



**TECHNICAL TENDER**  
**CUGL/REPL/WORKS/2025/29**



**CENTRAL UP GAS LIMITED**  
**(CITY GAS DISTRIBUTION PROJECT IN KANPUR, BAREILLY & JHANSI)**

**TENDER FOR**

**EMPANELMENT OF CONTRACTORS FOR LAYING OF MDPE PIPE AND ASSOCIATED WORKS FOR CITY GAS DISTRIBUTION PROJECT AT KANPUR, UNNAO, BAREILLY & JHANSI GA FOR A PERIOD OF 2 YEARS**

**TENDER NO. CUGL/REPL/WORKS/2025/29**

**VOLUME II OF II**

**TECHNICAL VOLUME PART-B**  
**OPEN DOMESTIC COMPETITIVE BIDDING**  
**(THROUGH E-TENDERING MODE)**

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<b>MAIN TABLE OF CONTENTS</b>			
<b>LAYING OF MDPE PIPE, INSTALLATION OF GI/CU AND ASSOCIATED WORKS FOR CITY GAS DISTRIBUTION PROJECT AT KANPUR, UNNAO, BAREILLY &amp; JHANSI GA</b>			
<b>SL.NO.</b>	<b>DESCRIPTION</b>		<b>PAGE No.</b>
<b>I</b>	<b>SECTION A - COMMERCIAL (VOLUME I OF II)</b>		
<b>II</b>	<b>SECTION B - TECHNICAL (VOLUME II OF II) - PART A</b>		
<b>III</b>	<b>SECTION B - TECHNICAL (VOLUME II OF II) - PART B</b>		
1	QAP	MDPE FITTINGS	1-2
2	QAP	MDPE VALVES	3-4
3	QAP	TRANSITION FITTINGS	5
4	QAP	GI PIPES	6-7
5	QAP	GI FITTINGS	8
6	QAP	WARNING MAT	9
7	QAP	ISOLATION VALVE	10
8	QAP	APPLIANCE VALVE	11
9	QAP	COPPER TUBE	12
10	QAP	COPPER FITTINGS	13
11	QAP	BRASS FITTING	14
12	QAP	CORRUGATED FLEXIBLE METAL HOSE	15
13	QAP	STEEL REINFORCED RUBBER HOSE	16
14	VL	RECOMMENDED VENDORS LIST	17-18
15	DRW	TYPICAL DETAILS OF CAUTION BOARD	19
16	DRW	TYPICAL DETAILS OF BARRICADING	20
17	DRW	TYPICAL DETAILS OF RCC ROUTE MARKER	21
18	DRW	POLE MARKER WITH FOUNDATION	22
19	DRW	PLATE MARKER	23
20	DRW	TYPICAL TRENCH DIMENSIONS FOR PIPELINE	24
21	DRW	TYPICAL UNDERGROUND CABLE CROSSING DETAILS	25
22	DRW	ROAD/HIGHWAY CASED CROSSING FOR MDPE PIPE	26
23	DRW	SPECIFICATION FOR WOOD SCREWS	27
24	DRW	HALF ROUND CONCRETE SLEEVE	28
25	DRW	SCHEMATIC DIAGRAM OF SINGLE STREAM SERVICE REGULATOR	29
26	DRW	SCHEME FOR DOMESTIC CONSUMER CONNECTION	30
27	DRW	BRICK VALVE CHAMBER (1.5 M X 1.0 M)	31
28	DRW	BRICK VALVE CHAMBER (1.5 M X 1.5 M)	32
29	DRW	RCC VALVE CHAMBER (1.5 M X 1 M)	33
30	DRW	RCC VALVE CHAMBER (1.5 M X 1.5 M)	34
31	DRW	TYPICAL DETAILS OF FENCING	35
32	DRW	TYPICAL DETAILS OF GATE	36
33	DRW	SCHEMATIC DIAGRAM OF HOUSING FOR SINGLE SERVICE REGULATOR	37
34	DRW	DRAIN CROSSING FOR LAYING OF SERVICE LINES	38



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CITY GAS DISTRIBUTION PROJECT

**QUALITY CONTROL TABLE PE FITTINGS**

Document No. : REPL/CUGL/QAP/01 Date : Rev.0  
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 Prepared by: VS Checked By: GSJ  
 Approved by: AN

S.No.	COMPONENTS/OPERATIONS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENTS	ACCEPTANCE NORMS	FORMAT OF RECORD	VENDOR	CA/TPI	REMARKS
1	Review of test certificate for Raw material		Each Batch certificate	Raw Material manufacturer's test certificate	Raw Material manufacturer's test certificate	Test Certificate	R	R	
2	Hydrostatic strength								
2.1	At 20° C	Strength test	As per EN 1555-7	EN 1555 - 3/ EN 921 / PTS / GTS	No leakage through the fittings during the test	Inspection report	P	W	
2.2	At 80° C	Strength test	As per EN 1555-7	EN 1555 - 3/ EN 921 / PTS / GTS	No leakage through the fittings during the test	Inspection report	P	W	
3	Cohesive Resistance								
3.1	Length of Initial rupture ≤ L2/3 in brittle failure	Mechanical properties	As per EN 1555-7	ISO 13954 / ISO 13955 / PTS / GTS	EN 1555 - 3	Inspection report	P	R	This test is applicable only for Electrofusion socket fittings
3.2	Surface of rupture ≤ 25% brittle failure	Mechanical properties	As per EN 1555-7	ISO / DIS 13956 / PTS / GTS	EN 1555 - 3	Inspection report	P	R	This test is applicable only for Electrofusion saddle fittings
4	Tensile strength for butt fusion	Mechanical properties	As per EN 1555-7	ISO / DS 13953/PTS	ISO / DS 13953/PTS		P	R	This test is applicable only for Spigot end fittings
5	Impact strength	Mechanical properties	As per EN 1555-7	EN 1716 / PTS / GTS	EN 1716 / PTS / GTS	Inspection report	P	R	This test is applicable only for Electrofusion saddle fittings
6	Pressure Drop	Air flow rate	As per EN 1555-7	EN 12117 / PTS	EN 12117 / PTS	Inspection report	P	R	This test is applicable only for Electrofusion saddle fittings
7	Electrical Resistance test		As per EN 1555-7	EN 1555 - 3 / PTS / GTS	EN 1555 - 3 / PTS	Inspection report	P	W	
8	Oxidation induction time(Thermal stability)		As per EN 1555-7	EN 1555 - 3 / EN728 / PTS / GTS	> 20 min	Inspection report	P	W	
9	Meltmass/ Flow rate (MFR)		As per EN 1555-7	EN 1555 - 3 / ISO4440 / GTS / PTS	(0.2 ≤ MFR ≤ 1.4) g / 10 min and after processing maximum deviation of ± 20 % of the nominated value declared by manufacturer.	Inspection report	P	W	
10	Dimensional Check	Dimensions	100%	As per EN 1555 -3 /PTS / GTS	As per EN 1555 -3 / PTS / GTS	Inspection report	P	RW	

11	Storage	Visual	All materials	-	Manufacturer Recommendation	Stock register	H	M	
12	Marking	Visual	100%	EN 1555 / PTS / GTS	EN 1555 -3	Inspection report	P	RW	
13	Documentation	All Inspection Reports and Certificates	-	EN 1555	All Inspection Reports and Certificates	Inspection Report	P	R	
<b>LEGENDS:</b>		<b>H-HOLD, P-PERFORMANCE, W-WITNESS, RW - RANDOM WITNESS, TC-TEST CERTIFICATE, MTR-MANUFACTURER TEST REPORT, TPIA-THIRD PARTY INSPECTION AGENCY, CA - OWNER/OWNER'S REPRESENTATIVE</b>							

**Notes :**

- 1 The Above Testing and acceptance criteria are minimum requirements, however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications(PTS)
- 2 Vendor shall in coordination with supplier/ sub vendor issue detailed Production and inspection schedule indicating the dates and the locations to facilitate Owner/ Owner's representative and TPIA to organize inspection.
- 3 Owner/ Owner's representative including TPIA will have the right to inspect any activity of manufacturing at any time.
- 4 All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPIA/CA at the time of Inspection 5 Only calibrated instruments shall be used for inspection.
- 6 Before dispatch of the materials to the contractors, manufacturer shall submit copy of all related document of inspection along with release note and MTC to the owner /PMC for the dispatch clearance.
- 7 Sampling Frequency of the testing shall be done as per EN 1555-7



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CITY GAS DISTRIBUTION PROJECT

**QUALITY CONTROL TABLE MDPE VALVES**

Document No. REPL/CUGL/QAP/02 Rev.0

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Prepared by : VS Checked By: GSJ

Approved by : AN

SR. No	DESCRIPTION	TYPE OF CHECK	QUANTUM OF CHECK	REF. DOC.	ACCEPTANCE NORMS	DOCUMENTATION	INSPECTION		REMARKS
							MANUF.	CA / TPIA	
1	Review of mill test certificate for Raw material		Each Batch certificate	Raw Material manufacturer's test certificate	Raw Material manufacturer's test certificate		R	R	
2	Test of Raw Material Inspection		Each Batch		As per material test certificate	Test report	H	R	
3	Hydrostatic strength@ 80 degree C		100%	EN 917/ISO 5208/PTS/GTS	EN 917/ISO 5208/PTS/GTS	Inspection report	P	W	
4	Leak Tightness test @ 11 bar and 25 mbar	External & internal leak testing	100%	EN 1555-4 / PTS / GTS	EN 1555-4 / PTS / GTS	Inspection report	P	R	
5	Running torque	Mechanical properties	100%	EN 1555-4 / PTS / GTS	EN-28233/PTS/GTS	Inspection report	P	R	
6	Initiating Torque	Mechanical properties		EN 1555-4 / PTS / GTS	EN 1555-4 / PTS / GTS	Inspection report	P	R	
7	Impact strength	Mechanical properties		As per standard	GTS /PTS	Inspection report	P	R	
8	Pressure Drop	Air flow rate		As per standard	GTS /PTS	Inspection report	P	R	
9	Oxidation induction time(Thermal stability)			EN 728/ GTS/PTS	EN 728/GTS/PTS	Inspection report	P	W	
10	Meltmass/ Flow rate (MFR)			ISO 1133/ GTS/PTS	ISO 1133/GTS/PTS	Inspection report	P	W	
11	Dimensional Check		Each Batch	ISO 1183/ GTS/PTS	ISO 1183/ GTS/PTS	Inspection report	P	RW	
11	Storage		All materials		Manufacturer Recommendation	Stock register	H	M	

12	Marking		Each Batch	GTS /PTS	GTS /PTS	Inspection report	P	R	
13	Lot release test		Each lot	EN 1555-7 / GTS / PTS	EN 1555-7 / GTS / PTS	Inspection report	P	R	

**LEGEND:**

P:Perform  
Inspection Agency

R:Review  
CA : Owner/Owner's Representative

W:Witness

H : Hold

M : Monitor  
TPIA: Third Party

**Note:**

- 1 The Above Testing and acceptance criteria are minimum requirements, however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications(PTS)
- 2 The supplier shall submit their own detailed ITP prepared on the basis of above for approval of Owner/Owner's representative and TPIA.
- 3 Supplier shall submit Calibration certificates of all Instruments/Equipment to be used for Inspection and Testing to TPIA with relevant procedures and updated standards for TPIA review/Approval.
- 4 TPIA will have Right to Inspect minimum 10% of all manufacturing activities on each day or as specified above.
- 5 TPIA along with Owner/Owner representative shall review/approve all the documents related to ITP/Quality manuals/Drawings etc.submitted by supplier.
- 6 Contractor shall in coordination with Supplier/Sub vendor shall issue detailed Production and Inspection schedule indicating the dates and the locations to facilitate Owner/Owner's representative and TPIA to organise Inspection.
- 7 Special manufacturing procedures have to be specially approved or only previously approved procedures have to be used, in case of conflict between specifications more stringent condition shall be applicable.
- 8 Certification requirement shall comply with European standard EN 10204 (latest edition)
- 9 For Mechanical fittings, the Requirement of ISO / DIS 10838-1 /2 / 3, as applicable , apply
- 10 Sampling Frequency of the testing shall be done as per EN 1555-7



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CITY GAS DISTRIBUTION PROJECT

**QUALITY CONTROL TABLE TRANSITION FITTINGS**

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 Prepared by: VS  
 Checked By: GSJ  
 Approved by: AN

S.No.	COMPONENTS/OPERATIONS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENTS	ACCEPTANCE NORMS	FORMAT OF RECORD	VENDOR	TPI	REMARKS
1	Review of test certificate for Raw material		Each Batch certificate	Raw Material manufacturer's test certificate	Raw Material manufacturer's test certificate	Test Certificate	R	R	
2	Hydrostatic strength								
2.1	At 20° C	Strength test	As per EN 1555-7	EN 1555 - 3/ EN 921 / PTS / GTS	No leakage through the fittings during the test	Inspection report	P	W	
2.2	At 80° C	Strength test	As per EN 1555-7	EN 1555 - 3/ EN 921 / PTS / GTS	No leakage through the fittings during the test	Inspection report	P	W	
3	Electrical Resistance test		As per EN 1555-7	EN 1555 - 3 / PTS / GTS	EN 1555 - 3 / PTS	Inspection report	P	W	
4	Oxidation induction time(Thermal stability)		As per EN 1555-7	EN 1555 - 3 / EN 728 / PTS / GTS	> 20 min	Inspection report	P	W	
5	Meltmass/ Flow rate (MFR)		As per EN 1555-7	EN 1555 - 3 / ISO 4440 / GTS / PTS	(0.2 ≤ MFR ≤ 1.4) g / 10 min and after processing maximum deviation of ± 20 % of the nominated value declared by manufacturer.	Inspection report	P	W	
6	Dimensional Check	Dimensions	100%	As per EN 1555 -3 / PTS / GTS	As per EN 1555 -3 / PTS / GTS	Inspection report	P	RW	
7	Storage	Visual	All materials	-	Manufacturer Recommendation	Stock register	H	M	
8	Marking	Visual	100%	EN 1555 / PTS / GTS	EN 1555 -3	Inspection report	P	RW	
9	Documentation	All Inspection Reports and Certificates	-	EN 1555	All Inspection Reports and Certificates	Inspection Report	P	R	

**LEGENDS:**

**H**-HOLD, **P**-PERFORMANCE, **W**-WITNESS, **RW** - RANDOM WITNESS, **TC**-TEST CERTIFICATE, **MTR**-MANUFACTURER TEST REPORT, **TPIA**-THIRD PARTY INSPECTION AGENCY

**Notes :**

- 1 The Above Testing and acceptance criteria are minimum requirements, however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications(PTS)
- 2 Vendor shall in coordination with supplier/ sub vendor issue detailed Production and inspection schedule indicating the dates and the locations to facilitate Owner/ Owner's representative and TPIA to organize inspection.
- 3 Owner/ Owner's representative including TPIA will have the right to inspect any activity of manufacturing at any time.
- 4 All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPIA/Owner at the time of Inspection 5 Only calibrated instruments shall be used for inspection.
- 6 Before dispatch of the materials to the contractors, manufacturer shall submit copy of all related document of inspection along with release note and MTC to the owner /PMC for the dispatch clearance.
- 7 Sampling Frequency of the testing shall be done as per EN 1555-7



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CITY GAS DISTRIBUTION PROJECT

**QUALITY CONTROL TABLES GI  
PIPES CONFORMING TO IS:1239  
(PART-1):2004  
(Latest edition)**

Document No. REPL/CUGL/QAP/04 Rev-0



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Prepared by: VS Checked by: GSJ

Approved by: AN

**INSPECTION**

S.No.	COMPONENTS/OPERATIONS	CHARACTERISTICS	CLASSIFICATION	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENTS	ACCEPTANCE NORMS	FORMAT OF RECORD	VENDOR	TPIA/CA
1	2	3	4	5	6	7	8	9	10	11
<b>1.0</b>	<b>Raw Material Inspection</b>									
1.1	RAW MATERIAL	IDENTIFICATION	Major	Co-relation with MTC.	100%	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	T.C.	P	R
		CHEMICAL COMPOSITION	Major	Chem. Analysis	One / Heat	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	IIR	P	R
		PHYSICAL PROPERTIES (T.S., Y.S., %Elong.)	Major	Lab. Test	One / Heat	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	IIR	P	R
		VISUAL & DIMENSIONS	Major	Visual & Measur.	100%	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	IIR	P	R
<b>2.0</b>	<b>IN PROCESS INSPECTION</b>									
2.1	PIPE MANUFACTURING	SURFACE DEFECT	Major	Visual	100%	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	IIR	P	R
		DIMENSIONS (O.D., THK., LENGTH etc.)	Major	Measur.	As Per Relevant Std.	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	IIR	P	R
		MASS (Kg/Mtr.)	Major	Measur.	As Per Relevant Std.	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	IIR	P	R
2.2	END PREPARATION	END TYPE & DIMENSIONS	Major	Visual & Measur.	100%	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	IIR	P	R
2.3	PHYSICAL PROPERTIES	TENSILE, ELONGATION & BEND / FLATTENING TEST AS APPLICABLE	Major	Lab. Test	As Per Relevant Std.	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	IIR	P	R
2.4	LEAK TEST	HYDRAULIC	Critical	Leak Test	100%	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	IIR	P	W
2.5	GALVANIZING	ZINC COATING UNIFORMITY & MASS	Major	Mass of Zinc Coating & Uniformity	2 Sample / Shift	IS: 4736	IS: 4736	IIR	P	W
2.6	FINISH, PAINTING & MARKING	OVERALL FINISH, PAINTING & MARKING	Major	Visual	100%	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	IIR	P	R

 <b>RESONANCE ENERGY PVT LTD</b>	 <b>CITY GAS DISTRIBUTION PROJECT</b>	<b>QUALITY CONTROL TABLES GI PIPES CONFORMING TO IS:1239 (PART-1):2004 (Latest edition)</b>	<b>Document No. REPL/CUGL/QAP/04 Rev0</b> <b>Date: 30.07.2024</b> <b>Prepared by: VS      Checked by: GSJ</b> <b>Approved by: AN</b> <b>INSPECTION</b>
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S.No.	COMPONENTS/OPERATIONS	CHARACTERISTICS	CLASSIFICATION	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENTS	ACCEPTANCE NORMS	FORMAT OF RECORD	VENDOR	TPIA/CA
1	2	3	4	5	6	7	8	9	10	11
3.0	<b>FINAL INSPECTION</b>									
3.1	FINISHED PRODUCT	FINISH DIMENSIONS	Major	Visual & Measur.	Random As Per IS:4711	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	IR	P	W
		PHYSICAL PROPERTIES (TENSILE, ELONGATION & BEND / FLATTENING TEST AS APPLICABLE)	Major	Lab. Test	Random As Per IS:4711	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	IR	P	W
		LEAK TEST (HYDRAULIC TEST)	Critical	Leak Test	Randomly (10% of lot qty)	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	IR	P	W
		REVIEW OF ALL TEST CERTIFICATE / REPORTS & VENDOR'S IIR	Major	Review	—	IS:1239 / P.O. Spec., EN10204	IS:1239 / P.O. Spec., EN10204	IR	P	R

**LEGENDS**      **H-HOLD**      **PERFORMANCE**      **R-REVIEW**      **W-WITNESS**      **TC-TEST CERTIFICATE**      **P- IR-INTERNAL INSPECTION REPORT**      **TPIA-THIRD PARTY INSPECTION AGENCY CA - CONTROL AUTHORITY**

- |   |  |
|---|--|
| 1 | The above testing and acceptance criteria are minimum requirements, however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications(PTS)       |
| 2 | The supplier shall submit their own detailed ITP prepared on the basis of above / Technical specification for approval of Owner/Owner's representative.  |
| 3 | Owner/Owner representative shall review/approve all the documents related to ITP/Quality manuals/Drawings etc.submitted by supplier.   |
| 4 | Contractor shall in coordination with Supplier/Sub vendor issue detailed Production and Inspection schedule indicating the dates and the locations to facilitate Owner/Owner's representative and TPIA to organise Inspection. |
| 5 | Special manufacturing procedures have to be specially approved or only previously approved procedures have to be used, in case of conflict between specifications more stringent condition shall be applicable.                |
| 6 | Owner / Owner's representative including TPIA will have the right to inspect any activity of manufacturing at any time.  |
| 7 | All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPIA/Owner at the time of Inspection  |
| 8 | At the time of delivery of material in stores, vendor will submit copy of all related document of inspection along with release note, despatch clearance note & MTC.   |



RESONANCE ENERGY PVT LTD



CITY GAS DISTRIBUTION PROJECT

QUALITY CONTROL TABLES - GI FITTINGS

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 Approved by : AN

SR. No	DESCRIPTION	COMPONENT	CHARACTERISTICS	QUANTUM OF CHECK	REF. DOC.	ACCEPTANCE NORMS	RECORD	INSPECTION			REMARKS
								MANUF.	TPIA/OWNER	CA	
1	Chemical Composition of raw material	Test bar	Marking and Correlation with TC	IS 14329 Grade BM 300	PO, Material specification	IS 14329 / PO, Material specification	Mill TC	R	R	R	
2	Chemical Composition of final product	Fitting	Chemical properties	IS 14329 Grade BM 300	PO, Material specification	IS 14329 / PTS	TC	P	W	R	
3	Cleaning and Finishing	Fitting	Descaling	100%	IS 14329 / PTS	IS 14329 / PTS	Inspection Report	W	RW	R	
4	Destructive Testing ( Tensile , Elongation & Hardness )	Fitting	Mechanical Properties	IS 14329	IS 14329 / PTS	IS 14329 / PTS	Lab report	W	W	RW	
5	Compression Test	-	Malleability	Three samples per Heat	IS 1879 / PTS	IS 1879 / PTS	Inspection report	P	W	RW	
6	Pressure Test	-	-	IS 1879	IS 1879 / PTS	IS 1879 / PTS	Inspection report	P	W	RW	As per sampling procedure of IS 1839
7	Alignments of thread	-	-	IS 1879	IS 1879 / PTS	IS 1879 / PTS	Inspection report	P	W	RW	
8	Galvanizing	Fitting	Integrity of galvanised coating	As listed in IS 4759	IS 4736 / PTS	PTS	Inspection / lab report	W	W	RW	
9	Final inspection	Fittings	Visual, Dimensions, Finish,weld bevel, Bore, Marking,Colour coding	IS 1879	IS 1879 / PTS	IS 1879 / PTS	Inspection report	W	W	R	
10	Marking	-	-	100%	PTS	PTS	Inspection report	P	R	R	
11	Documentation	-	-	-	As per the term & conditions of P.O. & PTS	As per the term & conditions of P.O. & PTS	Compliance certificate	-			

LEGENDS: R - Review, W - Witness, H - Hold, P - Perform, TPIA - Third Party Inspection Agency, CA - Control Authority ( Owner / Owner's representative), RW - Random witness

Note:

1	The above testing and acceptance criteria are minimum requirements, however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications(PTS)
2	The supplier shall submit their own detailed ITP prepared on the basis of above / Technical specification for approval of Owner/Owner's representative.
3	Owner/Owner representative shall review/approve all the documents related to ITP/Quality manuals/Drawings etc.submitted by supplier.
4	Contractor shall in coordination with Supplier/Sub vendor issue detailed Production and Inspection schedule indicating the dates and the locations to facilitate Owner/Owner's representative and TPIA to organise Inspection.
5	Special manufacturing procedures have to be specially approved or only previously approved procedures have to be used, in case of conflict between specifications more stringent condition shall be applicable.
6	Owner / Owner's representative including TPIA will have the right to inspect any activity of manufacturing at any time.
7	All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPIA/Owner at the time of Inspection
8	At the time of delivery of material in stores, vendor will submit copy of all related document of inspection along with release note, despatch clearance note & MTC.



RESONANCE ENERGY PVT LTD



CITY GAS DISTRIBUTION PROJECT

QUALITY CONTROL TABLE WARNING MAT

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Approved by : AN

Checked by: GSJ

S. No	DESCRIPTION	QUANTUM OF CHECK	REF. DOC.	ACCEPTANCE CRITERIA	DOCUMENTATION	INSPECTION			REMARKS
						MANUF.	TPIA	CA	
1	Raw Material Inspection	Each Batch		As per material test certificate	Test report	R	R	R	
2	Final Inspection								
2.1	Width	Four sample per Lot	As per PTS	300 ± 5 mm	Inspection report	P	W	R	
2.2	Thickness	Four sample per Lot	As per PTS	Minimum 1 mm	Inspection report	P	W	R	
2.3	Tests								
2.3.1	Colouring	Four sample per Lot	PTS, EN 12613 & EN ISO 175	No discolouration or change of initial colour of test sample after test.	Inspection report	P	W	RW	
2.3.2	Tensile withstand Strength (in the longitudinal direction)	Four sample per Lot	PTS, EN 12613	minimum tensile withstand load not less than 200 N	Inspection report	P	W	RW	
2.3.3	Visual Warning Characteristics	Four sample per Lot	EN 12613	As per normative annex A of EN 12613	Inspection report	P	W	RW	
2.3.4	Permanence of Printing	Four sample per Lot	PTS, EN 12613 & IEC 60898:1995	Marking shall be easily legible after the test	Inspection report	P	W	RW	
2.3.5	Test of laying characteristics	Four sample per Lot	EN 12613	As per EN 12613	Inspection report	P	W	RW	
2.3.6	Test of Virginity	Four sample per Lot	PTS	As per Cl. 4.6.6 of PTS	Inspection report	P	W	RW	
3	Colour	Each	As per PTS	Bright Yellow Colour	Inspection report	P	W	RW	
4	Marking / Art Work	Per Meter	PTS	As per PTS	Inspection report	P	W	R	
5	Documentation	-	PO / PTS	PO / PTS	Compliance certificate	P	R	R	

LEGENDS: R - Review, W - Witness, RW - Random Witness, H - Hold, P - Perform, TPIA - Third Party Inspection Agency, CA - Control Authority ( Owner / owner's representative ), P.O. - Purchase order

Notes: -

- 1 The Above Testing and acceptance criteria are minimum requirements, however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications(PTS)
- 2 The supplier shall submit their own detailed QAP prepared on the basis of above / Technical specification for approval of Owner/Owner's representative.
- 3 Owner/Owner representative shall review/approve all the documents related to QAP/Quality manuals/Drawings etc.submitted by supplier.
- 4 Supplier/ Vendor shall issue detailed Production and Inspection schedule indicating the dates and the locations to facilitate Owner/Owner's representative and TPIA to organise Inspection.
- 5 Special manufacturing procedures have to be specially approved or only previously approved procedures have to be used, in case of conflict between specifications more stringent condition shall be applicable.
- 6 Owner / Owner's representative including TPIA will have the right to inspect any activity of manufacturing at any time.
- 7 All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPIA/Owner at the time of Inspection
- 8 At the time of delivery of material in stores, vendor will submit copy of all related document of inspection along with release note & MTC.



RESONANCE ENERGY PVT LTD CITY GAS DISTRIBUTION PROJECT

QUALITY CONTROL ISOLATION BALL VALVE

Document No. REPL/CUGL/QAP/07 Rev-0

Date : 30.07.2024

Prepared : VS Checked : GSJ

Approved : AN

SR. NO.	INSPECTION AND TESTING	QUANTUM OF CHECK	PROCEDURE	ACCEPTANCE CRITERIA AND CERTIFICATE	FORMAT OF RECORD	INSPECTION		
						Vendor	TPIA	REMARKS
1	<b>Raw material Testing:</b>							
1.1	Metallic materials (Chemical / Physical Requirement)	One in each heat	As per ASTM B 283 (ALLOY UNS C37700)	As per ASTM B 283 (ALLOY UNS C37700)	INSPECTION TEST REPORT	P	R	
1.2	Seat & Stem Seal Material	One in each heat	As per ASME B 16.33	As per ASME B 16.33	INSPECTION TEST REPORT	P	R	
2	<b>Final product :</b>							
2.1	- Gas Tightness Test	1%	As per EN 331 /ASME B 16.33 Cl no. 4.2	As per EN 331 /ASME B 16.33 Cl no. 4.2	INSPECTION TEST REPORT	P	W	Preferably witness by CA
	- Twist (Torque) Test	1%	As Per PTS	As Per PTS	INSPECTION TEST REPORT	P	W	
	- Bending Test	1%	As per EN 331 /ASME B 16.33 Cl no. 4.4.4	As per EN 331 /ASME B 16.33 Cl no. 4.4.4	INSPECTION TEST REPORT	P	W	
	- Impact Test	One in each heat	As Per PTS	As Per PTS	INSPECTION TEST REPORT	P	W	
	- Turning Torque Test	1%	As per EN 331 /ASME B 16.33 Cl no. 4.4.6	EN 331 /As per ASME B 16.33 Cl no. 4.4.6	INSPECTION TEST REPORT	P	W	
2.2	- Physical Test ( Impact / Tensile test )	One in each heat	As per ASME B 16.33 Cl no. 4.4.5 / PTS	As per ASME B 16.33 Cl no. 4.4.5 / PTS	INSPECTION TEST REPORT	P	W	
2.3	Temperature Resistance test	1%	As per EN 331 /ASME B 16.33 Cl no. 4.3	As per EN 331 /ASME B 16.33 Cl no. 4.3	INSPECTION TEST REPORT	P	W	
2.4	Flow Capacity test	1%	As per EN 331 /ASME B 16.33 Cl no. 4.5	As per EN 331 /ASME B 16.33 Cl no. 4.5	INSPECTION TEST REPORT	P	W	
2.5	Hydrostatic pressure test	100%	As per EN 331/ASME B 16.33	As per EN 331/ASME B 16.33	INSPECTION TEST REPORT	P	RW	Preferably witness by CA
2.6	Visual inspection ( Free from defects )	100%	As per EN 331 /ASME B 16.33	As per EN 331 /ASME B 16.33	INSPECTION TEST REPORT	P	RW	
2.7	Dimension tolerances ( Min. length of engagement , OD , wall thk. )	100%	As per Approved Drawing	As per Approved Drawing	INSPECTION TEST REPORT	P	RW	
3	Marking	100%	As per EN 331 /ASME B 16.33 Cl no. 2.4 / PTS	As per EN 331 /ASME B 16.33 Cl no. 2.4 / PTS	INSPECTION TEST REPORT	P	RW	
4	Final Documentation		P.O. / PTS	P.O. / PTS	EN 10204 3.2 CERTIFICATE	P	H	

LEGENDS: R - Review, W - Witness, RW - Random Witness(Minimum 1 % of lot size) H - Hold, P - Perform, TPIA - Third Party Inspection Agency, CA - Control Authority ( Owner / Owner's representative)

Notes: -

- The Above Testing and acceptance criteria are minimum requirements, however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications(PTS)
- The supplier shall submit their own detailed ITP prepared on the basis of above / Technical specification for approval of Owner/Owner's representative.
- Owner/Owner representative shall review/approve all the documents related to ITP/Quality manuals/Drawings etc.submitted by supplier.
- Contractor shall in coordination with Supplier/Sub vendor issue detailed Production and Inspection schedule indicating the dates and the locations to facilitate Owner/Owner's representative and TPIA to organize Inspection.
- Special manufacturing procedures have to be specially approved or only previously approved procedures have to be used, in case of conflict between specifications more stringent condition shall be applicable.
- Owner / Owner's representative including TPIA will have the right to inspect any activity of manufacturing at any time
- All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPIA/Owner at the time of Inspection
- At the time of delivery of material in stores, vendor will submit copy of all related document of inspection along with release note & MTC.



RESONANCE ENERGY PVT LTD

CITY GAS DISTRIBUTION PROJECT

**QUALITY CONTROL TABLE APPLIANCE  
BALL VALVE**

Document No. REPL/CUGL/QAP/08 Rev-0

Date : 30.07.2024

Prepared : VS Checked : GSJ

Approved : AN

SR. NO.	INSPECTION AND TESTING	QUANTUM OF CHECK	PROCEDURE	ACCEPTANCE CRITERIA AND CERTIFICATE	FORMAT OF RECORD	INSPECTION		
						Vendor	TPIA	REMARKS
1	<b>Raw material Testing:</b>							
1.1	Metallic materials (Chemical / Physical Requirement)	One in each heat	As per ASTM B 283 (ALLOY UNS C37700)	As per ASTM B 283 (ALLOY UNS C37700)	INSPECTION TEST REPORT	P	R	
1.2	Seat & Stem Seal Material	One in each heat	As per EN 331	As per EN 331	INSPECTION TEST REPORT	P	R	
2	<b>Final product :</b>							
2.1	- Gas Tightness Test	1%	As per EN 331 Cl no. 7.2	As per EN 331 Cl no. 7.2	INSPECTION TEST REPORT	P	W	Preferably witness by CA
	- Twist (Torque) Test	1%	As per EN 331 Cl no. 7.5	As per EN 331 Cl no. 7.5	INSPECTION TEST REPORT	P	W	
	- Bending Test	1%	As per EN 331 Cl no. 7.5	As per EN 331 Cl no. 7.5	INSPECTION TEST REPORT	P	W	
	- Impact Test	One in each heat	As per PTS	As per PTS	INSPECTION TEST REPORT	P	W	
	- Turning Torque Test	1%	As per EN 331 Cl no. 7.4	As per EN 331 Cl no. 7.4	INSPECTION TEST REPORT	P	W	
2.2	- Physical Test ( Impact / Tensile test )	One in each heat	As per EN 331	As per EN 331	INSPECTION TEST REPORT	P	W	
2.3	Temperature Resistance test	1%	As per EN 331	As per EN 331	INSPECTION TEST REPORT	P	W	
2.4	Flow Capacity test	1%	As per EN 331 Cl no. 7.3	As per EN 331 Cl no. 7.3	INSPECTION TEST REPORT	P	W	
2.5	Hydrostatic pressure test	100%	As per EN 331	As per EN 331	INSPECTION TEST REPORT	P	RW	Preferably witness by CA
2.6	Visual inspection ( Free from defects )	100%	As per EN 331	As per EN 331	INSPECTION TEST REPORT	P	RW	
2.7	Dimension tolerances ( Min. length of engagement , OD , wall thk. )	100%	As per Approved Drawing	As per Approved Drawing	INSPECTION TEST REPORT	P	RW	
3	Marking	100%	As per EN 331 / PTS	As per EN 331 / PTS	INSPECTION TEST REPORT	P	RW	
4	Final Documentation		P.O. / PTS	P.O. / PTS	EN 10204 3.2 CERTIFICATE	P	H	

**LEGENDS: R - Review, W - Witness, RW - Random Witness (Minimum 1 % of lot size) H - Hold, P - Perform, TPIA - Third Party Inspection Agency, CA - Control Authority ( Owner / Owner's representative)**

Notes: -

- The Above Testing and acceptance criteria are minimum requirements, however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications(PTS)
- The supplier shall submit their own detailed ITP prepared on the basis of above / Technical specification for approval of Owner/Owner's representative.
- Owner/Owner representative shall review/approve all the documents related to ITP/Quality manuals/Drawings etc. submitted by supplier.
- Contractor shall in coordination with Supplier/Sub vendor issue detailed Production and Inspection schedule indicating the dates and the locations to facilitate Owner/Owner's representative and TPIA to organize Inspection.
- Special manufacturing procedures have to be specially approved or only previously approved procedures have to be used, in case of conflict between specifications more stringent condition shall be applicable.
- Owner / Owner's representative including TPIA will have the right to inspect any activity of manufacturing at any time
- All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPIA/Owner at the time of Inspection
- At the time of delivery of material in stores, vendor will submit copy of all related document of inspection along with release note & MTC.



RESONANCE ENERGY PVT LTD

CITY GAS DISTRIBUTION PROJECT

**QUALITY CONTROL TABLES - COPPER TUBE**

Document No. REPL/CUGL/QAP/09 Rev-0

Date 30.07.2024

Prepared by :VS Checked by :GSJ

Approved by : AN

SR. NO.	INSPECTION AND TESTING	QUANTUM OF CHECK	PROCEDURE	ACCEPTANCE CRITERIA ( As per EN 1057 / PTS )	FORMAT OF RECORD	INSPECTION	
						Vendor	TPIA/Owner
1	Raw material : Chemical Requirement.	As per EN 1057	As per EN 1057	Material grade Cu - DHP / CW 024A Cu + Ag : Min. 99.9% P : .0015% to 0.040%	MTC	P	R
2	Final product : Chemical Requirement.	As per EN 1057	As per EN 1057			P	W
3	Physical test ( Tensile , Elongation, Hardness etc. )	As per EN 1057	As per EN 1057	UTS - Min. 250 N / Sq. mm Elongation - Min. 30% Hardness - 75 to 100 HV	Inspection Report	P	W
4	Carbon film test	As per EN 1057	As per EN 1057	Maximum Residual carbon - 0.20 mg / sq. dm	Inspection Report	P	W
5	Carbon content test	As per EN 1057	As per EN 1057	As per EN 1057 / PTS	Inspection Report	P	W
6	Drift expanding test	As per EN 1057	As per EN 1057	As per EN 1057 / PTS	Inspection Report	P	W
8	Hydrostatic test	As per EN 1057	As per EN 1057	Min 35 bar @ 10 second.	Inspection Report	P	W
7	Eddy current test	As per EN 1057	As per EN 1057	As per EN 1057 / PTS	Inspection Report	P	W
9	Dimensional Inspection ( O.D. , Wall thk. , Length , etc.)	As per EN 1057	As per EN 1057	As per EN 1057 / PTS	Inspection Report	P	W
10	Visual Inspection ( Free from defect )	As per EN 1057	As per EN 1057	As per EN 1057 / PTS	Inspection Report	P	R
11	Marking	As per EN 1057	As per EN 1057	As per EN 1057 / PTS		P	R
12	Final Documentation ( All Inspection reports etc.)		As per EN 1057	As per EN 1057 / PTS	Inspection Report	P	R

**LEGENDS:** R - Review, W - Witness, H - Hold, P - Perform, TPIA - Third Party Inspection Agency

Note :

- 1 The above testing and acceptance criteria are minimum requirements, however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications(PTS)
- 2 The supplier shall submit their own detailed ITP prepared on the basis of above QCT & Technical specification for approval of Owner/Owner's representative.
- 3 Owner/Owner representative shall review/approve all the documents related to ITP/Quality manuals/Drawings etc.submitted by supplier.
- 4 Contractor shall in coordination with Supplier/Sub vendor issue detailed Production and Inspection schedule indicating the dates and the locations to facilitate Owner/Owner's representative and TPIA to organise Inspection.
- 5 Special manufacturing procedures have to be specially approved or only previously approved procedures have to be used, in case of conflict between specifications more stringent condition shall be applicable.
- 6 Owner / Owner's representative including TPIA will have the right to inspect any activity of manufacturing at any time.
- 7 All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPIA/Owner at the time of Inspection
- 8 At the time of delivery of material in stores, vendor will submit copy of all related document of inspection along with release note,despatch clearance note & MTC.



RESONANCE ENERGY PVT LTD



CITY GAS DISTRIBUTION PROJECT

**QUALITY CONTROL TABLES - COPPER FITTINGS**

Document No. REPL/CUGL/QAP/10 Rev-0

Date 30.07.2024

Prepared by :VS Checked by : GSJ

Approved by : AN

S. NO.	INSPECTION AND TESTING	QUANTUM OF CHECK	PROCEDURE	ACCEPTANCE CRITERIA AND CERTIFICATE	FORMAT OF RECORD	INSPECTION	
						Vendor	TPIA/Owner
1	Raw material : Chemical Requirement.	one in each heat	As per EN 1254	Material grade Cu - DHP / CW 024A Cu + Ag : Min. 99.9% P : .0015% to 0.040%	MTC	P	R
2	Final product : Chemical Requirement.	one in each heat	As per EN 1254			P	W
3	Carbon in bore tests ( Carbon film test , carbon content test )	one in each heat	As per EN 1254	As per EN 1254 / PTS	TEST REPORT	P	W
4	Stress corrosion resistance test	one in each heat	As per ISO 6957	As per ISO 6957 / PTS	TEST REPORT	P	W
5	Hydrostatic pressure test	100%	As per EN 1254	Min. 37.5 bar @ 15 min.	TEST REPORT	P	W
6	Pneumatic pressure test	100%	As per EN 1254	Min. 6 bar .@ 10 second	TEST REPORT	P	W
7	Dimensional Inspection ( Min. length of engagement , OD , Wall thk.)	100%	As per EN 1254	As per EN 1254 / PTS	TEST REPORT	P	W
8	Visual Inspection ( Free from defect )	100%	As per EN 1254	As per EN 1254 / PTS	TEST REPORT	P	R
8	Marking	100%	As per EN 1254	As per EN 1254 / PTS		P	R
10	Final Documentation ( All Inspection reports etc.)		As per EN 1254	As per EN 1254 / PTS	Inspection Report	P	R

**LEGENDS: R - Review, W - Witness, H - Hold, P - Perform, TPIA - Third Party Inspection Agency**

Note :

- 1 The above testing and acceptance criteria are minimum requirements, however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications(PTS)
- 2 The supplier shall submit their own detailed ITP prepared on the basis of above QCT & Technical specification for approval of Owner/Owner's representative.
- 3 Owner/Owner representative shall review/approve all the documents related to ITP/Quality manuals/Drawings etc.submitted by supplier.
- 4 Contractor shall in coordination with Supplier/Sub vendor issue detailed Production and Inspection schedule indicating the dates and the locations to facilitate Owner/Owner's representative and TPIA to organise Inspection.
- 5 Special manufacturing procedures have to be specially approved or only previously approved procedures have to be used, in case of conflict between specifications more stringent condition shall be applicable.
- 6 Owner / Owner's representative including TPIA will have the right to inspect any activity of manufacturing at any time.
- 7 All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPIA/Owner at the time of Inspection
- 8 At the time of delivery of material in stores, vendor will submit copy of all related document of inspection along with release note,despatch clearance note & MTC.



RESONANCE ENERGY PVT LTD



CITY GAS DISTRIBUTION PROJECT

QUALITY CONTROL TABLES - BRASS FITTING

Document No. REPL/CUGL/QAP/11 Rev-0  
 Date 30.07.2024  
 Prepared by :VS Checked by : GSJ  
 Approved by : AN

SR. NO.	INSPECTION AND TESTING	QUANTUM OF CHECK	PROCEDURE	ACCEPTANCE CRITERIA AND CERTIFICATE	FORMAT OF RECORD	INSPECTION		
						Vendor	TPIA/CLIENT	REMARKS
1	Raw material Testing: (Chemical / Physical Requirement)	One in each heat	As per EN 12164	As per EN 12164 / PTS	MTC	P	W	Preferably witness by CA
2	Final product :							
2.1	Resistance to dezincification	One in each heat	As per EN 1254	As per EN 1254	TEST REPORT	P	W	
2.2	Stress corrosion resistance test	One in each heat	As per ISO 6957	As per ISO 6957 / PTS	TEST REPORT	P	W	
2.3	carbon in bore test	One in each heat	As per EN 1254	As per EN 1254 / PTS	TEST REPORT	P	W	
2.4	Hydrostatic pressure test	100%	As per EN 1254	Min 37.5 bar @ 15 min.	TEST REPORT	P	W	Preferably witness by CA
2.5	Pneumatic pressure test	100%	As per EN 1254	Min 6 bar @ 15seconds	TEST REPORT	P	W	
2.6	Visual inspection ( Free from defects )	100%	As per EN 1254	As per EN 1254 / PTS	TEST REPORT	P	R	
2.7	Dimension tolerances ( Min. length of engagement , OD , wall thk. )	100%	As per EN 1254	As per EN 1254 / PTS	TEST REPORT	P	RW	
2.8	Marking	100%	As per EN 1254	As per EN 1254		P	R	
3	Final Documentation		P.O. / PTS	P.O. / PTS	TEST REPORT	P	H	

LEGENDS: R - Review, W - Witness, H - Hold, P - Perform, TPJA - Third Party Inspection Agency, CA - Control Authority ( Owner / Owner's representative), RW - Random witness

Notes: -

- The above Testing and acceptance criteria are minimum requirements, however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications(PTS)
- The supplier shall submit their own detailed ITP prepared on the basis of above / Technical specification for approval of Owner/Owner's representative.
- Owner/Owner representative shall review/approve all the documents related to ITP/Quality manuals/Drawings etc.submitted by supplier.
- Contractor shall in coordination with Supplier/Sub vendor issue detailed Production and Inspection schedule indicating the dates and the locations to facilitate Owner/Owner's representative and TPJA to organize Inspection.
- Special manufacturing procedures have to be specially approved or only previously approved procedures have to be used, in case of conflict between specifications more stringent condition shall be applicable.
- Owner / Owner's representative including TPJA will have the right to inspect any activity of manufacturing at any time
- All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPJA/GGL at the time of Inspection
- At the time of delivery of material in stores, vendor will submit copy of all related document of inspection along with release note , despatch clearance note & MTC.



**QUALITY CONTROL TABLES - CORRUGATED FLEXIBLE METAL HOSE(ANACONDA)**

Document No. REPL/CUGL/QAP/12 Rev-0  
 Date 30.07.2024  
 Prepared by :VS Checked by : GSJ  
 Approved by : AN

RESONANCE ENERGY PVT LTD CITY GAS DISTRIBUTION PROJECT

S. NO.	Item/Description	Test Parameters	QUANTUM OF CHECK	PROCEDURE	ACCEPTANCE CRITERIA AND CERTIFICATE	INSPECTION		Remarks
						Vendor	TPIA	
<b>1</b>	<b>Raw Material</b>							
1.1		Chemical & Mech. Test of material of SS hose	100%	SS316 BS: 1449 PART -2	SS316 BS: 1449 PART -2/ MTC	P	W	
1.2		Chemical & Mech. Test of material of end fittings (Adaptors, nuts, washer)	100%	As per PTS	As per PTS / MTC	P	W	
1.3		Heat treatment	100%	As per BS: 6501 PART 1	As per BS: 6501 PART 1	P	R	
<b>2</b>	<b>Final Product</b>							
2.1	Type test	Cyclic life/ static bend test at 1.5 x design pressure	one (1) per batch	As per Cl. No. 14 of BS: 6501 PART 1	As per BS: 6501 PART 1 No cracks permissible	P	W	Witness / Review by CA
2.2		Yield and Burst test	one (1) per batch	As per Cl. No. 14 of BS: 6501 PART 1	As per BS: 6501 PART 1	P	W	Witness / Review by CA
2.3	Production test	Pressure test (Pneumatic Test)	100%	As per Cl. No. 15 of BS: 6501 PART 1	As per BS: 6501 PART 1	P	RW	Witness / Review by CA
2.4		Visual Inspection	100%	As per BS: 6501 PART 1	As per BS: 6501 PART 1	P	R	
2.5		Dimension	100%	As per PTS	As per PTS	P	RW	
3	End fittings (Adaptors, nuts, washer)	Visual & dimensional check	100%	As per PTS	As per PTS	P	R	
4	Marking	-	100%	As per BS: 6501 PART 1	As per BS: 6501 PART 1	P	R	
5	Final Documentation	-	-	As per the term & conditions of P.O. & PTS	As per the term & conditions of P.O. & PTS	P	H	

**LEGENDS: R - Review, W - Witness, H - Hold, P - Perform, TPIA - Third Party Inspection Agency, CA - Control Authority ( Owner / Owner's representative ), RW - Random witness**

Notes: -

- 1 The Above Testing and acceptance criteria are minimum requirements, however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications(PTS)
- 2 The supplier shall submit their own detailed ITP along with proposed drawing and marking details prepared on the basis of above / Technical specification for approval of Owner/Owner's representative.
- 3 Owner/Owner representative shall review/approve all the documents related to ITP/Quality manuals/Drawings etc.submitted by supplier.
- 4 Contractor shall in coordination with Supplier/Sub vendor issue detailed Production and Inspection schedule indicating the dates and the locations to facilitate Owner/Owner's representative and TPIA to organise Inspection.
- 5 Special manufacturing procedures have to be specially approved or only previously approved procedures have to be used, in case of conflict between specifications more stringent condition shall be applicable.
- 6 Owner / Owner's representative including TPIA will have the right to inspect any activity of manufacturing at any time.
- 7 All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPIA/Owner at the time of Inspection
- 8 At the time of delivery of material in stores, vendor will submit copy of all related document of inspection along with release note, despatch clearance note & MTC.



RESONANCE ENERGY PVT LTD



CITY GAS DISTRIBUTION PROJECT

QUALITY CONTROL TABLE STEEL REINFORCED RUBBER HOSE

Document No. REPL/CUGL/QAP/13 Rev-0

Date 30.07.2024

Prepared by :VS Checked by : GSJ

Approved by : AN

S. NO.	Item/Description	Test Parameters	QUANTUM OF CHECK	PROCEDURE	ACCEPTANCE CRITERIA	CERTIFICATE	INSPECTION		Remarks
							Vendor	TPIA	
1.1	Raw Material	Chemical & Mech. Test of material of Steel Reinforced Rubber Hose (Lining, Reinforcement material & Cover)	100%	IS 9573	IS 9573	MTC	P	R	
2	Final Product								
2.1	Final Inspection	Mechanical Properties	one (1) per batch	Tensile Strength = 10 Mpa (Min.) EI (Lining & Cover) is 200 & 250 resp. (Min.)	PTS & IS 9573	Inspection Report	P	W	
2.2		Resistance of Lining to n-pentane	one (1) per batch	Shall not exceed 10% absorbed & 5 % extractables per Cl.no. 5.2 of PTS	Cl 5.4.3.2 of IS 9573	Inspection Report	P	W	
2.3		Adhesion Test	one (1) per batch	Min. Adhesion shall be 2 KN/m as per Cl. No. 5.3 of PTS	Cl. no. 5.5.1 of IS 9573	Inspection Report	P	W	
2.4		Low Temperature Flexibility Test	one (1) per batch	Conditioned at -40°C for 5 hrs. & bent at 180° around mandrel of dia 12 times the Nominal Bore of hose as per Cl no. 5.4 of PTS	Cl. No. 5.5.2 of IS 9573	Inspection Report	P	W	
2.5		Flexibility of hose at 1.5 x design pressure	one (1) per batch	Bent empty to radius 95 mm without flattening & suffering structural damages.	Cl. No. 5.5.3 of IS 9573	Inspection Report	P	W	Witness by CA
2.6		Ozone Resistance Test	one (1) per batch	Cl no. 5.9 of PTS	Cl. No. 5.5.4 of IS 9573	Inspection Report	P	W	
2.7		Hydrostatic Test / Proof Pr. Test	100%	2 Mpa for 1 min. as per Cl. No. 5.7 of PTS	Cl. No. 5.5.5.1 of IS 9573	Inspection Report	P	W	Witness by CA
2.8		Burst test	one (1) per batch	Min Pressure shall be 5 MPA as per Cl. 5.8 of PTS	Cl. No. 5.5.5.2 of IS 9573	Inspection Report	P	W	Witness by CA
2.9		Grip Strength Test	4 specimen / Batch	Cl no. 5.9 of PTS	Cl no. 5.5.7 & Annex. A of IS 9573	Inspection Report	P	W	
2.10		Burning Test	one (1) per batch	Shall not burn till 45 sec. as per Cl. No. 5.10 of PTS	Cl no. 5.5.8 of IS 9573	Inspection Report	P	W	
2.11		Visual & Dimensional Inspection	100%	Cl. No. 4.0 of PTS & IS 9573	IS 9573	Inspection Report	P	R	
2.12		Cover Color - Orange	100%	Cl no. 5.2.3 of PTS	PTS & IS 9573	Inspection Report	P	R	
3	Marking	-	100%	As per Cl. No. 6.0 of PTS	PTS / IS 9573	Inspection Report	P	R	
4	Packaging	-	100%	As per Cl. No. 7.0 of PTS	PTS / IS 9573	Inspection Report	P	R	
5	Final Documentation	-	-	As per the term & conditions of P.O. & PTS	As per the term & conditions of P.O. & PTS	3.2 Certificate as per EN 10204	P	H	

LEGENDS: R - Review, W - Witness, H - Hold, P - Perform, TPIA - Third Party Inspection Agency, CA - Control Authority ( Owner / Owner's representative )

Notes: -

- The Above Testing and acceptance criteria are minimum requirements, however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications(PTS)
- The supplier shall submit their own detailed ITP prepared on the basis of above / Technical specification for approval of Owner/Owner's representative.
- Owner/Owner representative shall review/approve all the documents related to ITP/Quality manuals/Drawings etc.submitted by supplier.
- Contractor shall in coordination with Supplier/Sub vendor shall issue detailed Production and Inspection schedule indicating the dates and the locations to facilitate Owner/Owner's representative and TPIA to organise Inspection.
- Special manufacturing procedures have to be specially approved or only previously approved procedures have to be used, in case of conflict between specifications more stringent condition shall be applicable.
- Owner / Owner's representative including TPIA will have the right to inspect any activity of manufacturing at any time.
- All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPIA/Owner at the time of Inspection.
- At the time of delivery of material in stores, vendor will submit copy of all related document of inspection along with release note, despatch clearance note & MTC.



RESONANCE ENERGY PVT LTD



CITY GAS DISTRIBUTION PROJECT

**RECOMMENDED VENDORS LIST  
LAYING OF MDPE MAIN  
PIPELINES  
AND SERVICE PIPELINE**

**CUGL/  
REPL/  
WORKS/202  
4/01**

**RECOMMENDED VENDOR LIST**

<b>ITEM CODE / DESCRIPTION</b>	<b>GI Pipe</b>
<b>VENDOR NAME</b>	<b>Remark</b>
M/s PS Steel Tubes ltd	
M/s Swastik Pipe Ltd.	
M/s Jindal Industries Ltd.	
M/s Vishal Pipes Ltd.	
M/s Indus Tubes Ltd.	
M/s Advance steel Tubes Ltd.	
M/s Surya Roshni Limited	
M/s. Rama Steel Tubes	
<b>ITEM CODE / DESCRIPTION</b>	<b>GI Fittings</b>
<b>VENDOR NAME</b>	<b>REMARKS</b>
M/s Sarin Industries Ltd.	
M/s Jupiter Metal Industries Ltd.	
M/s Jainsons Industries Ltd.	
M/s Green Malleable Pvt Ltd	
M/s Mehta Brothers & Co.	
M/s Chokhawala Distributors	
<b>ITEM CODE / DESCRIPTION</b>	<b>Isolation Ball Valve &amp; Appliance Valve</b>
<b>VENDOR NAME</b>	<b>REMARKS</b>
M/s Rubinetterie Utensilerie Bonomi SRL	
M/s Bugatti Valvosanit Aria S.P.A	
M/s Ningbo Zhiqing Industrial CO. Limited	
M/s Enologas Bonomi S.P.A	
M/s Umesh Enterprises (Isolation Valve & Appliance Valve)	
M/s Mehta Brothers & Co.	
M/s Chokhawala Distributors	
<b>ITEM CODE/DESCRIPTION</b>	<b>Warning Mat</b>
<b>VENDOR NAME</b>	<b>REMARKS</b>
M/s. Shree Vijay Wire & Cable Industries.	
M/s Sparco Multiplast Pvt. Ltd.	
M/s Singhal Industries Pvt Ltd.	
M/s BINA Enterprises	
<b>ITEM CODE/DESCRIPTION</b>	<b>HDPE Pipe</b>
<b>VENDOR NAME</b>	<b>REMARKS</b>



RESONANCE ENERGY PVT LTD

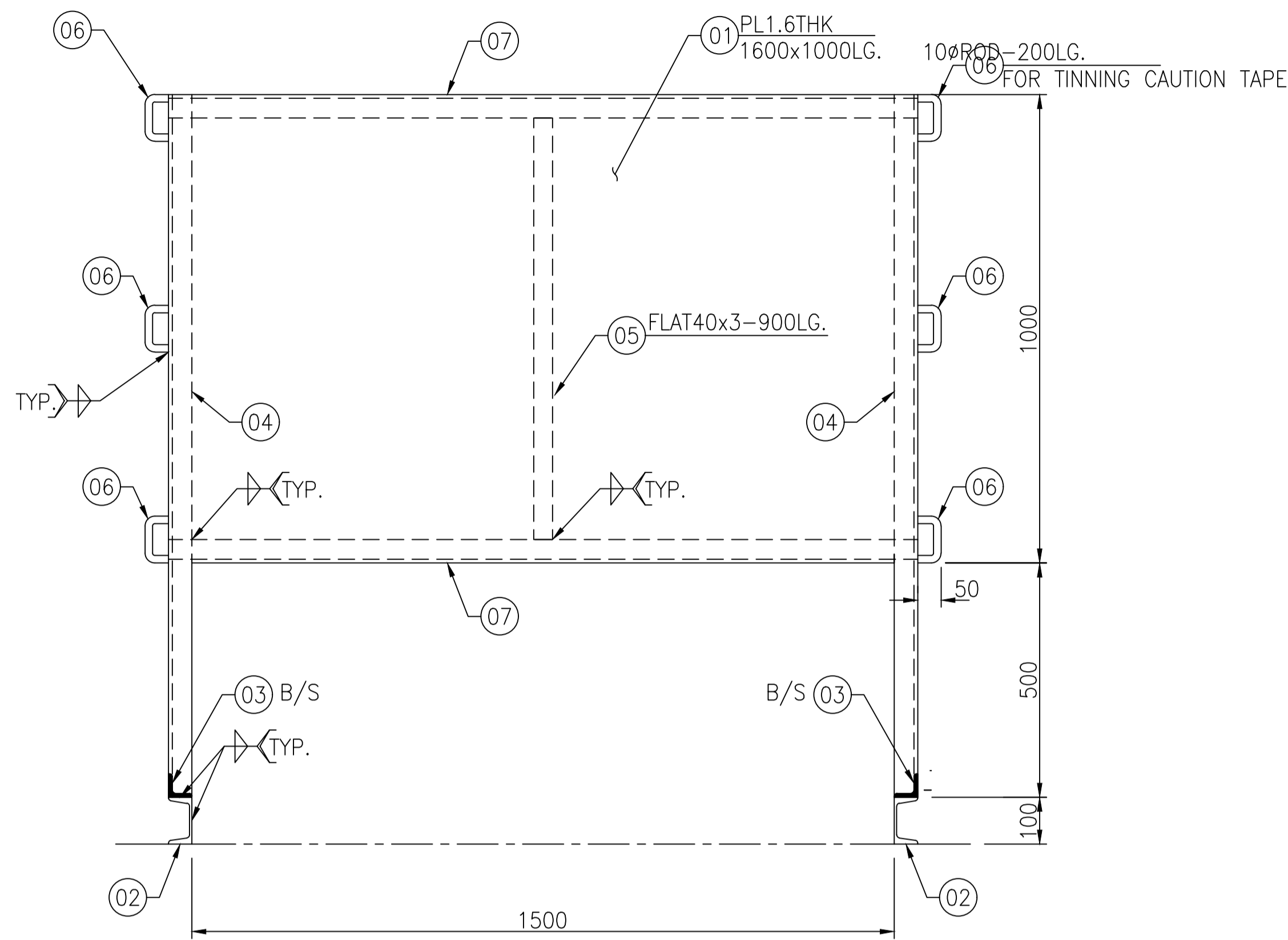


CITY GAS DISTRIBUTION PROJECT

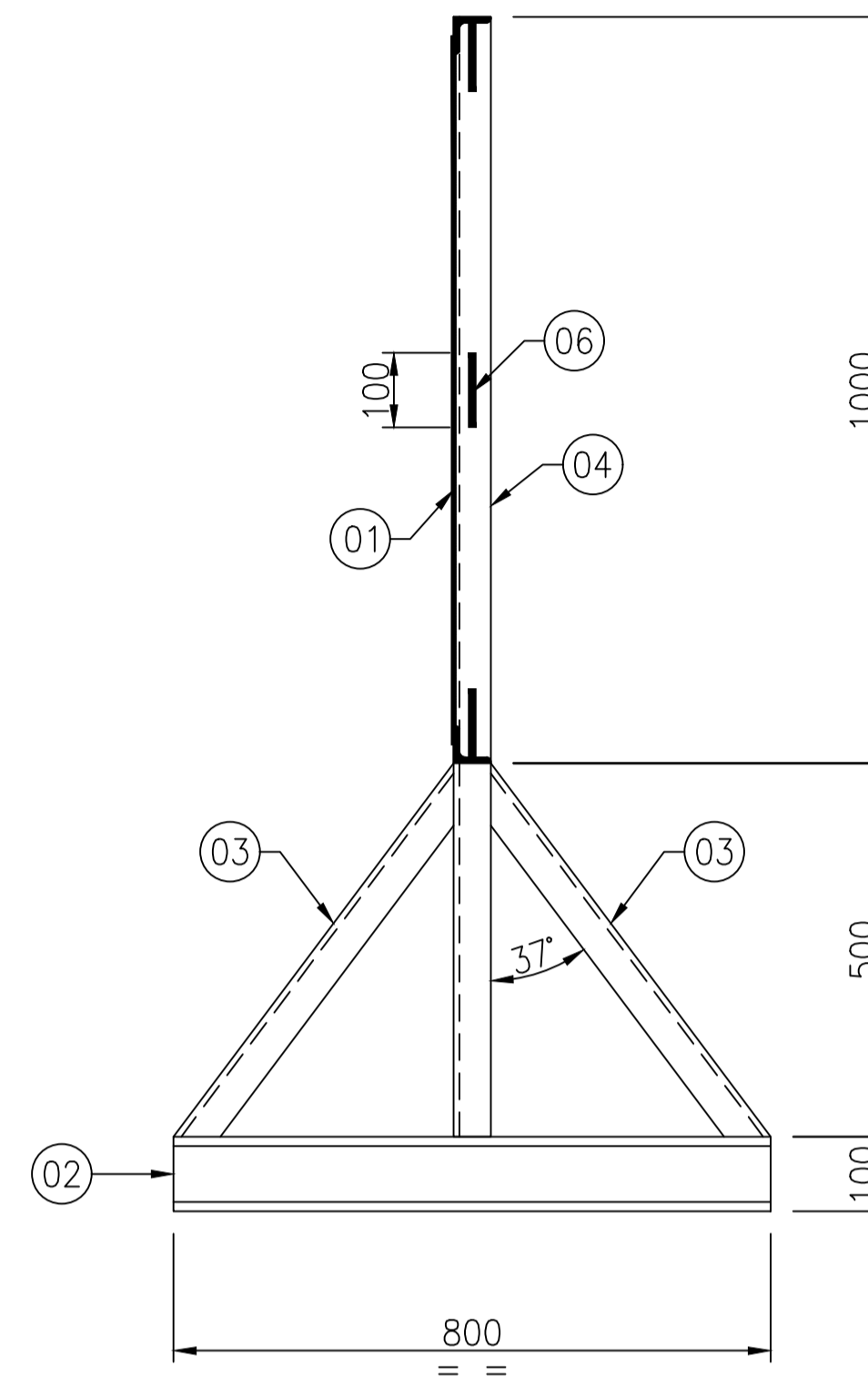
**RECOMMENDED VENDORS  
LIST LAYING OF MDPE  
MAIN PIPELINES  
AND SERVICE PIPELINE**

**CUGL/REPL/  
WORKS/2024  
/01**

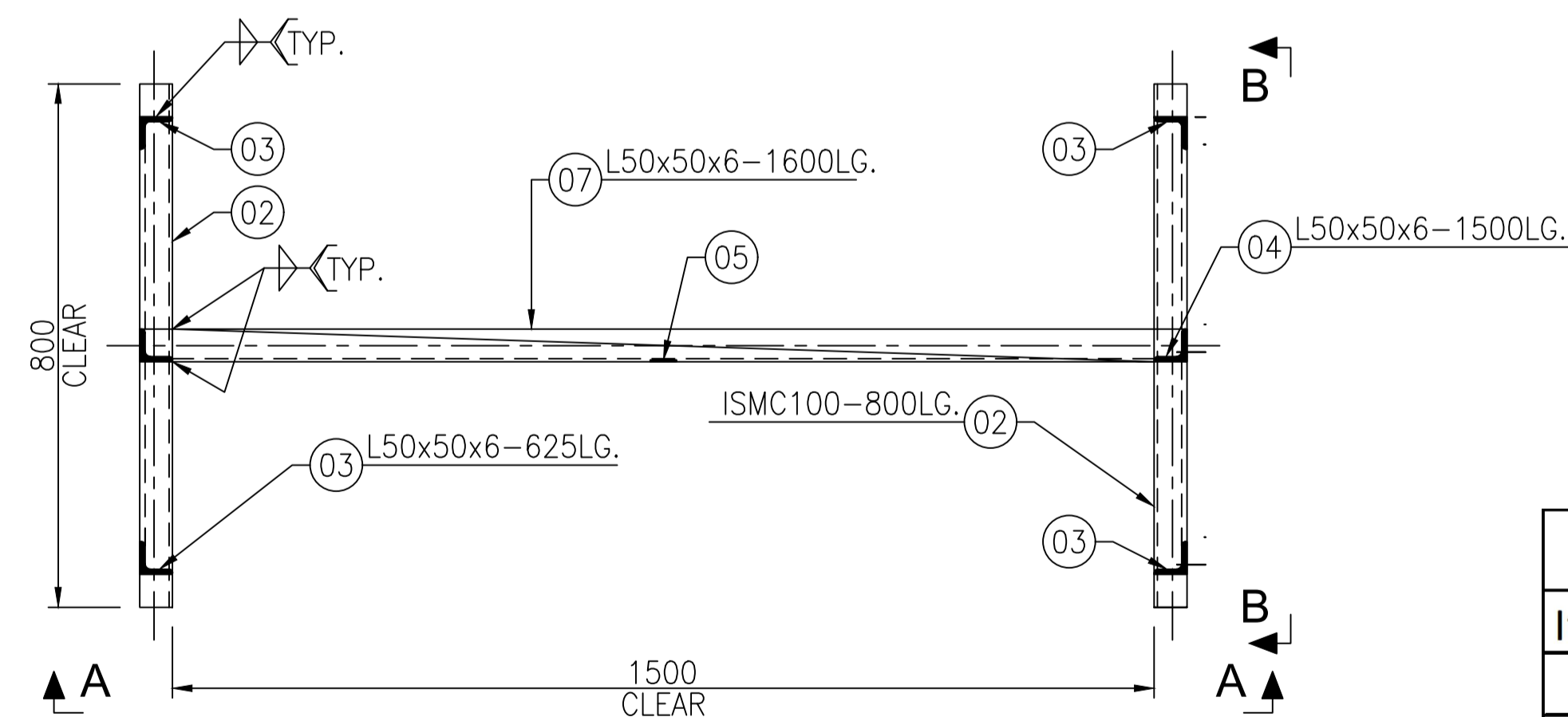
M/s Parixit Irrigation Limited	
M/s Jain Irrigation Systems Ltd.	
M/s Pennwalt Agru Plastic ltd.	
M/s Veekay PLAST	
M/s Kriti Industries India (pvt.) Ltd.	
Himalayan Pipe Industries	
M/s Dura-line India Pvt Ltd.	
<b>ITEM CODE/DESCRIPTION</b>	<b>PE(Fitting/Valves/Transition Fittings)</b>
<b>VENDOR NAME</b>	<b>REMARKS</b>
M/s. Tega Muhendislik	
M/s. Georg Fischer Piping System	
M/s. Kimplas piping Systems	
M/s. Glynwed pipe systems	
M/s. RMG Autometers gas technologies	
<p>Notes :</p> <p>1. For the vendors of items not covered in above vendor list, but required for completion of project successfully, supplier shall take approval form Owner/Owners representative for the same during project execution. Bidder shall submit the required certifications, documents, PTR and Performance letters from clients for the same.</p>	



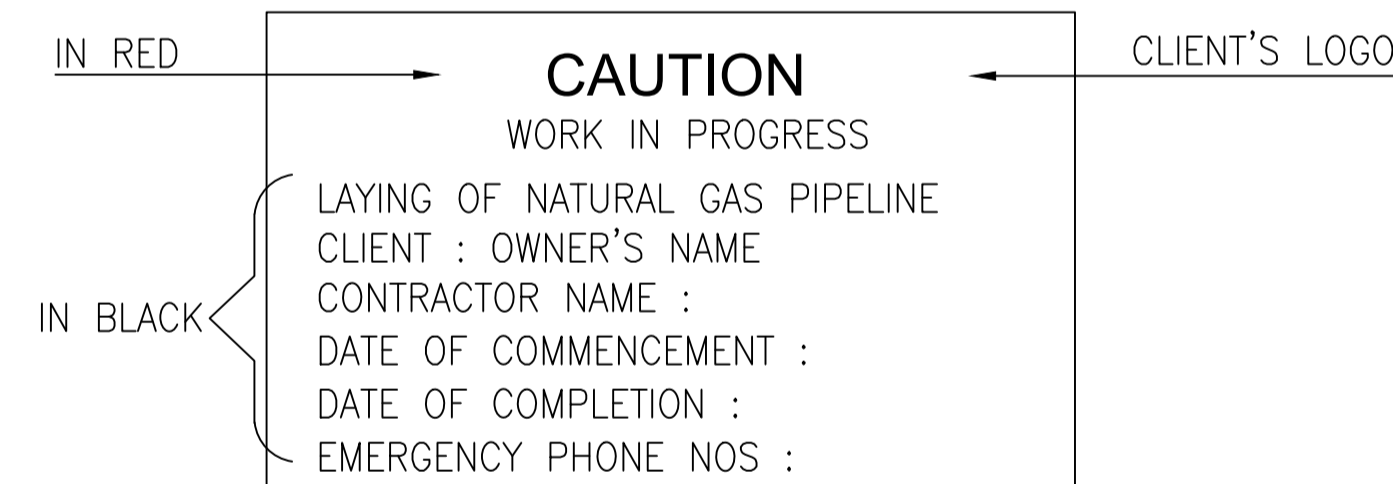
**ELEVATION A-A**  
(SCALE 1:100)



**ELEVATION B-B**  
(SCALE 1:100)



**PLAN VIEW**  
(SCALE 1:100)



**(TO BE PRINTED ON BOTH SIDE OF ITEM NO. 01)**

BILL OF MATERIAL						
Item Mkd.	Section	Width	length	Item Qty.	Weight	In Kgs
				(All Marks)	Kgs/M,M2	Total Weight
1	PL 1.6 Thk.	1600	1000	1	12.56	20.1
2	ISMC 100	-----	8000	2	9.2	14.72
3	L50 x 50 x 6	-----	625	4	4.5	11.25
4	L50 x 50 x 6	-----	1500	2	4.5	13.5
5	Flat 3 thk.	40	900	1	0.94	0.03
6	10 dia rod	-----	200	6	0.62	0.74
7	L50 x 50 x 6	-----	1600	2	4.5	14.4
Grand Total (Kg)						74.74

- NOTES:
1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
  2. FOLLOW WRITTEN DIMENSIONS ONLY. DO NOT SCALE.

0	17.7.2024	Approved for tender	AS	VS	GSJ
Rev.	D M Y	Status	Drawn	Checked	Approved

SUBJECT:-TYPICAL DETAIL OF CAUTION BOARD



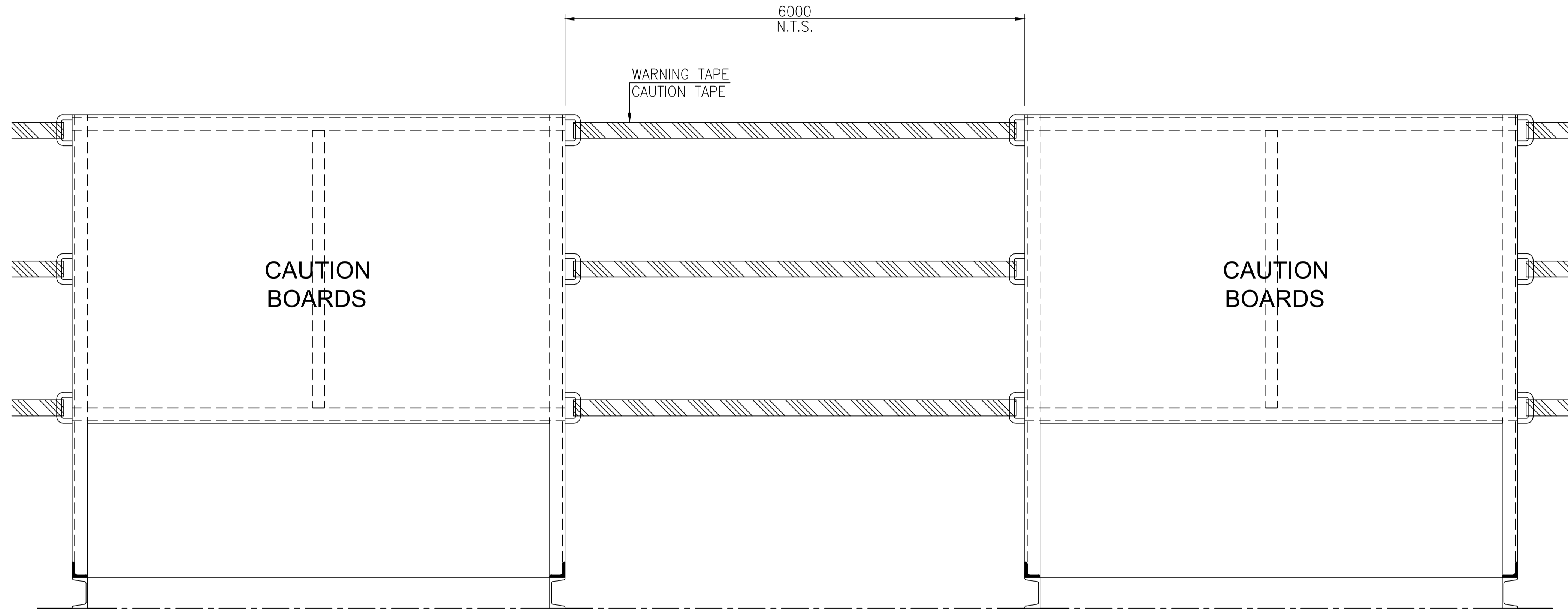
PROJECT:- CENTRAL UP GAS LIMITED



RESONANCE ENERGY PVT. LTD.

Size	Scale	Sheet	Rev.
A3	NTS	01 of 01	0

Drawing No.- REPL/CUGL/SDT/CSP-001



**SCHEMATIC LAYOUT OF CAUTION BOARDS AND BARRICADING**

**NOTES:**

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
2. FOLLOW WRITTEN DIMENSIONS ONLY. DO NOT SCALE.

0	17.07.2024	Issued for tender	AS	VS	GSJ
Rev.	D M Y	Status	Drawn	Checked	Approved

**SUBJECT:- TYPICAL DETAIL OF BARRICADING**

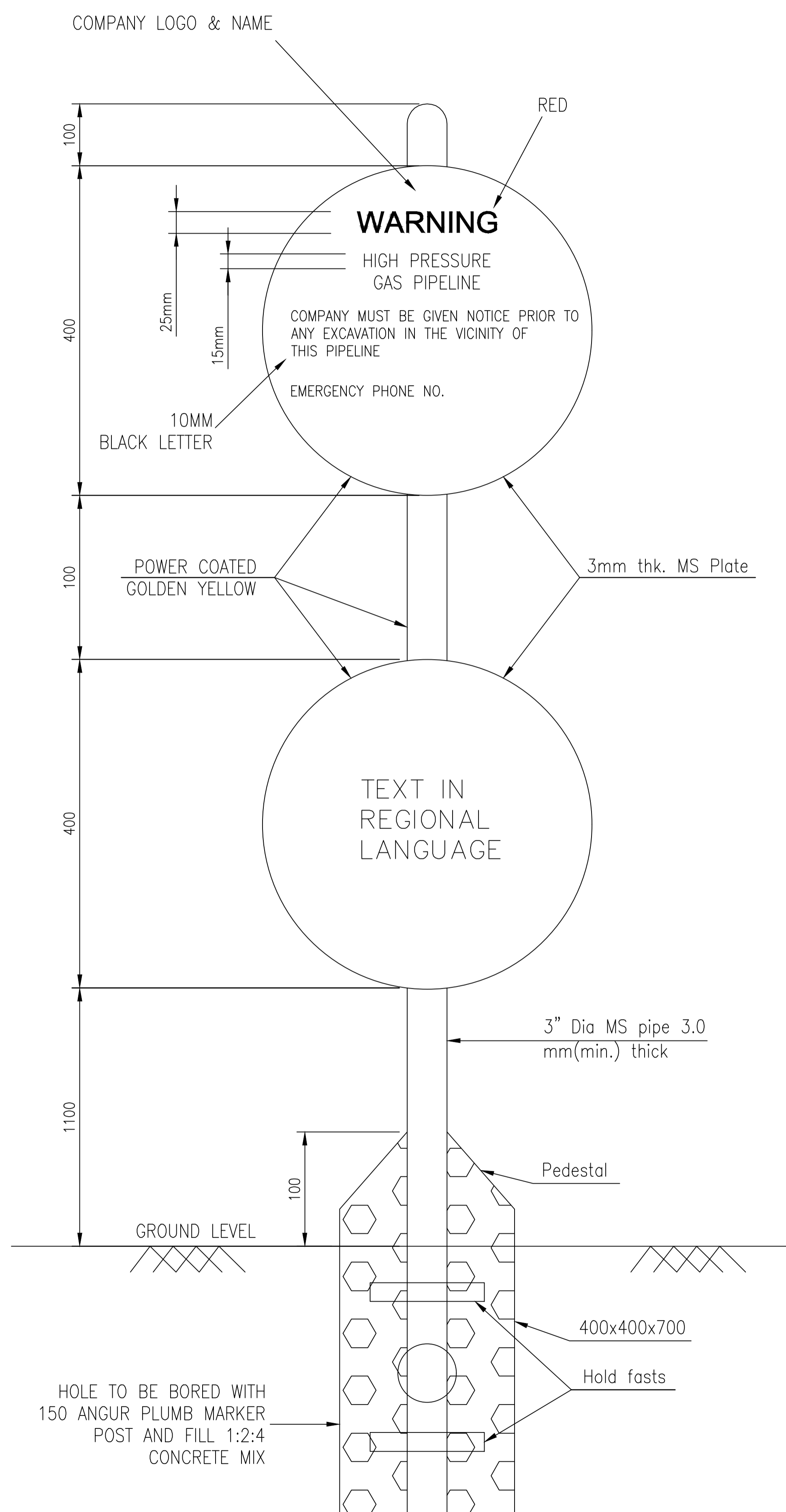


**PROJECT:- CENTRAL UP GAS LIMITED**

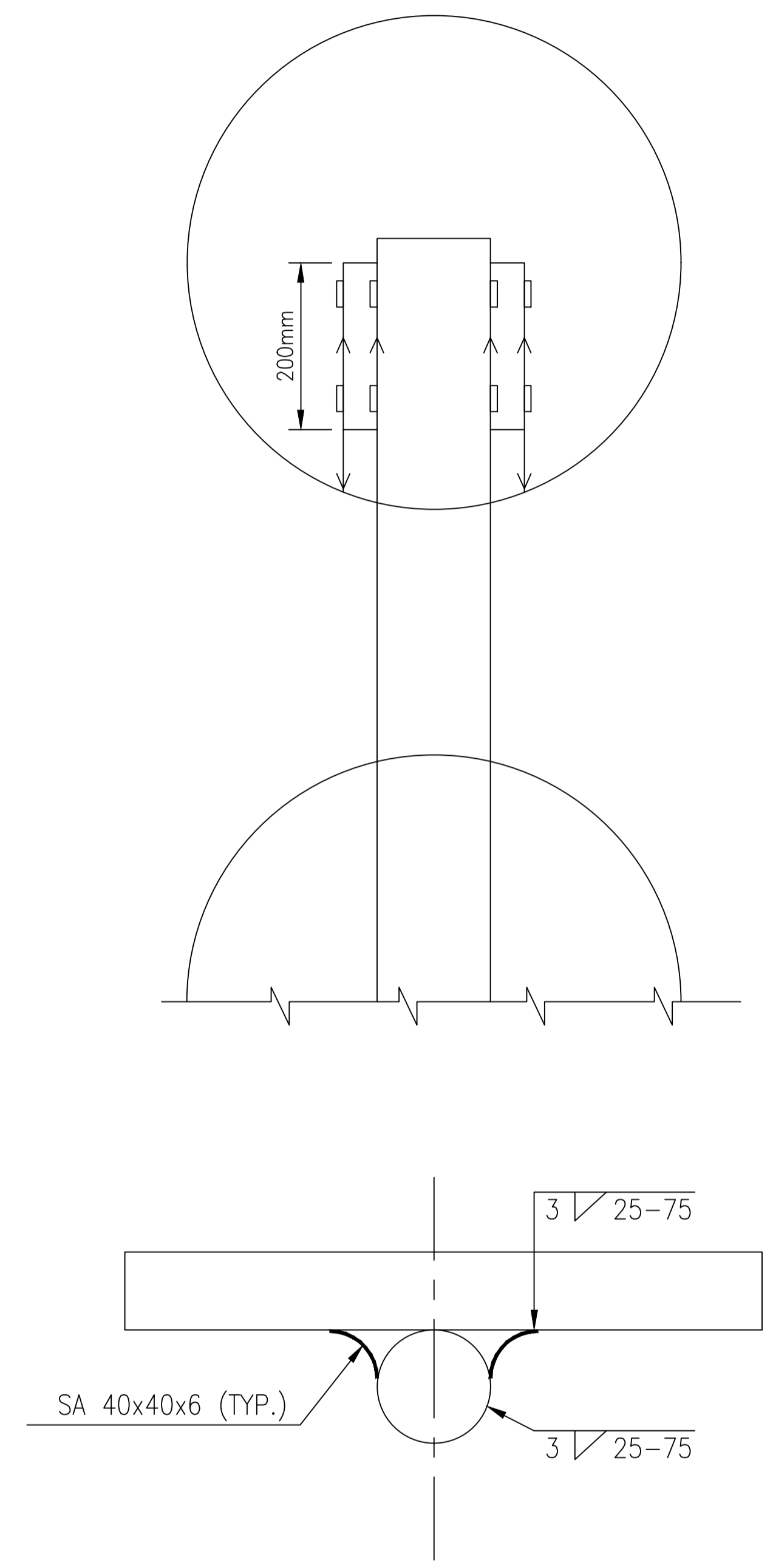
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	A3	NTS	01 of 01	0
Drawing No.		REPL/CUGL/STD/CSP-002		



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**FIXING DETAILS**



**NOTES:**

1. ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
2. THE FULL WORKING AND SIZES ARE ONLY INDICATIVE AND ARE SUBJECT TO THE APPROVAL BY OWNER/OWNER'S REPRESENTATIVE BEFORE FABRICATION.
3. SCHEME FOR POWDER COATING AND COLORING, ONE COAT OF PRIMER & TWO COATS OF SPECIFIED PAINTS. ALL LETTERS "WARNING" TO BE PAINTED BLACK.
4. APPROVAL OF WARNING MARKER DESIGN SHALL BE OBTAINED BEFORE THE COMMENCEMENT OF WORK.

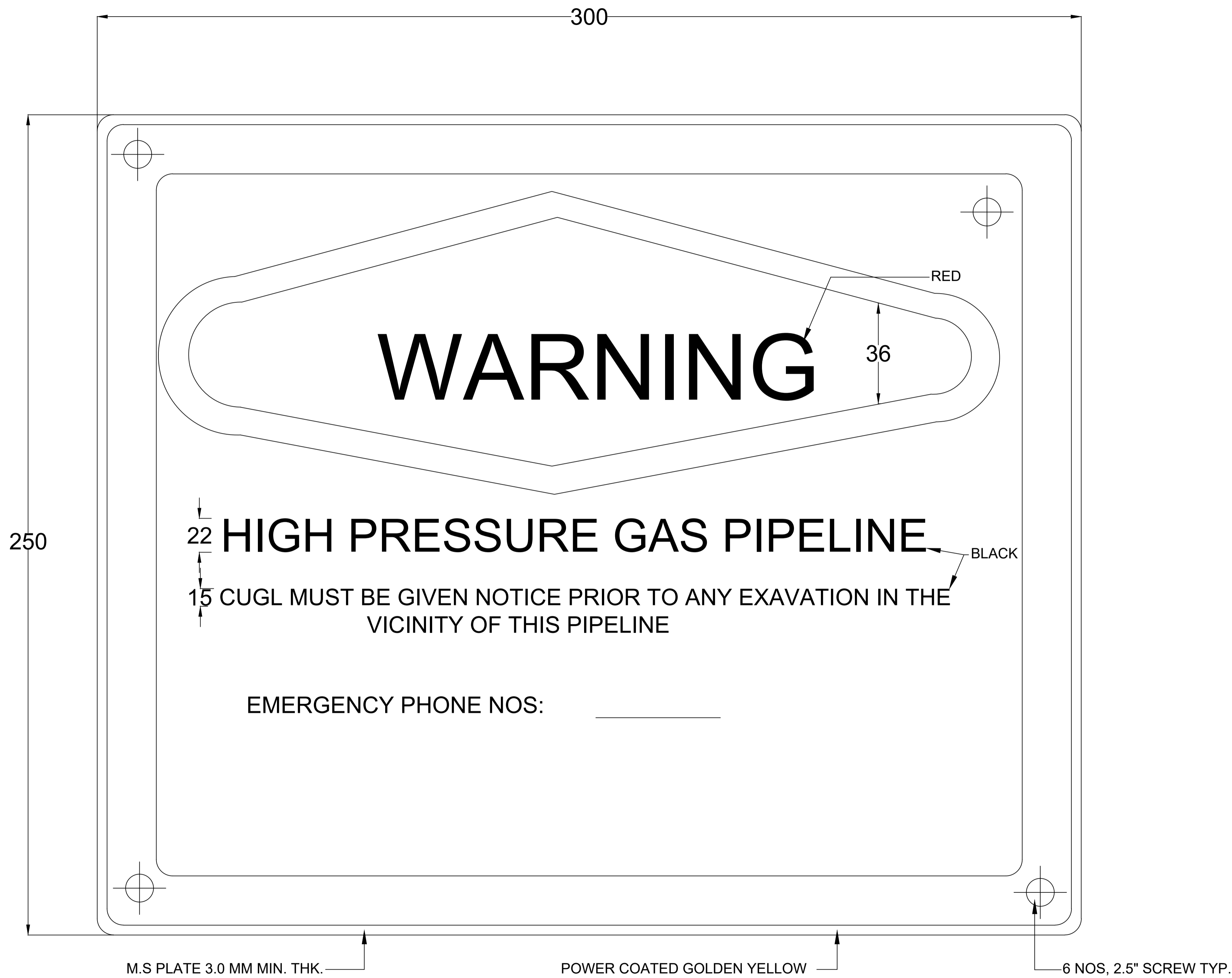
0	12.07.2024	Issued for tender	AS	VS	GSJ
Rev.	D M Y	Status	Drawn	Checked	Approved

SUBJECT: -POLE MARKER WITH FOUNDATION



PROJECT: -CENTRAL UP GAS LIMITED

 RESONANCE ENERGY PVT. LTD.	Size	Scale	Sheet	Rev.
	A3	NTS	01 of 01	0
Drawing No. REPL/CUGL/STD/CSP-004				



1. ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE SPECIFIED  
 2. FOLLOW WRITTEN DIMENSIONS ONLY. DO NOT SCALE

0	20/07/2024	ISSUED FOR TENDER	AS	VS	GSJ
REV.	D M Y	MODIFICATIONS	DRAWN BY	CHECKED BY	APPROVED BY

SUBJECT:- PLATE MARKER



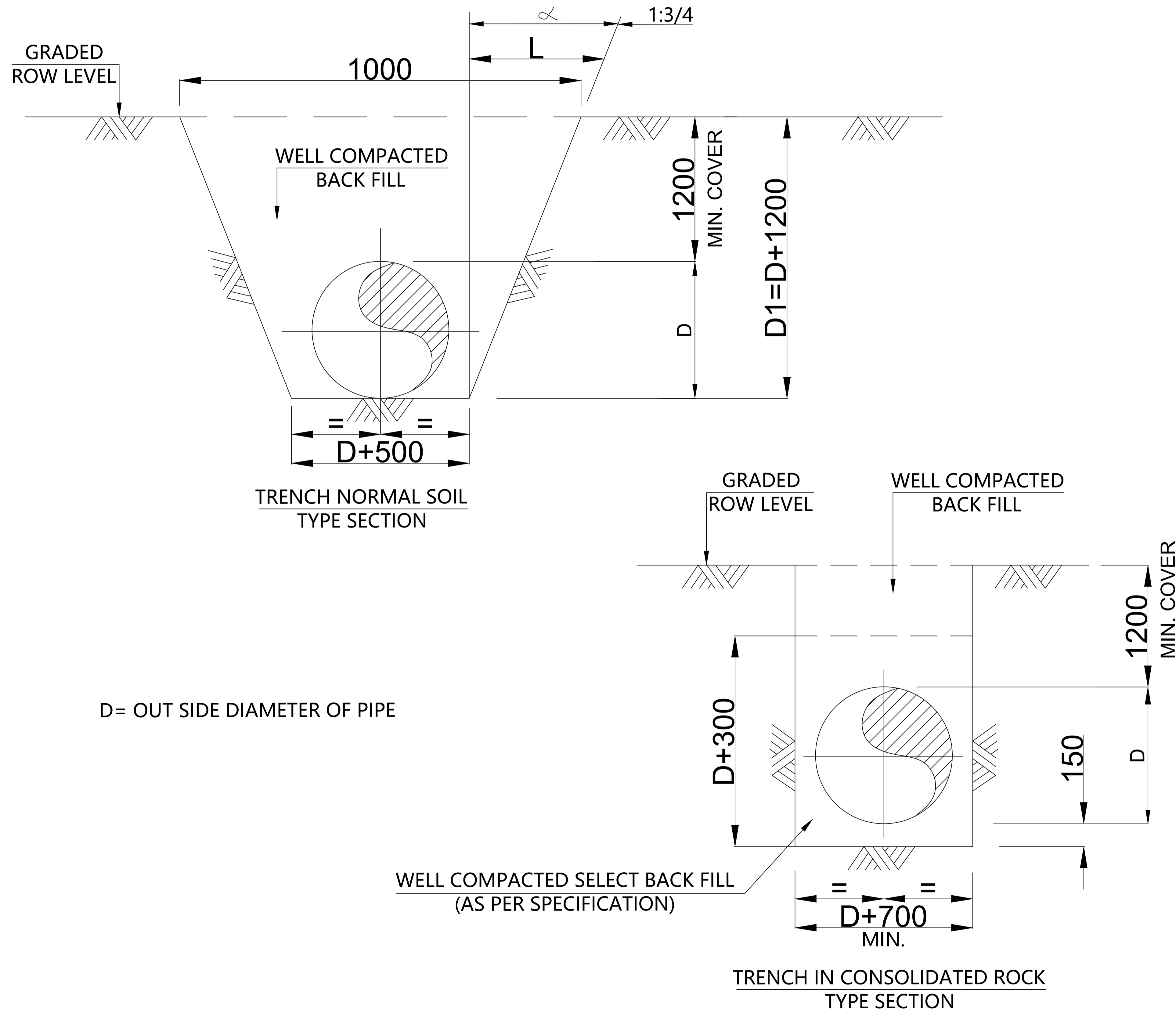
PROJECT:- CENTRAL UP GAS LIMITED



SIZE	SCAL	SHEET	REV.
A1	NTS	01 OF 01	0

drawing no. REPL/CUGL/STD/CSP-005

# TYPICAL TRENCH DIMENSION FOR PIPELINE



D= OUT SIDE DIAMETER OF PIPE

## NOTES:

1. ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
2. THE MINIMUM COVER TO BE ADOPTED SHALL BE 1200 MM ANY EXTRA COVER REQUIREMENT SHALL BE IN ACCORDANCE WITH SPECIFICATION.
3. MINIMUM COVER REQUIREMENT SHALL BE SUBJECT TO APPROVAL OF TPI AND CONCERNED AUTHORITIES WHEREVER REQUIRED.
4. EXTRA COVER REQUIREMENT SHALL BE ESTABLISHED AT ALL OVER BENDS & SAG BEND AND HORIZONTAL BENDS WHEREVER NECESSARY.
5. FOR MINIMUM COVER REQUIREMENT AT PIPELINE CROSSING ROADS RAILWAY TRACKS RIVERS MARSHY AREAS ETC.

0	18.07.2024	Issued for tender	AS	VS	GSJ
Rev.	D M Y	Status	Drawn	Checked	Approved

SUBJECT:- TYPICAL TRENCH DIMENSION FOR PIPELINE



PROJECT:- CENTRAL UP GAS LIMITED

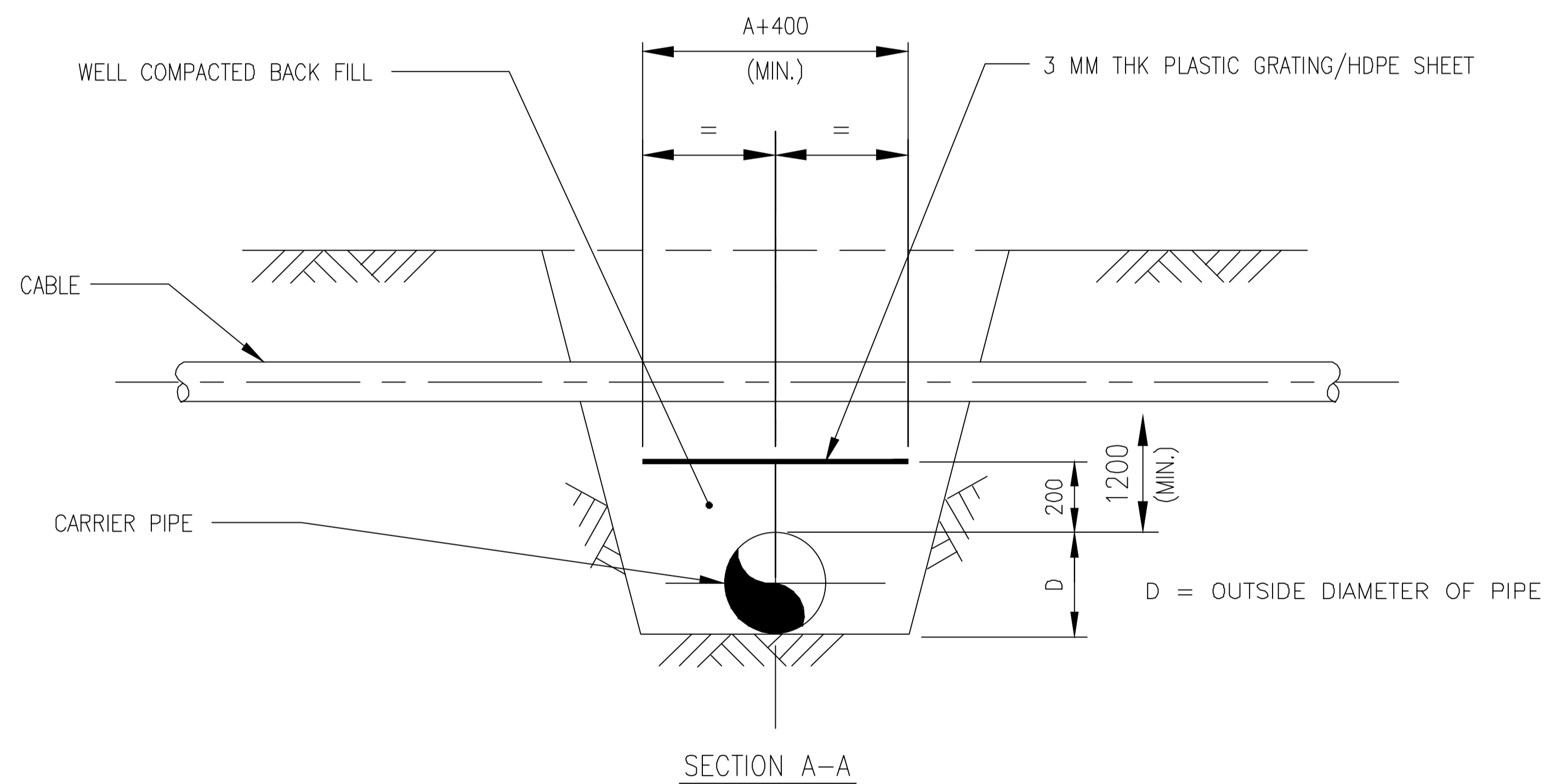
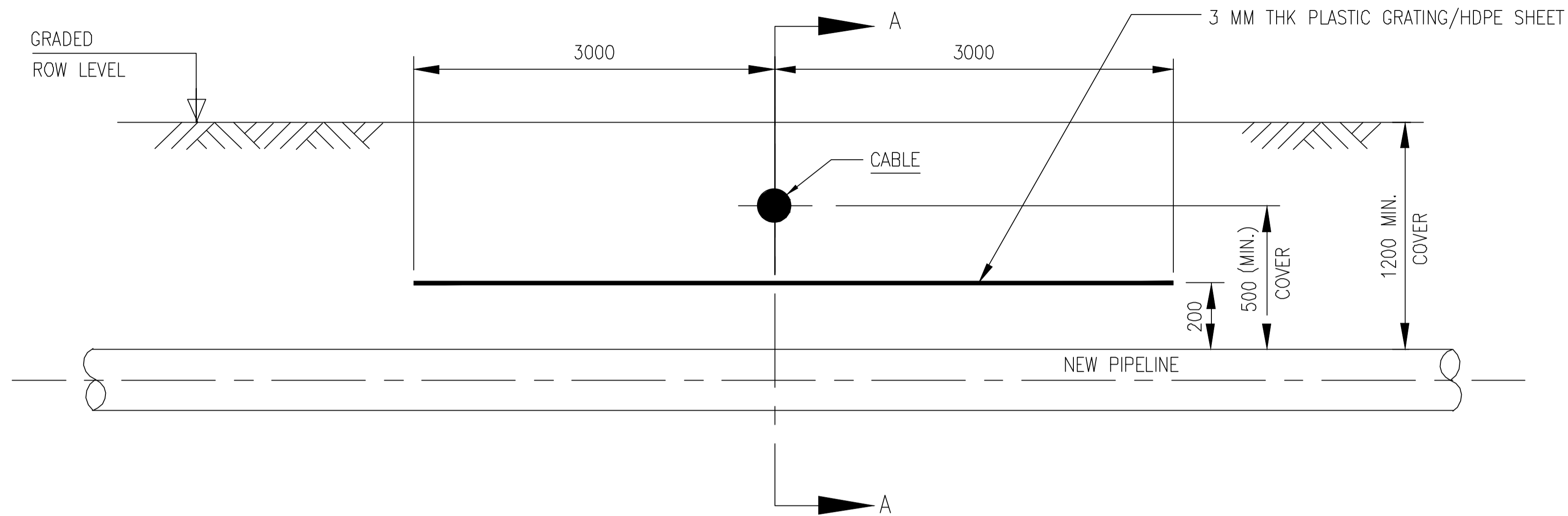


RESONANCE ENERGY PVT. LTD.

Size	Scale	Sheet	Rev.
A3	NTS	01 of 01	0

Drawing No.- REPL/CUGL/STD/CSP-006

## UNDERGROUND CABLE CROSSING



**NOTES:**

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED.
2. A PIPELINE WARNING SIGN SHALL BE INSTALLED CLOSED TO CROSSING.
3. PLASTIC CRATING AS PER RELEVANT STANDARD/SPECIFICATION.
4. PLASTIC GRATING NEED NOT BE PROVIDED BETWEEN CABLE AND CASIED PIPELINE.
5. IN CASE OF ARMoured AC CABLE, C.P. BONDING TEST STATIOS IS TO BE PROVIDED BETWEEN PIPELINE AND CABLERMOUR. INCASE OF UNARMoured AC CABLES, ARRANGEMENT FOR ELECTRO-MAGNETIC SHEILDING (BY PROVIDING CASING ON EITHER THE PIPE LINE OR CABLE) SHALL BE CONSIDERED.
6. DIMENSION 'A' SHALL BE CALCULATED USING FORMULA  $A=(D1 + D2...Dn)+(N-1) \times 500$  FOR MORE THAN ONE PIPELINE LAID IN COMMON TRENCH WHERE D1,D2,Dn ARE THE DIAMETER OF PIPELINES AND 'N' IS NUMBER OF PIPELINE IS SAME TRENCH.
7. DIMENSION 'D' SHALL BE THE LATEST DIAMETER OF THE PIPELINES LAID IN THE SAME TRENCH.
8. TRENCH DIMENSIONS SHALL BE IN ACCORDANCE WITH RELEVANT STANDARDS/ SPECIFICATIONS.
9. APPROVAL OF THE CROSSING SHALL BE OBTAINED FROM CONCERNED AUTHORITIES/OWNER.

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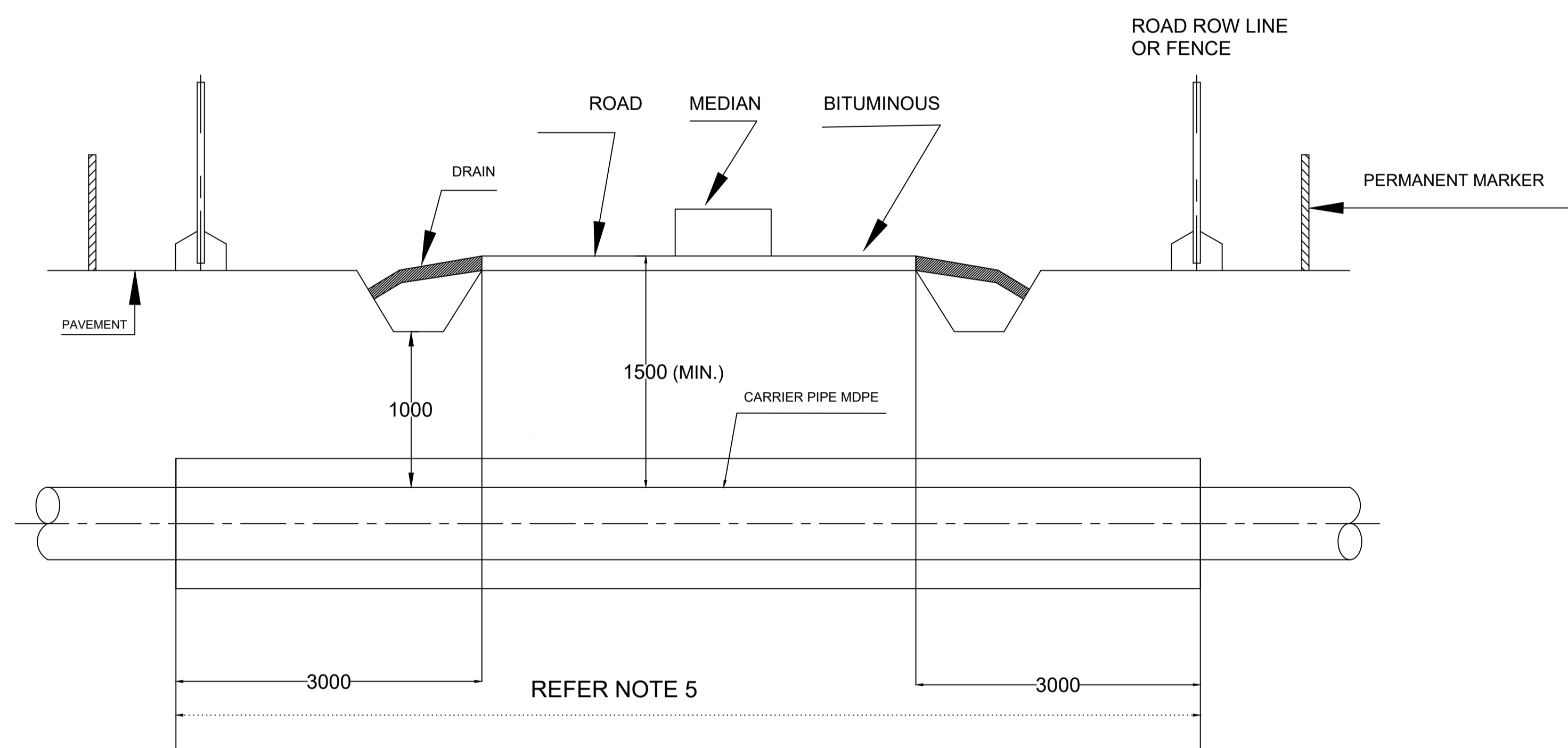
0	12.07.2024	Issued for tender	AS	VS	GSJ
Rev.	D M Y	Status	Drawn	Checked	Approved

**SUBJECT:- TYPICAL DRAWING FOR UNDER GROUND CABLE CROSSING**



**PROJECT:- CENTRAL UP GAS LIMITED**

 RESONANCE ENERGY PVT. LTD.	Size	Scale	Sheet	Rev.
	A3	NTS	01 of 01	0
Drawing No.- REPL/CUGL/STD/CSP-007				



PE-100 CARRIER PIPE DIA SIZE (MM)	MIN.DIA OF HDPE CASING PIPE (MM)
32	90
63	160
90	180
125	250
180	315

**NOTE-**

1. ALL DIMENSION ARE IN UNLESS OTHERWISE SPCIFIED .
2. ROAD HIGHWAY CROSSING SHALL BE RESTORED YO ORIGINA CONDITION TO THE ENTIRE SATISFACTION OF OWNER AND CONCERNED AUTHORITIES HAVING JURISDICTION.
3. REFER API RP 1102 FOR OTHER DESING AND INTALLATION REQUIREMENTS.
4. ANGLE OF INTERSECTION BETWEEN PIPELINE AND THE ROAD HIGHWAY SHALL BE AS CLOSE TO 90° AS POSSIBLE BUT IN NO CASE LESS THAN 30°
5. CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSION WITH RESPECT TO SURVEY DETAIL FOR EACH ROAD HIGHWAY CROSSING AND PREPARE DETAILED DRAWING FOR INDIVIDUAL CROSSING FOR ENGINEER- IN CHARGE APPROVAL BEFORE COMMENCEMENT OF CONSTRUCTION .

0	19/07/2024	issued for tender	AS	VS	GSJ
REV.	D.M.Y.	MODIFICATION	drawn by	checked by	approved by

**SUBJECT- ROAD / HIGHWAY Cased CROSSING FOR MDPE PIPELINE**



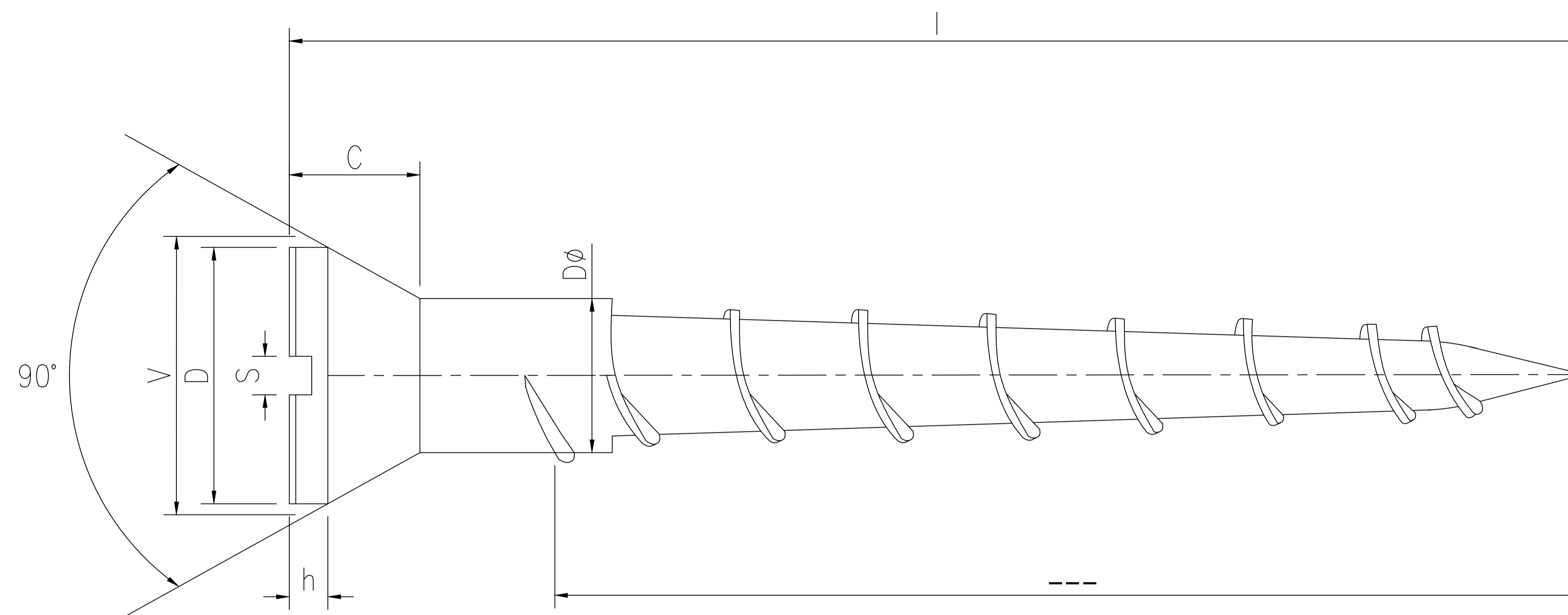
**PROJECT:- CENTRAL UP GAS LIMITED**

 RESONANCE ENERGY PVT LTD	<b>SIZE</b>	<b>SCALE</b>	<b>SHEET</b>	<b>REV.</b>
	A1	NTS	01 OF 01	0

DRAWING NO:- REPL/CUGL/STD/PE-008

NOTES

1. THE DIMENSIONS FOR 'V' ARE THEORETICAL DIAMETER OF HEAD TO SHARP CORNERS & ARE GIVEN FOR DESIGN PURPOSE ONLY.
2. DIMENSIONS TOLERANCES WILL BE AS SPECIFIED IN IS : 6760-1972.
3. ALL DIMENSIONS ARE IN MILLIMETERS.



SCREW NO.	Dø			PITCH	V	D		c	s		h		l
	NOM.	MAX.	MIN.			MAX.	MIN.		MAX.	MIN.	MAX.	MIN.	
7	3.81	3.94	3.68	1.59	8.2	7.62	7.34	2.16	1.27	1.11	1.14	0.84	35

0	16.07.2024	ISSUED FOR TENDER	AS	VS	GSJ
Rev.	D M Y	Modifications	Drawn By	Checked By	Approved By

SPECIFICATION FOR WOOD SCREWS



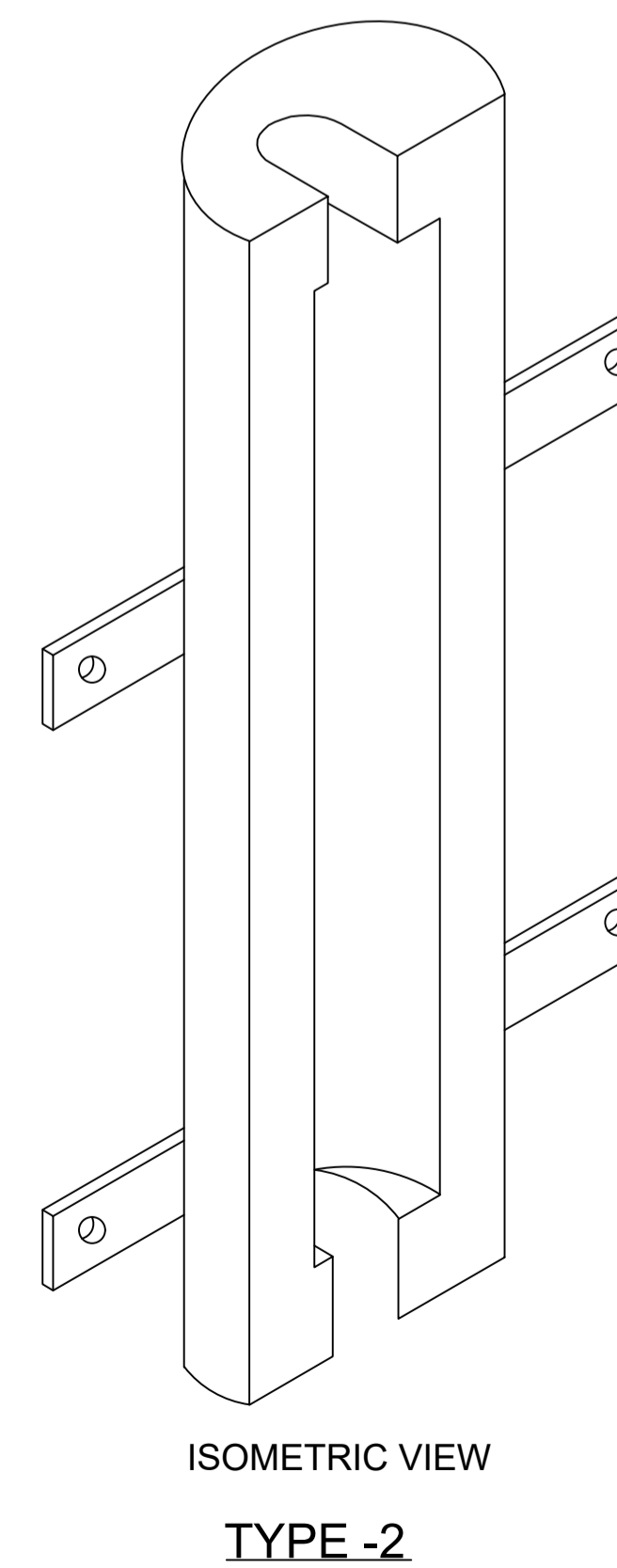
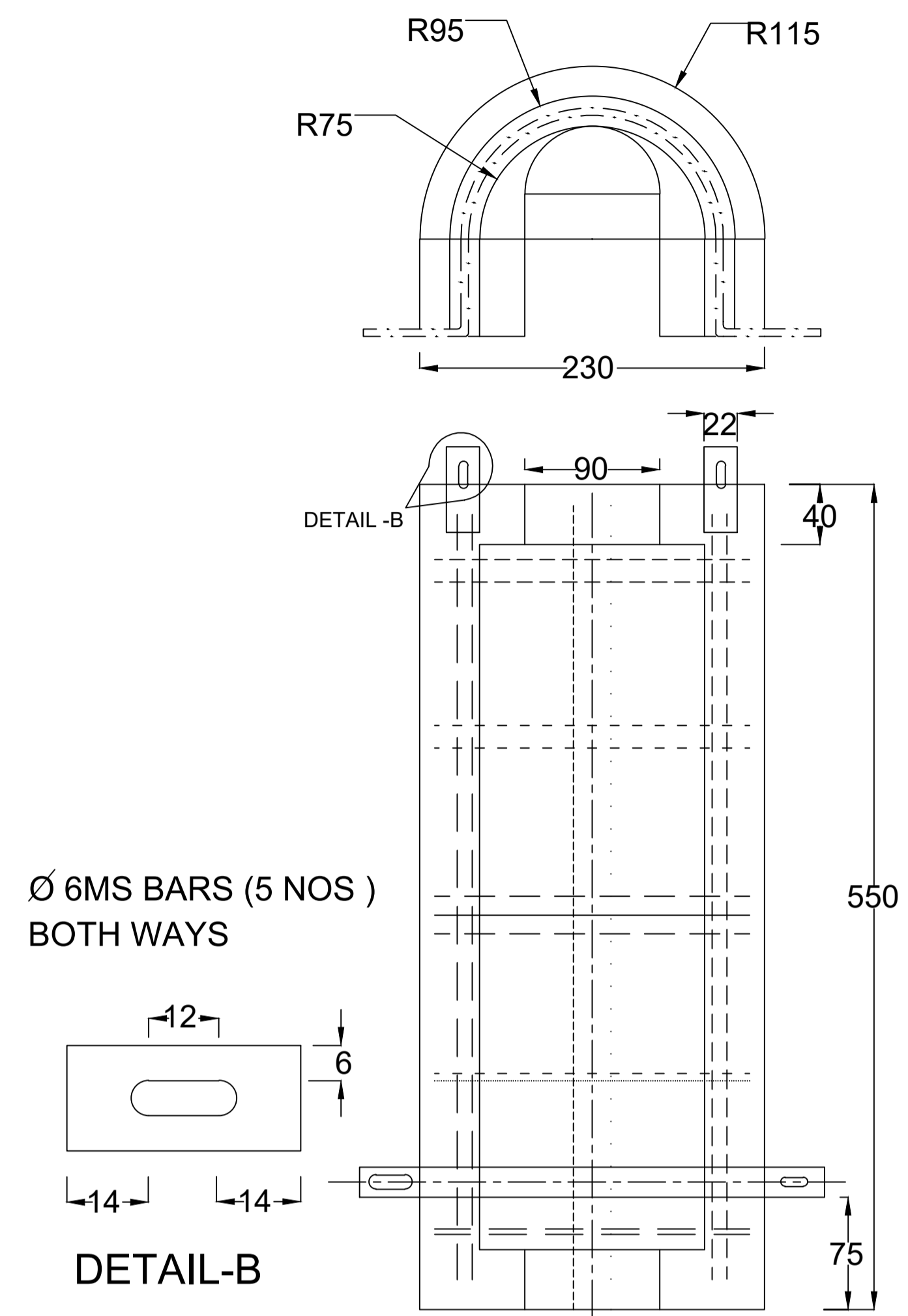
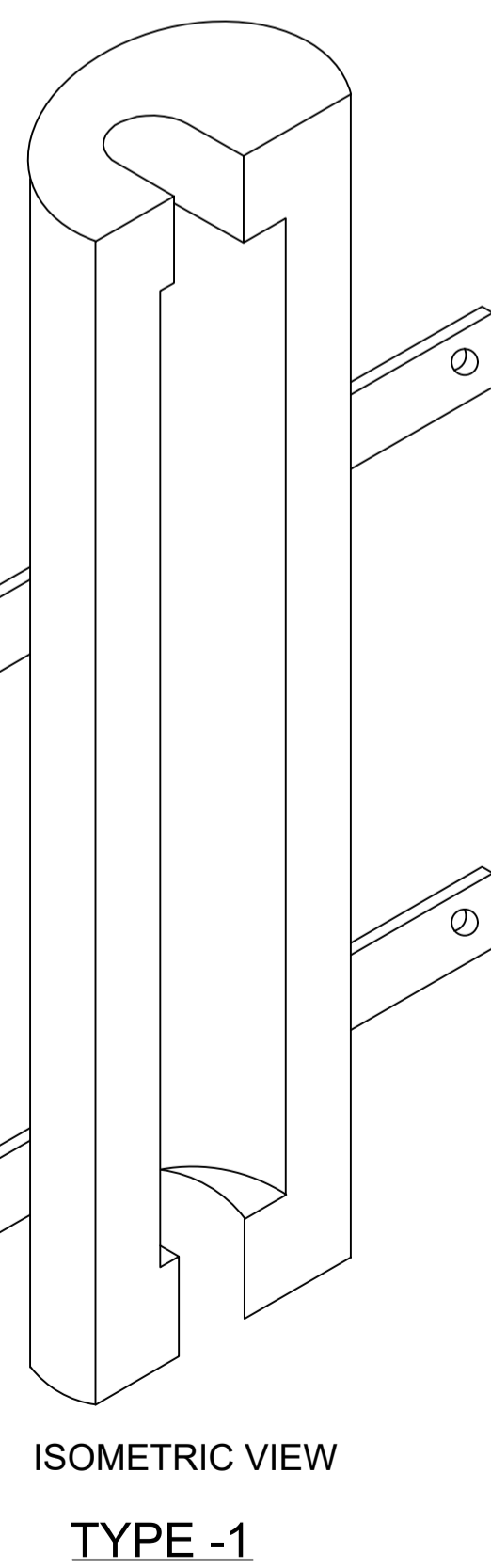
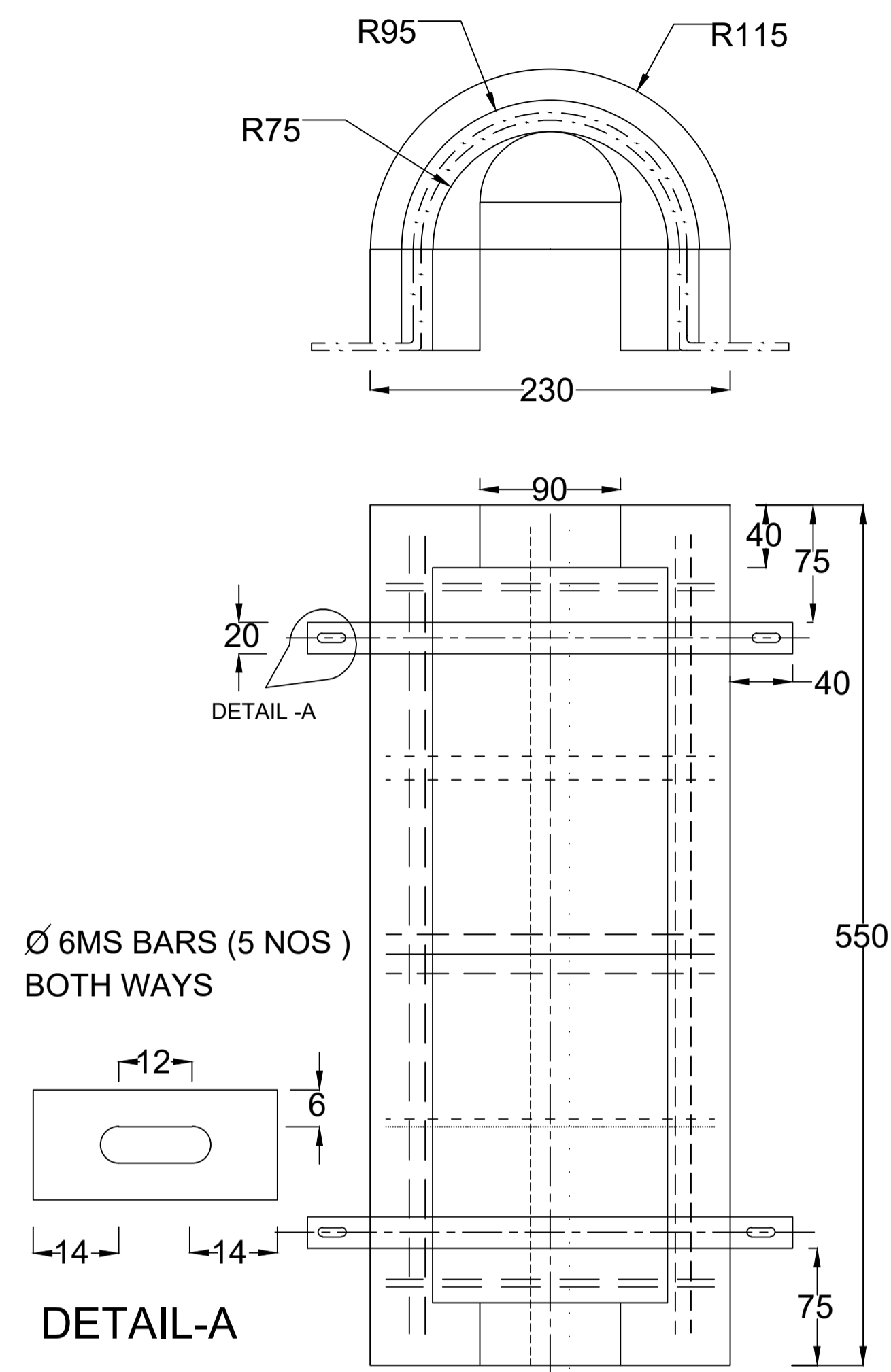
CENTRAL UP GAS LIMITED



Resonance energy pvt ltd

Size	Scale	Sheet	Rev.
A1	NTS	01 of 01	0

DRAWING NO.- REPL/CUGL/STD/CSP-009



NOTE

1. ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
2. IT SHALL BE TAKEN APPROVAL FROM OWNER PMC BEFORE STATION THE PROCUREMENT.
3. SIZES ARE SHOWN AS A TENTATIVE ONLY.

0	17/07/2024	Issued for tender	AK	VS	GSJ
REV.	D M Y	modifications	drawn by	checked by	approved by

SUBJECT- HALF ROUND CONCRETE SLEEVE



PROJECT:- CENTRAL UP GAS LIMITED

 RESONANCE ENERGY PVT. LTD.	Size	Scale	Sheet	Rev.
	A3	NTS	01 of 01	0

DRAWING NO.- REPL/CUGL/STD/CSP-010

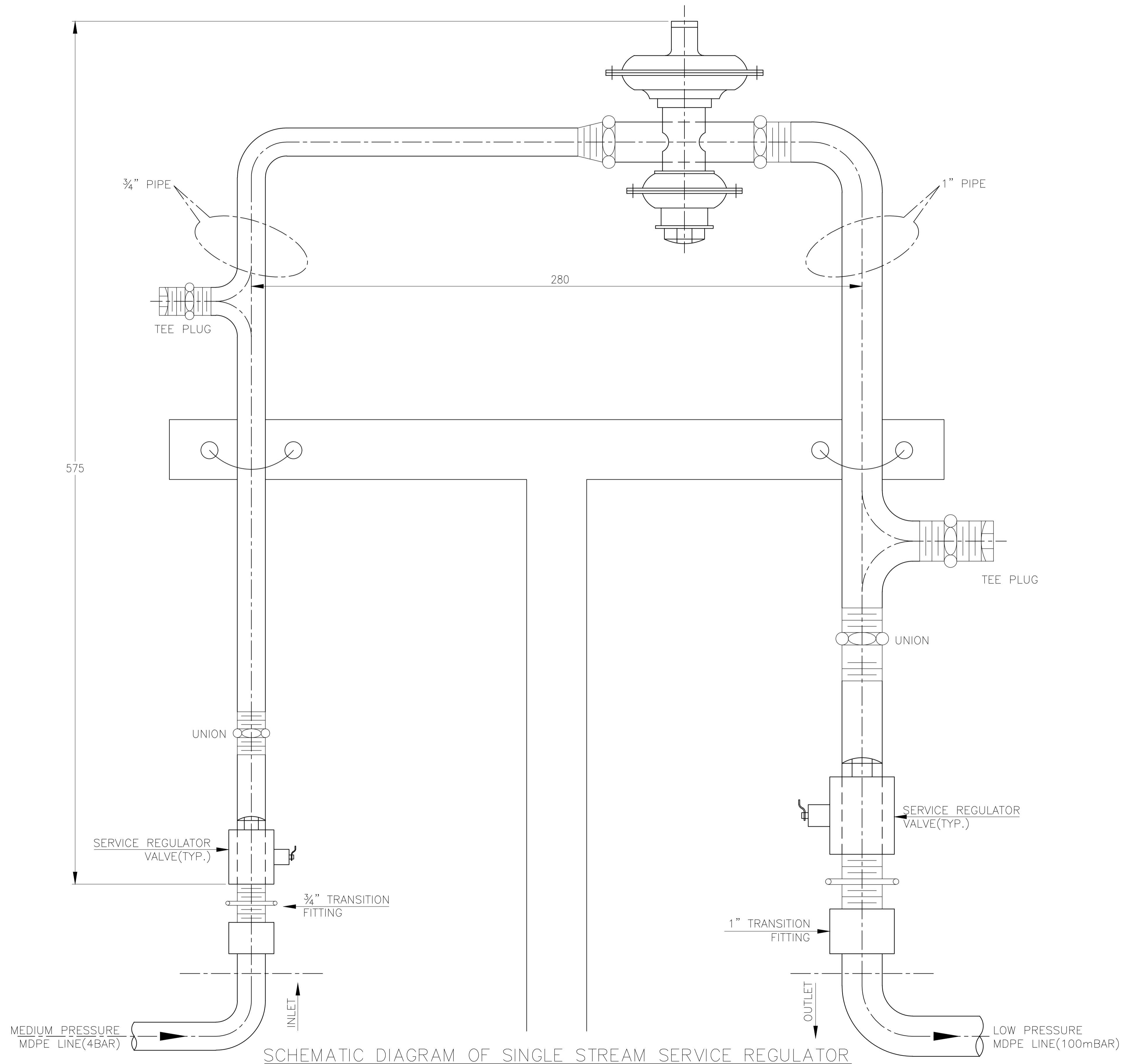
1

2

3

4  
NOTES

- 1. ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
- 2. FOLLOW WRITTEN DIMENSION ONLY, DO NOT SCALE.



0	16.07.2024	ISSUED FOR TENDER	AS	VS	GSJ
Rev.	D M Y	Modifications	Drawn By	Checked By	Approved By

PROJECT:-SCHEMATIC DIAGRAM OF SINGLE STREAM SERVICE REGULATOR



CENTRAL UP GAS LIMITED



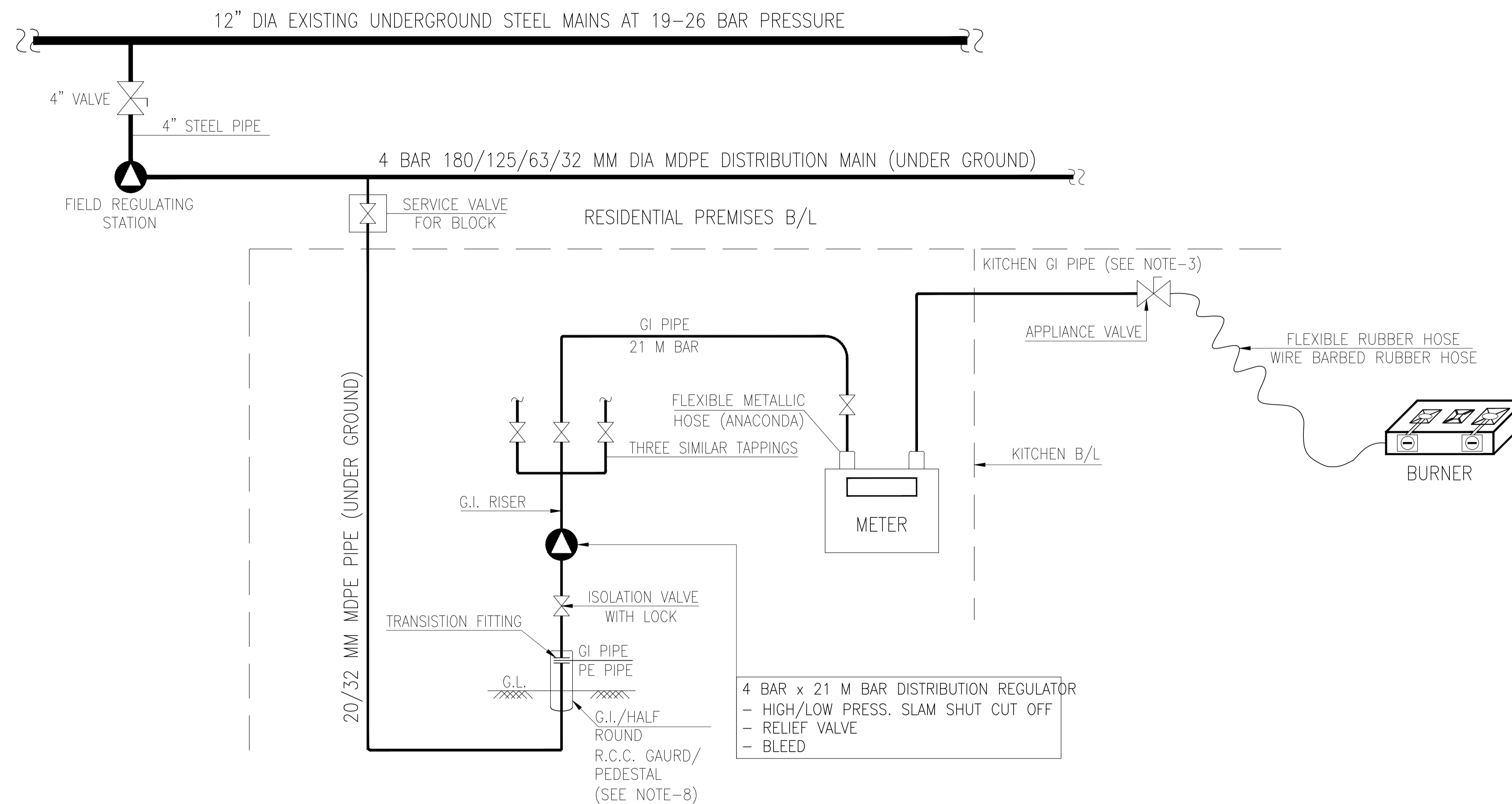
Resonance energy pvt ltd

Size	Scale	Sheet	Rev.
A1	NTS	01 of 01	0

DRAWING NO. - REPL/CUGL/STD/CSP-011

4

## SCHEMATIC DRAWING FOR DOMESTIC CONNECTION



### NOTES

1. ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
2. THE SIZES SHOWN IN THE DRAWING ARE TENTATIVE.IT SHALL BE DECIDED DURING DETAIL ENGINEERING.
3. PIPING DOWN STREAM METER SHALL BE OF COPPER IN CASE METER IS INSTALLED WITHIN THE KITCHEN.
4. TENTATIVE RISER LENGTH (FROM OUTLET OF TRANSITION FITTINGS TO INLET OF ISOLATION VALVE) SHALL BE 1.5m, ANY CHANGES IN RISER LENGTH SHALL BE AFTER APPROVAL FROM EIC.
5. G.I. INSTALLATION/METER INSTALLATION SHALL BE DECIDED BY OWNER/OWNER'S REPRESENTATIVE AS PER SITE CONDITIONS.
6. IF COPPER PIPE GOES TO THE APPLIANCE VALVE THEN BRASS FITTING SHALL BE USED AT THE OUTLET OF METER OR IF GI PIPE GOES TO THE APPLIANCE VALVE THEN GI FITTING SHALL BE USED AT THE OUTLET THE METER.
7. MAXIMUM DISTANCE BETWEEN CLAMPS SHALL BE 1.5M WHEN PIPE GOES IN THE STRAIGHT LENGTH, IF ANY TEE OR ANY FITTING LIES IN BETWEEN THE PIPE THEN CLAMP SHALL BE PLACED 150MM FAR AWAY FROM CENTER LINE OF FITTINGS AT EVERY SIDE. HOW EVER, THE SAME MAY BE CHANGED AS PER SITE CONDITIONS/AS DIRECTED BY EIC.
8. G.I./HALF ROUND R.C.C. GUARD INSTALLATION SHALL BE DECIDED BY OWNER/OWNER'S REPRESENTATIVE AS PER SITE CONDITIONS.

0	16.07.2024	ISSUED FOR TENDER	AS	VS	GSJ
Rev.	D M Y	Modifications	Drawn By	Checked By	Approved By

**SUBJECT:- SCHEME FOR DOMESTIC  
CONSUMER CONNECTION**



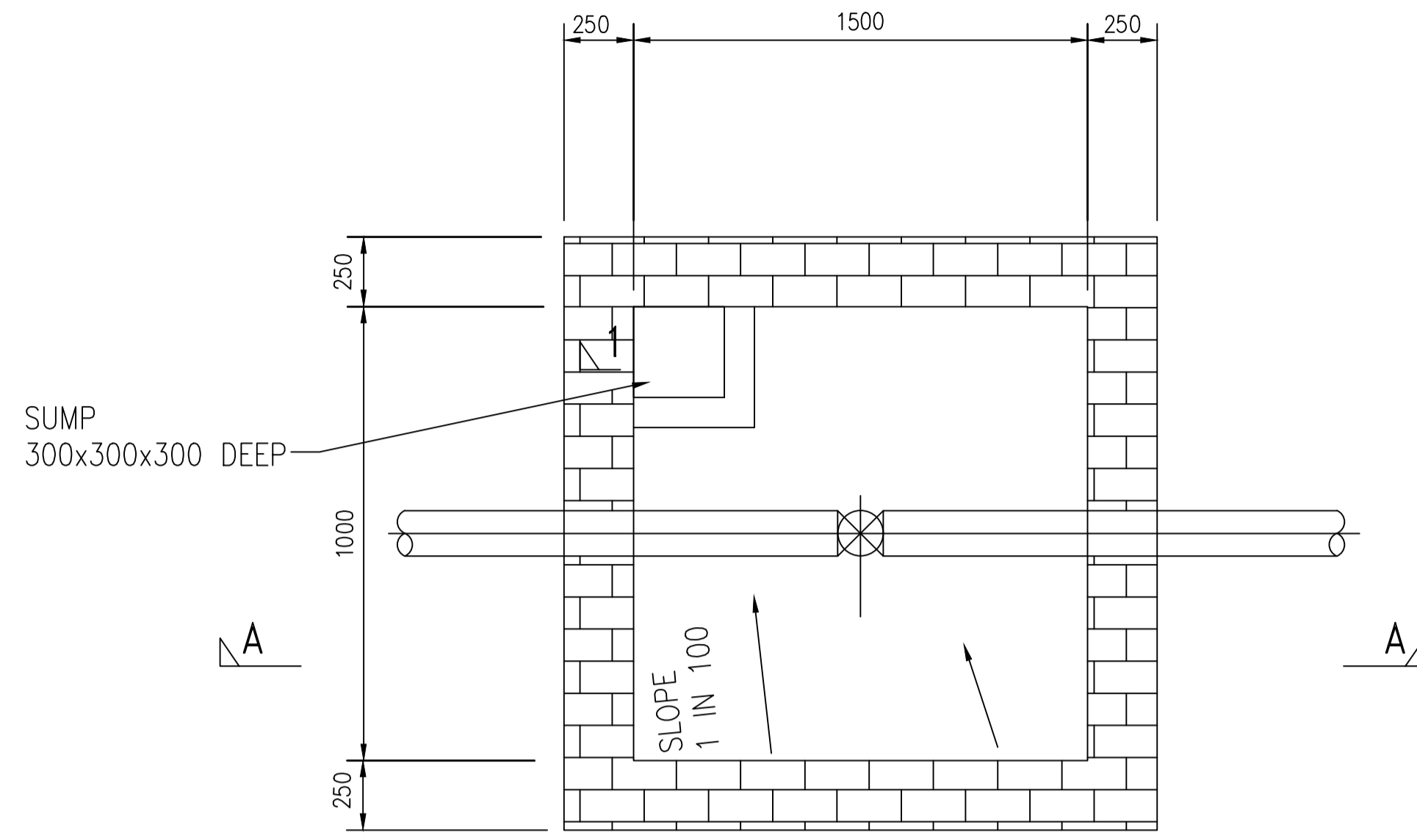
**CENTRAL UP GAS LIMITED**



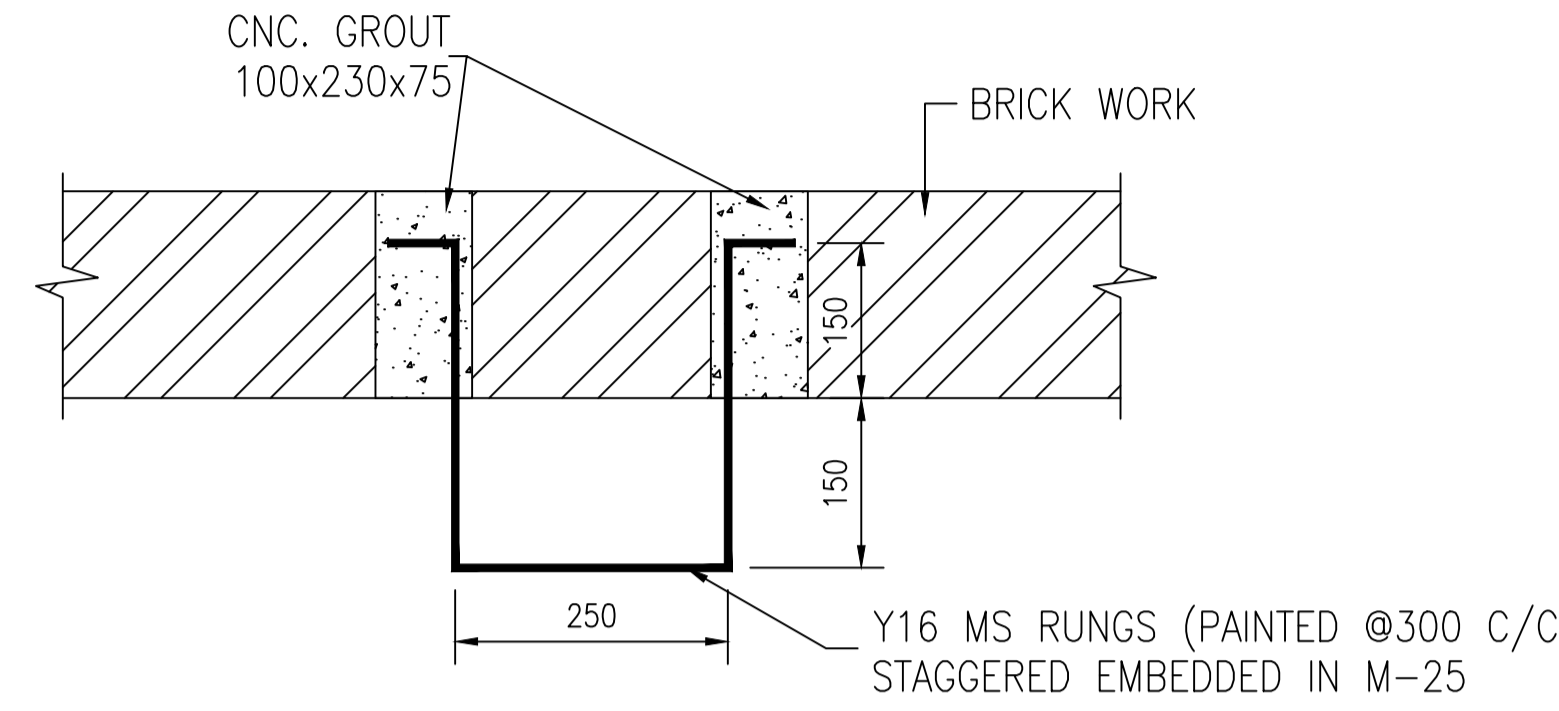
Resonance energy pvt ltd

Size	Scale	Sheet	Rev.
A1	NTS	01 of 01	0

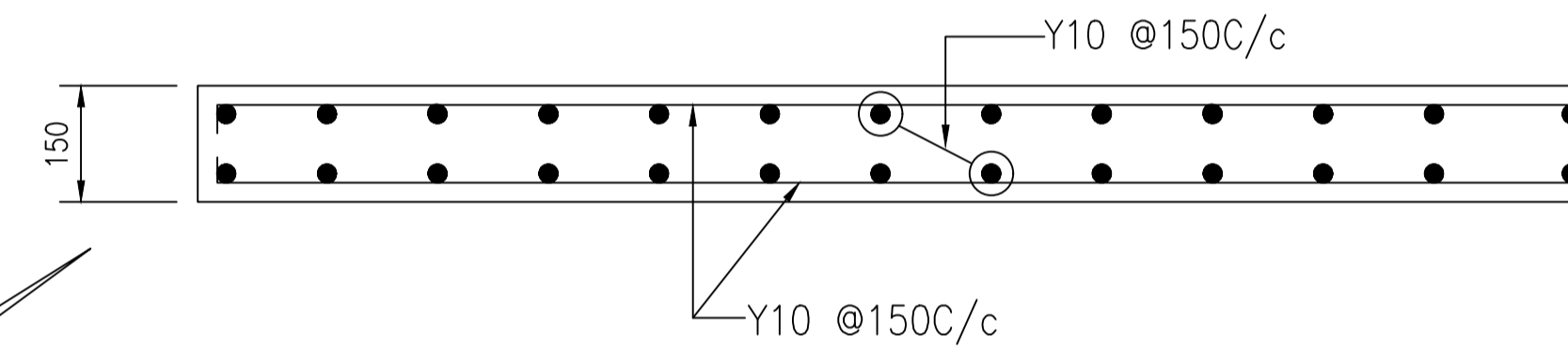
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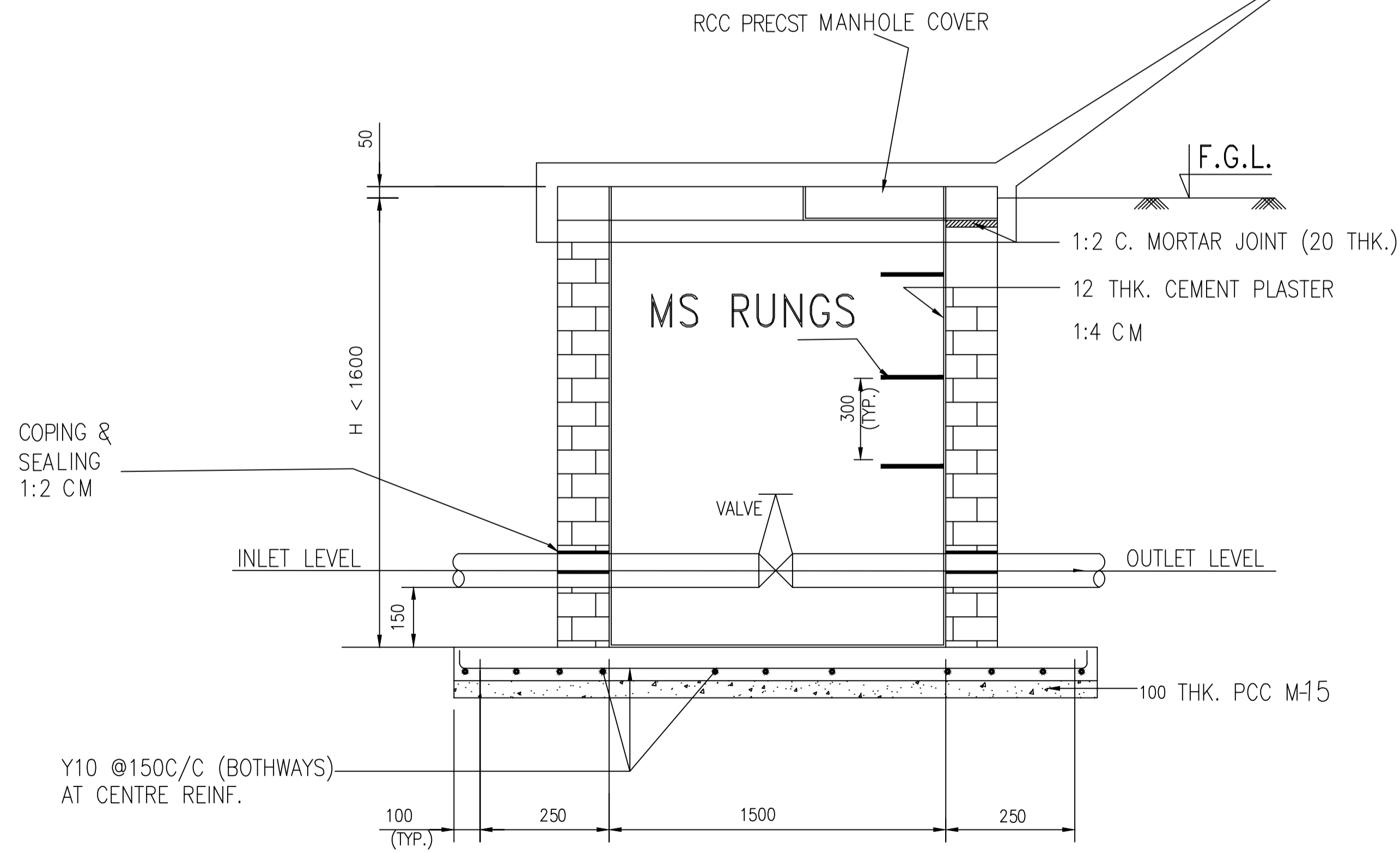
VALVE PIT PLAN



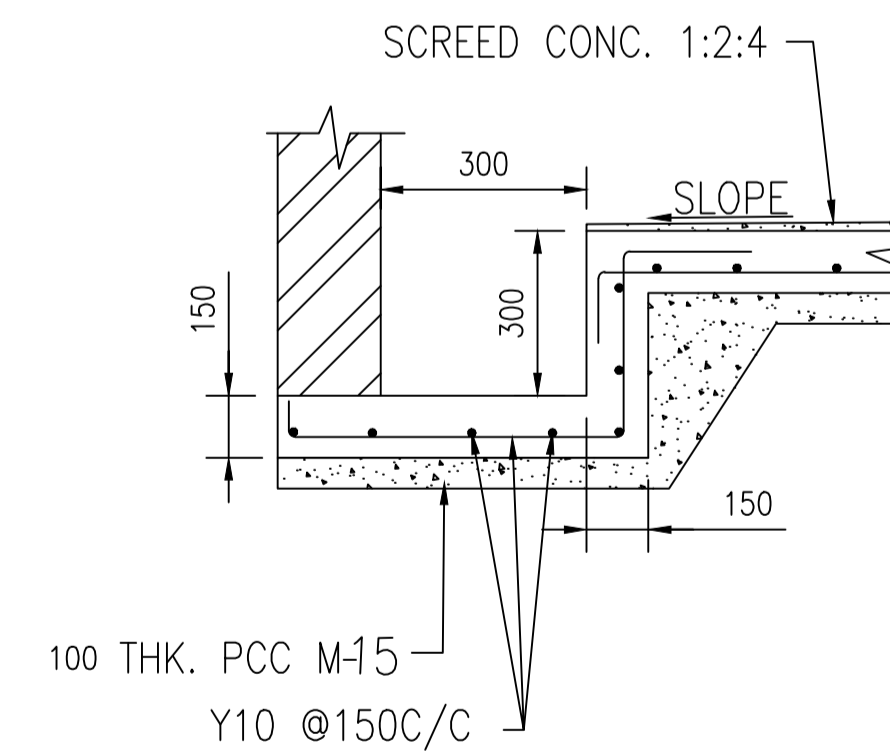
TYPICAL DETAILS OF MS RUNGS



TYPICAL SLAB R/F DETAIL



SECTION A-A



SECTION 1-1

- NOTES:
1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
  2. FOLLOW WRITTEN DIMENSIONS ONLY. DO NOT SCALE THE DIMENSIONS.
  3. CLEAR COVER TO MAIN REINFORCEMENT SHALL BE: SLAB = 20mm.
  4. BRICK SHALL BE OF 75 CLASS RCC OF M-25 & PCC OF M-15.
  5. REINFORCEMENT SHALL BE OF HYSD (GRADE Fe 415) CONFORMING TO IS:1786
  6. EQUIVALENT.

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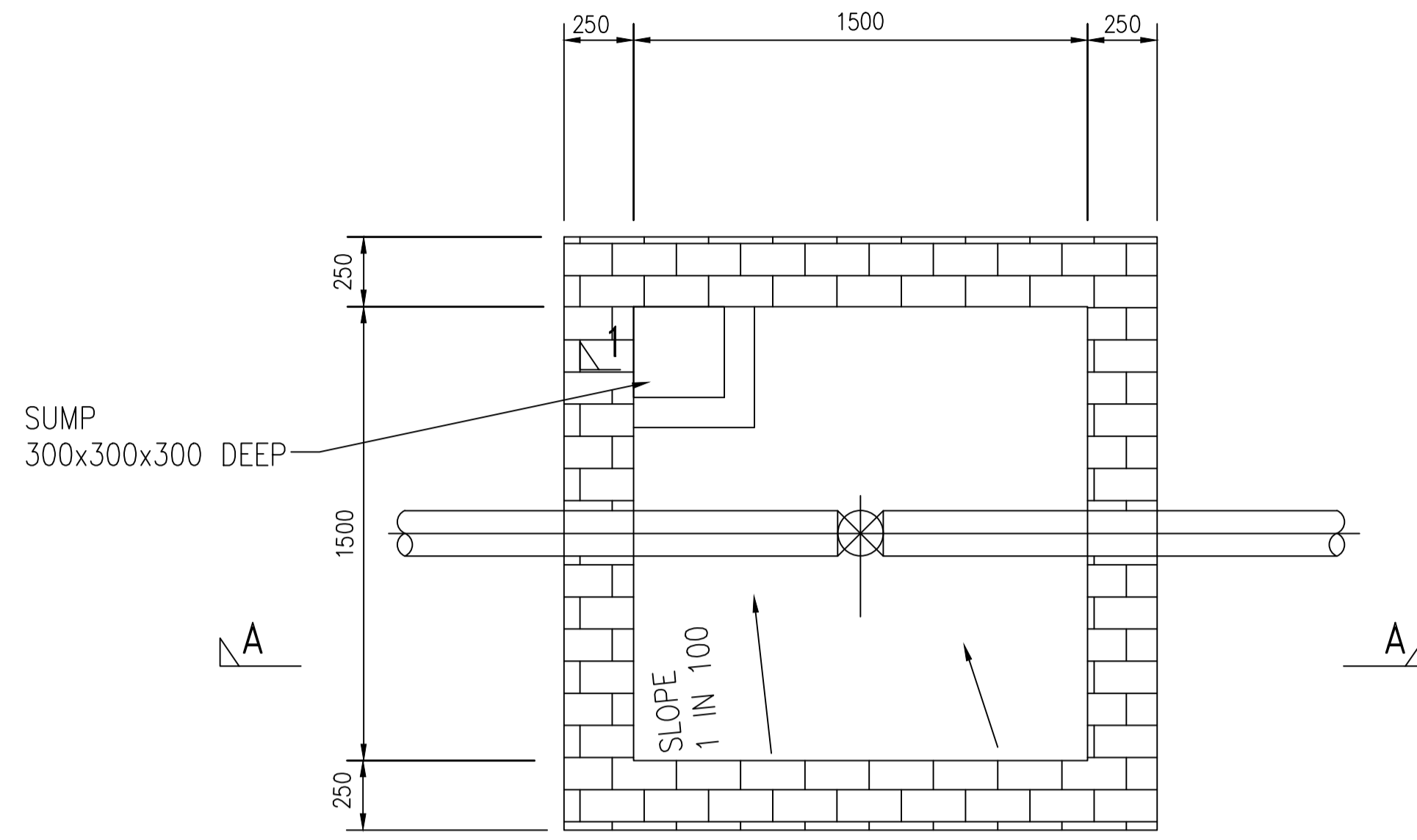
0	17/07/2024	issued for tender	AK	VS	GSJ
Rev.	D M Y	modification	drawn by	checked by	approved by

SUBJECT:- BRICK VALVE CHAMBER (1.5M X 1.0M)

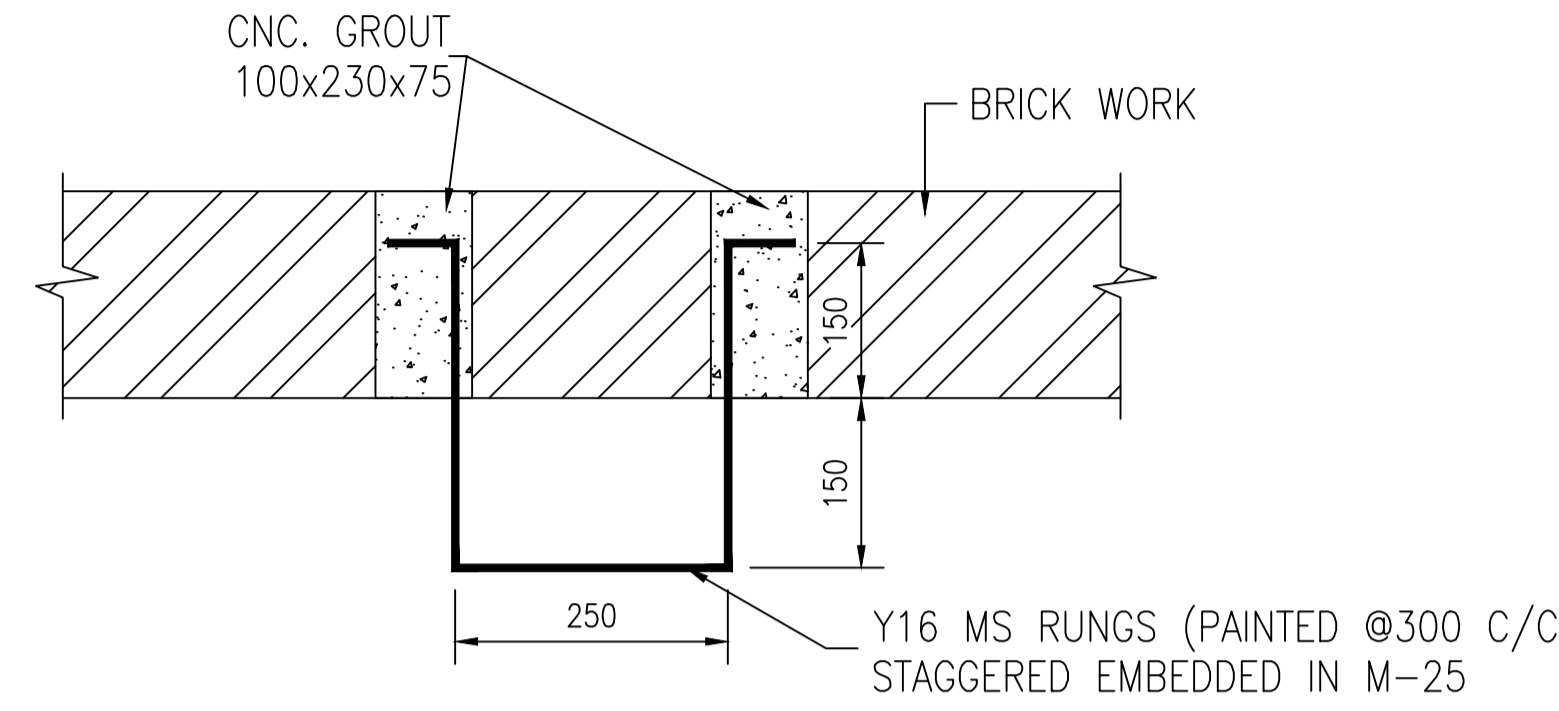


PROJECT:- CENTRAL UP GAS LIMITED

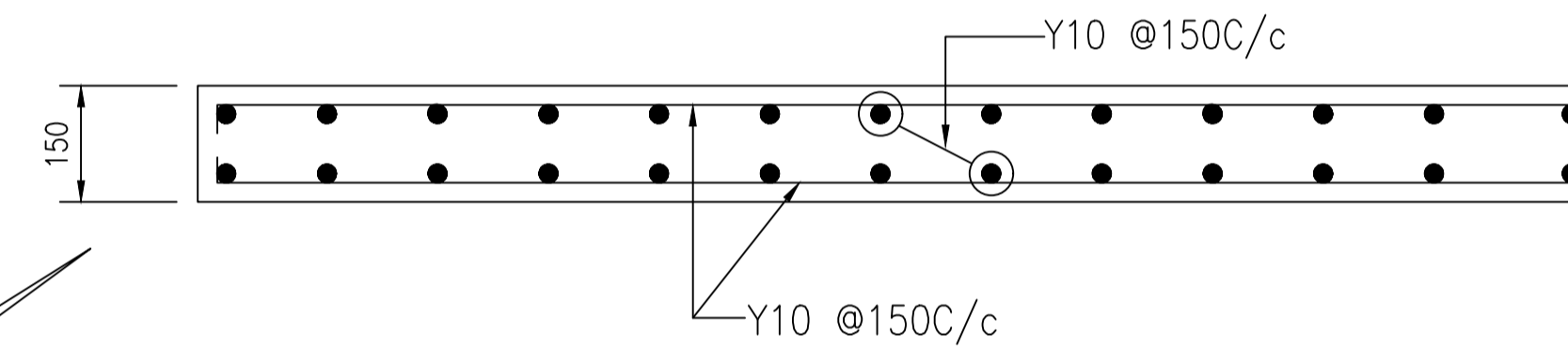
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	A3	NTS	01 of 01	0
Drawing No. REPL/CUGL/STD-013				



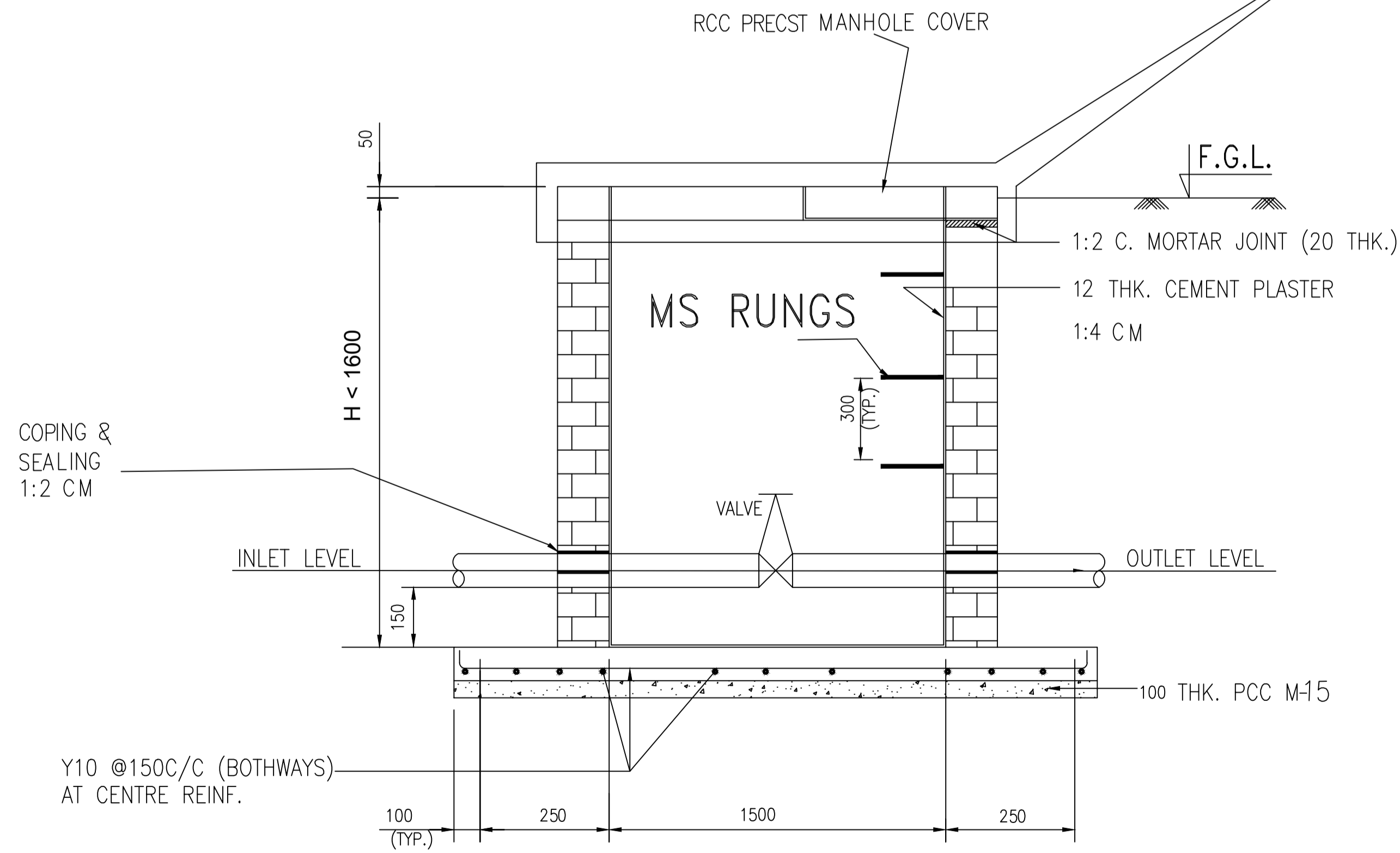
VALVE PIT PLAN



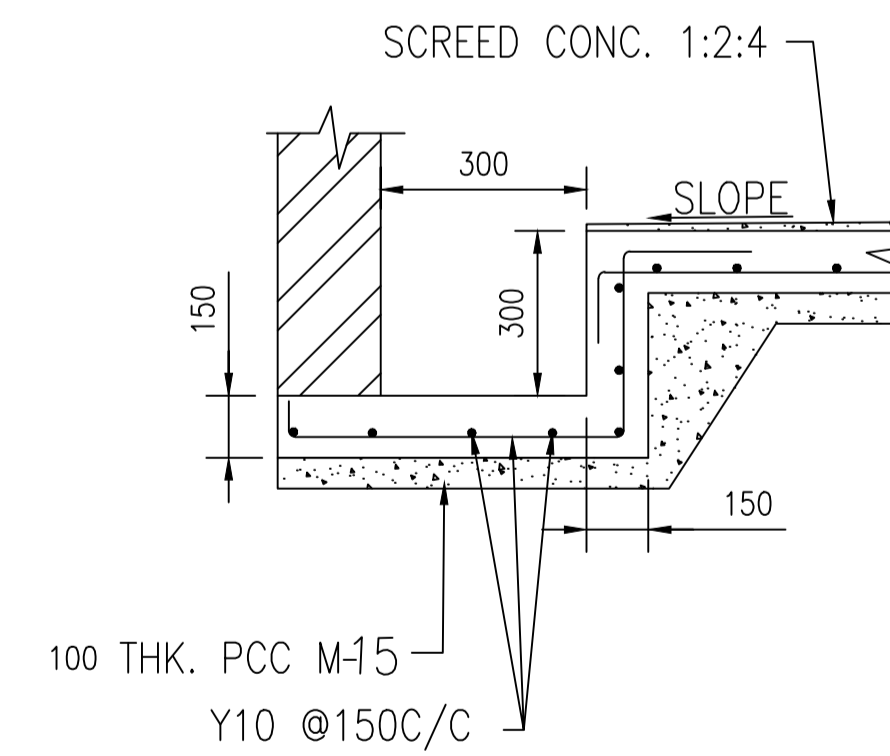
TYPICAL DETAILS OF MS RUNGS



TYPICAL SLAB R/F DETAIL



SECTION A-A



SECTION 1-1

- NOTES:
1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
  2. FOLLOW WRITTEN DIMENSIONS ONLY. DO NOT SCALE THE DIMENSIONS.
  3. CLEAR COVER TO MAIN REINFORCEMENT SHALL BE: SLAB = 20mm.
  4. BRICK SHALL BE OF 75 CLASS RCC OF M-25 & PCC OF M-15.
  5. REINFORCEMENT SHALL BE OF HYSD (GRADE Fe 415) CONFORMING TO IS:1786
  6. EQUIVALENT.

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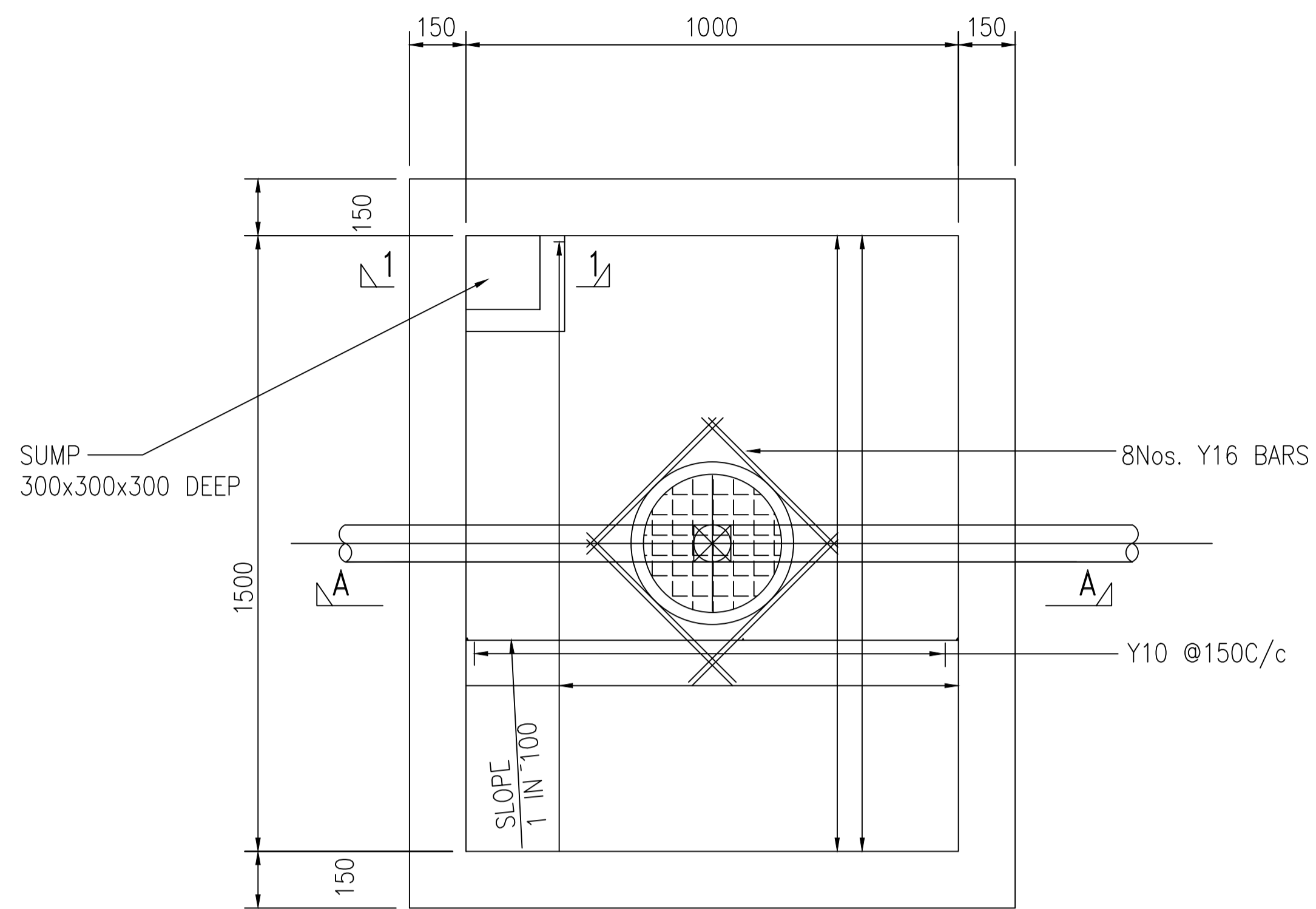
0	17/07/2024	issued for tender	AK	VS	GSJ
Rev.	D M Y	modification	drawn by	checked by	approved by

SUBJECT:- BRICK VALVE CHAMBER (1.5M X 1.5M)

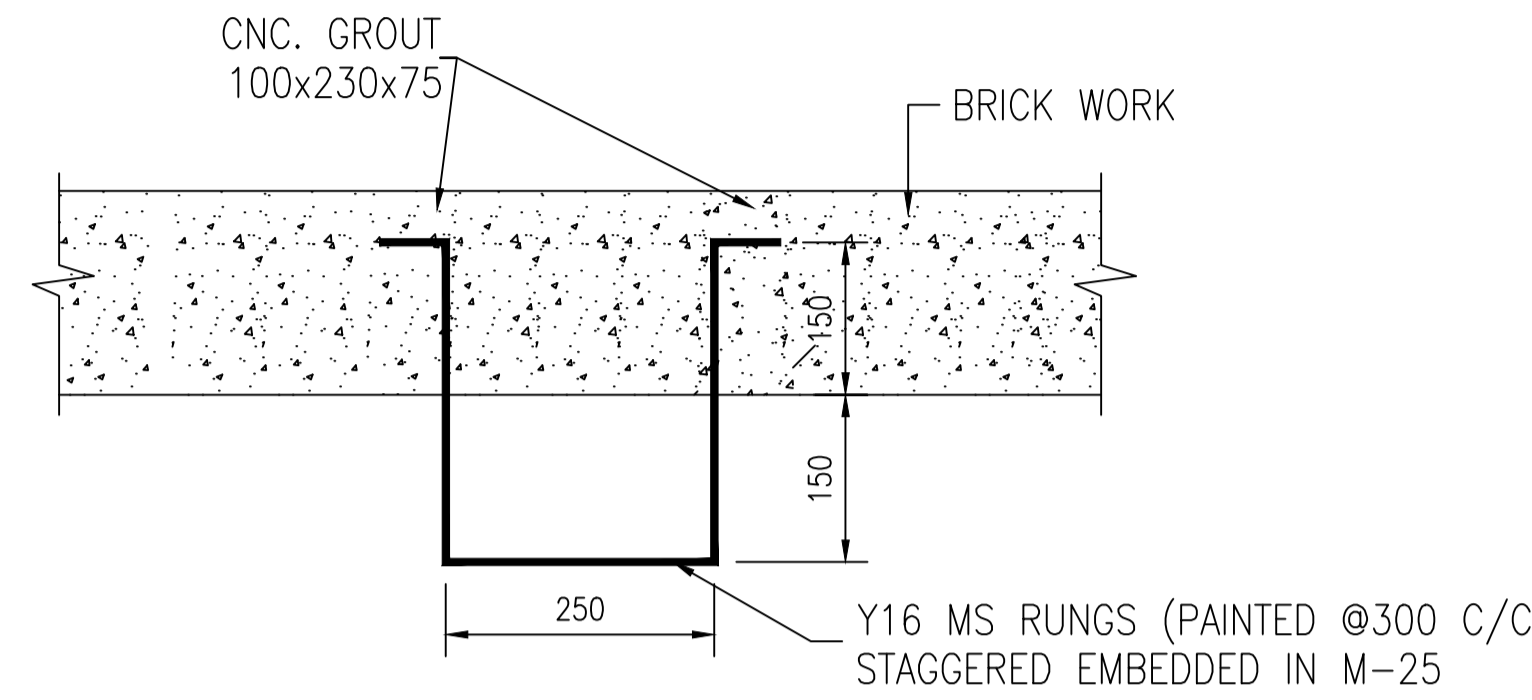


PROJECT:- CENTRAL UP GAS LIMITED

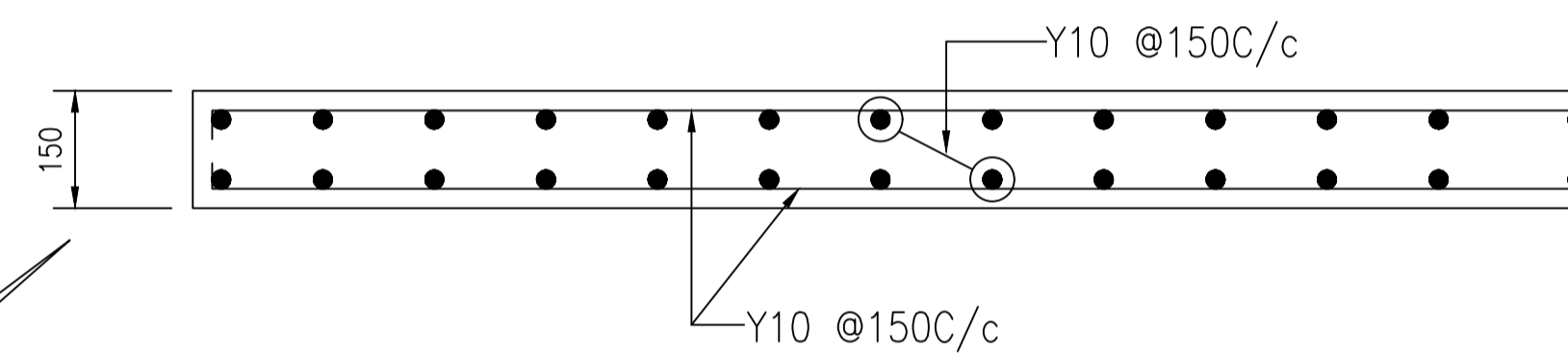
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	A3	NTS	01 of 01	0
Drawing No. REPL/CUGL/STD-014				



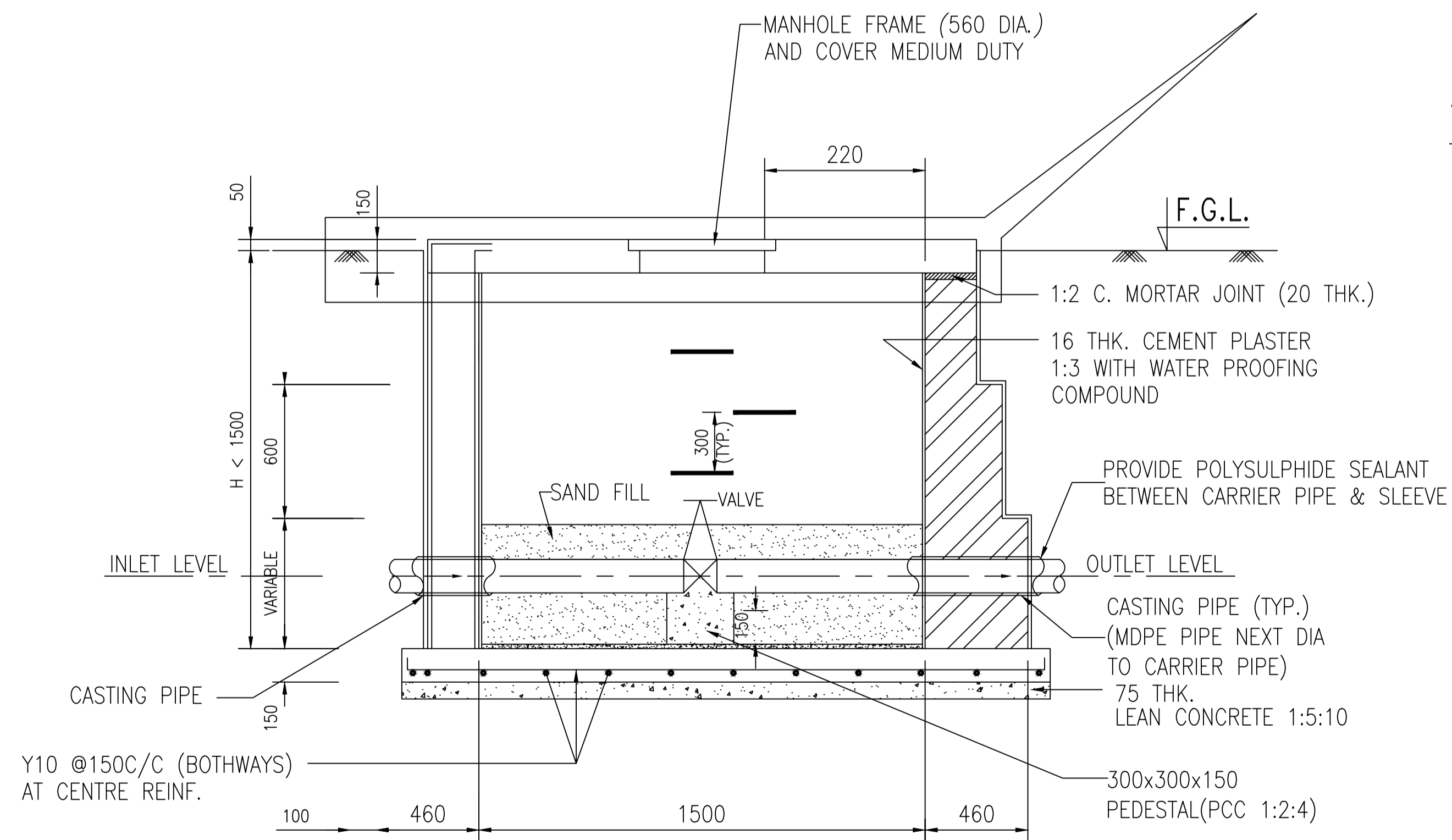
VALVE PIT PLAN



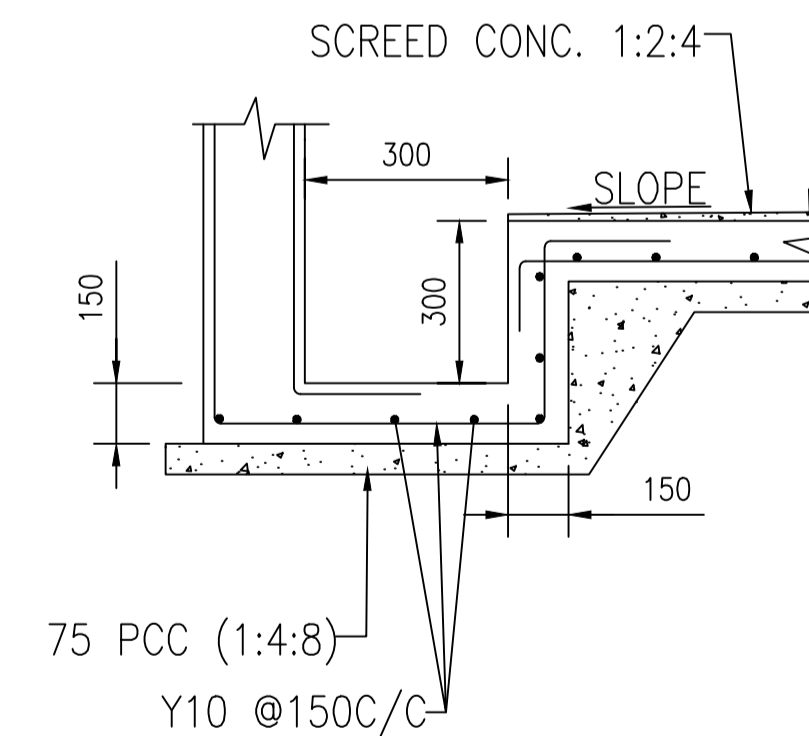
TYPICAL DETAILS OF MS RUNGS



TYPICAL SLAB R/F DETAIL



SECTION A-A



SECTION 1-1

NOTES:

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
2. FOLLOW WRITTEN DIMENSIONS ONLY. DO NOT SCALE.
3. CLEAR COVER TO MAIN REINFORCEMENT SHALL BE: SLAB = 20mm.
4. GRADE OF CONCRETE SHALL BE M-25.
5. REINFORCEMENT SHALL BE OF HYSD (GRADE Fe 415) OR EQUIVALENT.

0	17.07.2024	Issued for tender	AS	VS	GSJ
Rev.	D M Y	Status	Drawn	Checke	Approved

PROJECT:- RCC VALVE CHAMBER (1.5M X 1.0M)

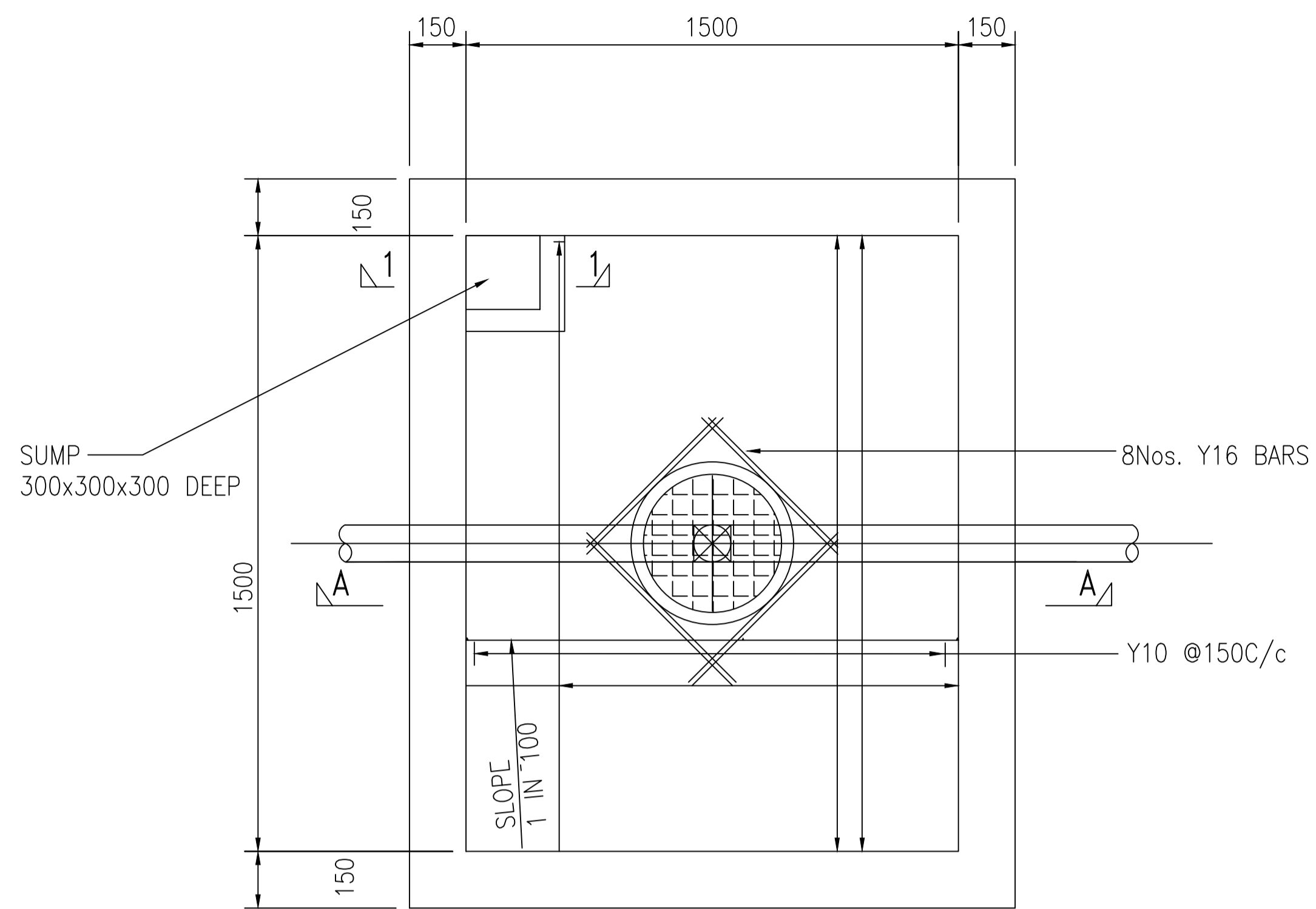


PROJECT:- CENTRAL UP GAS LIMITED

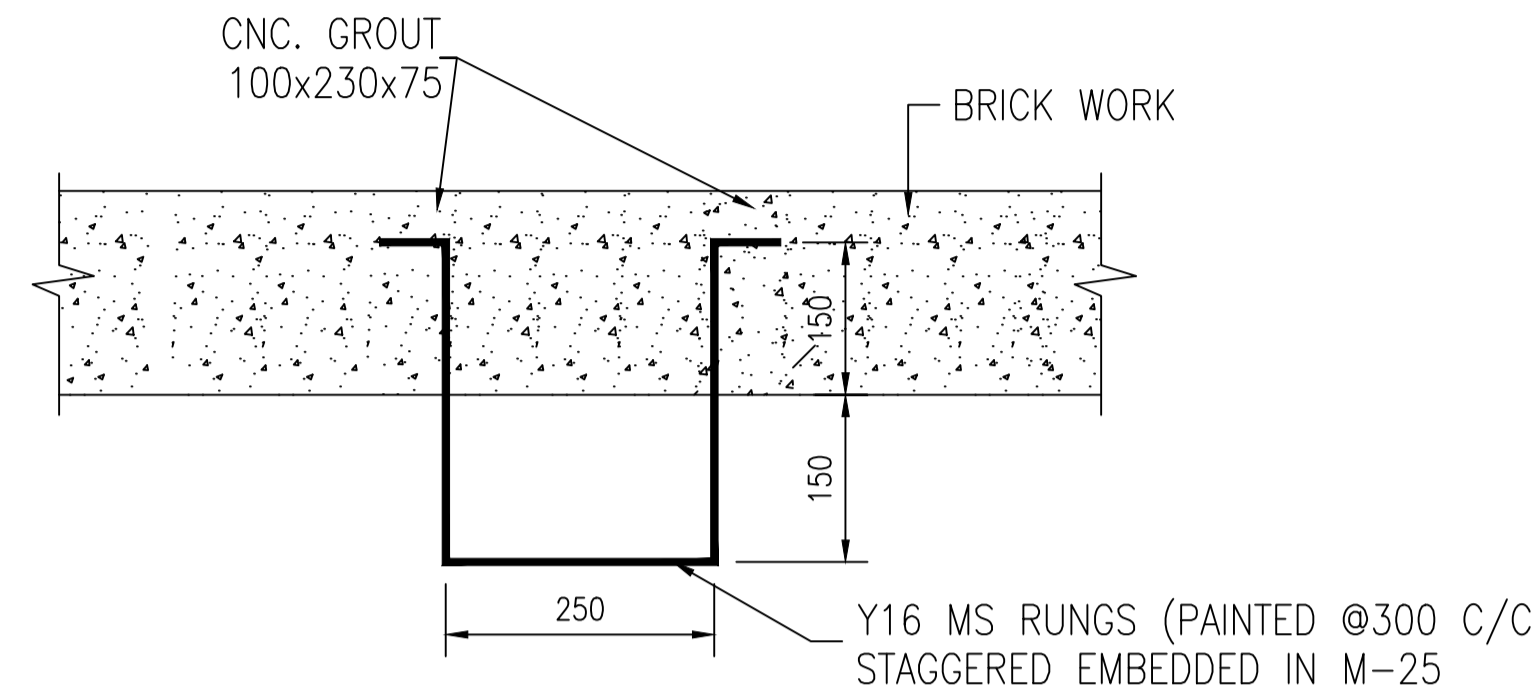


RESONANCE ENERGY PVT. LTD.

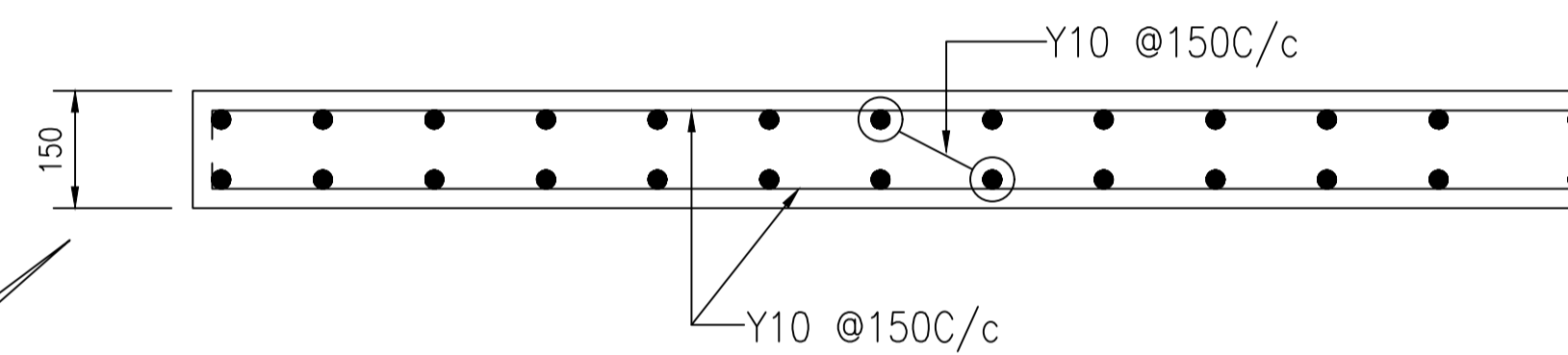
Size	Scale	Sheet	Rev.
A3	NTS	01 of 01	0
Drawing No.- REPL/CUGL/STD/-015			



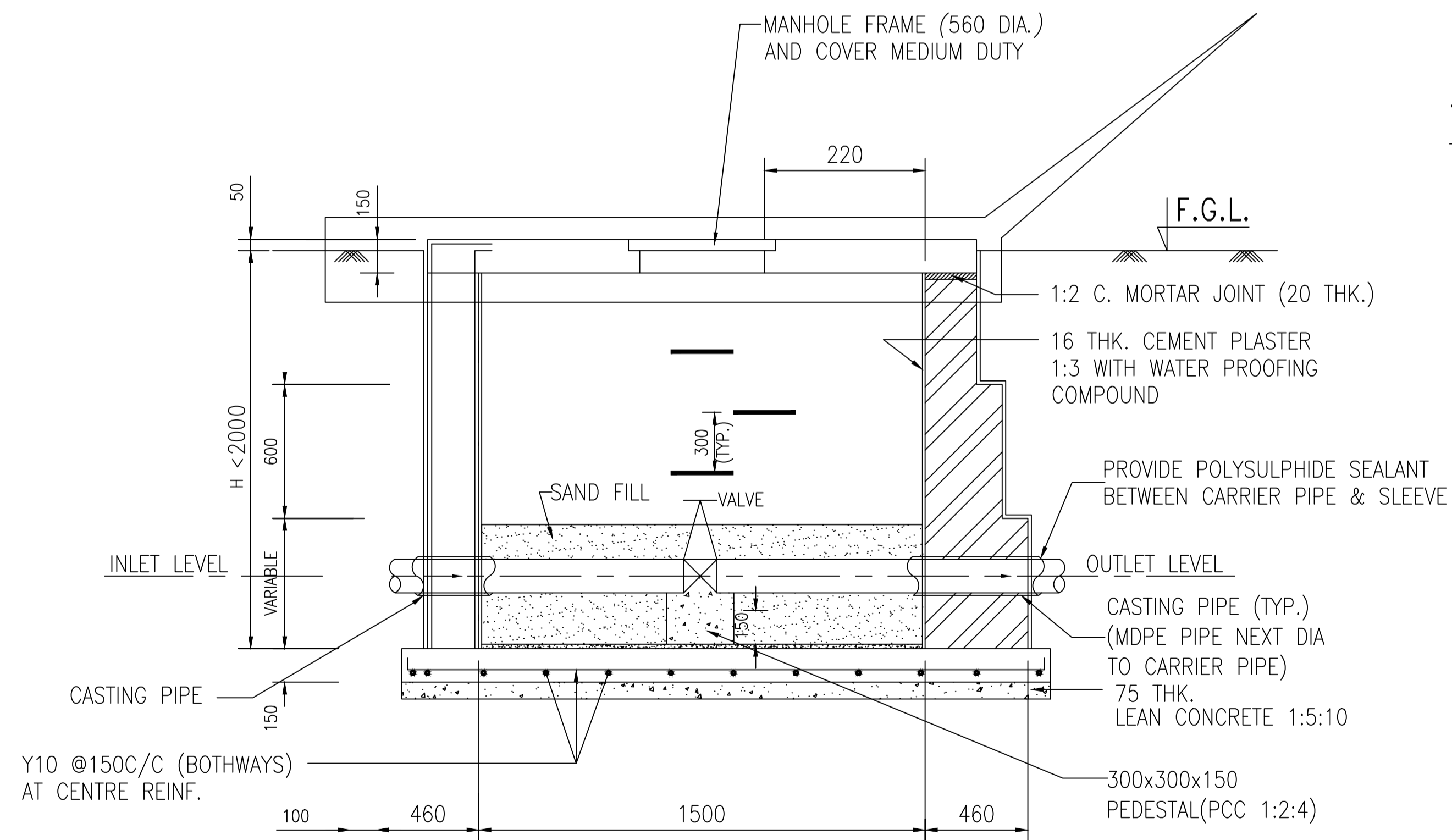
VALVE PIT PLAN



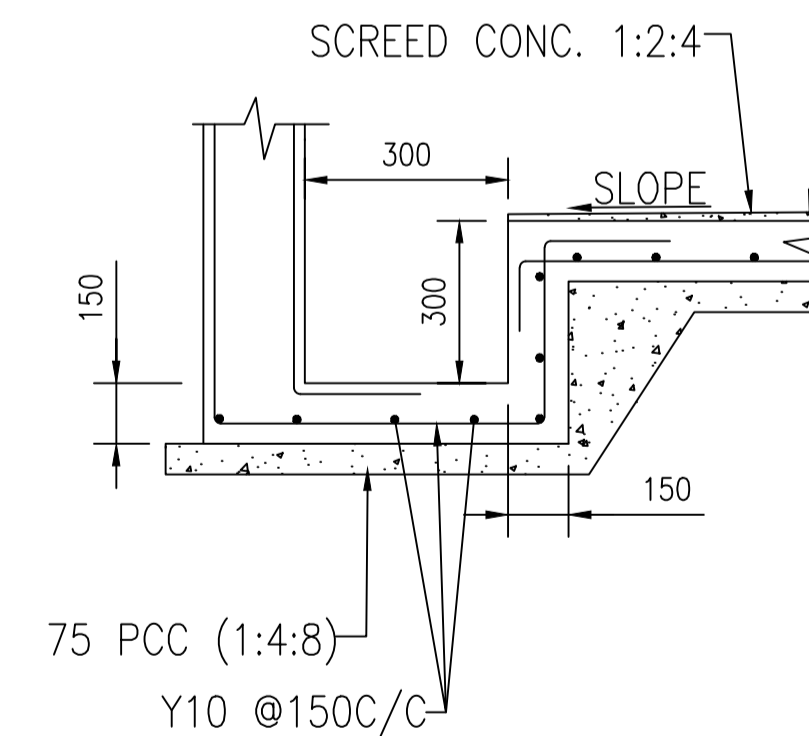
TYPICAL DETAILS OF MS RUNGS



TYPICAL SLAB R/F DETAIL



SECTION A-A



SECTION 1-1

NOTES:

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
2. FOLLOW WRITTEN DIMENSIONS ONLY. DO NOT SCALE.
3. CLEAR COVER TO MAIN REINFORCEMENT SHALL BE: SLAB = 20mm.
4. GRADE OF CONCRETE SHALL BE M-25.
5. REINFORCEMENT SHALL BE OF HYSD (GRADE Fe 415) CONFORMING TO IS :1786 OR EQUIVALENT.

0	17.07.2024	Issued for tender	AS	VS	GSJ
Rev.	D M Y	Status	Drawn	Checke	Approved

PROJECT:-RCC VALVE CHAMBER (1.5M X 1.5M)



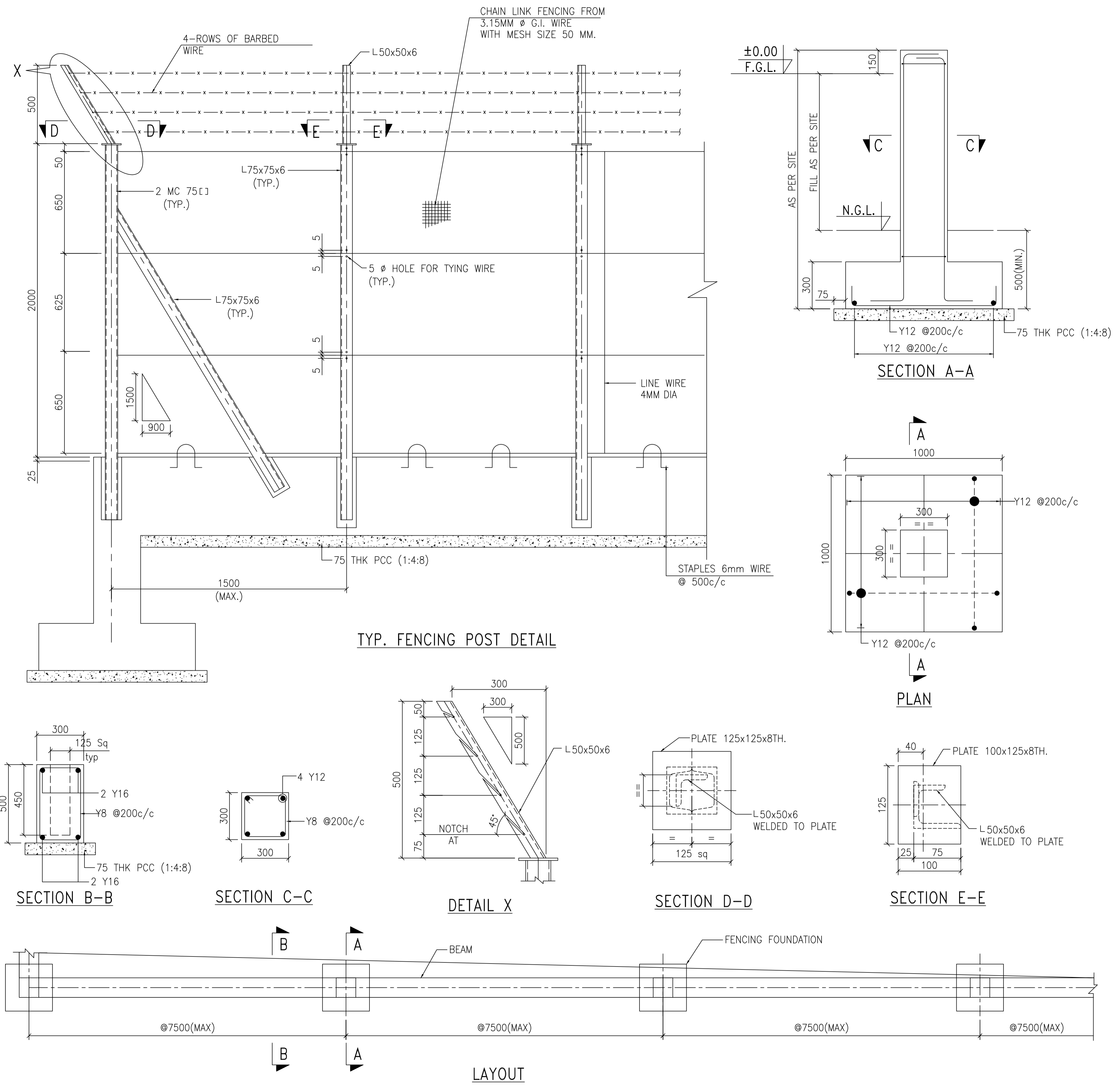
PROJECT:- CENTRAL UP GAS LIMITED



RESONANCE ENERGY PVT. LTD.

Size	Scale	Sheet	Rev.
A3	NTS	01 of 01	0
Drawing No.-REPL/CUGL/STD-016			

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- NOTES:
1. ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
  2. FOLLOW WRITTEN DIMENSIONS ONLY. DO NOT SCALE.

0	16.07.2024	Issued for tendet	AS	VS	GSJ
Rev.	D M Y	Status	Drawn	Checked	Approved

SUBJECT:- TYPICAL DETAILS OF FENCING

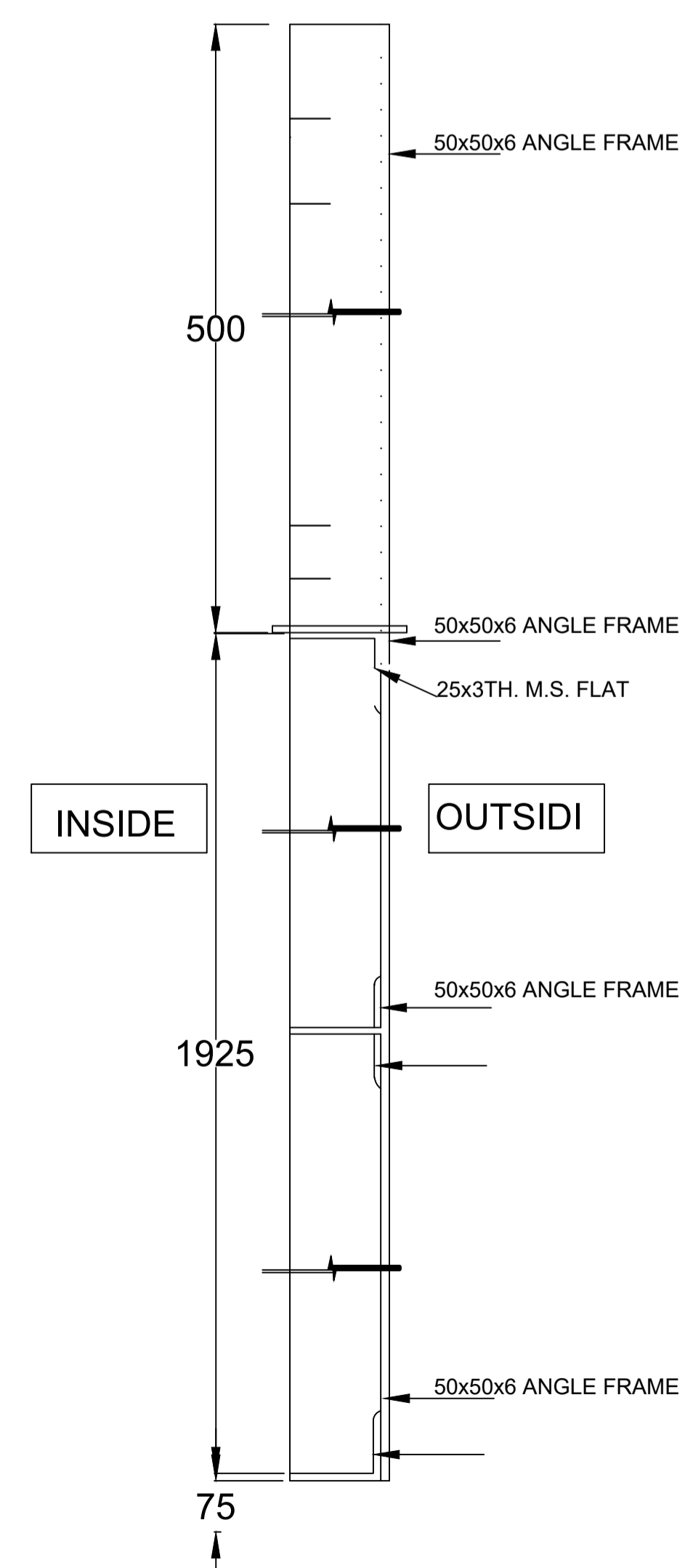
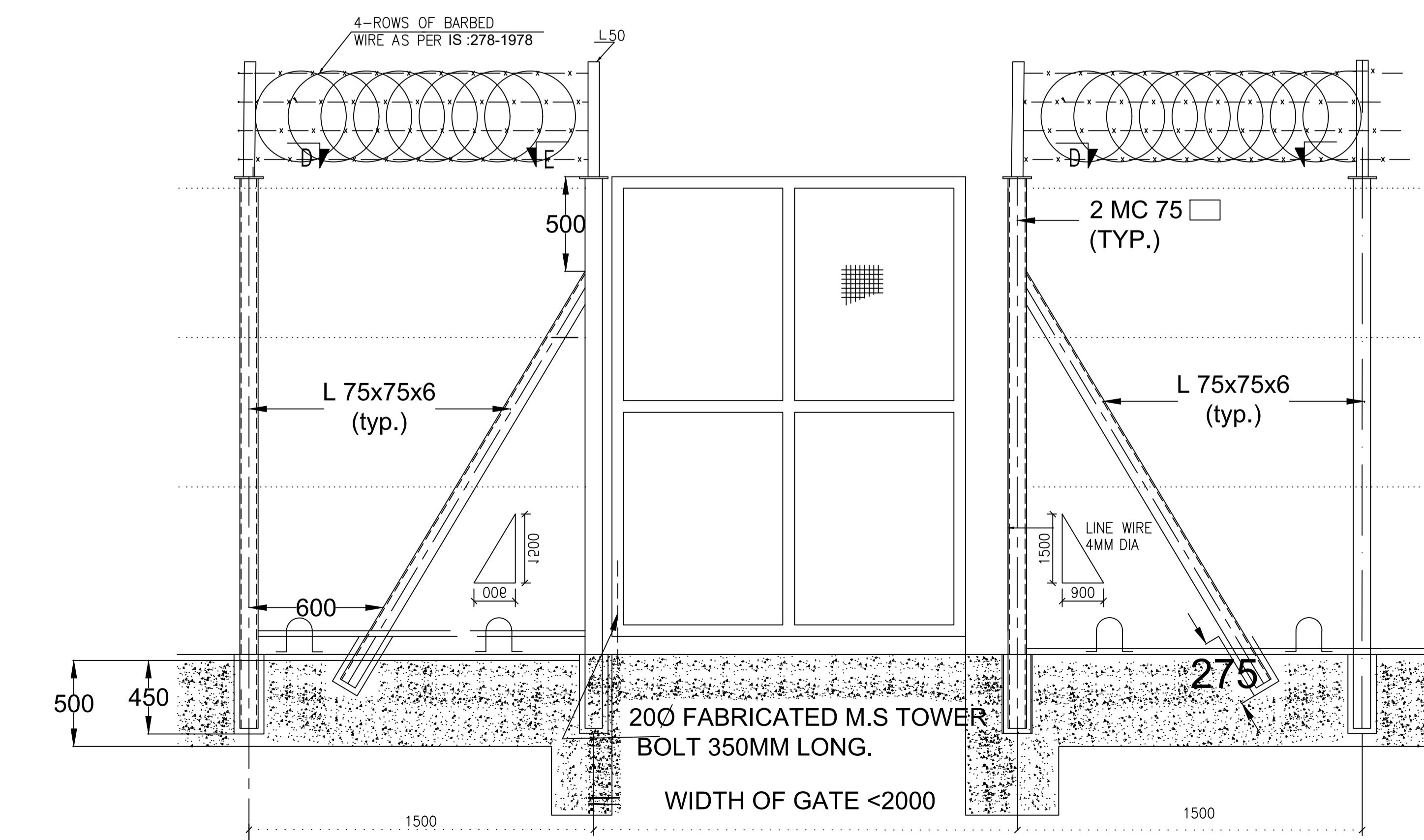
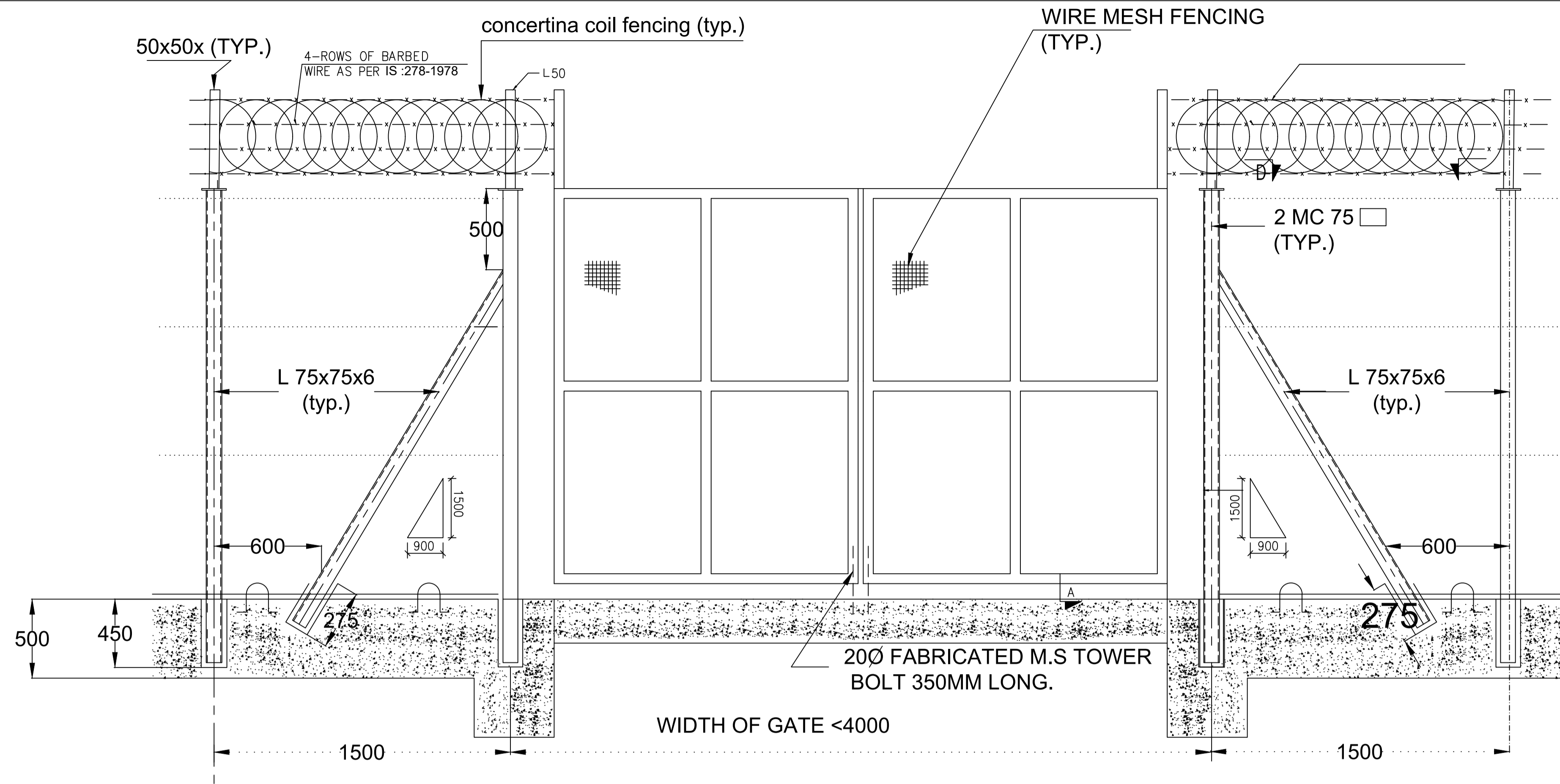


PROJECT:- CENTRAL UP GAS LIMITED



RESONANCE ENERGY PVT. LTD.

Size	Scale	Sheet	Rev.
A3	NTS	01 of 01	0
Drawing No.-REPL/CUGL/STD/CS-017			



GATE DETAIL

- NOTES:
1. ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
  2. FOLLOW WRITTEN DIMENSIONS ONLY. DO NOT SCALE THE DIMENSIONS

0	16.07.2024	Issued for Tender	AS	VS	GSJ
Rev.	D M Y	MODIFICATIONS	Drawn by	Checked by	Approved by

SUBJECT: - TYPICAL DETAILS OF GATE

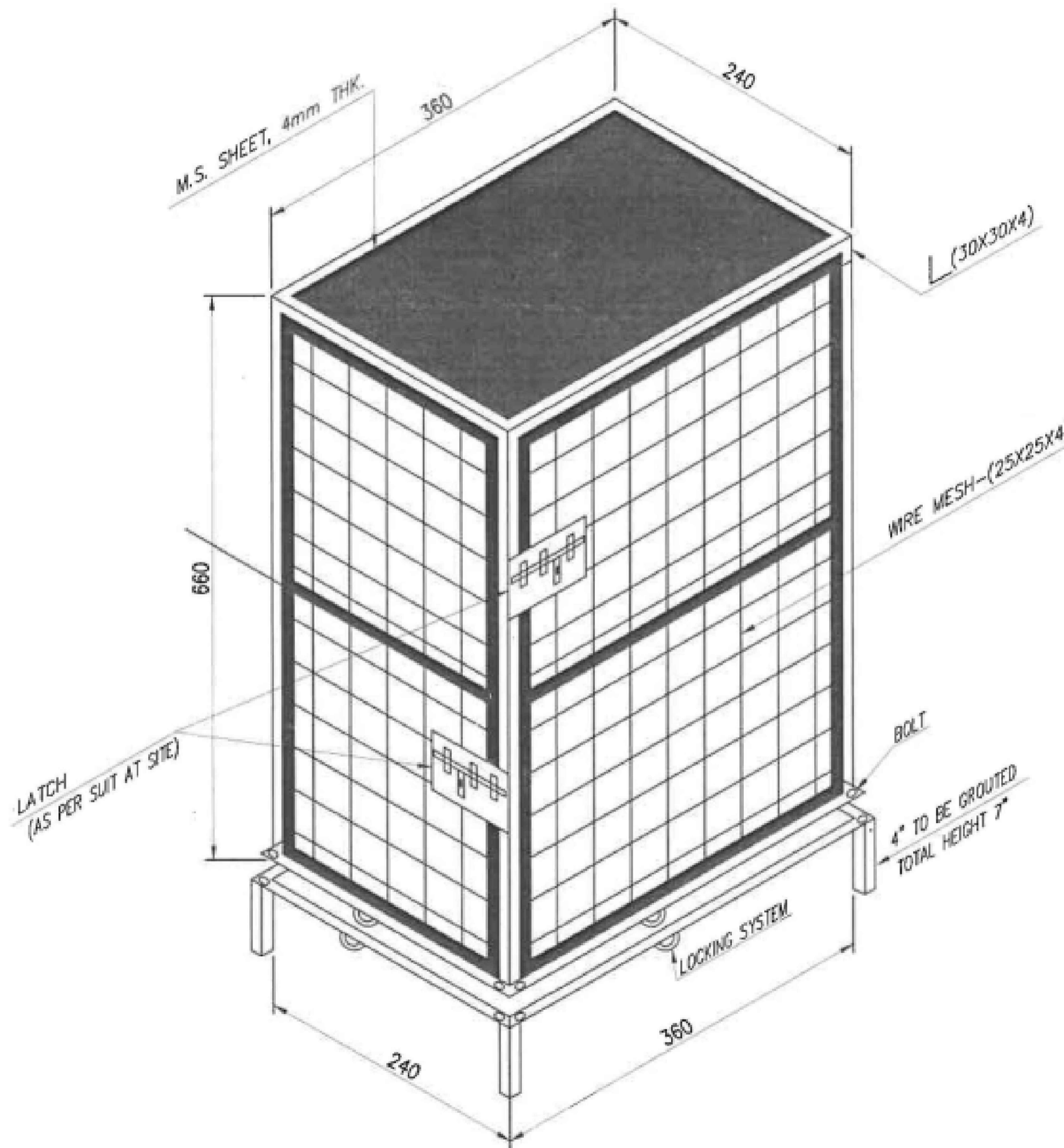


PROJECT:- CENTRAL UP GAS LIMITED

 RESONANCE ENERGY PVT. LTD.	SIZE	Scale	Sheet	Rev.
	A1	NTS	01 of 01	0

Drawing No: -REPL/CUGL/STD/CS-018

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. 40MM GROUTING WITH NON-SHRINKAGE COMPOUND SHALL BE PROVIDED AT BOTTOM OF SERVICE REGULATOR.
3. WIRE MESH AND MS ANGLE/PLATES SHOULD BE PAINTED WITH PRIMER & GOLDEN YELLOW PAINT OF REPUTATED MAKE.



0	16.07.2024	ISSUED FOR TENDER	AS	VS	GSJ
Rev.	D M Y	Modifications	Drawn By	Checked By	Approved By
CUSTOMER  CENTRAL UP GAS LIMITED					
PROJECT CITY GAS DISTRIBUTION PROJECT					
SUBJECT <b>SCHEMATIC DIAGRAM OF HOUSING FOR SINGLE SERVICE REGULATOR</b>					
Resonance energy pvt ltd		Size	Scale	Sheet	Rev.
		A1	NTS	01 of 01	0
		Project No.	Discipline Code	System Code	Serial No.
		P.014714	D	20749	018

