

PROPERTY DESCRIPTION
 PORTION: 107
 FARM No.: 171
 FARM NAME: SPAARWATER

BENCHMARKS CO-ORDINATES - WGS29			
POINT	Y	X	Z
BM1	60 767.419	2 921 005.889	1649.146
BM2	60 743.880	2 920 938.831	1648.327
BM4	60 790.867	2 921 041.298	1650.732
BM5	60 768.560	2 921 056.613	1650.302
BM6	60 775.070	2 921 071.955	1650.277
BM7	60 648.112	2 920 973.325	1646.642
BM8	60 724.578	2 920 944.932	1648.146
SC7	60 800.825	2 921 089.643	1652.390

LEGEND:

- ALL EXISTING PIPELINE
- PIPELINE BY OTHERS
- NEW INLET PIPELINE
- MASETJABA PIPELINE CONTRACT
- NEW OUTLET PIPELINE
- NEW STRUCTURAL WORK
- NEW PAVING
- BENCH MARKS

CITY OF EKURHULENI
 WATER AND SANITATION DEPARTMENT
 MR M. SHABANGU
 HEAD OF DEPARTMENT
 MR K. CHIHOTA
 DIVISIONAL HEAD - PROJECTS

AMENDMENTS			
NR	DATE	APPROVED	DESCRIPTION
A	23.11.18	RM	TENDER DESIGN DRAWINGS

WATER AND SANITATION FOR INTERNAL APPROVAL			
DEPARTMENT:	NAME:	SIGNATURE:	DATE:
DEPARTMENT:	NAME:	SIGNATURE:	DATE:
DEPARTMENT:	NAME:	SIGNATURE:	DATE:
DEPARTMENT:	NAME:	SIGNATURE:	DATE:

CONSULTANT DETAIL

TLOU CONSULTING (PTY) LTD
 P.O. BOX 1309
 PRETORIA
 0001
 TEL: (012) 336-9800
 FAX: (012) 460-2033
 EMAIL: ravain@tlouconsult.co.za

I. R. MOODLEY Pr Eng Prof Reg Nr: 20120175
 HEREBY CERTIFY THAT THE SERVICES WILL BE INSTALLED ACCORDING TO THE DRAWINGS

DESIGNED	
NAME:	DATE:
SIGNATURE:	
DRAWN	
NAME:	DATE:
SIGNATURE:	
CHECKED	
NAME:	DATE:
SIGNATURE:	

CONTRACT No. _____

PROJECT No. P18335

SCALE 1:200

DATE: NOV 2018

LOCATION OF PROJECT: SOUTH EAST REGION: NIGEL

DESCRIPTION OF PROJECT: MASETJABA TOWER & PUMPSTATION: RESERVOIR COMPLEX

CONSULTANT DRAWING NUMBER: P18335-01-002

DRAWING NUMBER: P18335-01-002

PROJECT STATUS

CONCEPT DRAWING TENDER DRAWING APPROVED CONSTRUCTION DRAWING AS BUILT DRAWING

PAPER SIZE: A1

OPERATIONS CHIEF ENGINEER - CoE:

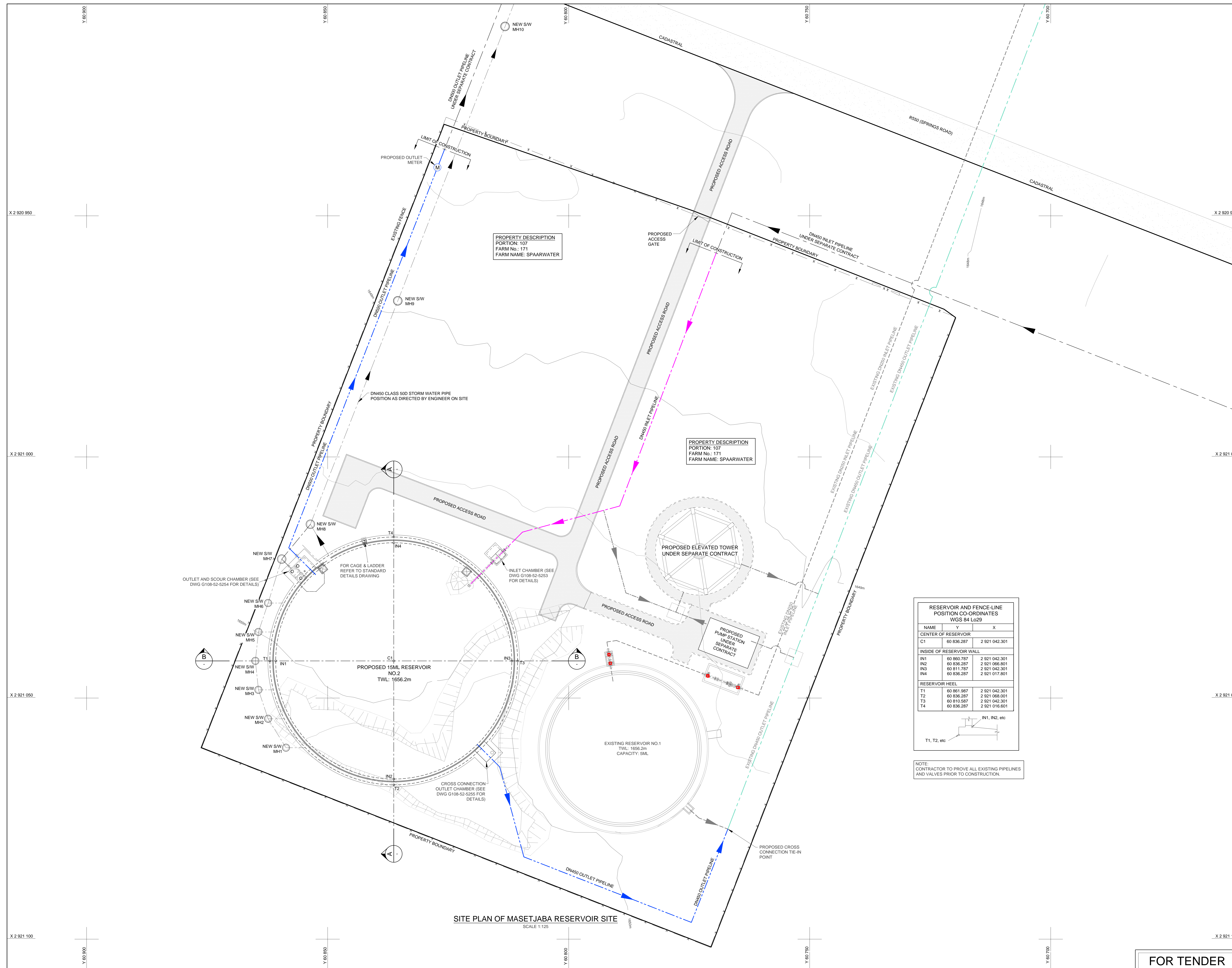
NAME: _____

SIGNATURE: _____ DATE: _____

PROJECT MANAGER - CoE:

NAME: _____

SIGNATURE: _____ DATE: _____



PROPERTY DESCRIPTION
PORTION: 107
FARM No.: 171
FARM NAME: SPAARWATER

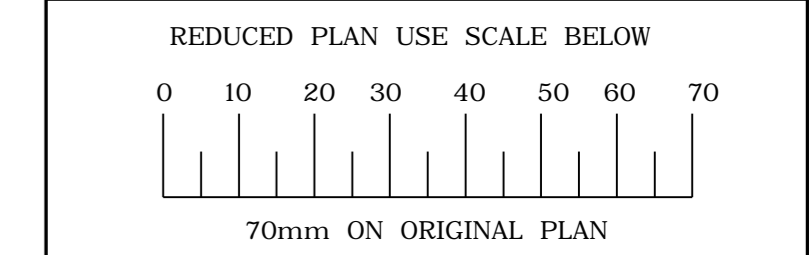
PROPERTY DESCRIPTION
PORTION: 107
FARM No.: 171
FARM NAME: SPAARWATER

RESERVOIR AND FENCE-LINE POSITION CO-ORDINATES WGS 84 Lo29

NAME	Y	X
CENTER OF RESERVOIR		
C1	60 836.287	2 921 042.301
INSIDE OF RESERVOIR WALL		
IN1	60 860.787	2 921 042.301
IN2	60 836.287	2 921 066.001
IN3	60 811.787	2 921 042.301
IN4	60 836.287	2 921 017.801
RESERVOIR HEEL		
T1	60 861.987	2 921 042.301
T2	60 836.287	2 921 068.001
T3	60 810.587	2 921 042.301
T4	60 836.287	2 921 016.601

T1, T2, etc

NOTE: CONTRACTOR TO PROVE ALL EXISTING PIPELINES AND VALVES PRIOR TO CONSTRUCTION.



LEGEND

EXISTING UNDERGROUND SERVICES ARE AS SHOWN BELOW.

SEWERS AND M.H.S	—■—
STORM WATER DRAINS AND M.H.S	—●—
WATER MAINS AND VALVES	—○—
ELECTRICITY CABLES	—+—
G.P.O TELEPHONE CABLES	—x—
OIL PIPELINES	—x—

CONSULTANT:

NAIDU CONSULTING

1st Floor Tel: +27 (0) 31 265 6007
No 5 The Boulevard Fax: +27 (0) 31 265 6011
West Way Office Park E-mail: info@naiduconsulting.com
Westville, Durban

DRAWING No.: G108-52-5000 REV. 0

FOR TENDER

Ref Drg.	Description

Revision	Date	Description
0	01-2019	ISSUED FOR TENDER

NOTE: No construction work to commence until final and servicable requisition have been completed.

Acquisitions completed:

Date	Engineer	NORTH POINT

NOTE: Only underground services affected by new construction are shown. Care must be taken during excavations for road foundations, trenches etc. to avoid damage to underground services such as sewers, drains, cables, watermain and connections wherever possible these must be located before work begins.

Contract No. _____

Project Title

MASETJABA RESERVOIR
CONSTRUCTION OF A 15ML REINFORCED CONCRETE RESERVOIR, PIPELINES AND ASSOCIATED WORKS

Section _____

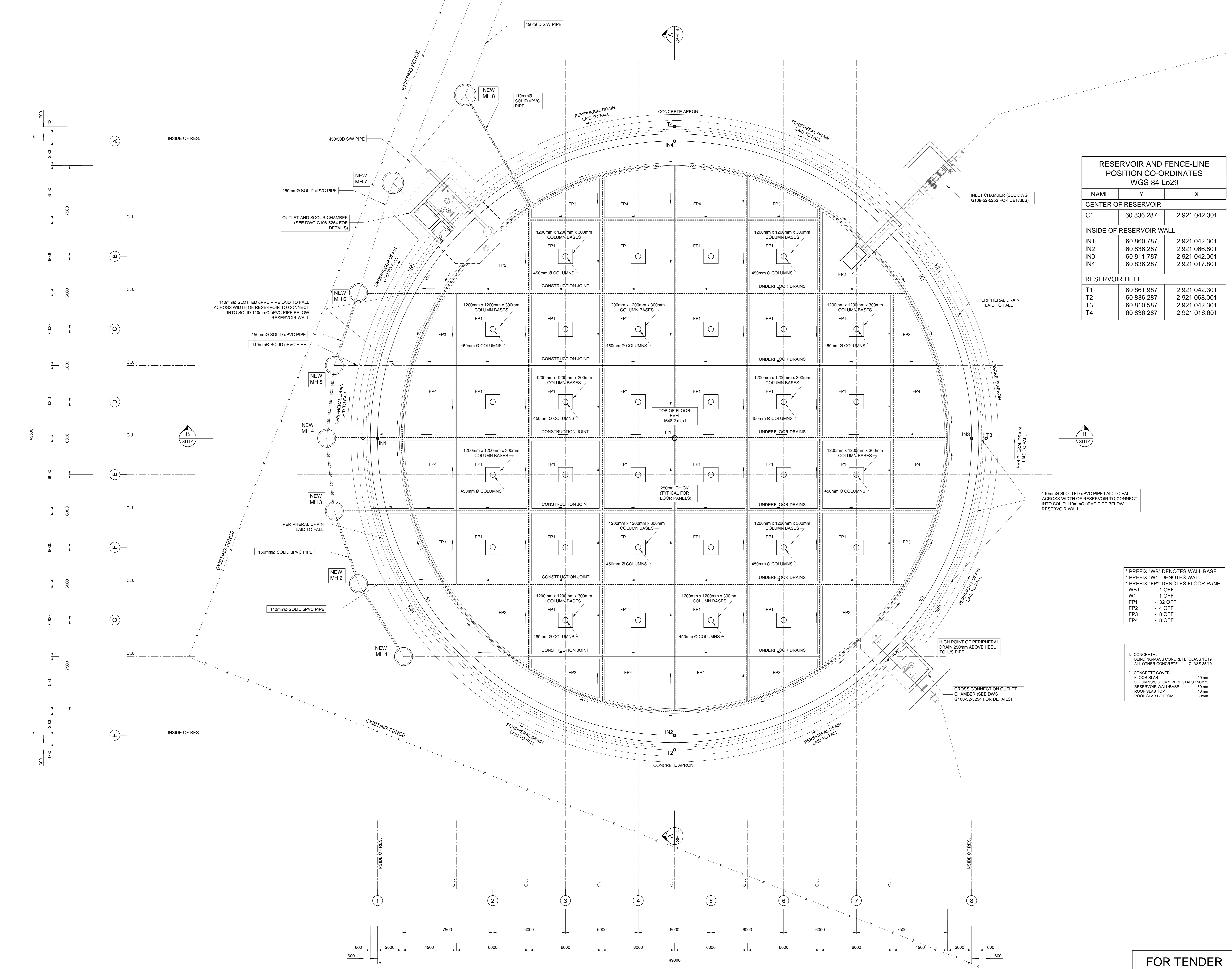
Drawing Title

SITE PLAN

Scales : AS SHOWN
Designed : D.Ramghulam Date : June 2018
Checked : A.Goorun Drawn : N.Adams

Area Engineer	
Manager	
Director (Water)	
Executive Director	
Drawing No.	
Sheet	1
Rev.	0

FOR TENDER



RESERVOIR AND FENCE-LINE POSITION CO-ORDINATES WGS 84 Lo29

NAME	Y	X
CENTER OF RESERVOIR		
C1	60 836.287	2 921 042.301
INSIDE OF RESERVOIR WALL		
IN1	60 860.787	2 921 042.301
IN2	60 836.287	2 921 066.801
IN3	60 811.787	2 921 042.301
IN4	60 836.287	2 921 017.801
RESERVOIR HEEL		
T1	60 861.987	2 921 042.301
T2	60 836.287	2 921 068.001
T3	60 810.587	2 921 042.301
T4	60 836.287	2 921 016.601

CLIENT:

Ekurhuleni
METROPOLITAN MUNICIPALITY

REDUCED PLAN USE SCALE BELOW

70mm ON ORIGINAL PLAN

LEGEND

EXISTING UNDERGROUND SERVICES ARE AS SHOWN BELOW

SEWERS AND M.H'S
STORM WATER DRAINS AND M.H'S
WATER MAINS AND VALVES
ELECTRICITY CABLES
G.P.O TELEPHONE CABLES
OIL PIPELINES

CONSULTANT:

NAIDU
CONSULTING

1st Floor Tel: +27 (0) 31 265 6007
No.5 The Boulevard Fax: +27 (0) 31 265 6911
West Way Office Park E-mail: info@naiduconsulting.com
Westville, Durban

DRAWING No.: G108-52-5250 REV. 0

FOR TENDER

Ref	Drg.	Description
0	01-2019	ISSUED FOR TENDER
Revision Date	Description	

NOTE: No construction work to commence until final and complete acquisitions have been completed.

Acquisitions completed:

Date	Engineer	NORTH POINT	SERVICES	CHECKED
			DATE	SIGNATURE

* PREFIX "WB" DENOTES WALL BASE
 * PREFIX "W" DENOTES WALL
 * PREFIX "FP" DENOTES FLOOR PANEL
 WB1 - 1 OFF
 W1 - 1 OFF
 FP1 - 32 OFF
 FP2 - 4 OFF
 FP3 - 8 OFF
 FP4 - 8 OFF

1. CONCRETE
 BLINDING/MASS CONCRETE: CLASS 15/19
 ALL OTHER CONCRETE : CLASS 30/19
 2. CONCRETE COVER:
 FLOOR SLAB : 50mm
 COLUMNS/COLUMN PEDESTALS : 50mm
 RESERVOIR WALLBASE : 50mm
 ROOF SLAB TOP : 40mm
 ROOF SLAB BOTTOM : 50mm

NOTE: Only underground services affected by new construction are shown. Care must be taken during excavation for road foundations/trenches etc. to avoid damage to underground services such as sewer/drain/cables, watermain and connections wherever possible these must be located before work begins.

Contract No. _____

Project Title

MASETJABA RESERVOIR
CONSTRUCTION OF A 15ML REINFORCED CONCRETE RESERVOIR, PIPELINES AND ASSOCIATED WORKS

Section _____

Drawing Title

FLOOR PLAN

Scales : AS SHOWN
Designed : D.Ramghulam Date : June 2018
Checked : A.Goorun Drawn : N. Adams

Area Engineer _____

Manager _____

Director (Water) _____

Executive Director _____

Drawing No.	Sheet	Rev.
	2	0

FOR TENDER

Revision	Date	Issued For	Description
0	01-2019	ISSUED FOR TENDER	

Revision	Date	Description
0	01-2019	ISSUED FOR TENDER

Date	Engineer	NORTH	POINT

UNDERGROUND SERVICES CHECKED

SERVICE	DATE	SIGNATURE
S.W DRAINS		
SEWERS		
WATERMAINS		
G.P.O CABLES		
ELECTRIC CABLES		
S.A.R CABLES		
E.S.C CABLES		
OIL PIPE LINE		

NOTE: Only underground services affected by new construction are shown. Care must be taken during excavation for road foundations, trenches etc. to avoid damage to underground services such as sewer drains, cables, water mains and connections. Wherever possible these must be located before work begins.

Contract No.

Project Title

MASETJABA RESERVOIR
CONSTRUCTION OF A 15ML REINFORCED CONCRETE RESERVOIR, PIPELINES AND ASSOCIATED WORKS

Section

Drawing Title

ROOF PLAN

Scales : AS SHOWN
Designed : D.Ramghulam Date : June 2018
Checked : A.Goorun Drawn : N.Adams

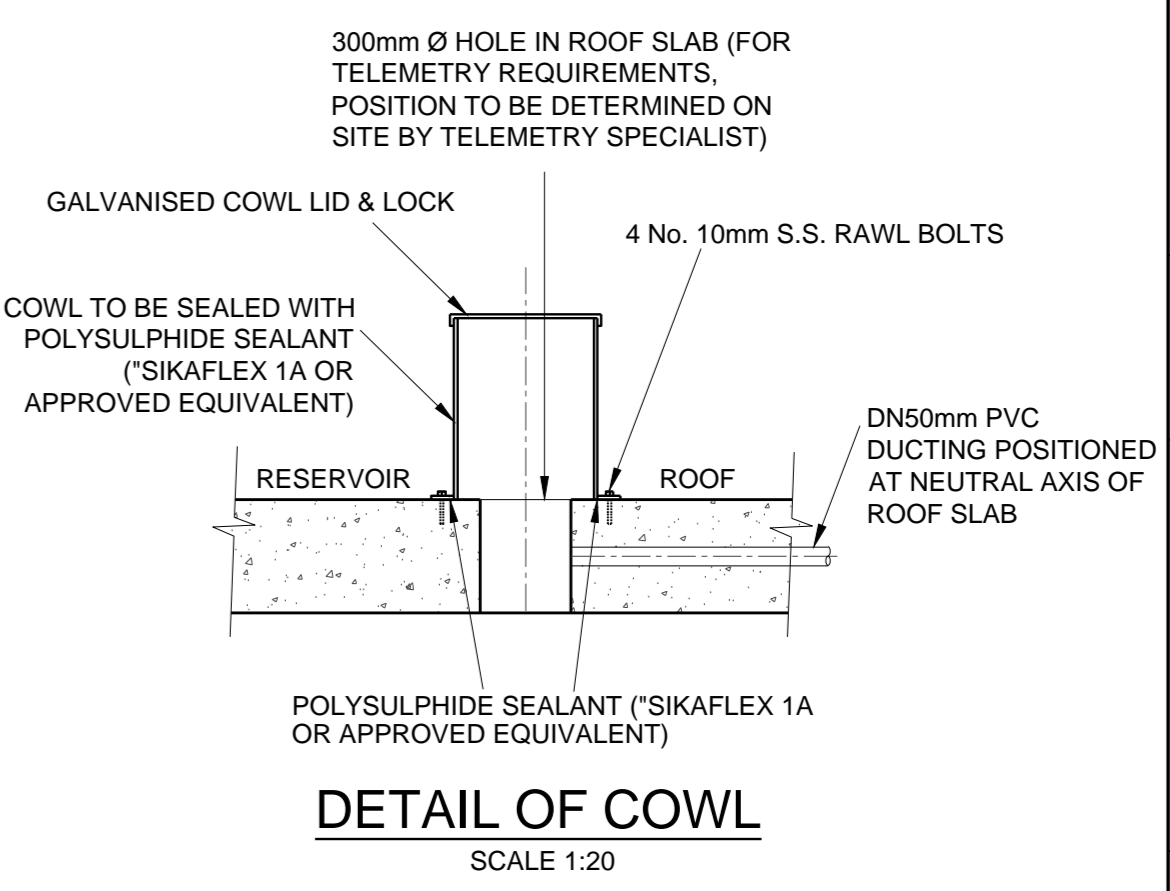
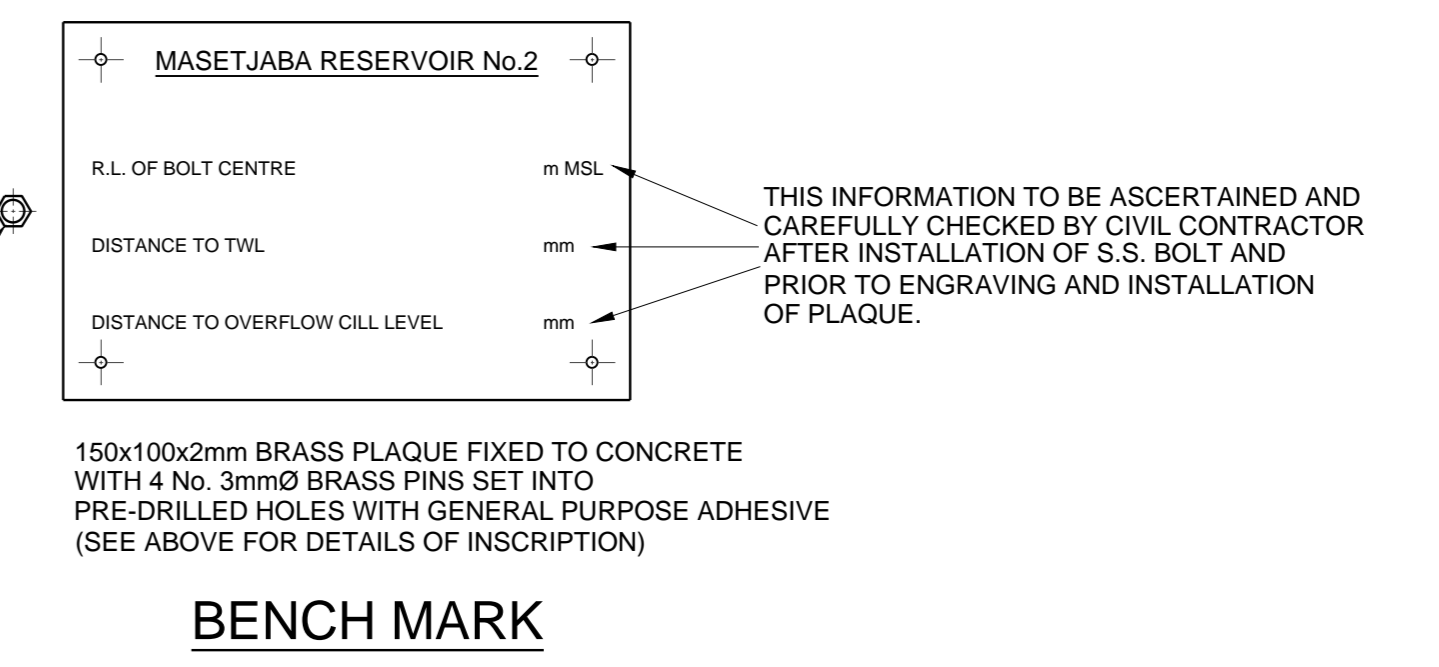
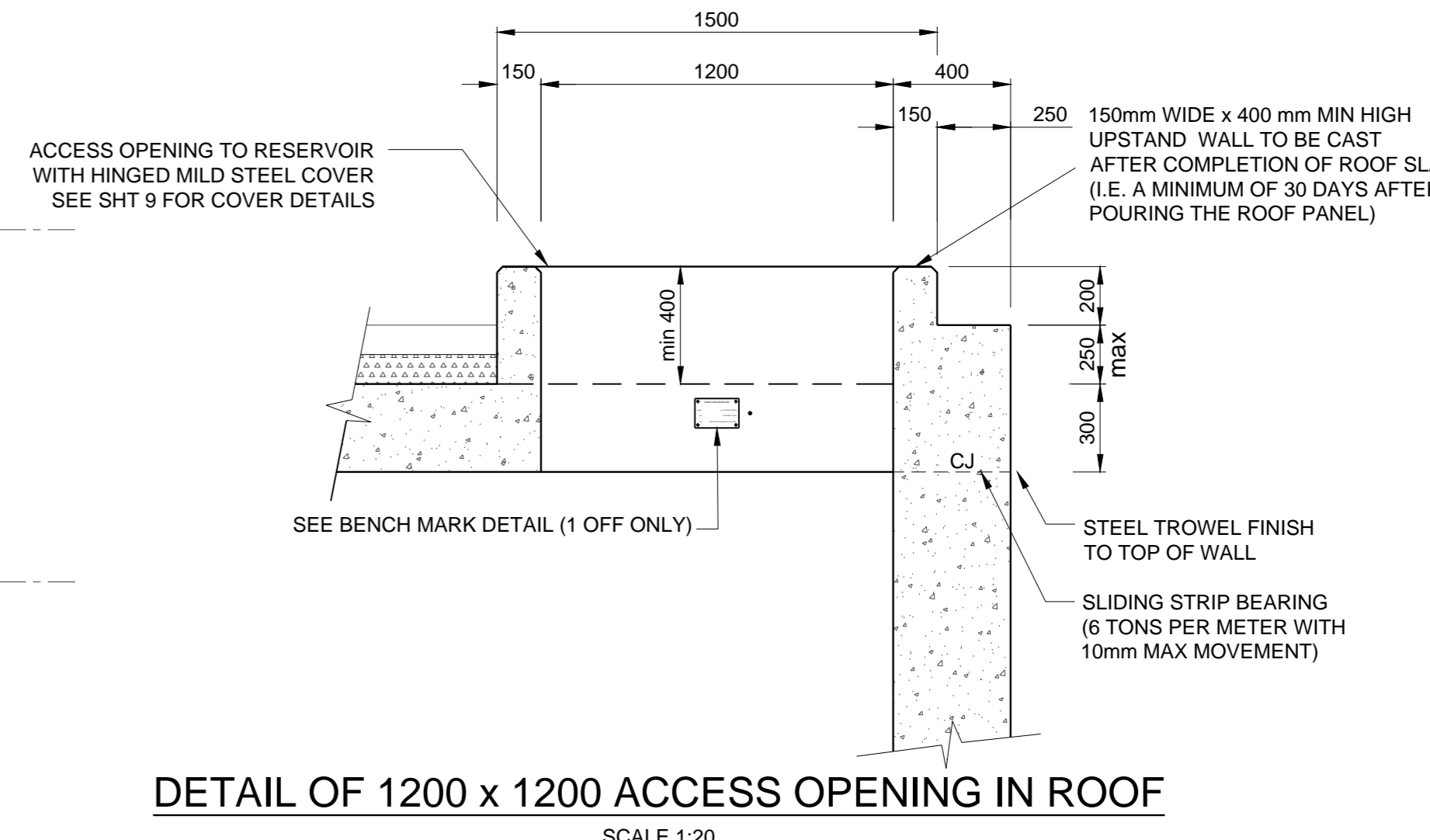
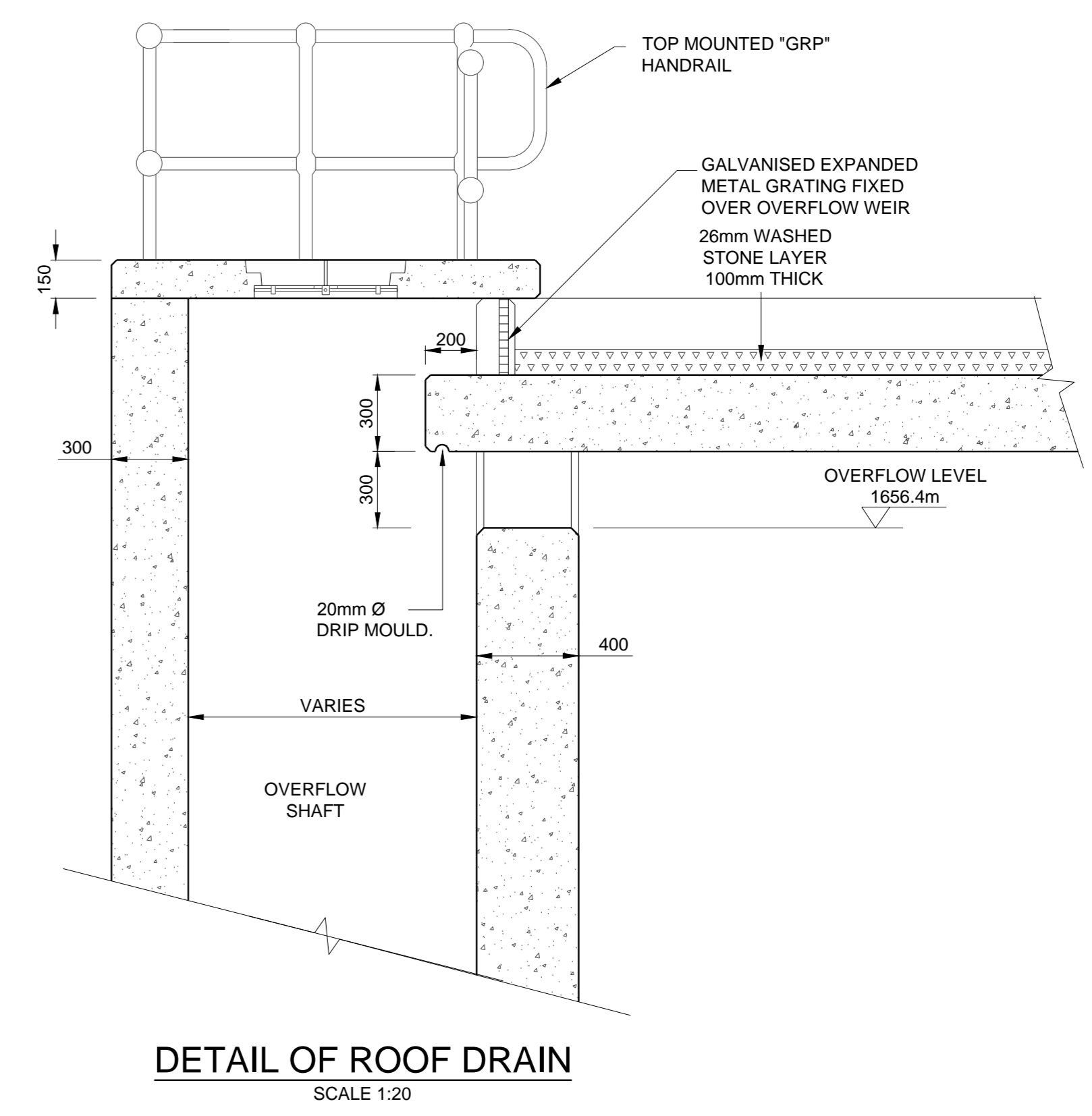
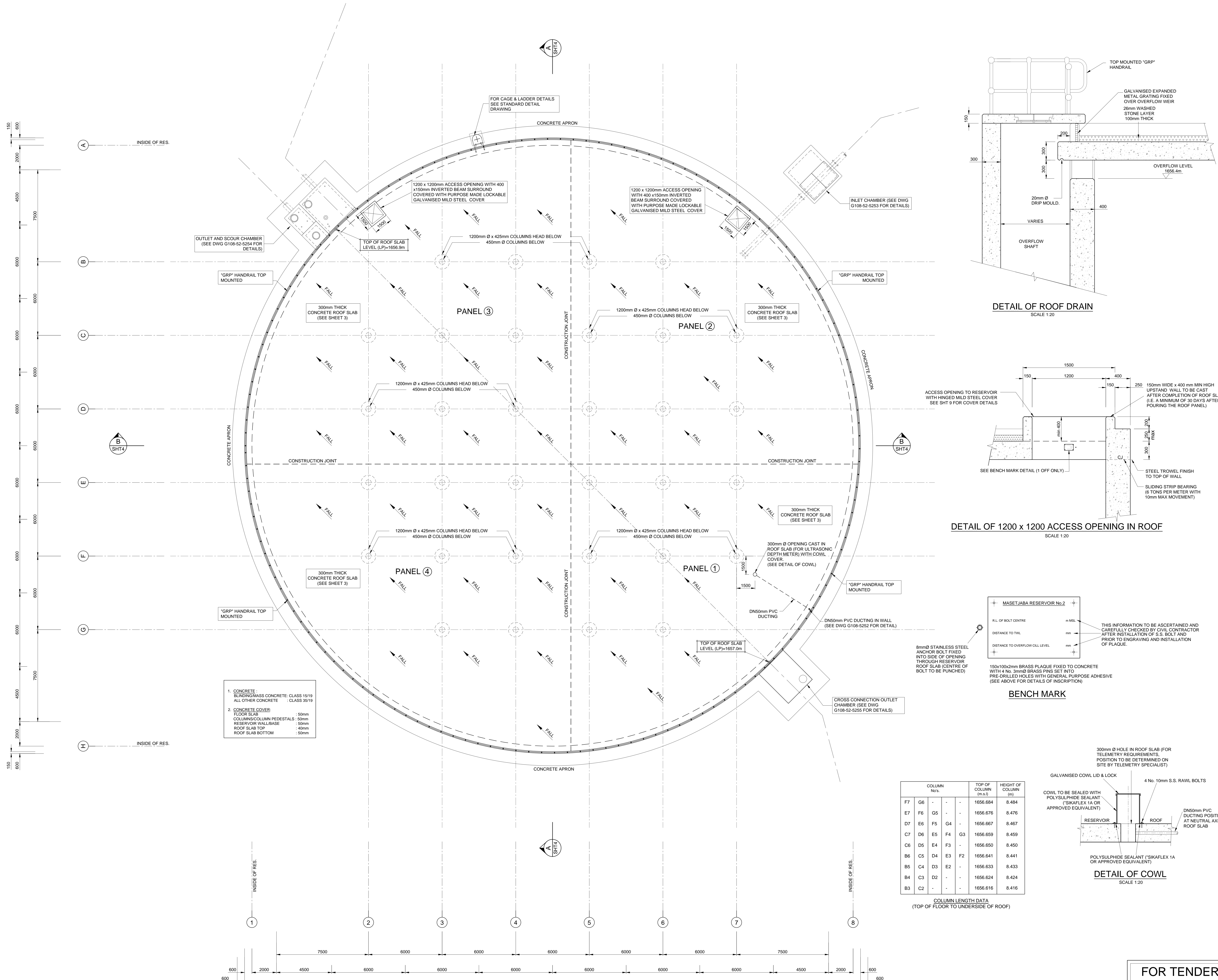
Area Engineer

Manager

Director (Water)

Executive Director

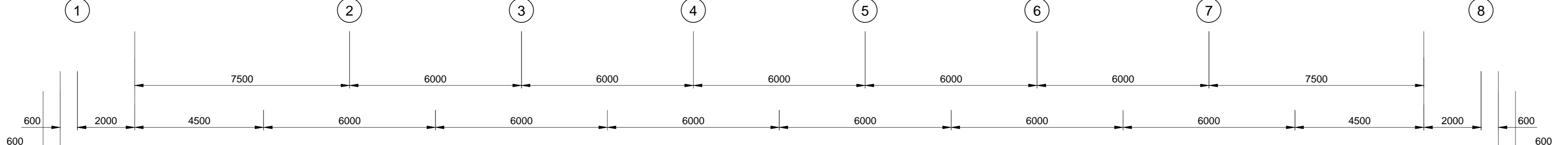
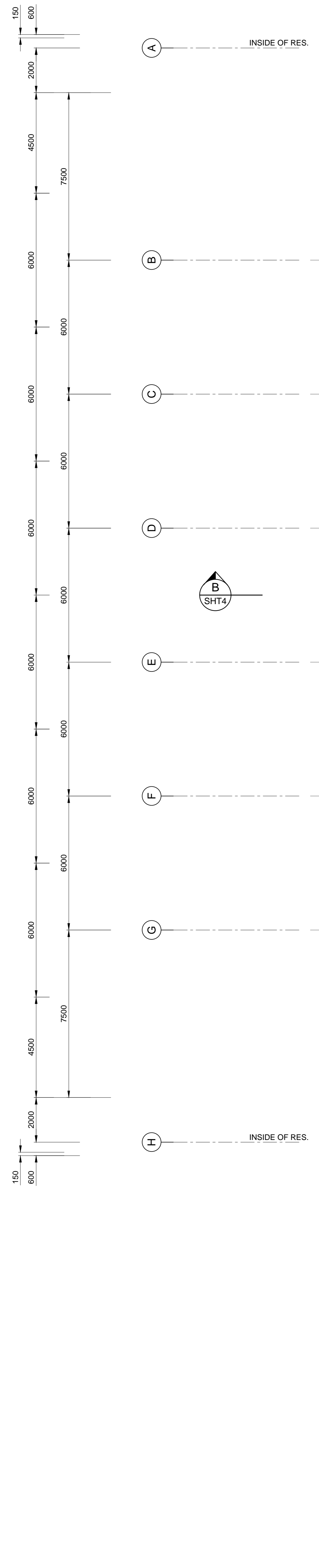
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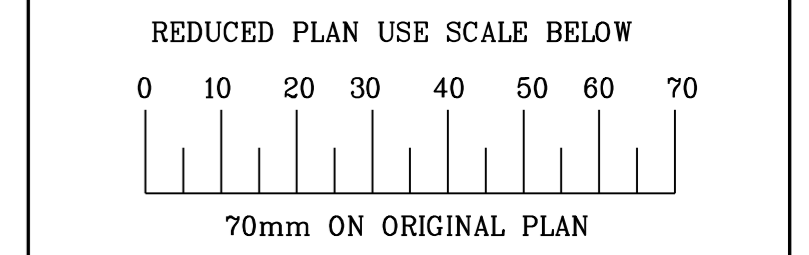
COLUMN LENGTH DATA (TOP OF FLOOR TO UNDERSIDE OF ROOF)

COLUMN No.	TOP OF COLUMN (m.a.s.l.)	HEIGHT OF COLUMN (m)	
F7	G6	1656.684	8.484
E7	F6	1656.676	8.476
D7	E6	1656.667	8.467
C7	D6	1656.659	8.459
B6	D5	1656.650	8.450
B6	C5	1656.641	8.441
B5	C4	1656.633	8.433
B4	C3	1656.624	8.424
B3	C2	1656.616	8.416

- CONCRETE: BLENDING/MASS CONCRETE: CLASS 15/19 ALL OTHER CONCRETE: CLASS 35/19
- CONCRETE COVER: FLOOR SLAB: 50mm, COLUMNS/COLUMN PEDESTALS: 50mm, RESERVOIR WALL BASE: 50mm, ROOF SLAB TOP: 40mm, ROOF SLAB BOTTOM: 50mm



- CONCRETE NOTES**
1. CONCRETE
BLINDING/MASS CONCRETE: CLASS 15/19
ALL OTHER CONCRETE : CLASS 30/19
 2. CONCRETE COVER:
FLOOR SLAB : 50mm
COLUMNS/COLUMN PEDESTALS : 50mm
RESERVOIR WALL/BASE : 50mm
ROOF SLAB TOP : 40mm
ROOF SLAB BOTTOM : 50mm



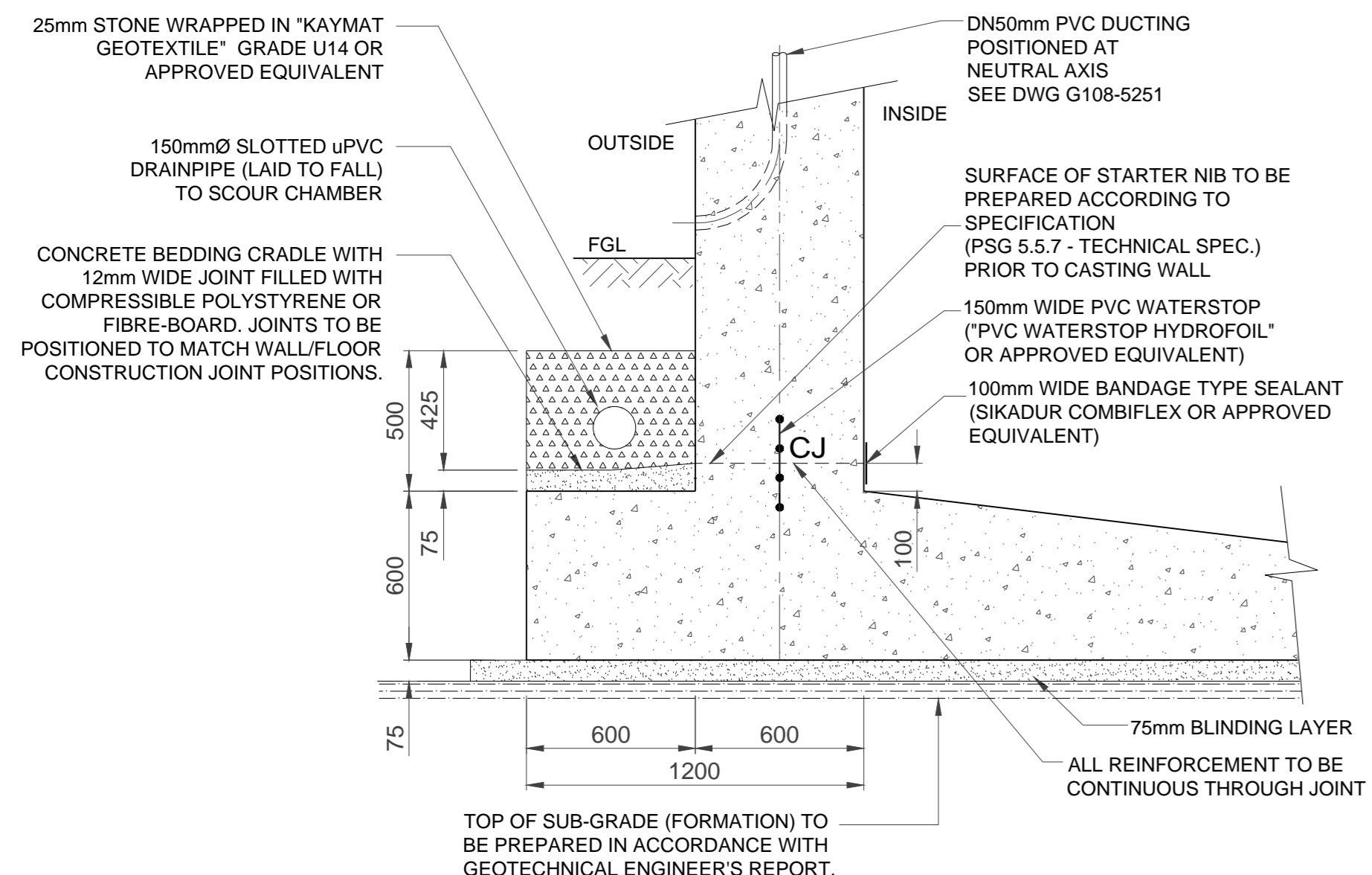
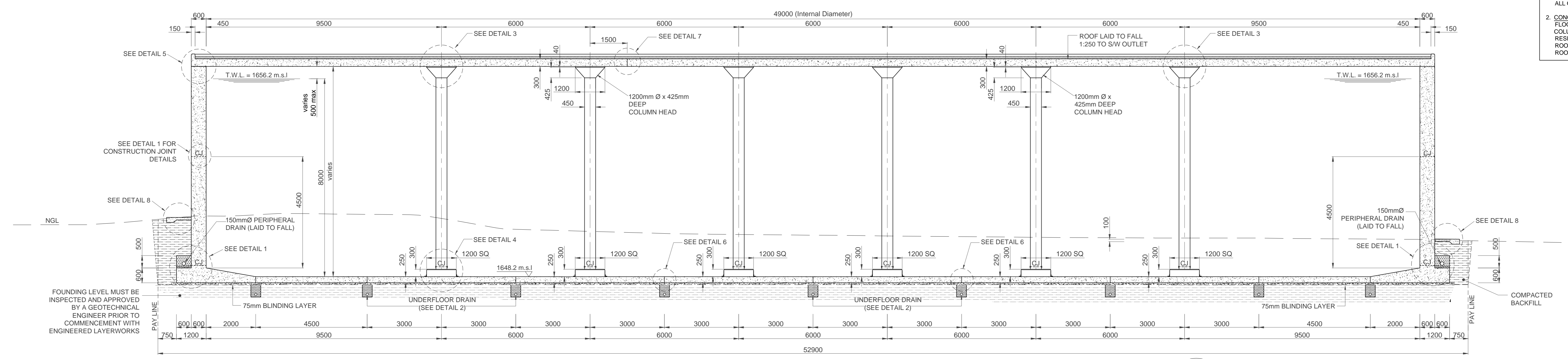
- LEGEND**
- EXISTING UNDERGROUND SERVICES ARE AS SHOWN BELOW.
- SEWERS AND M.H.F'S
 - STORM WATER DRAINS AND M.H.F'S
 - WATER MAINS AND VALVES
 - ELECTRICITY CABLES
 - G.P.O TELEPHONE CABLES
 - OIL PIPELINES

CONSULTANT:

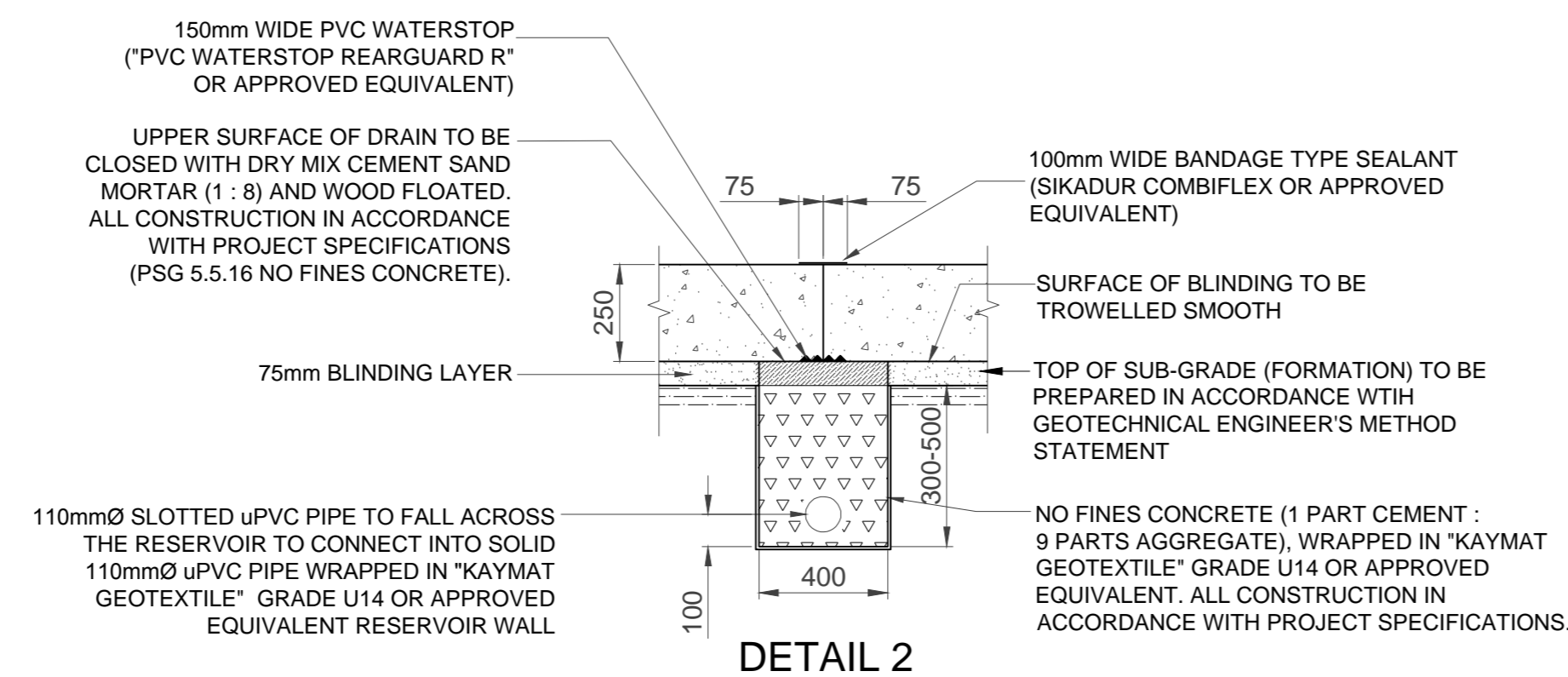
NAIDU CONSULTING

1st Floor Tel: +27 (0) 31 265 6007
No.5 The Boulevard Fax: +27 (0) 31 265 6011
West Way Office Park E-mail: info@naiduconsulting.com
Westville, Durban

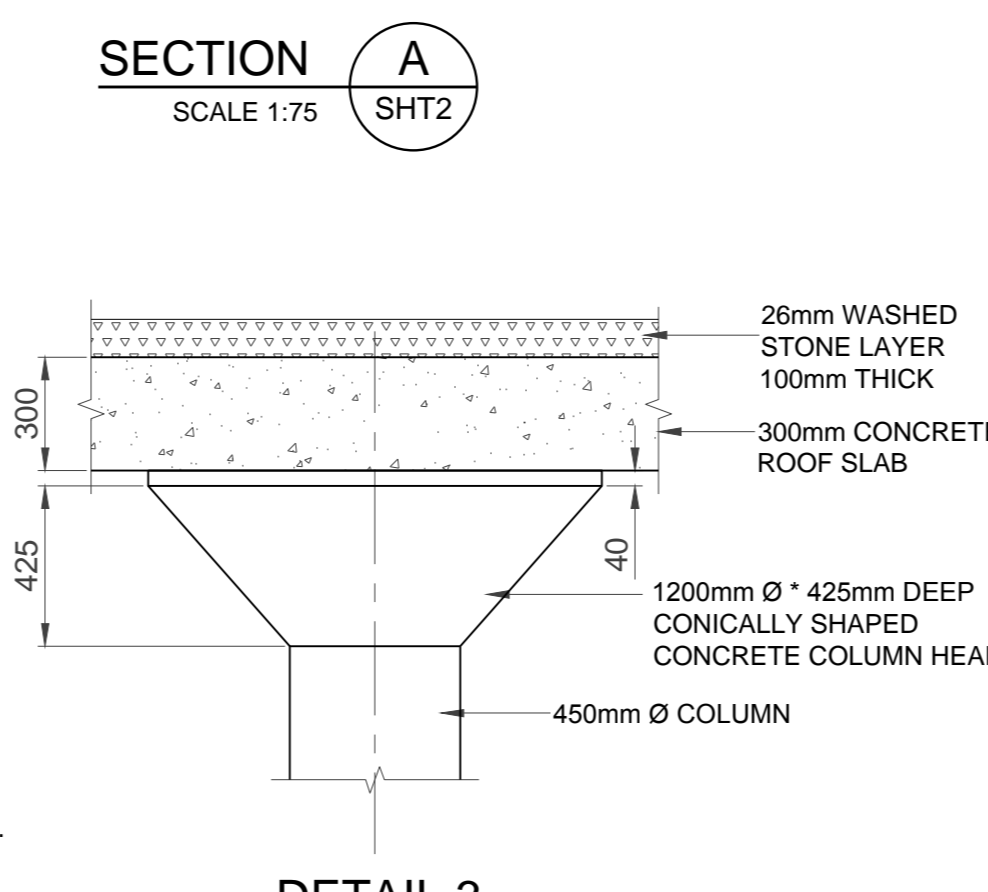
DRAWING No.: G108-52-5252 REV. 0



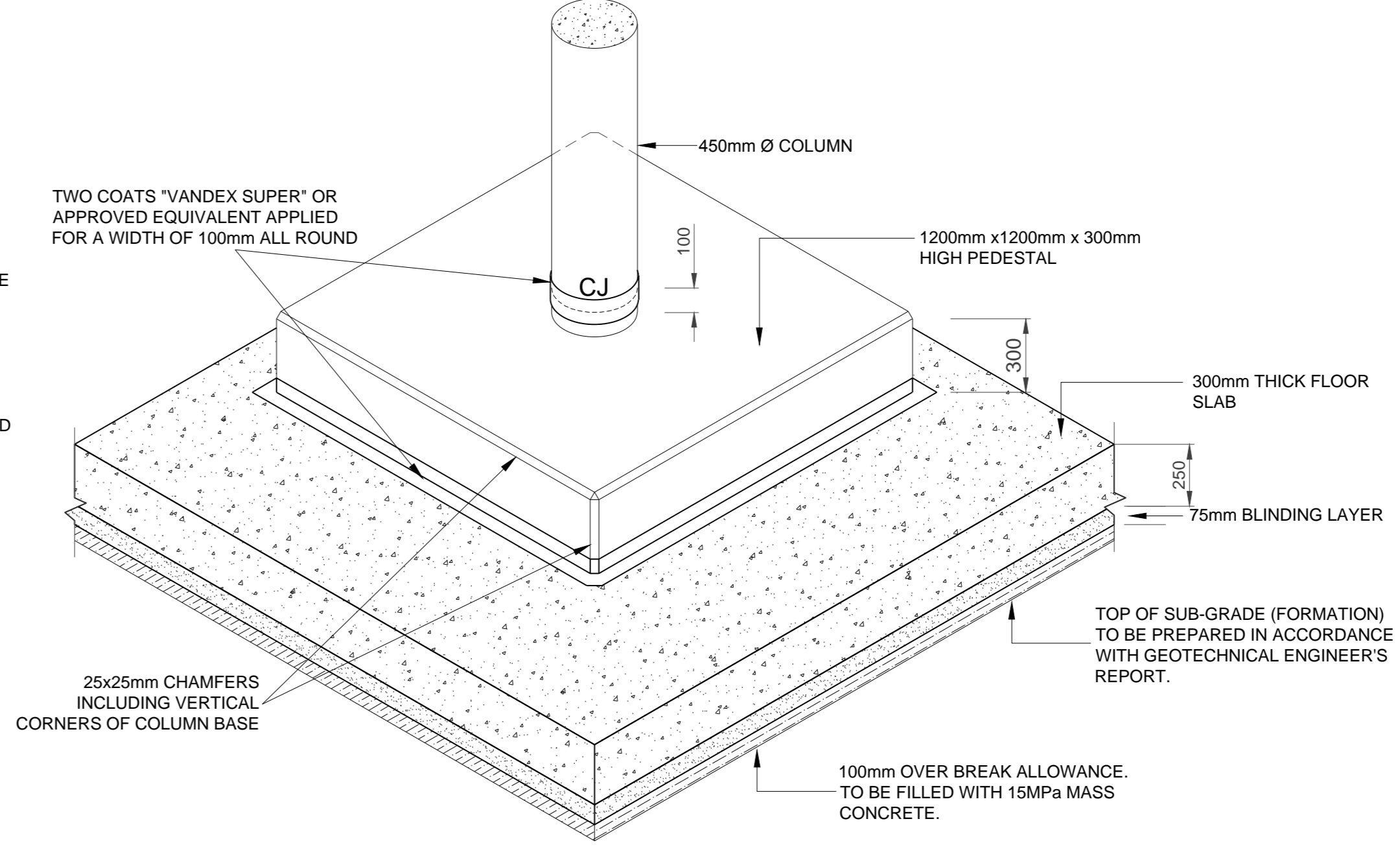
DETAIL 1
SCALE 1:20



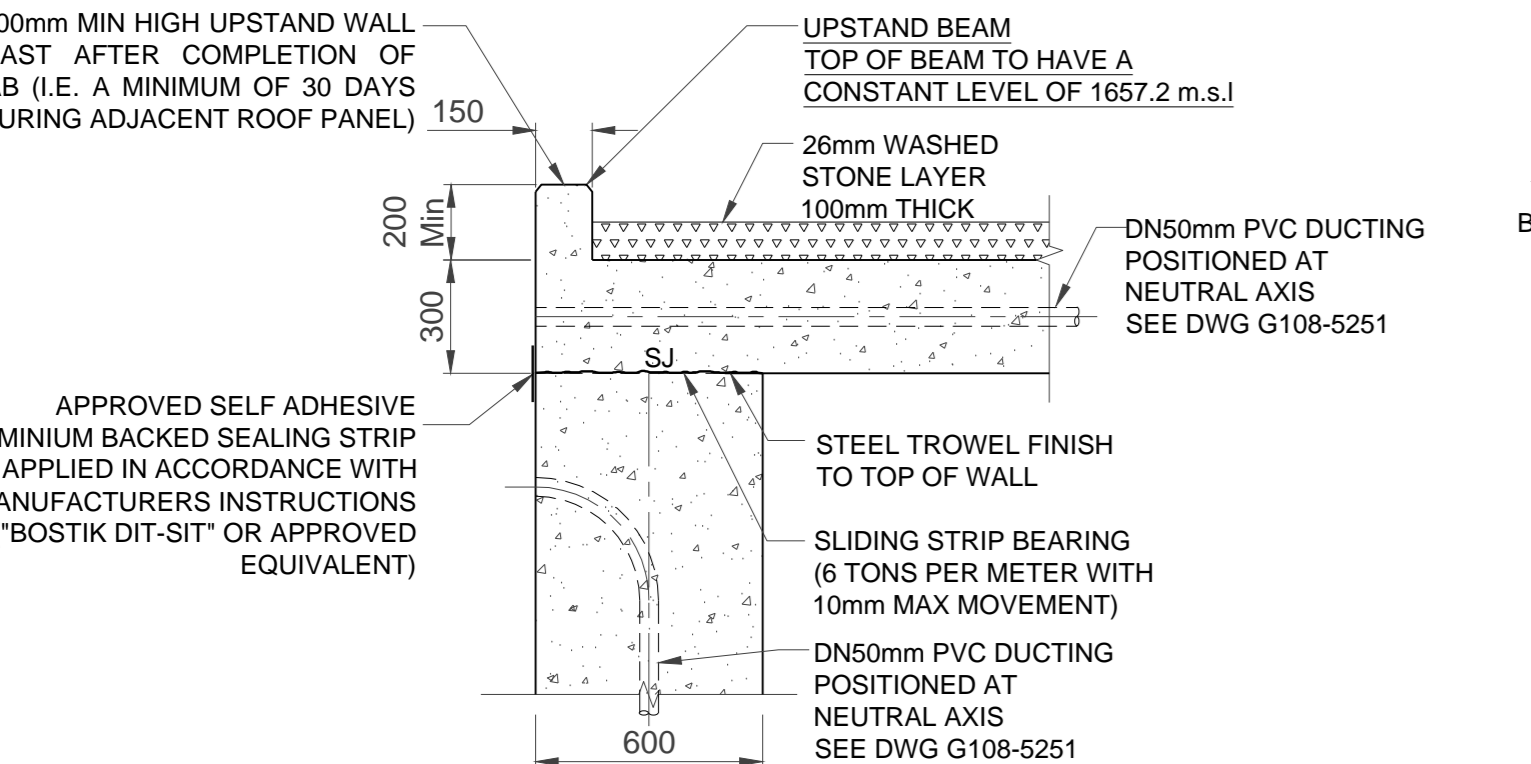
DETAIL 2
UNDERFLOOR DRAIN DETAIL
SCALE 1:20



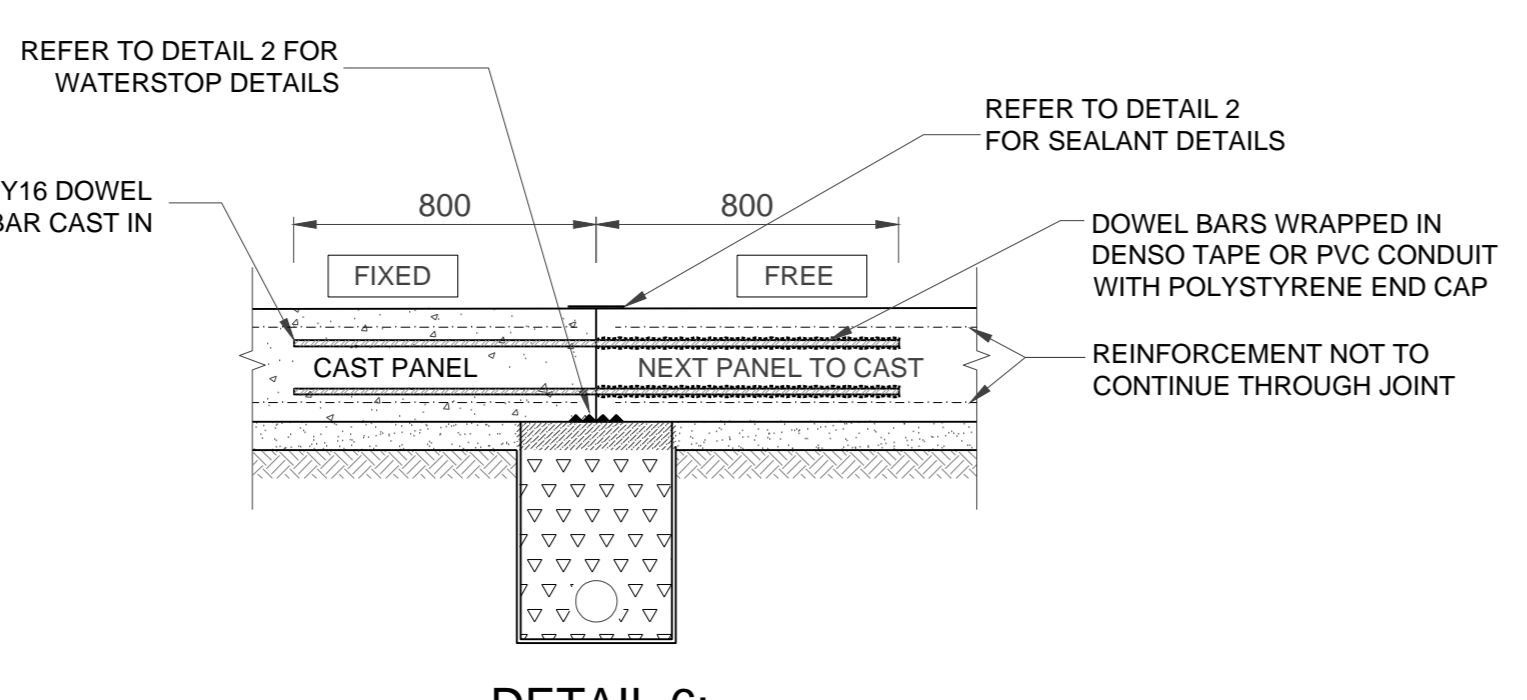
DETAIL 3
SCALE 1:20



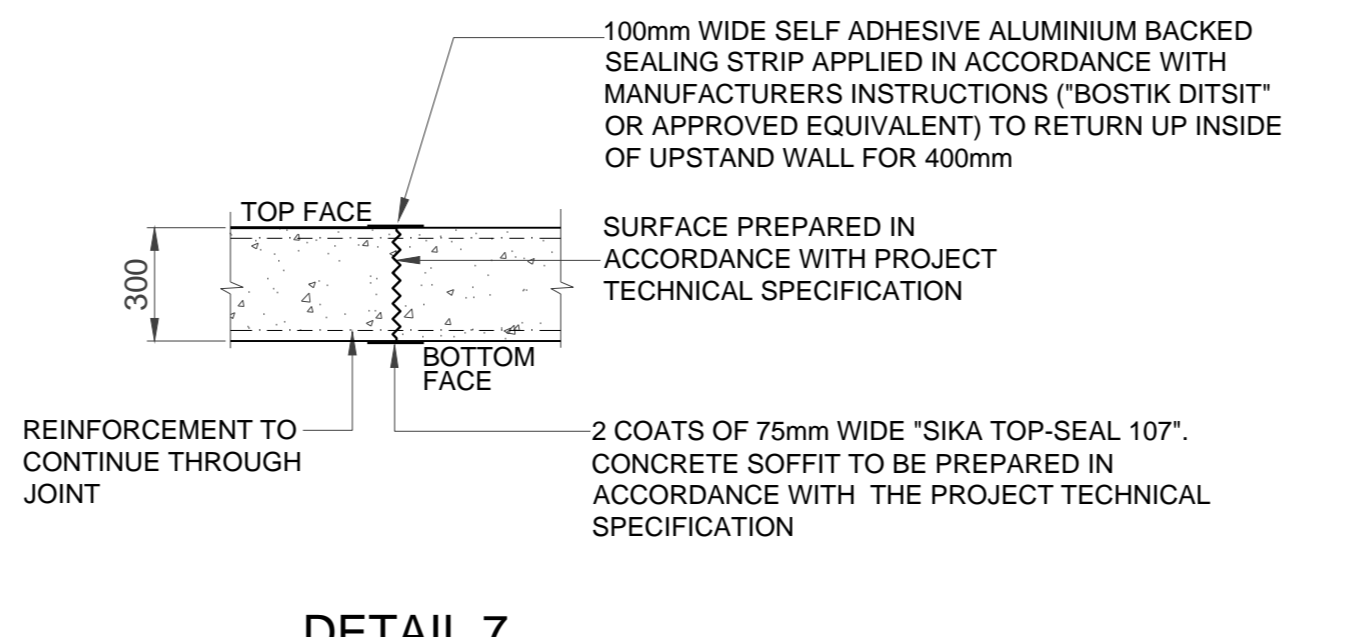
DETAIL 4
N.T.S.



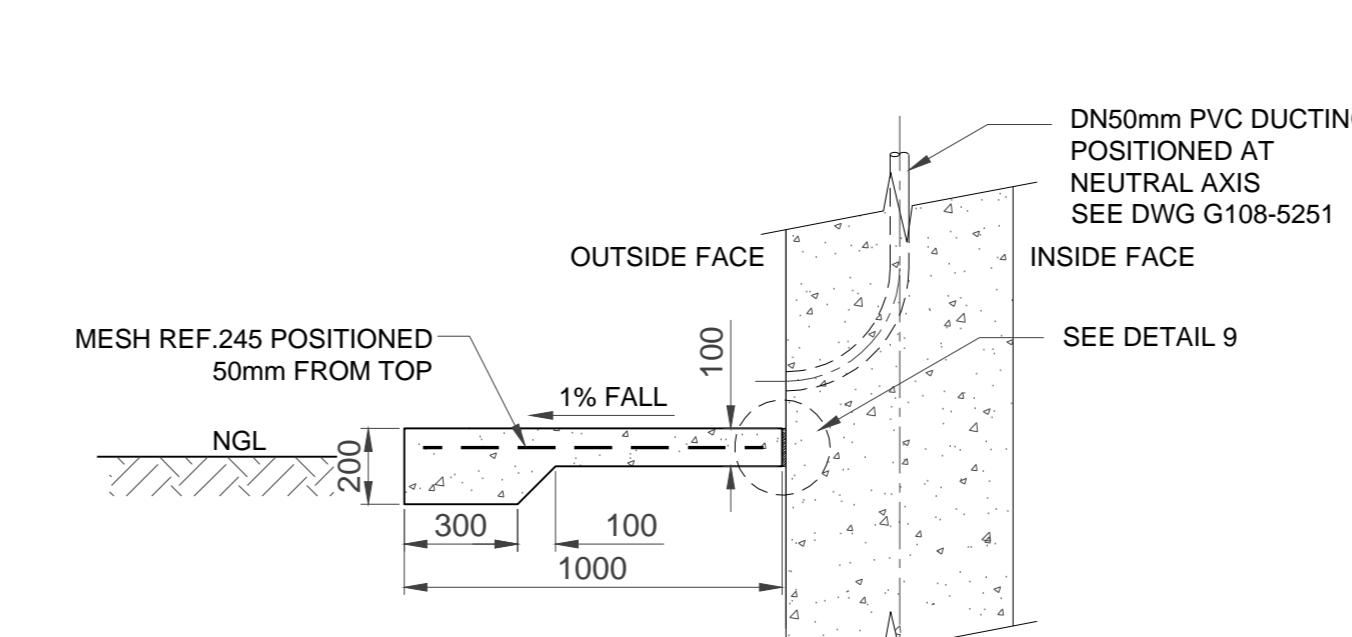
DETAIL 5
SCALE 1:20



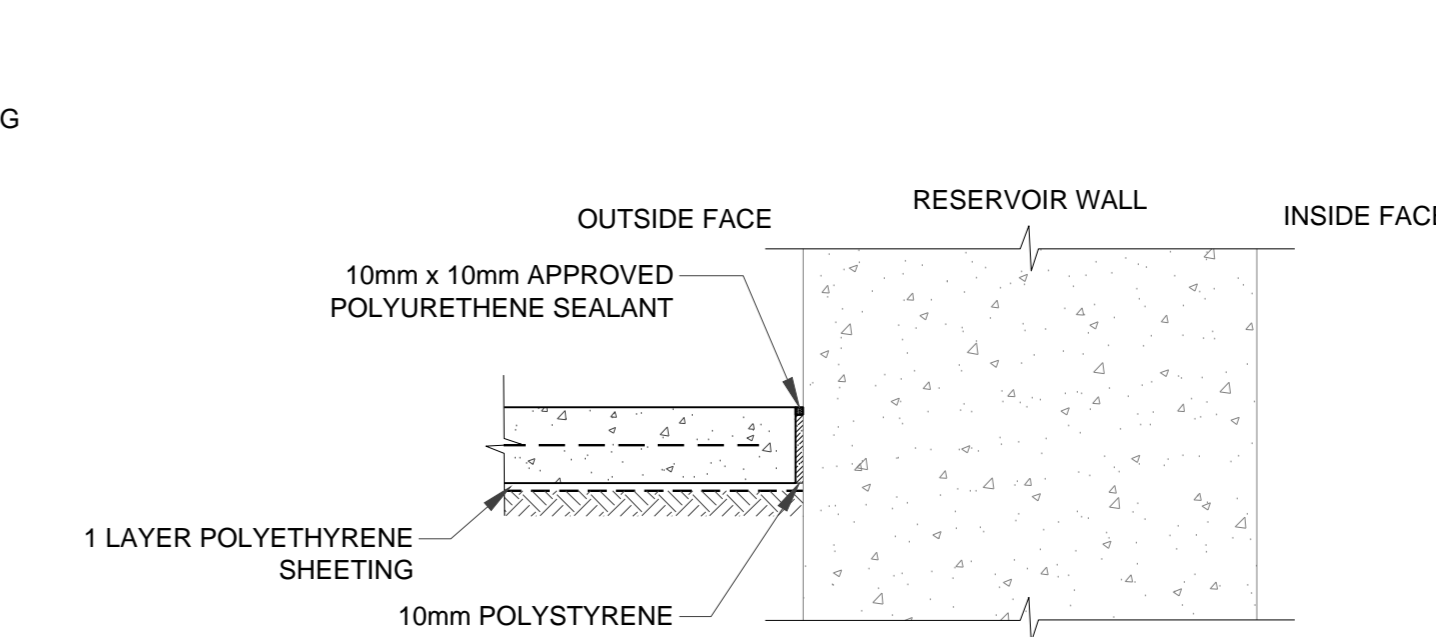
DETAIL 6:
FLOOR PANEL DOWEL BAR DETAIL
SCALE 1:20



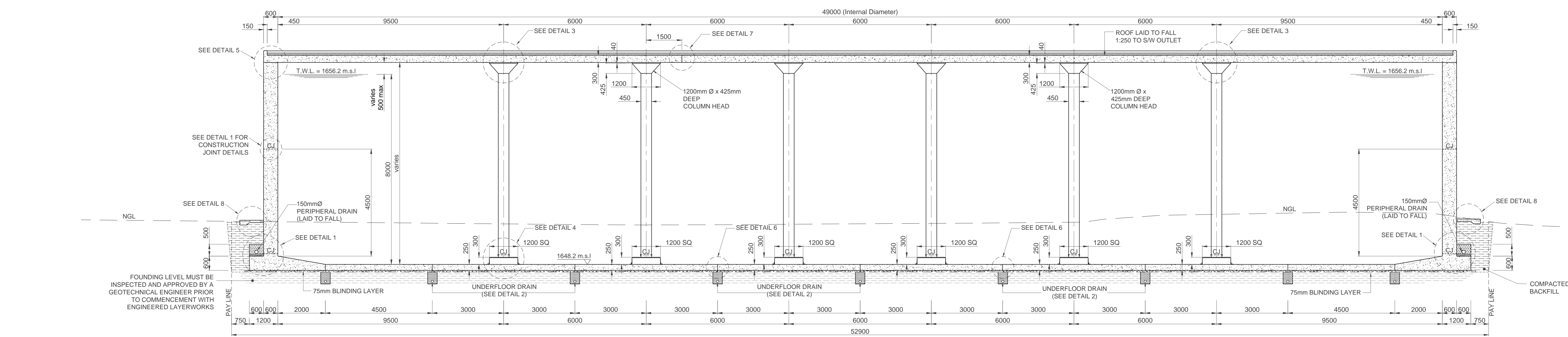
DETAIL 7
CONSTRUCTION JOINT
DETAIL IN ROOF SLAB
SCALE 1:20



DETAIL 8
APRON DETAIL
SCALE 1:20



DETAIL 9
ISOLATION JOINT
SCALE 1:10



SECTION B
SCALE 1:75
SHT2

FOR TENDER

Ref. Drg.	Description

Revision	Date	ISSUED FOR TENDER	Description
0	01-2019	ISSUED FOR TENDER	

NOTE: No construction work to commence until final and complete acquisition has been completed.

Acquisitions completed:

Date	Engineer	NORTH	POINT

UNDERGROUND SERVICES CHECKED

S.W. DRAINS	DATE	SIGNATURE

SEWERS
WATERMANS
G.P.O. CABLES
ELECTRIC CABLES
S.A.R. CABLES
E.S.C. CABLES
OIL PIPE LINE

NOTE: Only underground services affected by new construction are shown. Care must be taken during excavations for road foundations/trenches etc. to avoid damage to underground services such as sewer drains, electric, watermains and gas connections wherever possible these must be located before work begins.

Contract No.

Project Title

MASETJABA RESERVOIR
CONSTRUCTION OF A 15ML REINFORCED CONCRETE RESERVOIR, PIPELINES AND ASSOCIATED WORKS

Section

Drawing Title

RESERVOIR SECTIONS

Scales : AS SHOWN
Designed : D.Ramghulam **Date :** June 2018
Checked : A.Goorun **Drawn :** N. Adams

Area Engineer

Manager

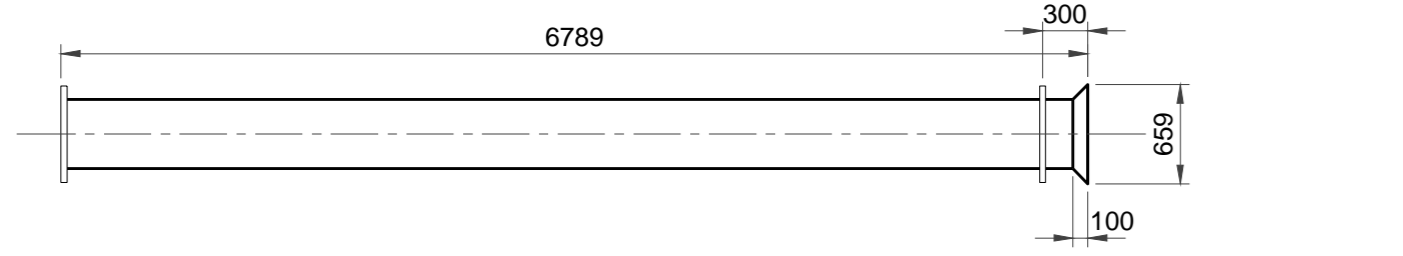
Director (Water)

Executive Director

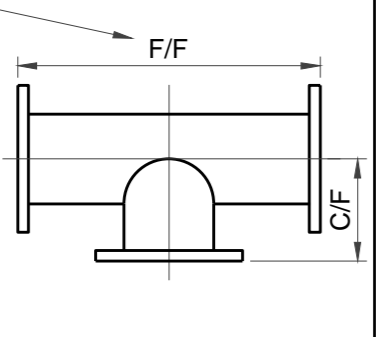
Drawing No.	Sheet	4	0

FOR TENDER

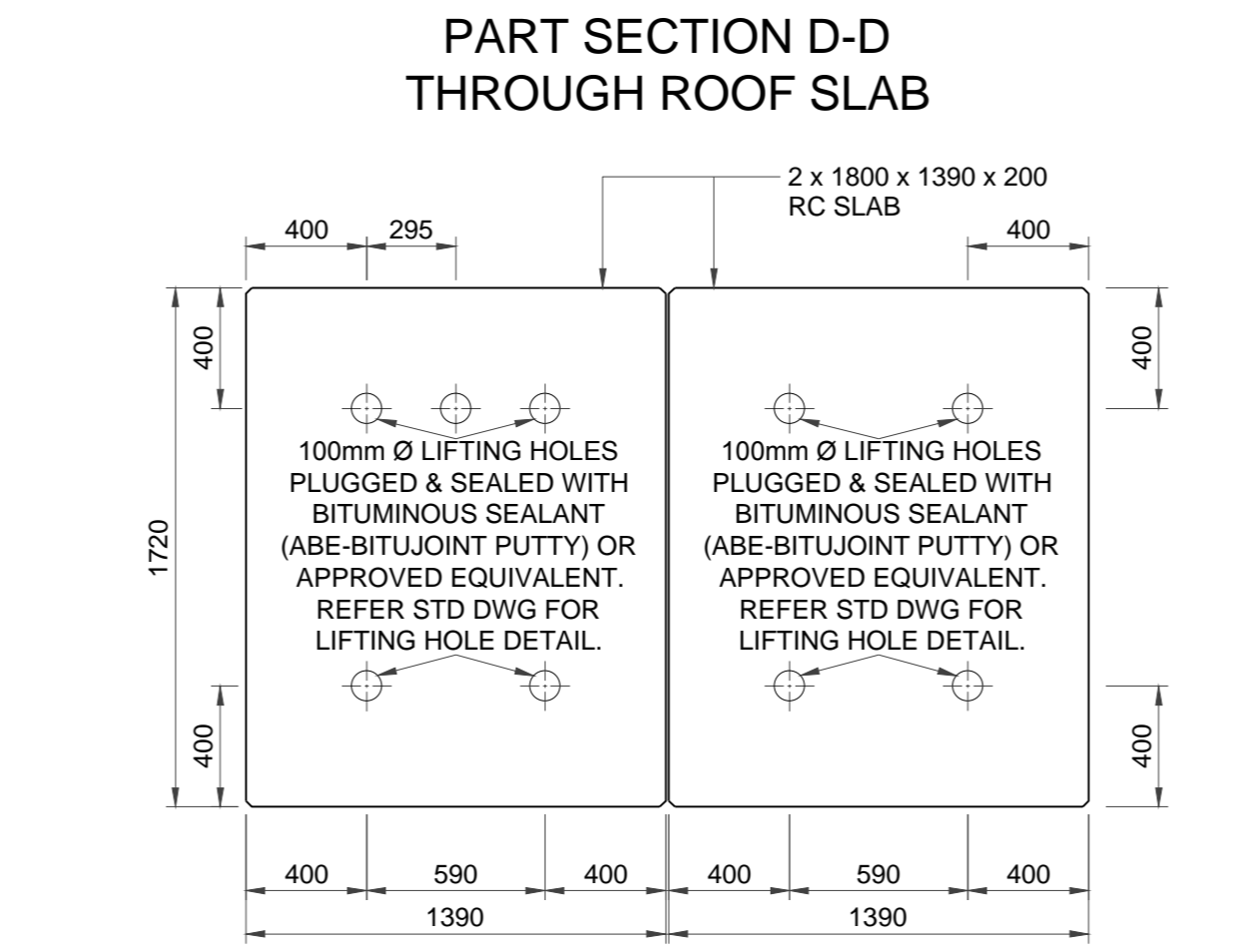
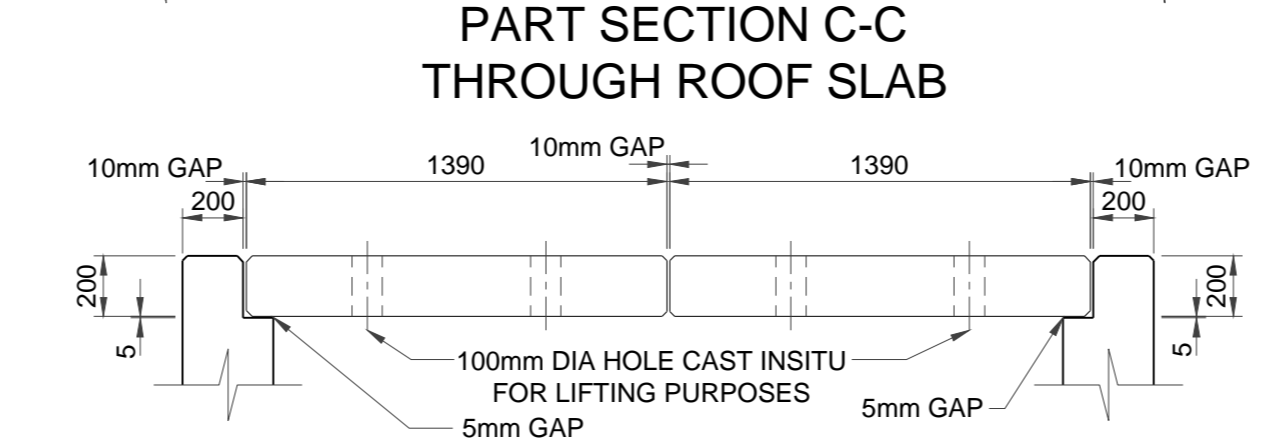
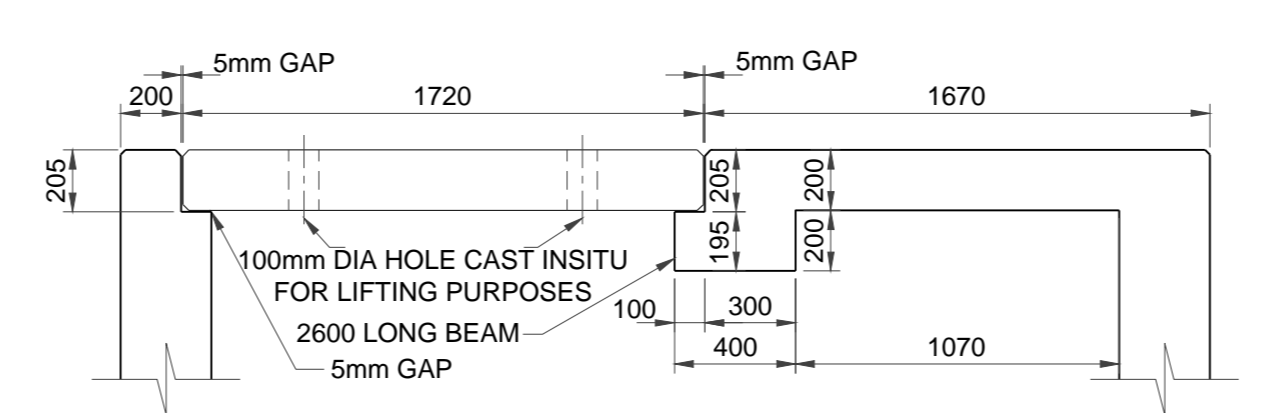
PIPEWORK AND FITTINGS SCHEDULE (PN10)						
ITEM NO.	DESCRIPTION	WALL THICKNESS	NO. OFF.	LINING	COATING	GRADE OF STEEL
1	DN450 X 1000mm LONG SPOOL PIECE WITH PUDDLE FLANGE CENTRALLY PLACED, F.B.E. ONE FLANGE TO MATCH ITEM 2 (FINAL LENGTH TO BE DETERMINED ON SITE PRIOR TO FABRICATING)	4.5mm	1	S.F.E	S.F.E	X42
2	WAFER BUTTERFLY VALVE AND GEARBOX, PN10, HAND WHEEL - OPERATED, COMPLETE WITH NUTS, BOLTS, GASKETS, WASHERS & MATCHING FLANGES	4.5mm	1	S.F.E	S.F.E	X42
3	DN450 DISMANTLING JOINT		1			
4	DN450 X 680mm MIN LONG SPOOL PIECE WITH FLANGE PLACED 300mm FROM UPSTREAM END, F.O.E., OTHER END PLAIN ENDED, P.C., FLANGE TO MATCH ITEM 5 (FINAL LENGTH TO BE DETERMINED ON SITE PRIOR TO FABRICATING)	4.5mm	1	S.F.E	S.F.E	X42
5	DOUBLE DOOR WAFER CHECK VALVE, COMPLETE WITH MATCHING FLANGES, NUTS, BOLTS, WASHERS & GASKETS, OR SIMILAR APPROVED.		1			
6	DN450 X 550mm LONG SPOOL PIECE, FLANGED BOTH END, ONE FLANGE TO MATCH ITEM 2 & THE OTHER FLANGE TO MATCH ITEM 5	4.5mm	1	S.F.E	S.F.E	X42
7	SPECIAL: DN450 X 6789mm STRAIGHT PIECE, F.O.E. WITH BELL MOUTH AND PUDDLE FLANGE AS DETAILED BELOW (CUT TO SUIT)	6.0mm	1	S.F.E	S.F.E	X42



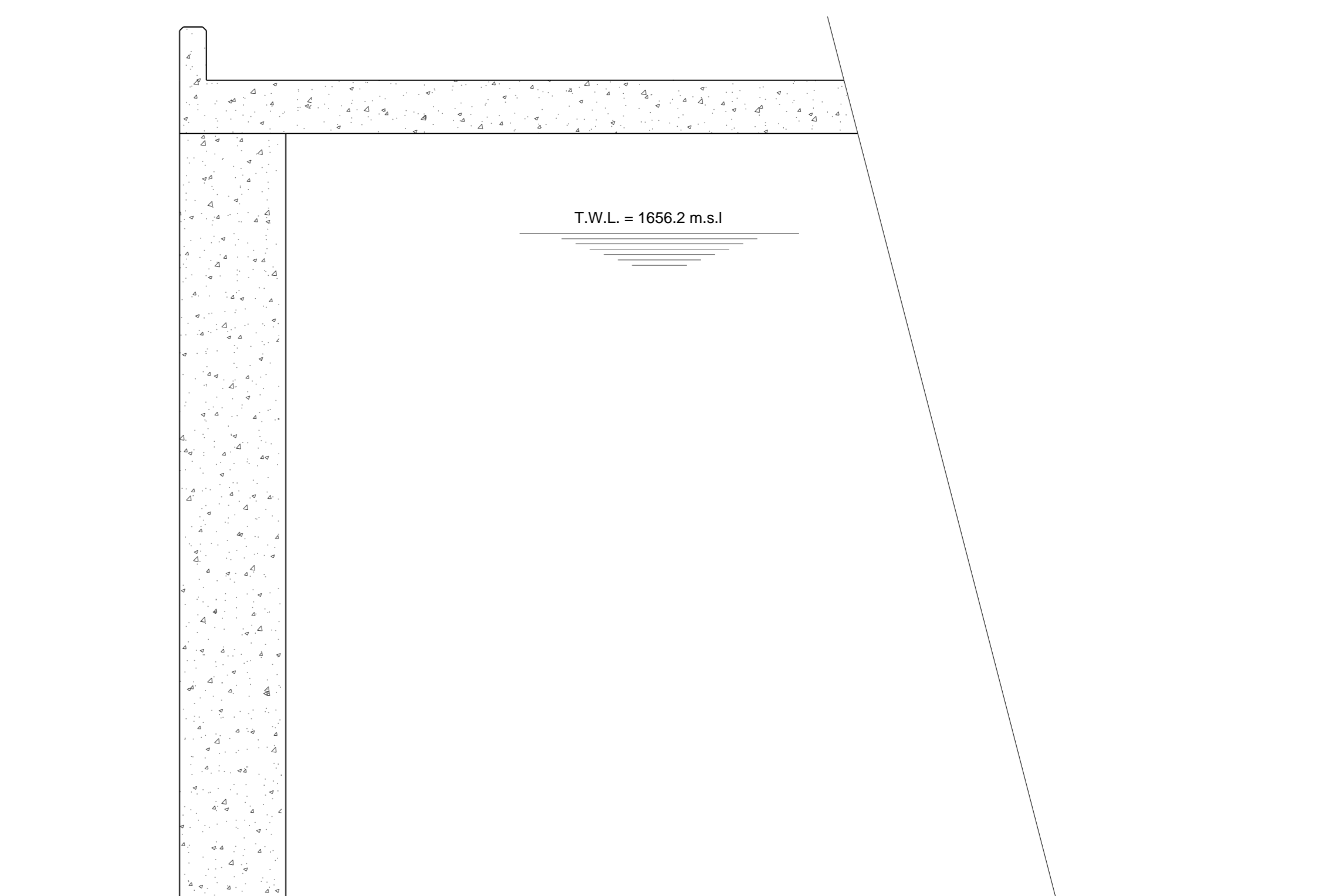
ABBREVIATIONS:	
ID - INSIDE DIAMETER	DI - DUCTILE IRON
CI - CAST IRON	F/F - FACE TO FACE DIMENSION
DN - DIAMETER NOMINAL	CF - CENTER TO FACE DIMENSION
OD - OUTSIDE DIAMETER	FOE - FLANGED ONE END
MS - MILD STEEL	BEF - BOTH ENDS FLANGED
SS - STAINLESS STEEL	FAR - FLANGED ALL ROUND
FRL - FINAL ROAD LEVEL	LRB - LONG RADIUS BEND
SFE - SOLVENT FREE EPOXY	SRB - SHORT RADIUS BEND
CML - CEMENT MORTAR LINED	NGL - NATURAL GROUND LEVEL
SNT - SINKAKOTE	HDGMS - HOT DIPPED GALVANIZED
RSN - RILSAN	MILD STEEL
	P.C. - FLAME ENDED COATED



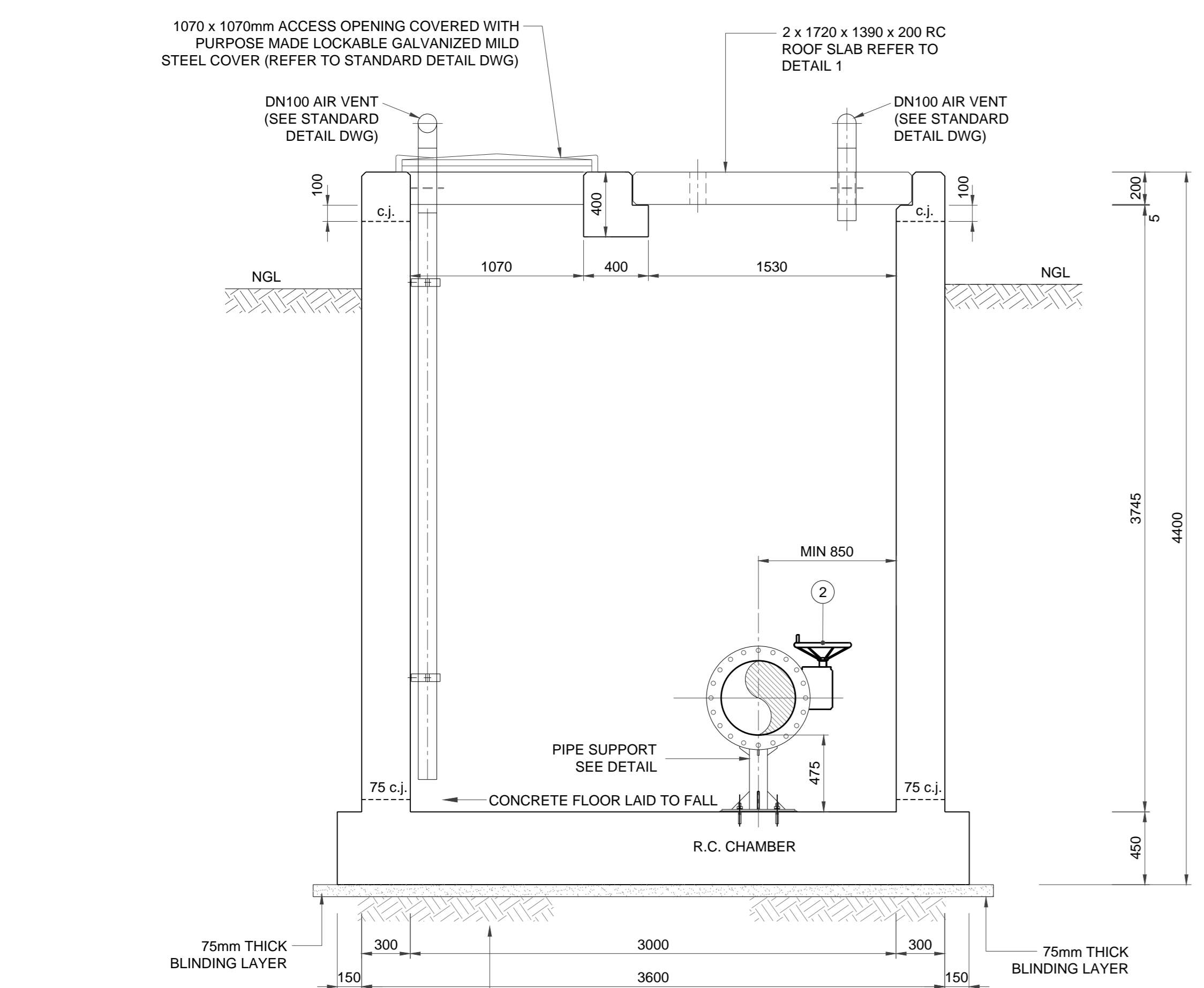
- GENERAL NOTES**
- PIPEWORK**
- ALL PIPEWORK TO BE MILD STEEL UNLESS OTHERWISE STATED.
 - THE CONTRACTOR SHALL VERIFY THE DIMENSIONS OF ALL PIPEWORK AND ADVISE THE ENGINEER OF ANY DISCREPANCIES PRIOR TO FABRICATING.
 - ALL PIPES GREATER THAN AND INCLUDING DN100, FITTED TO EQUIPMENT OR FITTINGS, OR WHERE SPECIFICALLY INDICATED SHALL BE FLANGED TO SANS 1123:2007 (TABLE 3) OR BS EN 1092-1:2007 WHERE SANS 1123:2007 (TABLE 3) DOES NOT APPLY OR AS SPECIFIED ON THE DRAWINGS. SHOULD THE RESPECTIVE FLANGE DRILLING NOT BE COVERED IN THE ABOVE SPECIFICATIONS THE RESIDENT ENGINEER SHALL BE CONSULTED FOR THE APPROPRIATE SPECIFICATION, BEFORE PROCURING ANY VALVES OR FLANGES.
 - SURFACE PREPARATION FOR APPLICATION OF CORROSION PROTECTION MATERIALS SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
 - DAMAGED COATINGS AND LININGS SHALL BE REPAIRED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
 - ALL PIPEWORK AND SPECIALS TO BE COATED AND LINED AS PER THE PROJECT SPECIFICATIONS.
 - ALL JOINTS SHALL BE COATED, PROTECTED AND WRAPPED AS PER THE PROJECT SPECIFICATIONS.
 - THE PRESSURE RATINGS OF ALL PIPEWORK, FLANGES AND VALVES, SHALL BE AS INDICATED IN THE SCHEDULES OF FITTINGS.
 - ALL MILD STEEL PIPEWORK, COLLARS, WRAPPERS AND CROCH PLATES TO BE MANUFACTURED FROM MINIMUM GRADE X42 STEEL AND WELDED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
 - ALL BENDS TO BE FABRICATED AND DIMENSIONED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
 - BACKFILL MATERIAL TO BE COMPACTED TO 95% MOD. AASHTO IN MAX. 150mm LAYERS & 97% MOD AASHTO IN 150mm LAYERS WHERE THE PIPE IS LOCATED UNDER A PAVED ROAD SURFACE.
- CONCRETE**
- ALL EXPOSED EDGES TO BE CHAMFERED 25x25.
 - MINIMUM COVER TO ALL REINFORCING SHALL BE 50mm.
 - NO REINFORCEMENT SHALL BE FIXED CLOSER THAN 200mm TO THE STEEL PIPE.
 - CONSTRUCTION JOINTS TO BE WELL CLEANED & SCABBLED TO EXPOSE FRESH AGGREGATE AND THOROUGHLY WETTED BEFORE THE NEXT LIFT IS POURED.
 - FINISHES
 - EXTERNAL WALLS UNEXPOSED : F1 FINISH
 - EXTERNAL WALLS EXPOSED : F1 FINISH
 - INTERNAL WALLS : F2 FINISH
 - FLOOR : U4 FINISH
 - WHERE APPLICABLE, AIR VENTS, LIFTING HOLES, LIFTING HOOKS, STEP IRONS AND DI COVER & FRAME ARE TO BE PRE-INSTALLED AT THE MANUFACTURER PRIOR TO DELIVERY ON SITE.



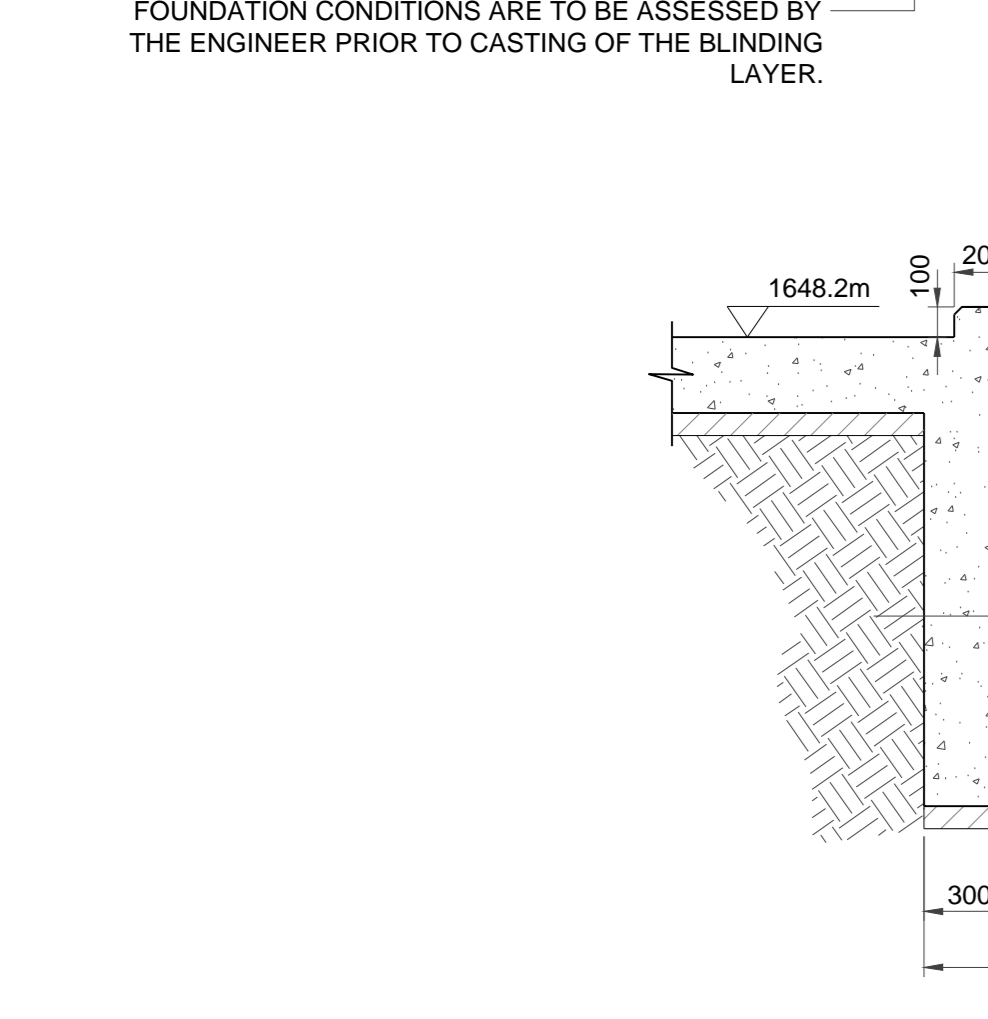
**PLAN DETAIL 1
ROOF SLAB DETAIL
(ISOLATING VALVE CHAMBER)**
SCALE 1:25



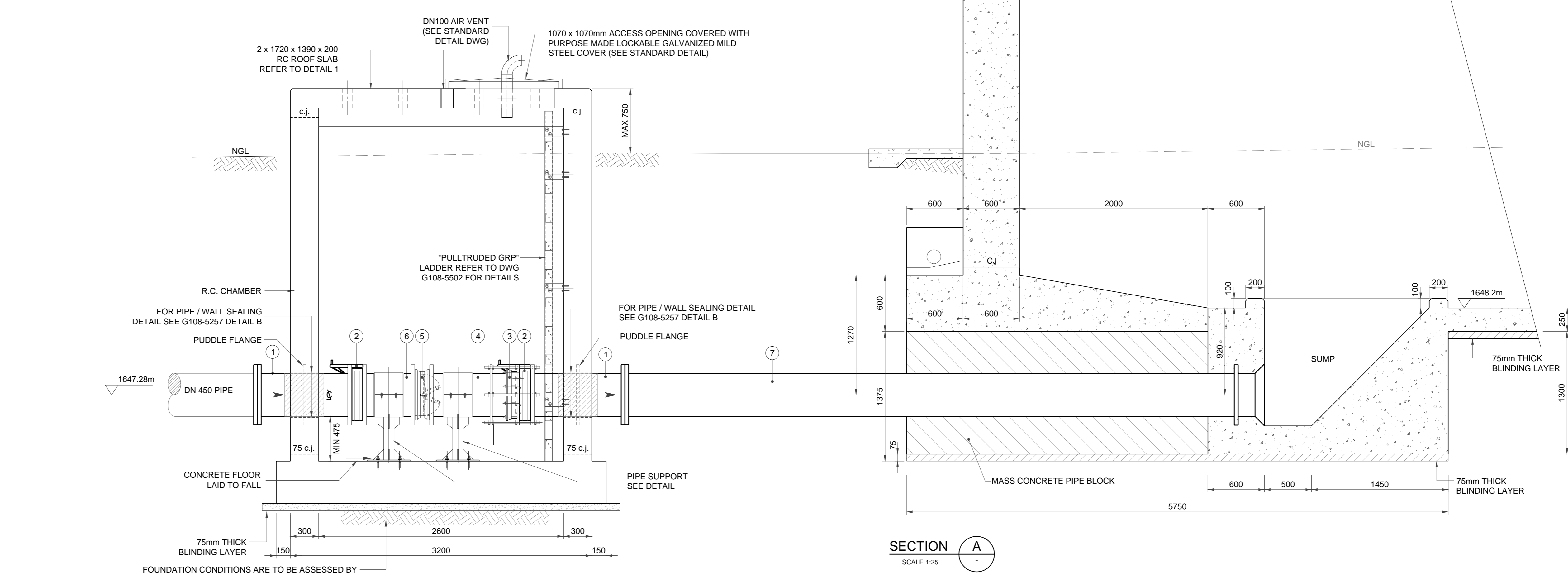
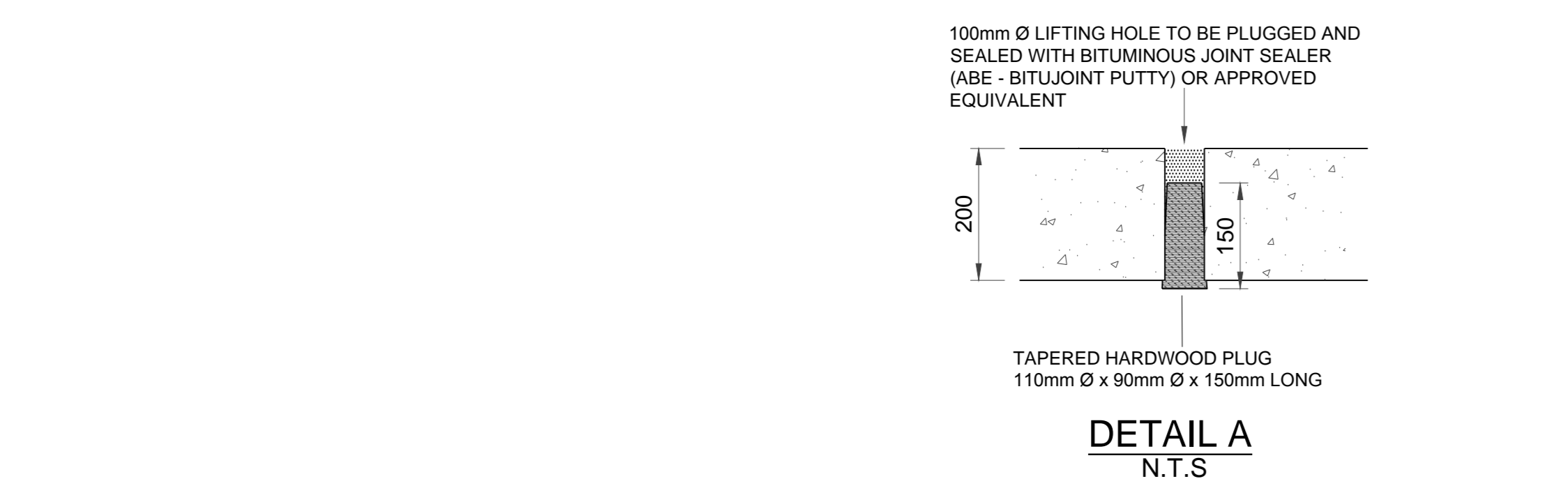
SECTION A
SCALE 1:25



SECTION B
SCALE 1:25



SECTION C
SCALE 1:25



PLAN
SCALE 1:25

PLAN OF INLET AND SUMP
SCALE 1:25

CLIENT: **Ekurhuleni**
MUNICIPALITY

REDUCED PLAN USE SCALE BELOW
0 10 20 30 40 50 60 70
70mm ON ORIGINAL PLAN

LEGEND
EXISTING UNDERGROUND SERVICES ARE AS SHOWN BELOW

SEWERS AND M.H.'S
STORM WATER DRAINS AND M.H.'S
WATER MAINS AND VALVES
ELECTRICITY CABLES
C.P.O TELEPHONE CABLES
OIL PIPELINES

CONSULTANT:
NAIDU CONSULTING

1st Floor Tel: +27 (0) 31 265 6007
No.5 The Boulevard Fax: +27 (0) 31 265 6011
West Way Office Park E-mail: info@naiduconsulting.com
Westville, Durban

DRAWING No.: G108-52-5253 REV. 0

FOR TENDER

Ref. Drg.	Description

Revision	Date	Description
0	01-2019	ISSUED FOR TENDER

NOTE: No construction work is to commence until the site verification/acquisitions have been completed.

Acquisitions completed:

Date: _____ Engineer: _____ NORTH POINT
UNDERGROUND SERVICES CHECKED
SERVICE DATE SIGNATURE
S.W DRAINS
SEWERS
WATERMAINS
ELECTRIC CABLES
S.A.R CABLES
E.S.C CABLES
OIL PIPE LINE

NOTE: Any underground services affected by new construction are shown. Care must be taken during excavations for any underground services prior to start of work on underground services such as sewers, drains, cables, water mains and conduits. Wherever possible these must be located before work begins.

Contract No. _____
Project Title: **MASETJABA RESERVOIR**
CONSTRUCTION OF A 15ML REINFORCED CONCRETE RESERVOIR, PIPELINES AND ASSOCIATED WORKS

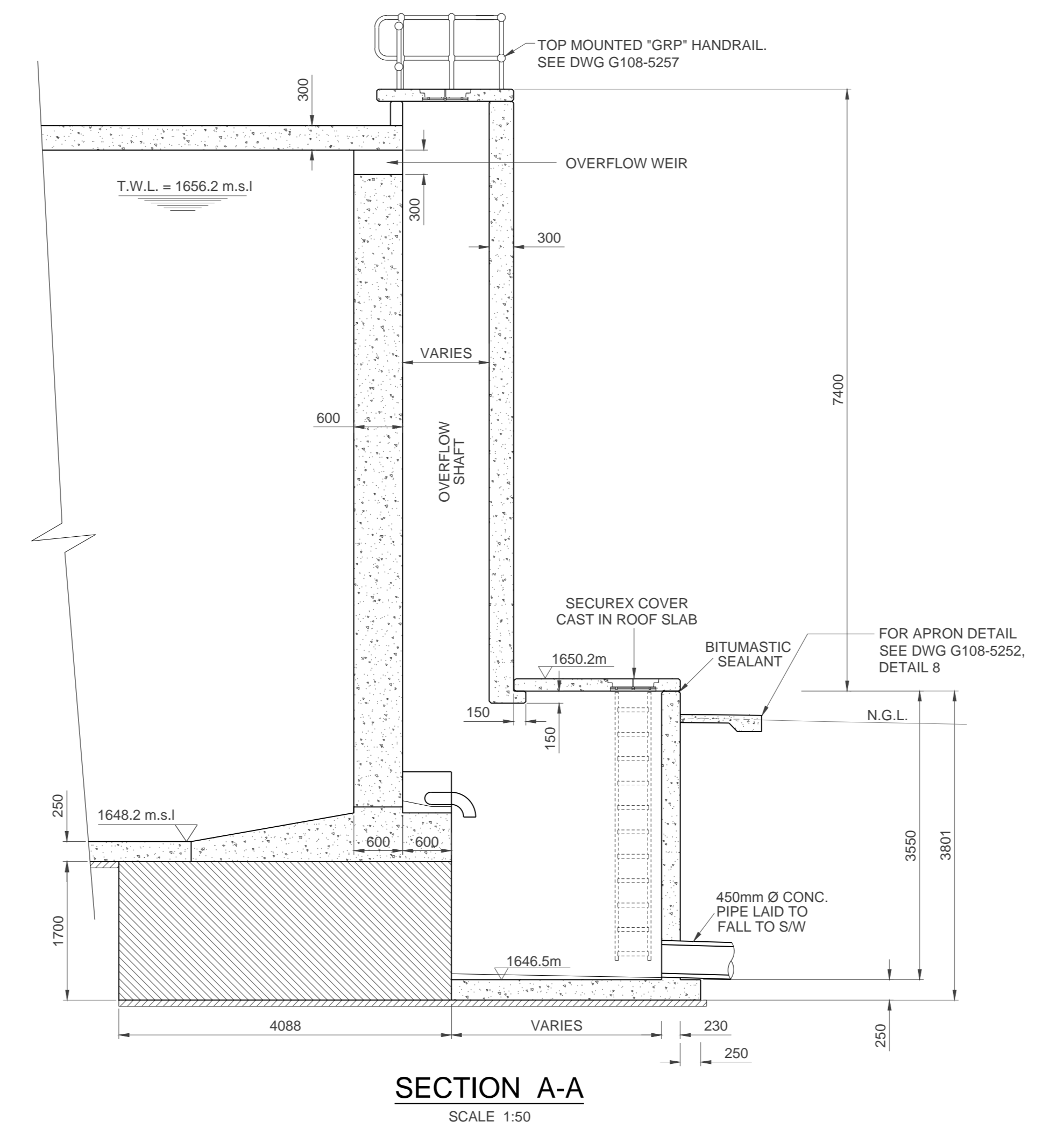
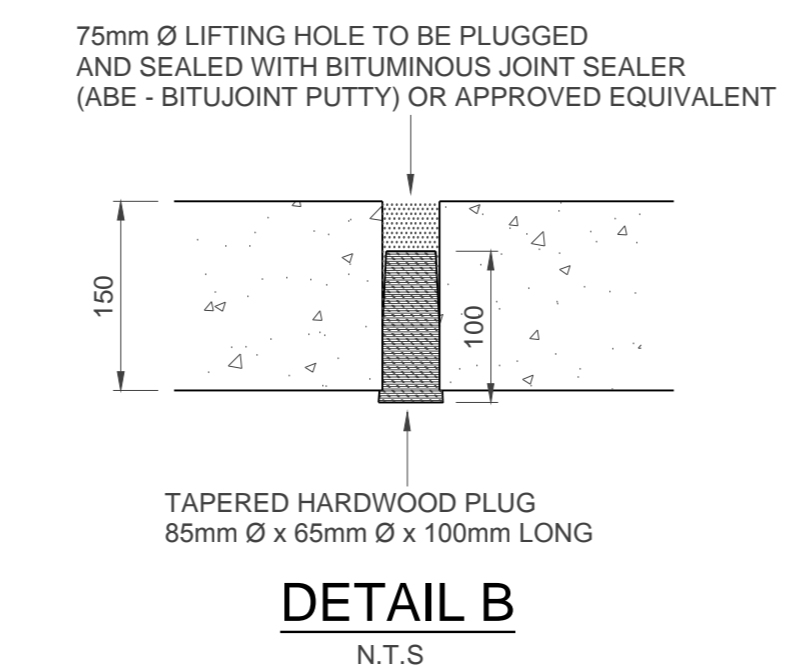
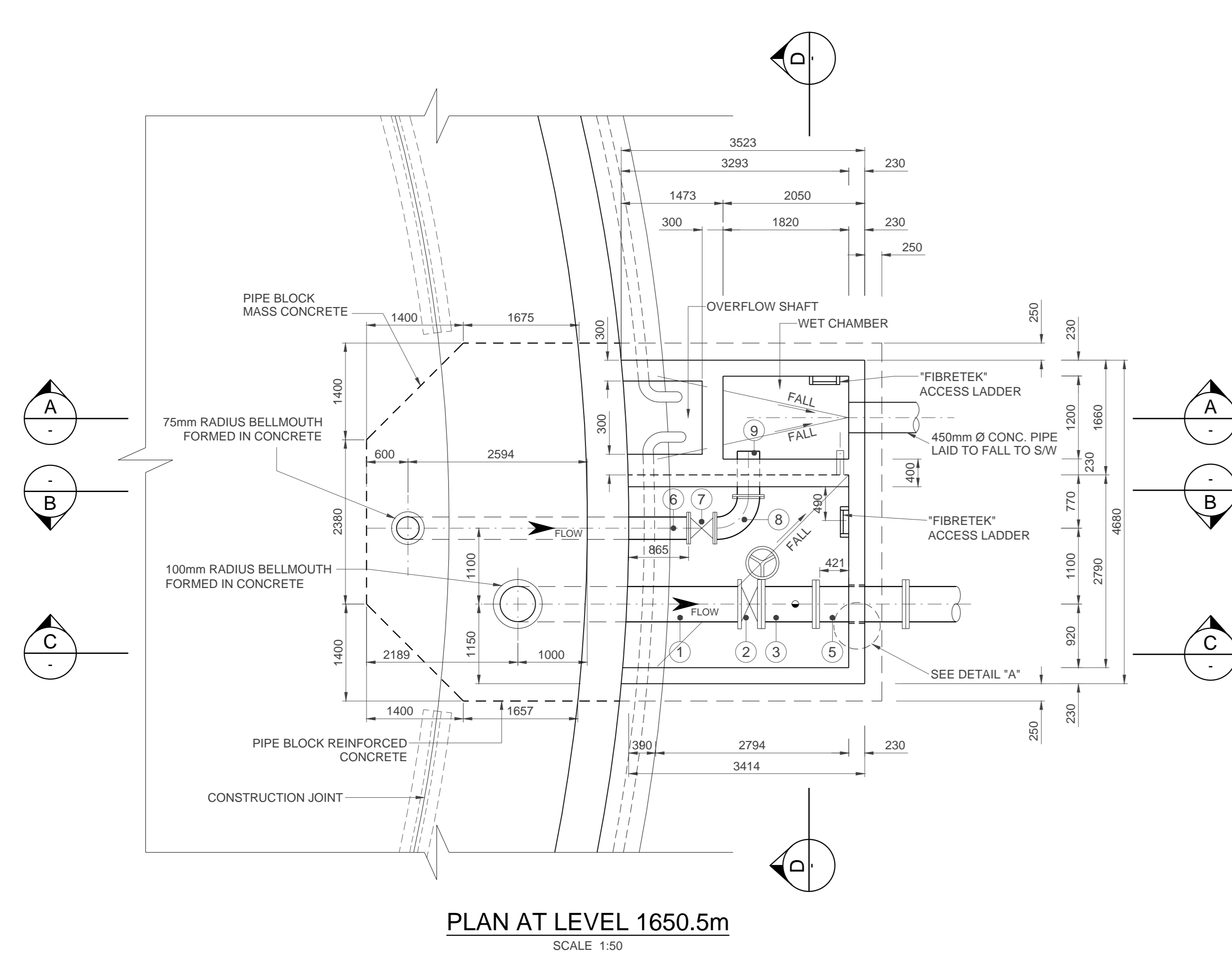
Section: _____
Drawing Title: **DN450 INLET CHAMBER AND SUMP**

Scales: AS SHOWN
Designed: D.Ramghulam Date: June 2018
Checked: A.Goorun Drawn: N. Adams

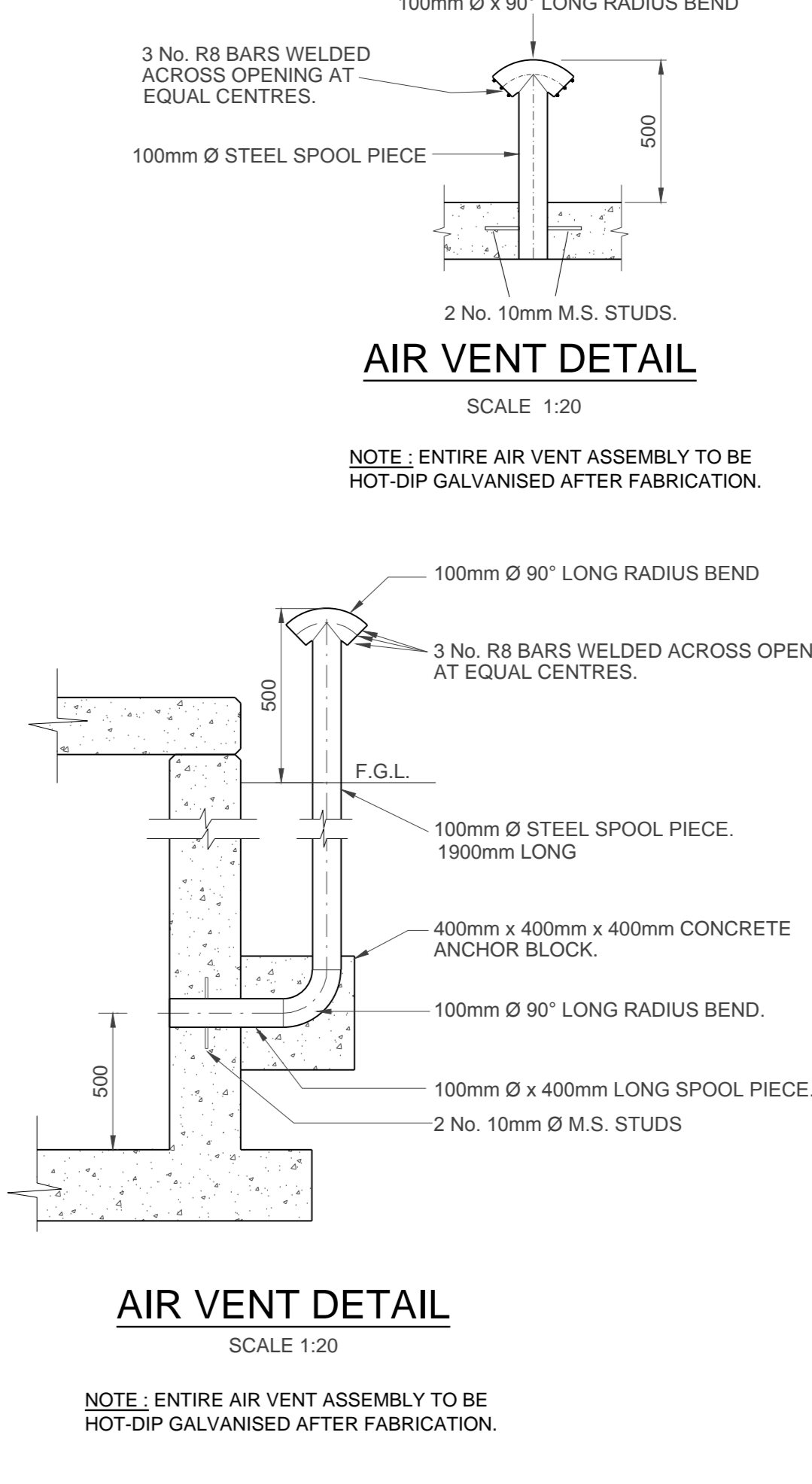
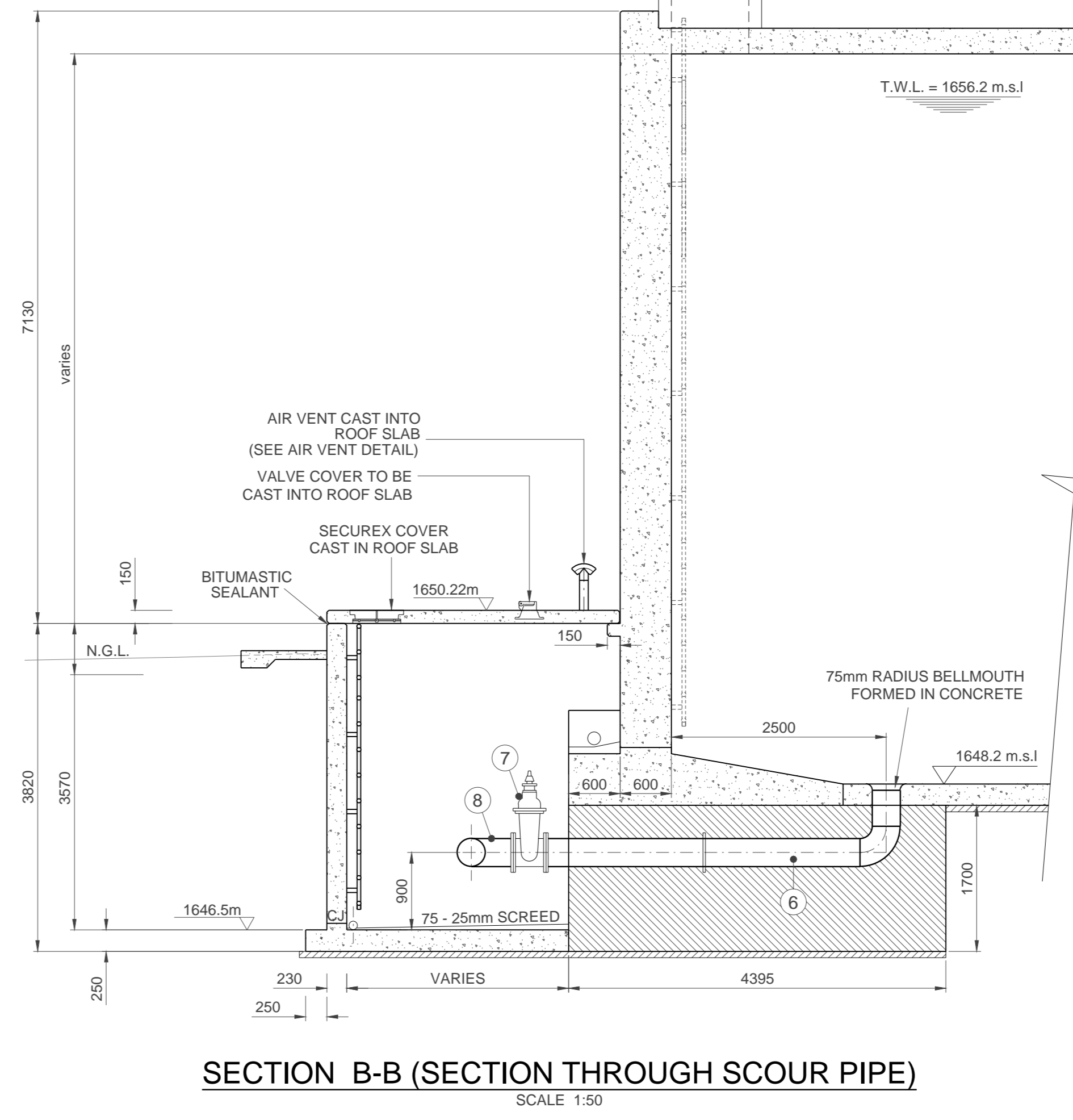
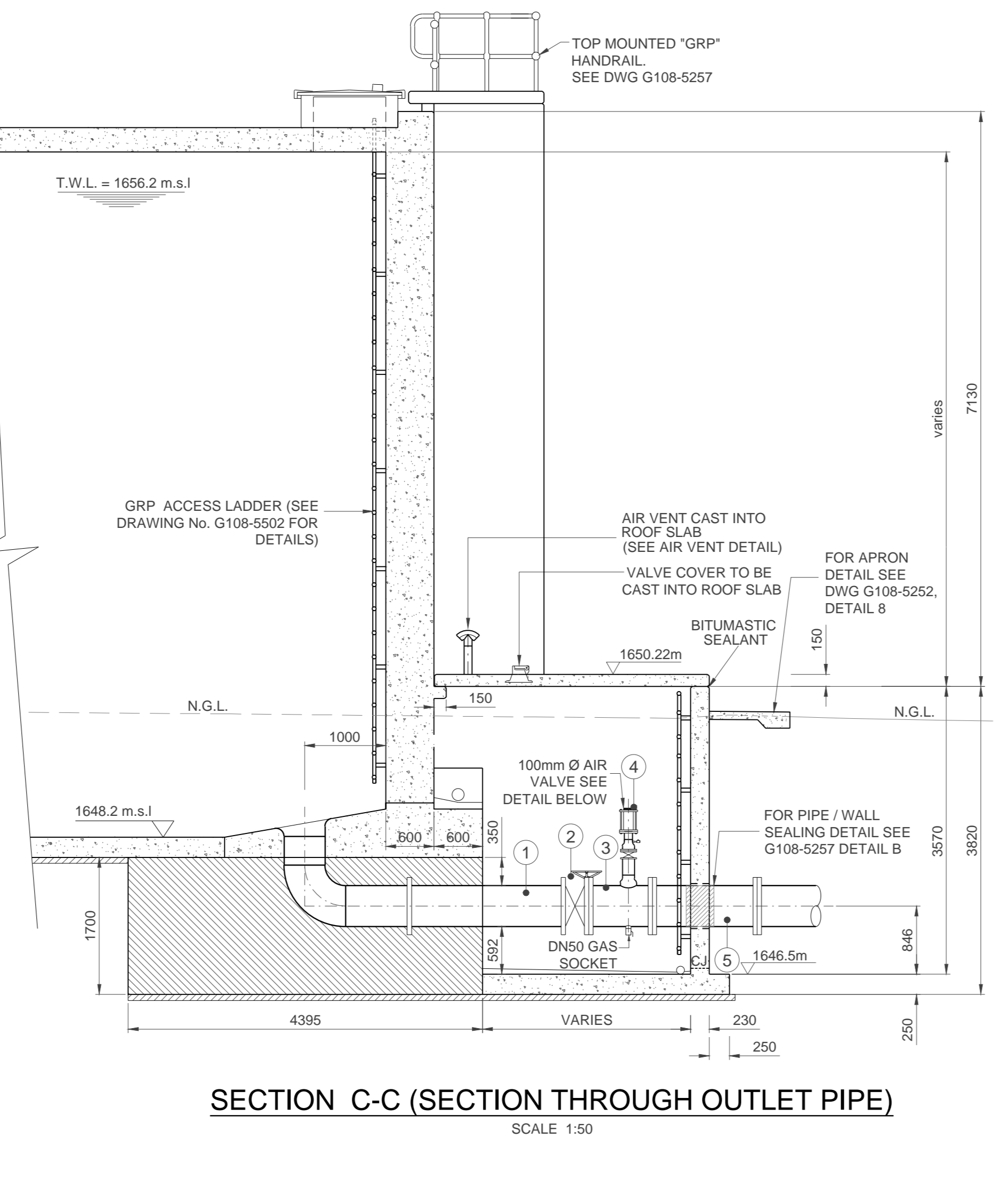
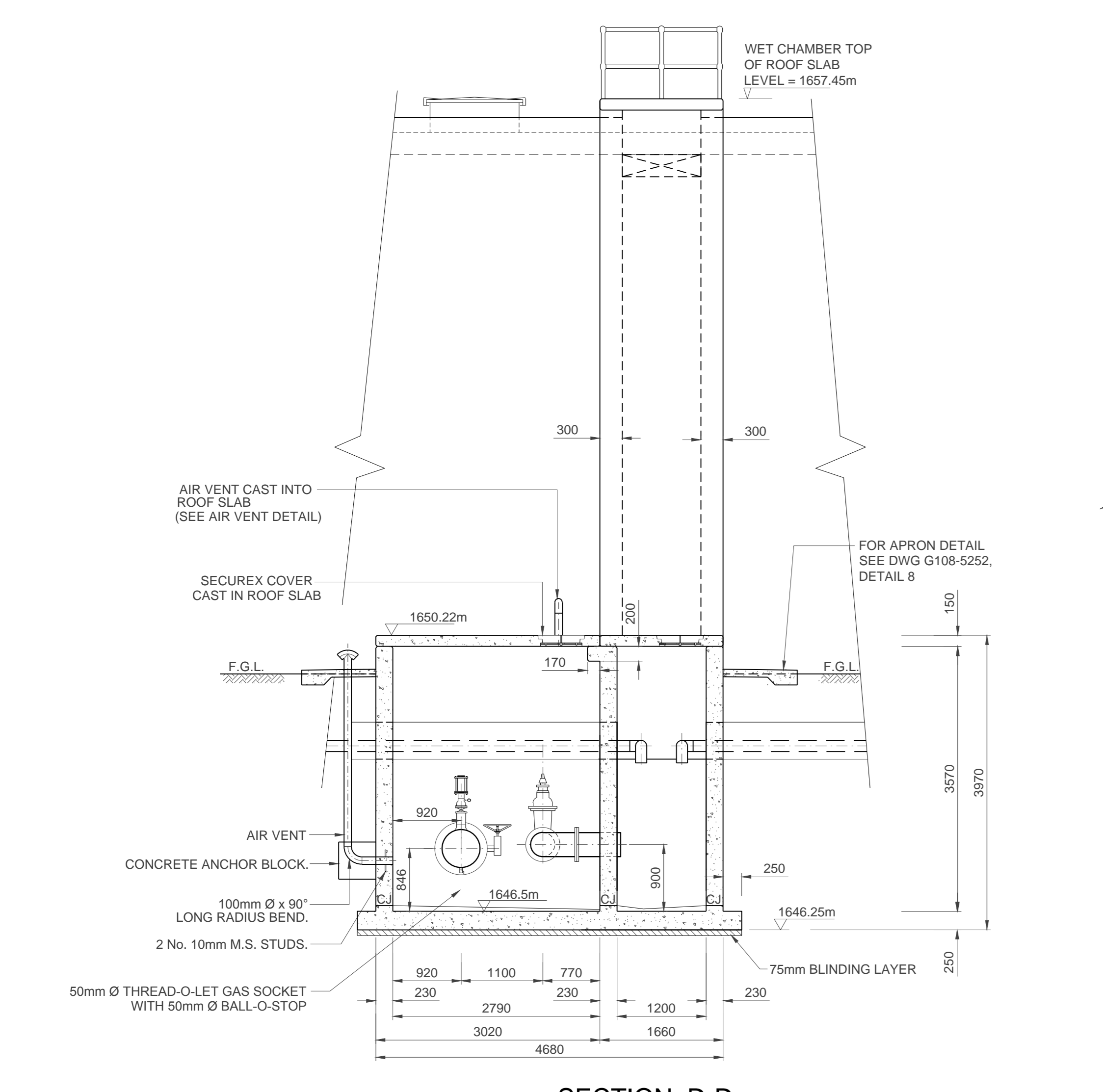
Area Engineer: _____
Manager: _____
Director (Water): _____
Executive Director: _____

Drawing No. _____ Sheet 5 Rev. 0

FOR TENDER



- GENERAL NOTES**
- PIPEWORK**
- ALL PIPEWORK TO BE MILD STEEL UNLESS OTHERWISE STATED.
 - THE CONTRACTOR SHALL VERIFY THE DIMENSIONS OF ALL PIPEWORK AND ADVISE THE ENGINEER OF ANY DISCREPANCIES PRIOR TO FABRICATION.
 - ALL PIPES GREATER THAN AND INCLUDING DN100, FITTED TO EQUIPMENT OR FITTINGS, OR WHERE SPECIFICALLY INDICATED SHALL BE FLANGED TO SANS 1123:2007 (TABLE 3) OR BS EN 1092:1:2007 WHERE SANS 1123:2007 (TABLE 3) DOES NOT APPLY OR AS SPECIFIED ON THE DRAWINGS. SHOULD THE RESPECTIVE FLANGE DRILLING NOT BE COVERED IN THE ABOVE SPECIFICATIONS THE RESIDENT ENGINEER SHALL BE CONSULTED FOR THE APPROPRIATE SPECIFICATION, BEFORE PROCURING ANY VALVES OR FLANGES.
 - SURFACE PREPARATION FOR APPLICATION OF CORROSION PROTECTION MATERIALS SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
 - DAMAGED COATINGS AND LININGS SHALL BE REPAIRED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
 - ALL PIPEWORK AND SPECIALS TO BE COATED AND LINED AS PER THE PROJECT SPECIFICATIONS.
 - ALL JOINTS SHALL BE COATED, PROTECTED AND WRAPPED AS PER THE PROJECT SPECIFICATIONS.
 - THE PRESSURE RATINGS OF ALL PIPEWORK, FLANGES AND VALVES, SHALL BE AS INDICATED IN THE SCHEDULES OF FITTINGS.
 - ALL MILD STEEL PIPEWORK, COLLARS, WRAPPERS AND CROUCH PLATES TO BE MANUFACTURED FROM MINIMUM GRADE X42 STEEL AND WELDED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. WHERE THE GRADE OF STEEL FOR THE MAIN PIPE IS X52 OR X65, COLLARS AND WRAPPERS SHALL BE FABRICATED FROM STEEL PIPE OF THE SAME GRADE AS THE MAIN PIPE AS SUPPLIED FREE ISSUE BY THE EMPLOYER, UNLESS OTHERWISE STATED ON THE DRAWINGS.
 - ALL BENDS TO BE FABRICATED AND DIMENSIONED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
 - FOR ALL COLLAR PLATES, PRE-DRILL 2 x 5mm Ø HOLE. UPON COMPLETION OF FILLET WELDING, WELD HOLES CLOSED.
- CONCRETE**
- ALL EXPOSED EDGES TO BE CHAMFERED 5x50.
 - MINIMUM COVER TO ALL REINFORCING SHALL BE 50mm.
 - NO REINFORCEMENT SHALL BE FIXED CLOSER THAN 200mm TO THE STEEL PIPE.
 - CONSTRUCTION JOINTS TO BE WELL CLEANED & SCABBLED TO EXPOSE FRESH AGGREGATE AND THOROUGHLY WETTED BEFORE THE NEXT LIFT IS POURED.
- CONCRETE GRADE**
- BLINDING : 15/19
 - CONCRETE : 35/19 UNLESS OTHERWISE STATED (CHAMBERS ONLY)
 - SCREED : 1:3 (CEMENT/SAND)
- WHERE APPLICABLE, AIR VENTS, LIFTING HOLES, LIFTING HOOKS, STEP IRONS AND DI COVER & FRAME ARE TO BE PRE-INSTALLED AT THE MANUFACTURER PRIOR TO DELIVERY ON SITE.

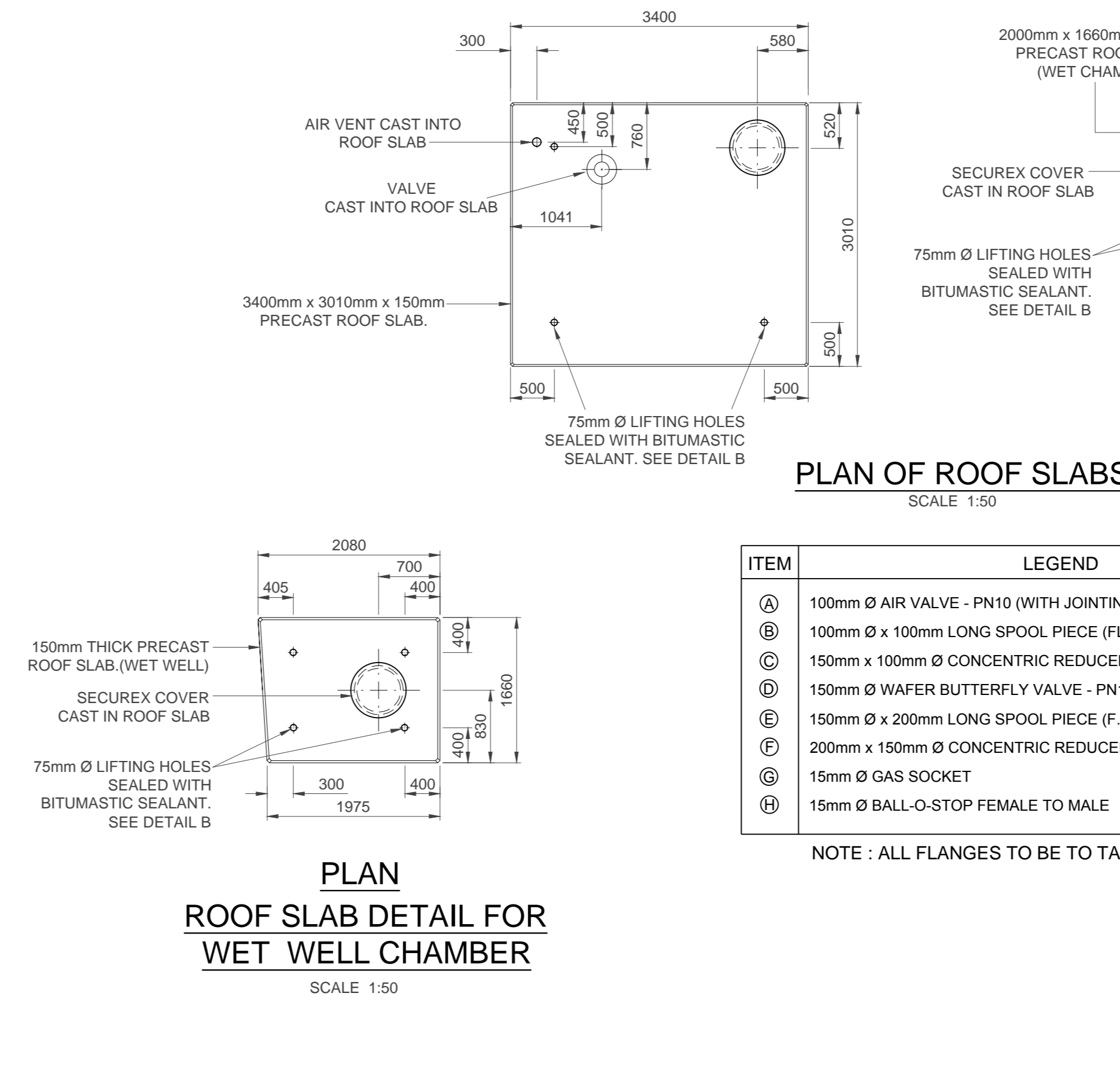
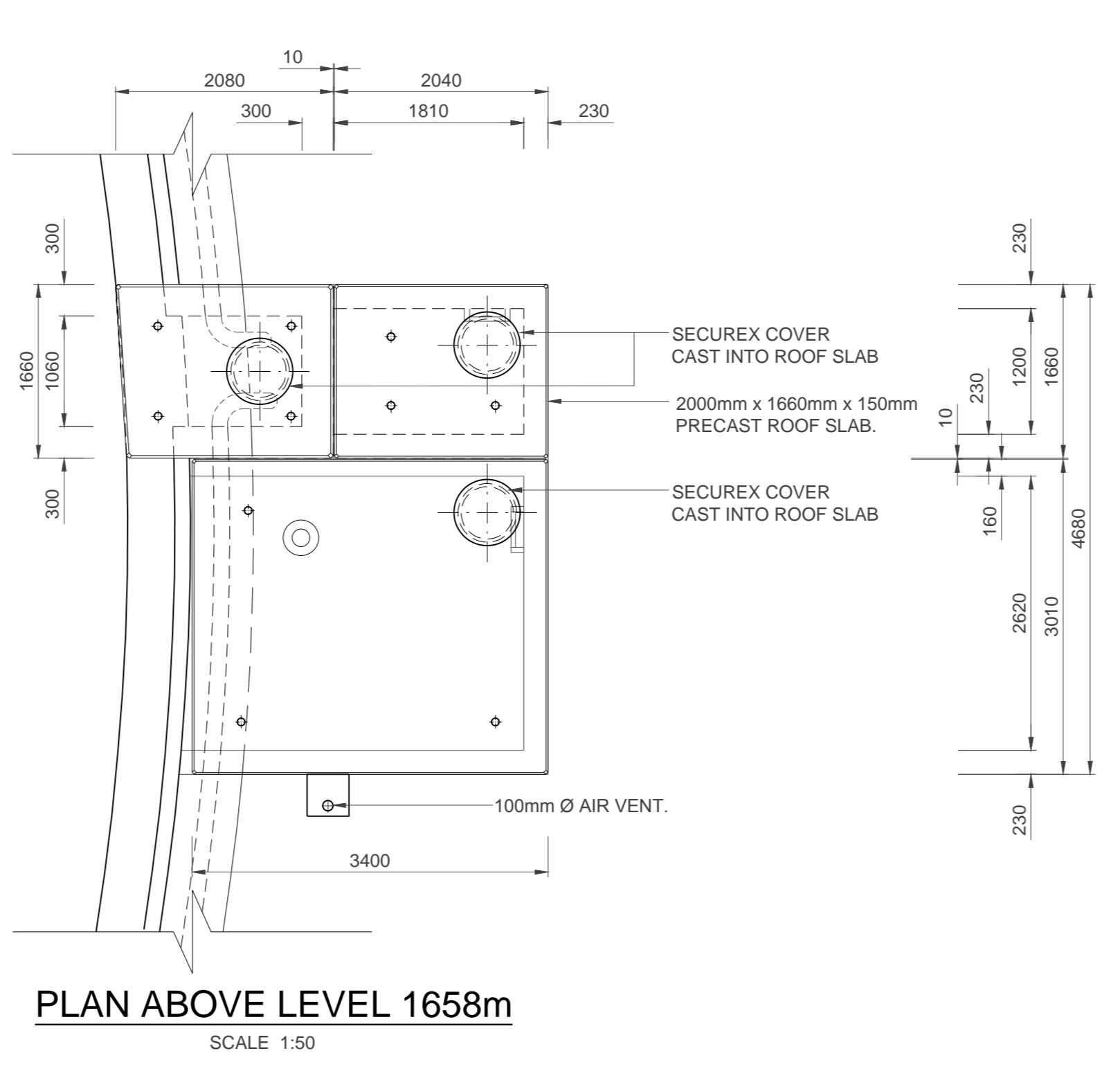


PIPEWORK SCHEDULE - PN10

No.	DESCRIPTION	WALL THICKNESS	NO. OFF	LINING	COATING	GRADE OF STEEL
1	SPECIAL DN500 x 90° LONG RADIUS BEND WITH DN500 x 2730mm LONG SPOOL PIECE WITH PUDDLE FLANGE AS SHOWN, WELDED TO ONE END AND A DN500 x 260mm LONG SPOOL PIECE WELDED TO OTHER END, F.O.E. FLANGE TO MATCH ITEM 2, OTHER END PLAIN END COATED.	6.0	1	S.F.E.	S.F.E.	X42
2	DN500 WAFER BUTTERFLY VALVE, (E.P.D.M. LINED) TYPE ISORIA BY AMRI OR SIMILAR APPROVED, COMPLETE WITH HAND WHEEL, NUTS, BOLTS, WASHERS AND GASKETS.		1			
3	SPECIAL DN500 x 789mm LONG F/F STRAIGHT PIECE, F.B.E. ONE FLANGE TO MATCH ITEM 2, PLACE 50mm Ø THREAD-O-LET GAS SOCKET WITH 50mm Ø BALL-O-STOP	4.5	1	S.F.E.	S.F.E.	X42
4	DN100 AIR VALVE (REFER TO AIR VALVE DETAIL)		1			
5	DN500 x 1300mm LONG F/F STRAIGHT PIECE, F.B.E.	4.5	1	S.F.E.	S.F.E.	X42
6	SPECIAL DN300 x 90° LONG RADIUS BEND WITH DN300 x 3660mm LONG SPOOL PIECE WITH PUDDLE FLANGE AS SHOWN, WELDED TO ONE END AND A DN300 x 420mm LONG SPOOL PIECE WELDED TO OTHER END, F.O.E. FLANGE TO MATCH ITEM 7, OTHER END PLAIN END COATED.	4.5	1	S.F.E.	S.F.E.	X42
7	DN 300mm FLANGED WEDGE GATE VALVE		1			
8	DN300 x 90° LONG RADIUS BEND F.B.E. ONE TO MATCH ITEM.	4.5	1	S.F.E.	S.F.E.	X42
9	DN300 x 600mm LONG F/F STRAIGHT PIECE, F.O.E.	4.5	1	S.F.E.	S.F.E.	X42

NOTE: ALL FLANGES TO BE TO TABLE 1600/3 (SABS 1123 - 2011)

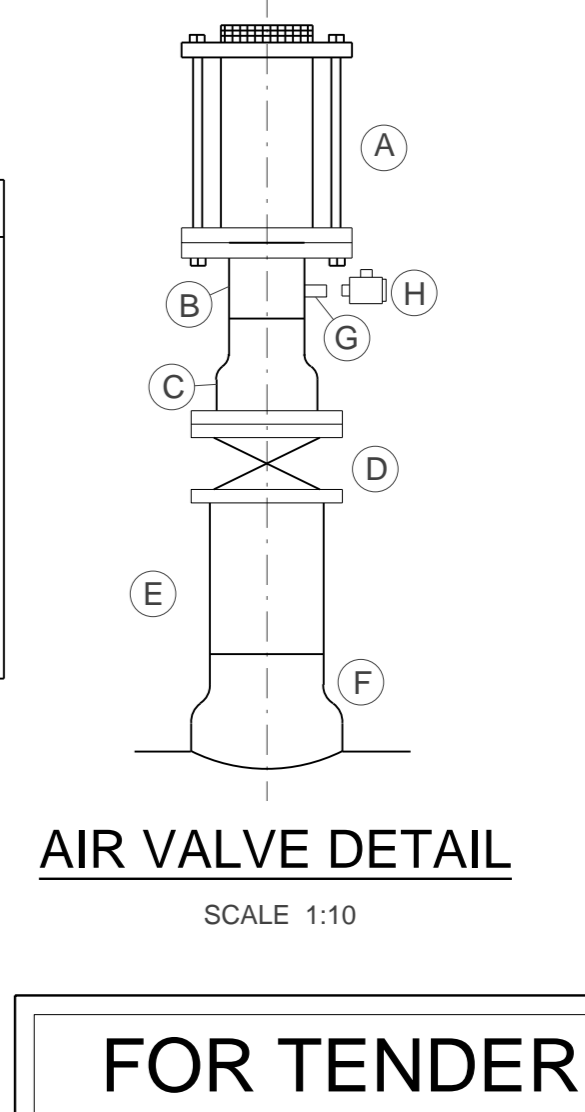
ABBREVIATIONS:
 DN - DIAMETER NOMINAL
 OD - OUTSIDE DIAMETER
 ID - INSIDE DIAMETER
 M.S. - MILD STEEL
 S.S. - STAINLESS STEEL
 H.D.G.M.S. - HOT DIPPED GALVANIZED MILD STEEL
 G.M.S. - GALVANIZED MILD STEEL
 C.I. - CAST IRON
 F.R.L. - FINAL ROAD LEVEL
 F.O.E. - FLANGED ONE END
 F.B.E. - FLANGED BOTH ENDS
 F.A.R. - FLANGED ALL ROUND
 L.R.B. - LONG RADIUS BEND
 S.R.B. - SHORT RADIUS BEND
 F/F - FACE TO FACE DIMENSION
 C/F - CENTRE TO FACE DIMENSION
 P.C. - PLAIN END COATED
 P.E. - PLAIN END (FOR WELDING)
 S.F.E. - SOLVENT FREE EPOXY



LEGEND

ITEM	DESCRIPTION
Ⓐ	100mm Ø AIR VALVE - PN10 (WITH JOINTING MATERIALS)
Ⓑ	100mm Ø x 100mm LONG SPOOL PIECE (FLANGED ONE END TO SUIT AIR VALVE)
Ⓒ	150mm Ø x 100mm Ø CONCENTRIC REDUCER (ANSI B16.9) F.O.E.
Ⓓ	150mm Ø WAFER BUTTERFLY VALVE - PN10
Ⓔ	150mm Ø x 200mm LONG SPOOL PIECE (F.O.E.)
Ⓜ	200mm x 150mm Ø CONCENTRIC REDUCER (ANSI B16.9)
Ⓝ	15mm Ø GAS SOCKET
Ⓟ	15mm Ø BALL-O-STOP FEMALE TO MALE

NOTE: ALL FLANGES TO BE TO TABLE 1600/3 (SABS 1123 - 1977)



FOR TENDER

CLIENT:

 Ekurhuleni
 METROPOLITAN MUNICIPALITY

REDUCED PLAN USE SCALE BELOW
 0 10 20 30 40 50 60 70
 70mm ON ORIGINAL PLAN

LEGEND
 EXISTING UNDERGROUND SERVICES ARE AS SHOWN BELOW.

SEWERS AND M.I.F'S
STORM WATER DRAINS AND M.I.F'S
WATER MAINS AND VALVES
ELECTRICITY CABLES
G.P.O TELEPHONE CABLES
OIL PIPELINES

CONSULTANT:

 NAIDU
 CONSULTING

1st Floor Tel: +27 (0) 31 265 6007
 No.5 The Boulevard Fax: +27 (0) 31 265 6011
 West Way Office Park E-mail: info@naiducosulting.com
 Westville, Durban

DRAWING No.: G108-52-5254 REV. 0

FOR TENDER

Ref	Drg.	Description
0	01-2019	ISSUED FOR TENDER

NOTE: No construction work to commence until final and certified quotations have been completed.

Acquisitions completed:

Date: _____ Engineer: _____ NORTH POINT
 UNDERGROUND SERVICES CHECKED
 S.W. DRAINS DATE SIGNATURE

SEWERS
WATERMANS
C.P.O CABLES
ELECTRIC CABLES
S.A.R CABLES
E.S.C CABLES
OIL PIPE LINE

NOTE: Only underground services affected by new construction are shown. Care must be taken during excavations for road foundations, trenches etc to avoid damage to underground services such as sewer, drainage, water, telephone and gas connections. Wherever possible these must be located before work begins.

Contract No.
Project Title
MASETJABA RESERVOIR
CONSTRUCTION OF A 15ML REINFORCED CONCRETE RESERVOIR, PIPELINES AND ASSOCIATED WORKS

Section
DN500 OUTLET AND SCOUR CHAMBER

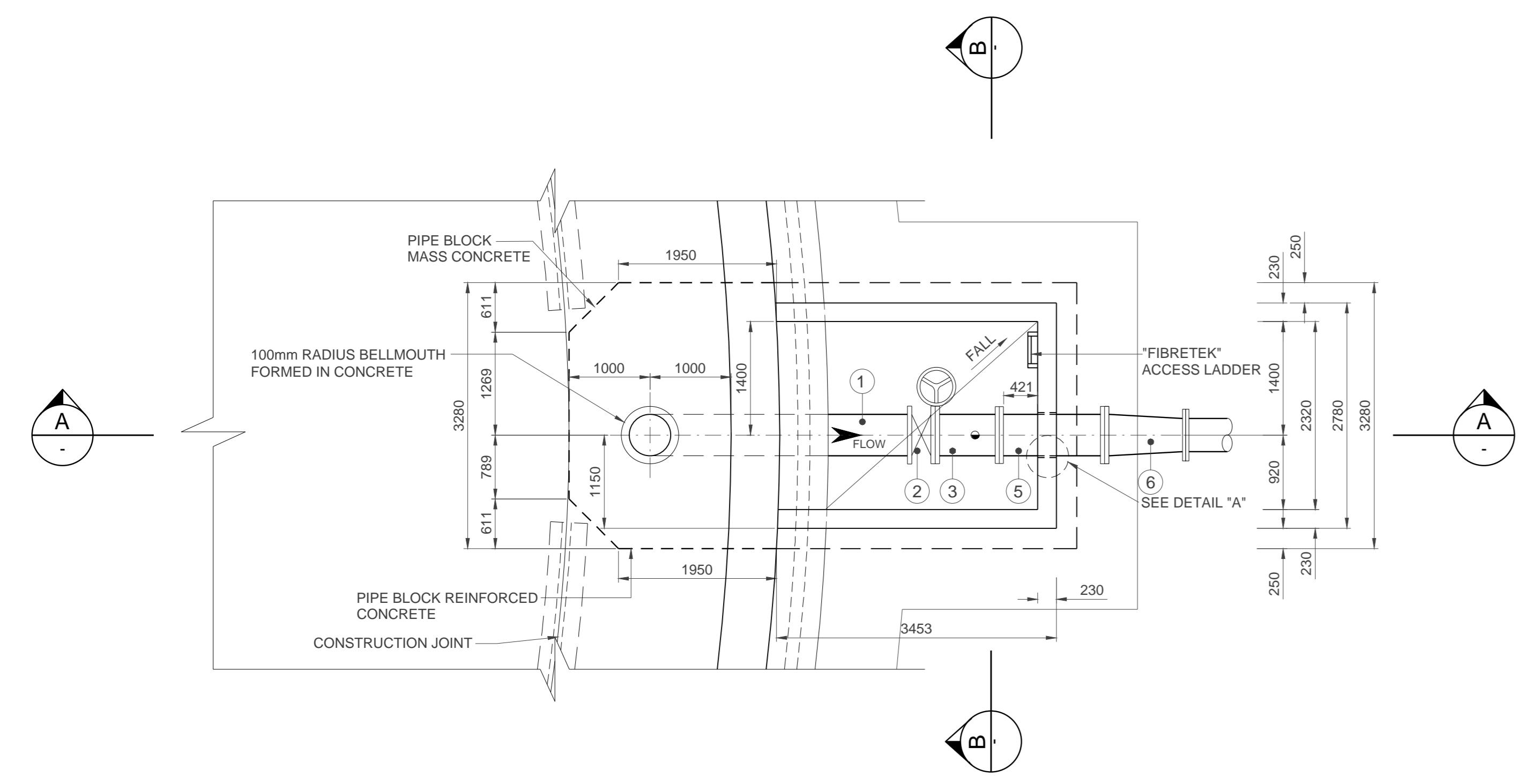
Drawing Title
DN500 OUTLET AND SCOUR CHAMBER

Scales: AS SHOWN
Designed: D.Ramghulam **Date:** June 2018
Checked: A.Goorun **Drawn:** N.Adams

Chief Area Engineer
Manager
Director (Water)
Executive Director

FOR TENDER

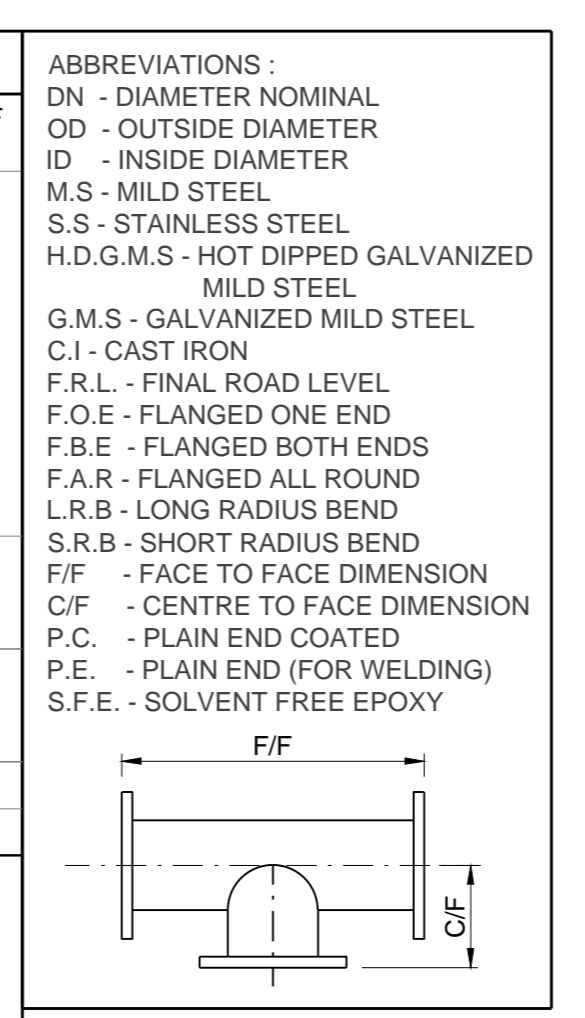
Drawing No.	6	0
Sheet		
Rev.		



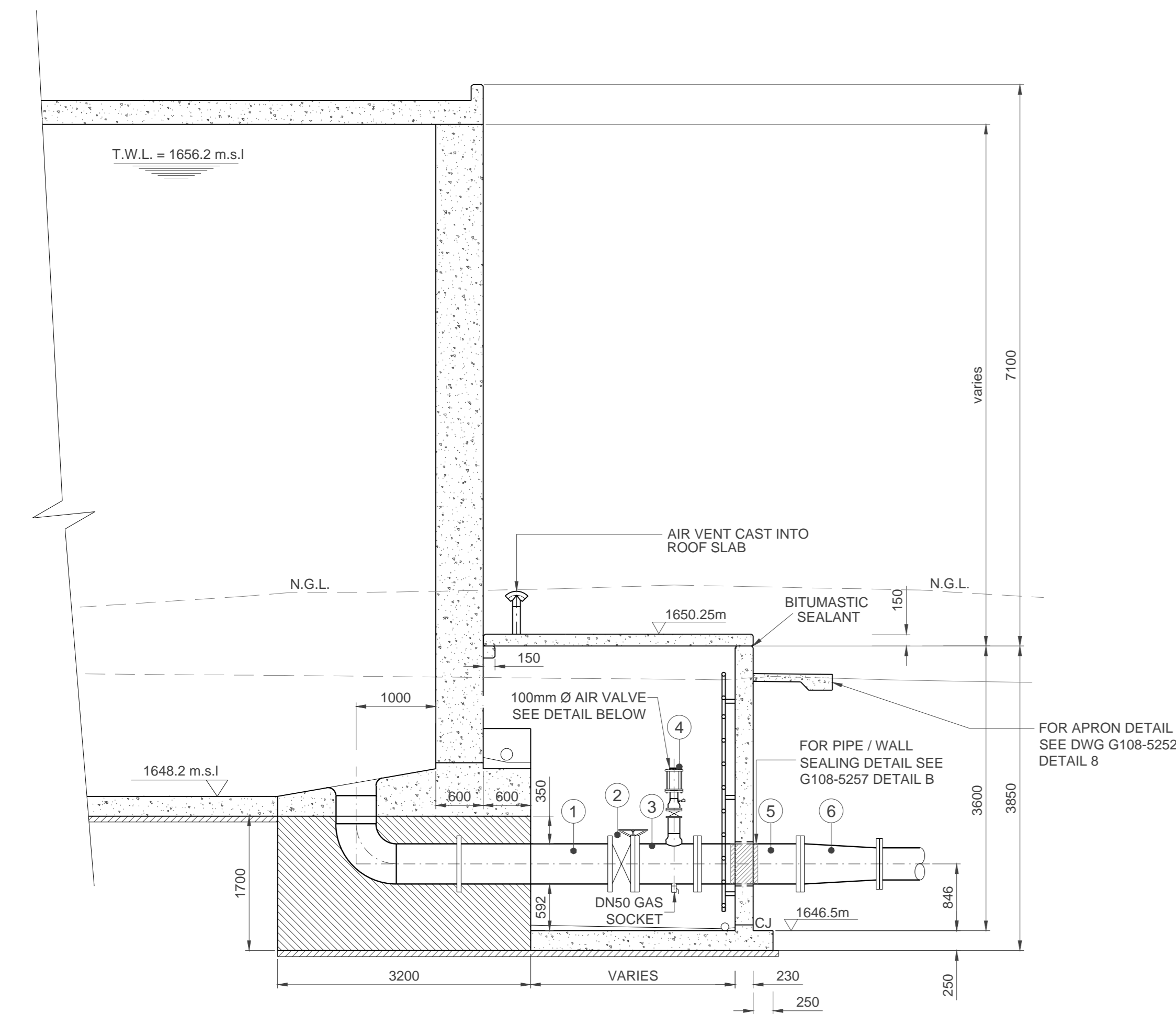
PLAN AT LEVEL 1650.5m
SCALE 1:50

PIPEWORK SCHEDULE - PN10						
No.	DESCRIPTION	WALL THICKNESS	NO. OFF	LINING	COATING	GRADE OF STEEL
1	SPECIAL DN500 x 90° LONG RADIUS BEND WITH DN500 x 2680mm LONG SPOOL PIECE WITH PUDDLE FLANGE AS SHOWN, WELDED TO ONE END AND A DN500 x 260mm LONG SPOOL WELDED TO OTHER END, F.O.E. FLANGE TO MATCH ITEM 2, OTHER END FLAIN END COATED.	6.0	1	S.F.E.	S.F.E.	X42
2	DN500 WAFER BUTTERFLY VALVE, (E.P.D.M. LINED) TYPE ISORIA BY AMRI OR SIMILAR APPROVED, COMPLETE WITH HAND WHEEL, NUTS, BOLTS, WASHERS AND GASKETS.		1			
3	SPECIAL DN500 x 780mm LONG F/F STRAIGHT PIECE, F.B.E. ONE FLANGE TO MATCH ITEM 2, PLACE 50mm Ø THREAD-O-LET GAS SOCKET WITH 50mm Ø BALL-O-STOP	4.5	1	S.F.E.	S.F.E.	X42
4	DN100 AIR VALVE (REFER TO AIR VALVE DETAIL)		1			
5	DN500 x 1300mm LONG F/F STRAIGHT PIECE, F.B.E.	4.5	1	S.F.E.	S.F.E.	X42
6	SPECIAL DN500 X DN450 REDUCER, 1000mm LONG F/F, F.B.E.	4.5	1	S.F.E.	S.F.E.	X42

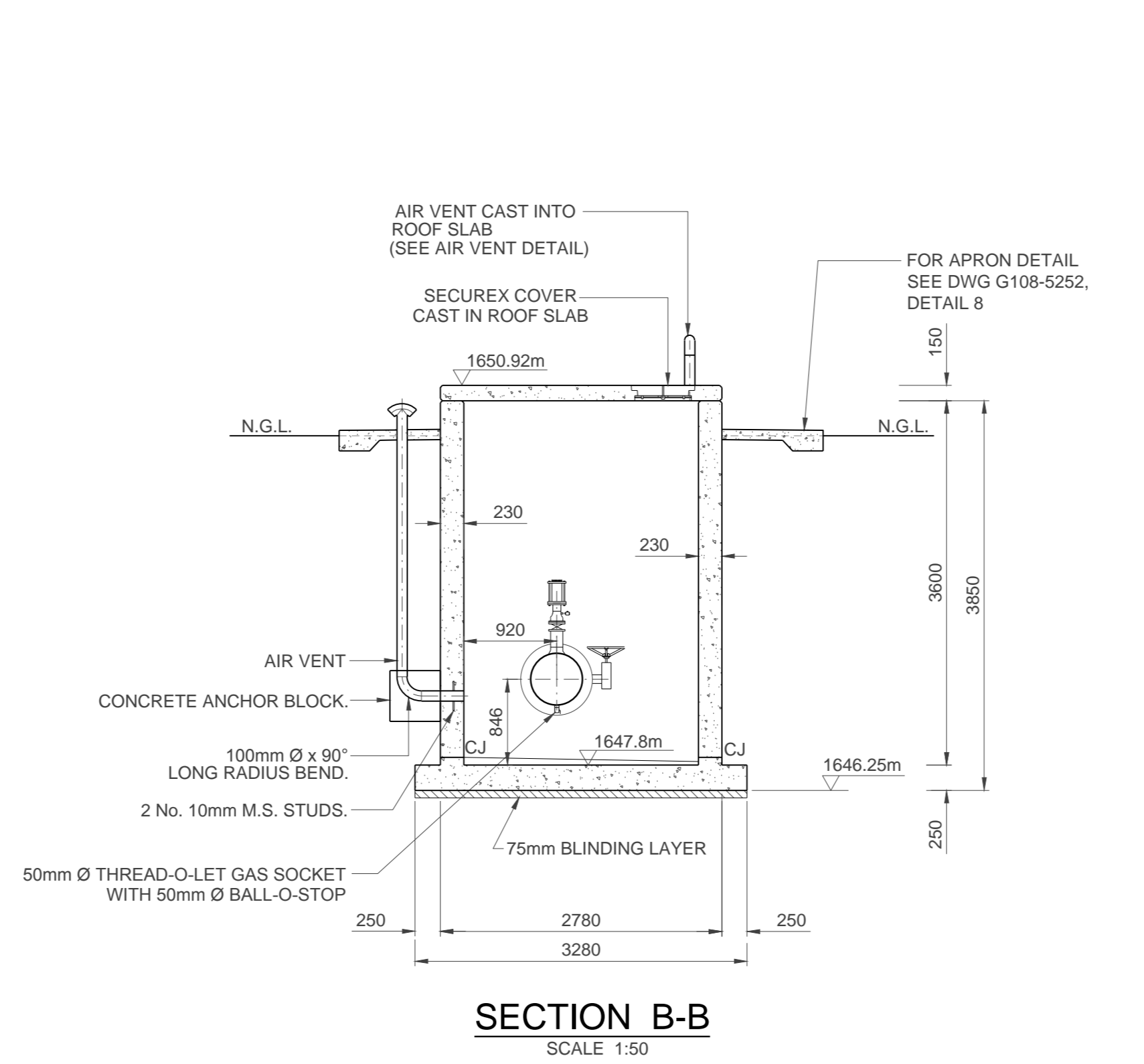
NOTE: ALL FLANGES TO BE TO TABLE 1600/3 (SABS 1123 - 2011)



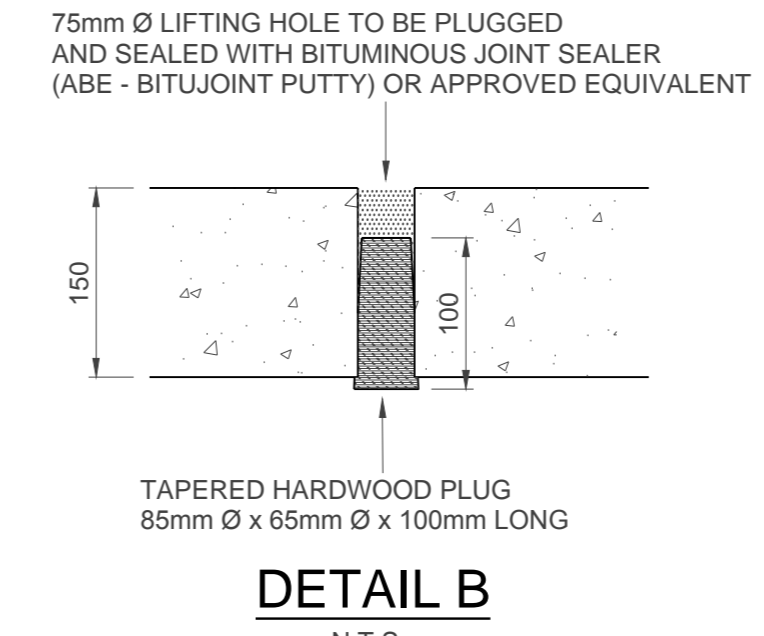
- GENERAL NOTES**
- PIPEWORK**
- ALL PIPEWORK TO BE MILD STEEL UNLESS OTHERWISE STATED.
 - THE CONTRACTOR SHALL VERIFY THE DIMENSIONS OF ALL PIPEWORK AND ADVISE THE ENGINEER OF ANY DISCREPANCIES PRIOR TO FABRICATION.
 - ALL PIPES GREATER THAN AND INCLUDING DN100, FITTED TO EQUIPMENT OR FITTINGS, OR WHERE SPECIFICALLY INDICATED SHALL BE FLANGED TO SANS 1123:2007 (TABLE 3) OR BS EN 1092 - 1:2007 WHERE SANS 1123:2007 (TABLE 3) DOES NOT APPLY OR AS SPECIFIED ON THE DRAWINGS. SHOULD THE RESPECTIVE FLANGE DRILLING NOT BE COVERED IN THE ABOVE SPECIFICATIONS THE RESIDENT ENGINEER SHALL BE CONSULTED FOR THE APPROPRIATE SPECIFICATION, BEFORE PROCURING ANY VALVES OR FLANGES.
 - SURFACE PREPARATION FOR APPLICATION OF CORROSION PROTECTION MATERIALS SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
 - DAMAGED COATINGS AND LININGS SHALL BE REPAIRED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
 - ALL PIPEWORK AND SPECIALS TO BE COATED AND LINED AS PER THE PROJECT SPECIFICATIONS.
 - ALL JOINTS SHALL BE COATED, PROTECTED AND WRAPPED AS PER THE PROJECT SPECIFICATIONS.
 - THE PRESSURE RATINGS OF ALL PIPEWORK, FLANGES AND VALVES, SHALL BE AS INDICATED IN THE SCHEDULES OF FITTINGS.
 - ALL MILD STEEL PIPEWORK, COLLARS, WRAPPERS AND CROTCH PLATES TO BE MANUFACTURED FROM MINIMUM GRADE X42 STEEL AND WELDED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. WHERE THE GRADE OF STEEL FOR THE MAIN PIPE IS X62 OR X65, COLLARS AND WRAPPERS SHALL BE FABRICATED FROM STEEL PIPE OF THE SAME GRADE AS THE MAIN PIPE AS SUPPLIED FREE-ISSUE BY THE EMPLOYER, UNLESS OTHERWISE STATED ON THE DRAWINGS.
 - ALL BENDS TO BE FABRICATED AND DIMENSIONED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
 - FOR ALL COLLAR PLATES, PRE-DRILL 2 x 5mm Ø HOLE. UPON COMPLETION OF FILLET WELDING, WELD HOLES CLOSED.
- CONCRETE**
- ALL EXPOSED EDGES TO BE CHAMFERED 50x50.
 - MINIMUM COVER TO ALL REINFORCING SHALL BE 50mm.
 - NO REINFORCEMENT SHALL BE FIXED CLOSER THAN 200mm TO THE STEEL PIPE. CONSTRUCTION JOINTS TO BE WELL CLEANED & SCABBLED TO EXPOSE FRESH AGGREGATE AND THOROUGHLY WETTED BEFORE THE NEXT LIFT IS POURED.
 - CONCRETE GRADE
 - BLINDING : 15/19
 - CONCRETE : 35/19 UNLESS OTHERWISE STATED (CHAMBERS ONLY)
 - SCREED : 1/3 (CEMENT/SAND)
 - WHERE APPLICABLE, AIR VENTS, LIFTING HOLES, LIFTING HOOKS, STEP IRONS AND DI COVER & FRAME ARE TO BE PRE-INSTALLED AT THE MANUFACTURER PRIOR TO DELIVERY ON SITE.



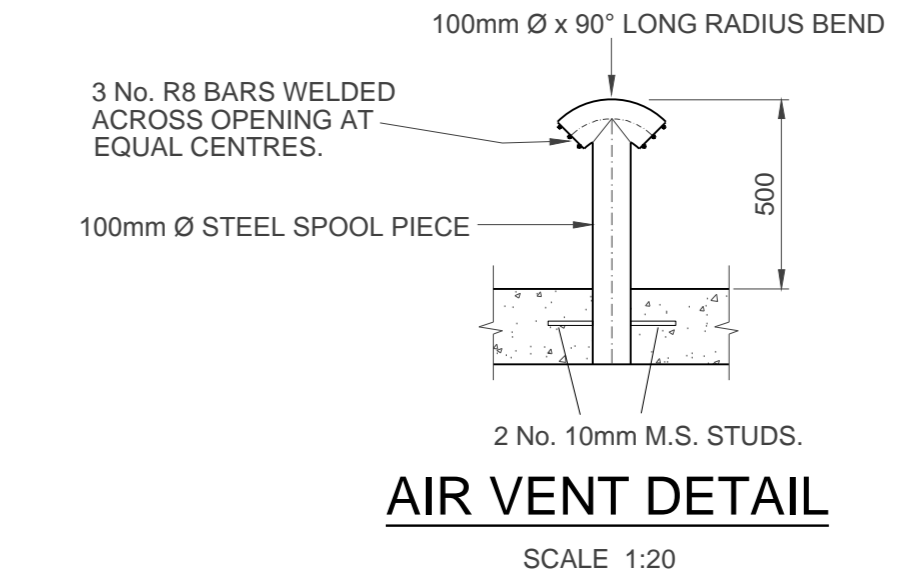
SECTION A-A (SECTION THROUGH CROSS CONNECTION OUTLET PIPE)
SCALE 1:50



SECTION B-B
SCALE 1:50

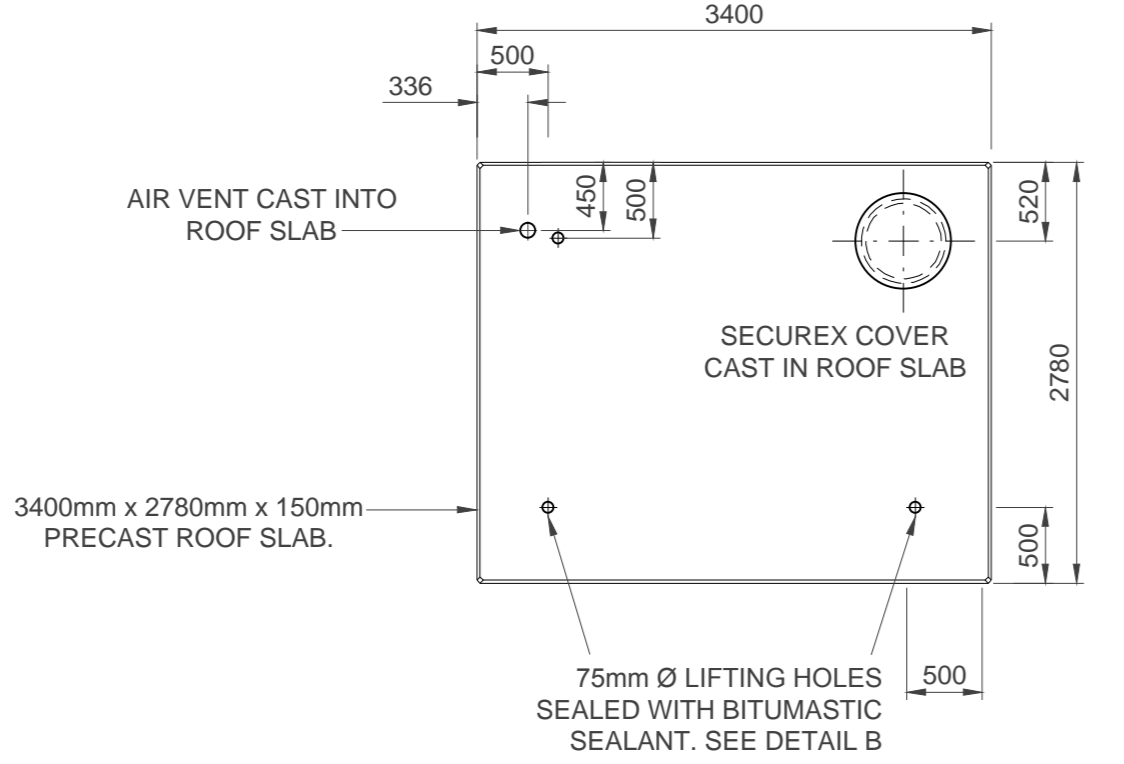


DETAIL B
N.T.S.



AIR VENT DETAIL
SCALE 1:20

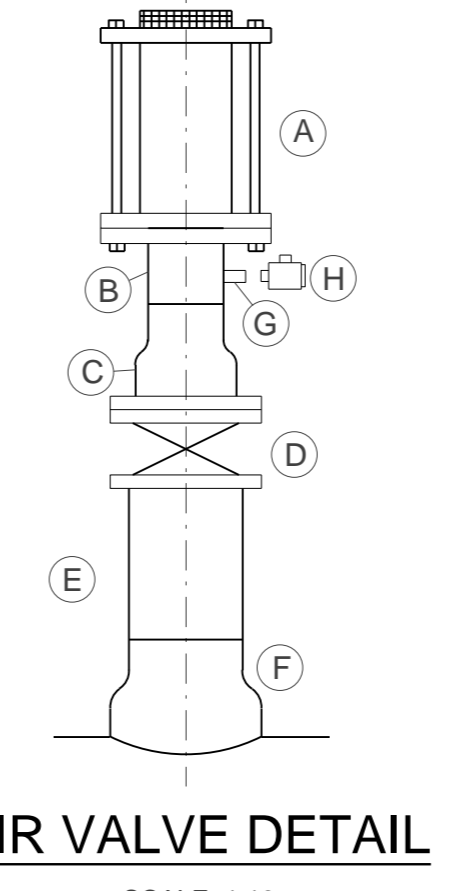
NOTE: ENTIRE AIR VENT ASSEMBLY TO BE HOT-DIP GALVANISED AFTER FABRICATION.



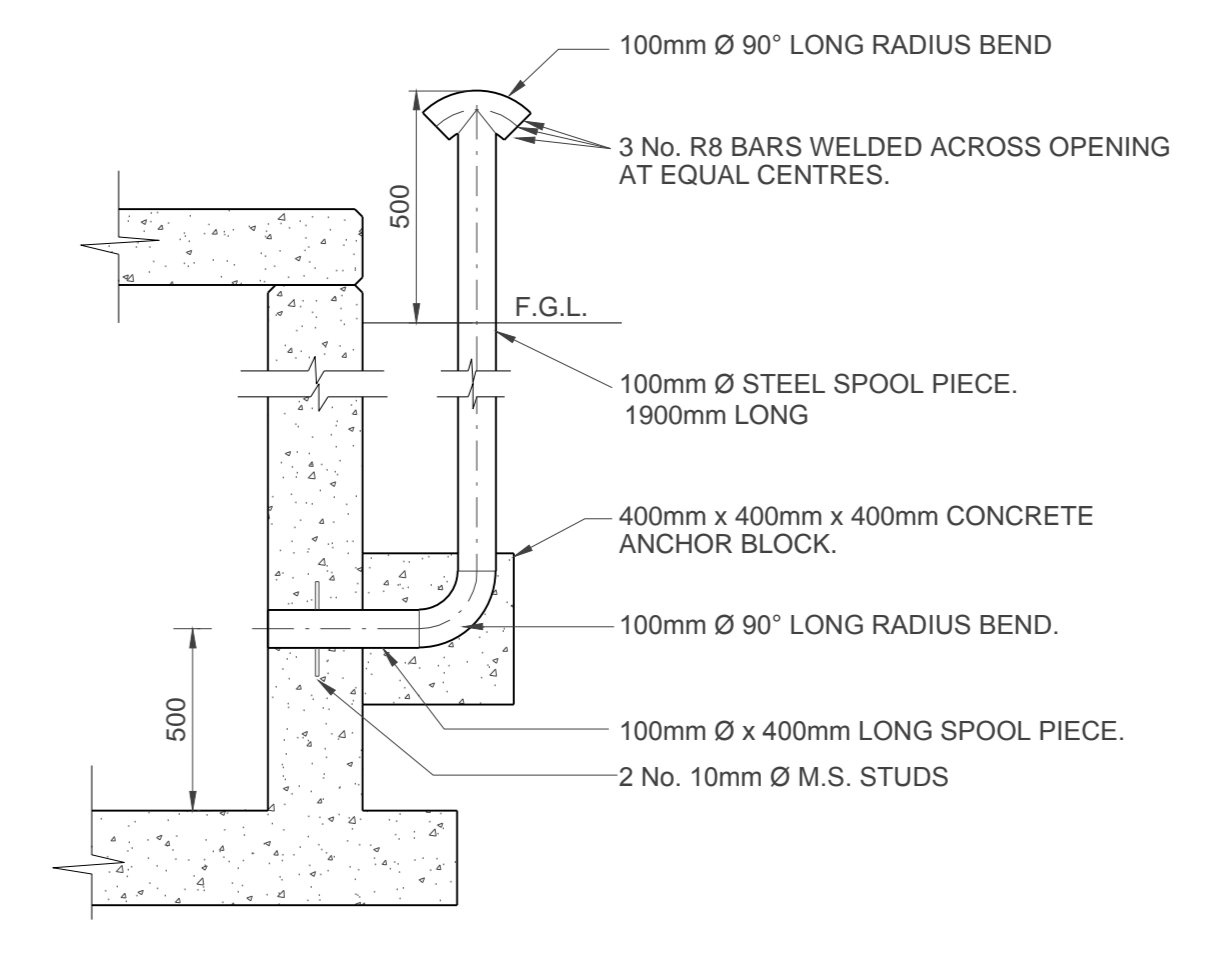
PLAN OF ROOF SLAB
SCALE 1:50

ITEM	LEGEND
(A)	100mm Ø AIR VALVE - PN10 (WITH JOINTING MATERIALS)
(B)	100mm Ø x 100mm LONG SPOOL PIECE (FLANGED ONE END TO SUIT AIR VALVE)
(C)	150mm x 100mm Ø CONCENTRIC REDUCER (ANSI: B16.9) F.O.E.
(D)	150mm Ø WAFER BUTTERFLY VALVE - PN10
(E)	150mm Ø x 200mm LONG SPOOL PIECE (F.O.E.)
(F)	200mm x 150mm Ø CONCENTRIC REDUCER (ANSI: B16.9)
(G)	15mm Ø GAS SOCKET
(H)	15mm Ø BALL-O-STOP FEMALE TO MALE

NOTE: ALL FLANGES TO BE TO TABLE 1600/3 (SABS 1123 - 1977)

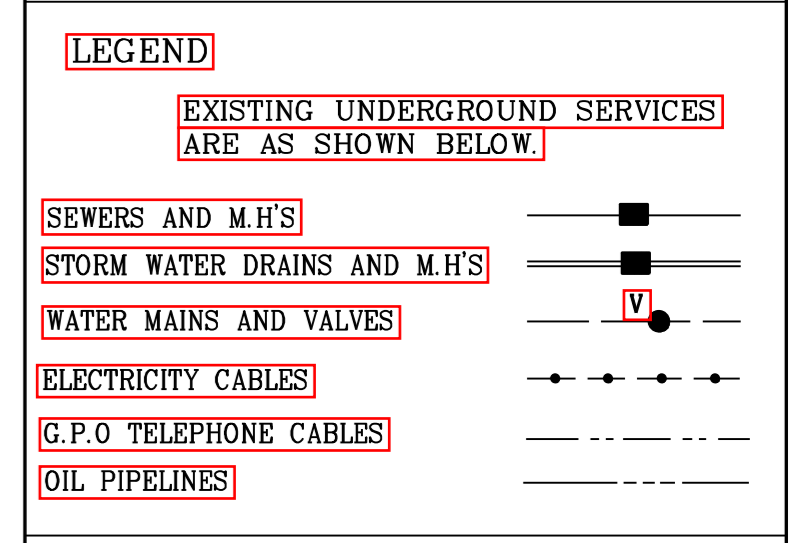
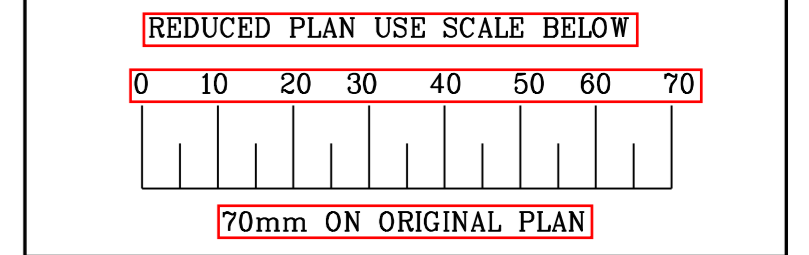


AIR VALVE DETAIL
SCALE 1:10



AIR VENT DETAIL
SCALE 1:20

NOTE: ENTIRE AIR VENT ASSEMBLY TO BE HOT-DIP GALVANISED AFTER FABRICATION.



CONSULTANT:
NAIDU CONSULTING
1st Floor Tel: +27 (0) 31 265 6007
No.5 The Boulevard Fax: +27 (0) 31 265 6011
West Way Office Park E-mail: info@naiduconsulting.com
Westville, Durban

DRAWING No.: G108-52-5255 REV. 0

FOR TENDER

Ref	Drg	Description
0	01-2019	ISSUED FOR TENDER

Revision	Date	Description

Date	Engineer	NORTH	POINT

SERVICE	DATE	SIGNATURE
UNDERGROUND SERVICES CHECKED		
S.W. DRAINS		
SEWERS		
WATERMANS		
G.P.O. CABLES		
ELECTRIC CABLES		
S.A.R. CABLES		
E.S.C. CABLES		
OIL PIPE LINE		

NOTE: Only underground services affected by new construction. If there are any other underground services, the contractor must verify their location and depth before construction. If any underground services are affected, they must be protected and relocated before construction. If any underground services are affected, they must be protected and relocated before construction.

Contract No.

Project Title

CONSTRUCTION OF A 15ML REINFORCED CONCRETE RESERVOIR, PIPELINES AND ASSOCIATED WORKS

Section

Drawing Title

DN500 CROSS CONNECTION OUTLET

Scales: AS SHOWN
Designed: D.Ramghulam Date: June 2018
Checked: A.Goorun Drawn: N. Adams

Chief Area Engineer

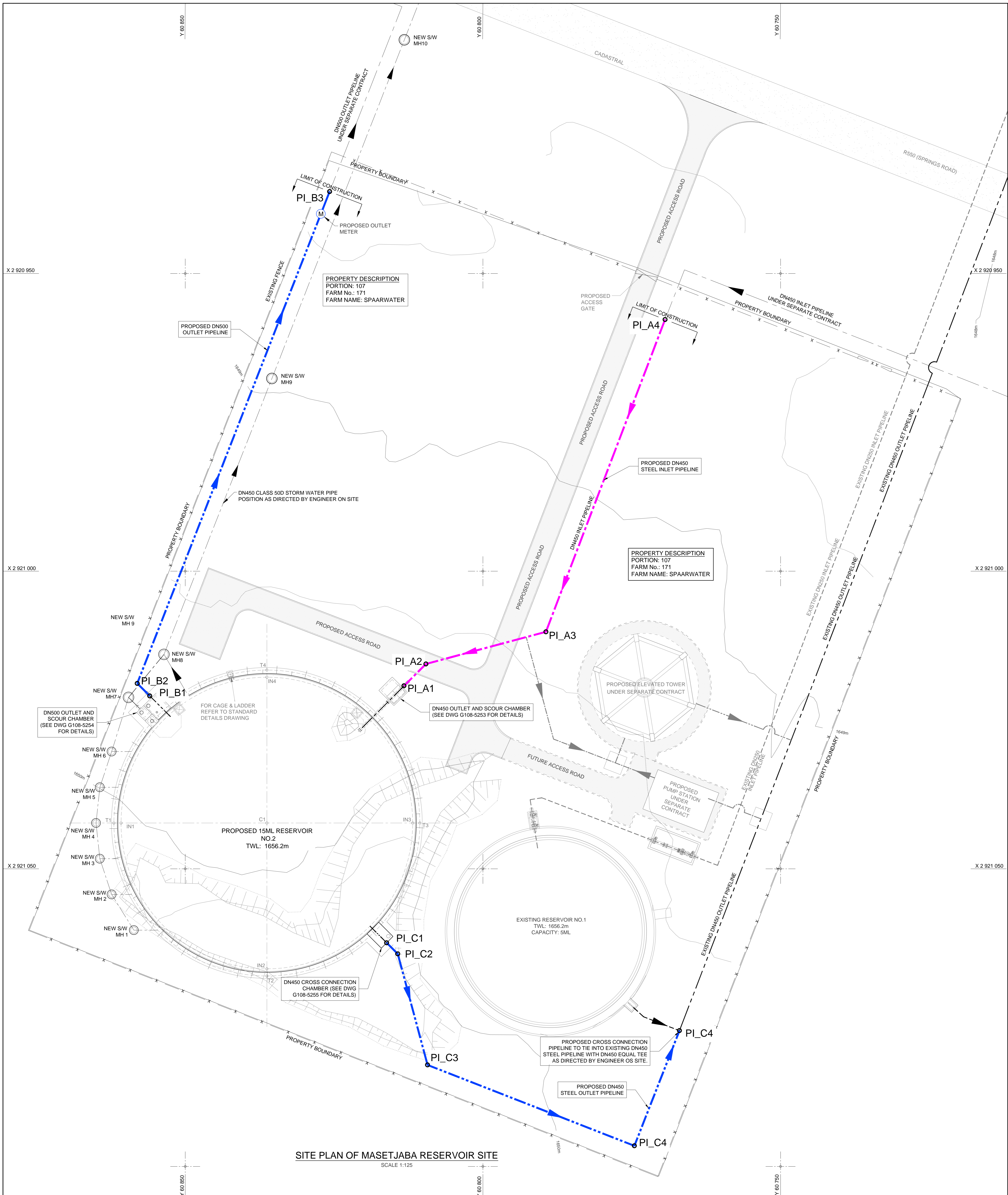
Manager

Director (Water)

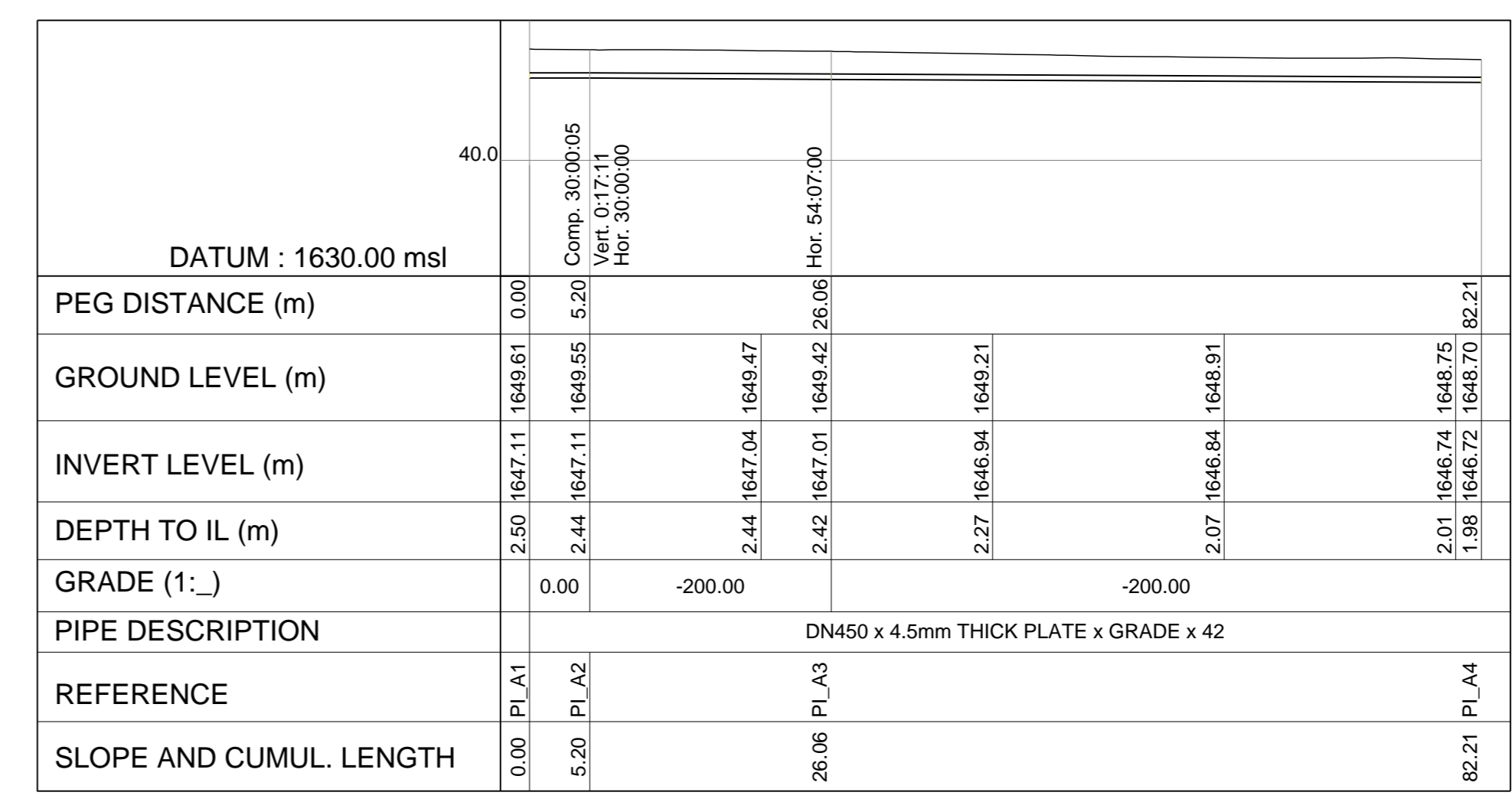
Executive Director

Drawing No. Sheet Rev.

FOR TENDER



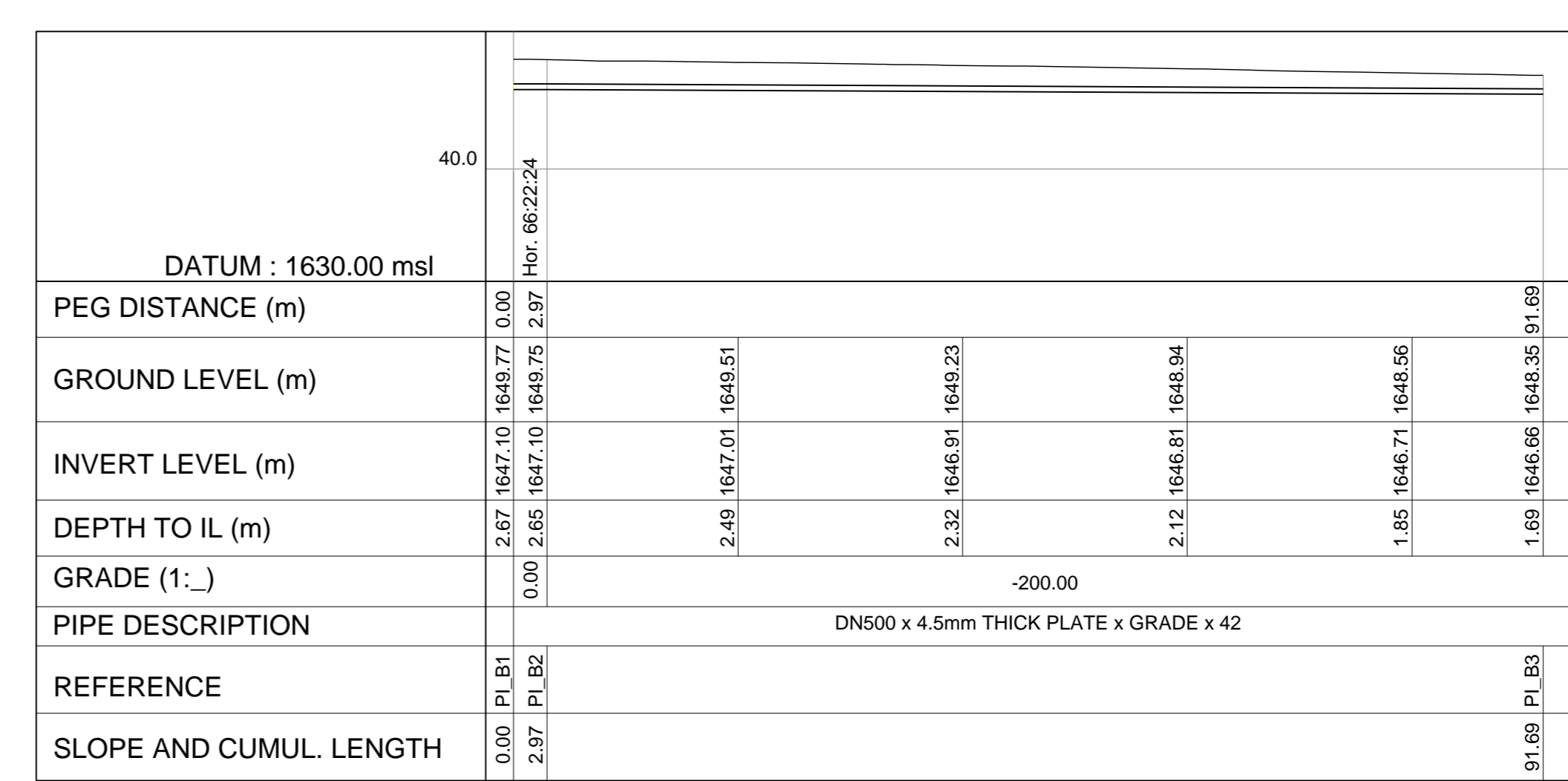
SITE PLAN OF MASETJABA RESERVOIR SITE
SCALE 1:125



LONGITUDINAL SECTION: DN450 INLET PIPELINE

SCALE: HOR 1:250
VER 1:250

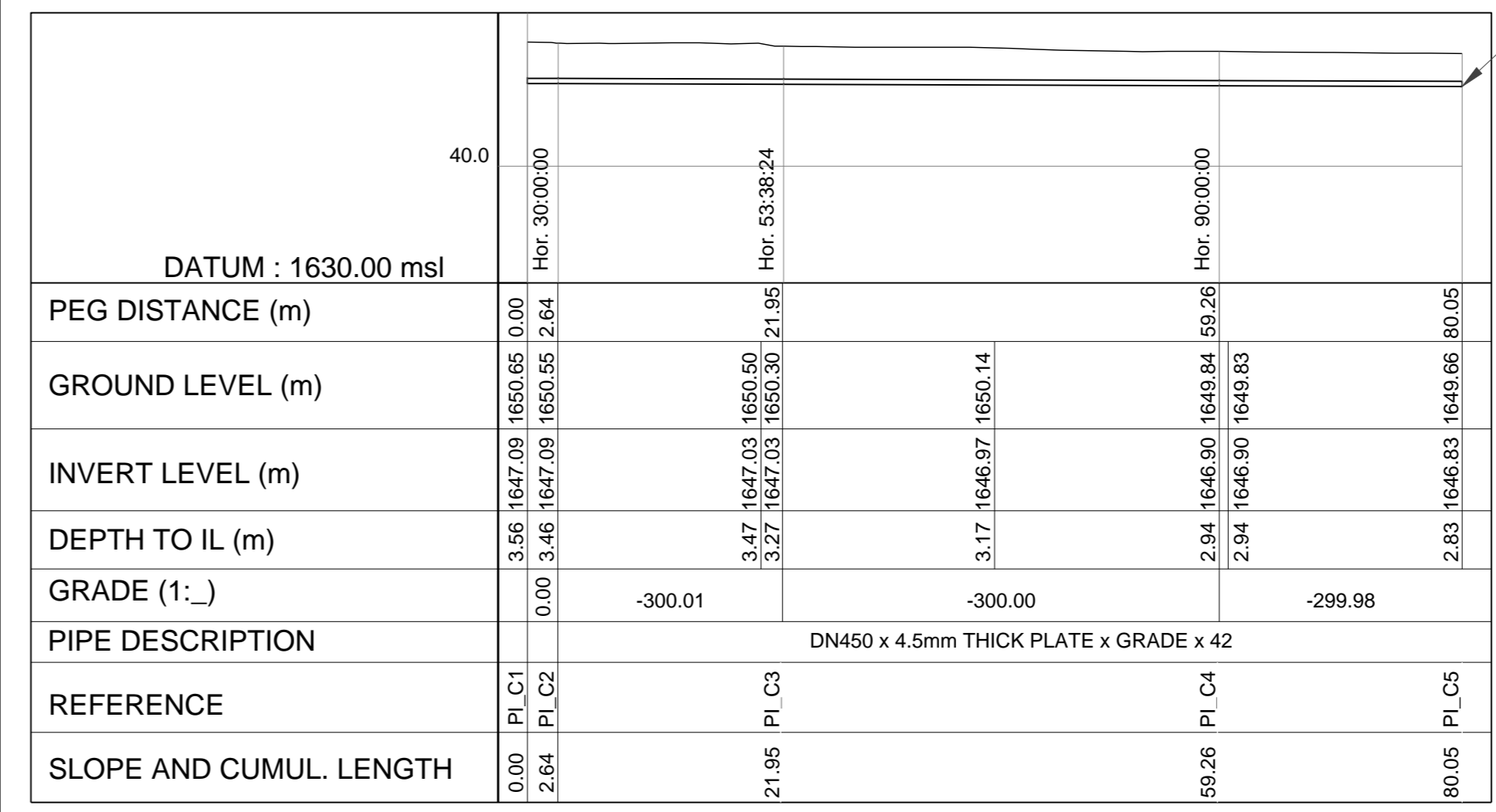
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PI_A3	60 789.412	2 921 010.182	1 647.006
PI_A4	60 769.397	2 920 957.722	1 646.725



LONGITUDINAL SECTION: DN500 OUTLET PIPELINE

SCALE: HOR 1:250
VER 1:250

REF	Y	X	Z (IL)
PI_B1	60 855.950	2 921 020.946	1 647.100
PI_B2	60 858.063	2 921 018.844	1 647.100
PI_B3	60 825.750	2 920 936.222	1 646.656



LONGITUDINAL SECTION: DN450 CROSS CONNECTION OUTLET PIPELINE

SCALE: HOR 1:250
VER 1:250

REF	Y	X	Z (IL)
PI_C1	60 815.164	2 921 062.424	1 647.090
PI_C2	60 814.296	2 921 064.292	1 647.090
PI_C3	60 809.299	2 921 062.942	1 647.026
PI_C4	60 774.549	2 921 096.533	1 646.901
PI_C5	60 766.979	2 921 077.177	1 646.832

FOR TENDER

CLIENT:

Ekurhuleni
METROPOLITAN MUNICIPALITY

REDUCED PLAN USE SCALE BELOW
0 10 20 30 40 50 60 70
70mm ON ORIGINAL PLAN

LEGEND
EXISTING UNDERGROUND SERVICES ARE AS SHOWN BELOW.

SEWERS AND M.H.S.
STORM WATER DRAINS AND M.H.S.
WATER MAINS AND VALVES
ELECTRICITY CABLES
G.P.O TELEPHONE CABLES
OIL PIPELINES

CONSULTANT:

1st Floor Tel: +27 (0) 31 265 6007
No.5 The Boulevard Fax: +27 (0) 31 265 6011
West Way Office Park E-mail: info@naiduconsulting.com
Westville, Durban

DRAWING No.: G108-52-5256 REV. 0

FOR TENDER

Ref Drg.	Description
0	01-2019 ISSUED FOR TENDER

Revision	Date	Description

NOTE: No construction work is to commence until final and complete site acquisition has been completed.

Acquisitions completed:

Date: _____ Engineer: _____ NORTH POINT

UNDERGROUND SERVICES	CHECKED
S.W DRAINS	
SEWERS	
WATERMANS	
G.P.O CABLES	
ELECTRIC CABLES	
S.A.R CABLES	
E.S.C CABLES	
OIL PIPE LINE	

NOTE: Only underground services affected by new construction are shown. Care must be taken during excavations for road foundations, trenches, etc. to avoid damage to underground services. Work on sewer drains, cables, water mains and stormwater drains wherever possible should be located before work begins.

Contract No. _____
Project Title
MASETJABA RESERVOIR
CONSTRUCTION OF A 15ML REINFORCED CONCRETE RESERVOIR, PIPELINES AND ASSOCIATED WORKS

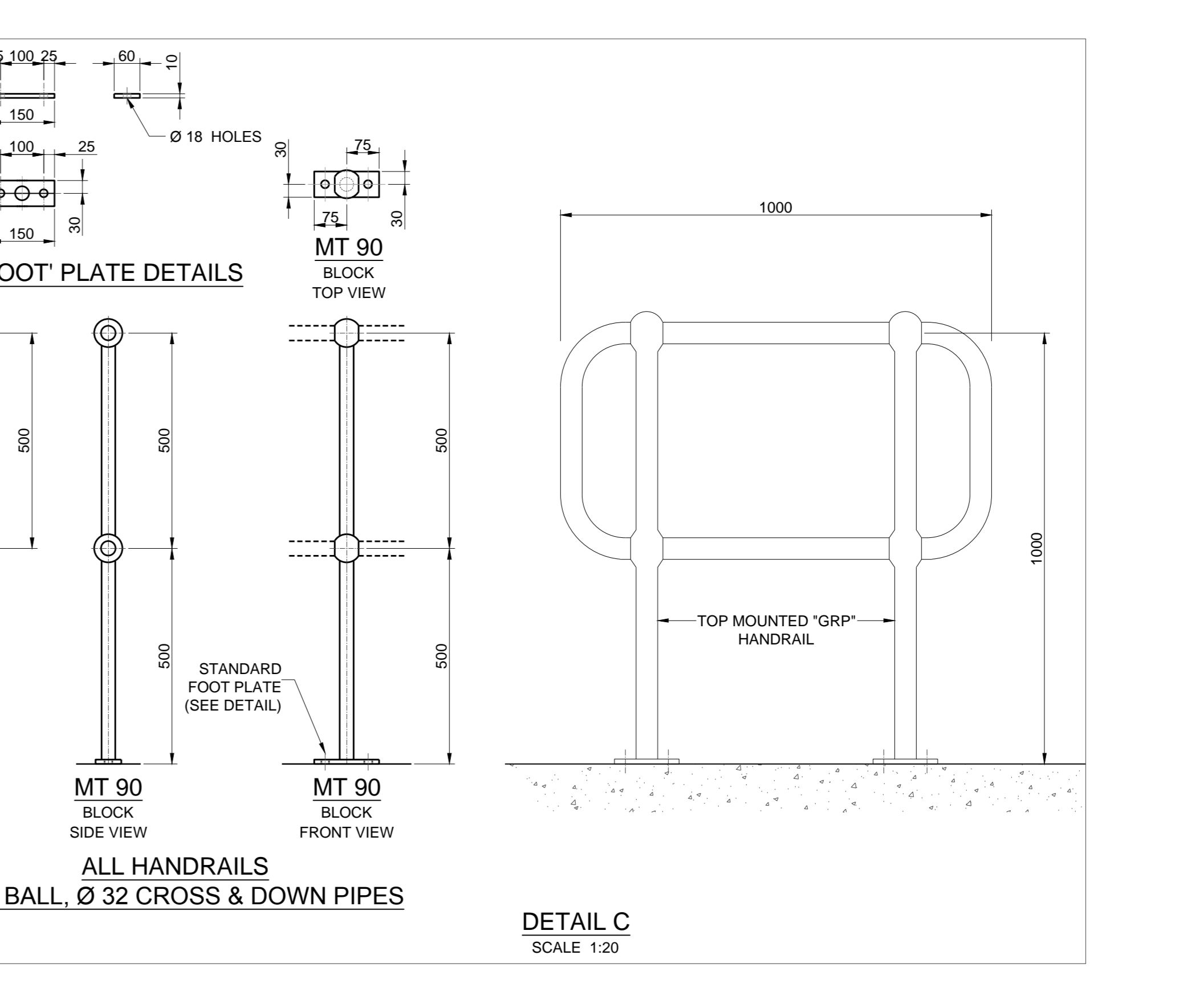
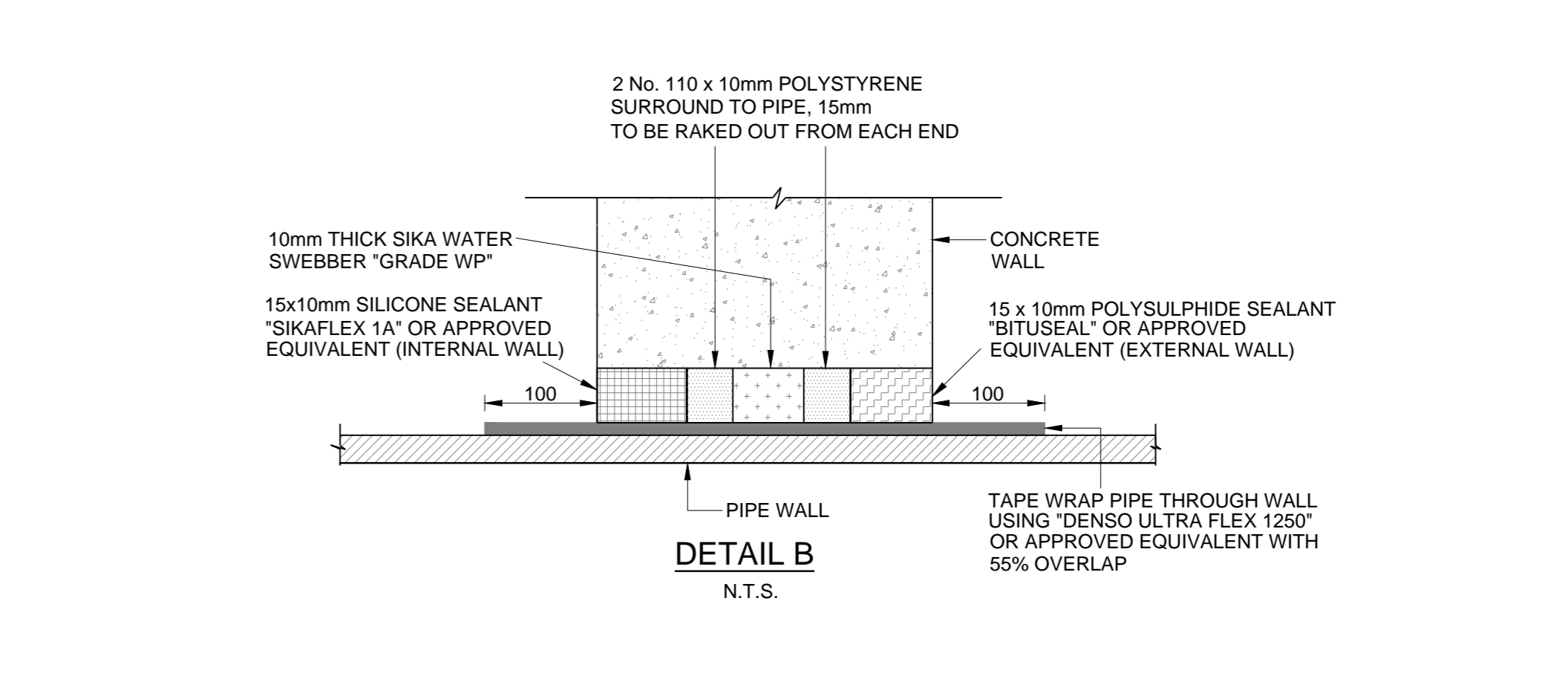
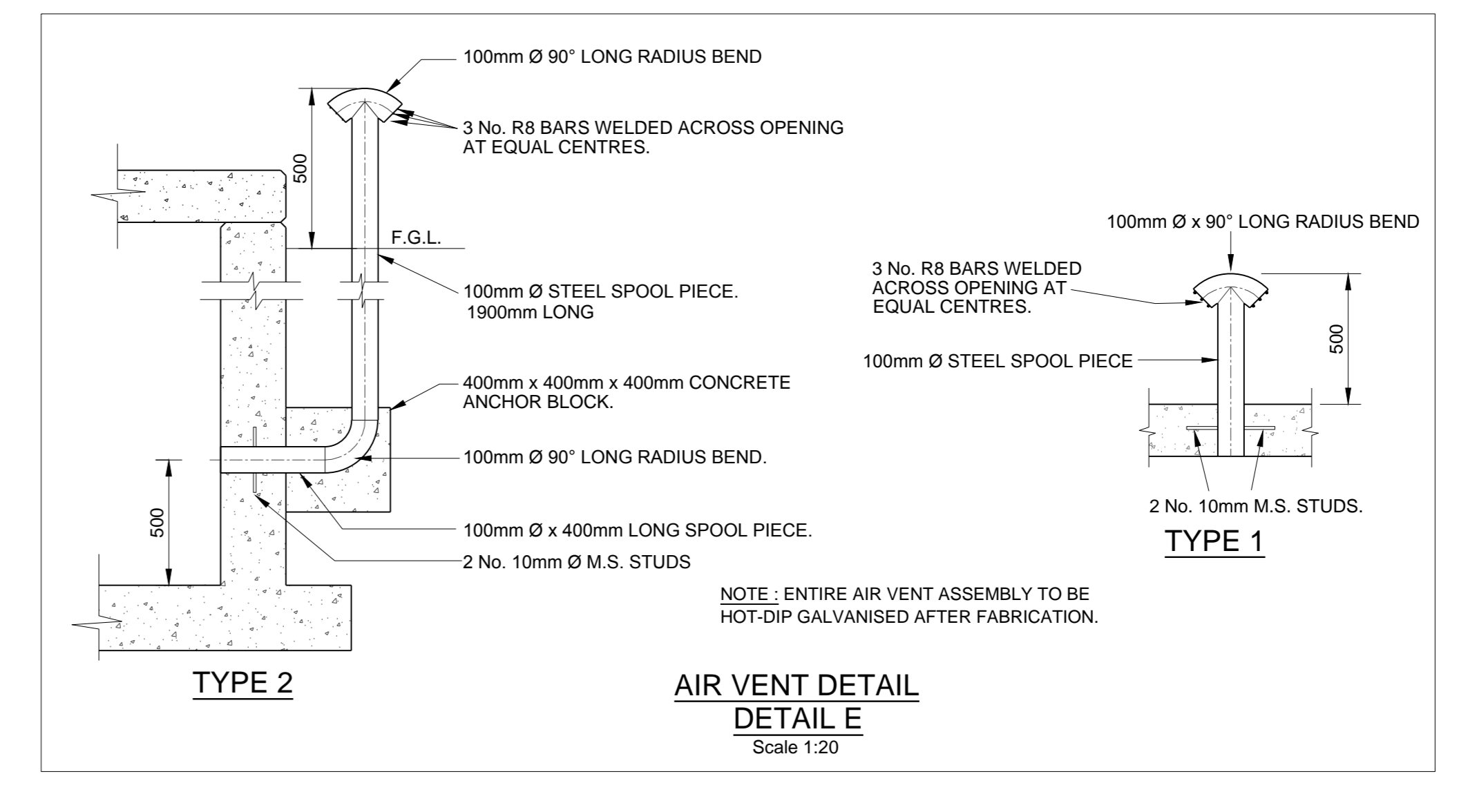
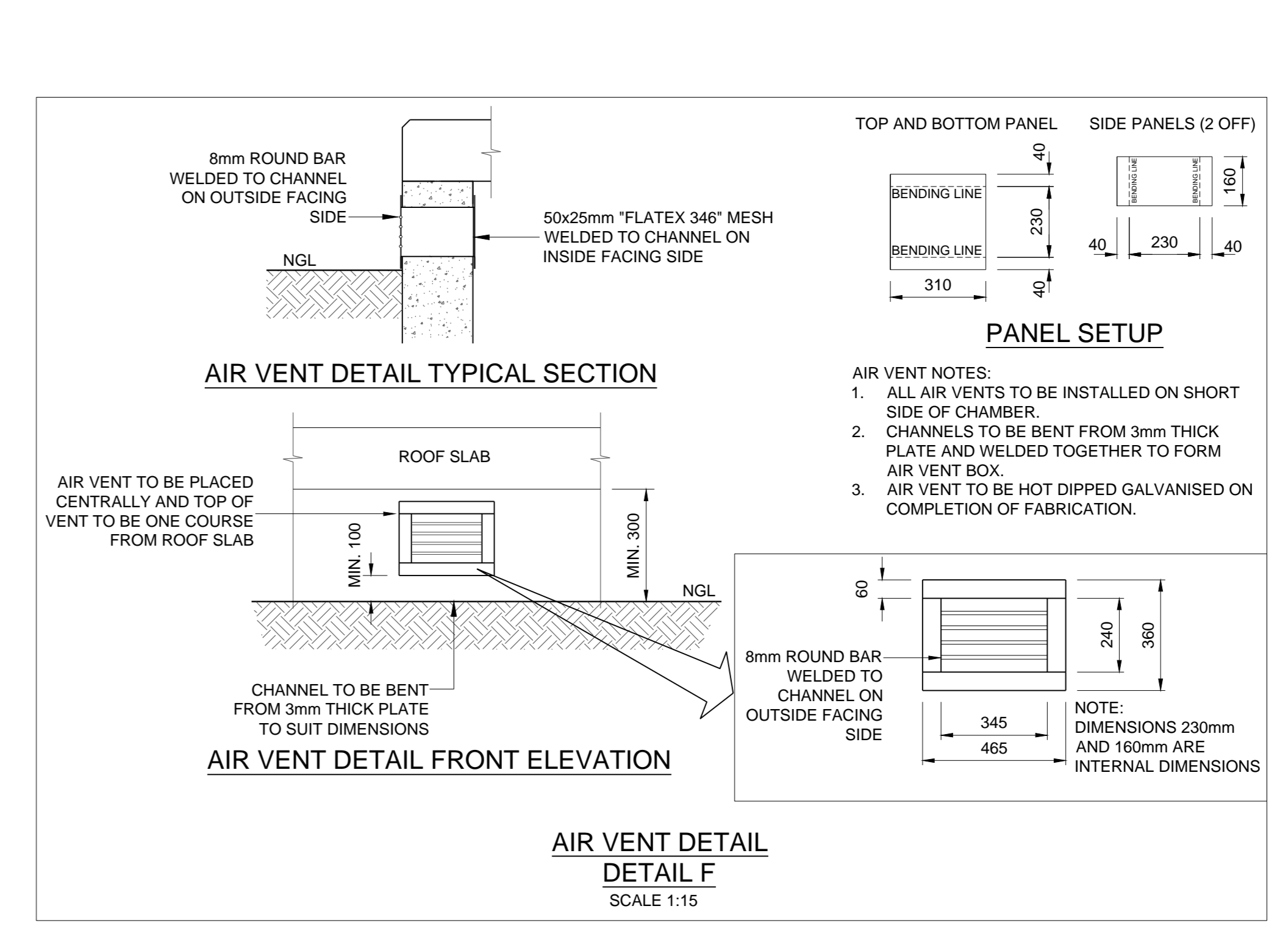
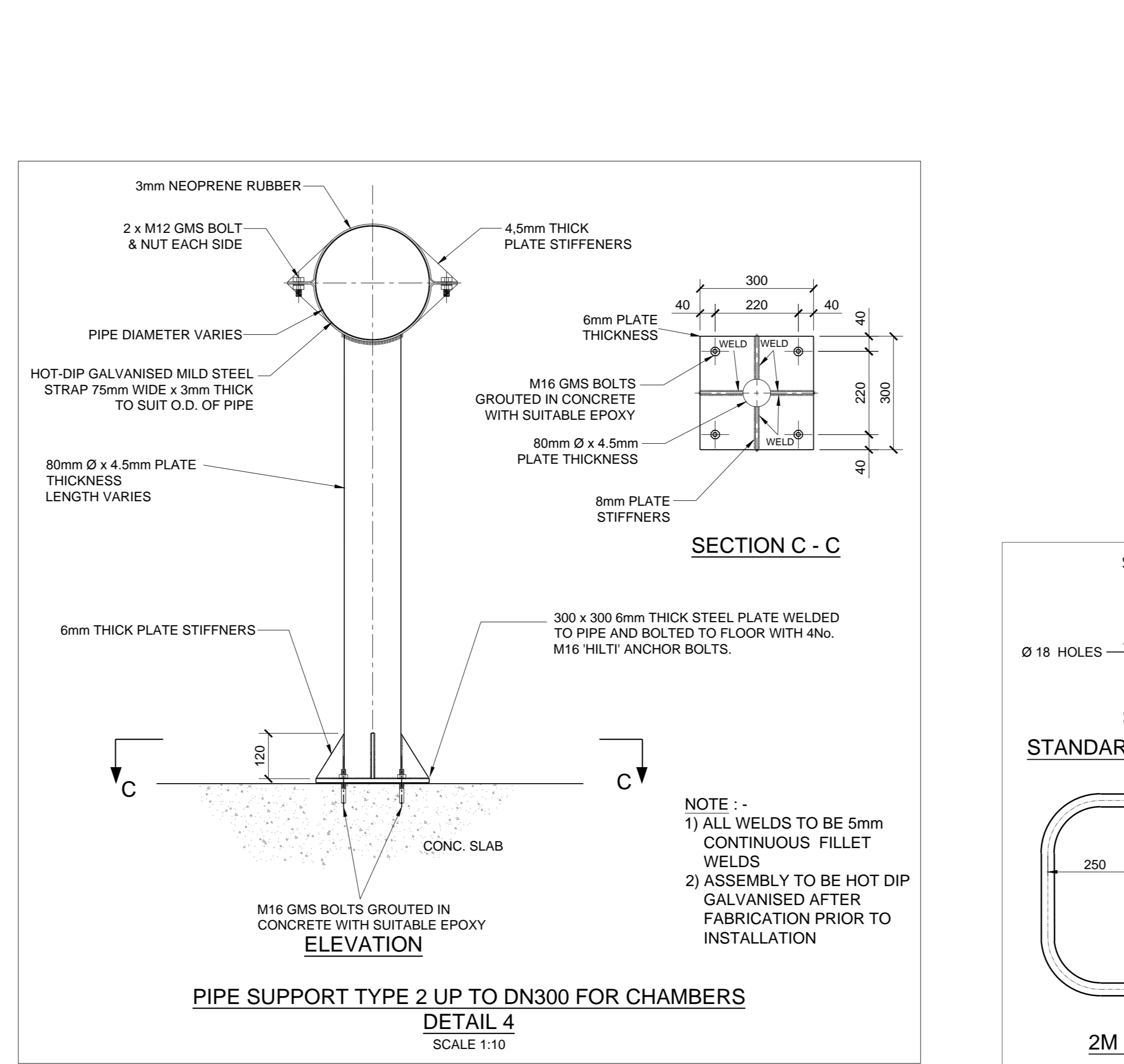
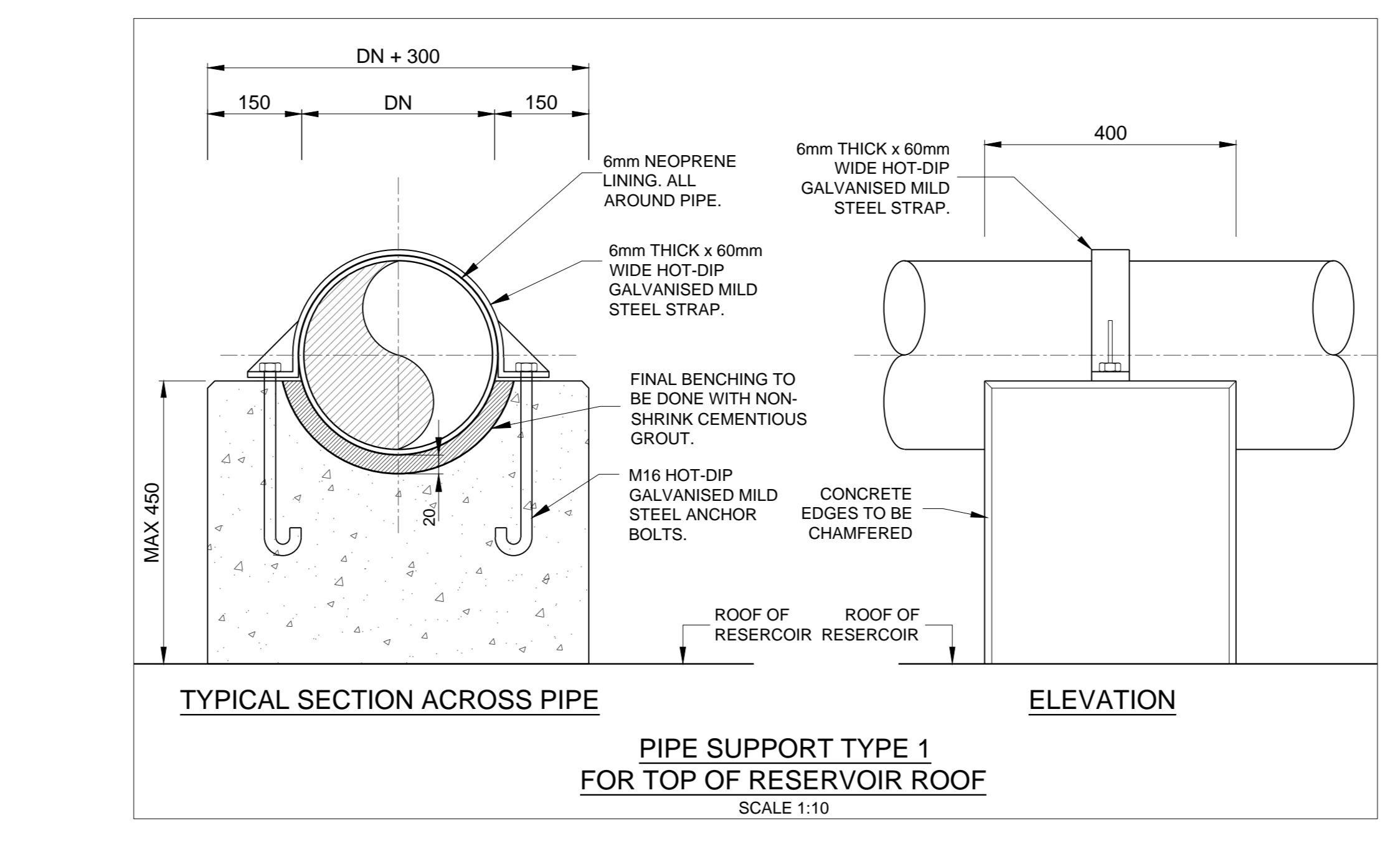
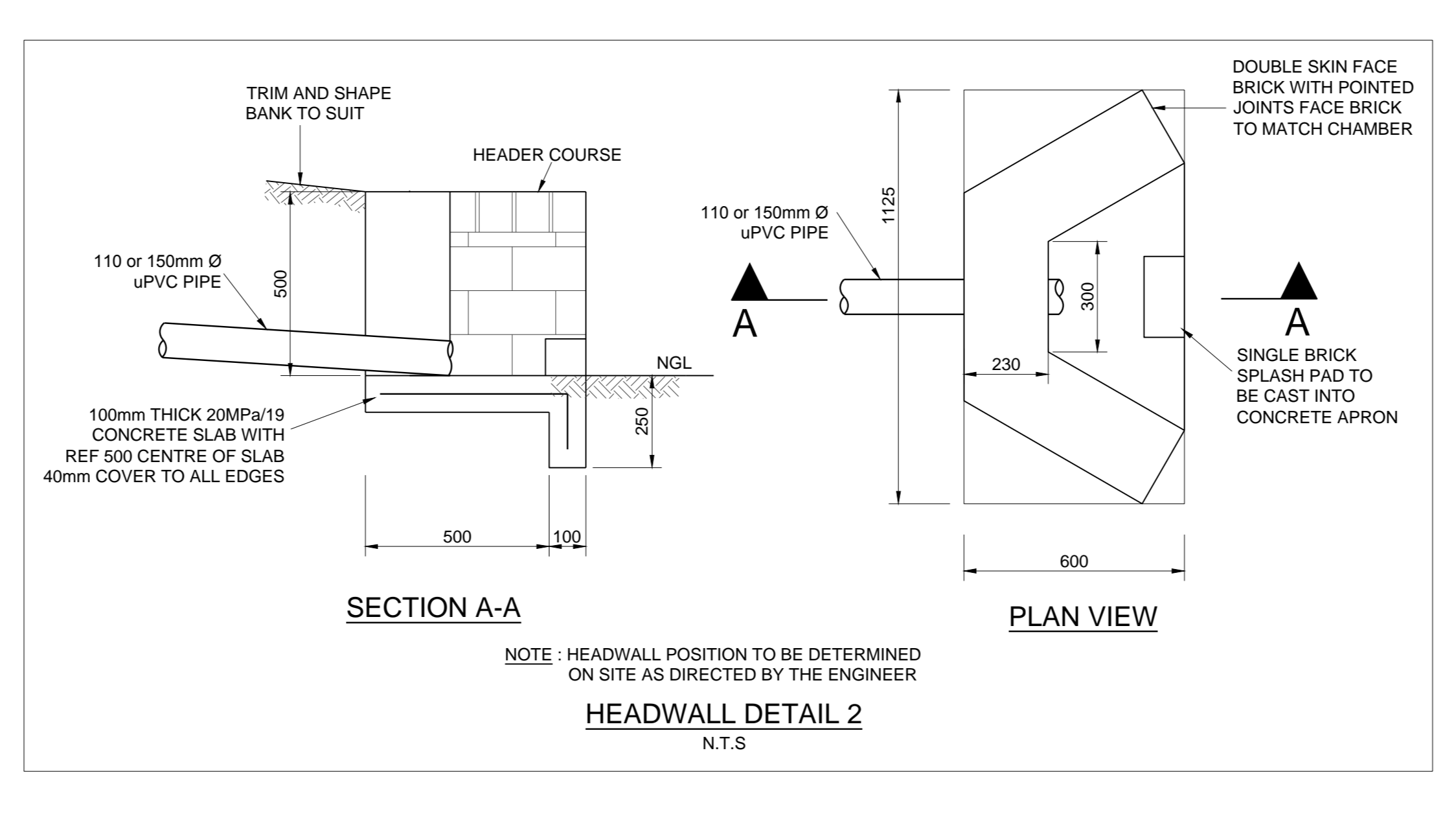
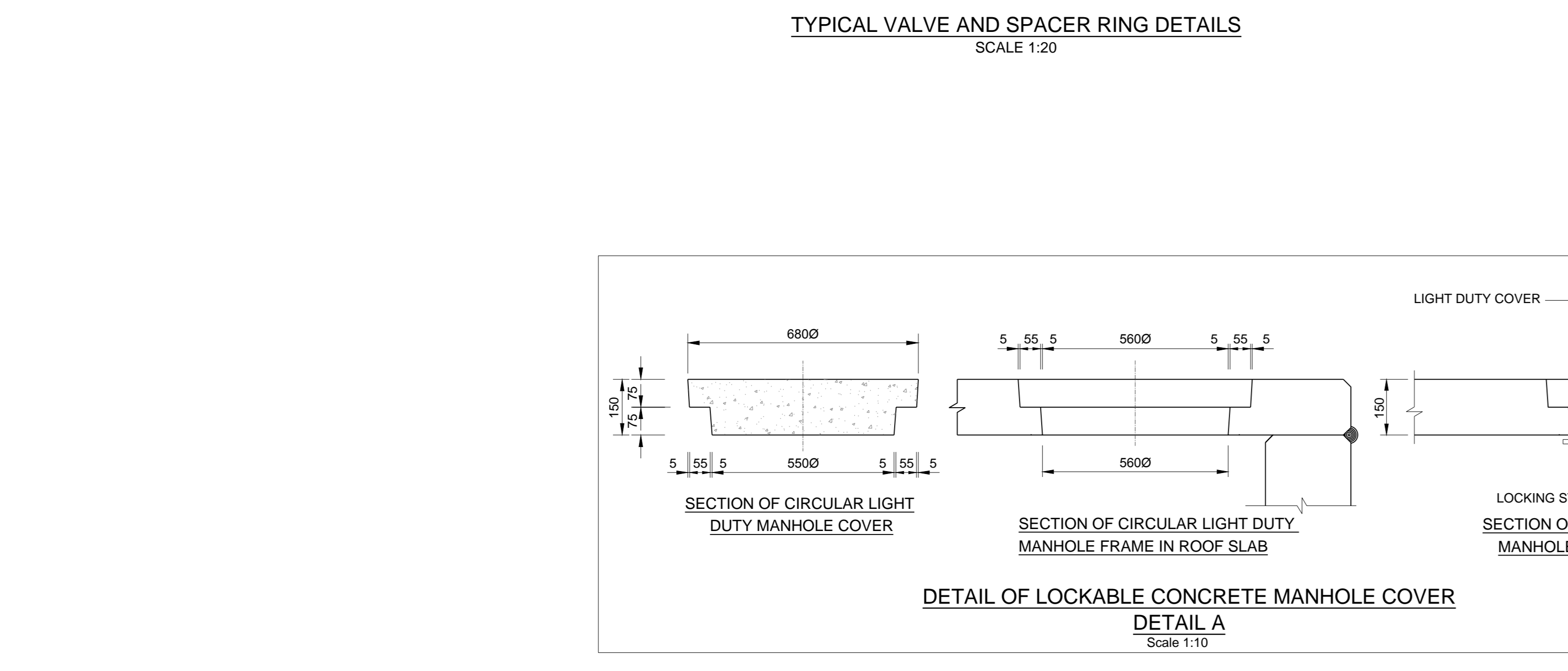
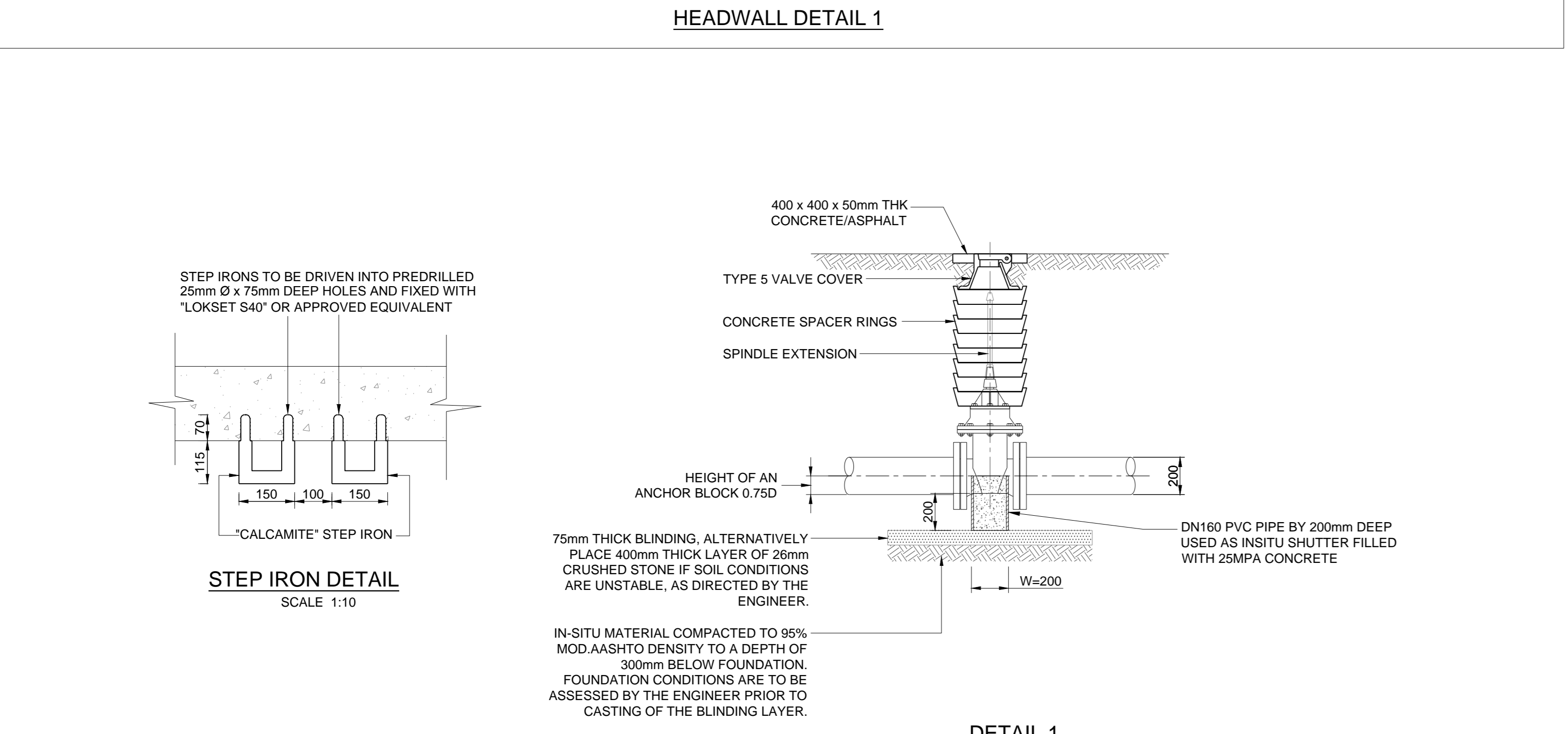
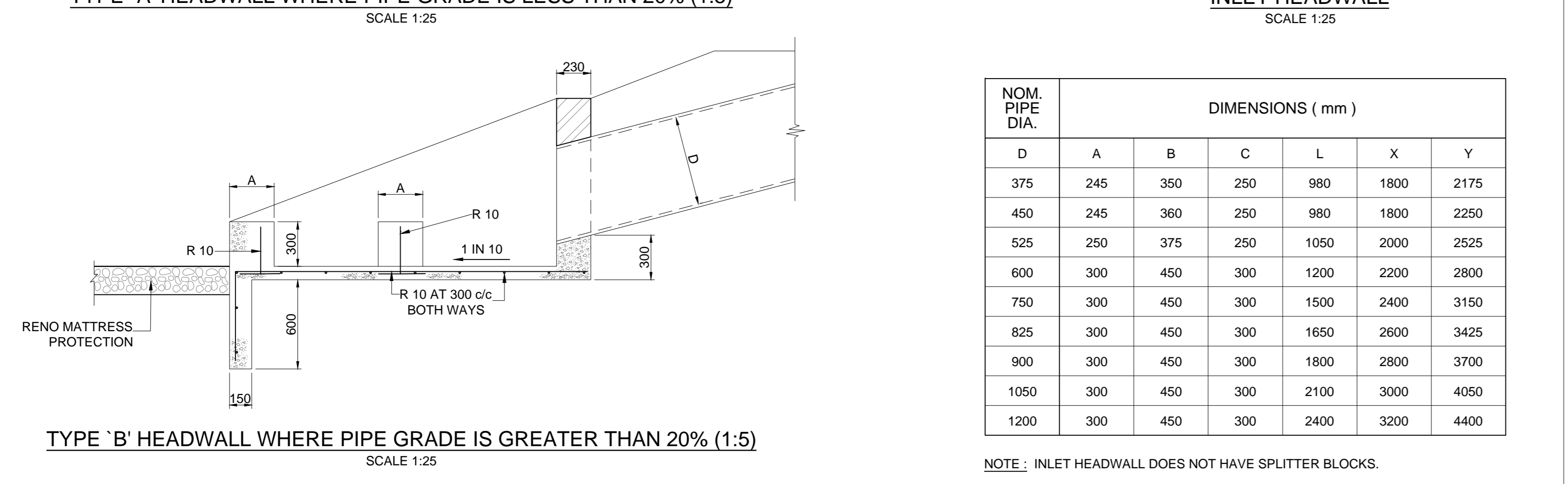
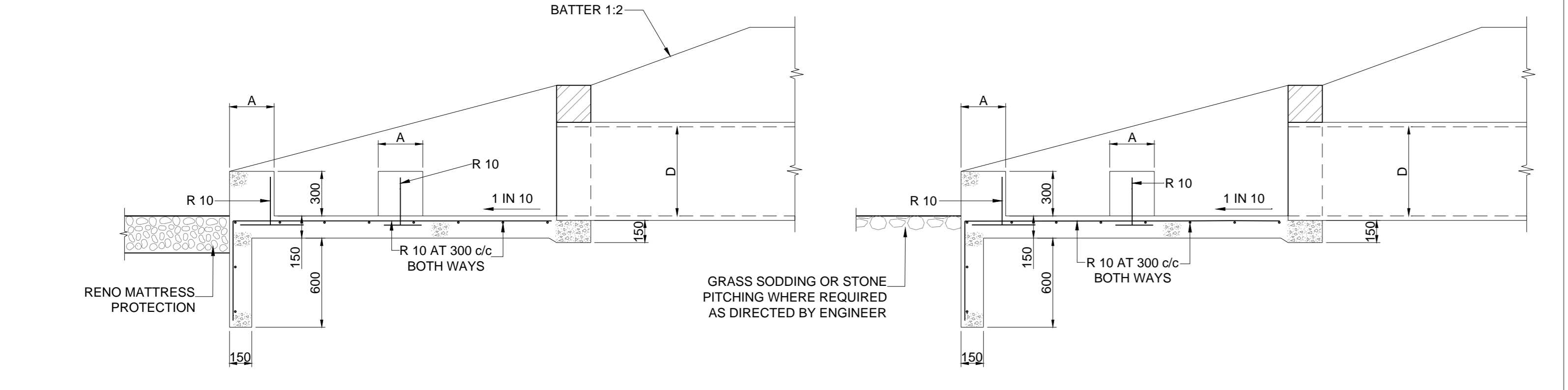
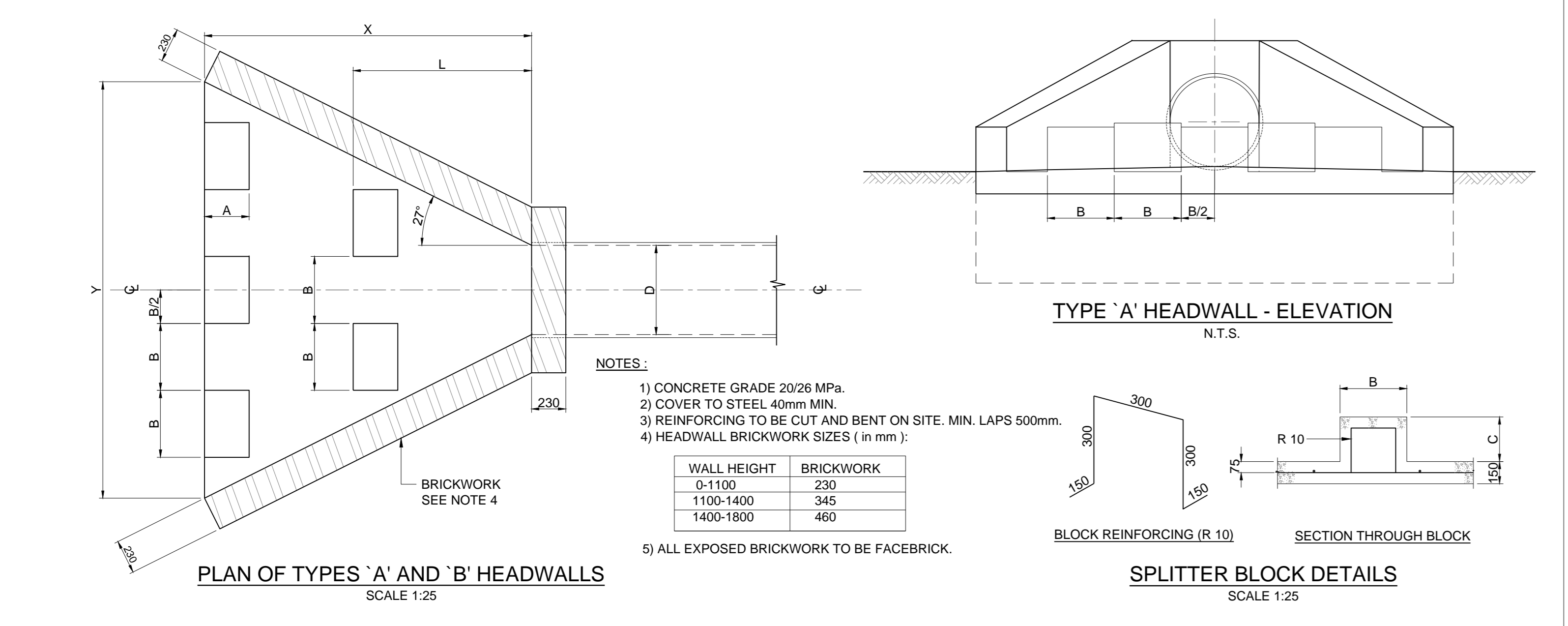
Section

Drawing Title
DN450 INLET, DN500 OUTLET AND DN450 CROSS CONNECTION PIPELINE PLAN AND LONG SECTION

Scales: AS SHOWN
Designed: D.Ramghulam Date: June 2018
Checked: A.Goorun Drawn: A. Faro

Area Engineer
Manager
Director (Water)
Executive Director

Drawing No. _____ Sheet 8 Rev. 0



REDUCED PLAN USE SCALE BELOW

70mm ON ORIGINAL PLAN

LEGEND

EXISTING UNDERGROUND SERVICES ARE AS SHOWN BELOW.

SEWERS AND M.H.'S
STORM WATER DRAINS AND M.H.'S
WATER MAINS AND VALVES
ELECTRICITY CABLES
G.P.O TELEPHONE CABLES
OIL PIPELINES

CONSULTANT:

NAIDU CONSULTING

1st Floor Tel: +27 (0) 31 265 6607
No.5 The Boulevard Fax: +27 (0) 31 265 6011
West Way Office Park E-mail: info@naiduconsulting.com
Westville, Durban

DRAWING No.: G108-52-5257 REV. 0

FOR TENDER

Ref. Drg.	Description

Revision	Date	Description
0	01-2019	ISSUED FOR TENDER

NOTE: No construction work to commence until base and services/equations have been completed.

Acquisitions completed:

Date	Engineer	NORTH	POINT

Service	Checked	Signature
UNDERGROUND SERVICES		
S.W DRAINS		
SEWERS		
WATERMANS		
G.P.O CABLES		
ELECTRIC CABLES		
S.A.R CABLES		
E.S.C CABLES		
OIL PIPE LINE		

NOTE: Only underground services affected by new construction are shown. Care must be taken during excavations for road foundations/trenches etc. to avoid damage to underground services such as sewer/drain/cables, watermain and connections wherever possible these must be located before work begins.

Contract No. _____

Project Title

MASETJABA RESERVOIR
CONSTRUCTION OF A 15ML REINFORCED CONCRETE RESERVOIR, PIPELINES AND ASSOCIATED WORKS

Section

Drawing Title

STANDARD ASSOCIATED DETAILS

Scales: AS SHOWN

Designed: D.Ramghulam Date: June 2018

Checked: A.Goonun Drawn: N.Adams

Chief Area Engineer

Manager

Director (Water)

Executive Director

Drawing No. _____ Sheet 9 Rev. 0

FOR TENDER

CLIENT:



LEGEND

- EXISTING UNDERGROUND SERVICES ARE AS SHOWN BELOW.
- SEWERS AND M.H'S
 - STORM WATER DRAINS AND M.H'S
 - WATER MAINS AND VALVES
 - ELECTRICITY CABLES
 - G.P.O TELEPHONE CABLES
 - OIL PIPELINES

CONSULTANT:



1st Floor Tel : +27 (0) 31 265 6007
 No.5 The Boulevard Fax : +27 (0) 31 265 6011
 West Way Office Park E-mail : info@naiduconsulting.com
 Westville, Durban

DRAWING No.: G108-52-5259 REV. 0

Ref Drg.	Description

0	01-2019	ISSUED FOR TENDER
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Revision	Date	Description

NOTE: No construction work to commence until land and servitude acquisitions have been completed.

Acquisitions completed:

Date	Engineer	NORTH	POINT

NOTE: Only underground services affected by new construction are shown. Care must be taken during excavations for road foundations, trenches etc. to avoid damage to underground services such as sewers, drains, cables, water mains and connections. Wherever possible these must be located before work begins.

Contract No.

Project Title
MASETJABA RESERVOIR
 CONSTRUCTION OF A 15ML REINFORCED CONCRETE RESERVOIR, PIPELINES AND ASSOCIATED WORKS

Section

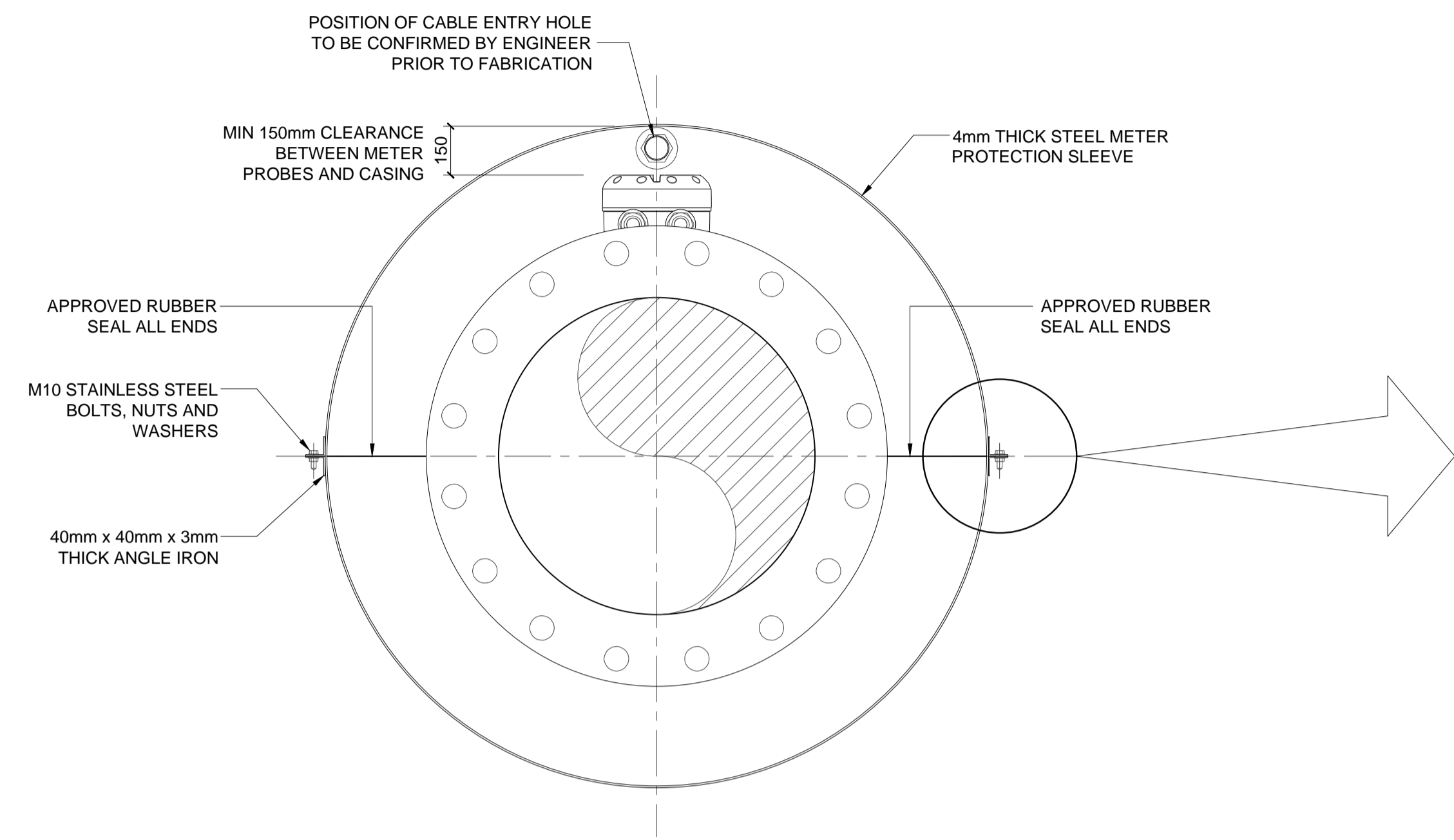
Drawing Title
DN300 METER INSTALLATION ON DN500 OUTLET PIPELINE

Scales : AS SHOWN
 Designed : D.Ramghulam Date : June 2018
 Checked : A.Goorun Drawn : A. Faro

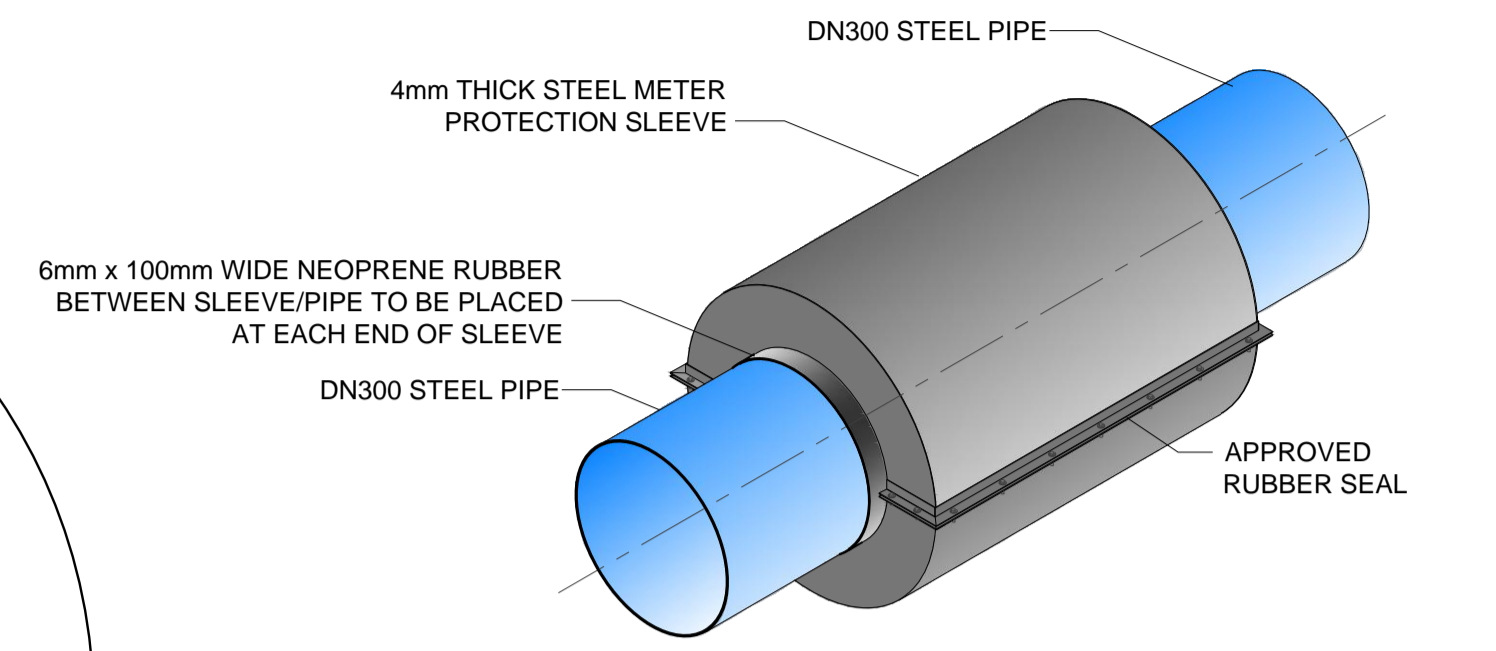
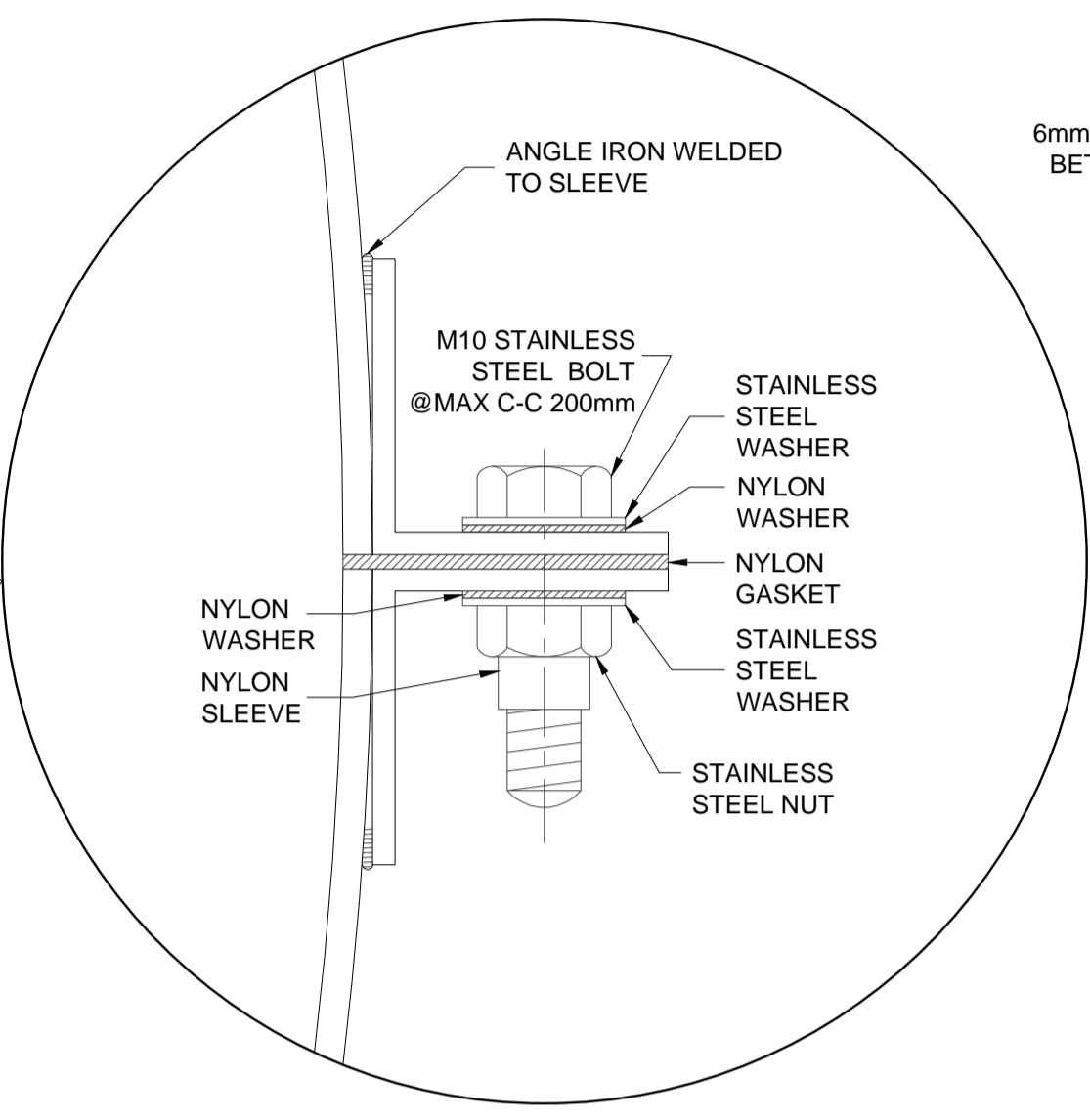
Area Engineer
 Manager
 Director (Water)
 Executive Director

Drawing No.	Sheet	11	0

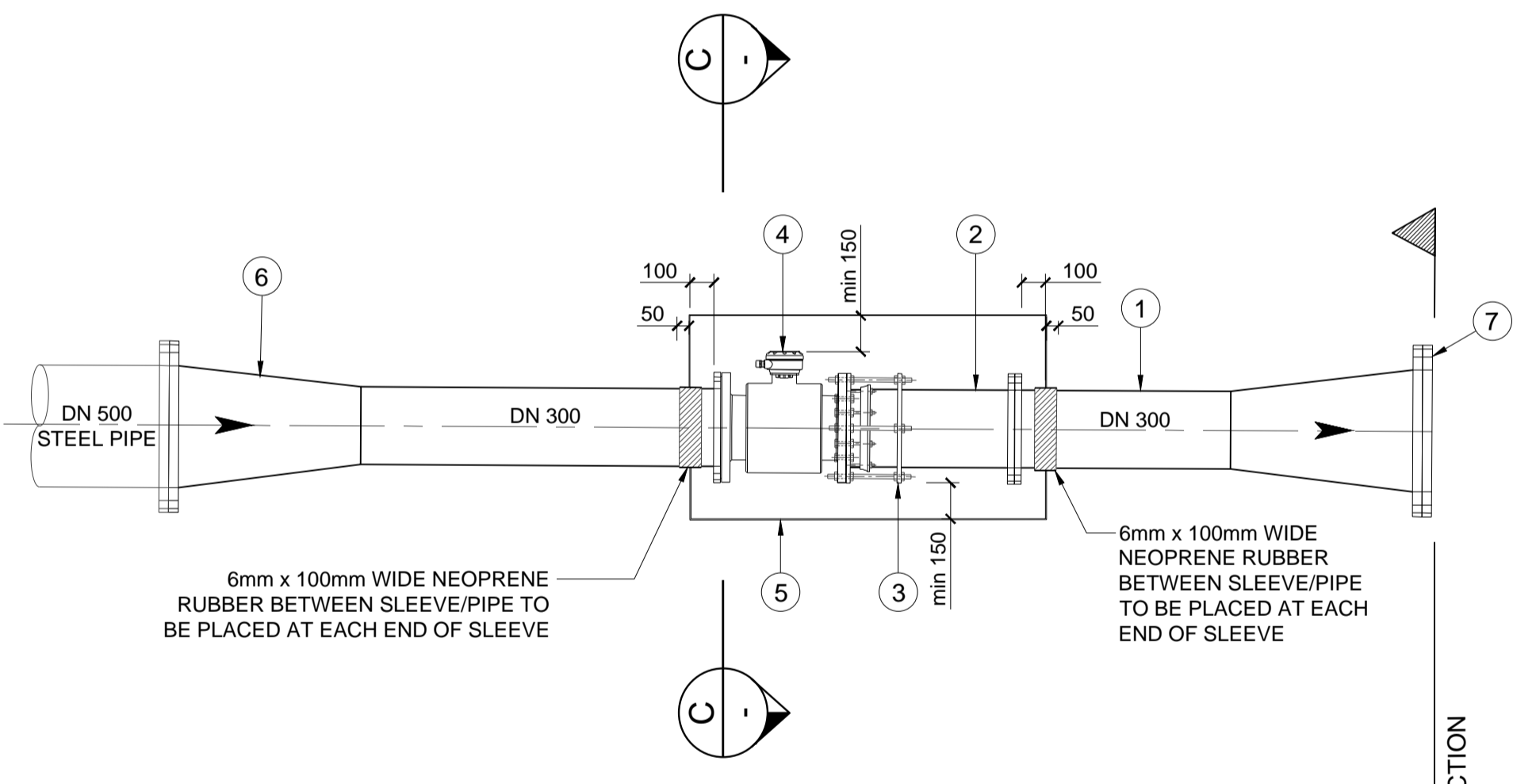
FOR TENDER



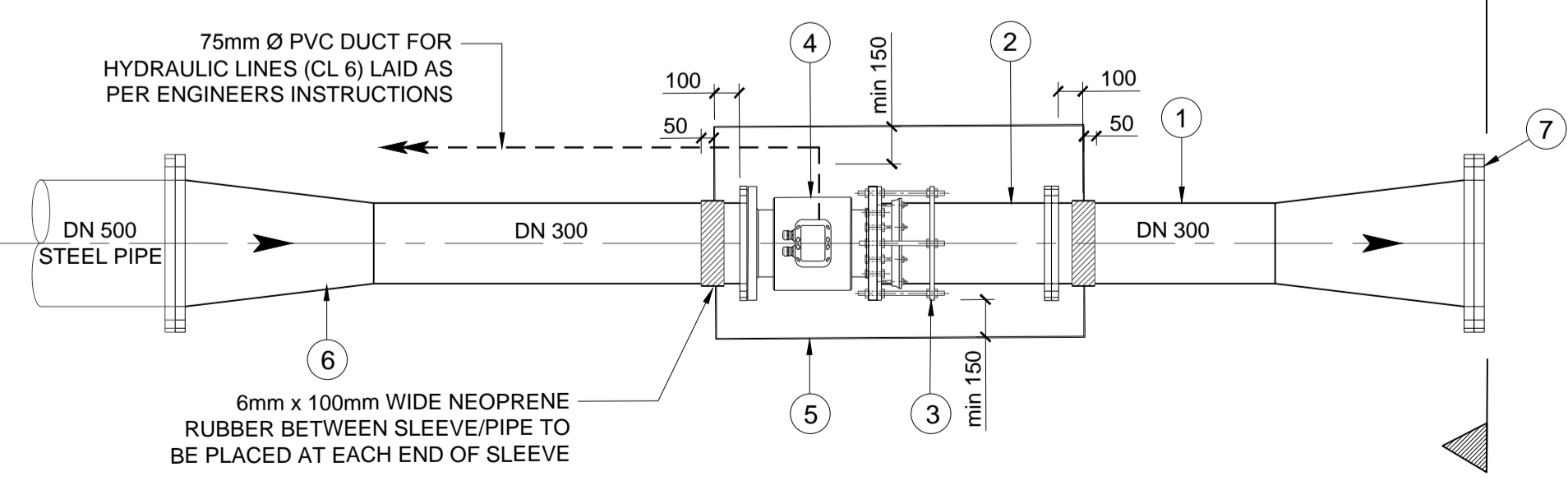
SECTION C
 SCALE 1:10



ISOMETRIC VIEW OF METER PROTECTION SLEEVE
 N.T.S.



ELEVATION
 SCALE 1:100



PLAN
 SCALE 1:100

ITEM NO	NOM DIA	DESCRIPTION	DIMENSIONS (mm)				No. OF
			A	B	C	F/F	
1	DN500 x DN300	SPECIAL: 800mm LONG F/F TAPER WELDED TO DN300 x 900mm LONG STRAIGHT PIPE, F.B.E.				1700	1
2	DN300	SPOOL PIECE WITH FLANGE PLACED 250mm FROM UPSTREAM END, F.O.E., OTHER END PLAIN ENDED, P.C., (FINAL LENGTH TO BE DETERMINED ON SITE PRIOR TO FABRICATION)				750	1
3	DN300	VIKING JOHNSON RESTRAINED FLANGE ADAPTOR OR SIMILAR APPROVED					1
4	DN300	METER PN16 (KROHNE OPTISONIC 3400) OR SIMILAR APPROVED.				500	1
5		METER PROTECTION SLEEVE AS PER DETAILS					1
6	DN500 x DN300	SPECIAL: 800mm LONG F/F TAPER WELDED TO DN300 x 1500mm LONG STRAIGHT PIPE, F.B.E.				2300	1
7	DN500	BLANK FLANGE					1

NOTES:
 ALL SPECIALS TO BE EPOXY COATED (S.F.E) TO PROJECT SPECIFICATIONS UNLESS OTHERWISE STATED. ALL PIPE TO BE TO SANS 719, GRADE X42, 8mm THICK.
 ALL FLANGES TO BE TO TABLE 1600/3 (SANS 1123 - 2011).
 IF FACE TO FACE DIMENSION OF FITTINGS DIFFER TO ACTUAL THE CONTRACTOR MUST INFORM THE ENGINEER PRIOR TO PIPE FABRICATION.

ABBREVIATIONS :	
DN - DIAMETER NOMINAL	F.O.E - FLANGED ONE END
OD - OUTSIDE DIAMETER	F.B.E - FLANGED BOTH ENDS
ID - INSIDE DIAMETER	F.A.R - FLANGED ALL ROUND
M.S - MILD STEEL	F/F - FACE TO FACE DIMENSION
S.S - STAINLESS STEEL	C/F - CENTRE TO FACE DIMENSION
H.D.G.M.S - HOT DIPPED GALVANISED MILD STEEL	L.R.B - LONG RADIUS BEND
G.M.S - GALVANISED MILD STEEL	S.R.B - SHORT RADIUS BEND
C.I - CAST IRON	P.C. - PLAIN END COATED
F.R.L - FINAL ROAD LEVEL	P.E. - PLAIN END (FOR WELDING)

