LEGEND:													
RIVER / CANAL / DITCH													
SURFACED ROAD													
UNSURFACED ROAD													
TRACK / PLATFORM													
FIELD BOUNDARY													
EMBANKMENT													
WALL													
FENCE													
HEDGE													
GAS & CONDENSATE PIPELINE													
PIPELINE-OIL													
PIPELINE-GAS													
ACCESS ROAD CENTER													
ELECTRIC LINE													
EXISTING PIPELINE													
NATURAL GROUND ELEVATION													
TREE (NON FRUIT)													
ABBREVIATIONS:													
AT RADIO ANTENNA													
BP BOUNDARY MARKER													
CTM CATHODIC MARKER													
EP ELECTRICITY POLE													
FL FLARE													
KM KILOMETER MARKER													
LP LAMP POST													
LPM LAND PARCEL MARKER													
MS MAST													
NV NAVIGATION BEACON													
PM PIPELINE MARKER													
PY ELECTRICITY PYLON													
RL RUNWAY LIGHTS													
RM RAILWAY MARKERS													
SG SIGNAL													
SH SEISMIC SHOT HOLE													
SN SIGN POST													
ST SETTING OUT MARKER													
TP TELEPHONE POLE													
WT WATER STAND PIPE													

NOTES:

- ALL DIMENSIONS ARE IN METER UNLESS OTHERWISE STATED.
- ALL DIMENSIONS, ELEVATIONS AND ORIENTATIONS TO BE VERIFIED BY THE CONTRACTOR BEFORE UNDERTAKING ANY KIND OF FABRICATION, CONSTRUCTION AND INSTALLATION WORK AT SITE.
- PIPELINE MARKERS SHALL BE INSTALLED AT EVERY 500m IN POPULATED AND INDUSTRIAL AREAS PIPELINE MARKERS SHALL BE INSTALLED EVERY 250m.



REV	DATE	DESCRIPTION OF REVISION	DRAWN	CHKD.	APPR.
0	06-NOV-2021	ISSUED FOR REVIEW	MK	SAR	
1	05-NOV-2021	INTERDISCIPLINARY CHECK	MK	SAR	

CLIENT: OIL & GAS DEVELOPMENT COMPANY LTD

PROJECT: DETAILED DESIGN OF CHANDA MELA PIPELINE

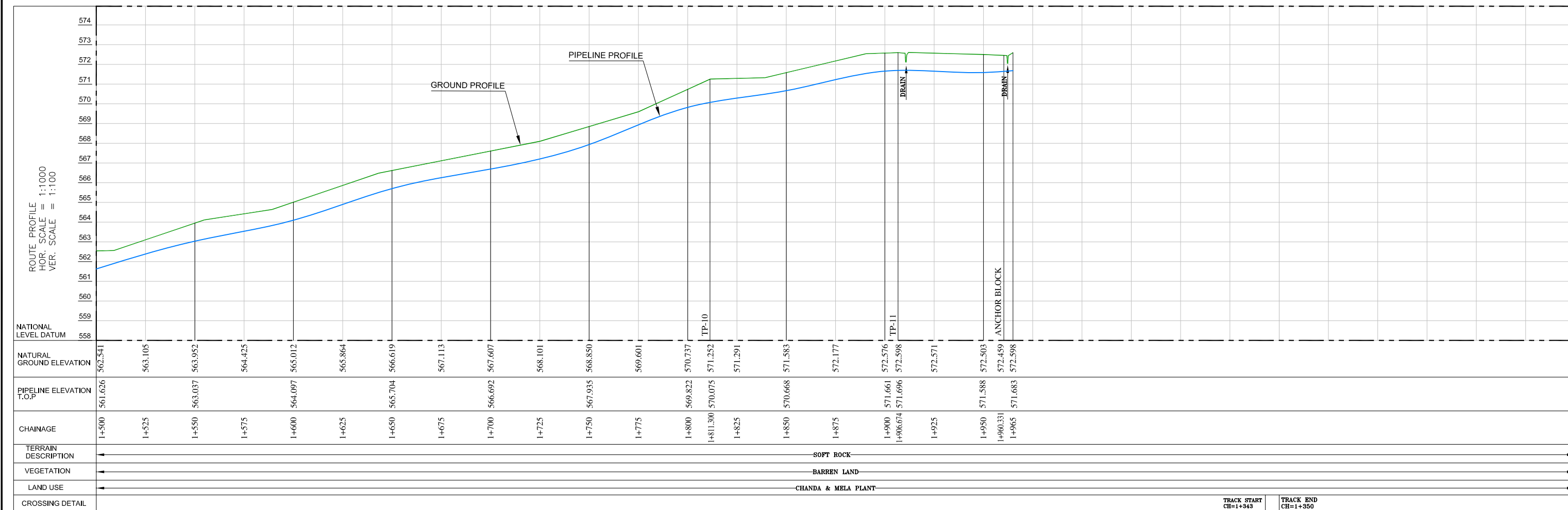
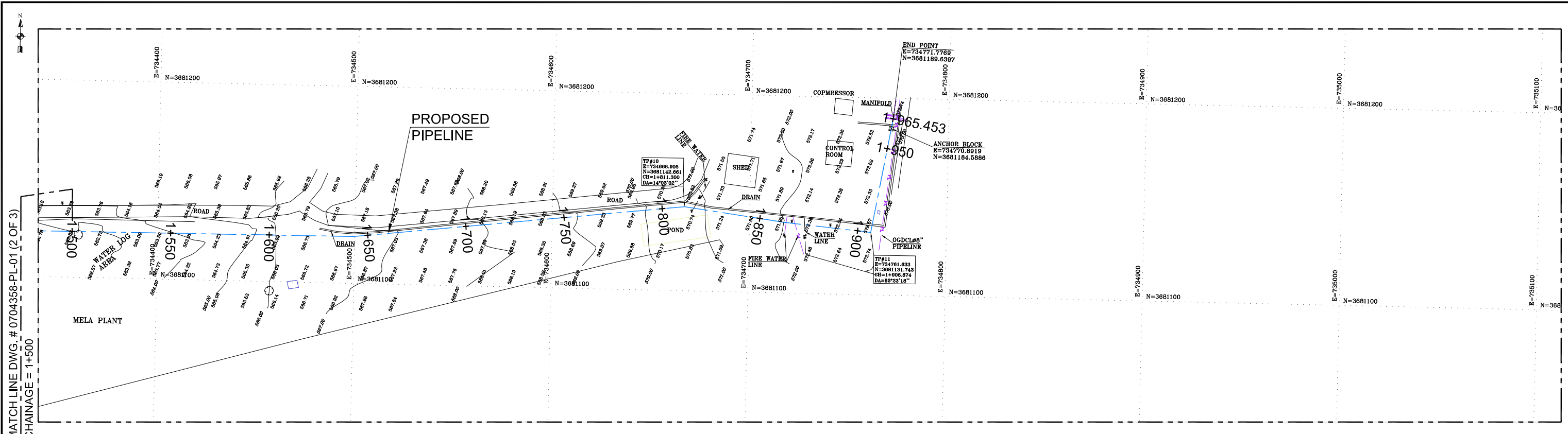
TITLE: PIPELINE ALIGNMENT (0+750 TO 1+500)

DRAWING NO. 0704358-PL-01 JOB NO. 0704358

SHEET: 02 OF 03 SHEET SIZE - A3 HOR.SCALE: 1:1000-VER. 1:100

MATCH LINE DWG. # 0704358-PL-01 (1 OF 3)
CHAINAGE = 0+750

MATCH LINE DWG. # 0704358-PL-01 (3 OF 3)
CHAINAGE = 1+500



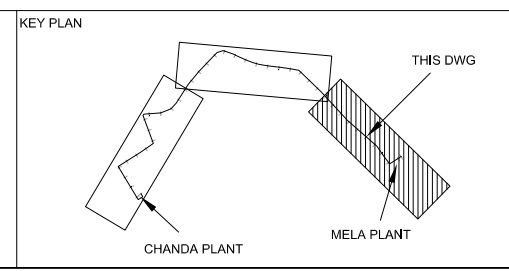
LINE PIPE	6 INCH DIA. SCH. 40, CS, API 5L GR.X52
LINE PIPE INSULATION	THREE LAYER POLYETHYLENE COATED
SPECIFICATION / CLASS	-
FLANGE RATING	CLASS 600#, RF
SERVICE LIMIT	-25 TO 180°F
HYDRO TEST PRESSURE	1750 PSIG.
SOIL COVER MIN.	0.915m

LEGEND:
RIVER / CANAL / DITCH
SURFACED ROAD
UNSURFACED ROAD
TRACK / PLATFORM
FIELD BOUNDARY
EMBANKMENT
WALL
FENCE
HEGE
GAS & CONDENSATE PIPELINE
PIPELINE-OIL
PIPELINE-GAS
ACCESS ROAD CENTER
ELECTRIC LINE
EXISTING PIPELINE
NATURAL GROUND ELEVATION
TREE (NON FRUIT)

ABBREVIATIONS:
AT RADIO ANTENNA
BP BOUNDARY MARKER
CTM CATHODIC MARKER
EP ELECTRICITY POLE
FL FLARE
KM KILOMETER MARKER
LP LAMP POST
LPM LAND PARCEL MARKER
MS MAST
NV NAVIGATION BEACON
PM PIPELINE MARKER
PY ELECTRICITY PYLON
RL RUNWAY LIGHTS
RM RAILWAY MARKERS
SG SIGNAL
SH SEISMIC SHOT HOLE

NOTES:

- ALL DIMENSIONS ARE IN METER UNLESS OTHERWISE STATED.
- ALL DIMENSIONS, ELEVATIONS AND ORIENTATIONS TO BE VERIFIED BY THE CONTRACTOR BEFORE UNDERTAKING ANY KIND OF FABRICATION, CONSTRUCTION AND INSTALLATION WORK AT SITE.
- PIPELINE MARKERS SHALL BE INSTALLED AT EVERY 500m IN POPULATED AND INDUSTRIAL AREAS PIPELINE MARKERS SHALL BE INSTALLED EVERY 250m.



REV	DATE	DESCRIPTION OF REVISION	DRAWN	CHKD.	APPR.
1	06-NOV-2021	ISSUED FOR REVIEW	MK	SAR	
0	05-NOV-2021	INTERDISCIPLINARY CHECK	MK	SAR	

CLIENT: OIL & GAS DEVELOPMENT COMPANY LTD

PROJECT: DETAILED DESIGN OF CHANDA MELA PIPELINE

TITLE: PIPELINE ALIGNMENT (1+500 TO 1+965.45)

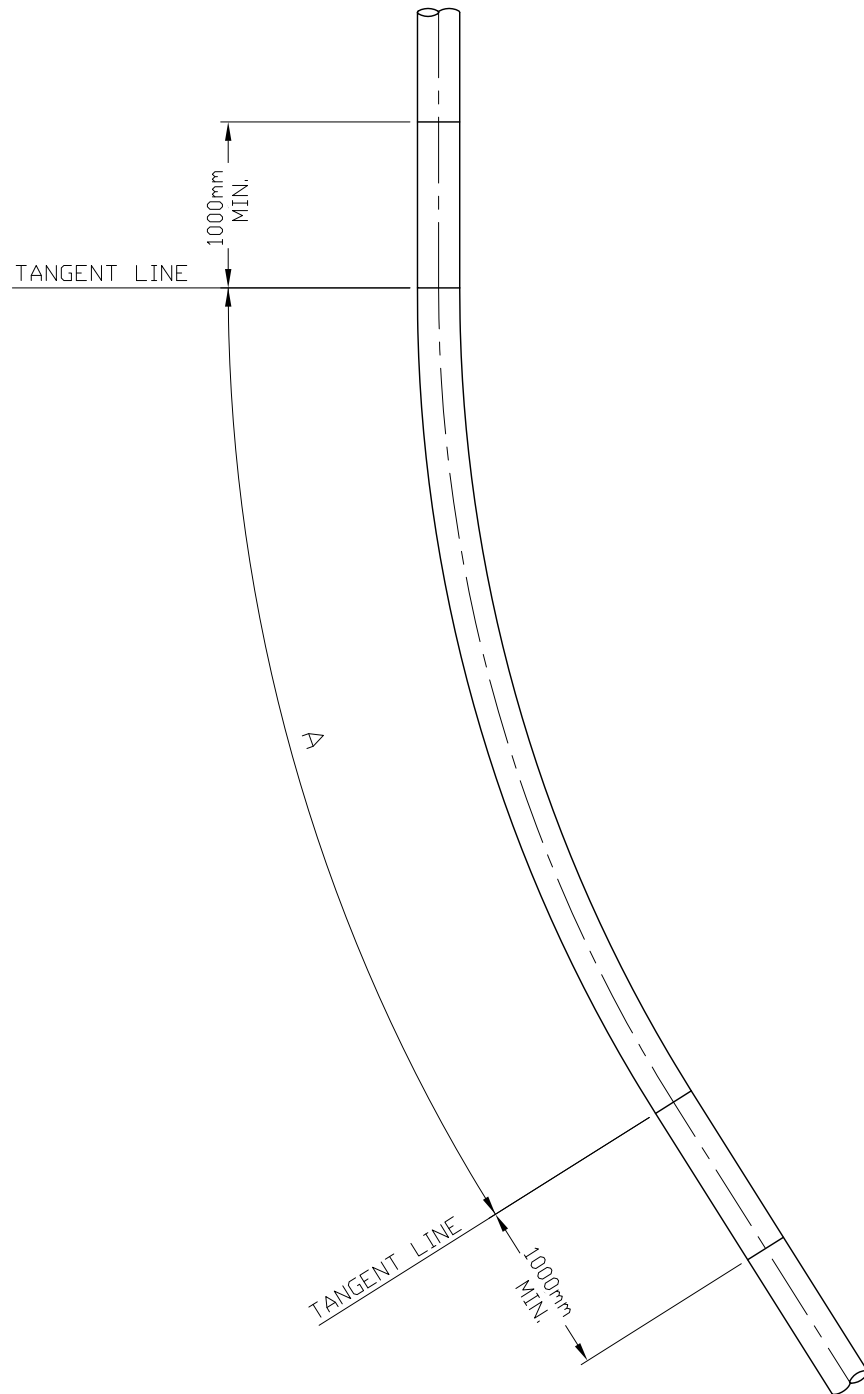
DRAWING NO. 0704358-PL-01 JOB NO. 0704358

SHEET: 03 OF 03 SHEET SIZE - A3 HOR. SCALE: 1:1000 - VER. 1:100



DETAIL DRAWING

BENDS	ANGLE	QUANTITY	LOCATION	PIPE LENGTH (mm)	A (mm)
TP-01	88°41'06"	1	0+206.721	11449	9449
TP-02	75°24'04"	1	0+389.742	10022	8022
TP-03	56°54'43"	1	0+519.542	8055	6055
TP-04	55°40'25"	1	0+529.708	7923	5923
TP-05	17°56'60"	1	0+600.737	3910	1910
TP-06	24°48'50"	1	0+647.598	4640	2640
TP-07	26°32'04"	1	0+964.622	4823	2823
TP-08	38°11'15"	1	0+993.489	6063	4063
TP-09	32°34'42"	1	1+336.409	5466	3466
TP-10	14°03'02"	1	1+811.300	3495	1495
TP-11	85°23'18"	1	1+906.674	11084	9084



40D COLD BEND

FLOW LINE Ø6" - Sch. 40. CS, API 5L GR.X52.

LINE PIPE	6 INCH DIA, Sch. 40, CS, API 5L GR.X52.
EXTERIOR COATING	THREE LAYER POLYETHYLENE COATED
SPECIFICATION / CLASS	-
FLANGE RATING	CLASS 600# , RF
SERVICE LIMIT	-25 TO 180°F
	1350 PSIG.
HYDRO TEST PRESSURE	1750 PSIG.

NOTE:

1. ALL DIMENSIONS ARE IN MILIMETER UNLESS OTHERWISE STATED.
2. COLD-SET BENDS SHALL BE OF UNIFORM RADIUS, AND MINIMUM RADIUS OF CURVATURE SHALL BE 40xLINE PIPE DIAMETER.
3. ALL COLD-SET BENDS SHALL BE TESTED BY THE CONTRACTOR AND WITNESS BY THE COMPANY, WITH A CALLIPER OF 97.5% OF THE NOMINAL INTERNAL DIAMETER PRIOR TO INSTALLATION.
4. COLD-SET BENDS SHALL NOT BE MADE CLOSER THAN 1000mm FROM A CIRCUMFERENTIAL WELD. THE END OF EACH BEND SHALL BE STRAIGHT FOR AT LEAST 1000mm. THE CONTRACTOR SHALL LAYOUT AND MEASURE THE FLOWLINE PIPE FOR BENDING, TO KEEP THE LENGTH OF CUT-OFF TO A MINIMUM.
5. ALL DIMENSIONS, ELEVATIONS AND ORIENTATIONS TO BE VERIFIED BY THE CONTRACTOR BEFORE UNDERTAKING ANY KIND OF FABRICATION, CONSTRUCTION AND INSTALLATION WORK AT SITE.

REFERENCE DRAWINGS

S.NO	DESCRIPTION	DWG. NO
1	FLOWLINE ALIGNMENT DRAWING	0704358-PL-01 (01 OF 03) TO (03 OF 03)

REV.	DATE	DESCRIPTION	DRAWN	CHK'D	APP'VD	APP'VD
			CONSULTANT		CLIENT	
1	06-NOV-21	ISSUED FOR REVIEW	MK	SAR		
0	05-NOV-21	INTERDISCIPLINARY CHECK	MK	SAR		

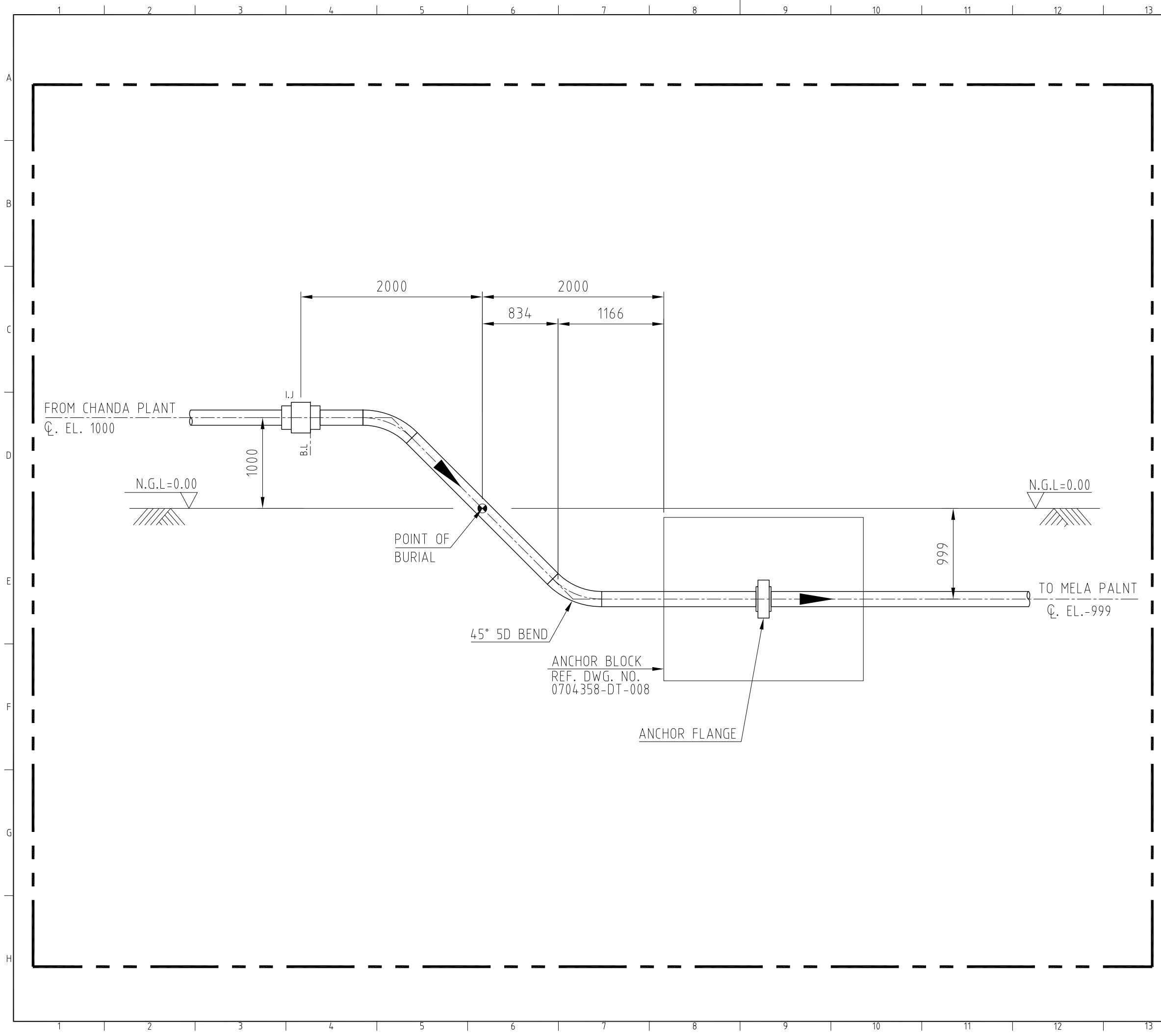
PC PETROCHEMICAL ENGINEERING CONSULTANTS
 C-2, BLOCK NO. 17, GULSHAN-E-IOBAL, NEAR NATIONAL STADIUM, KARACHI-75300, PAKISTAN.
 TEL: +92 (21) 34827780, 34961088, FAX: +92 21 34961089, E-Mail: contact@pcec.com.pk web site: www.pcec.com.pk

CLIENT  **OIL & GAS DEVELOPMENT OF PAKISTAN**

PROJECT **DETAILED DESIGN OF CHANDA MELA PIPELINE**

TITLE **Ø6" FLOWLINE COLD BENDS**

DRAWING NO.	SHEET	REV.
0704358-DT-001	NO.	OF
	1	1



NOTES

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED.
2. ALL DIMENSIONS, ELEVATIONS AND ORIENTATIONS TO BE VERIFIED BY THE CONTRACTOR BEFORE UNDERTAKING ANY KIND OF FABRICATION, CONSTRUCTION AND INSTALLATION WORK AT SITE.
3. TWO NOS. 45°, 5D HOT BEND ARE USED AT EACH RISER.

REFERENCE DRAWINGS

S.NO	DESCRIPTION	DWG. NO	REMARKS
1	FLOWLINE ALIGNMENT DRAWING	0704358 -PL-01 (01 OF 03)	-

REV.	DATE	DESCRIPTION	DRAWN	CHK'D	APP'VD	APP'VD
			CONSULTANT		CONSULTANT	CLIENT
1	06-NOV-21	ISSUED FOR REVIEW	MK	SAR		
0	05-NOV-21	INTERDISCIPLINARY CHECK	MK	SAR		

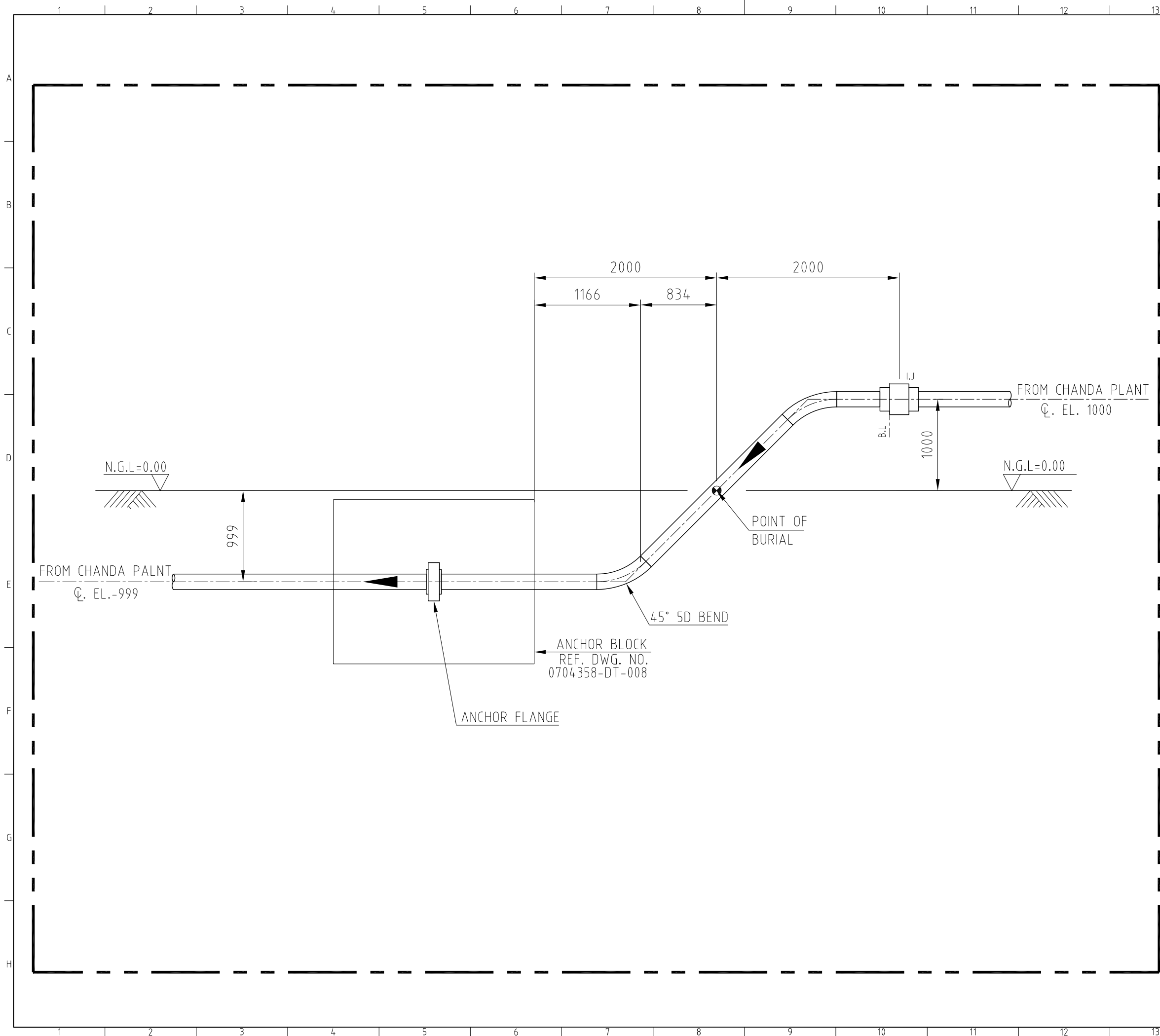
PC PETROCHEMICAL ENGINEERING CONSULTANTS
 C-2, BLOCK NO. 17, GULSHAN-E-IGBAL, NEAR NATIONAL STADIUM, KARACHI-75300, PAKISTAN.
 TEL: +92 (21) 34827780, 34961088, FAX: +92 21 34961089, E-Mail: contact@pcec.com.pk web site: www.pcec.com.pk

CLIENT **OIL & GAS DEVELOPMENT COMPANY LTD.**

PROJECT **DETAILED DESIGN OF CHANDA MELA PIPELINE**

TITLE **Ø6" FLOWLINE RISER FOR CHANDA PLANT**

DRAWING NO.		SHEET		REV.
		NO.	OF	
0704358-DT-002		1	1	1



NOTES

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED.
2. ALL DIMENSIONS, ELEVATIONS AND ORIENTATIONS TO BE VERIFIED BY THE CONTRACTOR BEFORE UNDERTAKING ANY KIND OF FABRICATION, CONSTRUCTION AND INSTALLATION WORK AT SITE.
3. TWO NOS. 45° 5D HOT BEND ARE USED AT EACH RISER.

REFERENCE DRAWINGS

S.NO	DESCRIPTION	DWG. NO	REMARKS
1	FLOWLINE ALIGNMENT DRAWING	0704358 -PL-01 (03 OF 03)	-

REV.	DATE	DESCRIPTION	DRAWN	CHK'D	APP'VD	APP'VD
			CONSULTANT	CONSULTANT	CONSULTANT	CLIENT
1	06-NOV-21	ISSUED FOR REVIEW	MK	SAR		
0	05-NOV-21	INTERDISCIPLINARY CHECK	MK	SAR		

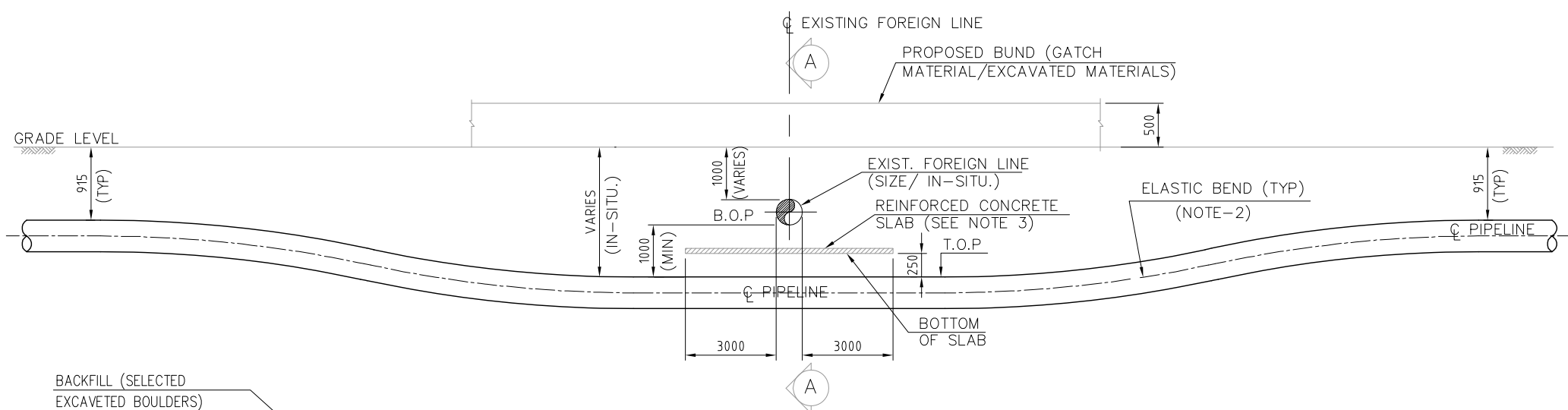
PC PETROCHEMICAL ENGINEERING CONSULTANTS
 C-2, BLOCK NO. 17, GULSHAN-E-IGBAL, NEAR NATIONAL STADIUM, KARACHI-75300, PAKISTAN.
 TEL: +92 (21) 34827780, 34961088, FAX: +92 21 34961089, E-Mail: contact@pcec.com.pk web site: www.pcec.com.pk

CLIENT **OIL & GAS DEVELOPMENT COMPANY LTD.**

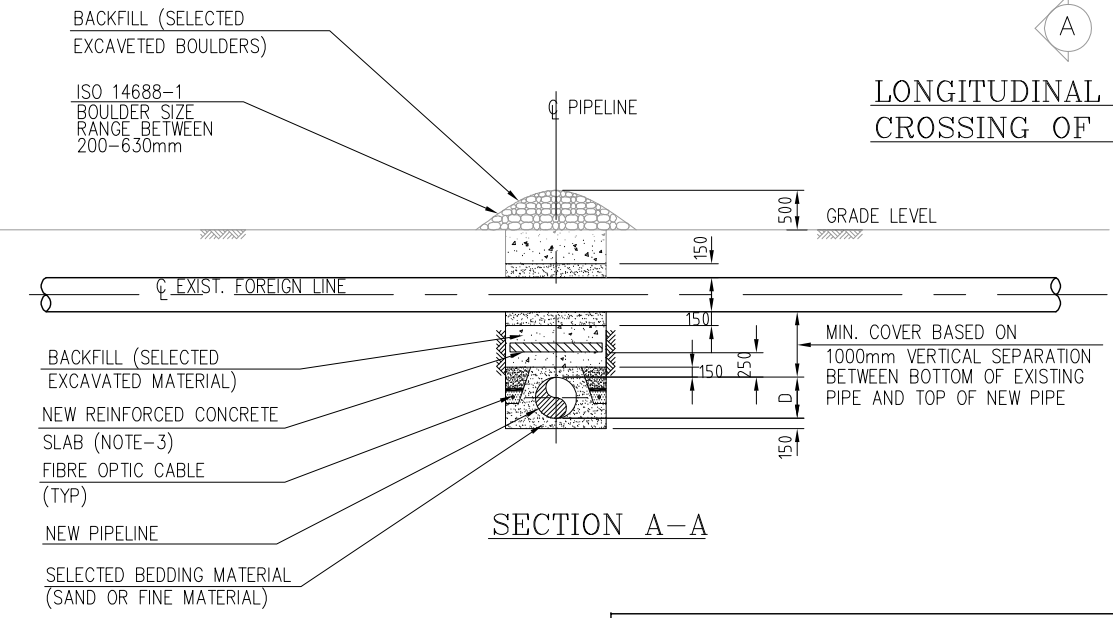
PROJECT **DETAILED DESIGN OF CHANDA MELA PIPELINE**

TITLE **Ø6" FLOWLINE RISER FOR MELA PLANT**

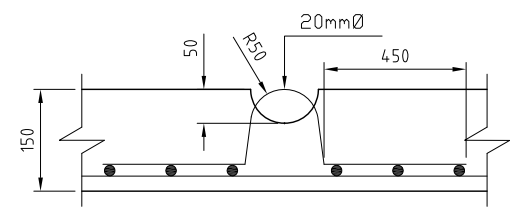
DRAWING NO.	SHEET NO.	OF	REV.
0704358-DT-003	1	1	1



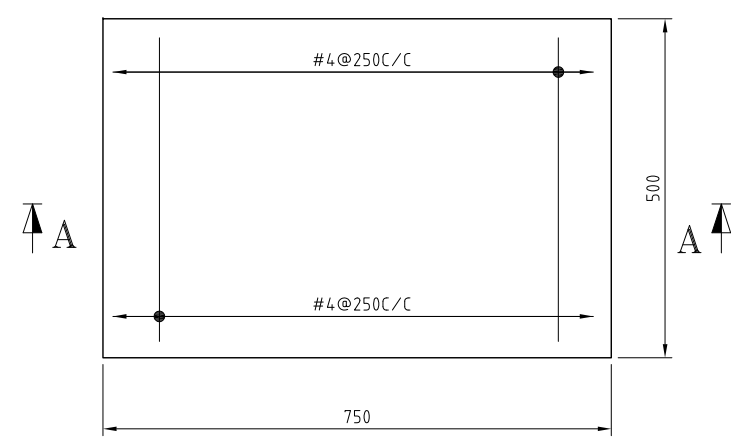
**LONGITUDINAL SECTION
CROSSING OF FOREIGN LINES**



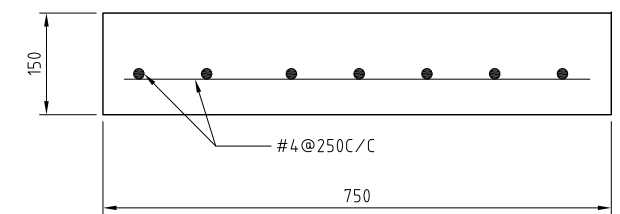
SECTION A-A



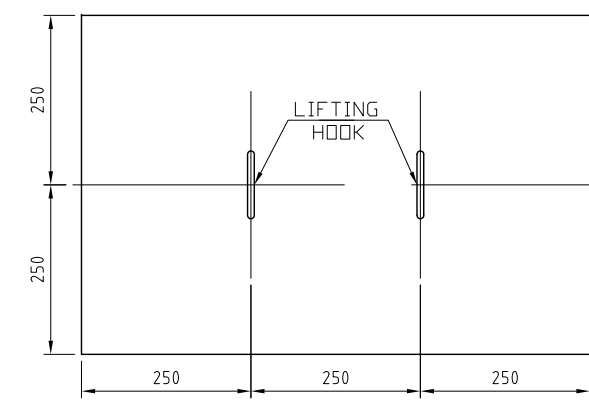
LIFTING HOOK DETAIL



REINFORCEMENT DETAIL PLAN



SECTION A-A



LIFTING LUGS DETAIL

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRE UNLESS OTHERWISE SPECIFIED.
2. PIPELINE COVER BEYOND THE CROSSING SHALL BE MIN. 0.915m AND ELASTIC BEND SHALL BE USED TO ACHIEVE THE SAME.
3. PIPELINE IDENTIFICATION SLABS SHALL BE PROVIDED AT THE CROSSING LOCATION
4. IF THE DEPTH OF THE EXISTING UNDERGROUND SERVICE IS BELOW 2.5m, THEN THE PROPOSED PIPELINE MAY BE TAKEN OVER THE TOP OF THE EXISTING SERVICE.
5. THE OWNER OF THE EXISTING LINE SHALL BE NOTIFIED IN SUFFICIENT TIME, TO WITNESS EXCAVATION AND INSTALLATION.
6. PRIOR TO EXCAVATION, THE EXISTING LINE SHALL BE EXACTLY LOCATED AND EXPOSED BY HAND TOOLS.
7. TEMPORARY SUPPORTS SHALL BE PROVIDED FOR EXISTING PIPELINE DURING CONSTRUCTION TO ENSURE THAT PIPELINE ALWAYS REMAINS ADEQUATELY SUPPORTED, SUPPORTING ARRANGEMENT SHALL BE AGREED WITH THE OWNER OF EXISTING PIPELINE.

REV.	DATE	DESCRIPTION	DRAWN	CHK'D	APP'VD	APP'VD
			CONSULTANT		CLIENT	
1	06-NOV-21	ISSUED FOR REVIEW	MK	SAR		
0	05-NOV-21	INTERDISCIPLINARY CHECK	MK	SAR		

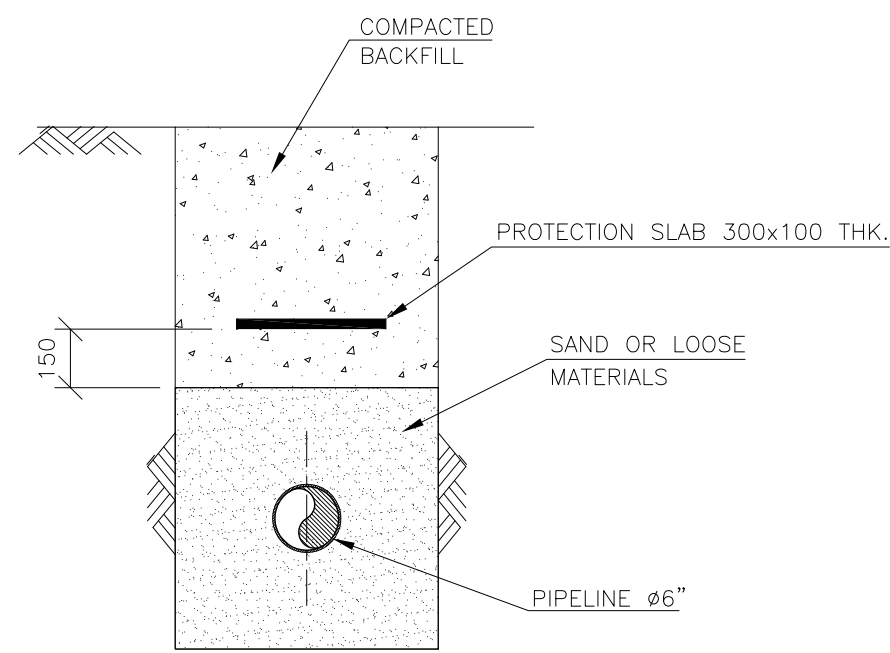
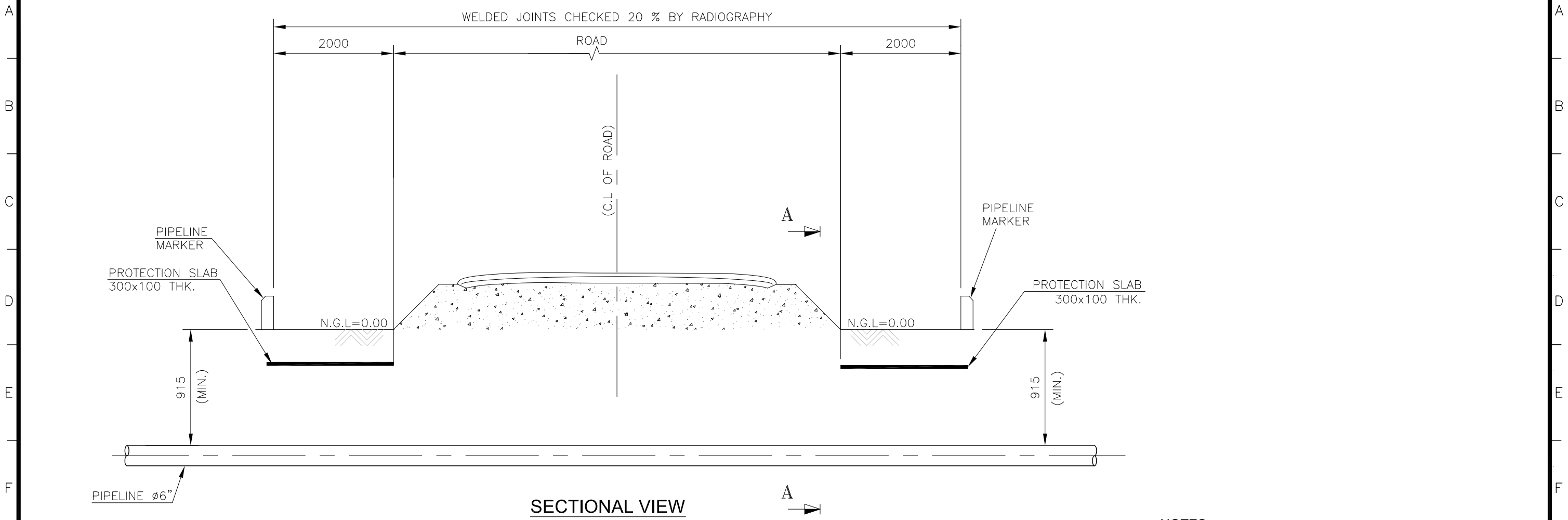
PC PETROCHEMICAL ENGINEERING CONSULTANTS
 C-2, BLOCK NO. 17, GULSHAN-E-IQBAL, NEAR NATIONAL STADIUM, KARACHI-75300, PAKISTAN
 TEL: +92 (21) 34827780, 34961088, FAX: +92 21 34961089, E-Mail: contact@pcec.com.pk web site: www.pcec.com.pk

CLIENT
 **OIL & GAS DEVELOPMENT OF PAKISTAN**

PROJECT
**DETAILED DESIGN OF CHANDA
 MELA PIPELINE**

TITLE
**TYPICAL PIPELINE CROSSING
 BELOW EXISTING UNDERGROUND PIPELINE**

DRAWING NO.	SHEET		REV.
	NO.	OF	
0704358-DT-004	1	1	1



NOTES :

1. ALL DIMENSIONS ARE IN mm. UNLESS OTHERWISE STATED.
2. BACKFILL MATERIAL WILL BE COMPACTED.
3. THE PAVEMENT WILL BE RESTORED IN ACCORDANCE WITH THE RECOMMENDATION OF THE CONCERNED DEPARTMENT.

REV.	DATE	DESCRIPTION	DRAWN	CHK'D	APP'VD	APP'VD
			CONSULTANT			CLIENT
1	06-NOV-21	ISSUED FOR REVIEW	MK	SAR		
0	05-NOV-21	INTERDISCIPLINARY CHECK	MK	SAR		

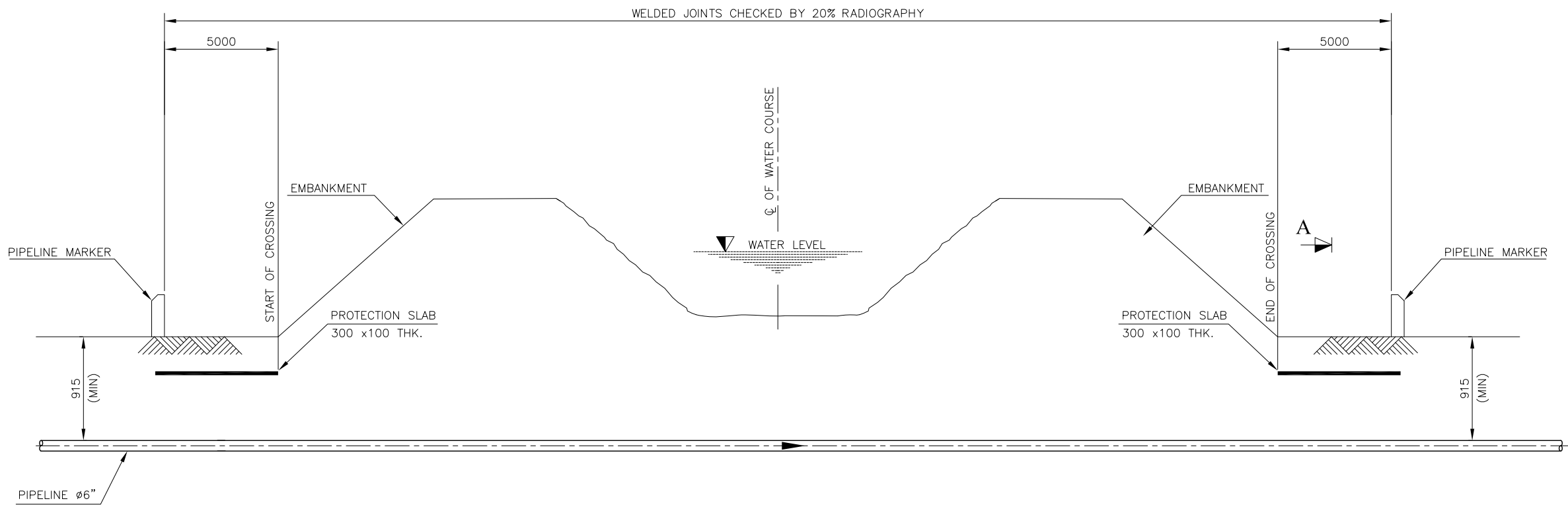
PC PETROCHEMICAL ENGINEERING CONSULTANTS
 C-2, BLOCK NO. 17, GULSHAN-E-IQBAL, NEAR NATIONAL STADIUM, KARACHI-75300, PAKISTAN.
 TEL: +92 (21) 34827780, 34961088, FAX: +92 21 34961089, E-Mail: contact@pcec.com.pk web site: www.pcec.com.pk

CLIENT  **OIL & GAS DEVELOPMENT COMPANY LTD.**

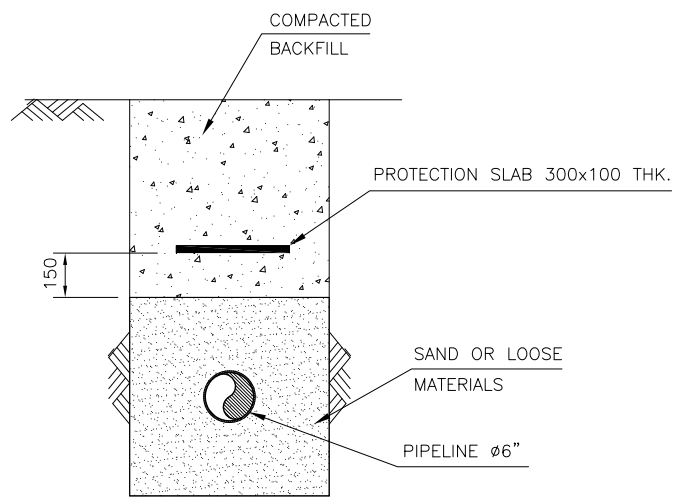
PROJECT **DETAILED DESIGN OF CHANDA MELA PIPELINE**

TITLE **TYPICAL ROAD CROSSING (THRUST BORE)**

DRAWING NO.	SHEET	REV.
	NO. OF	
0704358-DT-005	1 1	1



SECTIONAL VIEW



SECTION A-A

NOTES:-

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED.
2. PIPELINE TO BE BACKFILLED WITH TRENCH SOIL. SOIL SHOULD BE FREE FROM SHARP ROCKY/STONE. THIS MATERIAL WILL BE COMPACTED AND LEVELLED.

REV.	DATE	DESCRIPTION	DRAWN	CHK'D	APP'VD	APP'VD
			CONSULTANT	CONSULTANT	CONSULTANT	CLIENT
1	06-NOV-21	ISSUED FOR REVIEW	MK	SAR		
0	05-NOV-21	INTERDISCIPLINARY CHECK	MK	SAR		

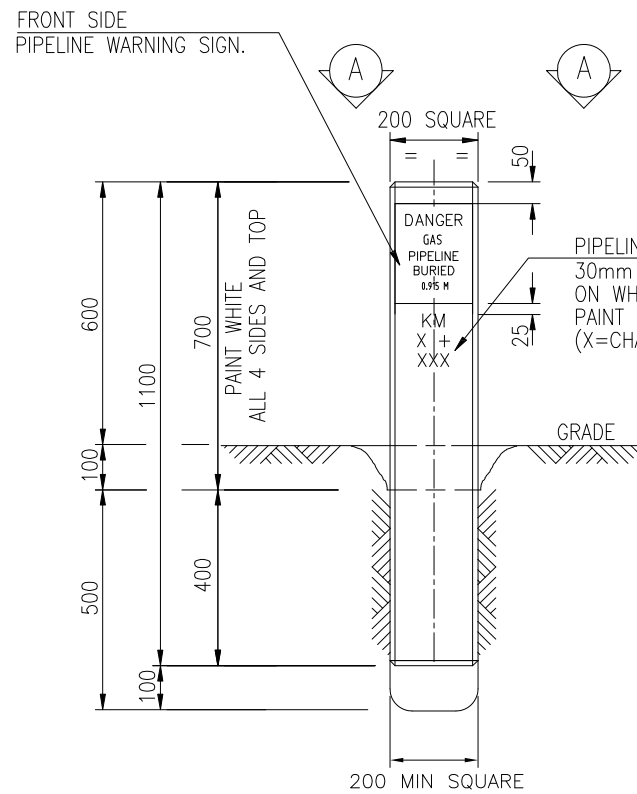
PG PETROCHEMICAL ENGINEERING CONSULTANTS
 C-2, BLOCK NO. 17, GULSHAN-E-IOBAL, NEAR NATIONAL STADIUM, KARACHI-75300, PAKISTAN.
 TEL: +92 (21) 34827780, 34961086, FAX: +92 21 34961089, E-Mail: contact@ppec.com.pk web site: www.ppec.com.pk

CLIENT
 OIL & GAS DEVELOPMENT COMPANY LTD.

PROJECT
 DETAILED DESIGN OF CHANDA MELA PIPELINE

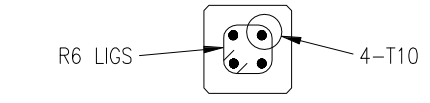
TITLE
 TYPICAL WATER COURSE CROSSING DETAIL

DRAWING NO.	SHEET		REV.
	NO.	OF	
0704358-DT-006	1	1	1

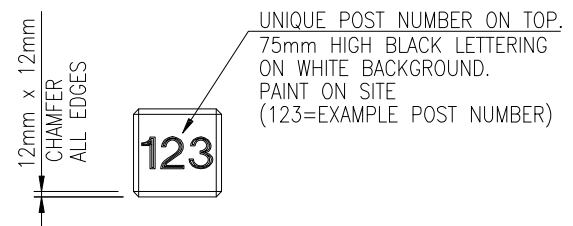


ELEVATION - FRONT SIDE
MARKER POST
LOOKING IN DIRECTION OF PIPELINE FLOW

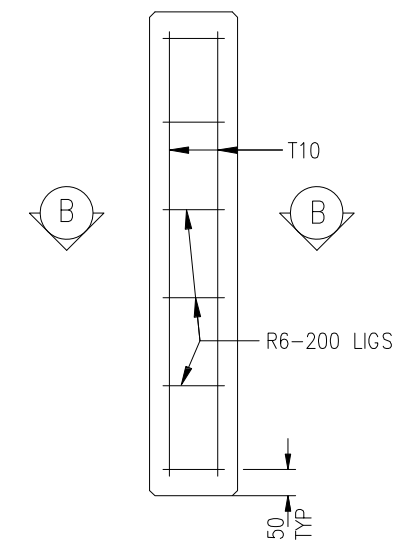
PIPELINE CHAINAGE IN METRES.
30mm HIGH BLACK LETTERING
ON WHITE BACKGROUND.
PAINT ON SITE
(X=CHAINAGE)



SECTION B-B



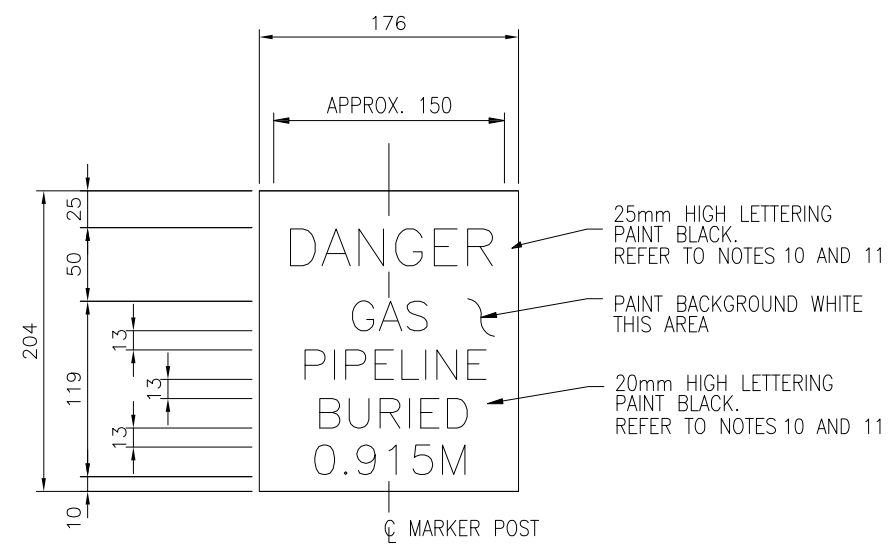
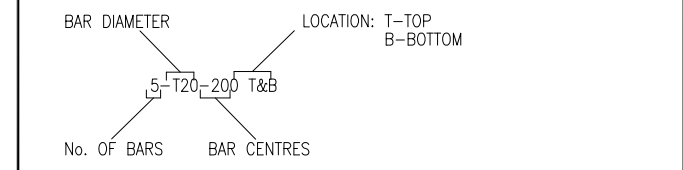
SECTION A-A



REINFORCEMENT MARKER POST

NOTES

1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MILLIMETERS.
2. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATION.
3. ALL CONCRETE SHALL BE GRADE C35 MINIMUM.
4. MINIMUM REINFORCEMENT COVER FOR CONCRETE IS 45mm.
5. PIPELINE MARKERS SHALL BE INSTALLED IN LOCATIONS AS DETERMINED BY THE CONTRACTOR.
6. EXACT LOCATION OF PIPELINE MARKERS SHALL BE DETERMINED ON SITE.
7. PIPELINE MARKERS SHALL BE INSTALLED AT EVERY 500.0m. IN POPULATED AND INDUSTRIAL AREAS, PIPELINE MARKERS SHALL BE INSTALLED EVERY 250.0m.
8. CONCRETE PIPELINE MARKERS SHALL BE INSTALLED DIRECTLY ABOVE THE PIPELINE AT ALL TRACK, WATERCOURSE AND SERVICE CROSSINGS.
9. AT ALL LOCATIONS OTHER THAN IN NOTE- 8, PIPELINE MARKERS SHALL BE PLACED 500mm TO THE LEFT OF THE PIPELINE WHEN LOOKING IN THE DIRECTION OF THE FLOW.
10. LETTERING INTERCHARACTER SPACING SHALL BE 0.75 TO 1.0 X LETTER HEIGHT UNLESS NOTED OTHERWISE.
11. PAINT TYPE TO BE APPROVED BY COMPANY PRIOR TO USE. PAINT SHALL BE UV RESISTANT AND SUITABLE FOR UNPROTECTED OUTDOOR LOCATIONS.
12. PIPELINE MARKERS SHALL BE INSTALLED AT INTERVAL OF 500M, UPSTREAM AND DOWNSTREAM OF EACH CROSSING AND AT TURNING POINT.
13. POST WEIGHT (EXCL FOOTING) APPROX 110kg EACH.
14. REINFORCEMENT NOTATION.



TYPICAL GAS PIPELINE SIGN

1	06-NOV-21	ISSUED FOR REVIEW	MK	SAR		
0	05-NOV-21	INTERDISCIPLINARY CHECK	MK	SAR		
REV.	DATE	DESCRIPTION	DRAWN	CHK'D	APP'VD	APP'VD
			CONSULTANT		CLIENT	

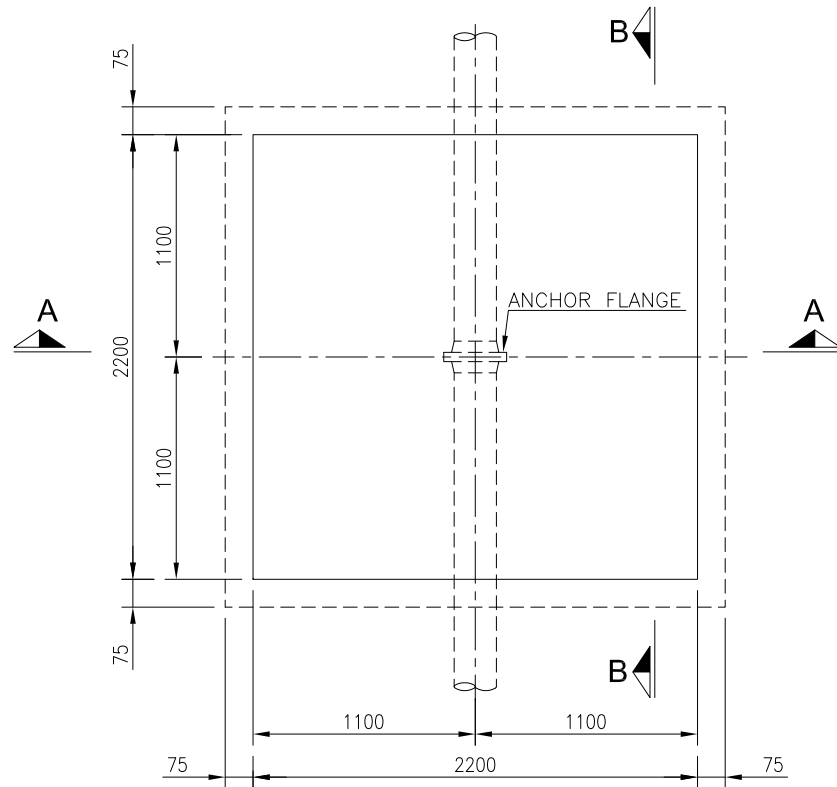
PC PETROCHEMICAL ENGINEERING CONSULTANTS
C-2, BLOCK NO. 17, GULSHAN-E-IGBAL, NEAR NATIONAL STADIUM, KARACHI-75300. PAKISTAN.
TEL. +92 (21) 34827780, 34961088, FAX: +92 21 34961089, E-Mail: contact@pcec.com.pk web site: www.pcec.com.pk

CLIENT
 OIL & GAS DEVELOPMENT COMPANY LTD.

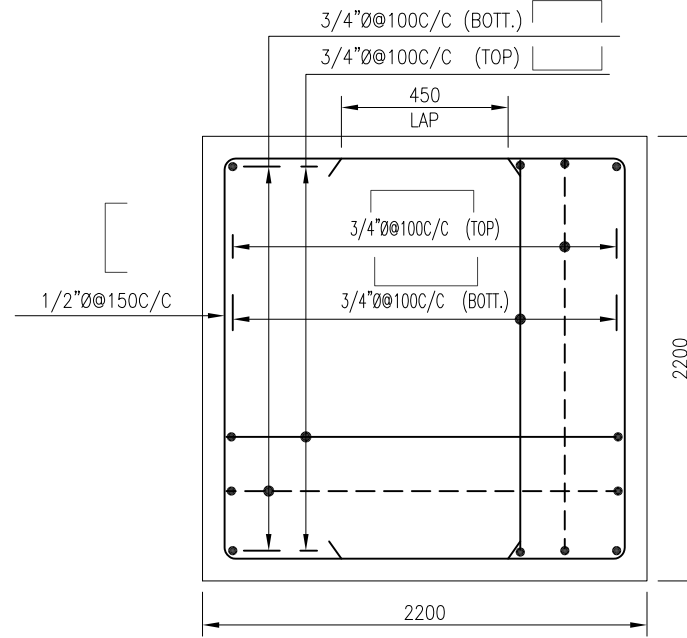
PROJECT
DETAILED DESIGN OF CHANDA MELA PIPELINE

TITLE
TYPICAL DETAIL KM POST & SIGNAL INSTALLATION

DRAWING NO.	SHEET	REV.
0704358-DT-007	NO.	OF
	1	1
		1



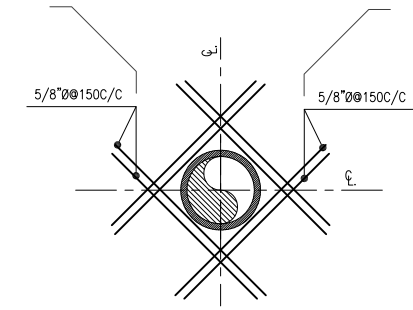
PLAN
(SCALE- 1:30)



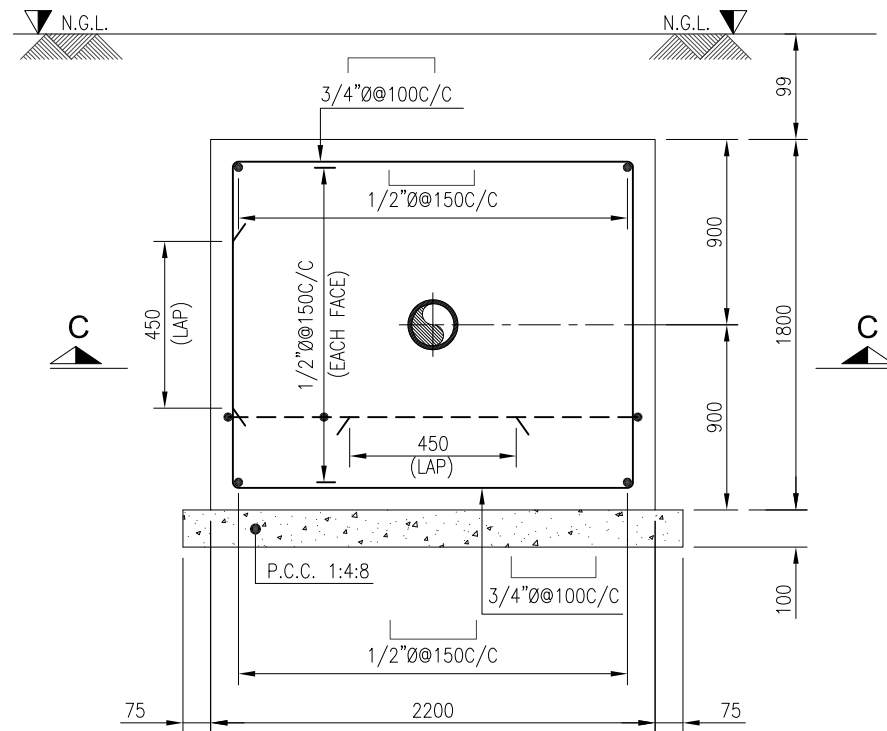
SECTION C-C
(SCALE- 1:30)

NOTES:

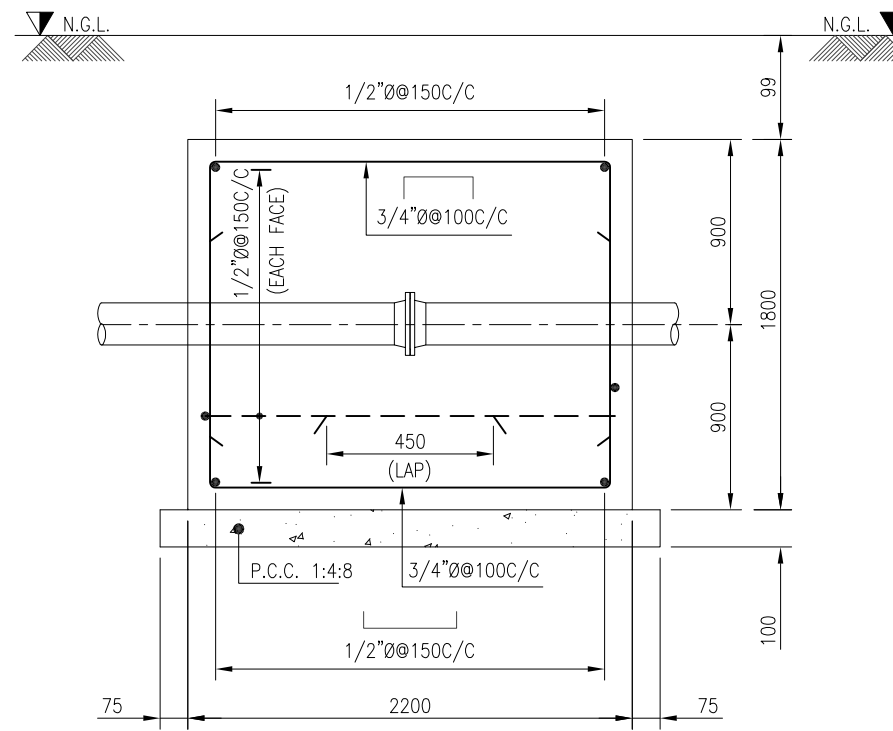
1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE STATED.
2. 20 GAUGE GALVANIZED WIRE SHALL BE USED FOR BINDING THE STEEL REINFORCEMENT.
3. POTABLE WATER SHALL BE USED FOR MIXING & CURING OF CONCRETE.
4. EXCAVATION BOTTOM TO BE WELL COMPACTED. STARTING OF CONCRETE WORKS SHALL BE ALLOWED AFTER COMPACTION HAS BEEN APPROVED BY OWNER'S REPRESENTATIVE.
5. CONCRETE FOR BLINDING TO BE 1:4:8 AND MIX IN S.R. CEMENT.
6. MINIMUM COVER TO CONCRETE : 75mm FOR FOOTING, 50mm FOR COLUMN & BLOCK.
7. ALL STEEL SHOWN ON THIS DRAWING IS DEFORMED REINFORCING STEEL $f_y=60,000$ psi AS PER ASTM DESIGNATION A-615 GRADE 60.
8. CUTTING PLACING AND OVERLAPPING SHALL BE AS PER A.C.I. 318- LATEST EDITION.
9. STRUCTURAL CONCRETE TO BE 3000 psi. MIX IN SR CEMENT.
10. NO CONCRETE SHALL BE POURED UNTIL STEEL PLACEMENT HAS BEEN APPROVED BY THE ENGINEER/OWNER.



**REINFORCEMENT DETAIL
AROUND PIPE**
(SCALE- 1:30)



SECTION A-A
(SCALE- 1:30)



SECTION B-B
(SCALE- 1:30)

REV.	DATE	DESCRIPTION	DRAWN	CHK'D	APP'VD	APP'VD
			CONSULTANT			CLIENT
1	06-NOV-21	ISSUED FOR REVIEW	MK	SAR		
0	05-NOV-21	INTERDISCIPLINARY CHECK	MK	SAR		

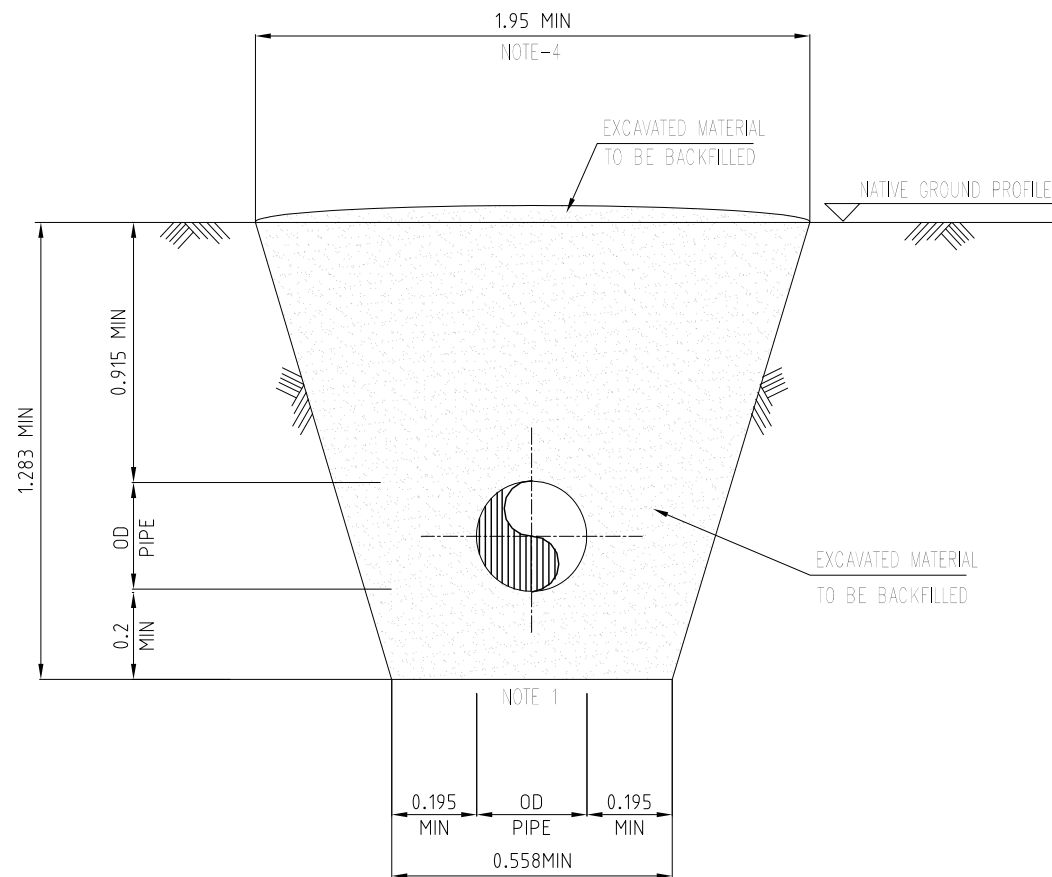
PC PETROCHEMICAL ENGINEERING CONSULTANTS
C-2, BLOCK NO. 17, GULSHAN-E-IOBAL, NEAR NATIONAL STADIUM, KARACHI-75300, PAKISTAN
TEL: +92 (21) 34827780, 34961088, FAX: +92 21 34961089, E-Mail: contact@pec.com.pk web site: www.pec.com.pk

CLIENT
OIL & GAS DEVELOPMENT COMPANY LTD.

PROJECT
**DETAILED DESIGN OF CHANDA
MELA PIPELINE**

TITLE
ANCHOR BLOCK DETAIL FOR Ø6" PIPELINE

DRAWING NO.		SHEET		REV.
0704358-DT-008		NO.	OF	
		1	1	1



STANDARD DETAIL 6" PIPELINE

NOTES,

1. BOTTOM OF DITCH SHALL BE UNIFORMLY GRADED & FREE FROM LOOSE ROCKS OR COBBLES/GRAVELS OR OTHER OBJECTS THAT MAY DAMAGE THE PIPE COATING & THE PIPE ITSELF.
2. THE TRENCH SLOPE VALUE IS TYPICALLY SHOWN THE ACTUAL TRENCH SLOPE VALUE WILL B/W DETERMINED FROM LOCAL SITE CONDITIONS & BE ADEQUATE TO MAINTAIN TRENCH WALL STABILITY.
3. ALL DIMENSIONS ARE IN METERS.
4. ANGLE OF TRENCH MAY VARIES AS PER SOIL CONDITION.

REV.	DATE	DESCRIPTION	DRAWN	CHK'D	APP'VD	APP'VD
			CONSULTANT		CONSULTANT	CLIENT
1	06-NOV-21	ISSUED FOR REVIEW	MK	SAR		
0	05-NOV-21	INTERDISCIPLINARY CHECK	MK	SAR		

PC PETROCHEMICAL ENGINEERING CONSULTANTS
 FLOOR NO. 2, BLOCK NO. 17, GULSHAN-E-IBRAHIM, NEAR NATIONAL STADIUM, KARACHI-75300, PAKISTAN
 TEL: +92 (21) 34827750, 34961088, FAX: +92 21 34961083, E-MAIL: info@ppec.com.pk web site: www.ppec.com.pk

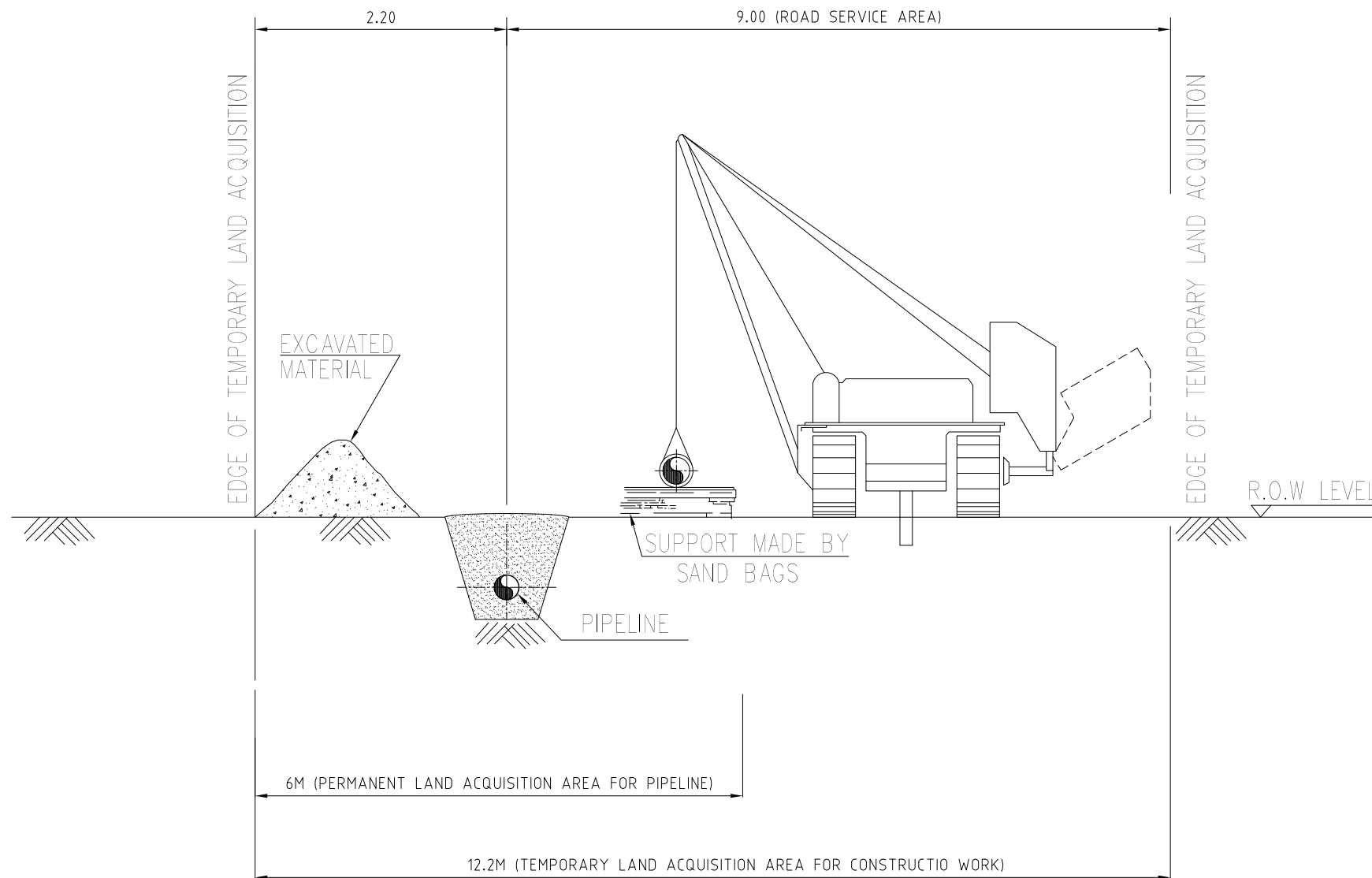
CLIENT
 OIL & GAS DEVELOPMENT COMPANY LTD.

PROJECT
 DETAILED DESIGN OF CHANDA
 MELA PIPELINE

TITLE
 TYPICAL DITCH DIMENSION

DRAWING NO.		SHEET		REV.
		NO.	OF	
0704358-DT-009		1	1	1

STANDARD R.O.W FOR 6" PIPELINE



NOTES,

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE STATED.

REV.	DATE	DESCRIPTION	DRAWN	CHK'D	APP'VD	APP'VD
			CONSULTANT		CONSULTANT	CLIENT
1	06-NOV-21	ISSUED FOR REVIEW	MK	SAR		
0	05-NOV-21	INTERDISCIPLINARY CHECK	MK	SAR		

PC PETROCHEMICAL ENGINEERING CONSULTANTS
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 TEL: +92 (21) 34827750, 34961088, FAX: +92 21 34961083, E-MAIL: info@ppec.com.pk web site: www.ppec.com.pk

CLIENT
OIL & GAS DEVELOPMENT COMPANY LTD.

PROJECT
DETAILED DESIGN OF CHANDA MELA PIPELINE

TITLE
R.O.W DIMENSIONS FOR PIPELINE

DRAWING NO.		SHEET		REV.
		NO.	OF	
0704358-DT-010		1	1	1