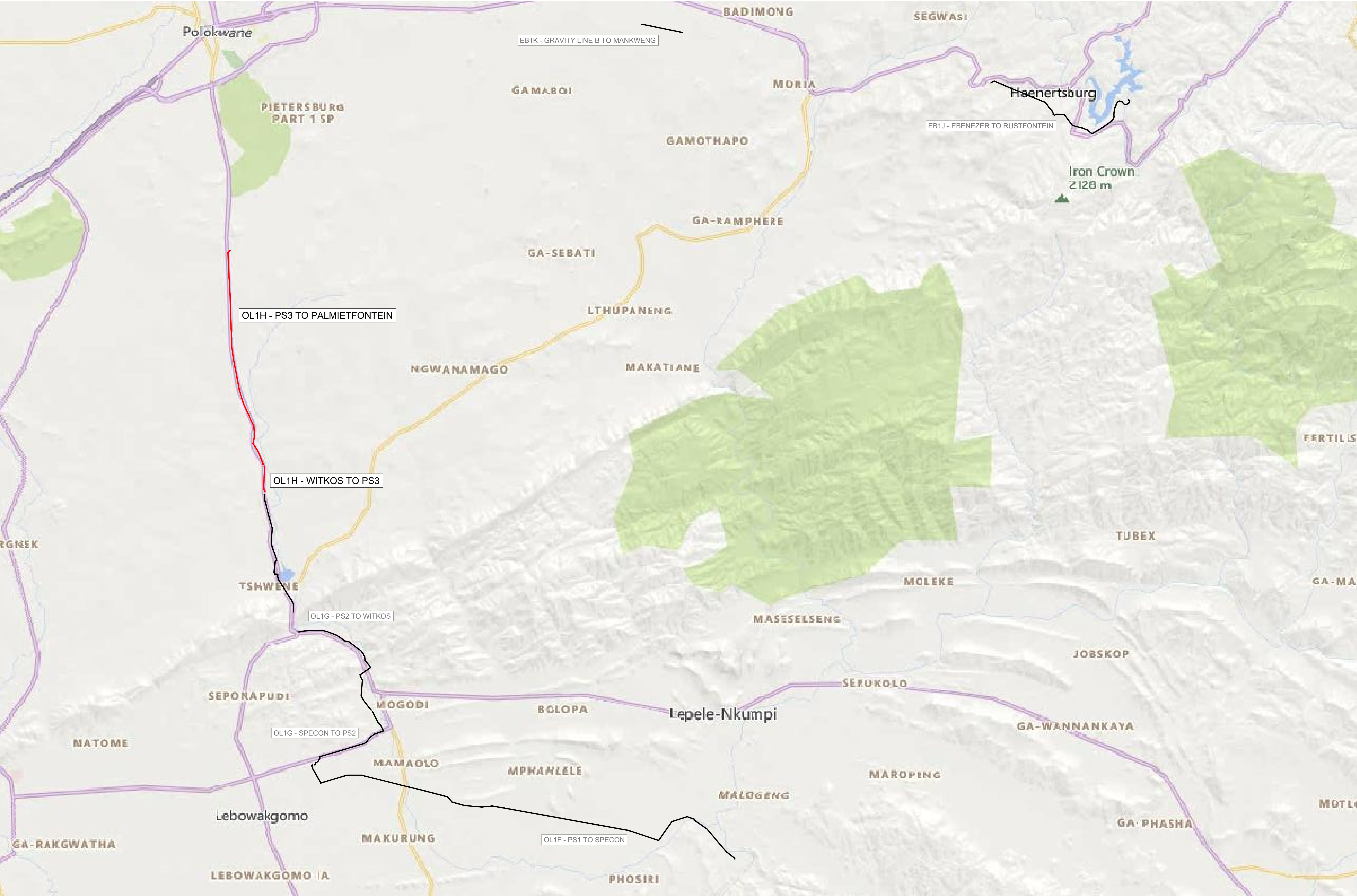


P1001-OL1H-CIV-0001 - Witkos to PS3



Document Register Rev a
Date of Issue: 2023/05/26

Drawing Number	Issued for	Description	Design Stage	Rev a	Rev b	Rev c	Rev d
P1001-OL1H-CIV-0001	Tender	List of Drawings	Tender	2023/05/26			
P1001-OL1H-CIV-0100	Tender	Locality Plan and Project Layout	Tender	2023/05/26			
Water Layouts	1000						
Witkos to PS3 - Section 1							
P1001-OL1H-CIV-1001	Tender	Overall Layout and Longitudinal section for Pipeline Witkos to PS3	Tender	2023/05/26			
P1001-OL1H-CIV-1002	Tender	Layout and Longitudinal section for Pipeline Witkos to PS3 CH 0,000 to 704,663	Tender	2023/05/26			
P1001-OL1H-CIV-1003	Tender	Layout and Longitudinal section for Pipeline Witkos to PS3 CH 704,663 to 1409,327	Tender	2023/05/26			
P1001-OL1H-CIV-1004	Tender	Layout and Longitudinal section for Pipeline Witkos to PS3 CH 1409,327 to 1613,549	Tender	2023/05/26			
P1001-OL1H-CIV-1005	Tender	List of Coordinates for Pipeline Witkos to PS3	Tender	2023/05/26			
Road Crossing Drawings	1100						
Witkos to PS3 - Section 1							
P1001-OL1H-CIV-1100	Tender	Road Crossing Layout	Tender	2023/05/26			
Water Details	1300						
Witkos to PS3 - Section 1							
P1001-OL1H-CIV-1301	Tender	Witkos to PS3 - Air Valve Details	Tender	2023/05/26			
P1001-OL1H-CIV-1302	Tender	Witkos to PS3 - Scour Valve Details	Tender	2023/05/26			
P1001-OL1H-CIV-1303	Tender	Witkos to PS3 - Connection 1 Details	Tender	2023/05/26			
P1001-OL1H-CIV-1304	Tender	Witkos to PS3 - Connection 2 Details	Tender	2023/05/26			
P1001-OL1H-CIV-1305	Tender	Witkos to PS3 - Isolation Valve Details	Tender	2023/05/26			
P1001-OL1H-CIV-1306	Tender	Witkos to PS3 - Isolation Valve Schedule of Items	Tender	2023/05/26			
Civil Typical Details	1500						
P1001-OL1H-CIV-0501	Tender	Typical Road Crossing detail	Tender	2023/05/26			
P1001-OL1H-CIV-0502	Tender	Flexible Bedding Details	Tender	2023/05/26			
Structural Details	3200						
Witkos to PS3 - Section 1							
P1001-OL1H-CIV-3201	Tender	Witkos to PS3 - Structural Air Valve Details	Tender	2023/05/26			
P1001-OL1H-CIV-3202	Tender	Witkos to PS3 - Structural Scour Valve Details	Tender	2023/05/26			
P1001-OL1H-CIV-3203	Tender	Witkos to PS3 - Structural Isolation Valve Details	Tender	2023/05/26			
P1001-OL1H-CIV-3224	Tender	Witkos to PS3 - Structural Details for Catladders and Platforms	Tender	2023/05/26			





LEPELLE NORTHERN WATER
Water is our passion

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Polokwane Central

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Website: www.lepellewater.com



Sigodi Marah Martin
Management Support
Development & Engineering Consultants

Tel: 27 (0)12 945 9009
Email: info@sigodimarah.co.za

PROFESSIONAL ENGINEER:
L. MARAH

PROF. Reg.No:
920281

DATE:
2023-05-26

SIGNATURE:

DESIGN BY:
B. COETZEE

DRAWN BY:
E. COETZEE

CHECKED BY:
B. COETZEE

APPROVED BY:
L. MARAH

REVISIONS			
REV	DATE	DESCRIPTION	BY
a	2023-05-26	ISSUED FOR TENDER	LM

PROJECT NAME

UPGRADE OF OLIFANTSPOORT AND EBENEZER
WATER SUPPLY SCHEME

TITLE

LOCALITY PLAN AND PROJECT LAYOUT
WITKOS TO PS3 TO PALMIETFONEIN

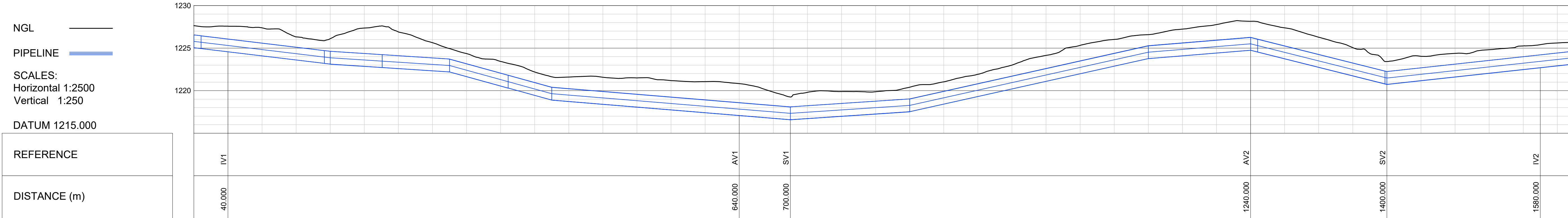
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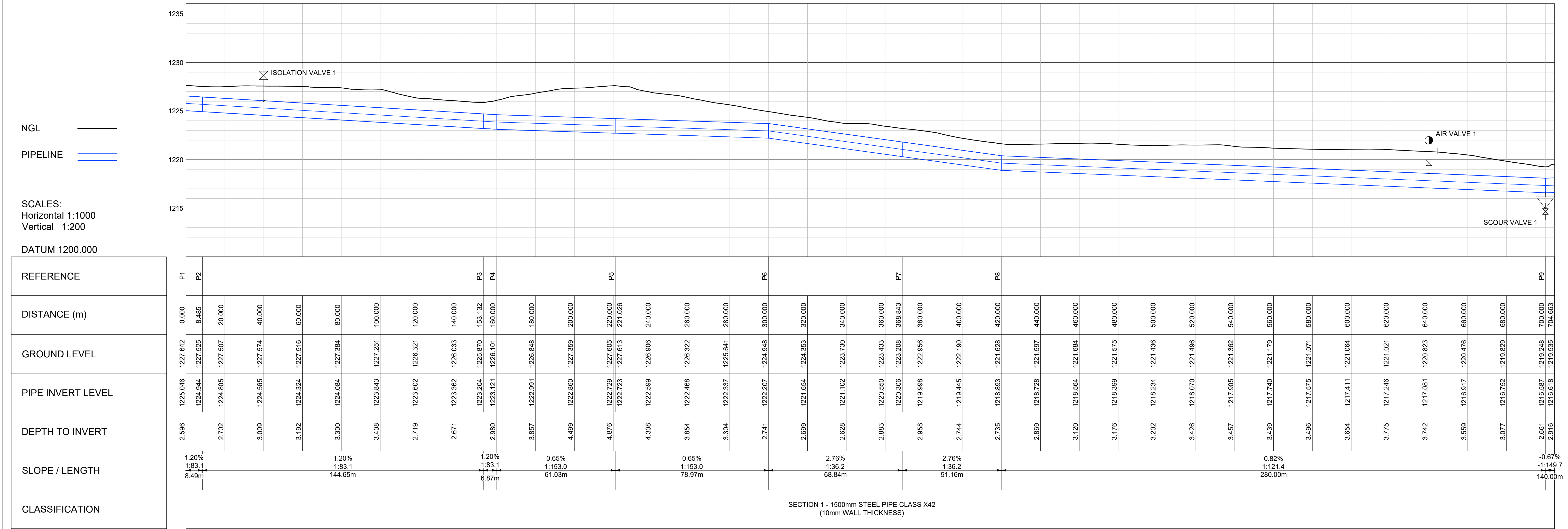
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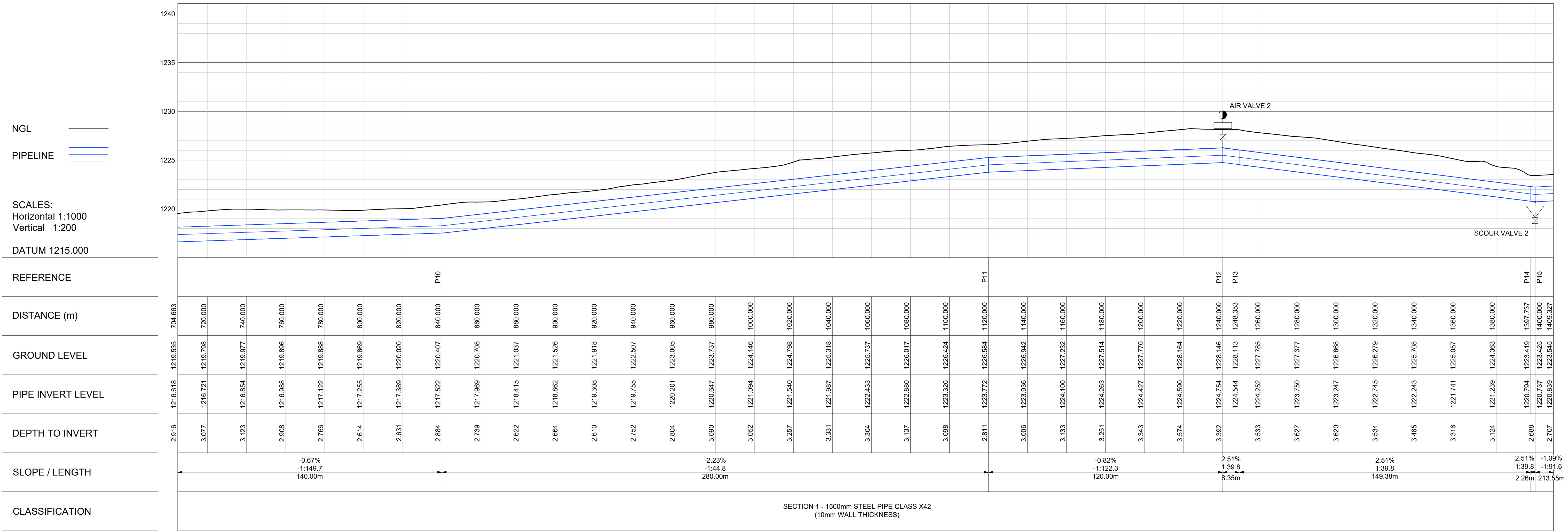
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2023-05-26	N.T.S	1 OF 1	a	A1

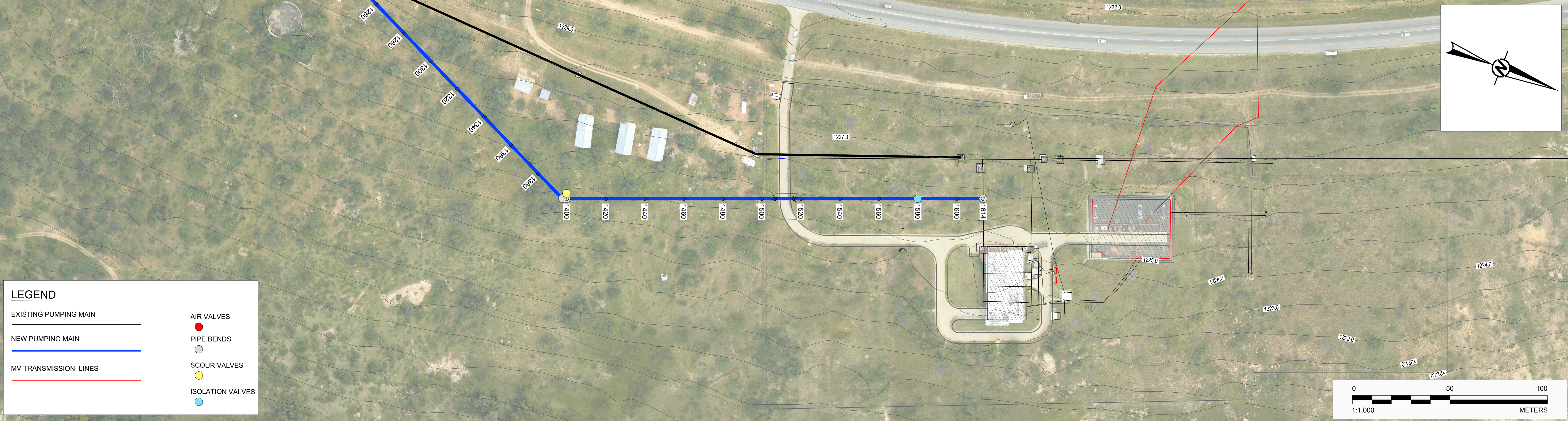
DWG NO

P1001-OL1H-CIV-0100









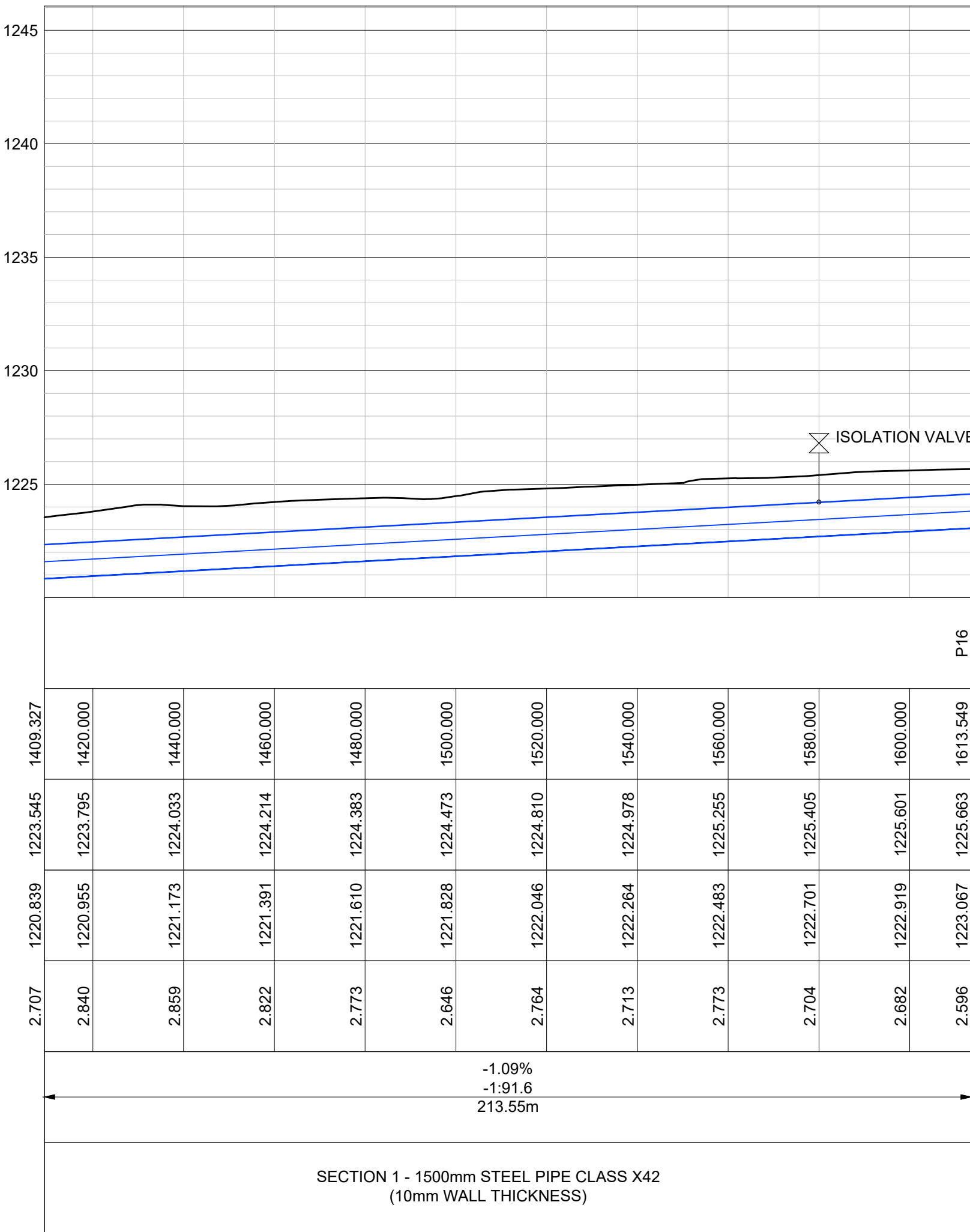
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PIPELINE

SCALES:
Horizontal 1:1000
Vertical 1:200

DATUM 1220.000

REFERENCE
DISTANCE (m)
GROUND LEVEL
PIPE INVERT LEVEL
DEPTH TO INVERT
SLOPE / LENGTH
CLASSIFICATION



● PIPE BENDS : LIST OF COORDINATES				
POINT	Y-COORD	X-COORD	CHAINAGE	BEND DESCRIPTION
P1	-48 904.224	2 672 915.636	0.000	-
P2	-48 909.601	2 672 909.072	8.485	HORIZONTAL BEND 45°
P3	-48 895.284	2 672 765.135	153.132	HORIZONTAL BEND 45°
P4	-48 889.971	2 672 760.783	160.000	-
P5	-48 842.760	2 672 722.114	221.026	HORIZONTAL BEND 46°
P6	-48 836.831	2 672 643.363	300.000	-
P7	-48 831.663	2 672 574.714	368.843	HORIZONTAL BEND 7°
P8	-48 834.045	2 672 523.613	420.000	-
P9	-48 847.088	2 672 243.917	700.000	-
P10	-48 853.609	2 672 104.069	840.000	-
P11	-48 866.652	2 671 824.373	1120.000	-
P12	-48 872.241	2 671 704.503	1240.000	-
P13	-48 872.630	2 671 696.159	1248.353	HORIZONTAL BEND 22°
P14	-48 934.791	2 671 560.323	1397.737	HORIZONTAL BEND 46°
P15	-48 933.955	2 671 558.219	1400.000	-
P16	-48 855.082	2 671 359.770	1613.549	-

● SCOUR VALVES : LIST OF COORDINATES					
POINT	Y-COORD	X-COORD	CHAINAGE	*CHAMBER DEPTH	VALVE CHAMBER PRESSURE RATING
SV1	-48 847.088	2 672 243.917	700	3,9m	PN 25
SV2	-48 933.955	2 671 558.219	1400	3,9m	PN 25

* CHAMBER DEPTH MEASURED FROM SOFFIT OF COVER SLAB TO TOP OF FLOOR SLAB

● ISOLATION VALVES : LIST OF COORDINATES					
POINT	Y-COORD	X-COORD	CHAINAGE	*CHAMBER DEPTH	VALVE CHAMBER PRESSURE RATING
IV1	-48 906.481	2 672 877.712	40	4,2m	PN 25
IV2	-48 867.473	2 671 390.947	1580	4,2m	PN 25

* CHAMBER DEPTH MEASURED FROM SOFFIT OF COVER SLAB TO TOP OF FLOOR SLAB

● AIR VALVES : LIST OF COORDINATES					
POINT	Y-COORD	X-COORD	CHAINAGE	*CHAMBER DEPTH	VALVE CHAMBER PRESSURE RATING
AV1	-48 844.293	2 672 303.852	640	2,0m	PN 25
AV2	-48 872.241	2 671 704.503	1240	2,0m	PN 25

* CHAMBER DEPTH MEASURED FROM SOFFIT OF COVER SLAB TO TOP OF FLOOR SLAB

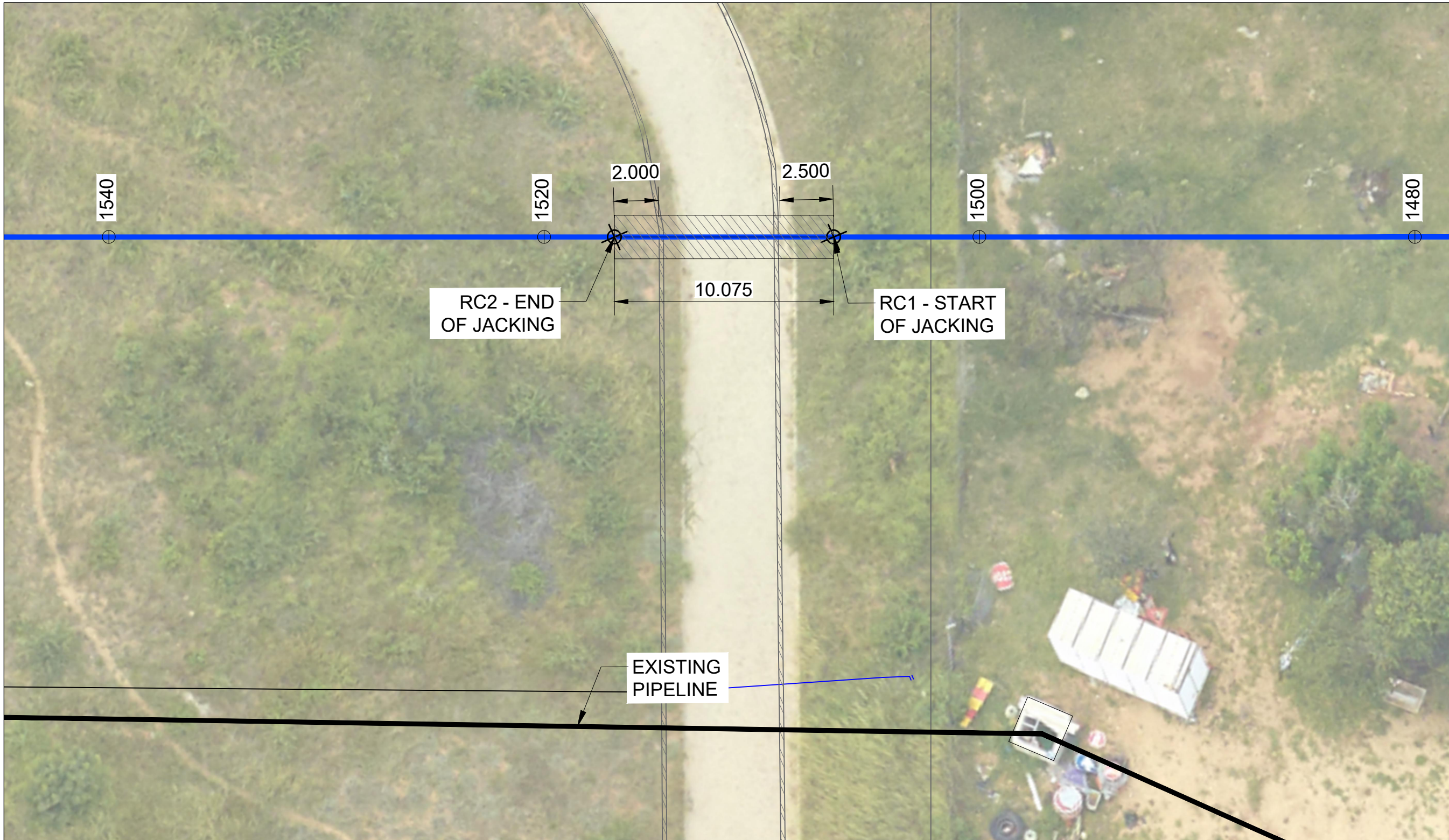
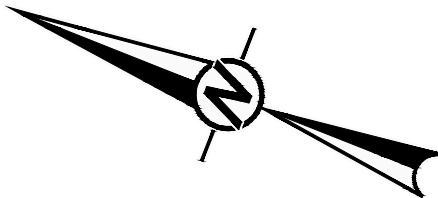
⌘ ROAD CROSSINGS : LIST OF COORDINATES				
POINT	Y-COORD	X-COORD	LENGTH	DESCRIPTION
RC1	-48 894.546	2 671 459.064	10m	START OF ROAD CROSSING
RC2	-48 890.874	2 671 449.823		END OF ROAD CROSSING

NOTE:

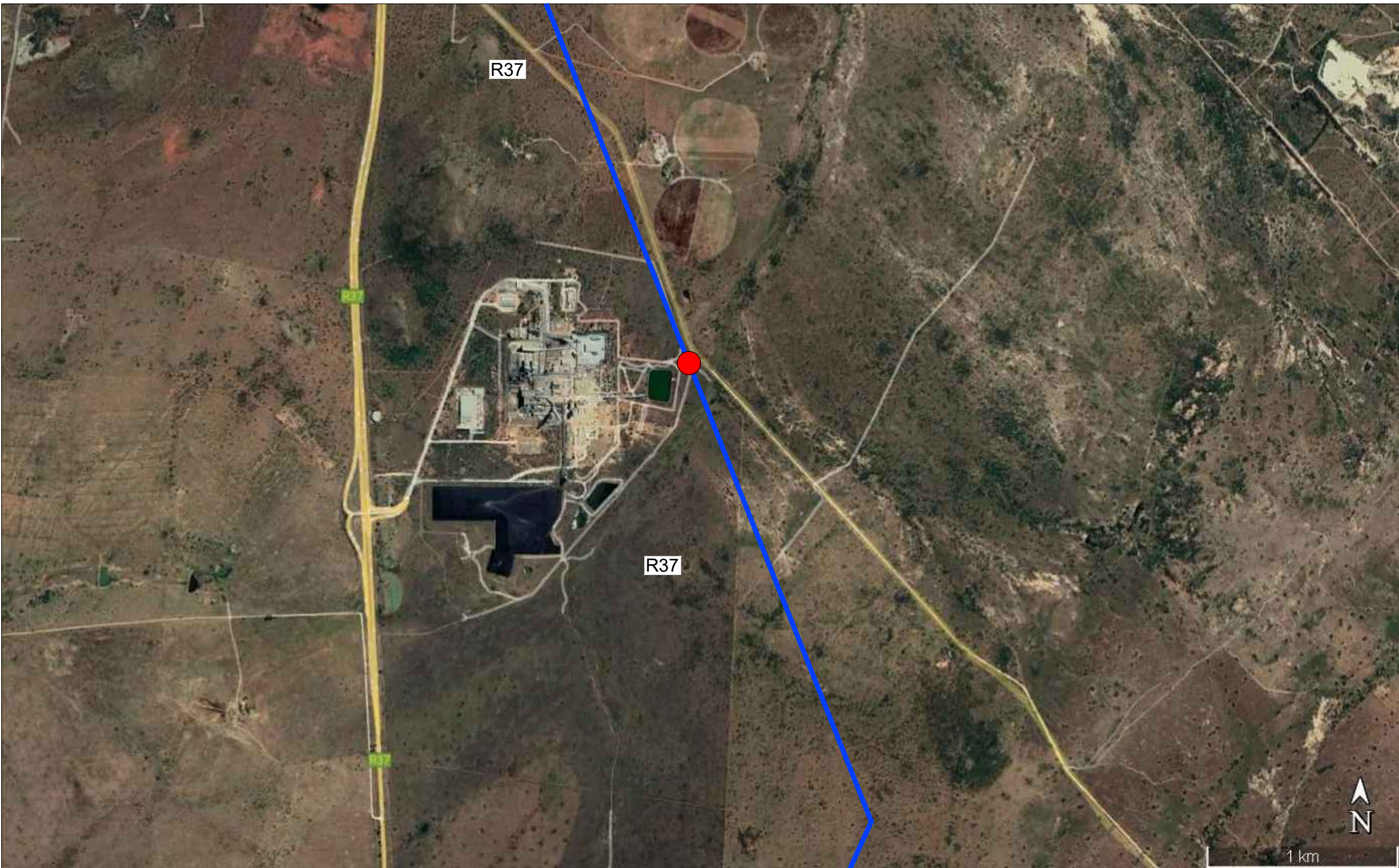
1. COORDINATES FOR ROAD CROSSINGS ARE INDICATIVE, EXACT LOCATION TO BE DETERMINED ON SITE.

2. CHAMBER DEPTH MEASURED FROM SOFFIT OF COVER SLAB TO TOP OF FLOOR SLAB

COORDINATE SYSTEM: WGS84 - HARTEBEE SHOEK LO29



ROAD CROSSING RC17 - RC19
SCALE 1:250



LOCALITY PLAN
N.T.S

ROAD CROSSING : LIST OF COORDINATES				
POINT	Y-COORD	X-COORD	PIPE INVERT LEVEL	GPS COORD
RC17 - START JACKING	-48 894.546	2 671 459.064		
RC18 - END JACKING	-48 890.813	2 671 449.707		
CH 1480	-48 904.395	2 671 483.881	1221.610	
CH 1500	-48 897.008	2 671 465.295	1221.828	
CH 1520	-48 889.634	2 671 446.704	1222.046	
CH 1540	-48 882.247	2 671 428.118	1222.264	

COORDINATE SYSTEM: WGS84 - HARTEBEE SHOEK LO29

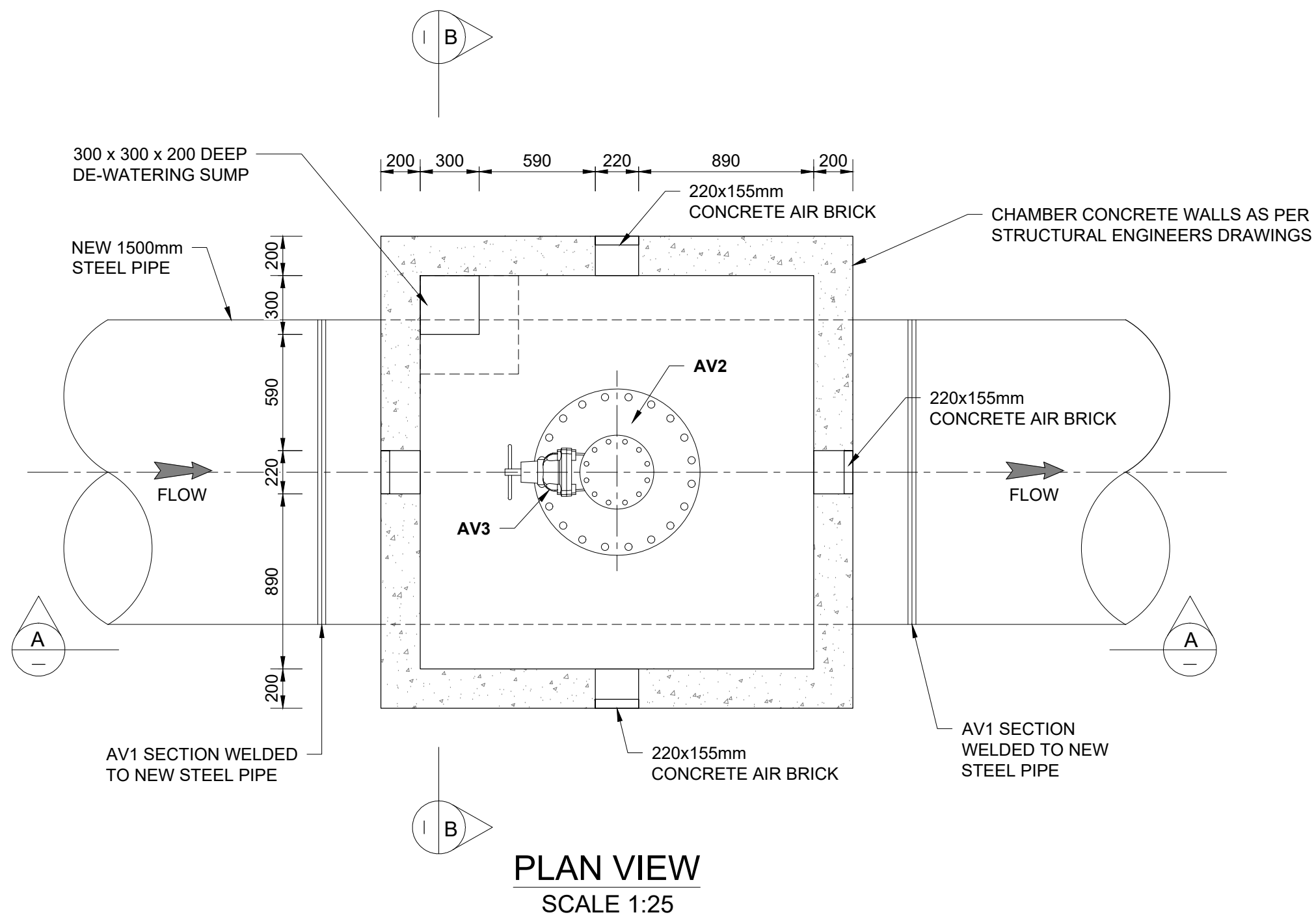
NOTES:

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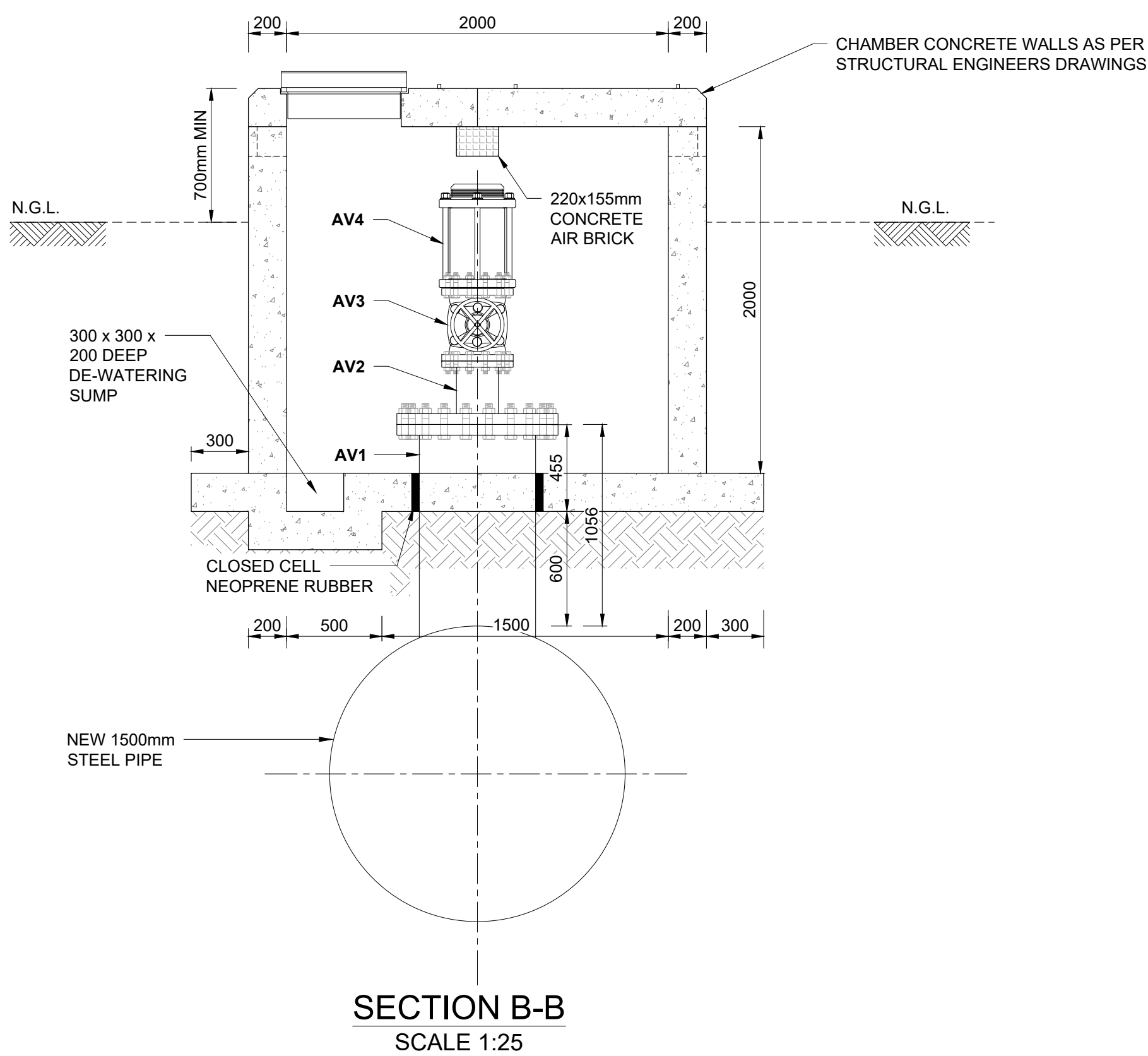
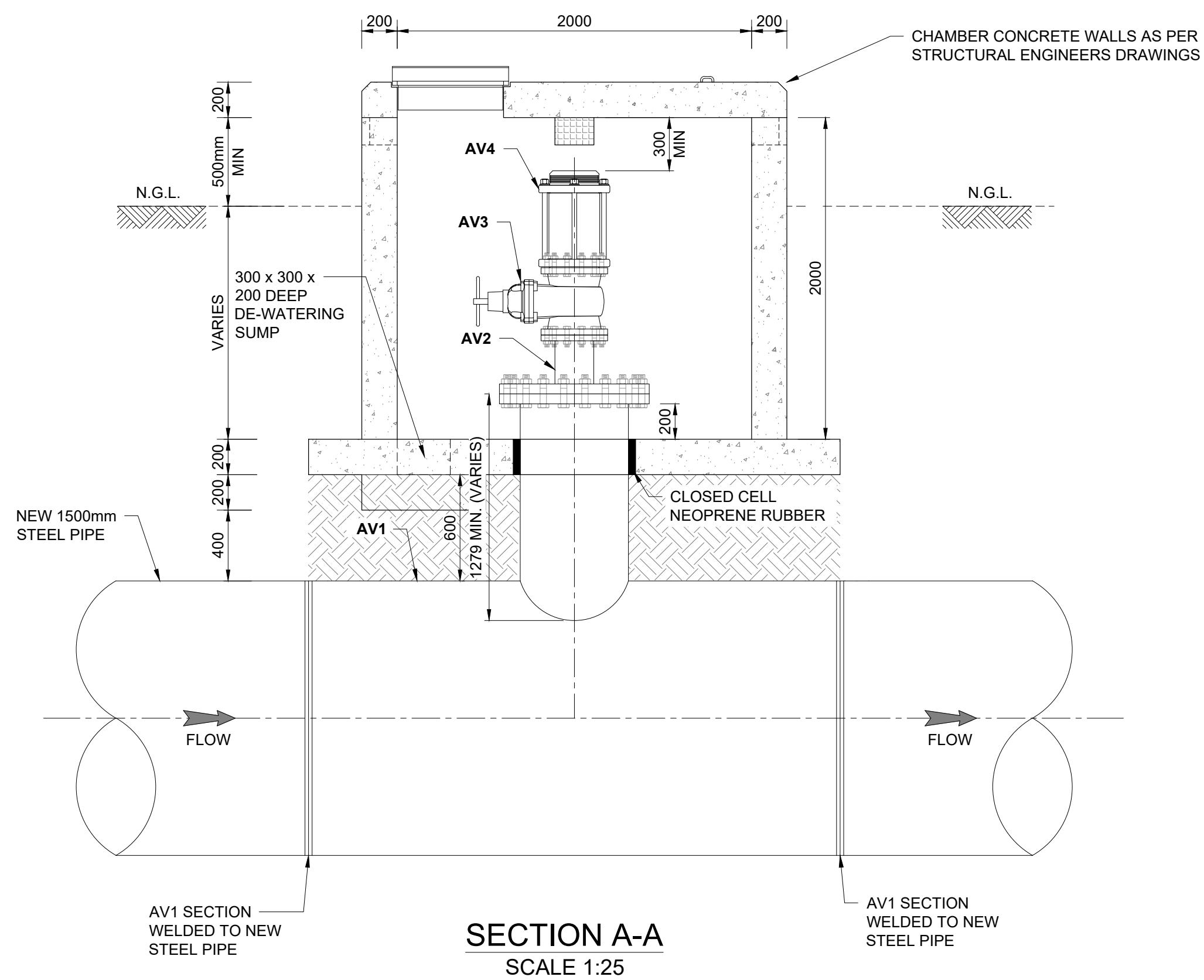
1. DETAILS TO BE READ WITH THE SPECIFICATIONS AS PER THE CONTRACT DOCUMENT.
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
3. DIMENSIONS SHALL NOT BE SCALED FROM THIS DRAWING AND ONLY DIMENSIONS INDICATED WILL BE USED.
4. DIMENSIONS OF SPECIAL FITTINGS SHOULD BE CONFIRMED WITH THE ENGINEER BEFORE ORDERING.
5. 20x20mm CHAMFER ON ALL EXPOSED CONCRETE CORNERS.
6. FLOOR SCREED TO BE SLOPED TO SUMP

PIPE FITTINGS:

7. FOR PIPE JOINT WELDS, INTERNAL LINING AND EXTERNAL COATING REFER TO THE SPECIFICATIONS AS PER THE CONTRACT DOCUMENT.
8. ALL FLANGES AT FLANGED JOINTS TO BE ACCORDING TO RELATIVE PRESSURE CLASS. REFER TO PRESSURE CLASSES FOR ALL CHAMBERS TO DRAWING: P1001-OL1H-CIV-1005
9. ALL UNDERGROUND FLANGES AND WELDED JOINTS TO BE WRAPPED IN SELF-HEALING CORROSION PREVENTIVE TAPE (STOPAQ) OR EQUIVALENT.



AIR VALVE CHAMBER - SCHEDULE OF ITEMS				
No	DESCRIPTION	DIAGRAM	PIPE ENDS FLANGED	QTY.
AV1	1500mm x 600mm UNEQUAL TEE (REFER TO PIPE REINFORCEMENT)		FLANGED ALL SIDES	1
AV2	600mm BLANK FLANGE WITH 200mm DRILLED OPENING, WITH A 200mm FLANGED PIPE SECTION.		FLANGED BOTH SIDES	1
AV3	200mm RSV GATE VALVE NON RISING SPINDLE & HAND OPERATED		FLANGED BOTH ENDS	1
AV4	200mm AIR VALVE (DOUBLE ORIFICE, DUAL ACTION WITH MECHANISM TO PREVENT SLAMMING)		FLANGED	1



CLIENT:



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Polokwane Central
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Website: www.lepellewater.com

CONSULTANT:



Sigodi Marah Martin
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0157
Tel: 27 (0)12 945 9009
Email: info@sigodimarrah.co.za

PROFESSIONAL ENGINEER:

L. MARAH
PROF. Reg.No:
920281
DATE:
2023-05-26
SIGNATURE:

DESIGN BY:

B. COETZEE
DRAWN BY:
E. COETZEE
CHECKED BY:
B. COETZEE
APPROVED BY:
L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
a	2023-05-26	ISSUED FOR TENDER	L.M

PROJECT NAME

UPGRADE OF OLIFANTSPOORT AND EBENEZER
WATER SUPPLY SCHEME

TITLE

AIR VALVE DETAILS
FOR PIPELINE WITKOS TO PS3

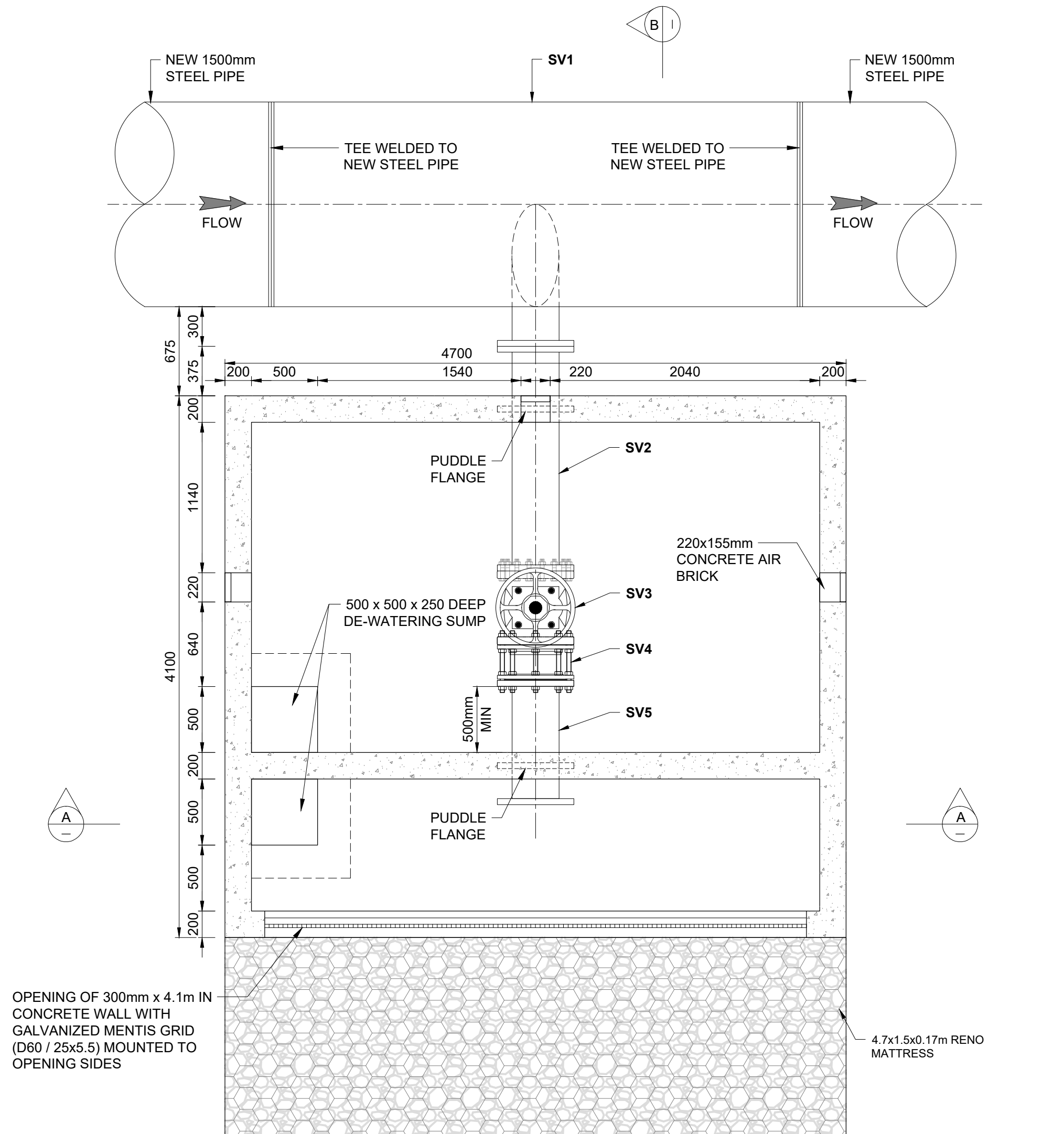
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TENDER

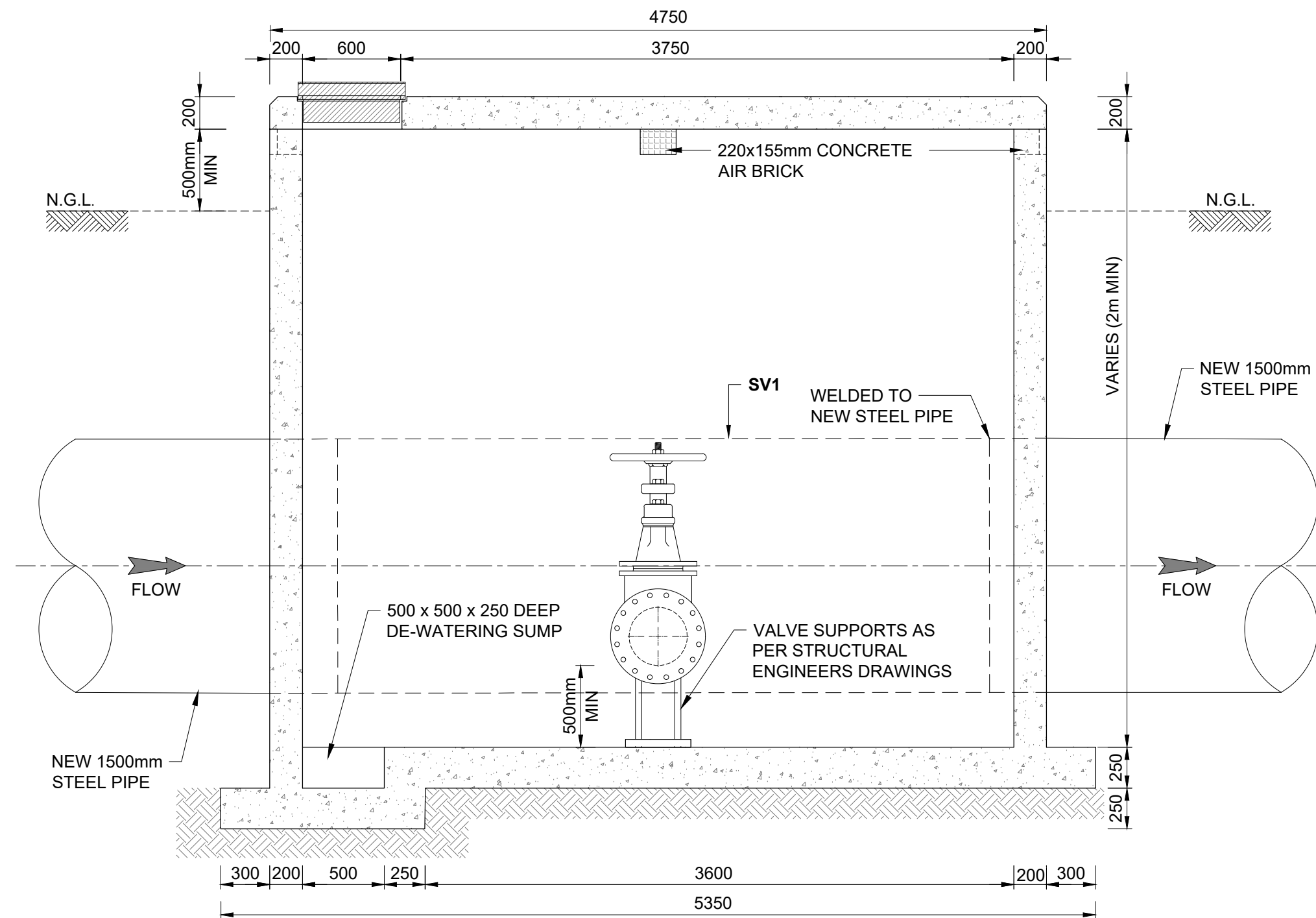
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2023-05-26	AS SHOWN	1 OF 1	a	A1

DWG NO

P1001-OL1H-CIV-1301



PLAN VIEW
SCALE 1:30



SECTION A-A
SCALE 1:30

NOTES:

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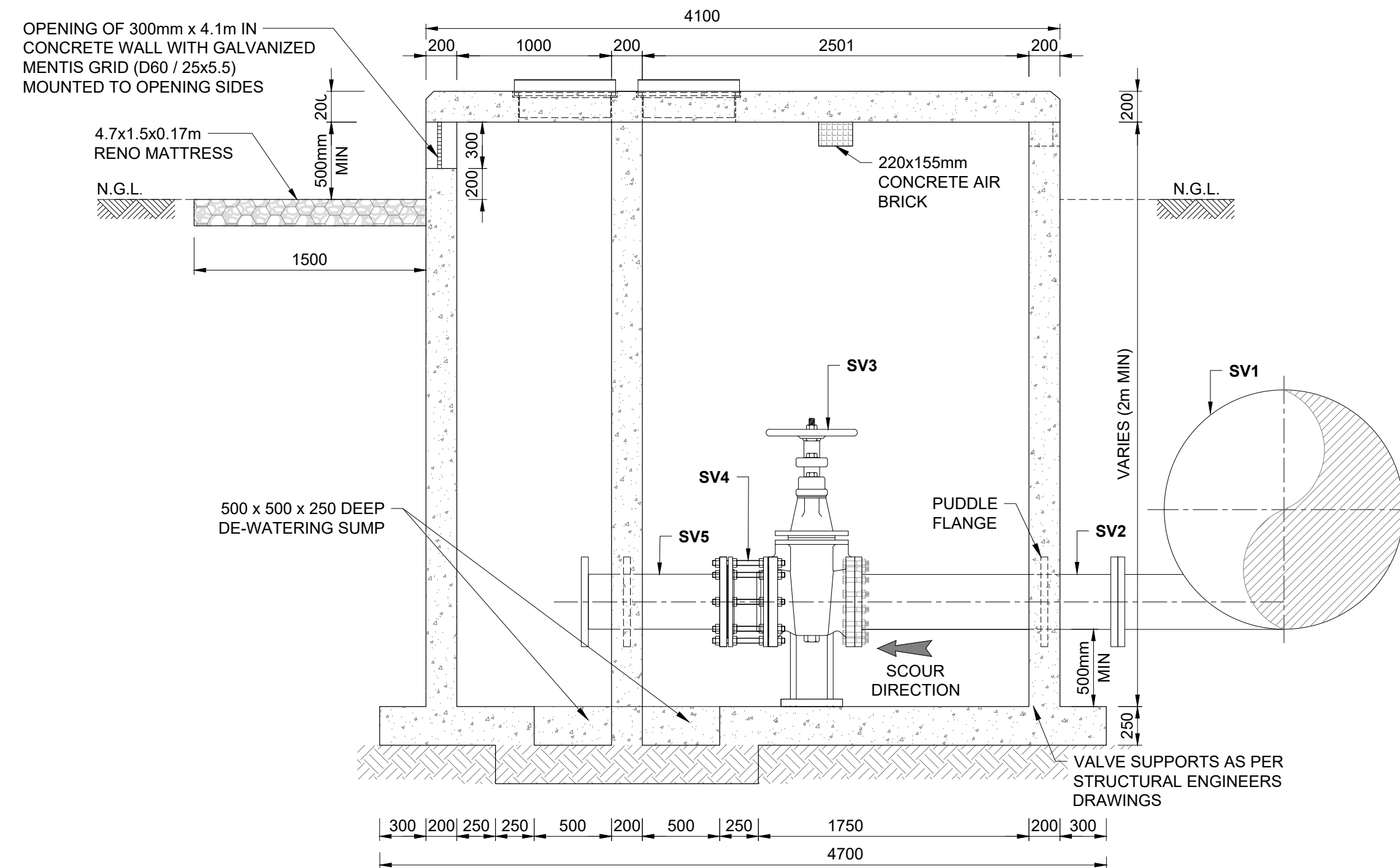
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4. DIMENSIONS OF SPECIAL FITTINGS SHOULD BE CONFIRMED WITH THE ENGINEER BEFORE ORDERING.
5. 20x20mm CHAMFER ON ALL EXPOSED CONCRETE CORNERS.
6. FLOOR SCREED TO BE SLOPED TO SUMP

PIPE FITTINGS:

7. FOR PIPE JOINT WELDS, INTERNAL LINING AND EXTERNAL COATING REFER TO THE SPECIFICATIONS AS PER THE CONTRACT DOCUMENT.
8. ALL FLANGES AT FLANGED JOINTS TO BE ACCORDING TO RELATIVE PRESSURE CLASS. REFER TO PRESSURE CLASSES FOR ALL CHAMBERS TO DRAWING: P1001-OL1H-CIV-1005
9. ALL UNDERGROUND FLANGES AND WELDED JOINTS TO BE WRAPPED IN SELF-HEALING CORROSION PREVENTIVE TAPE (STOPAQ) OR EQUIVALENT.

SCOUR VALVE CHAMBER - SCHEDULE OF ITEMS

No	DESCRIPTION	DIAGRAM	FLANGED / WELDED	QTY.
SV1	1500mm x 350mm UNEQUAL TEE (FOR PIPE REINFORCEMENT, REFER TO DWG: P1001-OL1G-CIV-1330)		WELDED BOTH ENDS, FLANGED ON 350mm OUTLET	1
SV2	350mm STRAIGHT PIPE WITH THRUST FLANGE		FLANGED BOTH ENDS	1
SV3	350mm WEDGE GATE VALVE NON RISING SPINDLE & HAND OPERATED		FLANGED BOTH ENDS	1
SV4	350mm DISMANTLING JOINT		FLANGED BOTH ENDS	1
SV5	350mm STRAIGHT PIPE WITH THRUST FLANGE		FLANGED BOTH ENDS WITH THRUST FLANGE	1



SECTION B-B
SCALE 1:30

CLIENT:



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Tel: (015) 295 1800
Email: info@lepelle.co.za
Website: www.lepellewater.com

CONSULTANT:



Sigodi Marah Martin
16 Blue Jay Street
Rooihuiskraal
Centurion
0157
Tel: 27 (0)12 945 9009
Email: info@sigodimarrah.co.za

PROFESSIONAL ENGINEER:

L. MARAH
PROF. Reg.No:
920281

DATE:
2023-05-26

SIGNATURE:

DESIGN BY:

B. COETZEE

DRAWN BY:

E. COETZEE

CHECKED BY:

B. COETZEE

APPROVED BY:

L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
a	2023-05-26	ISSUED FOR TENDER	L.M

PROJECT NAME

UPGRADE OF OLIFANTSPOORT AND EBENEZER
WATER SUPPLY SCHEME

TITLE

SCOUR VALVE DETAILS
FOR PIPELINE WITKOS TO PS3

PROJECT STATUS:

TENDER

DATE

2023-05-26

DWG NO

P1001-OL1H-CIV-1302

SCALE

AS SHOWN

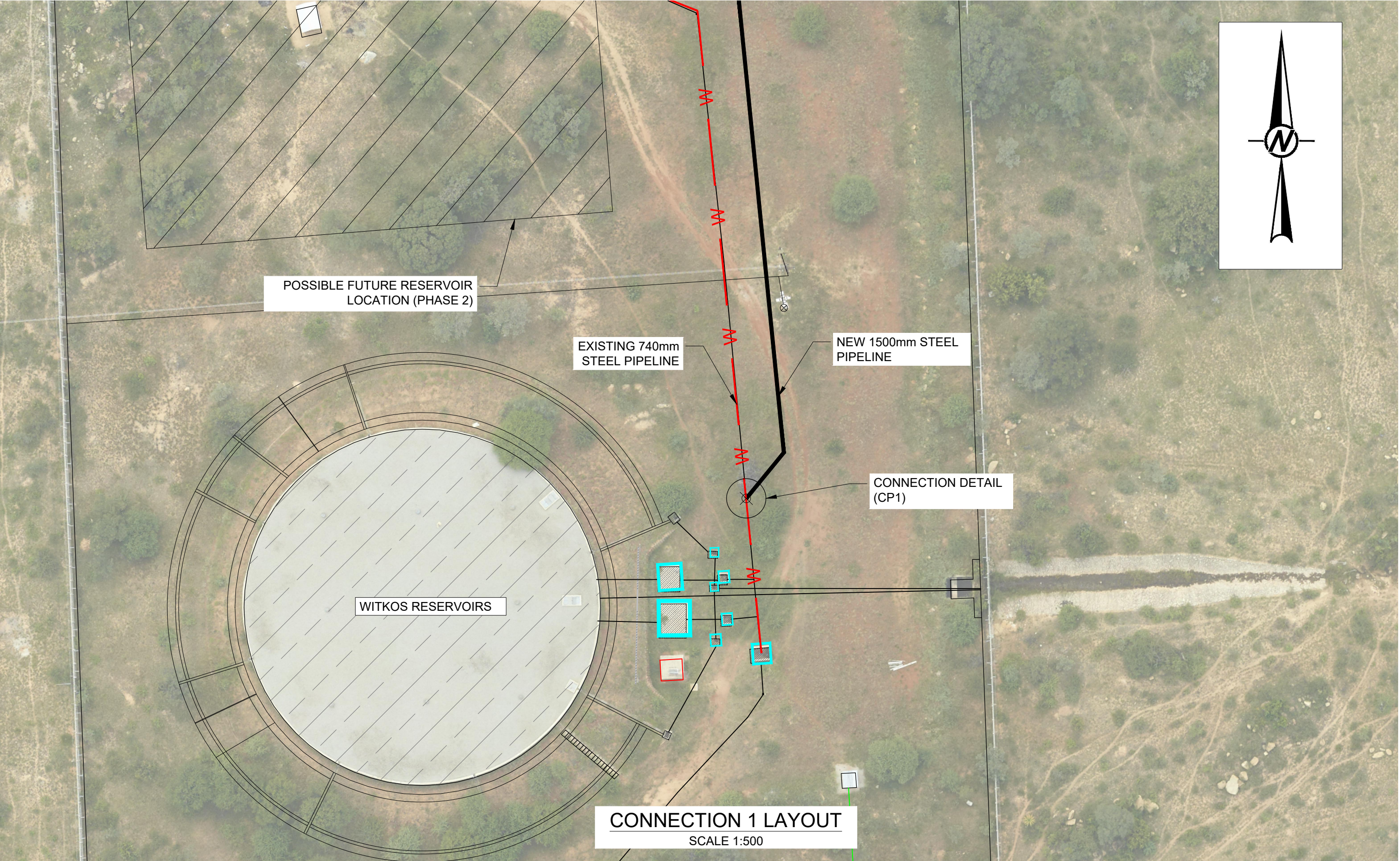
SHEET

1 OF 1

REV

a

A1



CONNECTION POINT COORDINATE		
POINT	Y-COORD	X-COORD
CP2	-48 904.254	2 672 915.599
NOTE: ALL COORDINATES TO BE CONFIRMED ON SITE WITH THE ENGINEER		

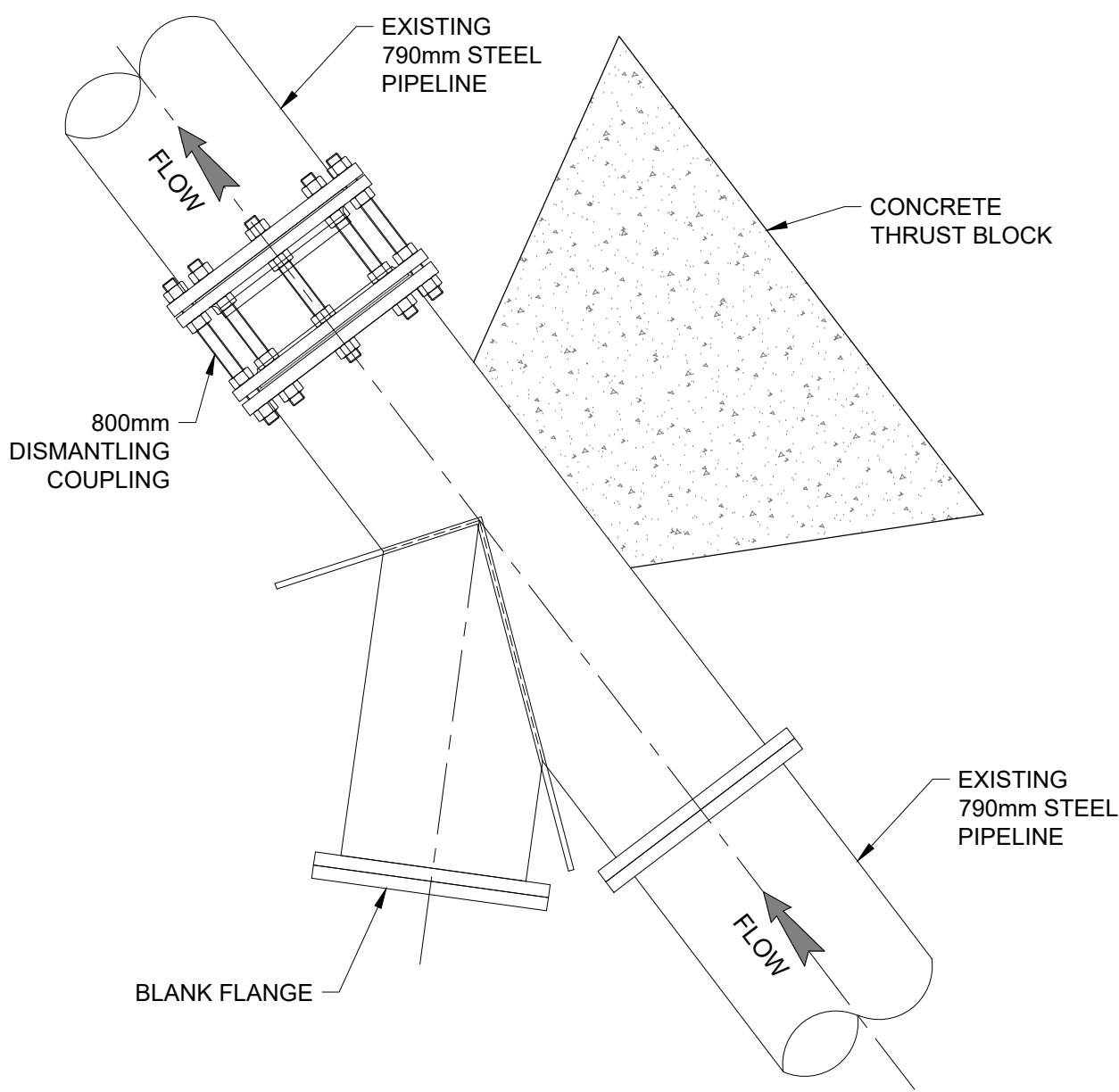
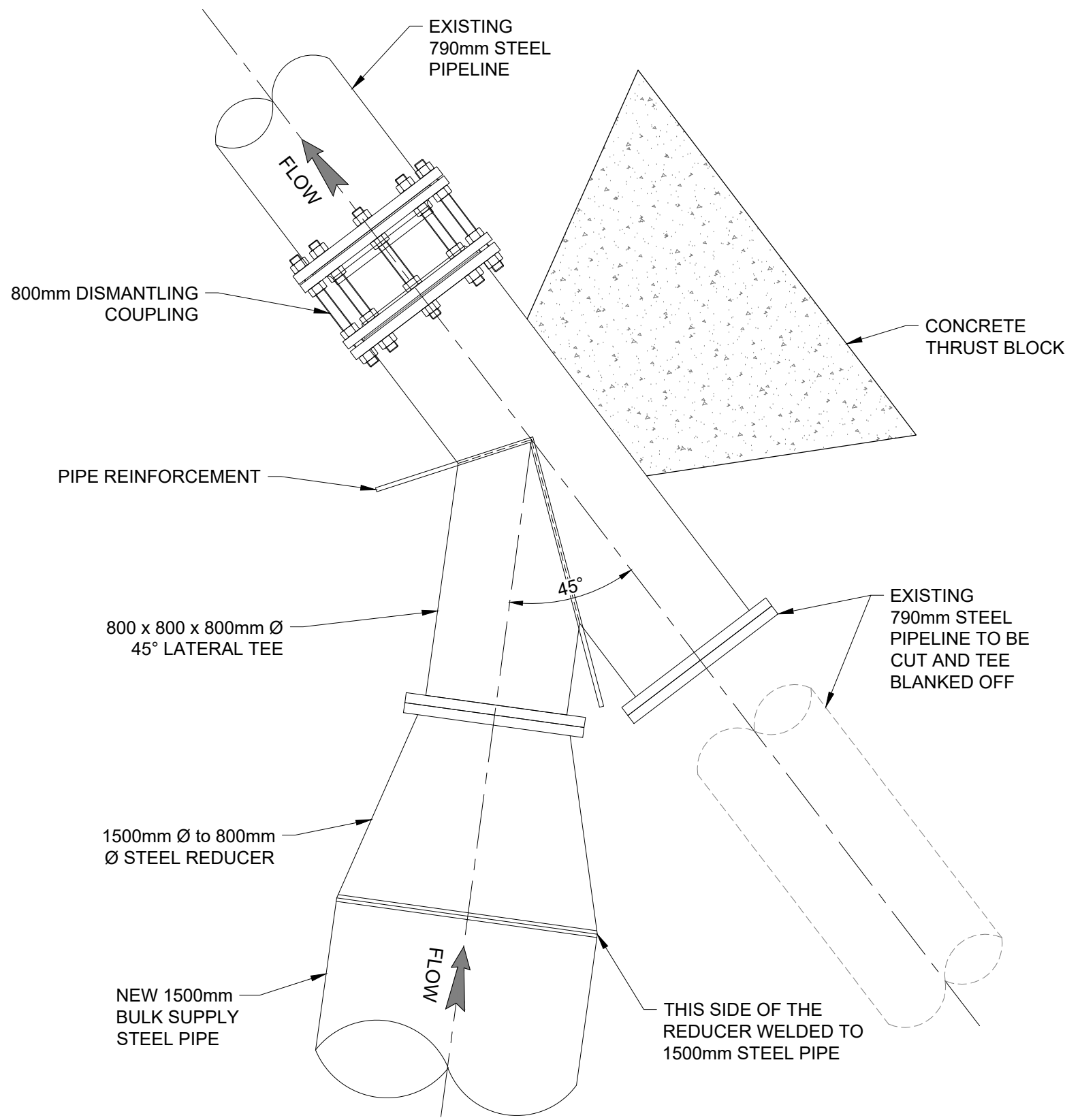
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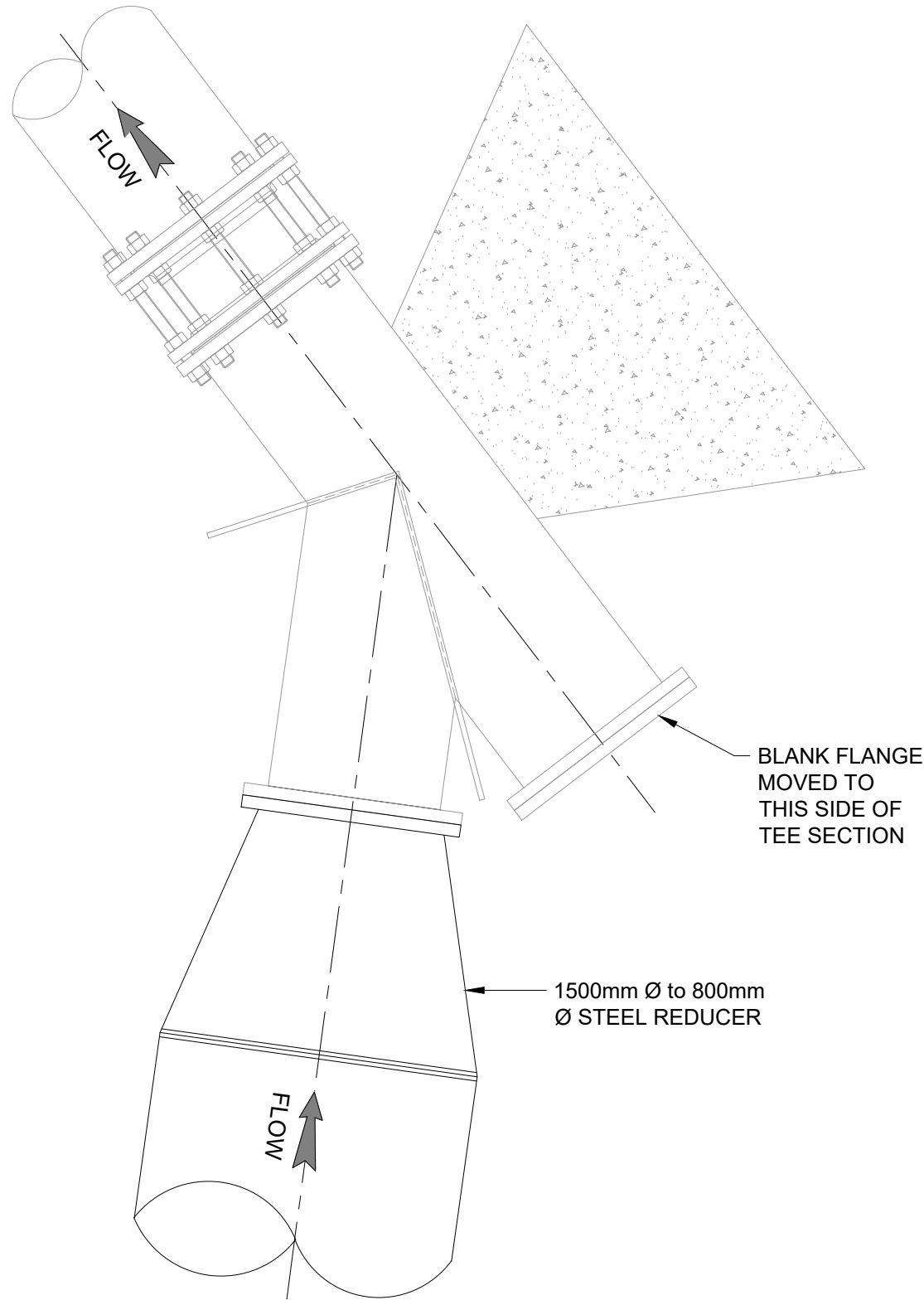
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PIPE FITTINGS:

5. FOR PIPE JOINT WELDS, INTERNAL LINING AND EXTERNAL COATING REFER TO THE SPECIFICATIONS AS PER THE CONTRACT DOCUMENT.
6. ALL FLANGES AT FLANGED JOINTS TO BE ACCORDING TO SANS PN25 PRESSURE RATING.
7. ALL UNDERGROUND FLANGES AND WELDED JOINTS TO BE WRAPPED IN SELF-HEALING CORROSION PREVENTIVE TAPE (STOPAQ) OR EQUIVALENT.



- PHASE 1:
1. CUT INTO EXISTING 800mm Ø PIPELINE & WELD FLANGES ONTO THE EXISTING LINE.
 2. INSTALL 800mm Ø 45° LATERAL TEE STEEL SECTION WITH A DISMANTLING COUPLING & BLANK FLANGE AS INDICATED.
 3. CAST CONCRETE THRUST BLOCK IN PLACE & LEAVE 30 DAYS CURING TIME BEFORE START OF PHASE 2.



- PHASE 2:
1. DISMANTLE THE FLANGED CONNECTION ON THE EXISTING PIPELINE.
 2. REMOVE THE BLANK FLANGE AND MOVE IT TO THE UPSTREAM SIDE OF THE TEE SECTION AS INDICATED.
 3. CONNECT THE FLANGED 1500mm to 800mm Ø STEEL REDUCER TO THE TEE SECTION. OTHER SIDE TO BE WELDED TO THE NEW 1500mm PIPELINE.

CLIENT:



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CONSULTANT:



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16 Blue Jay Street
Rooihuiskraal
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0157
Tel: 27 (0)12 945 9009
Email: info@sigodimarah.co.za

PROFESSIONAL ENGINEER:

L. MARAH
PROF. Reg.No:
920281

DATE:
2023-05-26

SIGNATURE:

DESIGN BY:

B. COETZEE

DRAWN BY:

E. COETZEE

CHECKED BY:

B. COETZEE

APPROVED BY:

L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
a	2023-05-26	ISSUED FOR TENDER	L.M

PROJECT NAME

**UPGRADE OF OLIFANTSPOORT AND EBENEZER
WATER SUPPLY SCHEME**

TITLE

CONNECTION 1 DETAILS

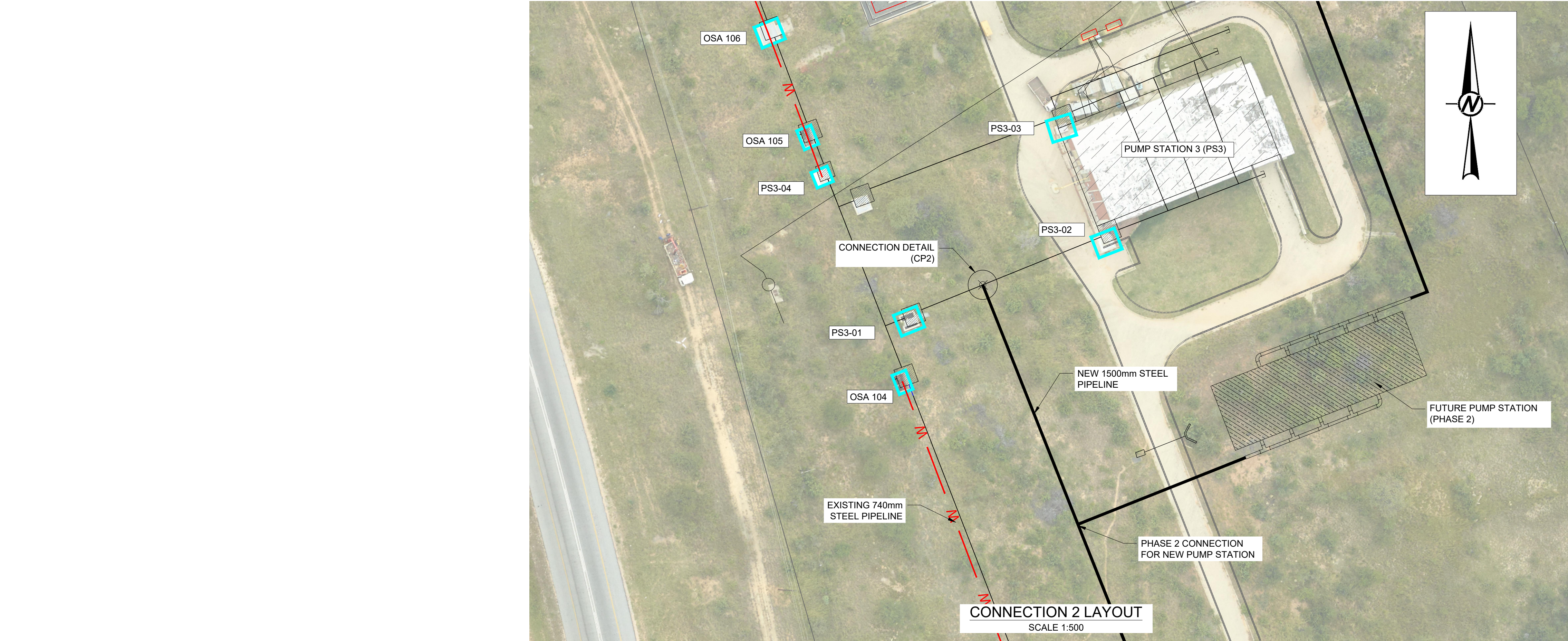
PROJECT STATUS:

TENDER

DATE	SCALE	SHEET	REV	A1
2023-05-26	AS SHOWN	1 OF 1	a	A1

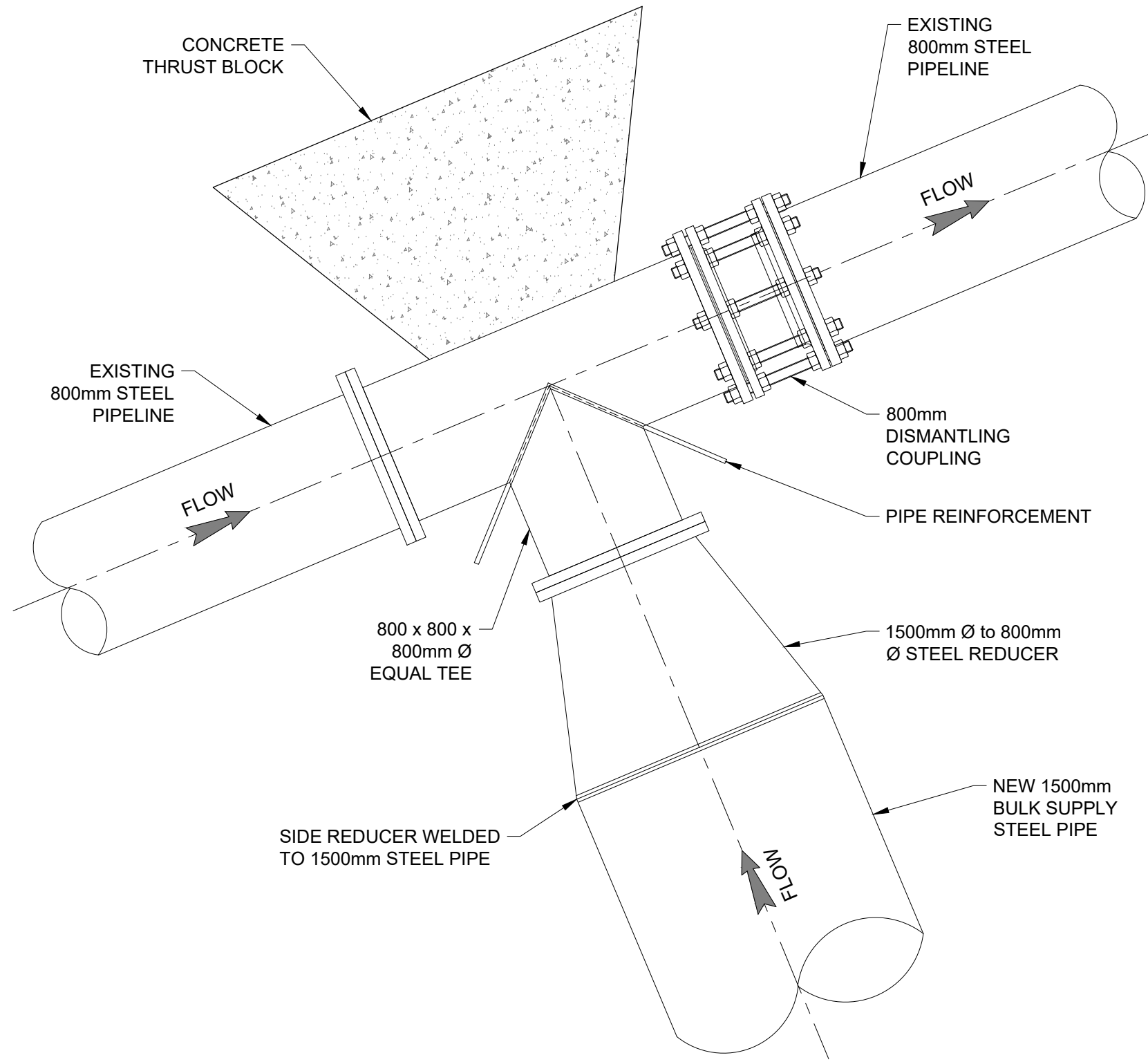
DWG NO

P1001-OL1H-CIV-1303

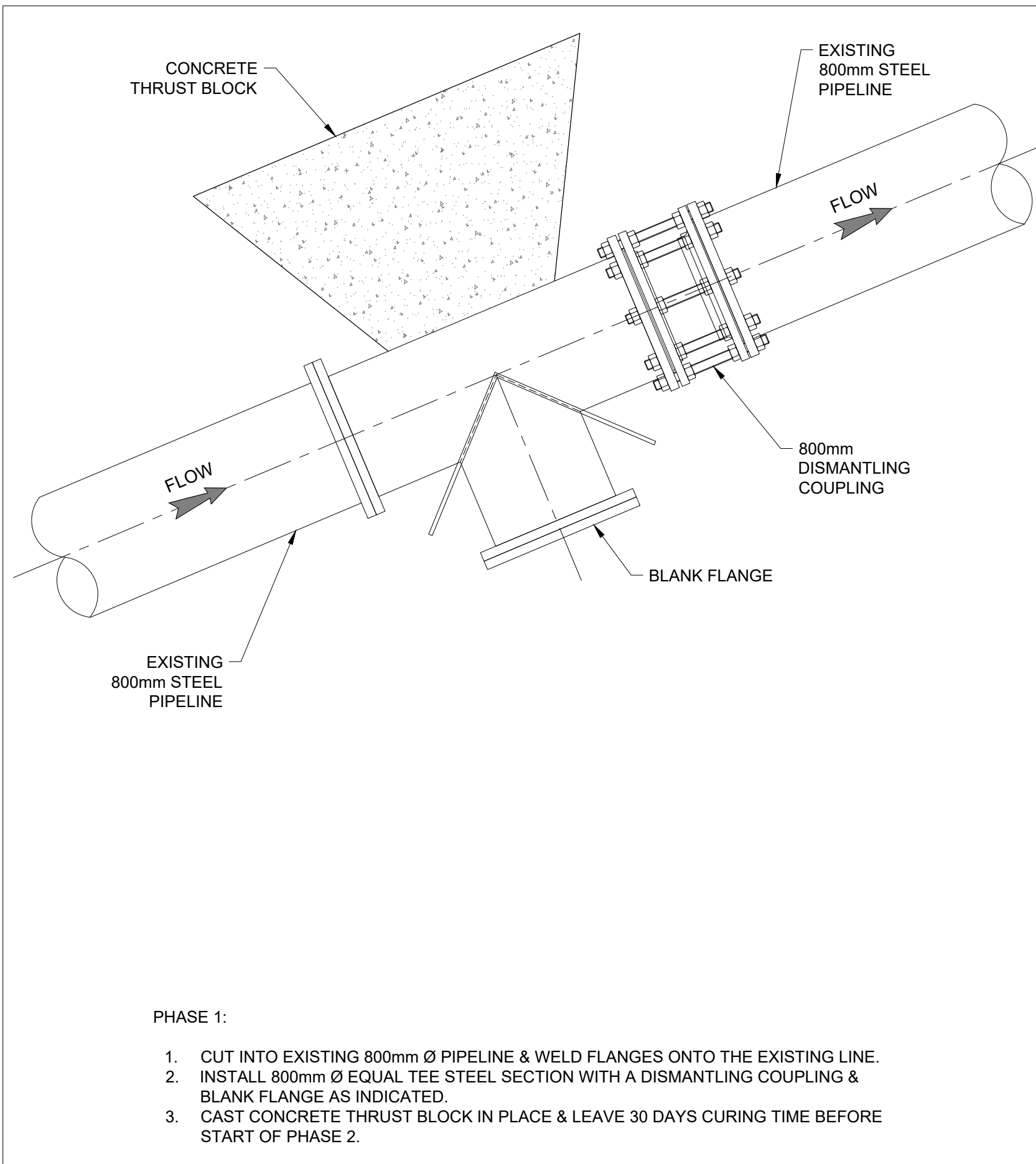


CONNECTION POINT COORDINATE		
POINT	Y-COORD	X-COORD
CP2	-48 855.082	2 671 359.770
NOTE: ALL COORDINATES TO BE CONFIRMED ON SITE WITH THE ENGINEER		

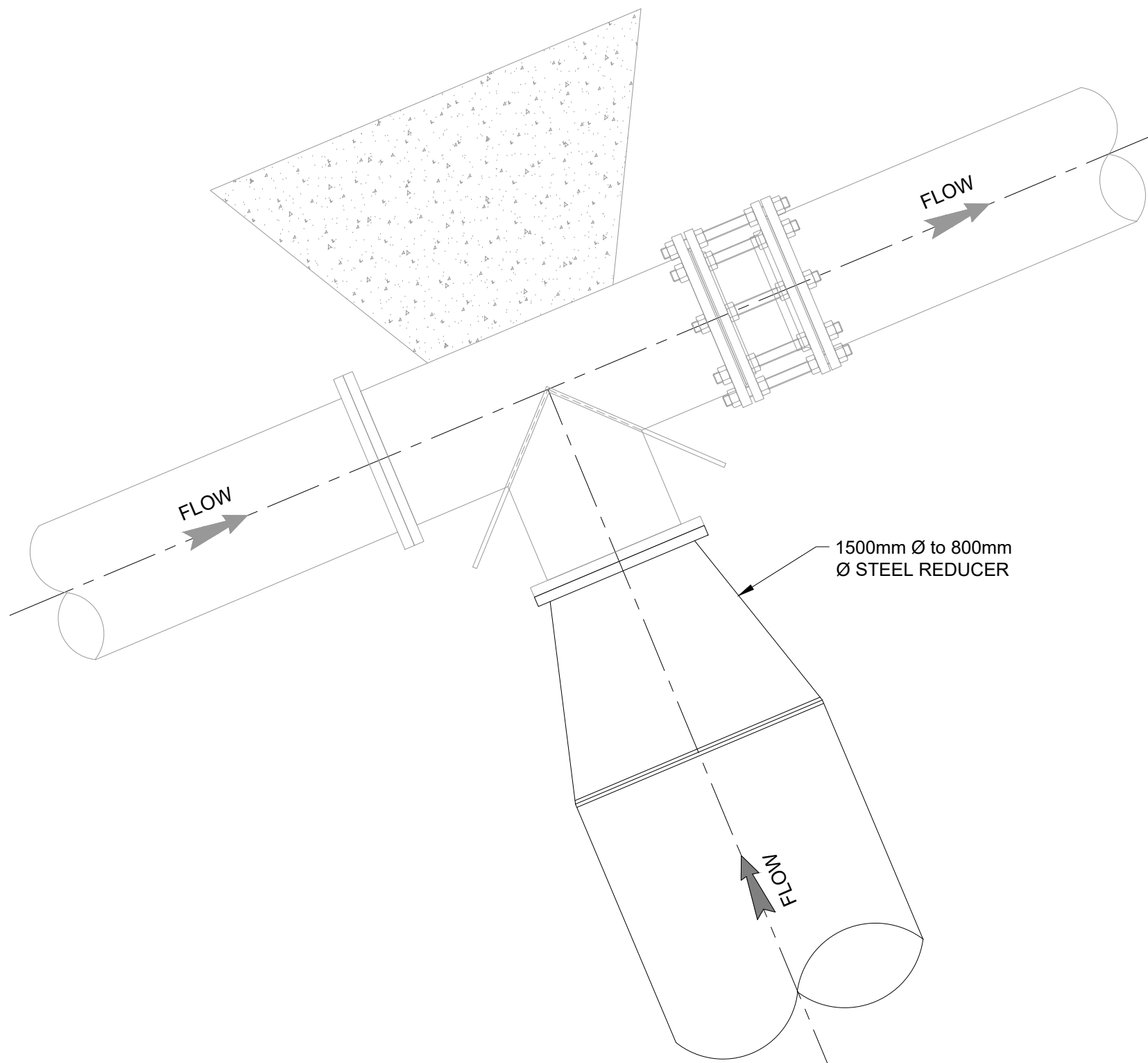
- NOTES:**
- GENERAL:**
1. DETAILS TO BE READ WITH THE SPECIFICATIONS AS PER THE CONTRACT DOCUMENT.
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- PIPE FITTINGS:**
5. FOR PIPE JOINT WELDS, INTERNAL LINING AND EXTERNAL COATING REFER TO THE SPECIFICATIONS AS PER THE CONTRACT DOCUMENT.
 6. ALL FLANGES AT FLANGED JOINTS TO BE ACCORDING TO SANS PN25 PRESSURE RATING.
 7. ALL UNDERGROUND FLANGES AND WELDED JOINTS TO BE WRAPPED IN SELF-HEALING CORROSION PREVENTIVE TAPE (STOPAQ) OR EQUIVALENT.



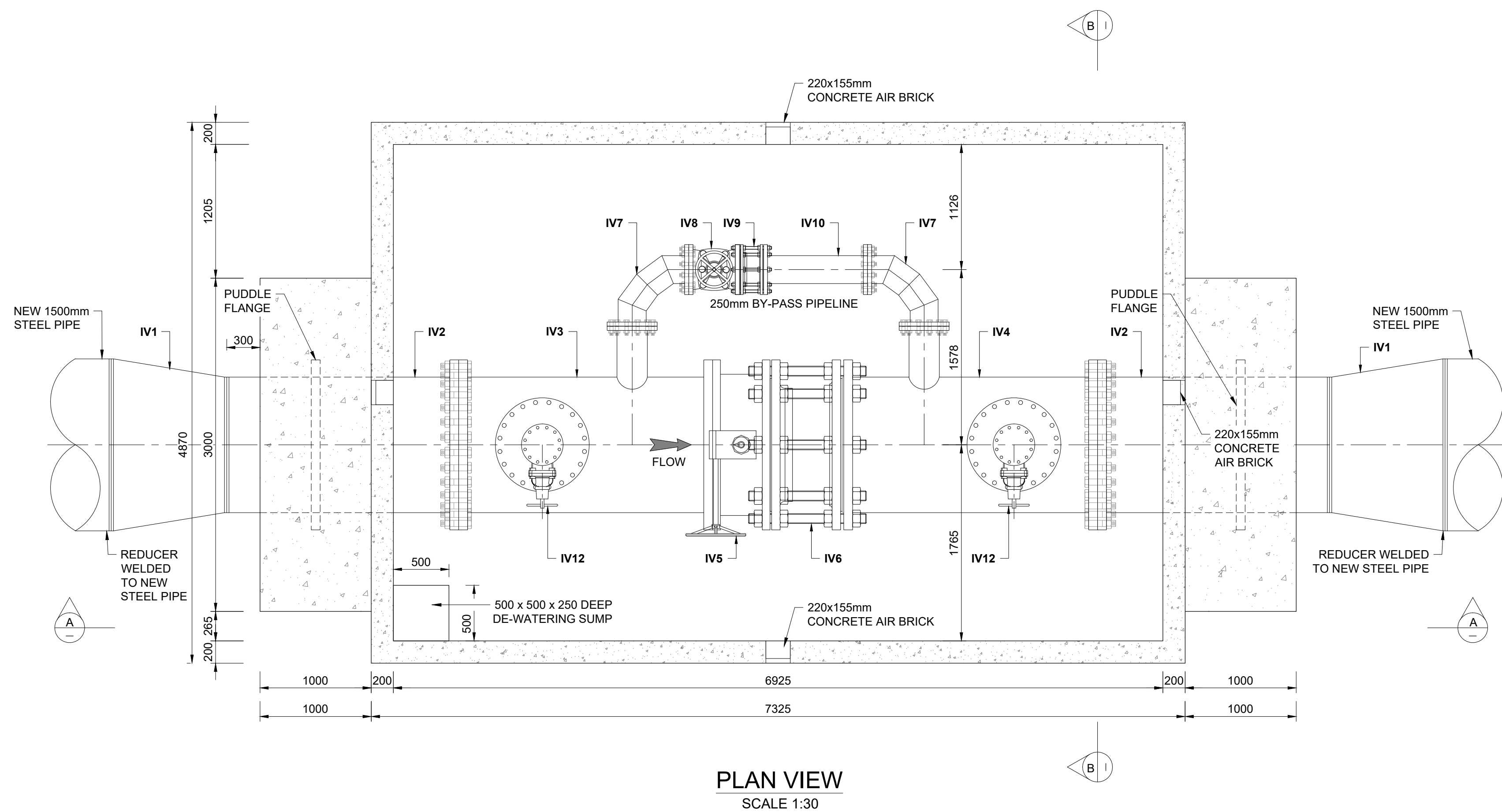
PLAN VIEW
CONNECTION DETAIL
SCALE 1:30



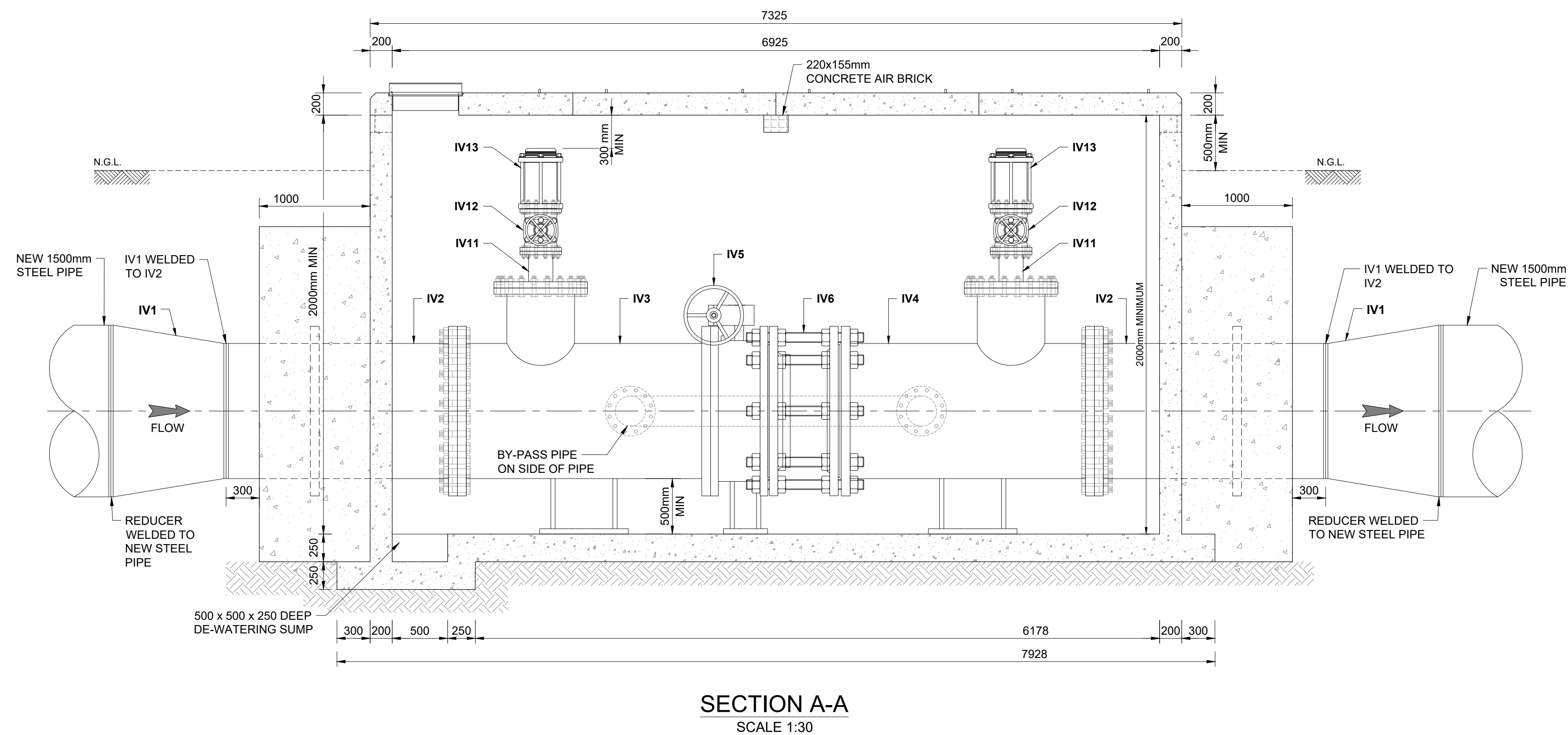
- PHASE 1:
1. CUT INTO EXISTING 800mm Ø PIPELINE & WELD FLANGES ONTO THE EXISTING LINE.
 2. INSTALL 800mm Ø EQUAL TEE STEEL SECTION WITH A DISMANTLING COUPLING & BLANK FLANGE AS INDICATED.
 3. CAST CONCRETE THRUST BLOCK IN PLACE & LEAVE 30 DAYS CURING TIME BEFORE START OF PHASE 2.



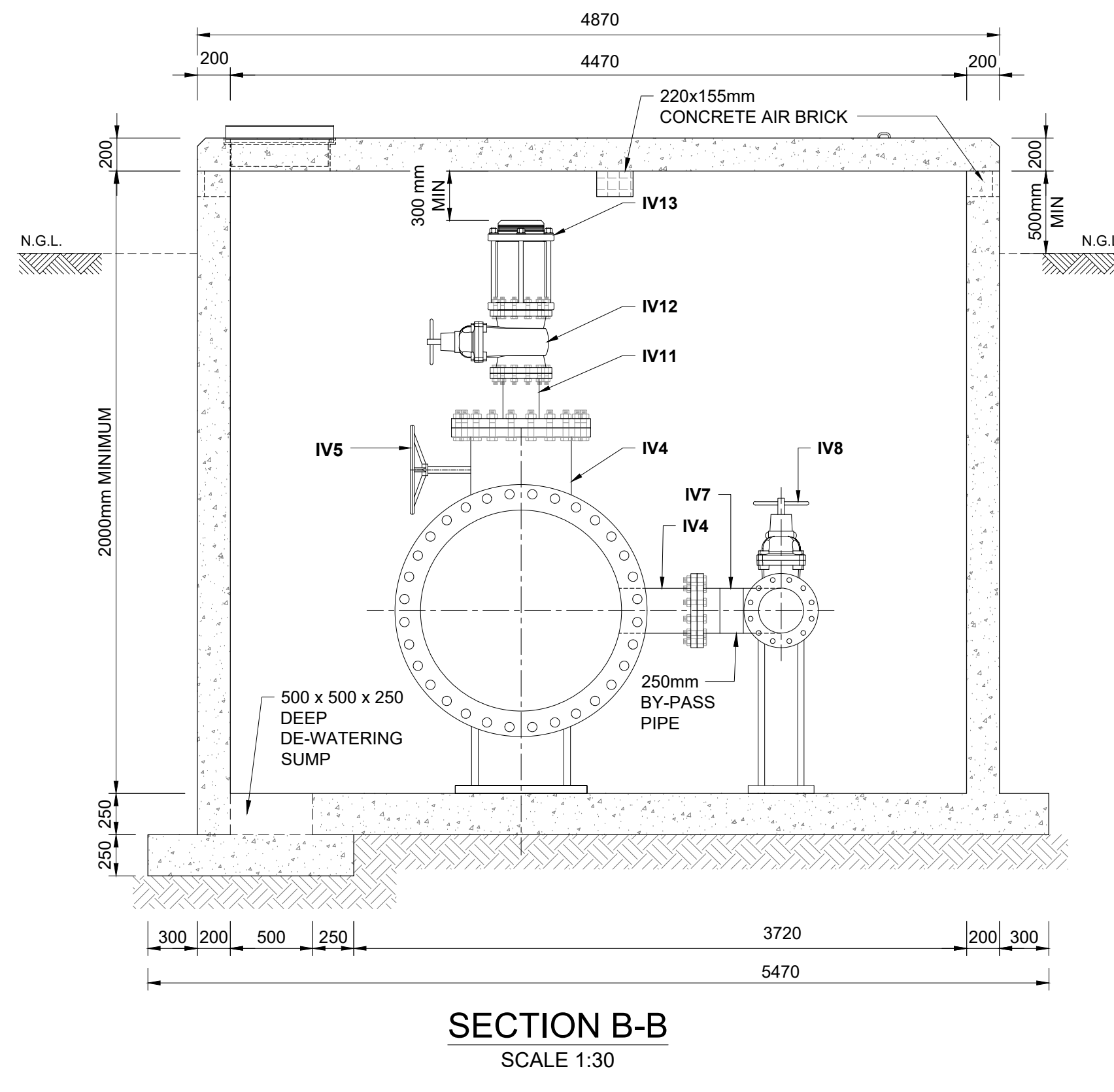
- PHASE 2:
1. DISMANTLE THE FLANGED CONNECTION ON THE EXISTING PIPELINE.
 2. REMOVE THE BLANK FLANGE AND MOVE IT TO THE DOWNSTREAM SIDE OF THE TEE SECTION AS INDICATED.
 3. CONNECT THE FLANGED 1500mm to 800mm Ø STEEL REDUCER TO THE TEE SECTION. OTHER SIDE TO BE WELDED TO THE NEW 1500mm PIPELINE.



PLAN VIEW
SCALE 1:30



SECTION A-A
SCALE 1:30



SECTION B-B
SCALE 1:30

NOTES:

GENERAL:

1. DETAILS TO BE READ WITH THE SPECIFICATIONS AS PER THE CONTRACT DOCUMENT.
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
3. DIMENSIONS SHALL NOT BE SCALED FROM THIS DRAWING AND ONLY DIMENSIONS INDICATED WILL BE USED.
4. DIMENSIONS OF SPECIAL FITTINGS SHOULD BE CONFIRMED WITH THE ENGINEER BEFORE ORDERING.
5. 20x20mm CHAMFER ON ALL EXPOSED CONCRETE CORNERS.
6. FLOOR SCREED TO BE SLOPED TO SUMP

PIPE FITTINGS:

7. FOR PIPE JOINT WELDS, INTERNAL LINING AND EXTERNAL COATING REFER TO THE SPECIFICATIONS AS PER THE CONTRACT DOCUMENT.
8. ALL FLANGES AT FLANGED JOINTS TO BE ACCORDING TO RELATIVE PRESSURE CLASS. REFER TO PRESSURE CLASSES FOR ALL CHAMBERS TO DRAWING: P1001-OL1F-CIV-1043
9. ALL UNDERGROUND FLANGES AND WELDED JOINTS TO BE WRAPPED IN SELF-HEALING CORROSION PREVENTIVE TAPE (STOPAQ) OR EQUIVALENT.

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PROFESSIONAL ENGINEER:

L. MARAH
PROF. Reg.No:
920281
DATE:
2023-05-26
SIGNATURE:

DESIGN BY:

B. COETZEE
DRAWN BY:
E. COETZEE
CHECKED BY:
B. COETZEE
APPROVED BY:
L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
a	2023-05-26	ISSUED FOR TENDER	LM

PROJECT NAME

UPGRADE OF OLIFANTSPOORT AND EBENEZER
WATER SUPPLY SCHEME

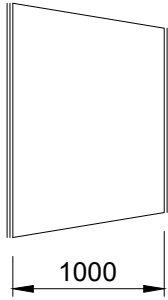
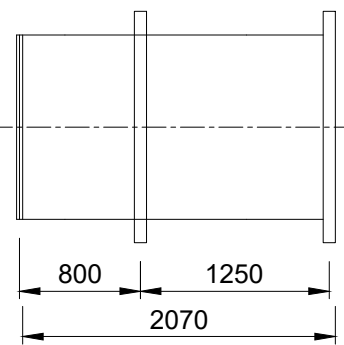
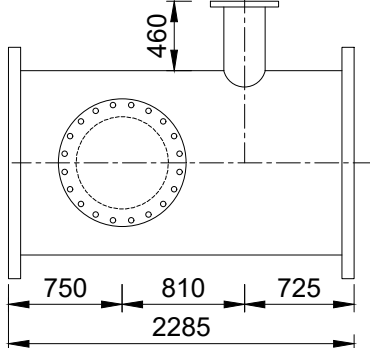
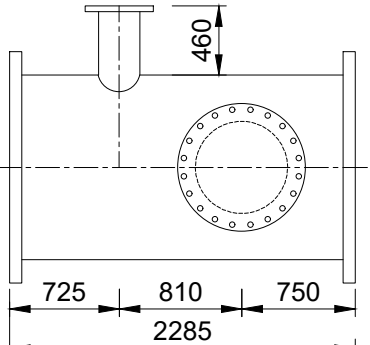
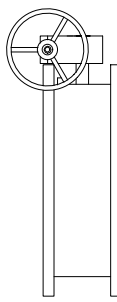
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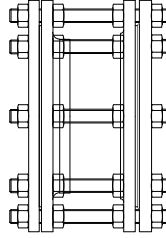
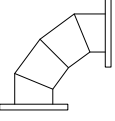
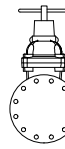
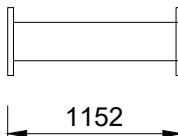
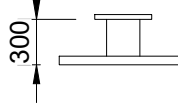
ISOLATION VALVE CHAMBER DETAILS
FOR PIPELINE WITKOS TO PS3

PROJECT STATUS:

TENDER

DATE	SCALE	SHEET	REV	A1
2023-05-26	AS SHOWN	1 OF 2	a	A1
DWG NO P1001-OL1H-CIV-1305				

ISOLATION VALVE CHAMBER - SCHEDULE OF ITEMS				
ITEM No	DESCRIPTION	PIPE FITTING DIAGRAM	PIPE ENDS FLANGED / WELDED	QTY.
IV1	1500mm x 1200mm STEEL REDUCER, WELDED ON BOTH SIDES		WELDED BOTH SIDES	2
IV2	1200mm STRAIGHT SECTION, FLANGED ONE END & WELDED ON OTHER WITH THRUST FLANGE		FLANGED ONE END, WELDED ON OTHER END	2
IV3	1200mm x 600mm x 250mm UNEQUAL TEE. (FOR PIPE REINFORCEMENT, REFER TO DWG: P1001-OL1FA-CIV-1314)		FLANGED ALL ENDS	1
IV4	1200mm x 600mm x 250mm UNEQUAL TEE. (FOR PIPE REINFORCEMENT, REFER TO DWG: P1001-OL1FA-CIV-1314)		FLANGED ALL ENDS	1
IV5	1200mm BUTTERFLY VALVE		FLANGED BOTH ENDS	1

ISOLATION VALVE CHAMBER - SCHEDULE OF ITEMS				
ITEM No	DESCRIPTION	PIPE FITTING DIAGRAM	PIPE ENDS FLANGED / WELDED	QTY.
IV6	1200mm DISMANTLING JOINT		FLANGED BOTH ENDS	1
IV7	250mm MEDIUM RADIUS BEND		FLANGED BOTH ENDS	2
IV8	250mm RSV GATE VALVE NON RISING SPINDLE & HAND OPERATED		FLANGED BOTH ENDS	1
IV9	250mm DISMANTLING JOINT		FLANGED BOTH ENDS	1
IV10	250mm STRAIGHT PIPE SECTION		FLANGED BOTH ENDS	1
IV11	600mm BLANK FLANGE WITH 200mm DRILLED OPENING, WITH A 200mm FLANGED PIPE SECTION.		FLANGED BOTH SIDES	2
IV12	200mm RSV GATE VALVE NON RISING SPINDLE & HAND OPERATED		FLANGED BOTH ENDS	2
IV13	200mm AIR VALVE (DOUBLE ORIFICE, DUAL ACTION WITH MECHANISM TO PREVENT SLAMMING)		FLANGED	2

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PROFESSIONAL ENGINEER:

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PROF. Reg.No:
920281

DATE:
2023-05-26

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DESIGN BY:

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DRAWN BY:

E. COETZEE

CHECKED BY:

B. COETZEE

APPROVED BY:

L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
a	2023-05-26	ISSUED FOR TENDER	LM

PROJECT NAME

UPGRADE OF OLIFANTSPOORT AND EBENEZER
WATER SUPPLY SCHEME

TITLE

ISOLATION VALVE CHAMBER - SCHEDULE OF ITEMS
FOR PIPELINE WITKOS TO PS3

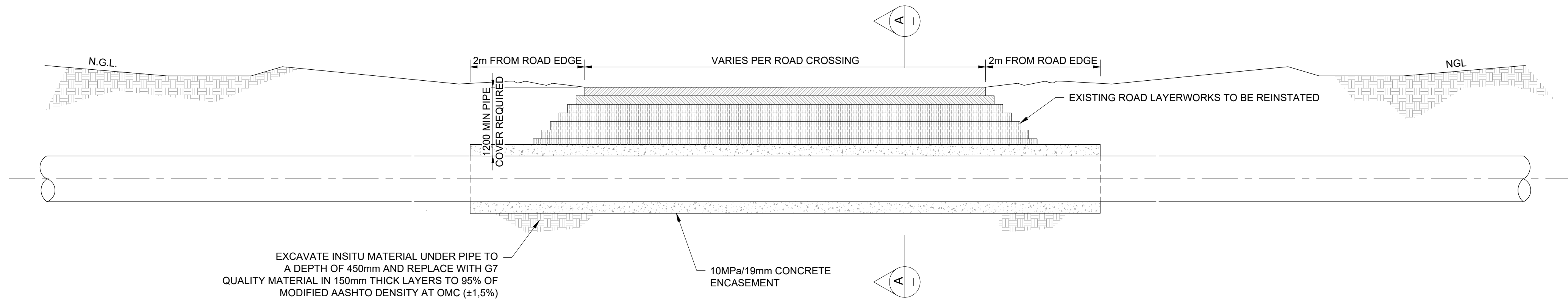
PROJECT STATUS:

TENDER

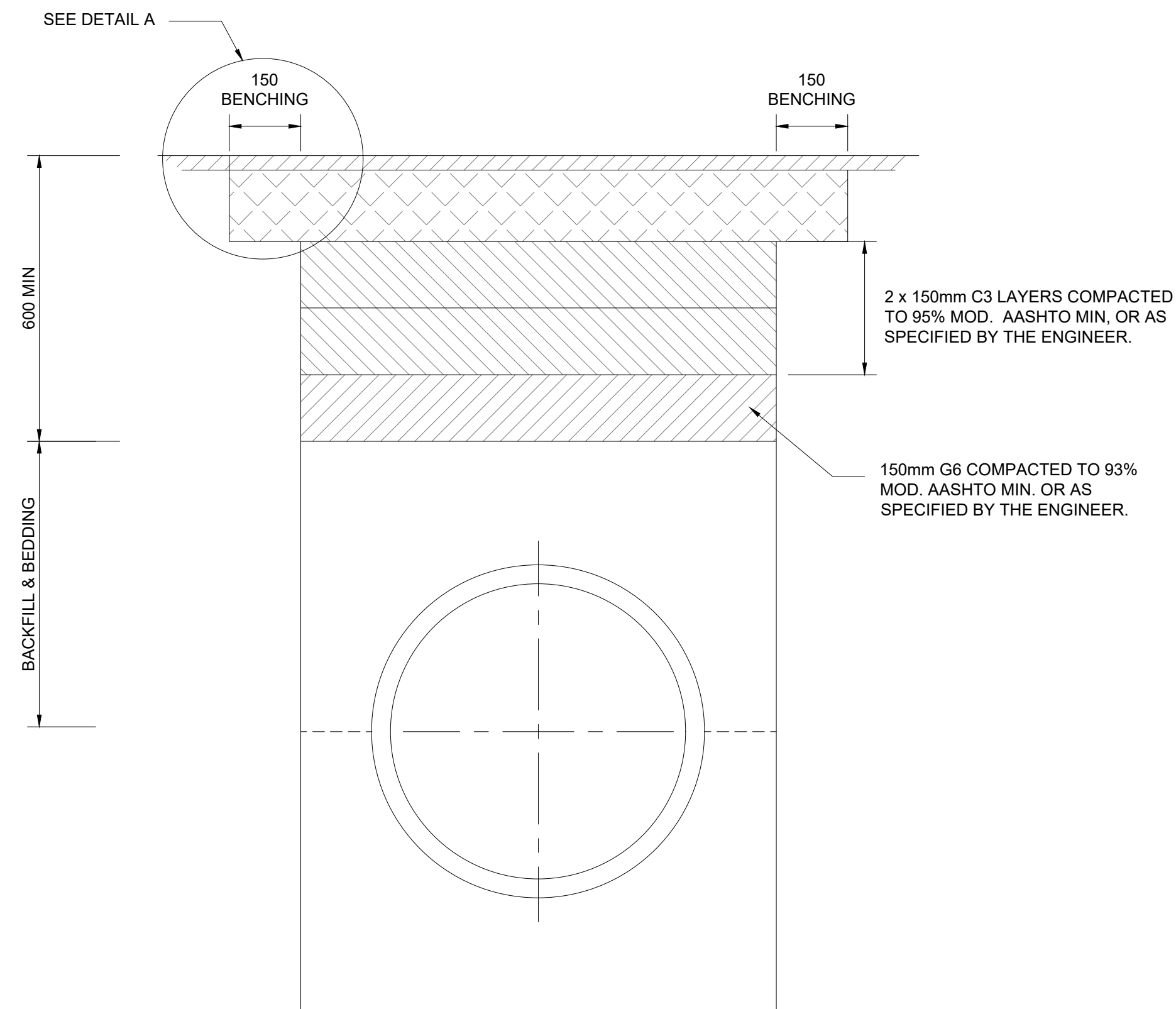
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2023-05-26	AS SHOWN	2 OF 2	a	A1

DWG NO

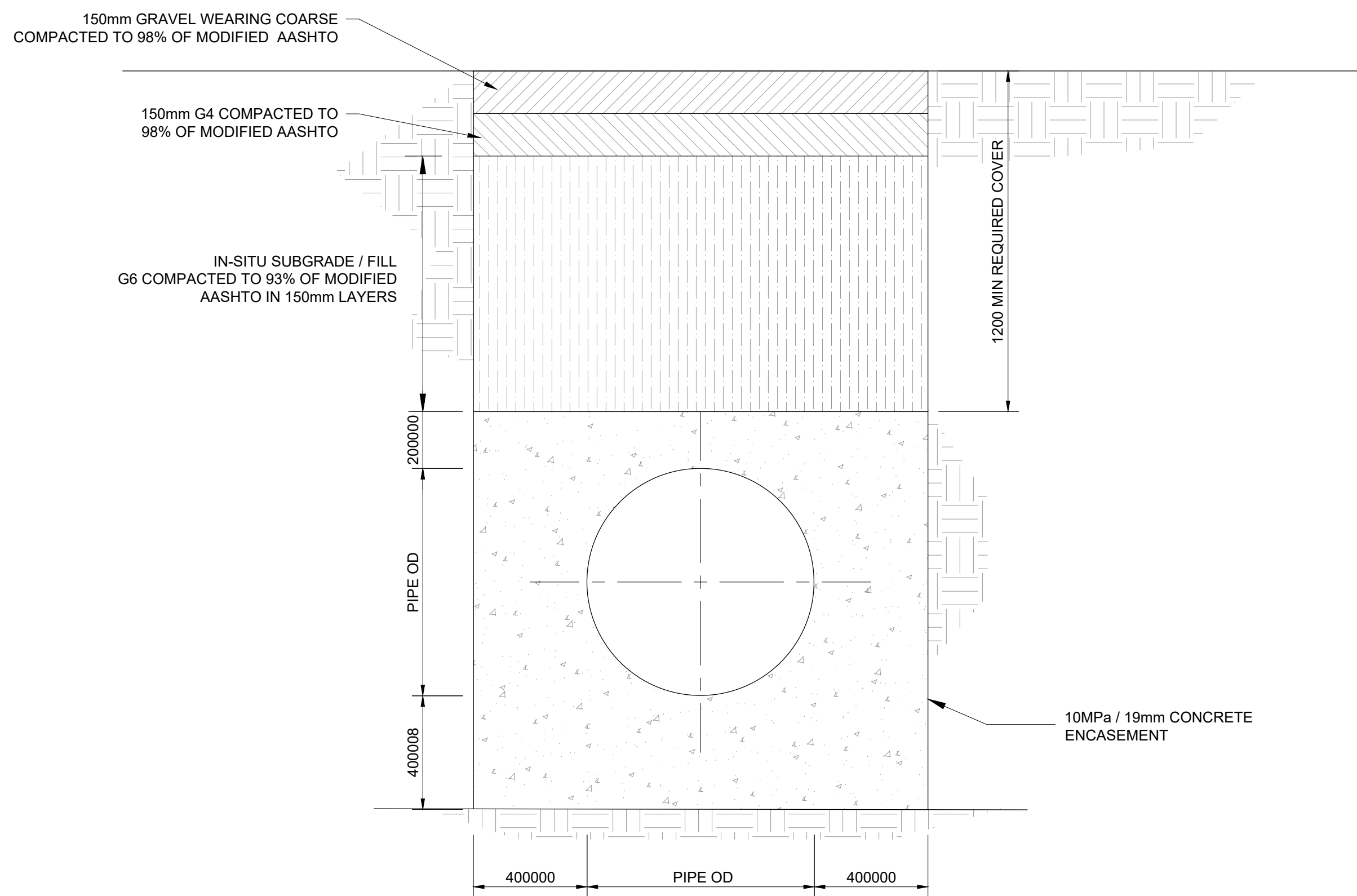
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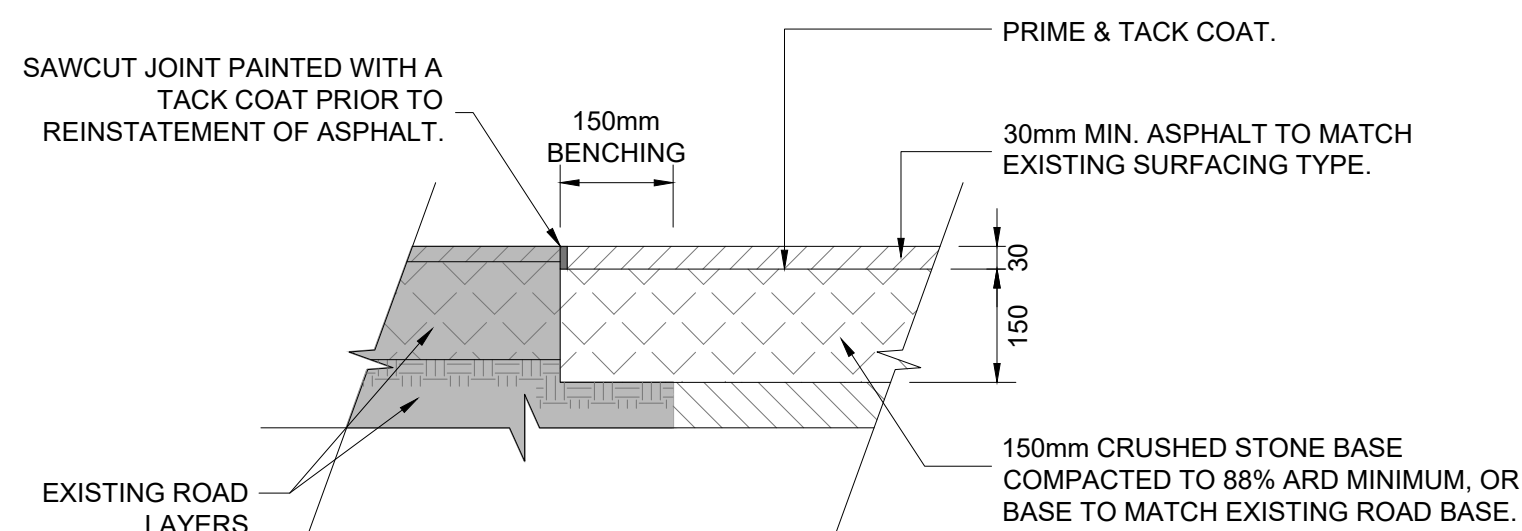
TYPICAL ROAD CROSSING DETAIL
FOR PROVINCIAL AND REGIONAL GRAVEL ROADS
SCALE 1:50



PAVED ROAD CROSSING
SCALE 1:10



SECTION A - A
GRAVEL ROAD CROSSING
SCALE 1:25



DETAIL A
SCALE 1:10

PAVEMENT LAYERS

150 mm GRAVEL WEARING COARSE COMPACTED TO 98% OF MODIFIED AASHTO
150 mm G4 COMPACTED TO 98% OF MODIFIED AASHTO
IN-SITU SUBGRADE / FILL G6 COMPACTED TO 93% OF MODIFIED AASHTO

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PROFESSIONAL ENGINEER:

L. MARAH
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DRAWN BY:
E. COETZEE
CHECKED BY:
B. COETZEE
APPROVED BY:
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a	2023-05-26	ISSUED FOR TENDER	LM

PROJECT NAME

UPGRADE OF OLIFANTSPOORT AND EBENEZER
WATER SUPPLY SCHEME

TITLE

TYPICAL ROAD CROSSING DETAIL
FOR WITKOS TO PS3

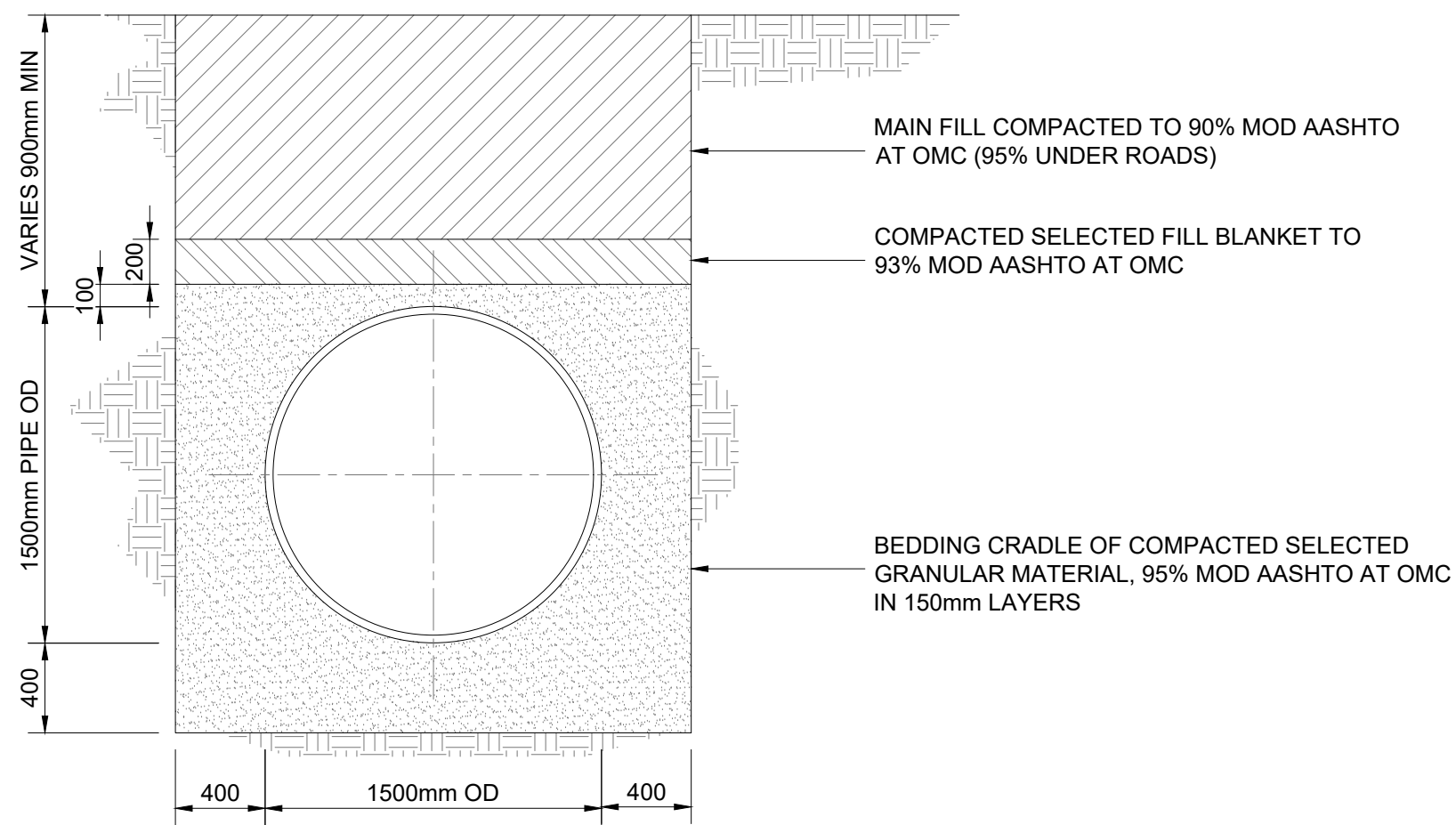
PROJECT STATUS:

TENDER

DATE	SCALE	SHEET	REV	A1
2023-05-26	AS SHOWN	1 OF 1	a	A1

DWG NO

P1001-OL1H-CIV-1501



FLEXIBLE BEDDING TYPICAL CROSS SECTION
SINGLE PIPELINE IN TRENCH
SCALE 1:30

NOTES:

1. SELECTED GRANULAR MATERIAL SHALL CONSIST OF:
 - CRUSHED ROCK WITH <15% SAND AND MAXIMUM 25% PASSING THE 10mm SIEVE AND MAXIMUM OF 5% FINES, OR
 - CLEAN, COARSE-GRAINED SOIL WITH <12% FINES.
2. SELECTED FILL MATERIAL SHALL COMPLY WITH THE FOLLOWING:
 - PI < 6
 - FREE OF VEGETATION AND STONES EXCEEDING 30mm
3. THE MAXIMUM ALLOWED PARTICLE SIZE FOR BEDDING MATERIAL SHALL NOT EXCEED 25mm
4. THE PIPE CRADLE TO BE OVER-EXCAVATED AT A POSITION OF EACH PIPE COUPLING TO ENSURE CONTINUOUS PIPE SUPPORT
5. THE MATERIAL USED FOR BACKFILL SHALL BE UNIFORM AND BE COMPACTED TO 85% MOD. AASHTO DENSITY IN LAYERS NOT THICKER THAN 100mm

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PROFESSIONAL ENGINEER:

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PROF. Reg.No:
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DRAWN BY:

E. COETZEE

CHECKED BY:

B. COETZEE

APPROVED BY:

L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
a	2023-05-26	ISSUED FOR TENDER	L.M

PROJECT NAME

UPGRADE OF OLIFANTSPOORT AND EBENEZER
WATER SUPPLY SCHEME

TITLE

FLEXIBLE PIPE BEDDING DETAILS
FOR PIPELINE WITKOS TO PS3

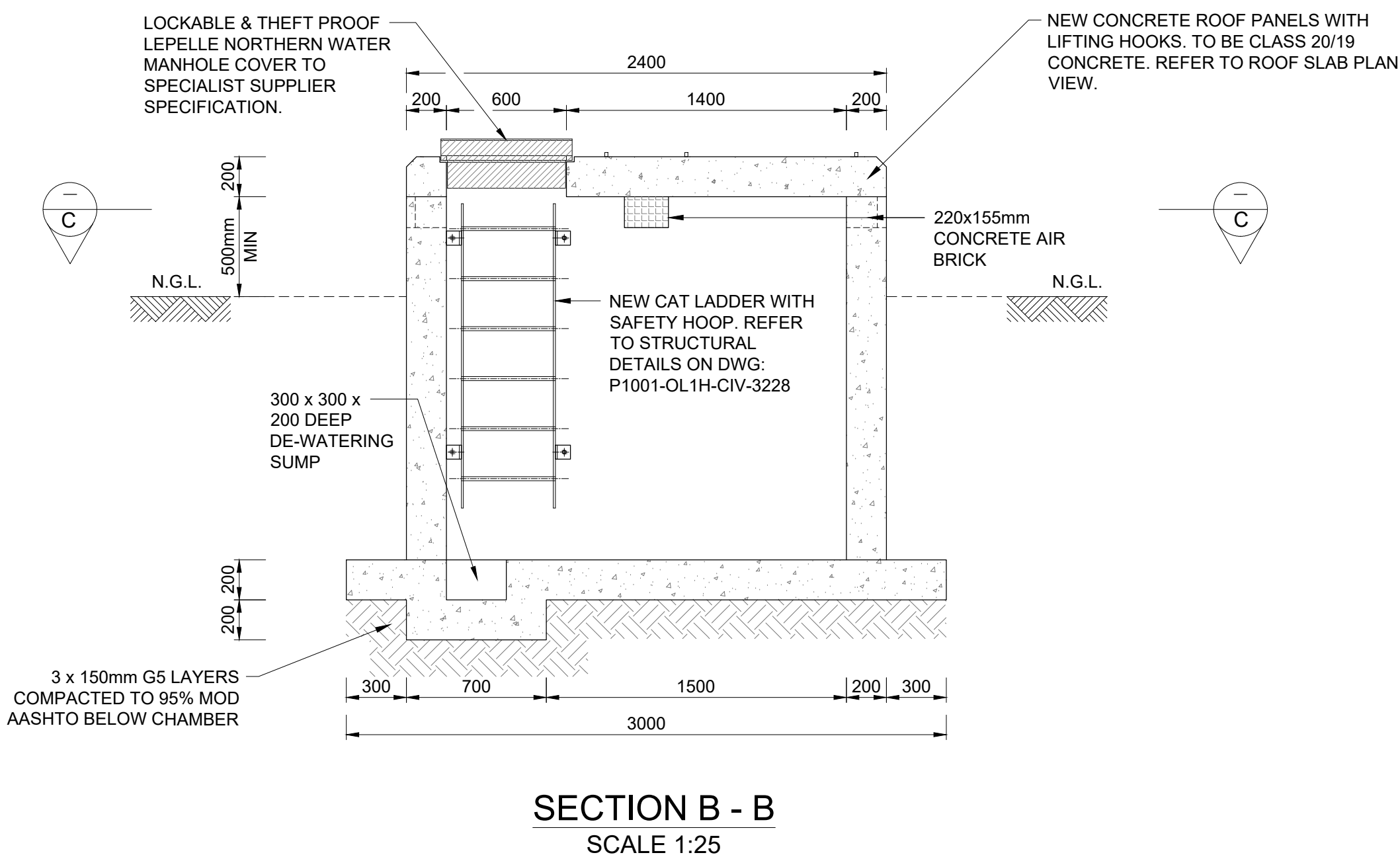
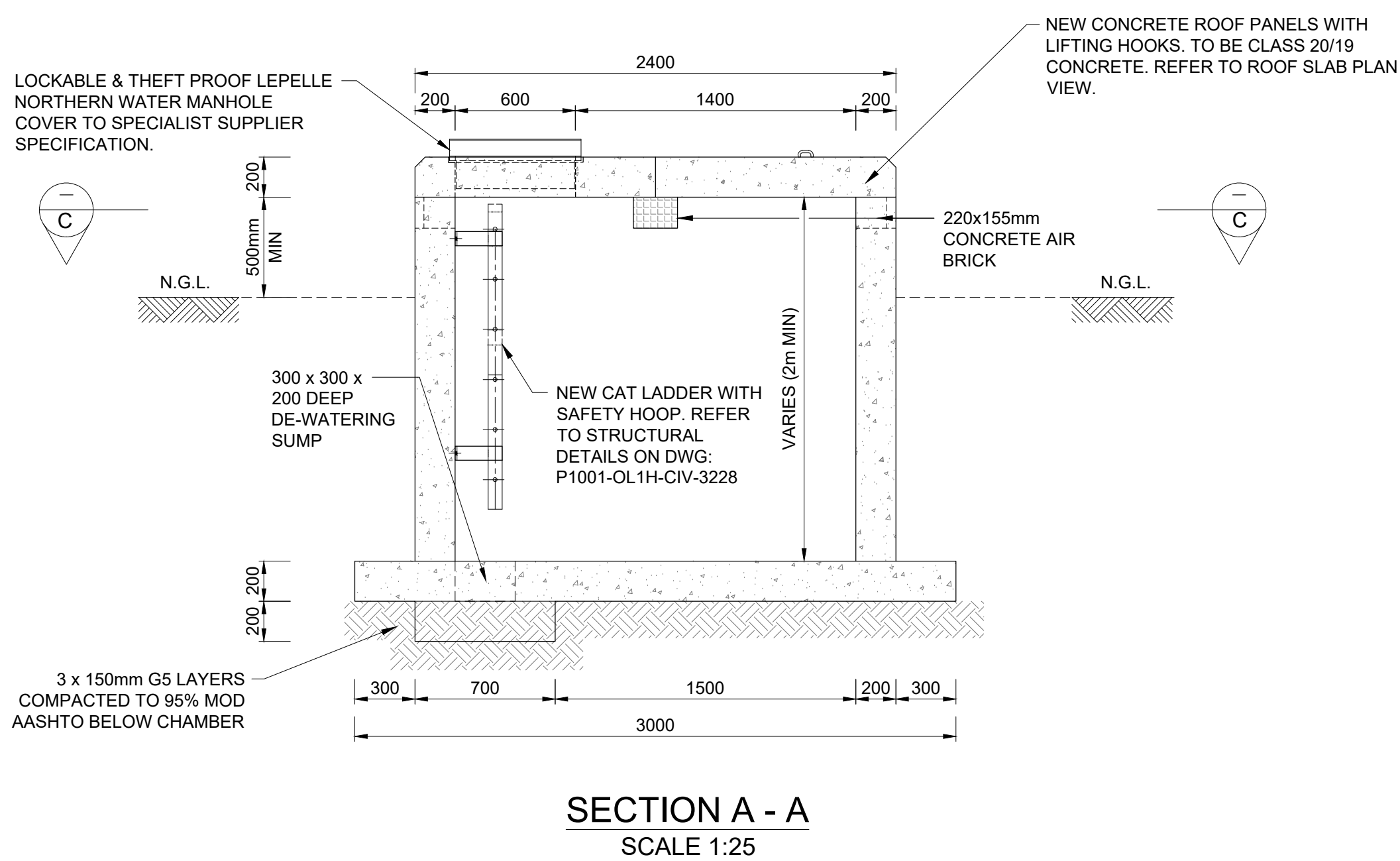
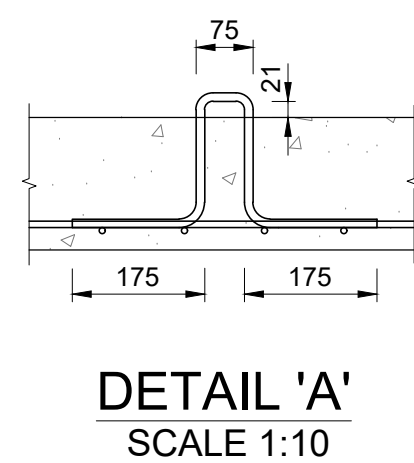
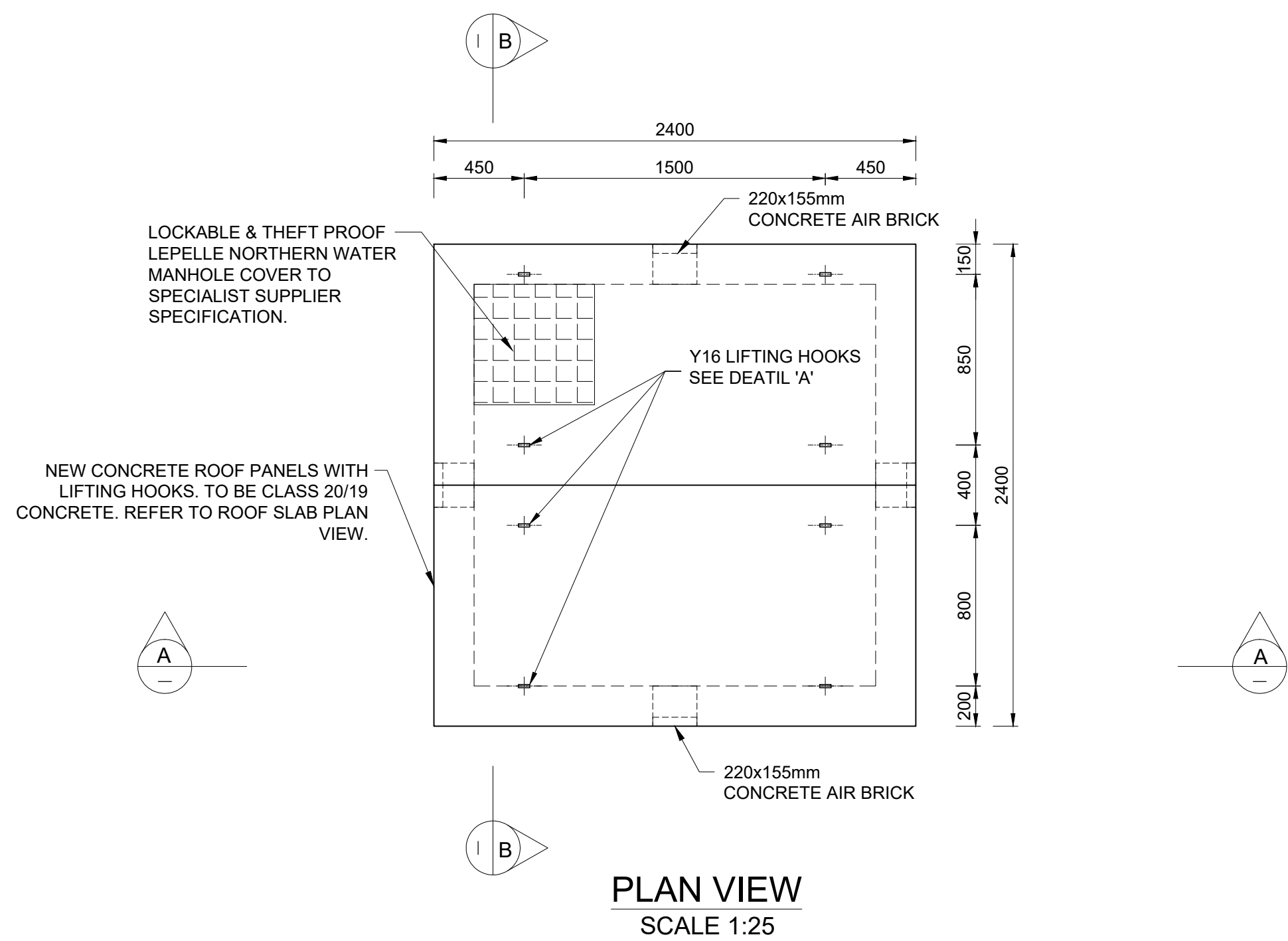
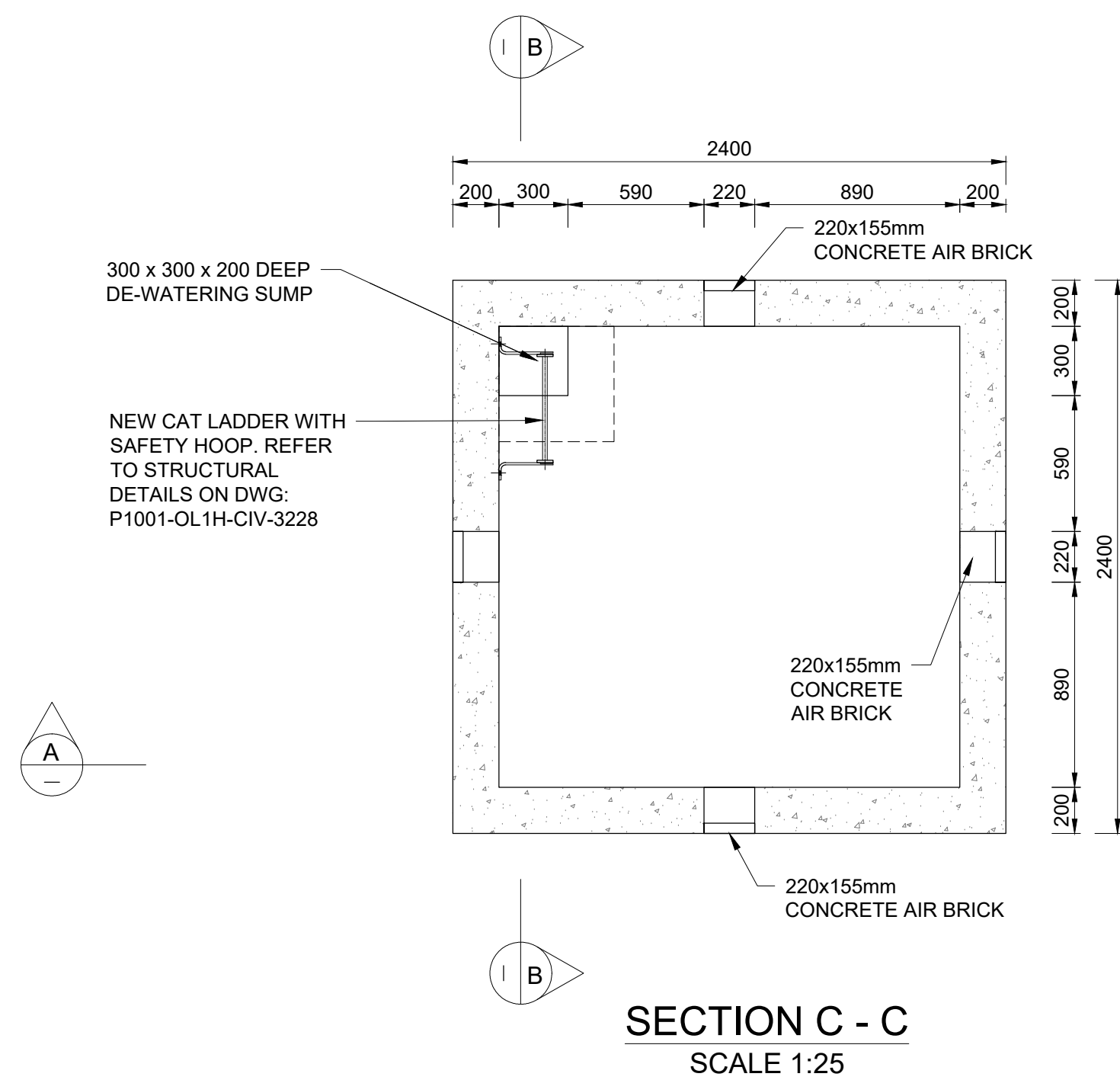
PROJECT STATUS:

TENDER

DATE	SCALE	SHEET	REV	
2023-05-26	AS SHOWN	1 OF 1	a	A1

DWG NO

P1001-OL1H-CIV-1502



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PROFESSIONAL ENGINEER:

L. MARAH
PROF. Reg.No:
920281
DATE:
2023-05-26
SIGNATURE:

DESIGN BY:

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DRAWN BY:
E. COETZEE
CHECKED BY:
B. COETZEE
APPROVED BY:
L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
a	2023-05-26	ISSUED FOR TENDER	LM

PROJECT NAME

UPGRADE OF OLIFANTSPOORT AND EBENEZER
WATER SUPPLY SCHEME

TITLE

STRUCTURAL DETAILS FOR AIR VALVE
FOR PIPELINE WITKOS TO PS3

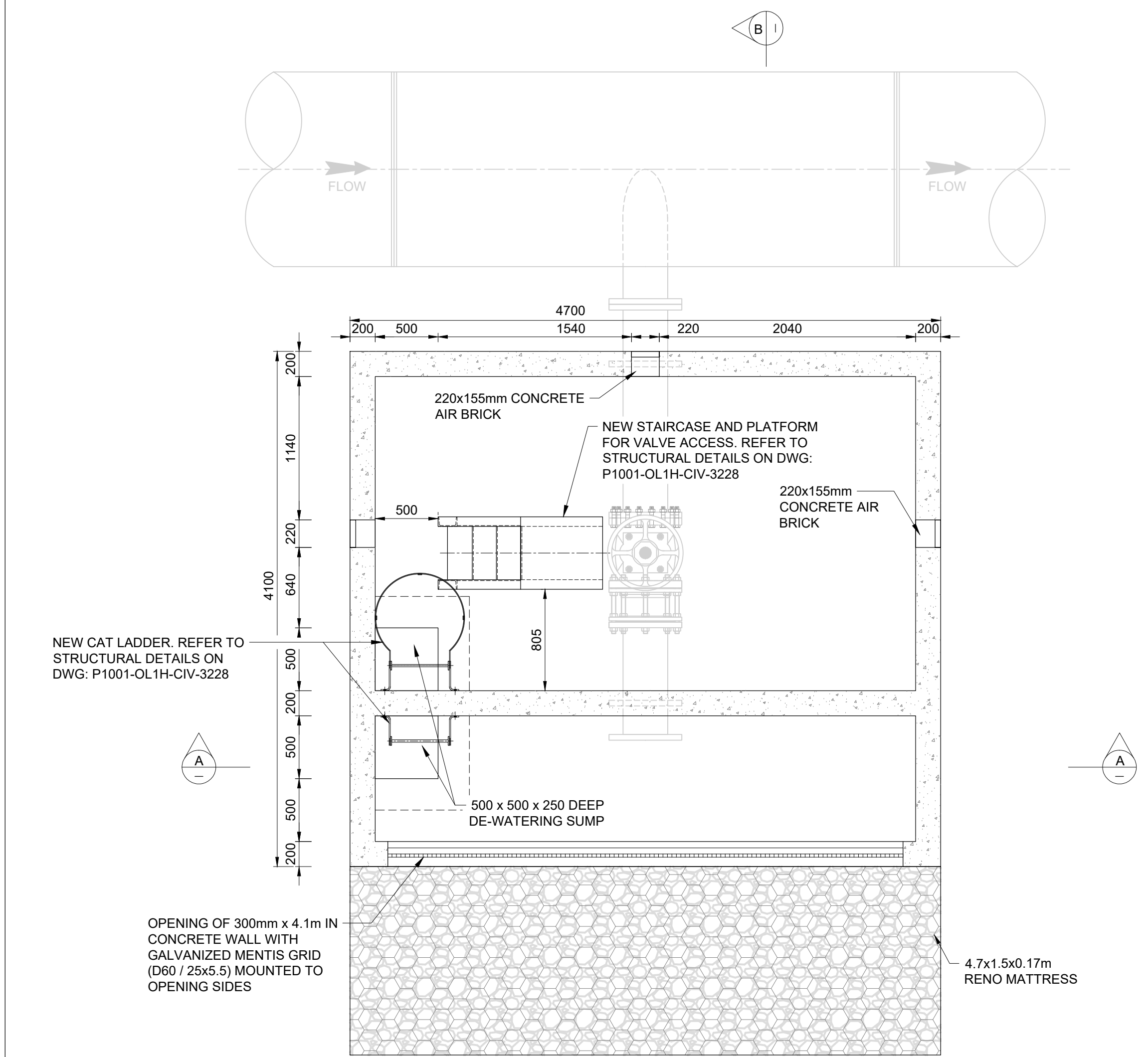
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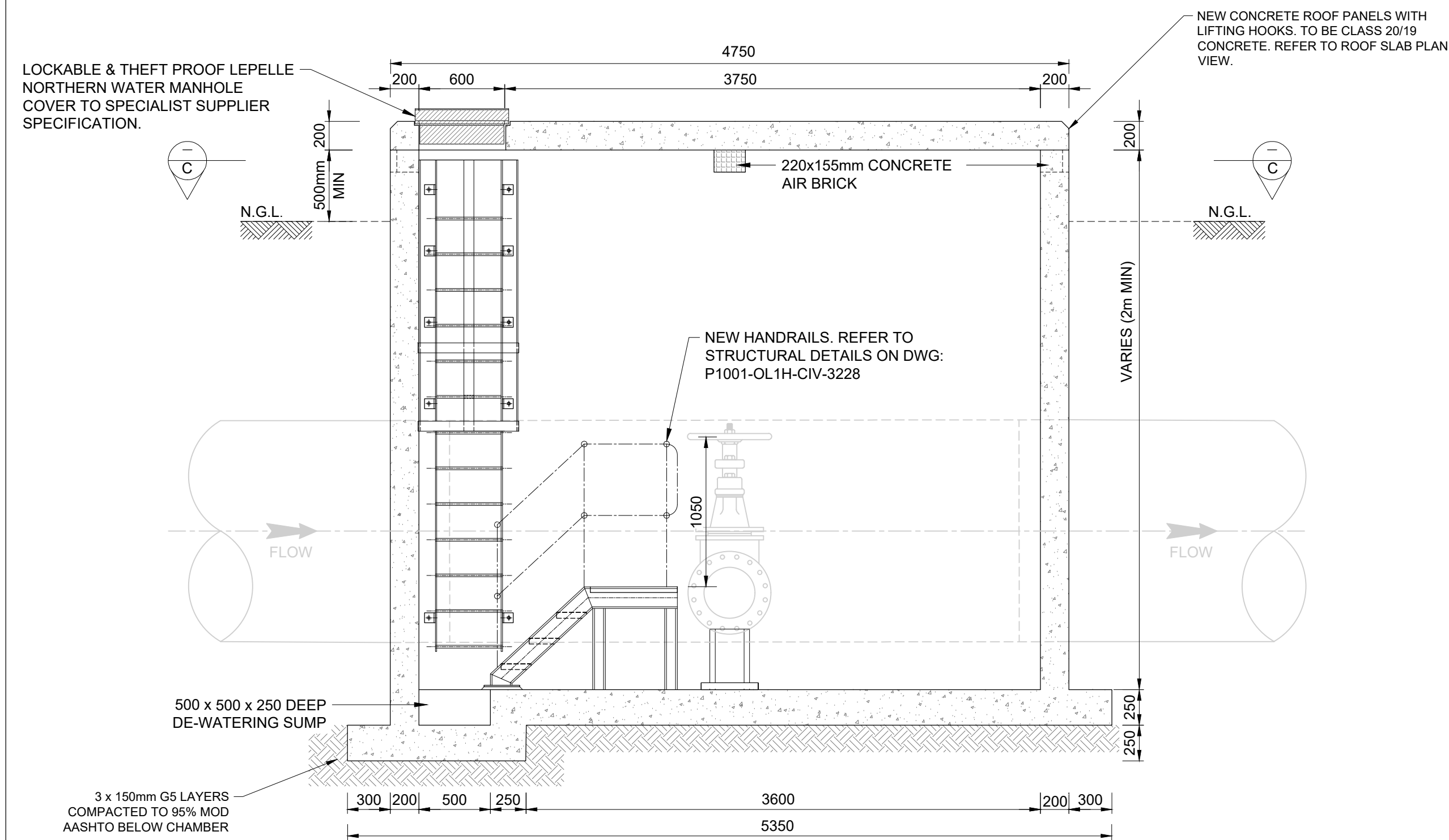
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2023-05-26	AS SHOWN	1 OF 1	a	A1

DWG NO

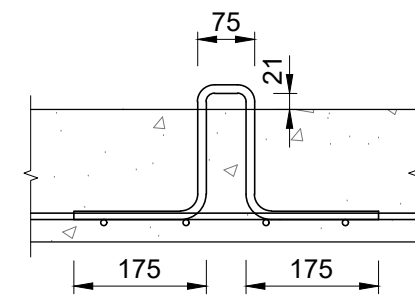
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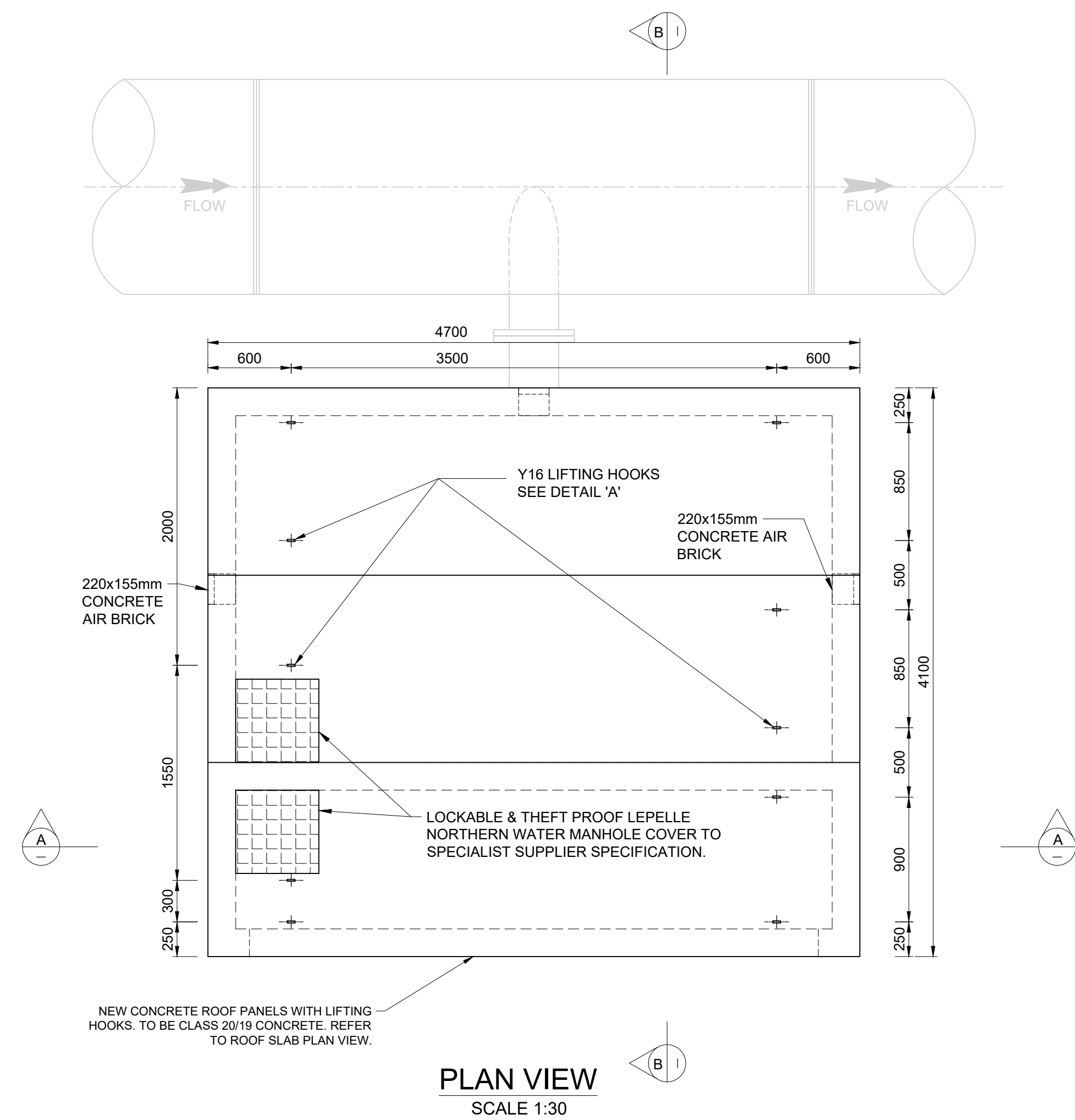
SECTION C-C
SCALE 1:30



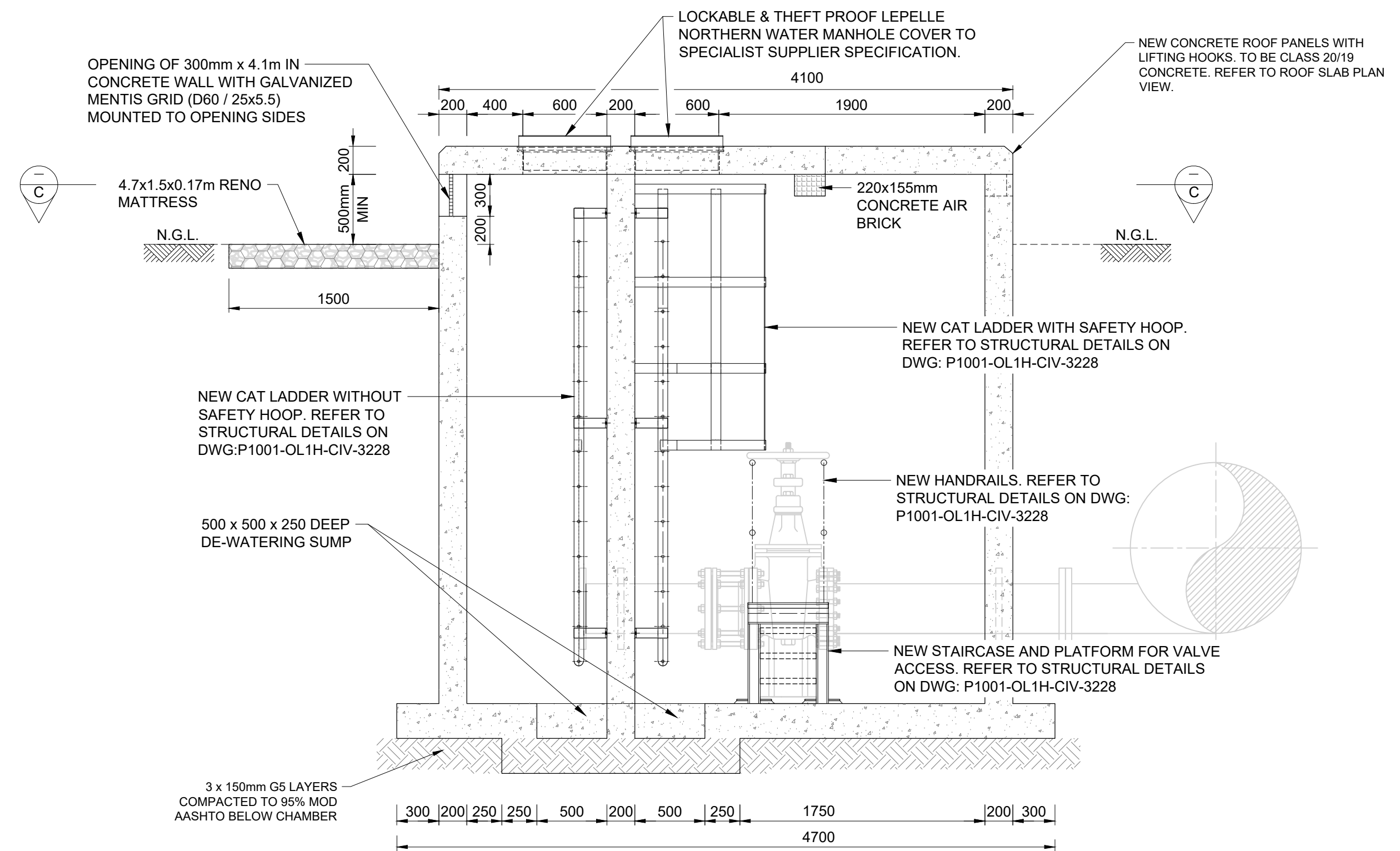
SECTION A-A
SCALE 1:30



DETAIL 'A'
SCALE 1:10

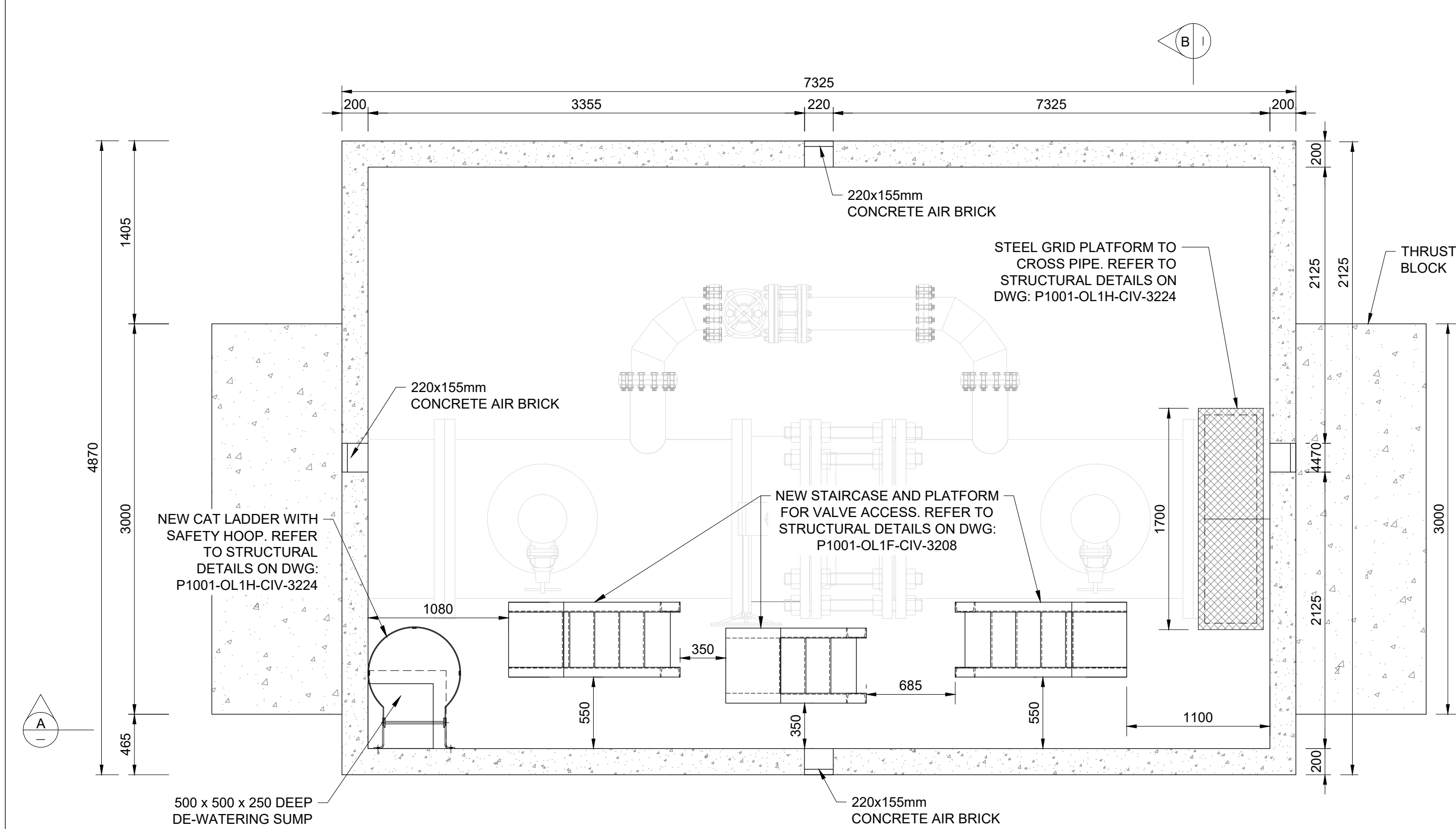


PLAN VIEW
SCALE 1:30

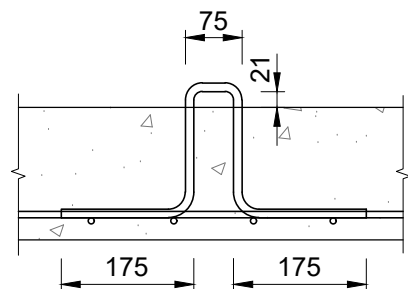


SECTION B-B
SCALE 1:30

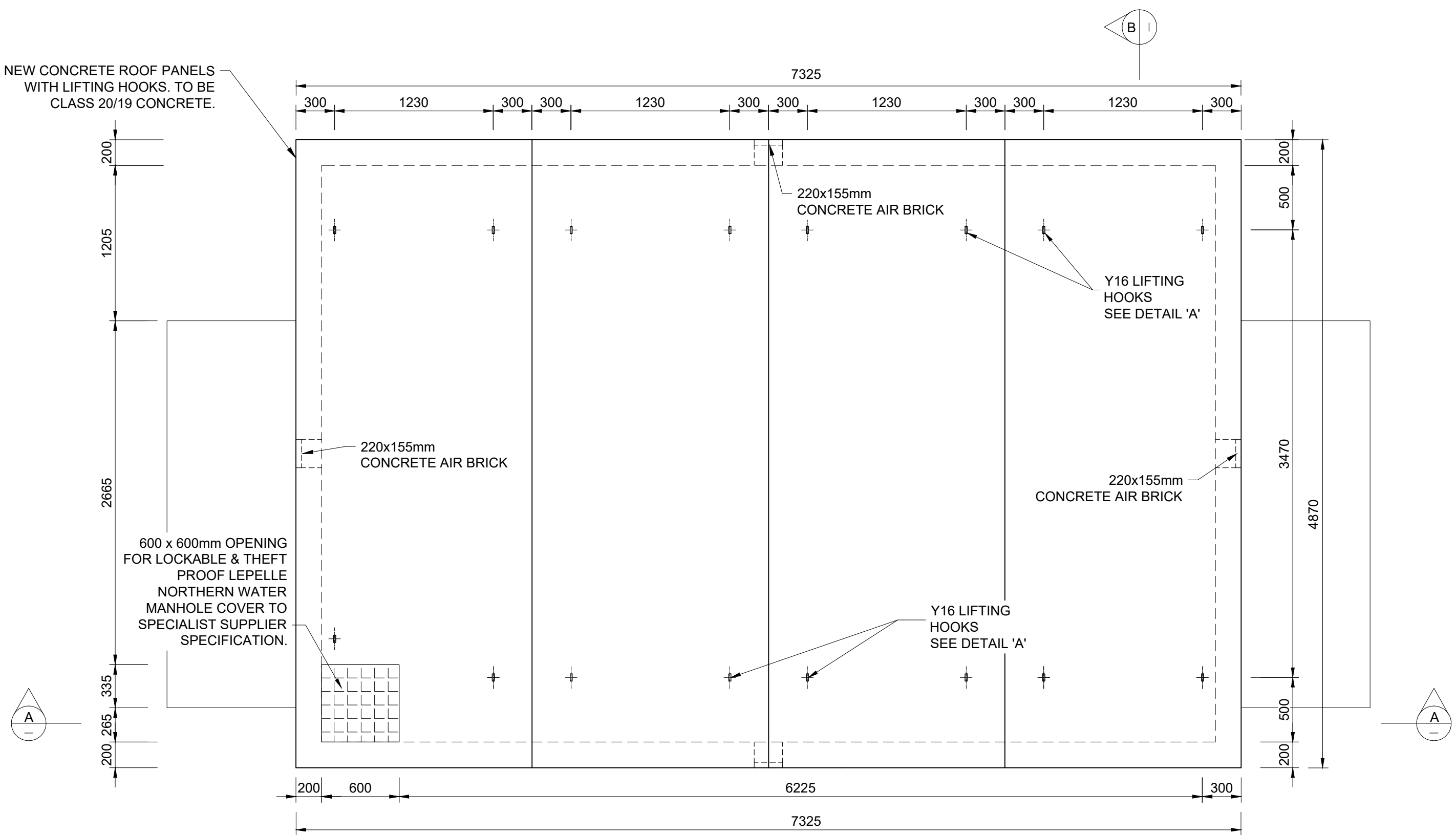
CLIENT:		CONSULTANT:		PROFESSIONAL ENGINEER:		DESIGN BY:		REVISIONS		PROJECT NAME		PROJECT STATUS:	
 1 Landros Mare Street Polokwane Central Tel: (015) 295 1800 Email: info@lepelie.co.za Website: www.lepellewater.com		 Sigodi Marah Martin Management Support Development & Engineering Consultants Tel: 27 (0)12 945 9009 Email: info@sigodimarah.co.za		L. MARAH PROF. Reg.No: 920281 DATE: 2023-05-26 SIGNATURE:		B. COETZEE DRAWN BY: E. COETZEE CHECKED BY: B. COETZEE APPROVED BY: L. MARAH		REV	DATE	UPGRADE OF OLIFANTSPOORT AND EBENEZER		TENDER	
								a	2023-05-26	WATER SUPPLY SCHEME		DATE	SCALE
										STRUCTURAL DETAILS FOR SCOUR VALVE		2023-05-26	AS SHOWN
										FOR PIPELINE WITKOS TO PS3		SHEET	REV
												1 OF 1	a
										DWG NO		A1	
										P1001-OL1H-CIV-3202			



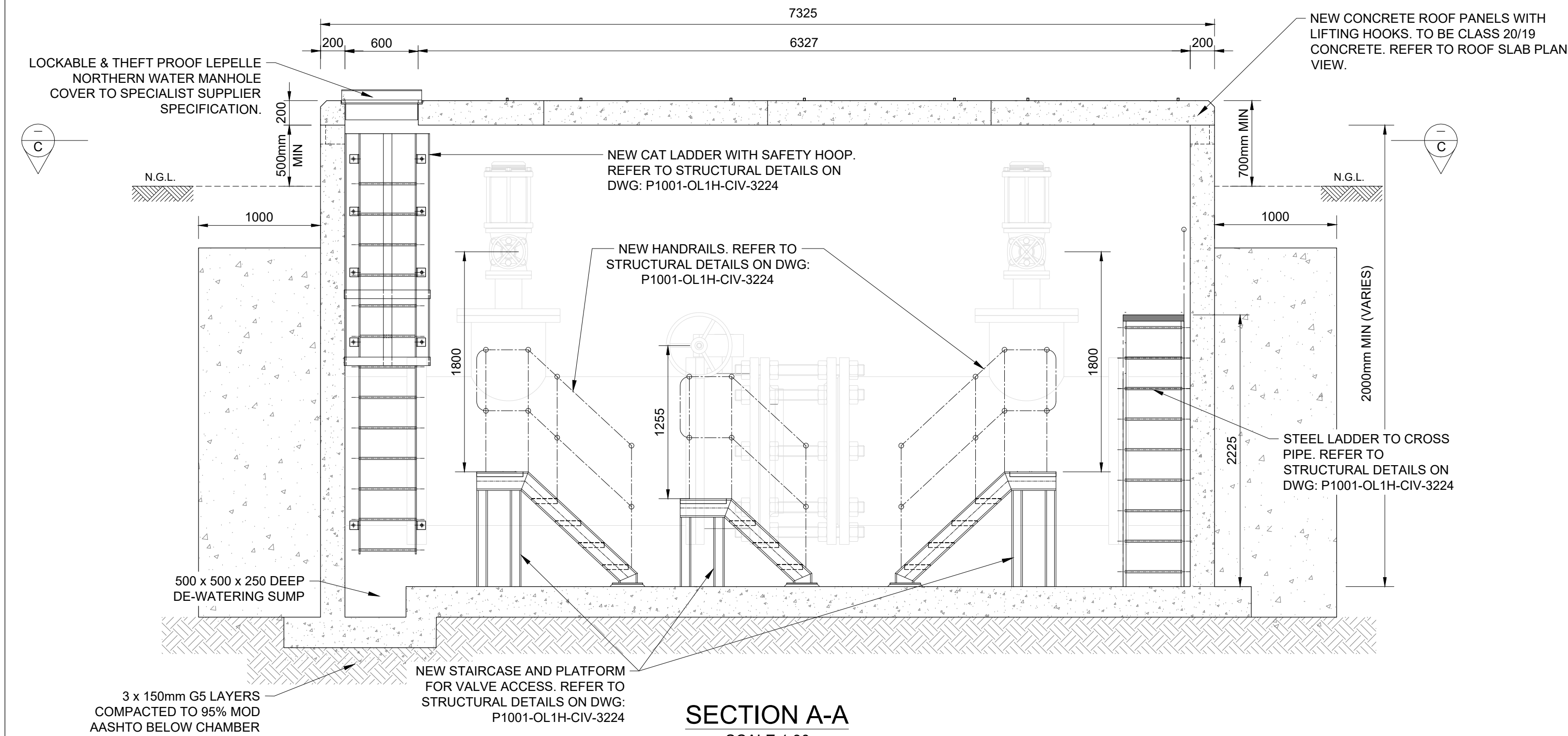
SECTION C - C
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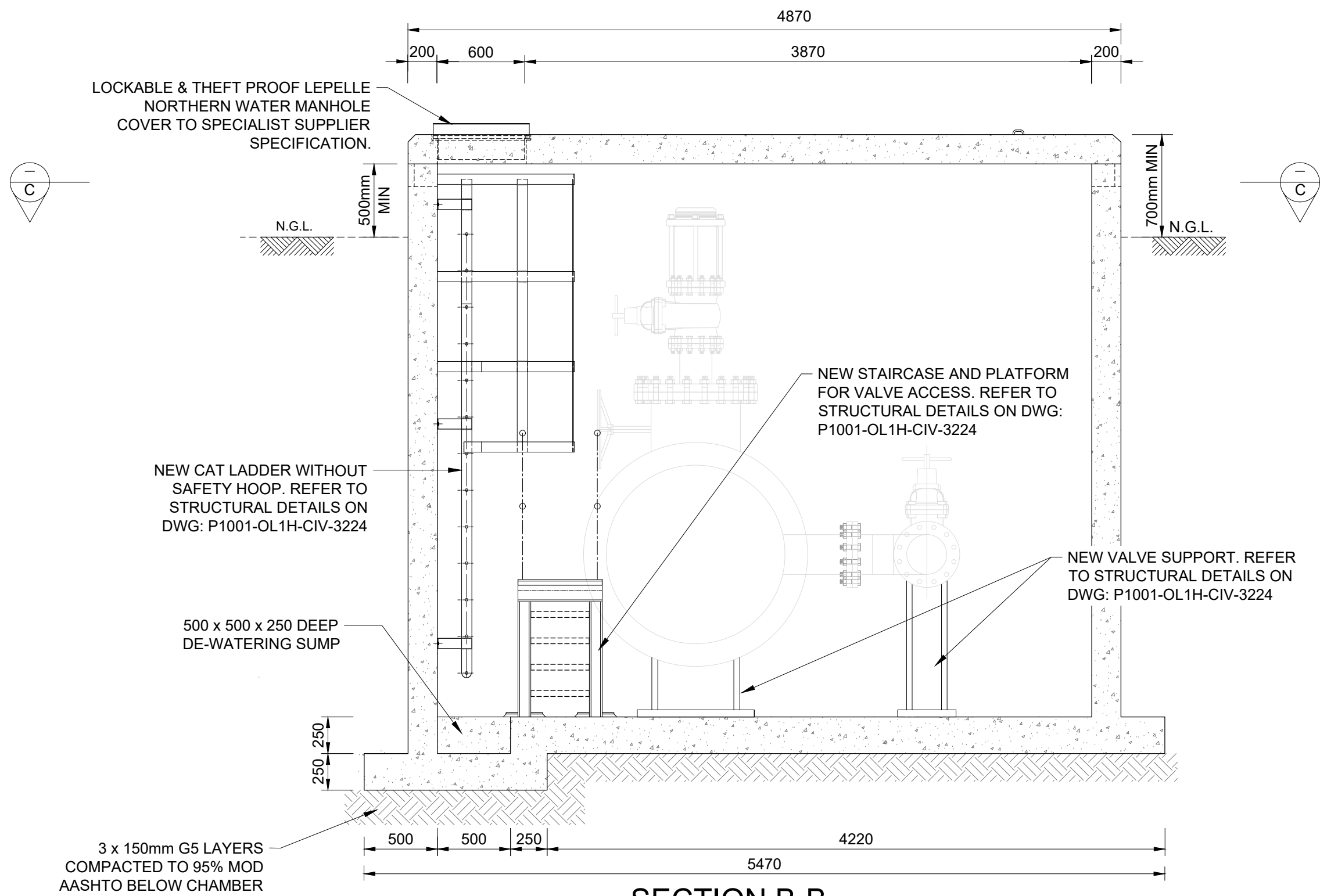
DETAIL 'A'
SCALE 1:10



ROOF SLAB PLAN VIEW
SCALE 1:30

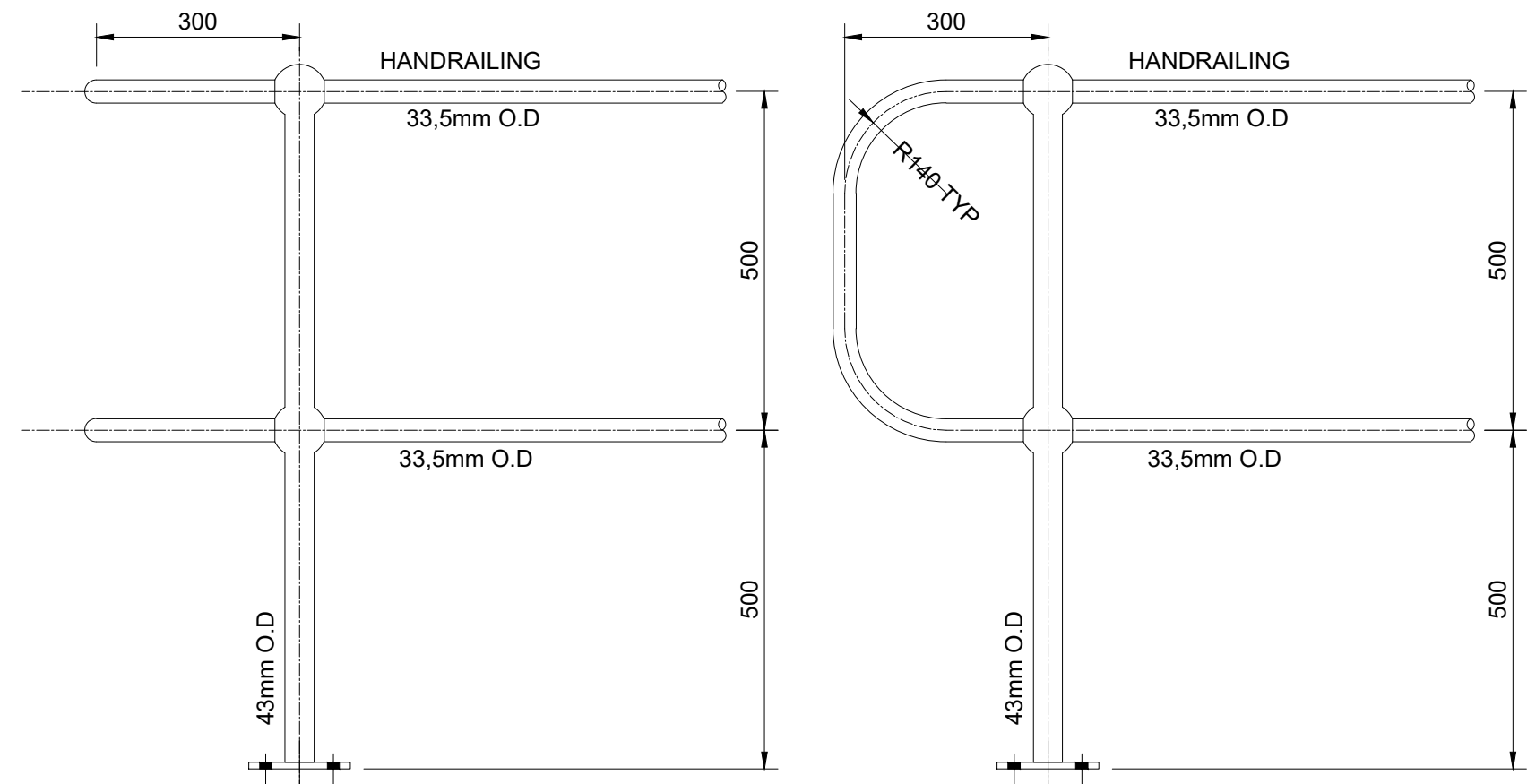


SECTION A-A
SCALE 1:30



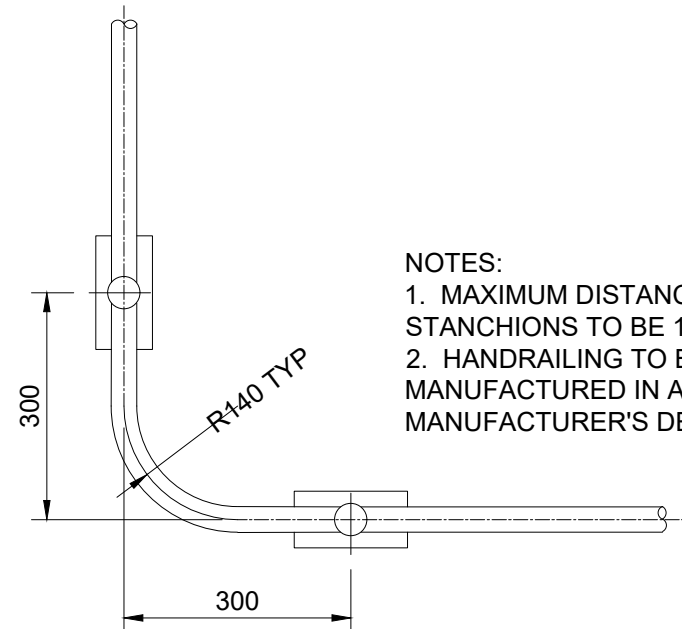
SECTION B-B
SCALE 1:30

CLIENT:		CONSULTANT:		PROFESSIONAL ENGINEER:		DESIGN BY:		REVISIONS		PROJECT NAME		PROJECT STATUS:																																									
 1 Landros Mare Street Polokwane Central Tel: (015) 295 1800 Email: info@lepelle.co.za Website: www.lepellewater.com		 Sigodi Marah Martin 16 Blue Jay Street Rooihuiskraal Centurion 0157 Tel: 27 (0)12 945 9009 Email: info@sigodimarah.co.za		L. MARAH Prof. Reg.No: 920281 DATE: 2023-05-26 SIGNATURE:		B. COETZEE DRAWN BY: E. COETZEE CHECKED BY: B. COETZEE APPROVED BY: L. MARAH		<table><tr><th>REV</th><th>DATE</th><th>DESCRIPTION</th><th>BY</th></tr><tr><td>a</td><td>2023-05-26</td><td>ISSUED FOR TENDER</td><td>L.M</td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr></table>		REV	DATE	DESCRIPTION	BY	a	2023-05-26	ISSUED FOR TENDER	L.M																																	UPGRADE OF OLIFANTSPOORT AND EBENEZER WATER SUPPLY SCHEME		TENDER	
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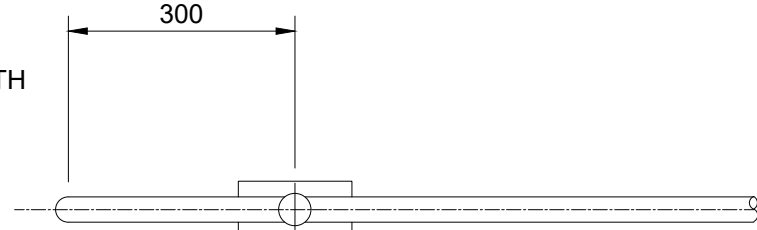


ELEVATION ON CORNER
SCALE 1:10

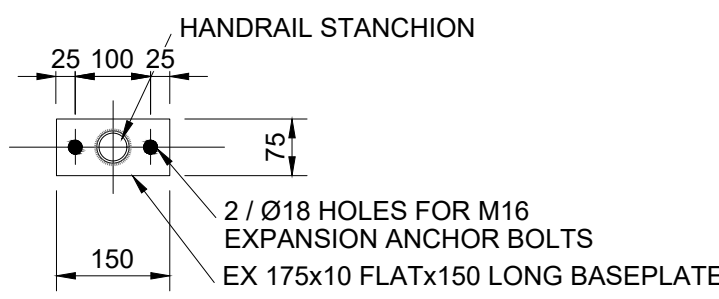
ELEVATION ON CLOSURE
SCALE 1:10



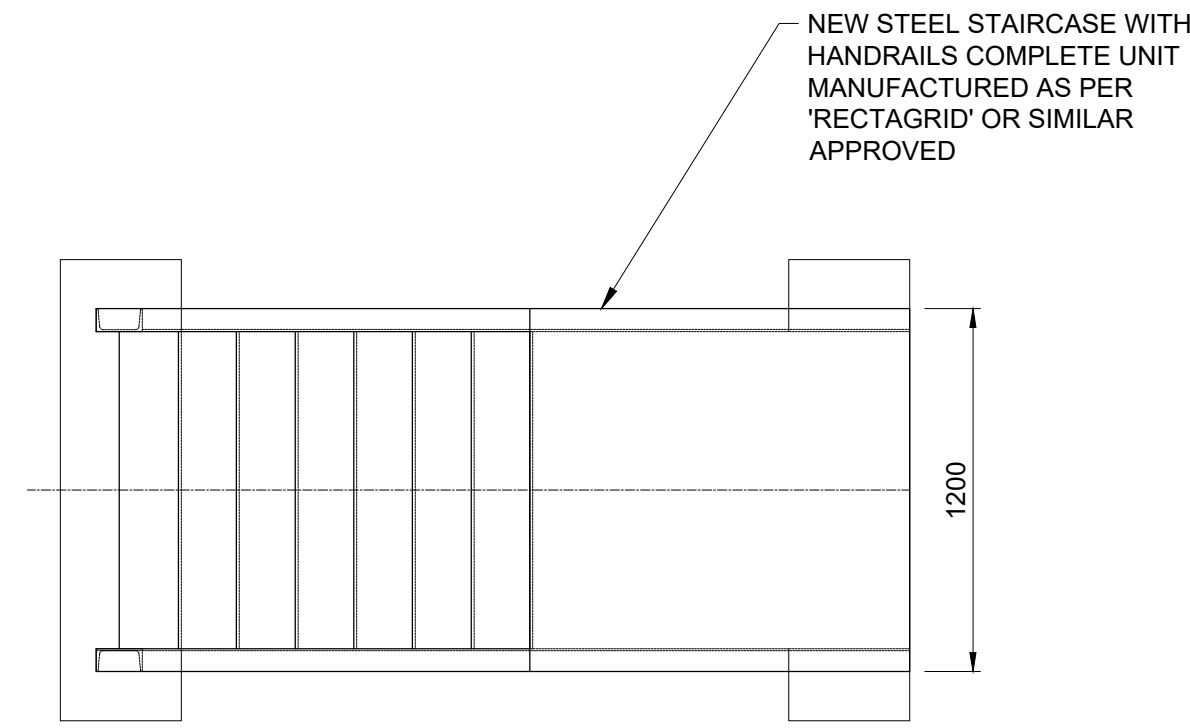
PLAN ON CORNER
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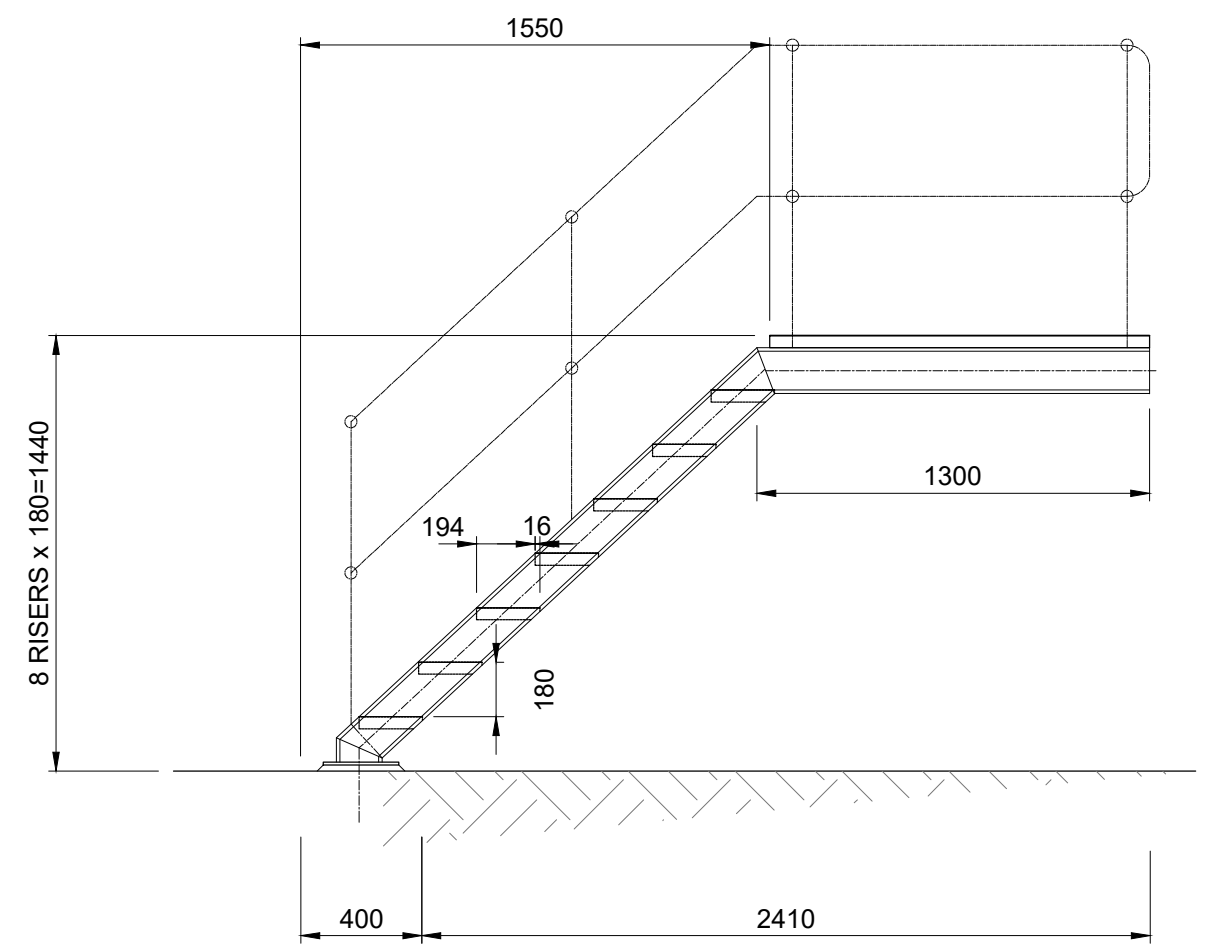
PLAN ON CLOSURE
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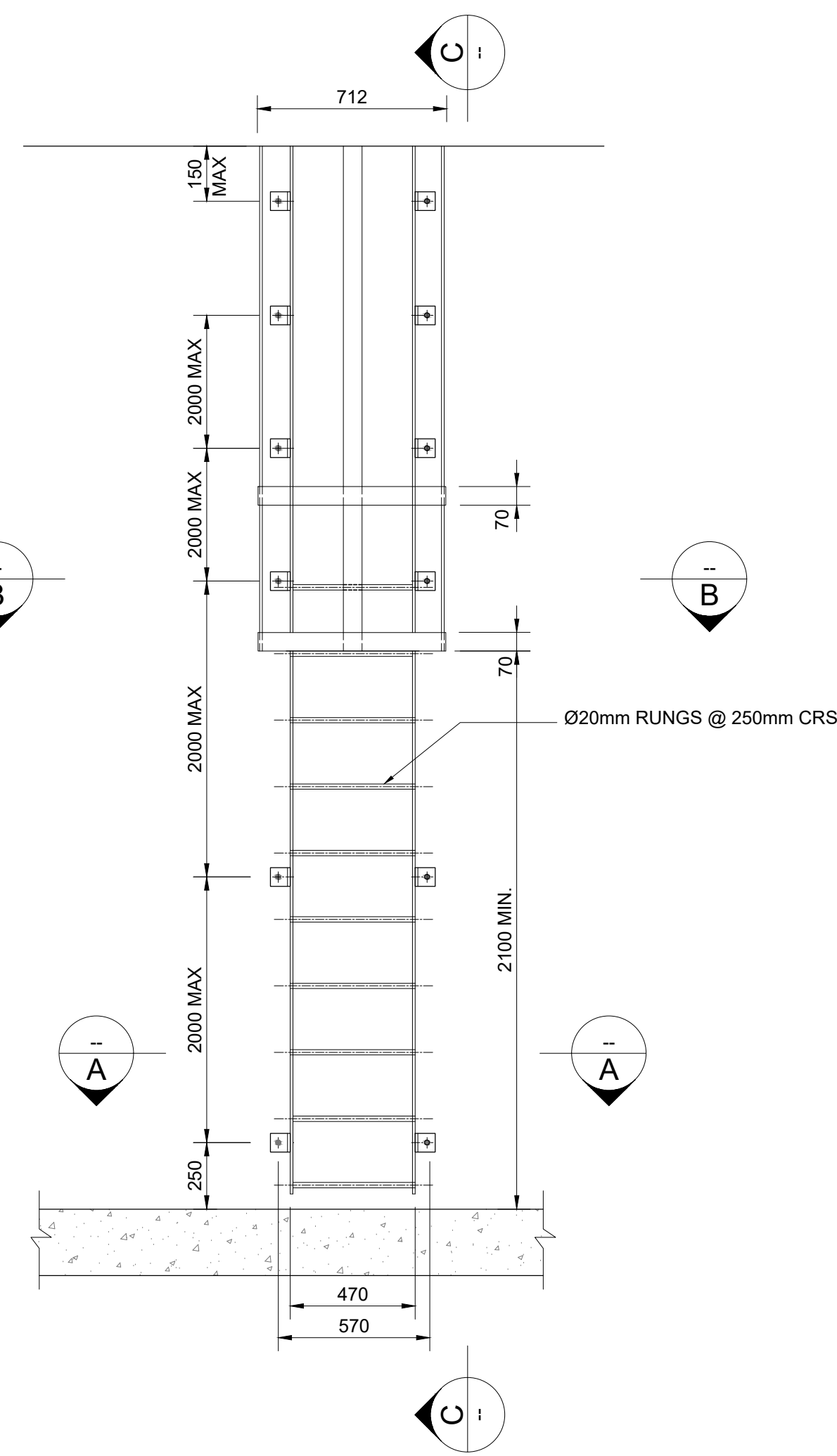
TYPICAL BASEPLATE DETAIL
SCALE 1:10



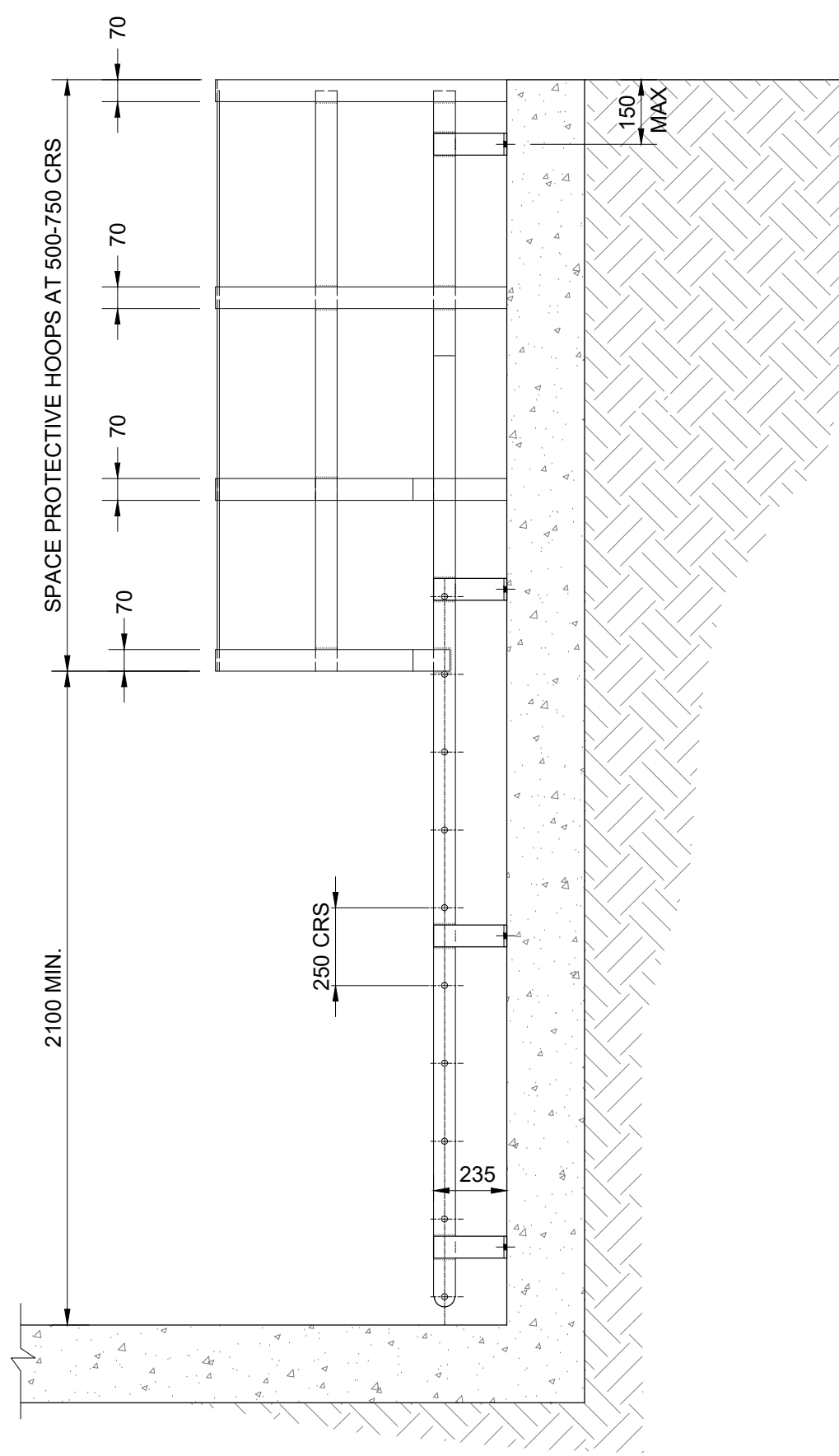
STAIRS AND WALKWAY
PLAN VIEW
SCALE 1:25



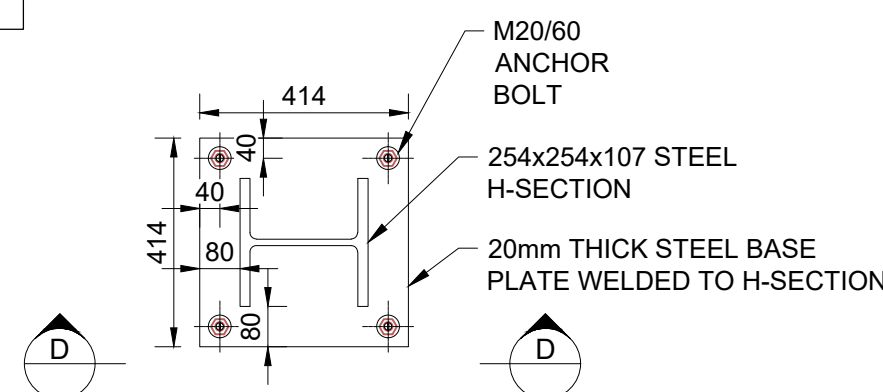
STAIRS AND WALKWAY
SECTION VIEW
SCALE 1:25



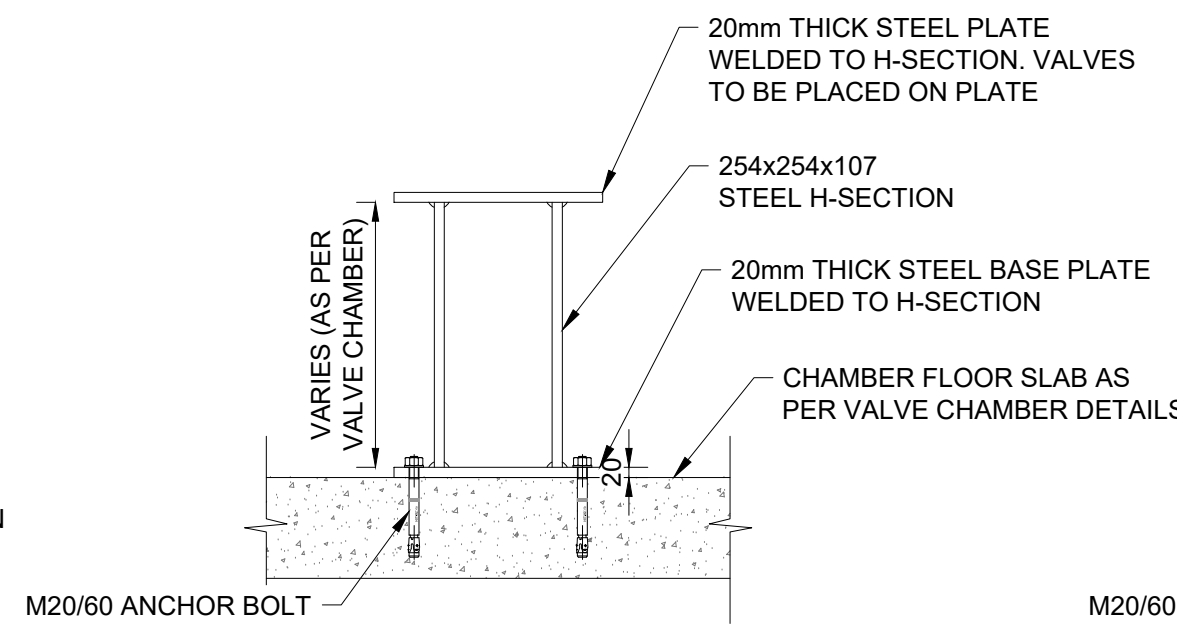
CATLADDER SIDE VIEW
SCALE 1:20



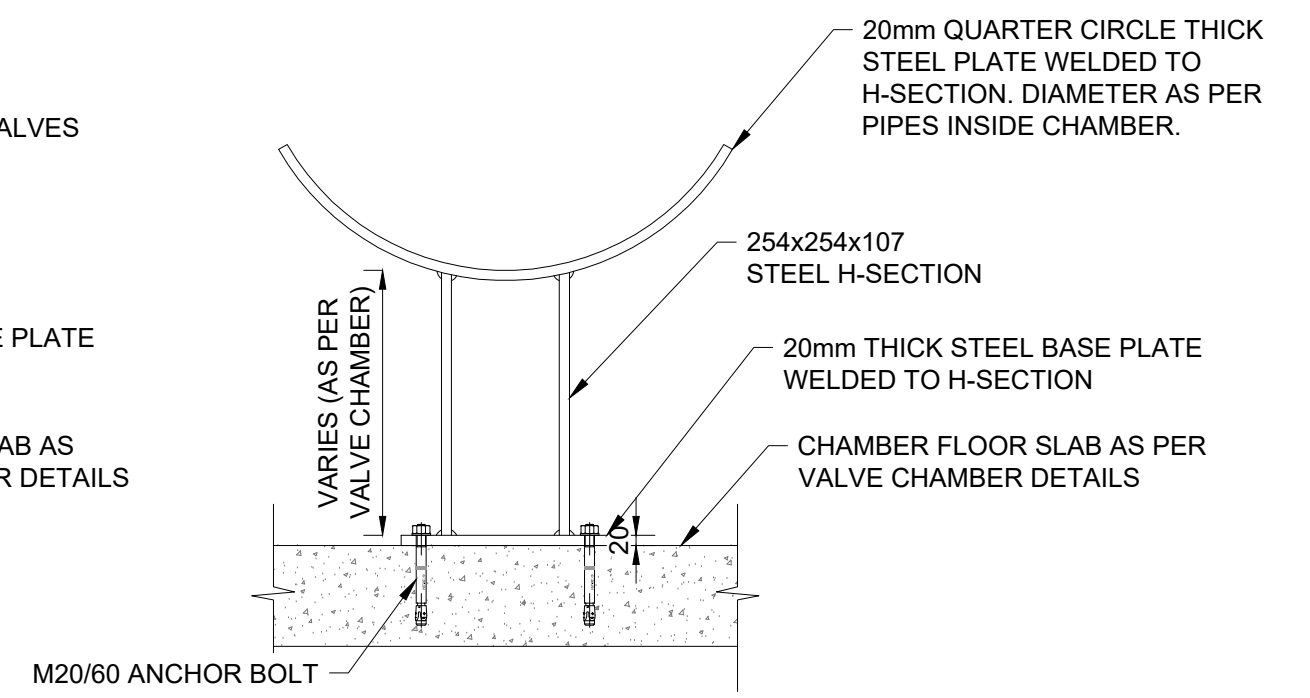
CATLADDER SECTION C-C
SCALE 1:20



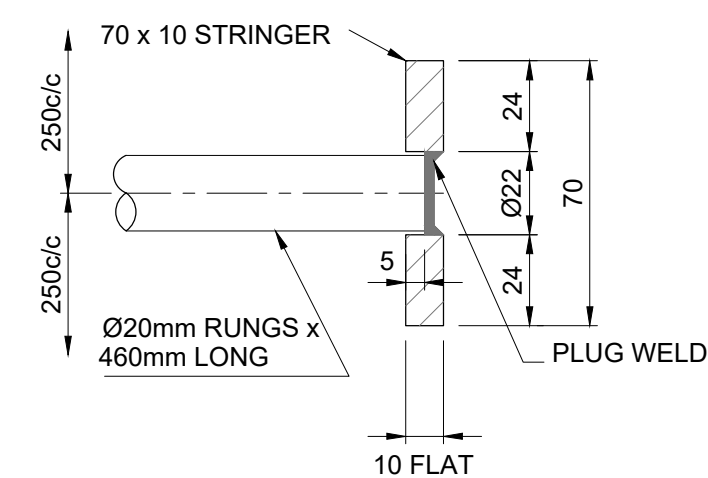
VALVE SUPPORT DETAIL
PLAN VIEW
SCALE 1:15



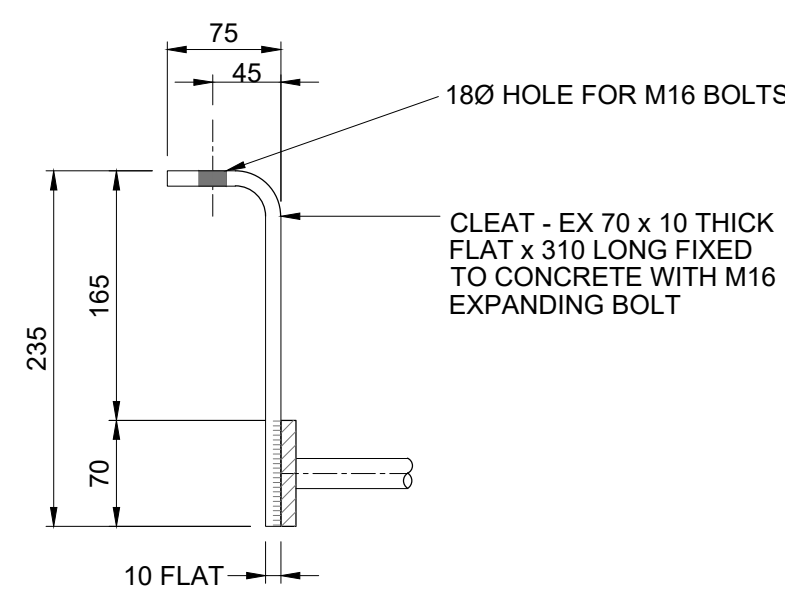
VALVE SUPPORT
SECTION D-D
SCALE 1:15



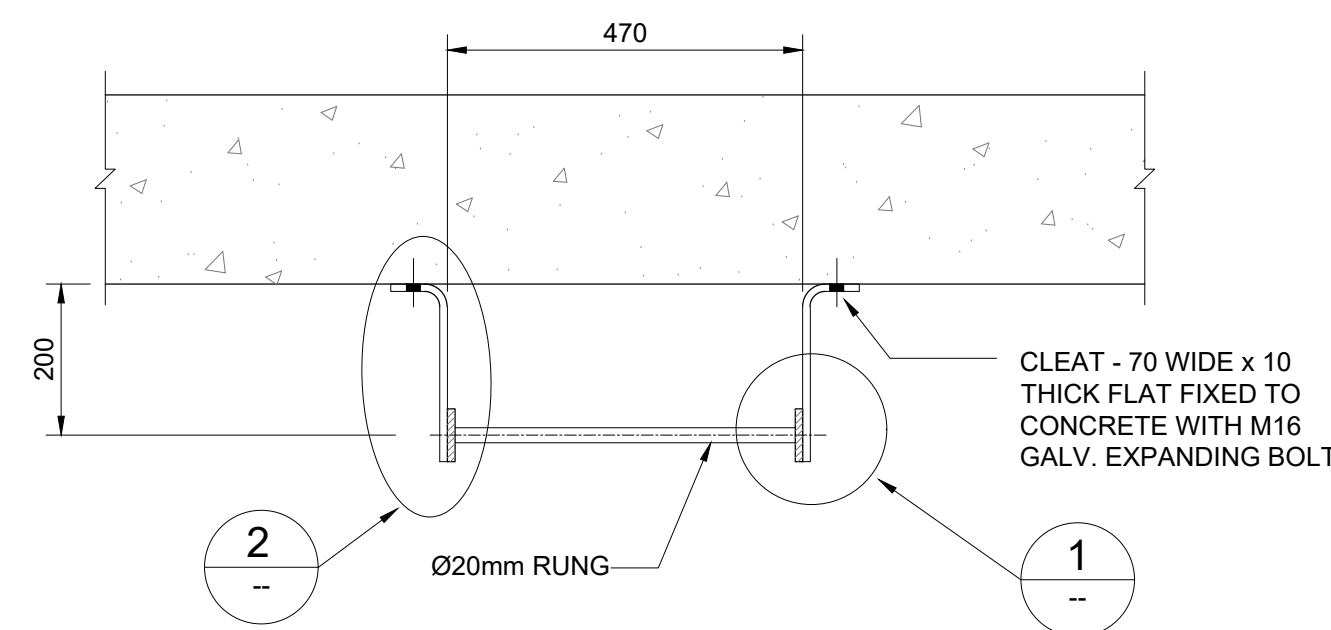
PIPE SUPPORT
SECTION D-D
SCALE 1:15



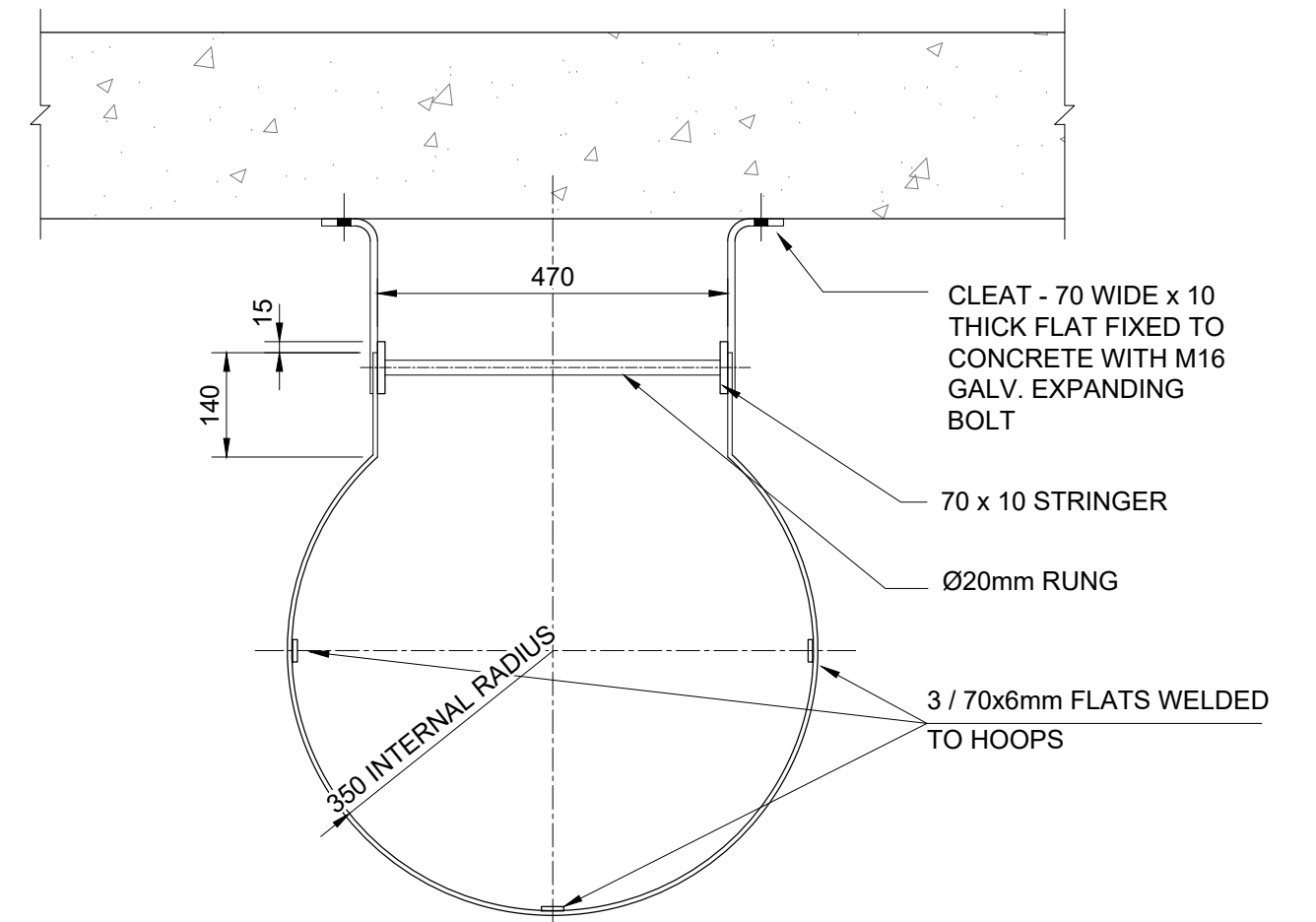
DETAIL 1
SCALE 1:2



DETAIL 2
SCALE 1:5



SECTION A-A
TYPICAL LADDER DETAIL
SCALE 1:10



SECTION B-B
INSIDE WALL SAFETY HOOP
SCALE 1:10