

COGC STANDARD DESIGN

2250mm SEWAGE PUMP STATION

DRAWING LIST		
DRAWING NUMBER	REV	DESCRIPTION
2019.COGC.STD.2250.01	P3	TITLE & INDEX SHEET
2019.COGC.STD.2250.02	P2	SEWAGE PUMP STATION PLAN
2019.COGC.STD.2250.03	P2	SEWAGE PUMP STATION SECTION
2019.COGC.STD.2250.04	P1	SEWAGE PUMP STATION DETAILS
2019.COGC.STD.2250.05	P1	SEWAGE PUMP STATION STRUCTURE DETAIL
2019.COGC.STD.2250.06	P1	SEWAGE PUMP STATION BACKFILL DETAIL
2019.COGC.STD.2250.07	P1	BILL OF MATERIALS
S010	P1	UPPER SHAFT / VALVE CHAMBER AND COVER SLAB
S014	P1	UPPER CHAMBER INSITU JOINT COLLAR DETAILS - OPTION 2

P3	ISSUED FOR APPROVAL	MAH	HS	21/11/19
P2	ISSUE FOR CLIENT REVIEW	SL	HS	01/07/19
P1	ISSUE FOR CLIENT REVIEW	SL	HS	07/06/19
P0	ISSUE FOR CLIENT REVIEW	SL	HS	15/03/19
REV	AMENDMENT	BY	APP	DATE

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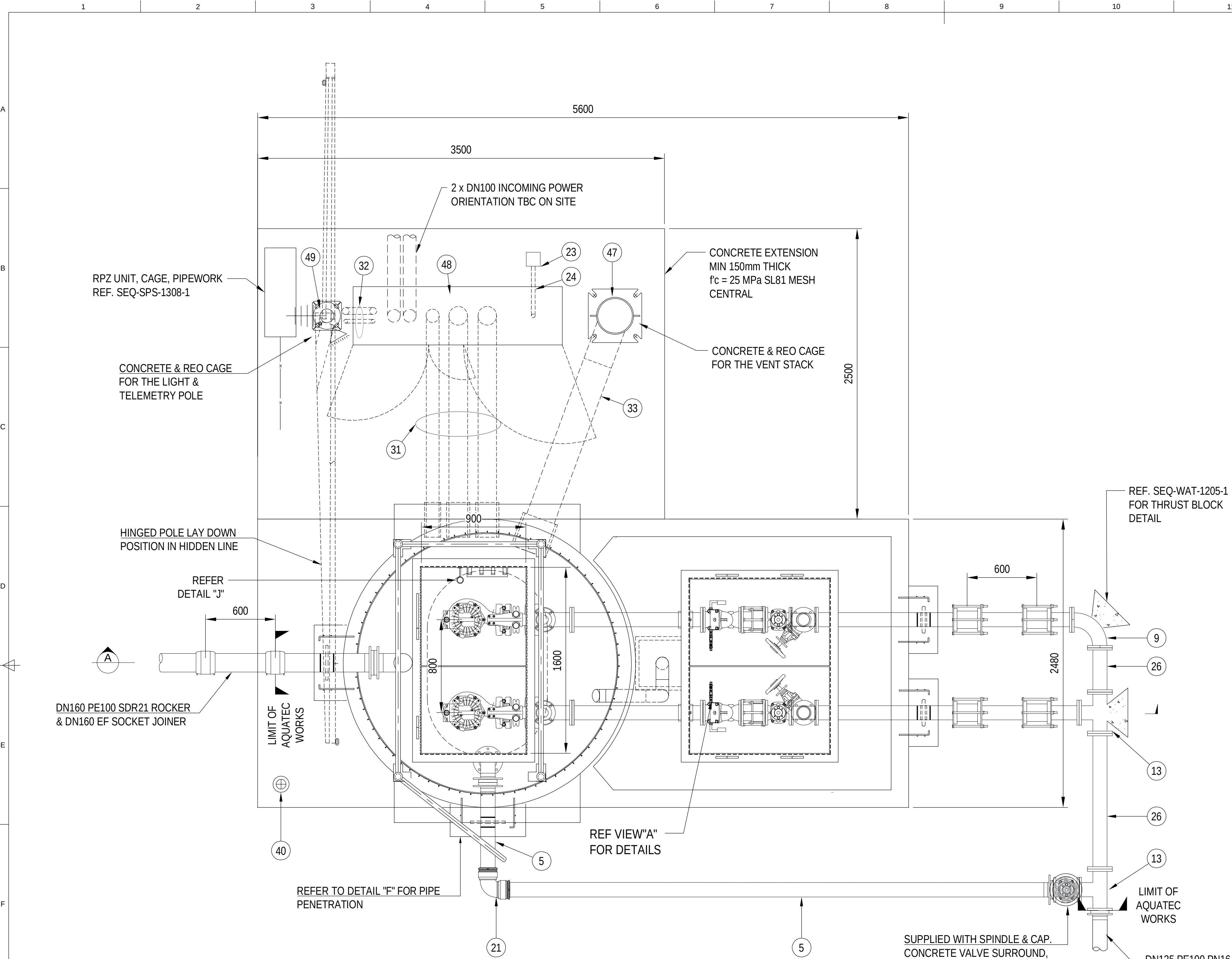


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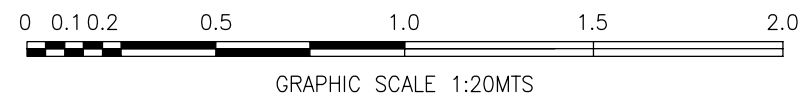
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CITY OF GOLD COAST
STANDARD DESIGNS
SEWAGE PUMP STATION - Ø2250
TITLE & INDEX SHEET

Drawing No. 2019.COGC.STD.2250.01
Revision P3
File Location / Name AQT



PLAN
(COVERS REMOVED FOR CLARITY)
1:20 @ A1



REV	AMENDMENT	BY	APP	DATE
P2	ISSUE FOR CLIENT REVIEW	SL	HS	01/07/19
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CITY OF GOLD COAST
STANDARD DESIGNS
SEWAGE PUMP STATION - Ø2250
PLAN

Drawing No. 2019.COGC.STD.2250.02
Revision P2
File Location / Name AQT

LIST OF DEPARTURES FROM THE SEQ CODE TO AQUATEC DESIGN (2.25m DIA. WET WELL WITH INTRINSIC VALVE CHAMBER)		
ITEM NO.	DEPARTURES	ADVANTAGES OF DEPARTURE
1	PRECAST PUMP STATION INSTEAD OF CAST-INSITU PUMP STATION (REFER TO DRAWING No. 2019.COGC.STD.2250.05 FOR STRUCTURAL DETAILS)	ELIMINATING LABOUR INTENSIVE ONSITE CONCRETE WORKS, INCREASING TIME AND COST EFFICIENCIES.
2	INTRINSIC VALVE CHAMBER WITH BALLAST WEIGHT	TOP VALVE CHAMBER INCREMENT EXERT BALANCED WEIGHT TO BOTTOM STRUCTURE AND MITIGATE OVERHANG / CANTILEVER EFFECT
3	DIEL & PE PIPE PENETRATION & SEAL WITH PE LINER BASED ON AQUATEC PROJECT EXPERIENCE WITH SEQ	BETTER SEAL AND STRENGTHENING OF PIPE PENETRATION
4	ALL VALVE & PIPE SUPPORTS TO BE 316SS PIPE BRACKETS, NOT CONCRETE BLOCKS.	REDUCING ONSITE CONCRETE WORKS
5	AQUATEC PUMP STATION SPECIAL 50MPa CONCRETE DESIGN ALONG WITH PE LINER ARE RATED FOR 100 YEAR LIFE SPAN.	BETTER PROTECT CONCRETE FROM H2S CORROSION
6	ELECTRICAL HD PVC CONDUIT PENETRATION IN WET WELL THROUGH A PE SLEEVE SEALED WITH SIKAFLEX AS PER COGC REQUIREMENT.	BETTER SEAL AND STRENGTHENING OF PIPE PENETRATION
7	PVC VENT PIPE PENETRATION IN WET WELL THROUGH A PE SLEEVE SEALED WITH SIKAFLEX AS PER COGC REQUIREMENT.	BETTER SEAL AND STRENGTHENING OF PIPE PENETRATION
8	VALVE CHAMBER DRAIN TRAP IN THE WET WELL	EASE OF INSTALLATION ON SITE
9	SEPARATE TELEMETRY & LIGHT FROM VENT STACK	EASE OF MAINTENANCE USING A HINGED POLE
10	STILLING TUBE EXTENDED TO WET WELL COVER UNDERSIDE AS PER COGC REQUIREMENT	EASE OF ACCESS OF STILLING TUBE
11	GRAVITY INCOMING SEWER TO BE PE100 AS PER COGC REQUIREMENT	COGC REQUIREMENT FOR DESIGN CONSISTENCY
12	AFTER VALVE CHAMBER THE ROCKER PIPE COMPRISES DUAL GIBULTS, IN LIEU OF 1 x GIBULT & 1 x FL-SOC PIPEWORK	EASE OF MECHANICAL FIT OUT
13	SWING CHECK VALVE WITH LEVER & WEIGHT, IN LIEU OF SWING FLEX CHECK	COGC REQUIREMENT FOR DESIGN CONSISTENCY
14	RISING MAIN TO BE PE100 AS PER COGC REQUIREMENT	COGC REQUIREMENT FOR DESIGN CONSISTENCY
15	NO DAVIT BASE, ANCHOR POINTS, LADDERS, WELL WASHER, INLET VALVE, HANDGRIPS AS PER COGC REQUIREMENT	COGC REQUIREMENT FOR DESIGN CONSISTENCY
16	THE CONCRETE INSITU BANDS (GATOR WRAP) AROUND EACH JOINT IS NOT REQUIRED ON EVERY PUMP STATION, ONLY IF AQUATEC RECOMMENDS THIS FOR HIGH GROUND WATER OR LARGE PERMANENT TRUNK SEWER PUMP STATIONS.	BETTER SEAL OF PRECAST CONCRETE INCREMENT JOINTS
ALL OTHER MECHANICAL AND ELECTRICAL ITEMS ARE AS PER THE SEQ CODE.		

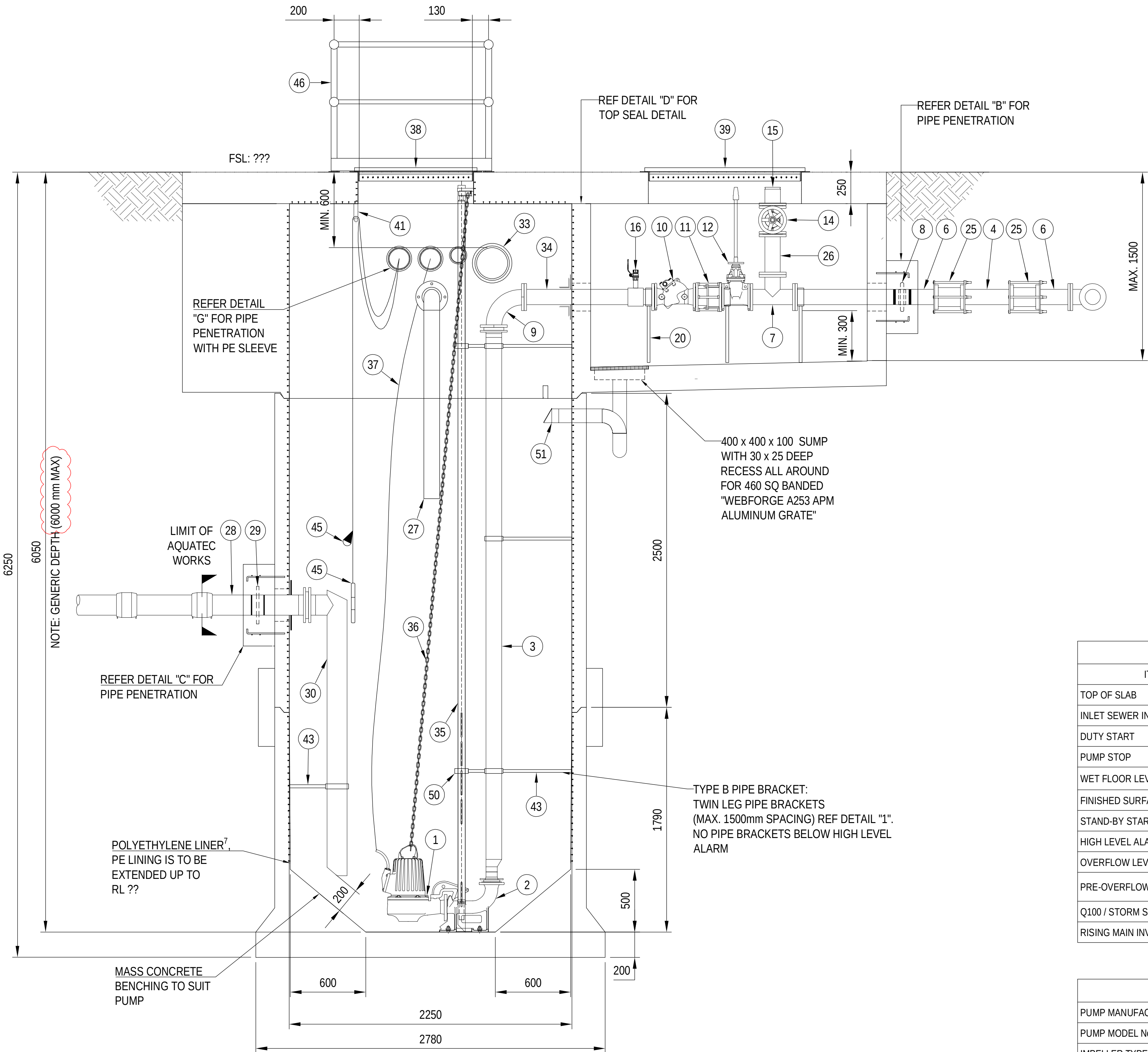
GENERAL NOTES:

1. PUMP STATION TO BE AQUATEC MODEL: PPM2 / ????
2. CONCRETE TYPE - SULPHATE RESISTANT (USE CALCAROUS AGGREGATE FOR SEWAGE OR EFFLUENT)
3. CONCRETE STRENGTH - S50 MPa
4. INTERNAL FINISH SMOOTH TO MEET AS1510 CLASS 2
5. WALL THICKNESS - 115mm WITH MIN. 45mm INTERNAL COVER TO REINFORCEMENT
6. REINFORCEMENT TO COMPLY WITH AS 1302 & AS 1304
7. ALL INTERNAL VERTICAL & COVER OPENING WET WELL SURFACES SHALL HAVE AN APPROVED LIGHT COLORED POLYETHYLENE LINER (MIN. 2.5mm THICK) MECHANICALLY BONDED TO WALL VIA ANCHORS CAST INTO CONCRETE. THE INTERNAL WALLS OF INTEGRAL VALVE CHAMBER TO BE COATED WITH MC EPOXY (2 COATS)
8. ALL HOLES TO BE PRE-CORED
9. ITEM 28 & 30 ARE PE100 PN8 SDR21 TO ENSURE TRANSITION TO DROPPER IS INVERT TO INVERT.
10. WELL WASHER, LADDERS, HANDGRIPS, INLET VALVE ETC. NOT INCLUDED AS PER SEQ SPEC.
11. PROVIDE "HYDROTITE" HYDROPHILIC PROFILE 25 x 7 SEAL CJ-0725-3K ON ALL WALL PENETRATIONS AND ALSO ON INSIDE & OUTSIDE FACE OF ALL WEEP FLANGES
12. LEVEL SWITCHES TO BE PROVIDED FOR OVERFLOW LEVEL AND EMERGENCY BACKUP (PRE OVERFLOW) START LEVEL AS PER SEQ-SPS-1300-6 & COUNCIL REQUIREMENT (BOTH OF THEM TO BE STAND ALONE ITEMS).
13. ALL FIXINGS TO PE LINER SHOULD BE STAINLESS STEEL CHEM ANCHORS WITH 12mm THICK SPONGE NEOPRENE GASKETS (REF. SEQ-SPS-1407-1)
14. CAPS TO BE PROVIDED OVER CONDUITS, NOT TO BE FOAM FILLED.
15. INSIDE OF WETWELL COVERS TO BE MARKED "P1" & "P2".
16. THE PUMP CLOSEST TO THE SWITCHBOARD TO BE LABELLED "P1".
17. CONFINED SPACE SIGNS TO BE PLACED ON THE UNDERSIDE OF THE ACCESS COVERS (NOT ON WETWELL WALLS).
18. WETWELL WATER TIGHTNESS TEST TO BE PERFORMED AS PER SEQ AND AS3735-2001 REQUIREMENTS.
19. ALL FLANGES AND VALVES TO BE DRILLED TO PN16 AS4087 UNO
20. SWITCHBOARD, HINGED TELEMETRY POLE & VENT STACK TO BE POWDER COATED TO MIST GREEN
21. AQUATEC TO INCLUDE 316 SS EYEBOLT INTO THE WALL ABOVE INLET
22. ELECTRICAL SWITCHBOARD DOORS TO HAVE MIN. 600mm CLEARANCE TO ANY SURROUNDING ABOVE GROUND STRUCTURE AS PER AS3000
23. FOR ALL PIPEWORK EXTERNAL TO THE VALVE CHAMBER AND WET WELL PROVIDE SEWER MARKER TAPE AND 5-7mm SCREENINGS/ DRAINAGE GRAVEL
24. PE PIPEWORK SPECIFIC REQUIREMENT AS FOLLOWING TABLE:

	GRAVITY SEWER:	PRESSURE SEWER:
PRESSURE RATING	PE100 SDR21 PN8	PE100 SDR11 PN16
EXTERNAL COLOR	LIGHT GREY SOLID OR BLACK WITH GREY STRIPS	CREAM SOLID OR BLACK WITH CREAM STRIPS
INTERNAL COLOR	WHITE OR LIGHT COLORS	WHITE OR LIGHT COLORS

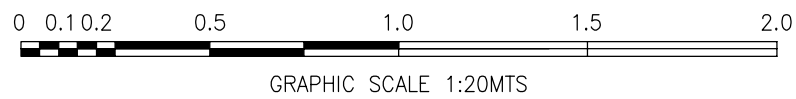
25. ANY DI PIPE EXTERNAL TO THE VALVE CHAMBER AND WET WELL TO BE PE SLEEVED SEWER WRAP.

26. ALL MECHANICAL AND ELECTRICAL DRAWINGS WILL BE RPEQ STAMPED.



PUMP STATION CONTROL LEVELS	
ITEM	LEVEL (m AHD)
TOP OF SLAB	
INLET SEWER INVERT LEVEL	
DUTY START	
PUMP STOP	
WET FLOOR LEVEL	
FINISHED SURFACE LEVEL	
STAND-BY START	
HIGH LEVEL ALARM	
OVERFLOW LEVEL	
PRE-OVERFLOW ALARM	
Q100 / STORM SURGE LEVEL	
ISING MAIN INVERT LEVEL	

PUMP INFORMATION	
PUMP MANUFACTURER	
PUMP MODEL No.	
IMPELLER TYPE	
PUMP CURVE No.	
IMPELLER DIA.	
DUTY POINT (FLOW @ HEAD)	
MOTOR SIZE	



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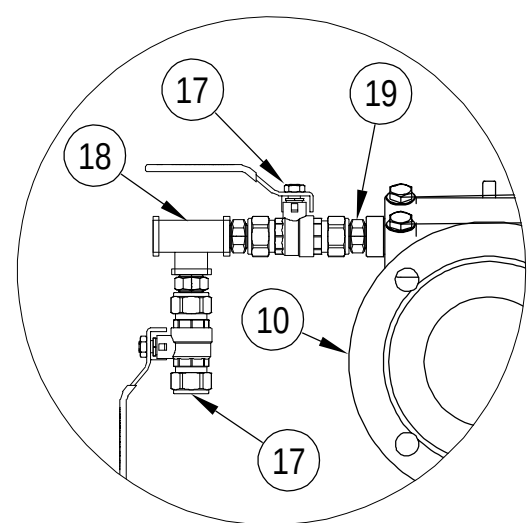


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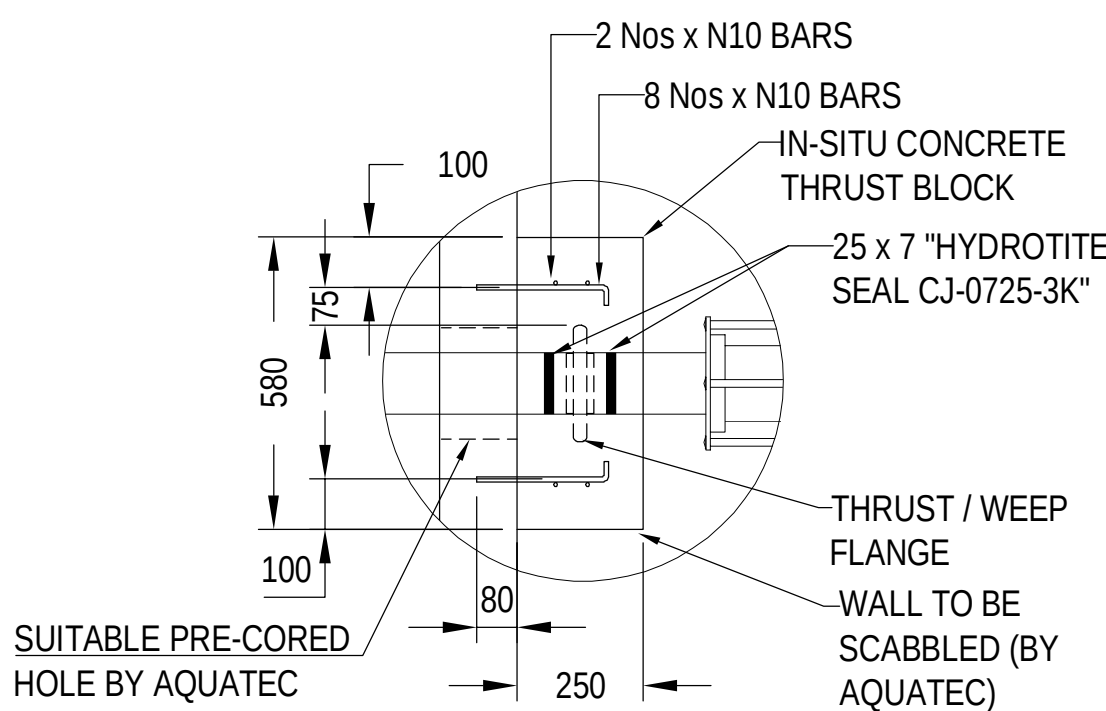
Scale - AS SHOWN @ A1

CITY OF GOLD COAST
STANDARD DESIGNS
SEWAGE PUMP STATION - Ø2250
SECTION & DETAILS

Drawing No. 2019.COGC.STD.2250.03
Revision P2
File Location / Name AQT

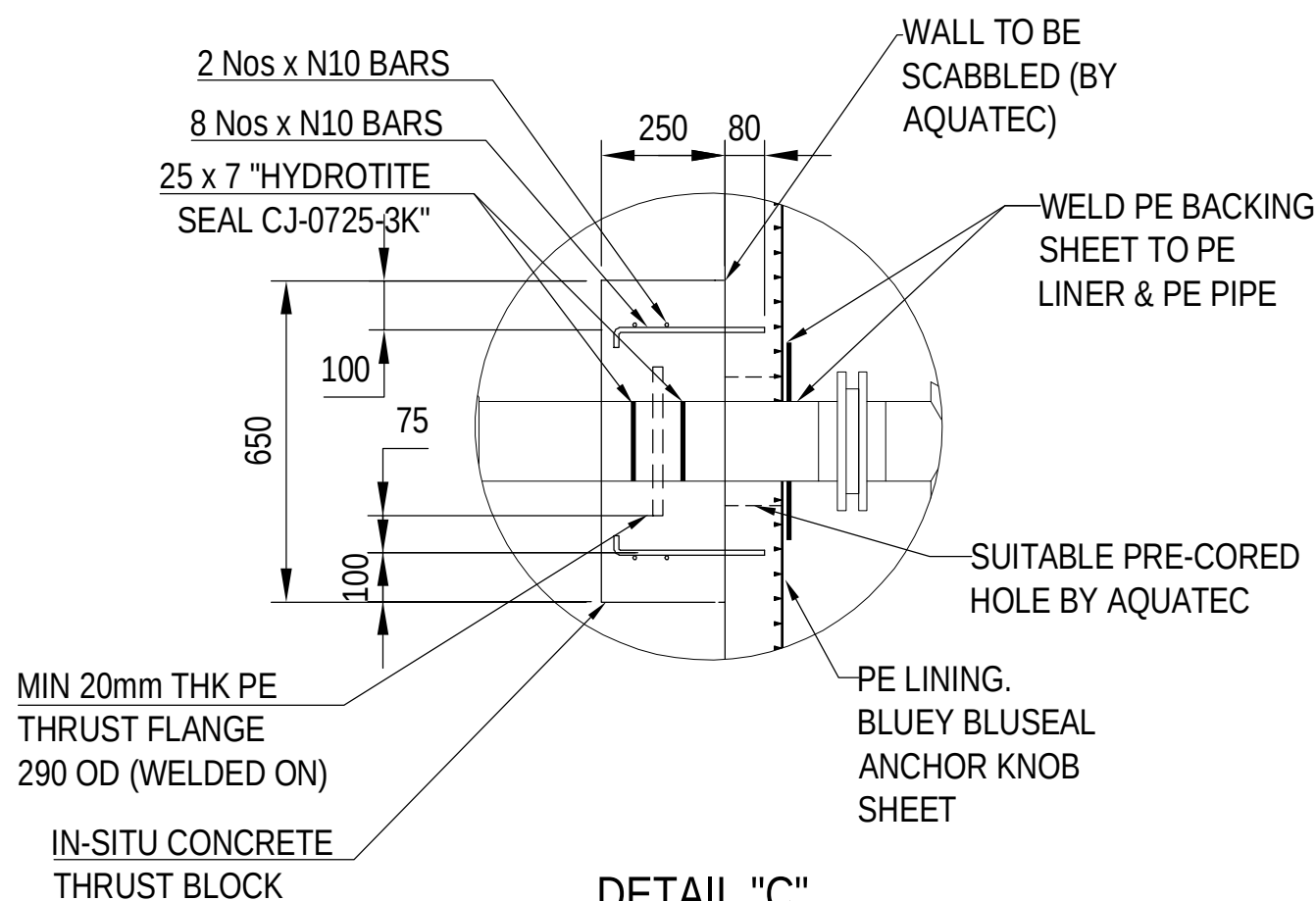


VIEW "A"
(CHECK VALVE BLEEDING)
1:5 @ A1



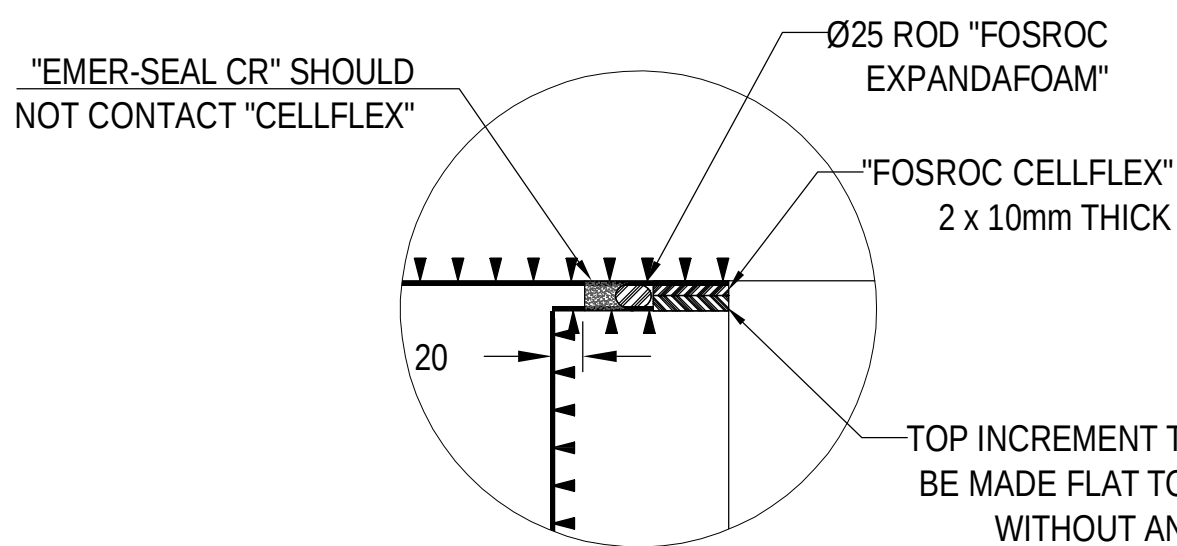
DETAIL "B"
(TYPICAL DN100 DIEI PENETRATION)
AT VALVE CHAMBER
1:15 @ A1

*NOTE:
PENETRATION DETAIL FOR OTHER SIZES OF
PIPEWORK TO BE ENGINEERED AT PROJECT STAGE



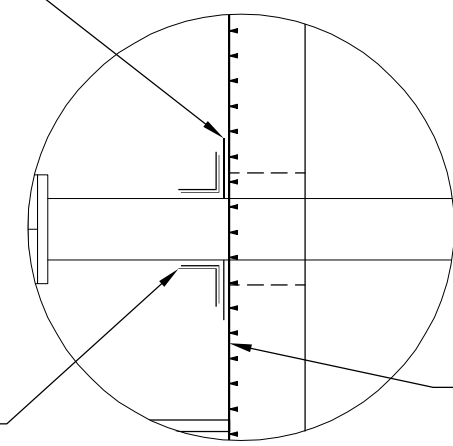
DETAIL "C"
(TYPICAL DN160 PE INLET PENETRATION)
1:15 @ A1

*NOTE:
PENETRATION DETAIL FOR OTHER SIZES OF
PIPEWORK TO BE ENGINEERED AT PROJECT STAGE

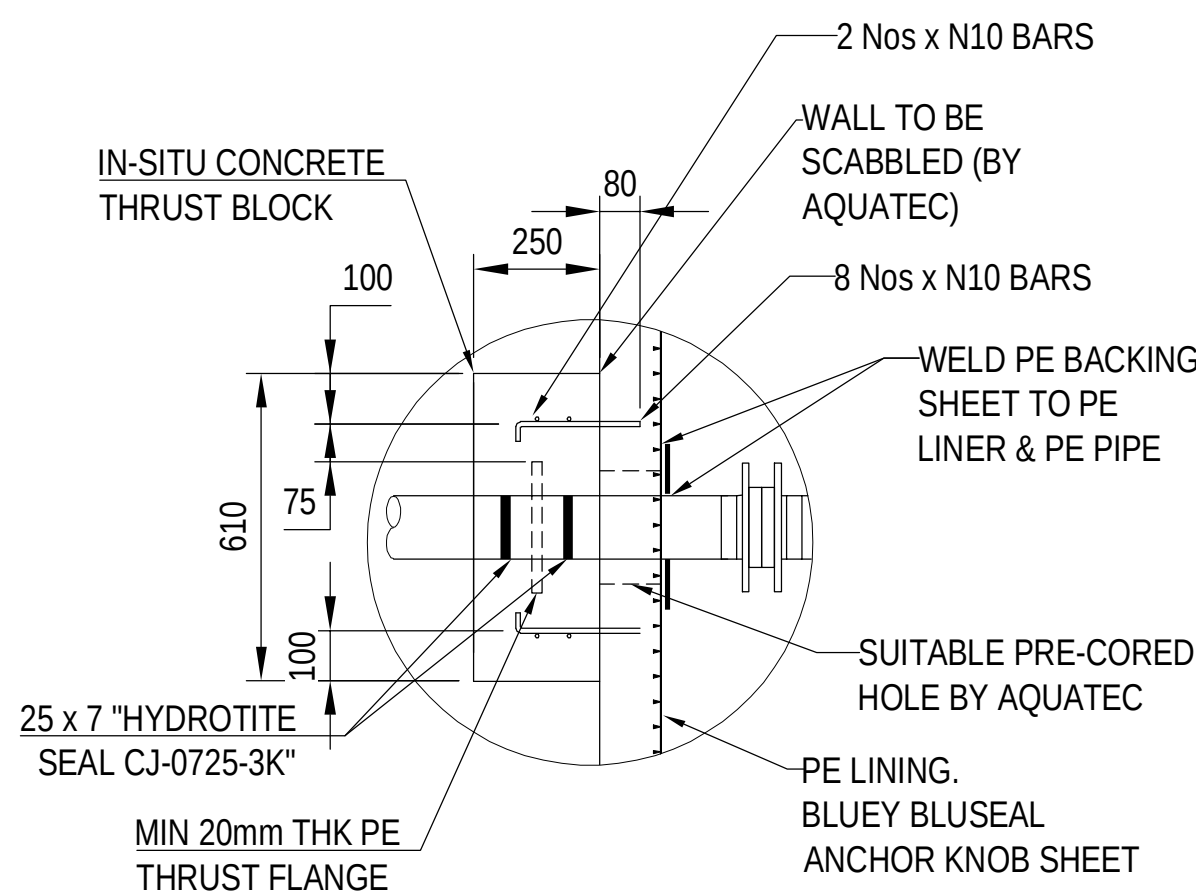


DETAIL "D"
(TOP SEAL DETAILS)
1:5 @ A1

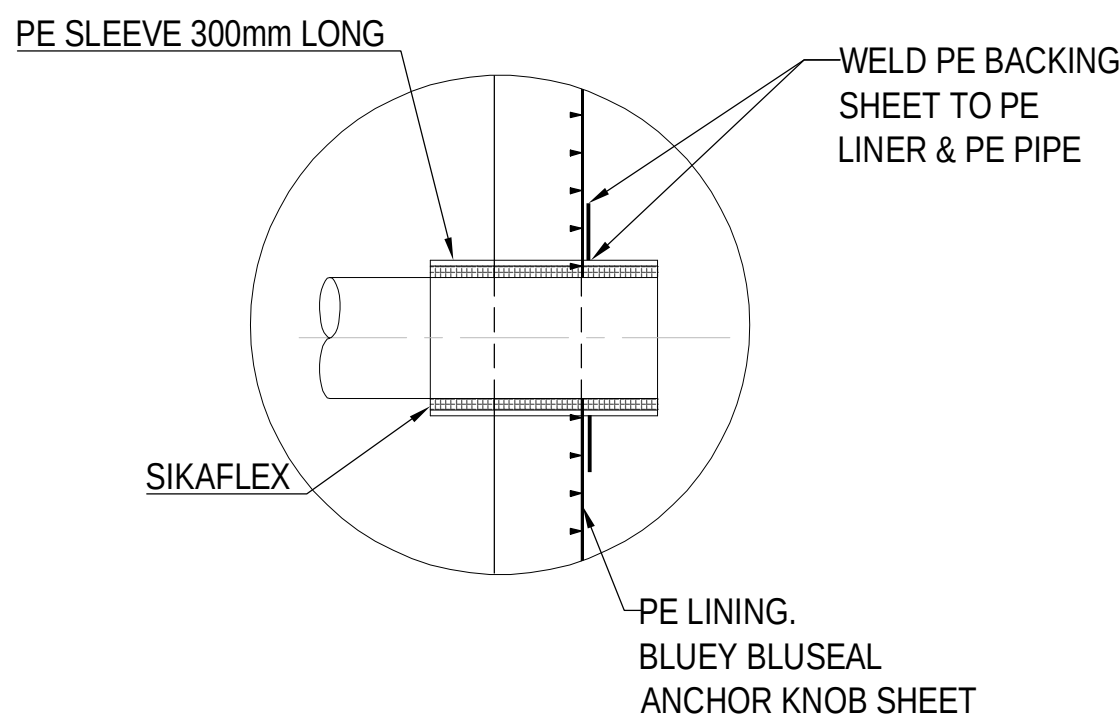
5mm THICK x 100 WIDE PE BACKING PLATE TO
BE TEXTURED ONE SIDE.
TEXTURED SIDE OF BACKING PLATE EXPOSED.
NECK OF PIPE TO BE ROUGHENED (EMERY
PAPER , FLAPPER DISC ETC.) TO ESTABLISH
MATT FINISH TO BONDED AREA WITH GRP
SEALANT STRIP.
WELD PE BACKING PLATE TO PE LINER.



DETAIL "E"
(TYPICAL 100 DIEI PENETRATION)
WET WELL
1:15 @ A1



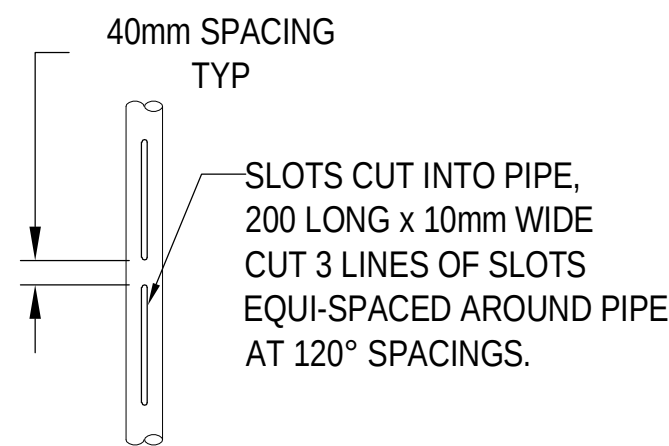
DETAIL "F"
(DN125 PE SCOUR PENETRATION)
1:15 @ A1



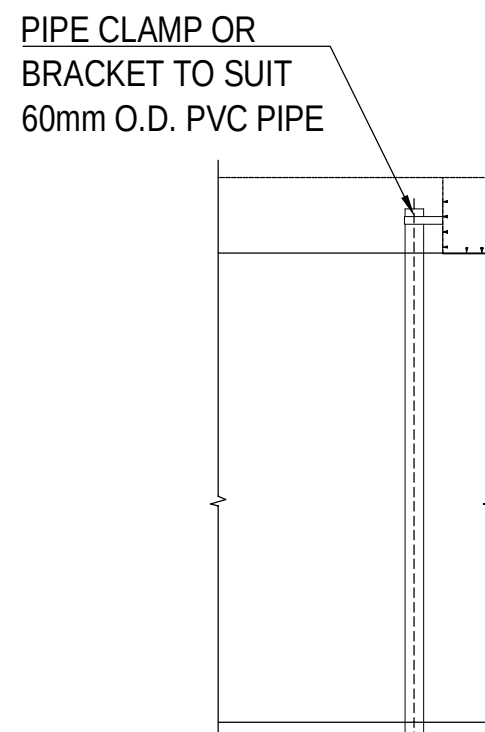
DETAIL "G"
(PE SLEEVE DETAIL FOR PVC CONUIT & PVC
DWV VENT PENETRATION)
1:10 @ A1

NOTE:

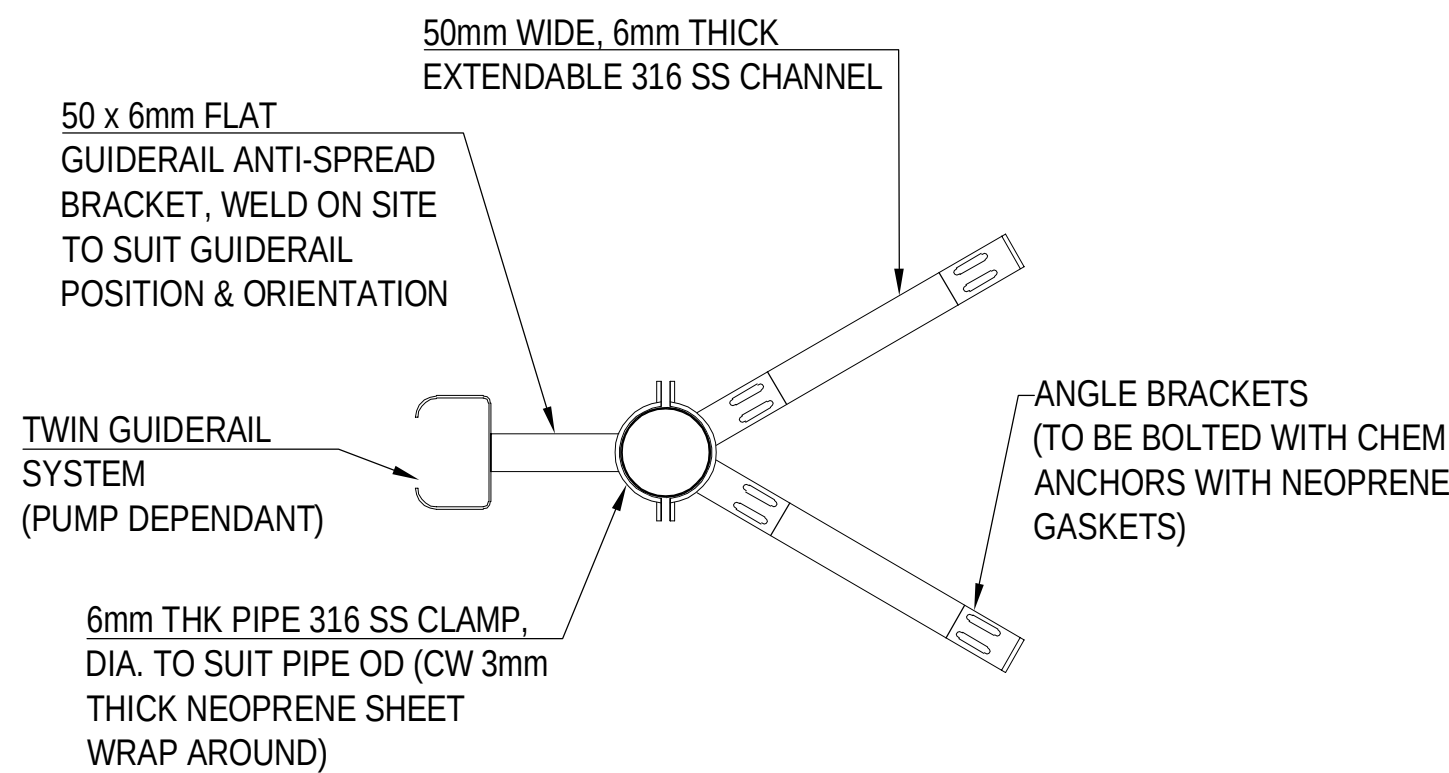
1. DN150 HD PVC CONDUIT CW DN200 PE SDR17 PE SLEEVE
2. DN100 HD PVC CONDUIT CW DN140 PE SDR17 PE SLEEVE
3. DN225 PVC DWV CW DN315 PE SDR 17 PE SLEEVE



DETAIL "K"
(STILLING TUBE
TYPICAL SLOT DETAIL)
1:25 @ A1



DETAIL "J"
(STILLING TUBE ARRANGEMENT)
1:25 @ A1



DETAIL "I"
(TWIN LEG PIPE SUPPORT)
1:10 @ A1

REV	AMENDMENT	BY	APP	DATE
P1	ISSUE FOR CLIENT REVIEW	SL	HS	01/07/19
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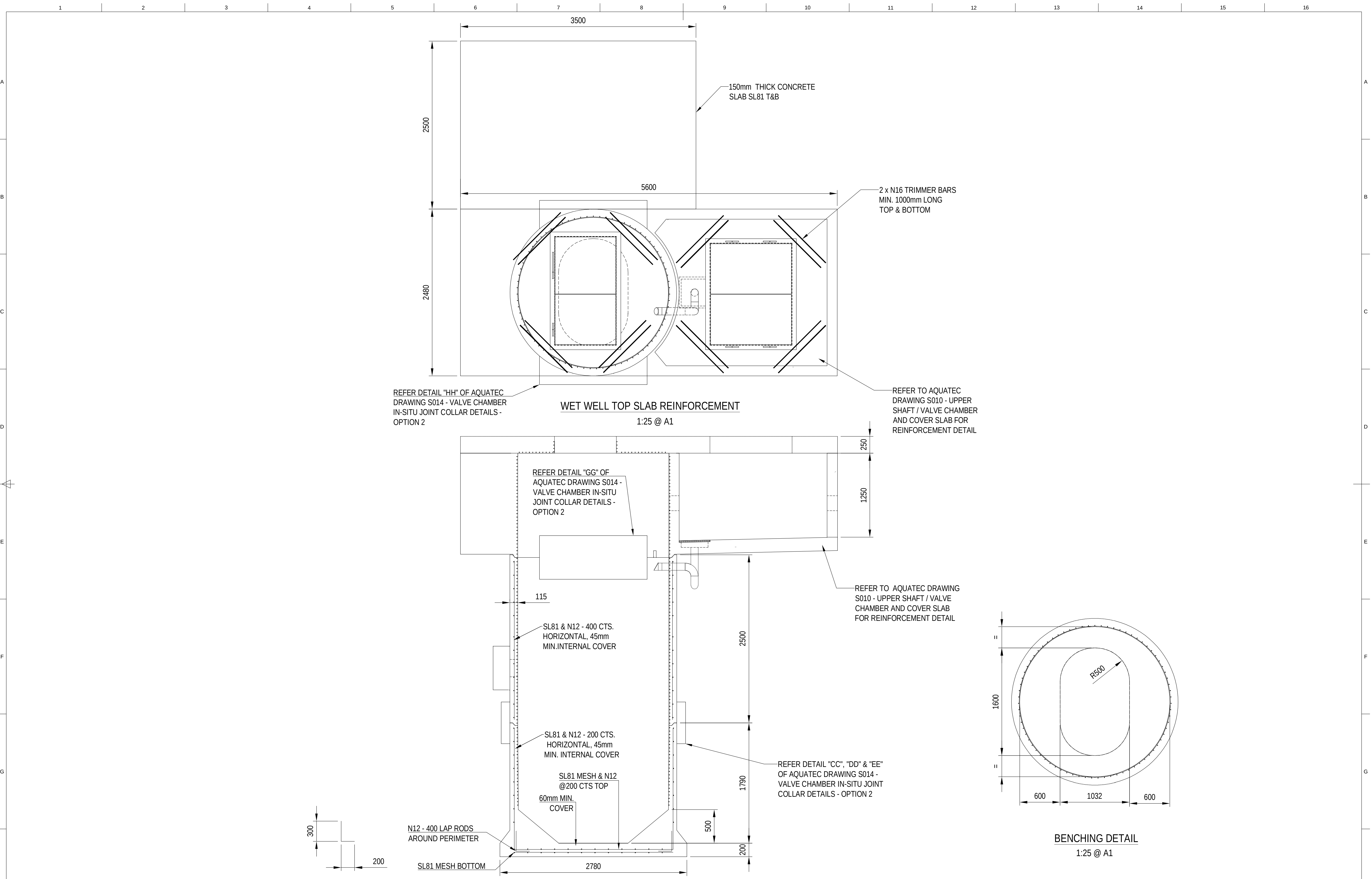


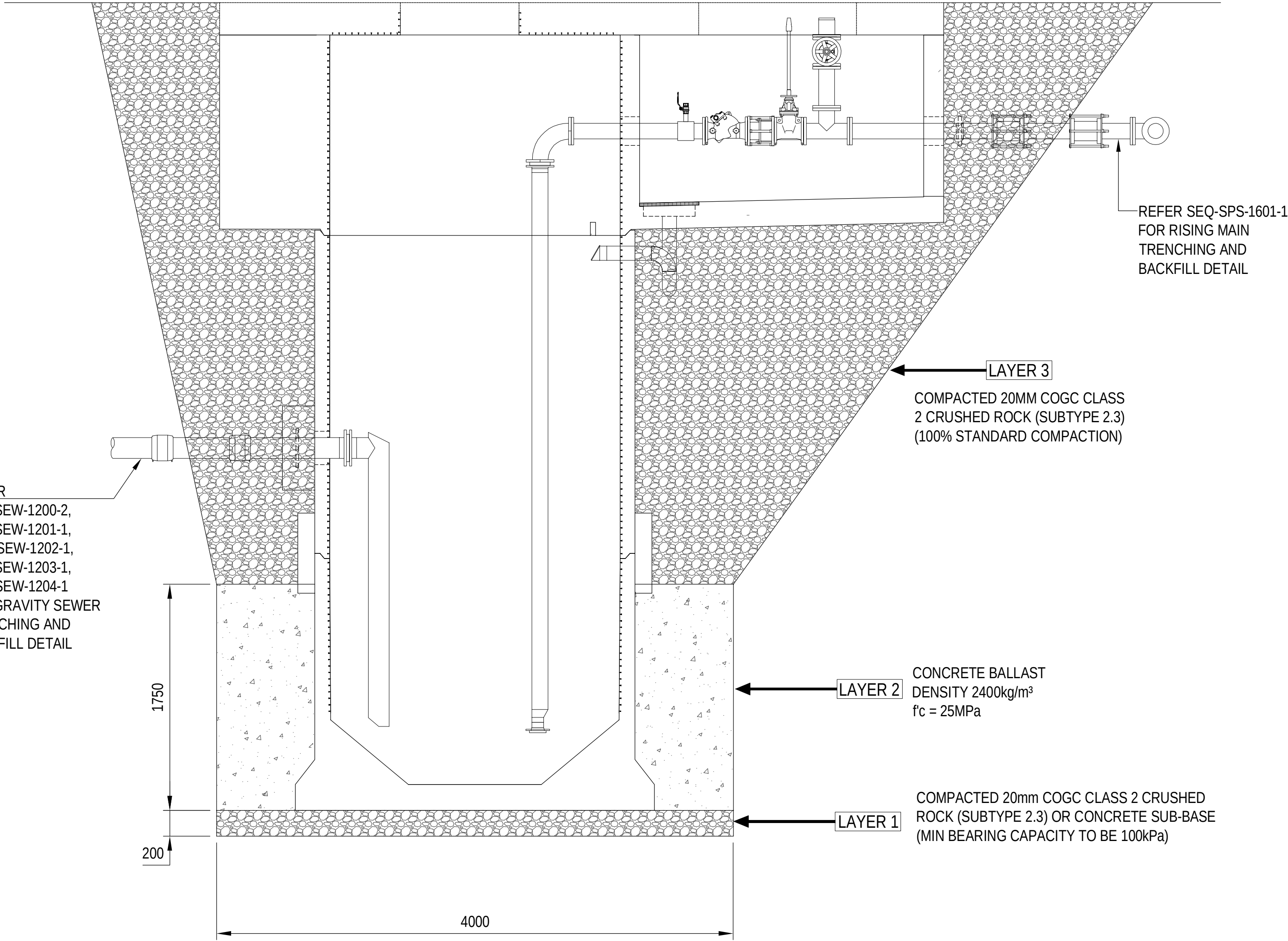
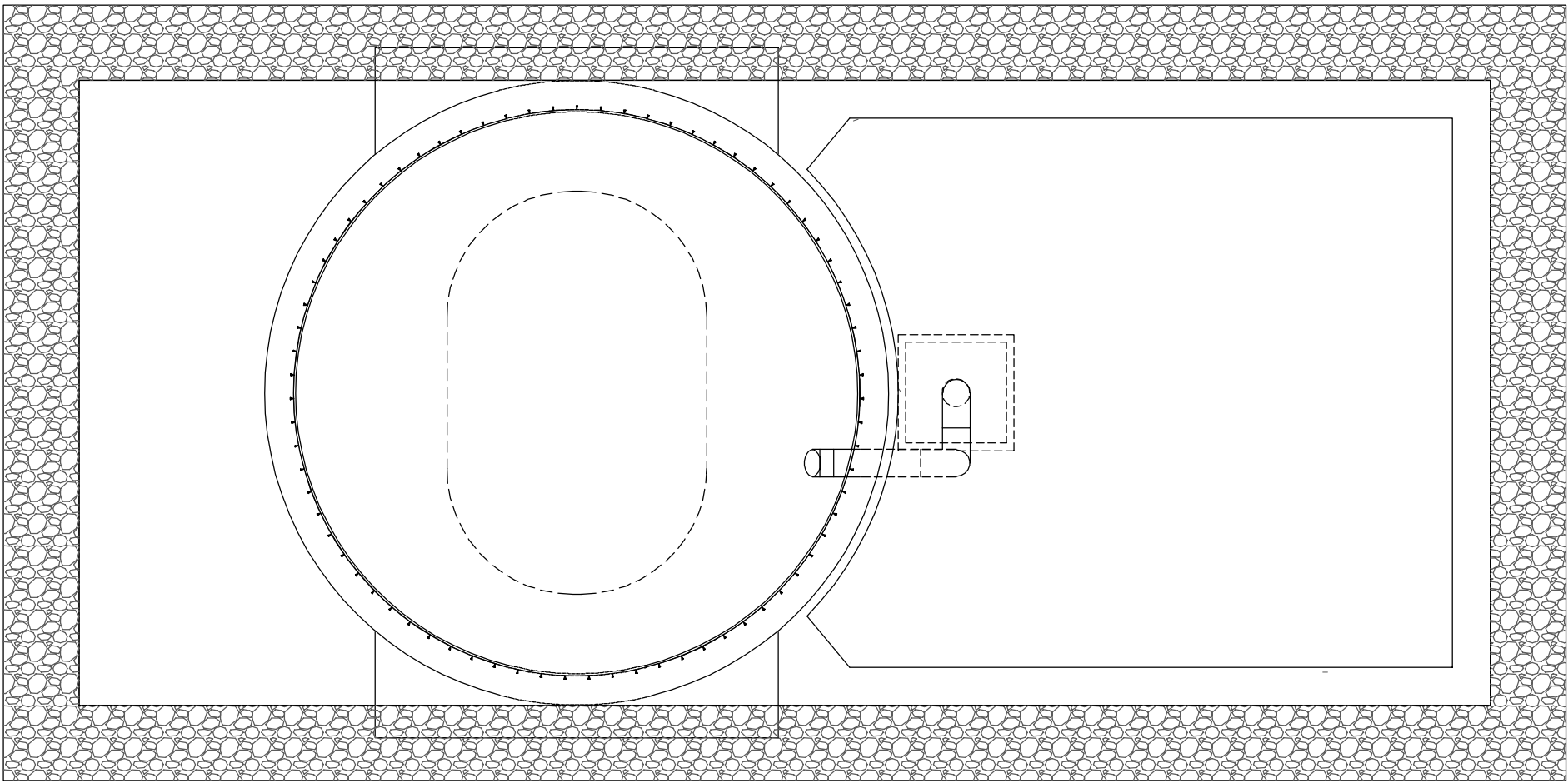
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CITY OF GOLD COAST
STANDARD DESIGNS
SEWAGE PUMP STATION - Ø2250
DETAILS

Drawing No. 2019.COGC.STD.2250.04
Revision P1
File Location / Name AQT





BACK FILL DETAIL
1:25 @ A1

CONSTRUCTION NOTES AND BACKFILLING REQUIREMENTS

Occupational Health and Safety: The contractor is responsible to be knowledgeable of and is bound by the OH&S Statutory requirements pertaining to work in deep trenches and shafts.

The Water Authority: The specifications of the Relevant Principle Water authority for the installation of precast units and well construction are to be adhered to in addition to these construction recommendations.

Site Investigation: The following Construction Notes are based on an assumption that the groundwater level is at finished surface level and apply to installations in cohesive and non-cohesive soils.

LAYER 1
Foundation: Excavation depth is to be a minimum of 200mm below base of casting and may be deeper as required to achieve a minimum foundation bearing capacity of 100kPa. Remove or stockpile spoil as required. Prepare a 200mm sub-base of approved size 20mm Compacted COGC Class 2 Crush Rock (Subtype 2.3) - 100% standard compaction. Use a vibrating flat plate or smooth drum roller to capacity in maximum lifts of 200mm. Alternatively, Grade N15 concrete may be cast as a sub base. Screed and compact a 50mm layer of sand bedding to achieve the finished prepared base level.

MATERIAL SPECIFICATION:
Crushed Rock Quarry Product Specification: Sub-base material & backfill material shall be Compacted 20mm COGC Class 2 Crushed Rock (Subtype 2.3) in accordance with the following:

- Consulting Engineers Site Investigation
- WSAA Product Specification & AS/NZS 2566.2
- Transport and Main Roads Specifications - MRTS05 Unbound Pavement

Backfilling of Segments of Wet Well:
* **LAYER 2:** Use Concrete Ballast (to resist buoyancy) as backfill for the initial 1.75m around the base segment.
* **LAYER 3:** Above LAYER 2, Use Compacted 20mm COGC Class 2 Crushed Rock (Subtype 2.3) - tamped into place in 150mm lifts. Do not Sluice or flood the backfill into place.

Valve Chamber: The Valve Chamber is Fully Self Supporting. To Safe Guard against Cavities beneath the underside of of the Valve Chamber Segment Back Fill as Follows.

- After The Final Ring Section is in position, Prepare the Compacted Backfill to within 20mm of the Top Outer Sealing Edge. Aquatec and the Installation Contractor to Confirm this Prior to Lowering the Valve Chamber into Position, to Ensure an Evenly Seated Seal to below ring section and avoid Cavities beneath the Valve Chamber after Positioning.

Cover Slab Installation:
* Prepare the Compacted Ground to the top of the uppermost well increment.
* Aquatec site representative along with Installation Contractor to check and Confirm this prior to lowering the Cover Slab into position.
* Overhang load must bear on backfilled ground when installing onto final ring segment.

Perimeter:
After Placing the cover slab, place compacted Backfill up to finished natural surface level around its perimeter. Maintain good transition between original surfaces and the new.

Compaction: Compaction around pump station site is to be Hold Point. The Consultant shall be on site during compaction.

For all piping external to valve chamber and wet well refer notes 23 & 25 on drawing 2019.COGC.STD.2250.03.

BEFORE GEOTECHNICAL REPORT BECOMES AVAILABLE, AQUATEC HAVE ASSUMED THE FOLLOWINGS :

- GWL AT FSL FOR WORST CASE FOR THE PUMP STATION BUOYANCY CALCULATION
- SITE SOIL CLASSIFICATION TO BE CLASS "M"

CAUTION:
HAND COMPACTION ONLY TO ALL IMPORTED BACKFILL

NOTE:
IF GROUNDWATER IS SIGHTED DURING EXCAVATION AQUATEC TO APPLY 'GATOR WRAP' ON ALL EXTERNAL PRECAST JOINS.

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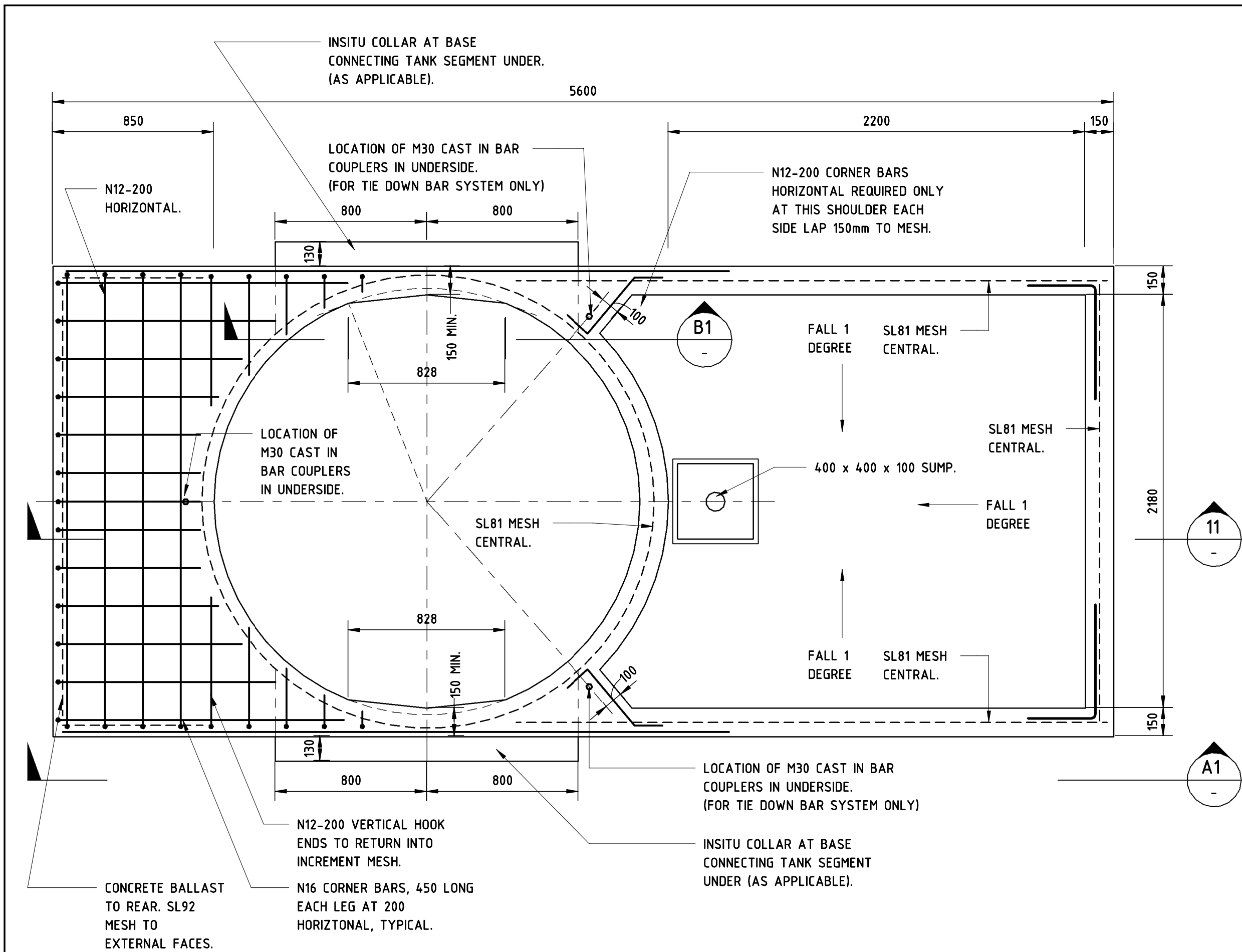
CITY OF GOLD COAST
STANDARD DESIGNS
SEWAGE PUMP STATION - Ø2250
BACKFILL DETAIL

Drawing No. 2019.COGC.STD.2250.06
Revision P1
File Location / Name AQT

P1	ISSUE FOR CLIENT REVIEW	SL	HS	01/07/19
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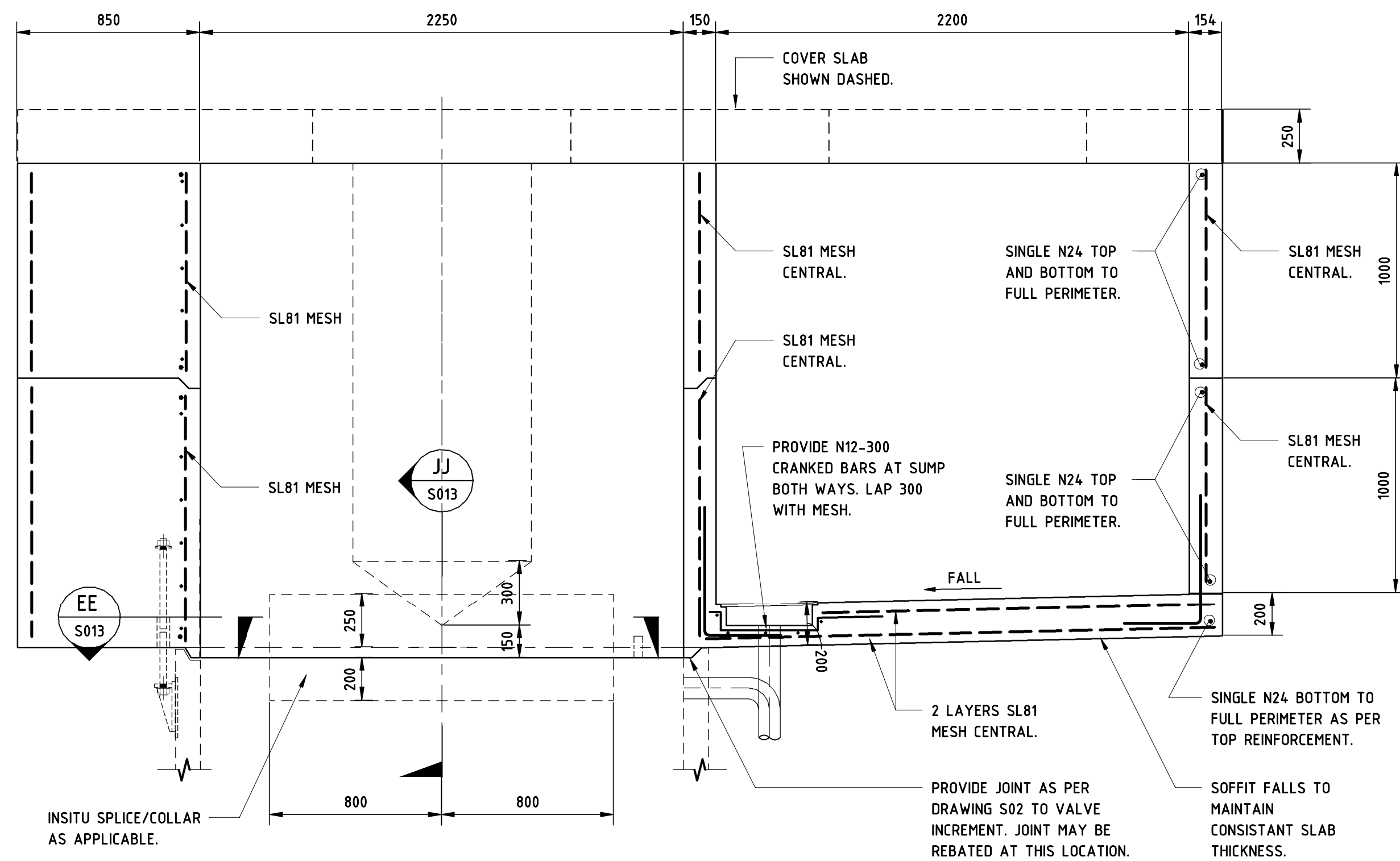
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
BILL OF MATERIALS															
MATERIALS SCHEDULE															
ITEM NO.	DESCRIPTION	QUANTITY	MATERIAL	REMARKS											
1	SUBMERSIBLE PUMP	2	CAST IRON	REF PUMP INFORMATION, REFER GENERAL NOTE 16											
2	DN80 DISCONNECTION BEND	2	CAST IRON												
3	DN125 x 90 FL-FL PIPEWORK RISER C/W DN125 x 90 ECCENTRIC REDUCER	2	PE100 PN16 SDR11	REFER GENERAL NOTE 24											
4	DN100 SP-SP PIPEWORK	4	DIEL												
5	DN125 FL-SP PIPEWORK	2	PE100 PN16 SDR11	REFER GENERAL NOTE 24											
6	DN100 FL-SP PIPEWORK	4	DIEL	LENGTHS. TO SUIT											
7	DN125 EF SOCKET JOINER	1	PE100 PN16 SDR11												
8	DN100 WEEP FLANGES	2	CAST IRON												
9	DN100 90° FL-FL ELBOW	3	DIEL												
10	DN100 SWING CHECK VALVE CW LEVER & WEIGHT & ¼" BLEED POINT	2	DUCTILE IRON	FUSION COATED, RESILIENT SEATED, , AVK 41-8X SERIES											
11	DN100 THRUST TYPE DISMANTLING JOINT	2	DUCTILE IRON	AVFI-AFD10 RESTRAINED											
12	DN100 FL-FL RESILIENT SEATED GATE VALVE CW SPINDLE (ANTI-CLOCK CLOSE)	3	DUCTILE IRON	FUSION COATED, AVK 57 SERIES											
13	DN100 FLANGED EQUAL TEE	4	DIEL												
14	DN100 FL-FL RESILIENT SEATED GATE VALVE CW HAND WHEEL (ANTI- CLOCK CLOSE)	2	DUCTILE IRON	FUSION COATED, AVK 57 SERIES											
15	DN100 MALE CAMLOCK FITTING CW DUST CAP	2	316 SS	THE DUST CAP TO INCLUDE 5mm RELIEF HOLE											
16	DRILLED AND TAPPED ½" BALL VALVE CW SADDLE FOR AIR RELEASE GAUGE	2	316 SS	AIR RELEASE GAUGE BY OTHERS											
17	1/4" BALL VALVE C/W 1/4" 316 SS TAPPING	4	316 SS												
18	1/4" BSP-F EQUAL TEE	2	316 SS												
19	1/4" BSP HEX NIPPLE	6	316 SS												
20	PIPE BRACKETS (VERTICAL)	6	316 SS	LENGTHS. TO SUIT											
21	DN125 EF 90° ELBOW	1	PE100 PN16 SDR11												
22	DN125 SP-SP PIPEWORK	1	PE100 PN16 SDR11	REFER GENERAL NOTE 24											
23	EARTH STAKE PIT - 120 x120 x 76mm H	1	ALUMINIUM	ERICO Part No. DULERB1, BITUMEN COATING REQUIRED UNDERSIDE OF THE POST CONTACTING WITH CONCRETE											
24	ELECTRICAL CONDUIT (1 x DN32)	2	HD PVC												
25	DN100 VARIGIB GIBAULT	4	DUCTILE IRON	FUSION COATED											
26	DN100 FL-FL PIPEWORK	2	DIEL	LENGTHS. TO SUIT											
27	DN125 FL-SP DROP PIPE 1500mm LONG	1	PE100 PN16 SDR11	REFER GENERAL NOTE 24											
28	DN160 INLET FL-SP PIPEWORK	1	PE100 PN8 SDR21	MIN. 800mm LONG, REFER GENERAL NOTE 24											
29	DN160 THRUST FLANGE	1	PE100												
30	DN160 DROPPER PIPE	1	PE100 PN8 SDR21	REFER GENERAL NOTE 9 & 24											
31	ELECTRICAL CONDUITS (2 x DN150, 1 x DN100)	3	HD PVC	REFER GENERAL NOTE 14											
32	ELECTRICAL CONDUITS (1 x DN50, 1 x DN25)	2	HD PVC	REFER GENERAL NOTE 14											
33	DN225 TO DN150 VENT PIPEWORK	1	uPVC DWV	VENT STACK LINER DN225 TO DN150											
34	DN125 FL-FL PIPEWORK	2	PE100 PN16 SDR11	REFER GENERAL NOTE 24											
35	2" GUIDERAIL	4	316 SS	TO SUIT PUMP											
36	CHAIN (LOAD RATED)	2	316 SS	TO SUIT PUMP											
37	PUMP CABLE	2		TO SUIT PUMP											
38	WET WELL COVER - CLEAR OPENING 1600 x 900 (DUAL COVER - TYPE 2LB, CW FALL PREVENTION GRATE)	1	ALUMINIUM	REFER DRAWING No. SEQ-SPS-1304-19 & 22 & 23 &28 & 29 CW DRAIN HOLE IN LOCK BOX, BITUMEN COATING REQUIRED WHERE CONTACTS CONCRETE, REFER GENERAL NOTE 15, 16, 17											
39	VALVE CHAMBER COVER - CLEAR OPENING 1500 x 1200 (CW FALL PREVENTION GRATES) (DUAL COVER - TYPE 2VCA)	1	ALUMINIUM	REFER DRAWING No. SEQ-SPS-1304-20 & 24 & 26 &28 & 29 CW DRAIN HOLE IN LOCK BOX, BITUMEN COATING REQUIRED WHERE CONTACTS CONCRETE, REFER GENERAL NOTE 17											
40	PERMANENT SURVEY MARK	1	BRASS	REFER DRAWING No. SEQ-SPS-1508-1											
41	CHAIN / FLOAT / CABLE HOOKS	5		TO SUIT											
42	DN50 STILLING TUBE	1	PVC PN9 (MIN.)												
43	PIPE SUPPORT BRACKETS (HORIZENTAL)	TO SUIT	316 SS	REF. SEQ-SPS-1305-4 & DETAIL "1"											
44	LEVEL TRANSDUCER (REFER STILLING TUBE ARRANGEMENT FOR DETAILS)	1	316 SS	VEGAWELL 52											
45	BACKUP LEVEL SWITCH (SEE NOTE 12.)	2		FOR EMERGENCY BACKUP (MULTITRODE 1m LONG 10 SEGMENTS) & OVERFLOW LEVEL (KELCO FLOAT SWITCH)											
46	HANDRAIL CW SELF CLOSING SINGLE DOOR (MONOWILLS TYPE) (TYPE 2H2)	1	ALUMINIUM	REFER DRAWING No. SEQ-SPS-1304-21 & 27, BITUMEN COATING REQUIRED UNDERSIDE OF THE POST CONTACTING WITH CONCRETE											
47	VENT STACK CW 150mm VENT COWL, (8m NOM. TBC BY ODOUR IMPACT ASSESSMENT)	1	POWDER COATED ¹⁹	INGAL FVT8F-GA9944, REF SEQ-SPS-1405-2											
48	ELECTRICAL SWITCHBOARD	1	POWDER COATED	3mm MARINE GRADE ALUMINUM											
49	HINGED POLE FOR TELEMETRY & LIGHTING (6m - HEIGHT TBA BASED ON RADIO SURVEY)	1	POWDER COATED ¹⁹	INGAL HBM6F											
50	ANTI-SPREAD BRACKETS	2	316 SS	REF. SEQ-SPS-1305-4 & DETAIL "1"											
51	DN100 FLOOR DRAIN PIPE WITH TRAP, FLAP SEAL AND FLAP VALVE	1	uPVC DWV												

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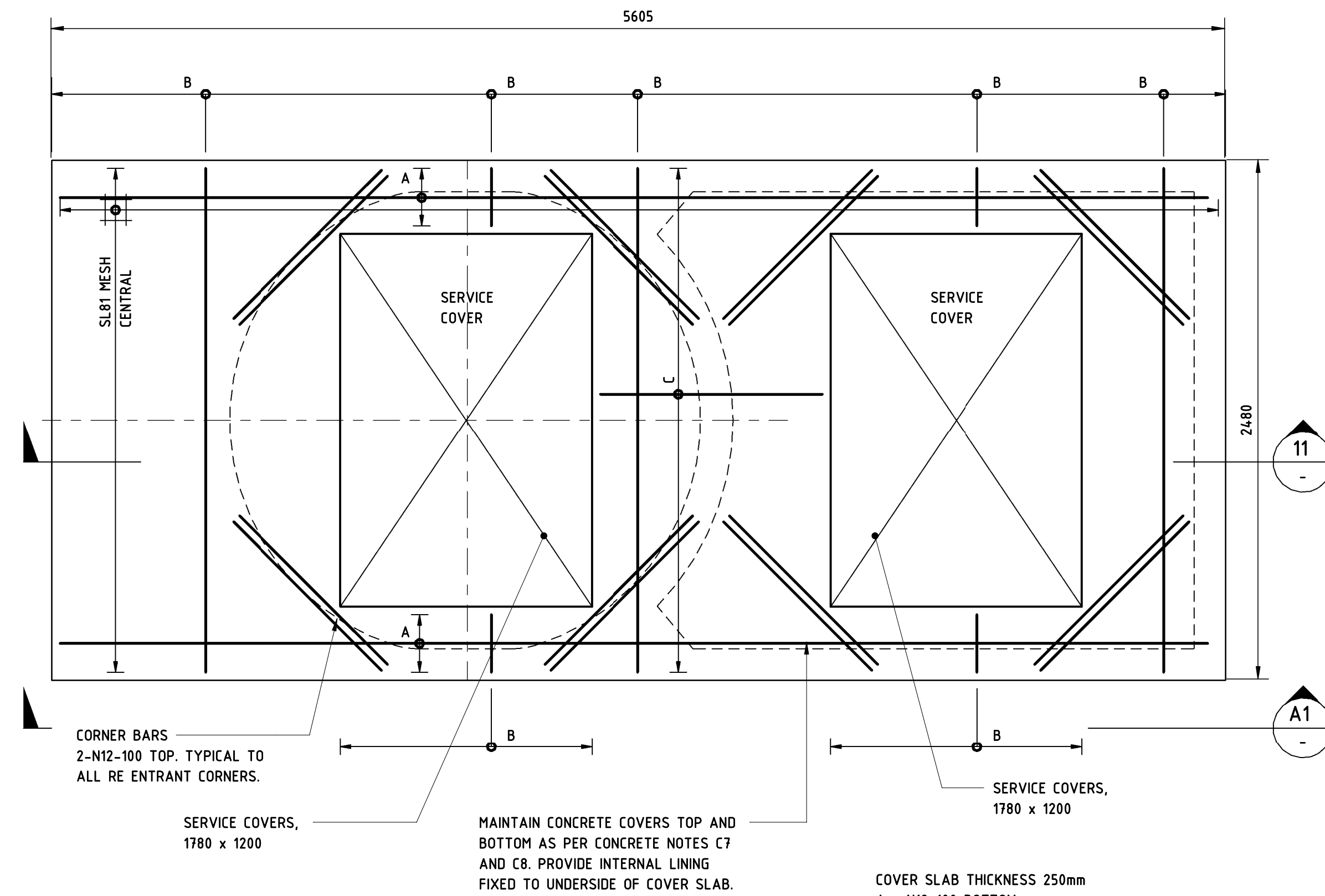
TYPICAL UPPER SHAFT AND VALVE CHAMBER PLAN

SCALE 1:20



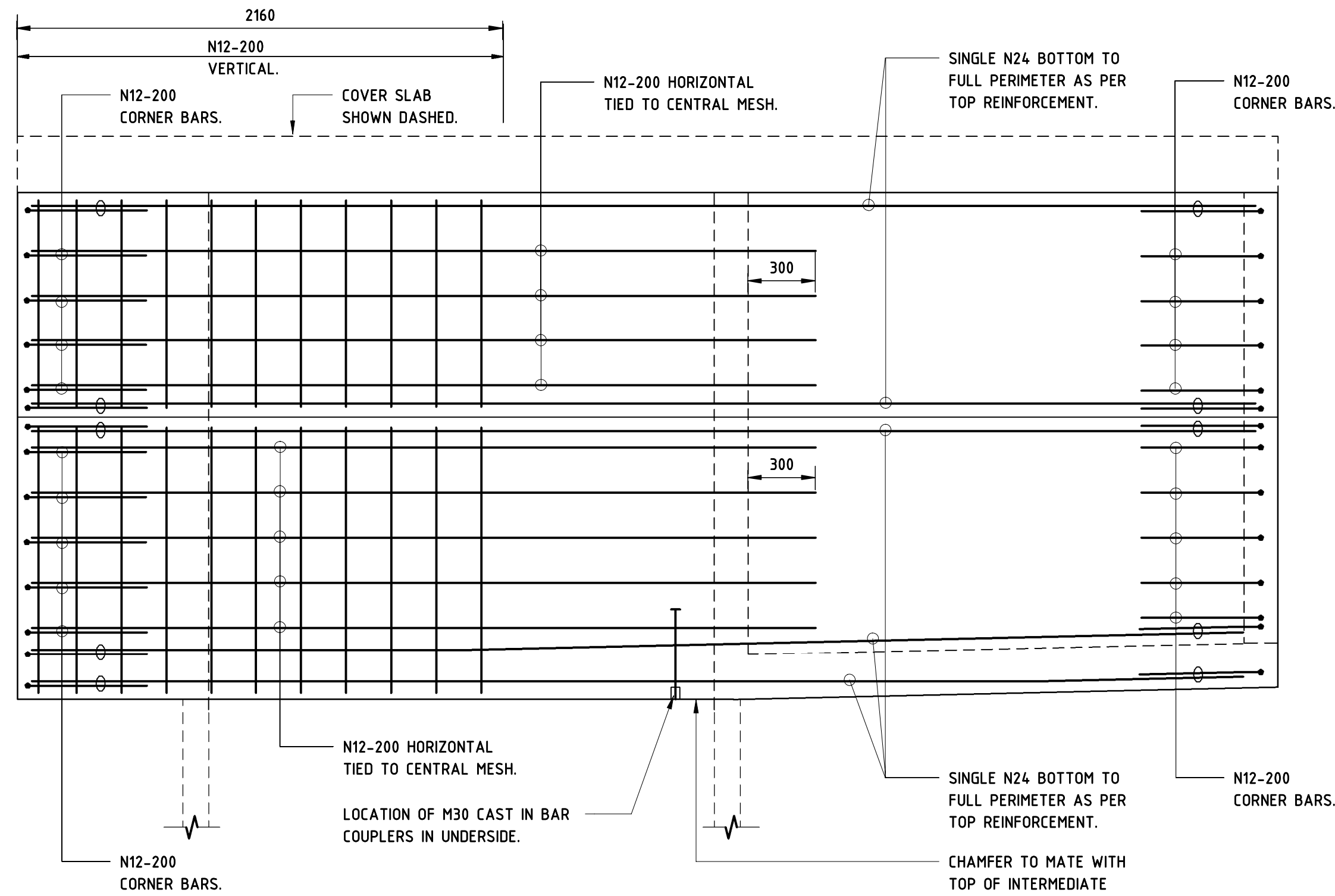
SECTION 11

SCALE 1:20



TYPICAL COVER SLAB PLAN

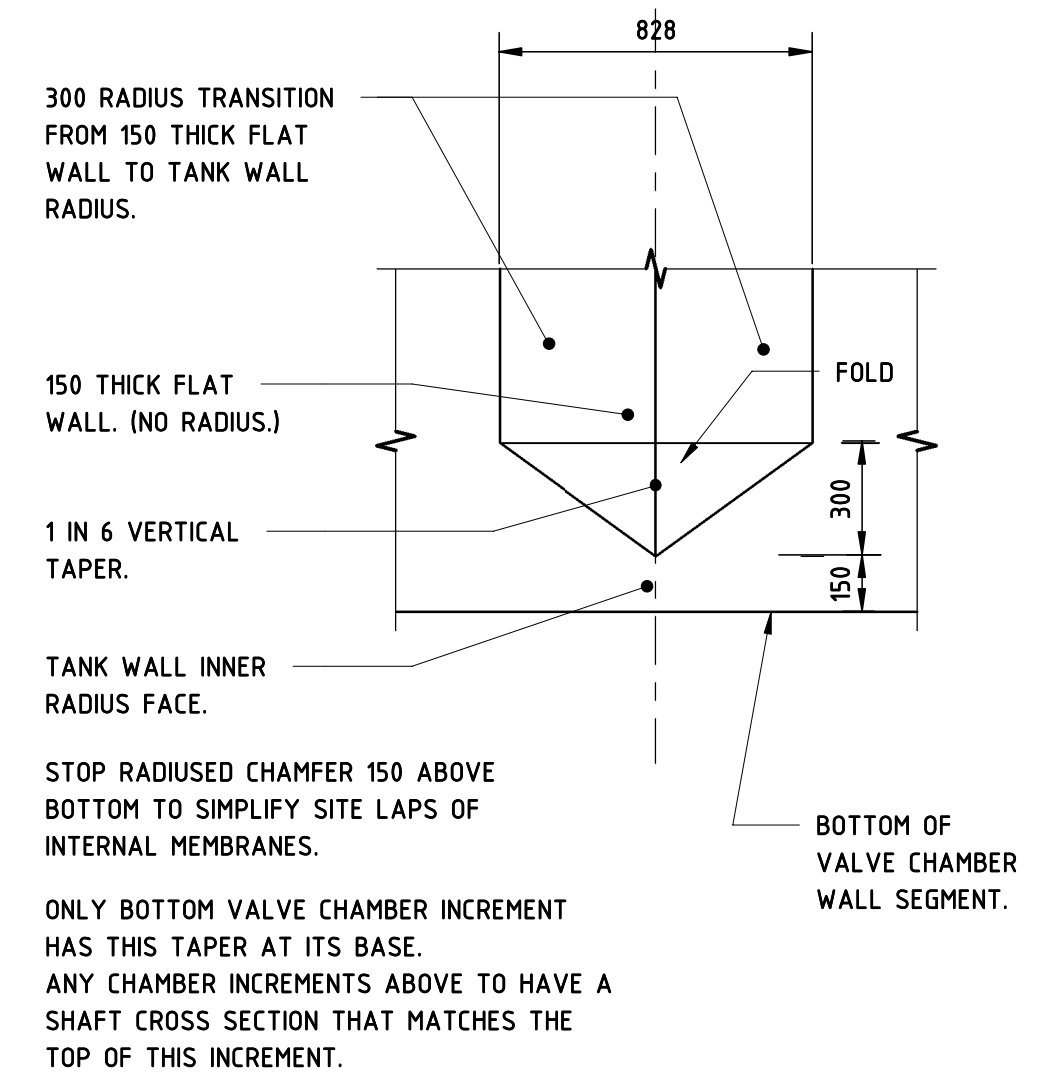
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ELEVATION A1

SCALE 1:20

MESH NOT SHOWN FOR CLARITY



DETAIL B1

SCALE 1:20

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E	09-04-19	PRELIMINARY	MT	AS
D	05-03-19	PRELIMINARY	MT	AS
C	25-02-19	PRELIMINARY	MT	AS
B	15-02-19	PRELIMINARY	MT	AS
A	01-02-19	PRELIMINARY	MT	AS

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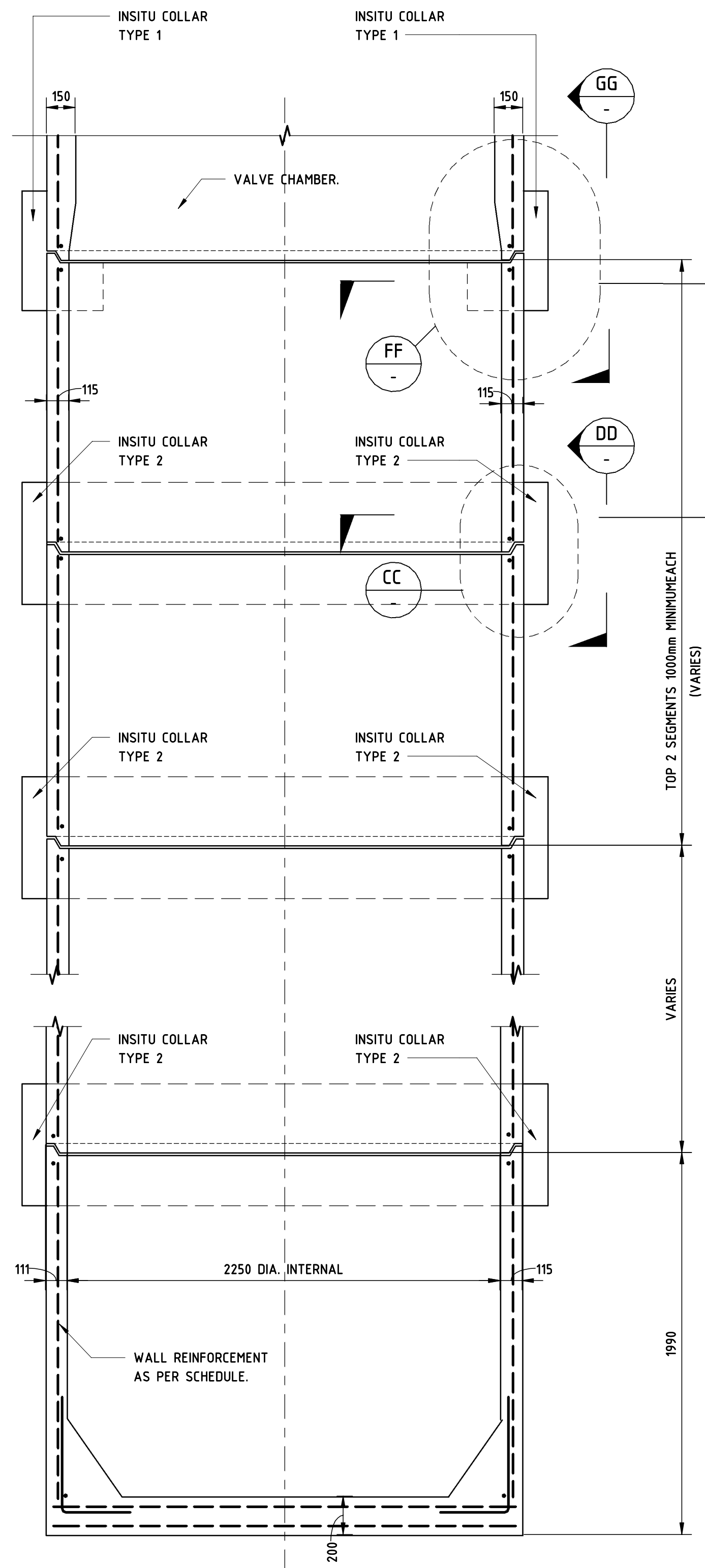
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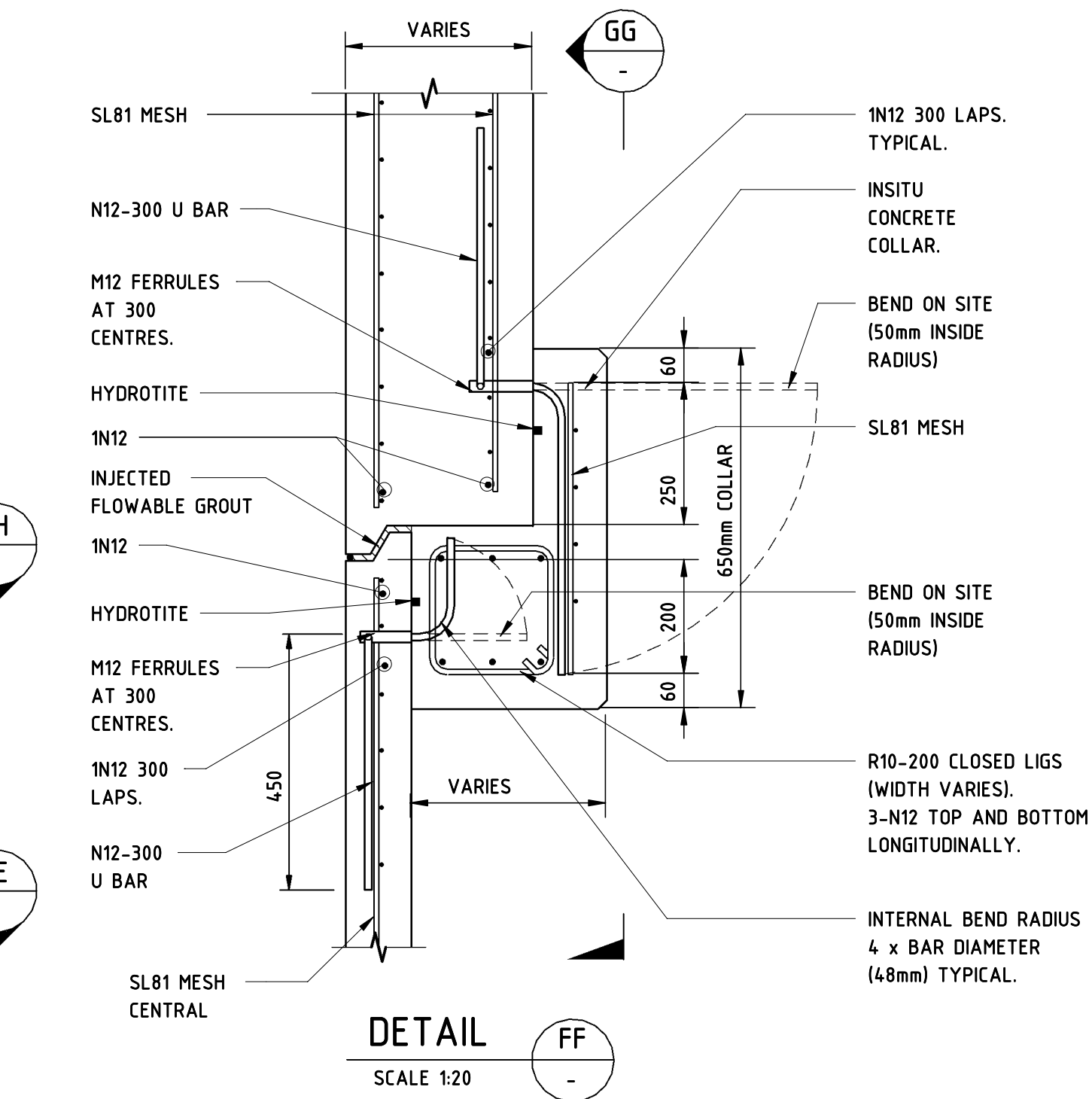
Title: UPPER SHAFT / VALVE CHAMBER AND COVER SLAB

Designer: AS	Checked: AS	Drawn: MT	Authorised: AS	Date: 24-01-19
Scale:	Size: A1	Project No: 181202	Drawing No: S010	Issue: P1

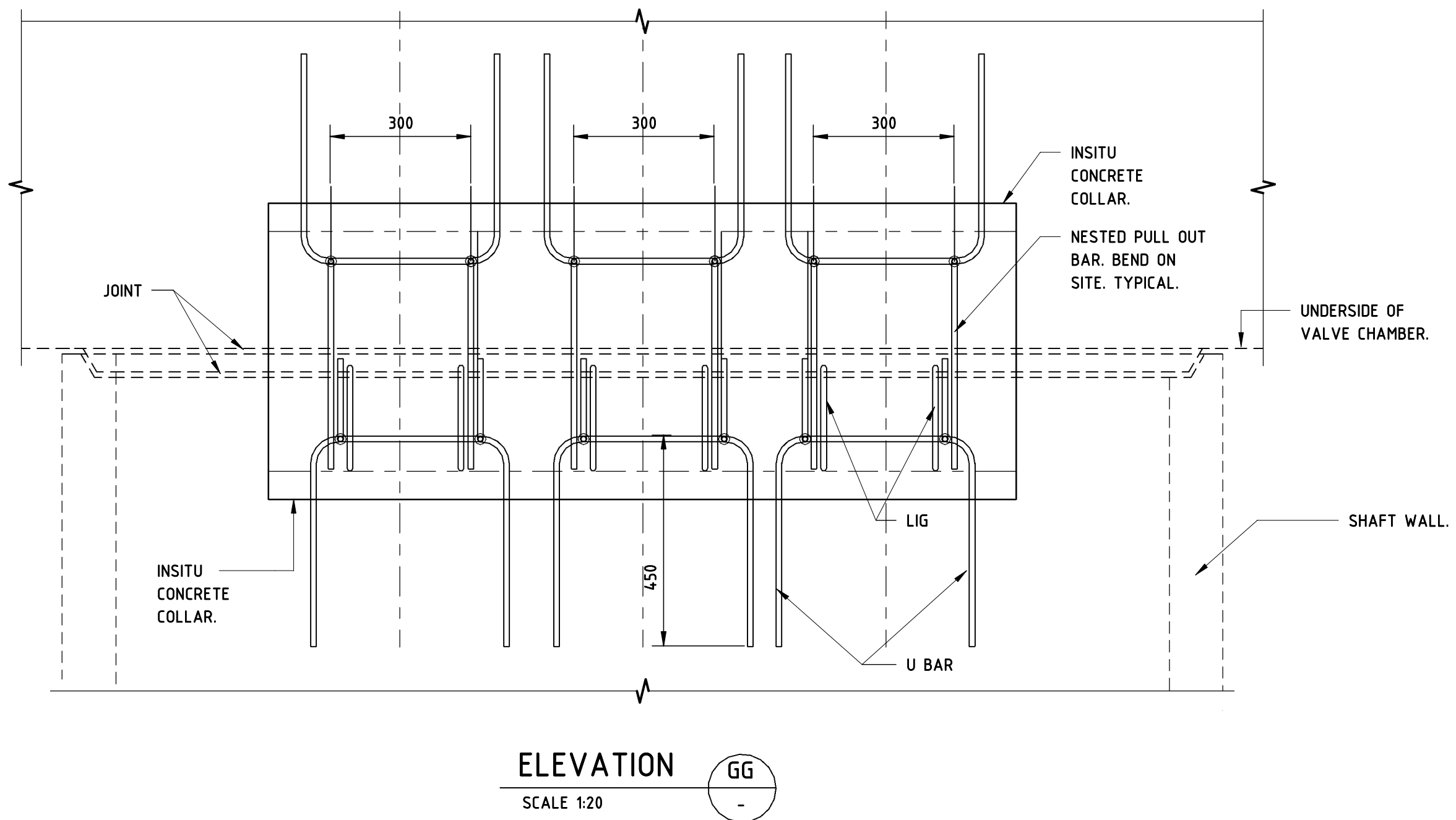
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NOT TO BE USED FOR CONSTRUCTION
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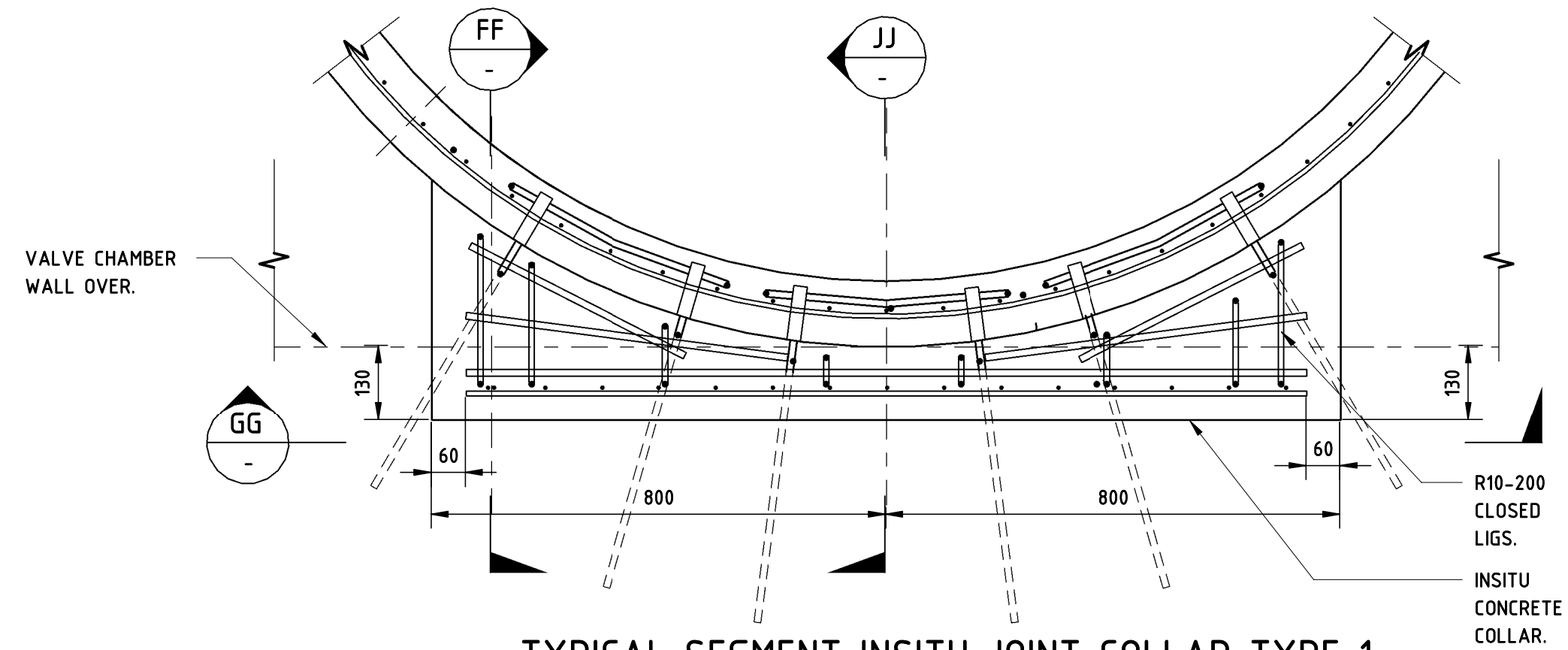
**SECTION THROUGH PUMP STATION
SHOWING VALVE CHAMBER INSITU COLLAR**
SCALE 1:20



DETAIL
SCALE 1:20

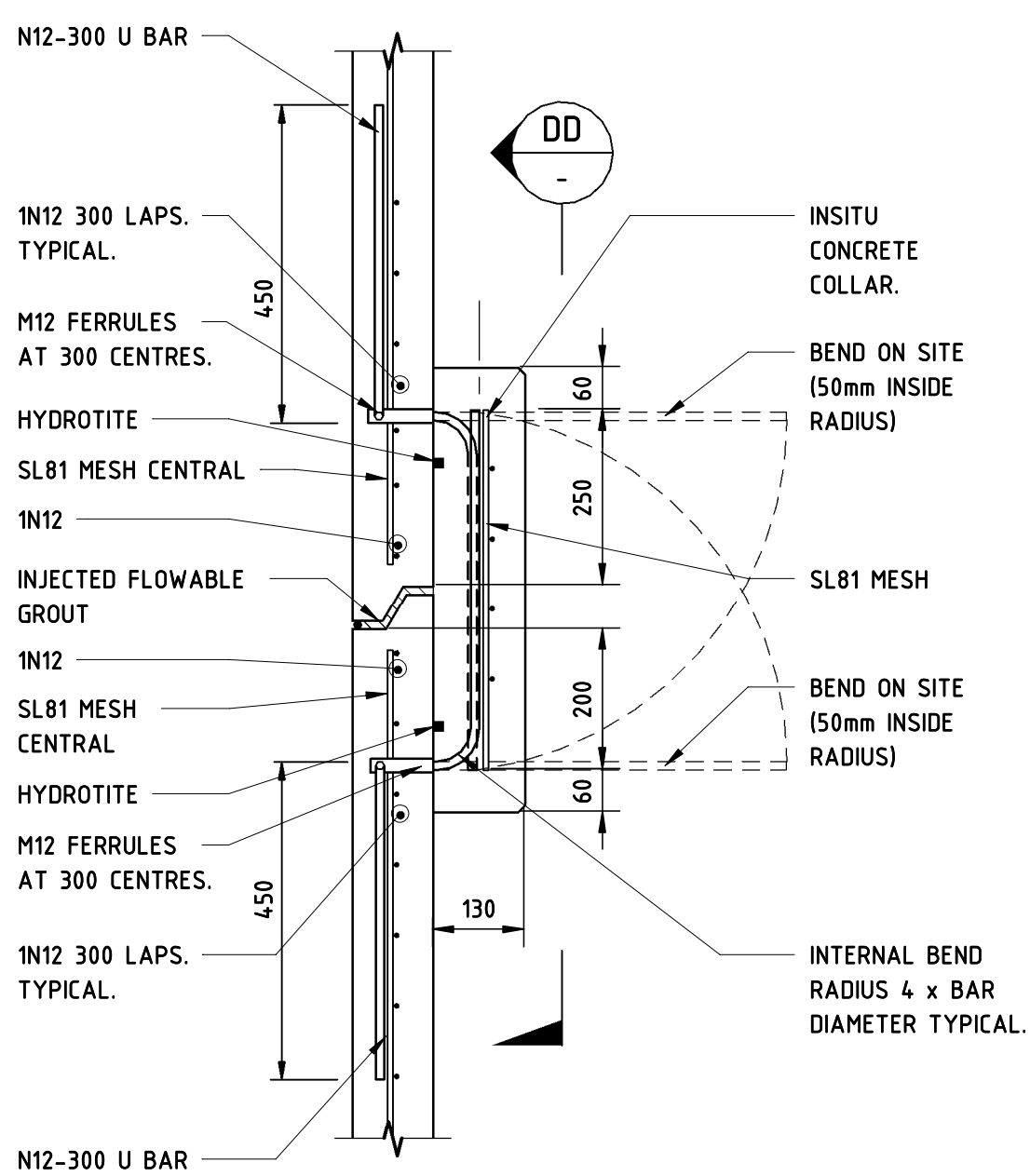


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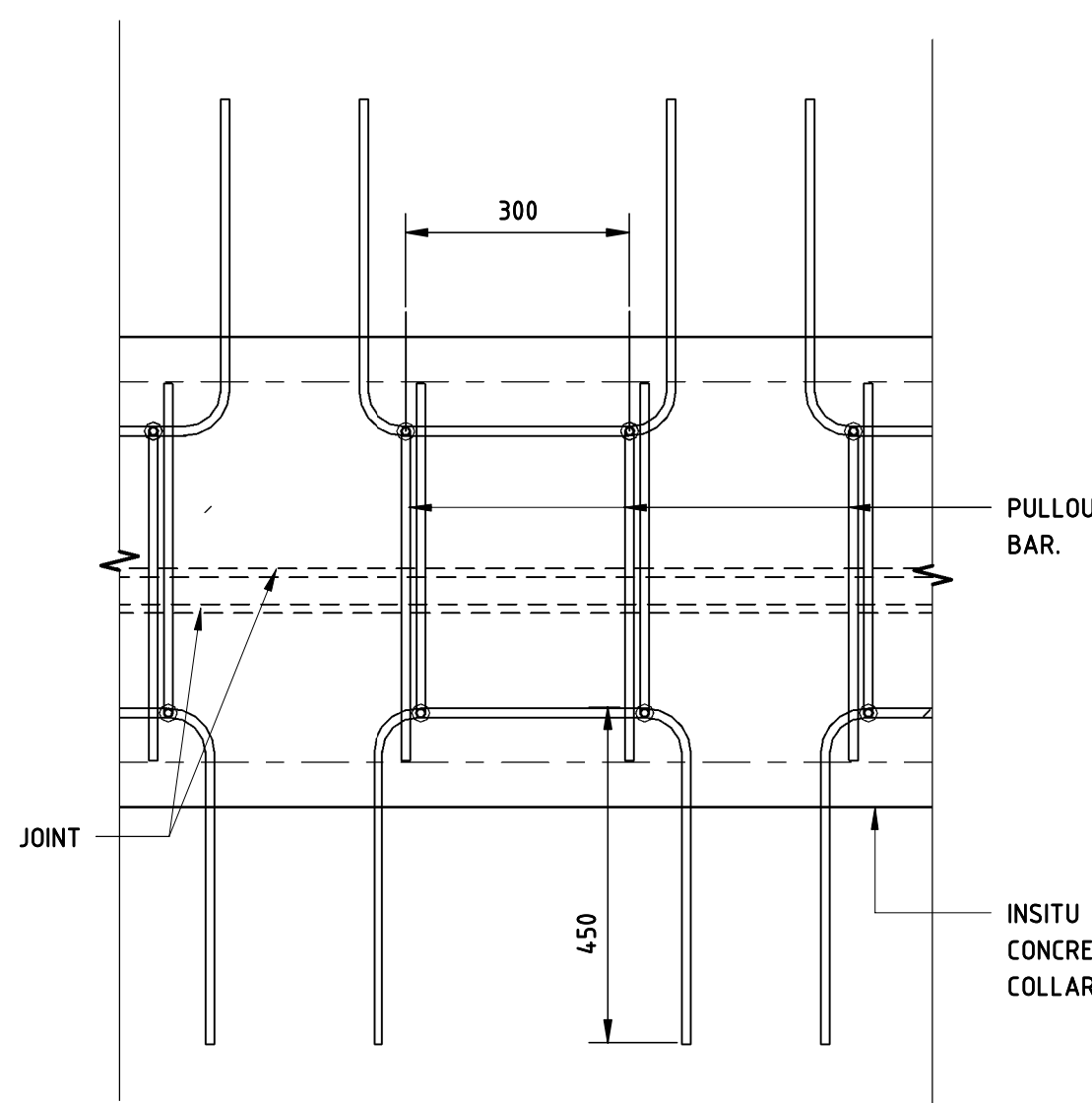
TYPICAL SEGMENT INSITU JOINT COLLAR TYPE 1

PLAN DETAIL
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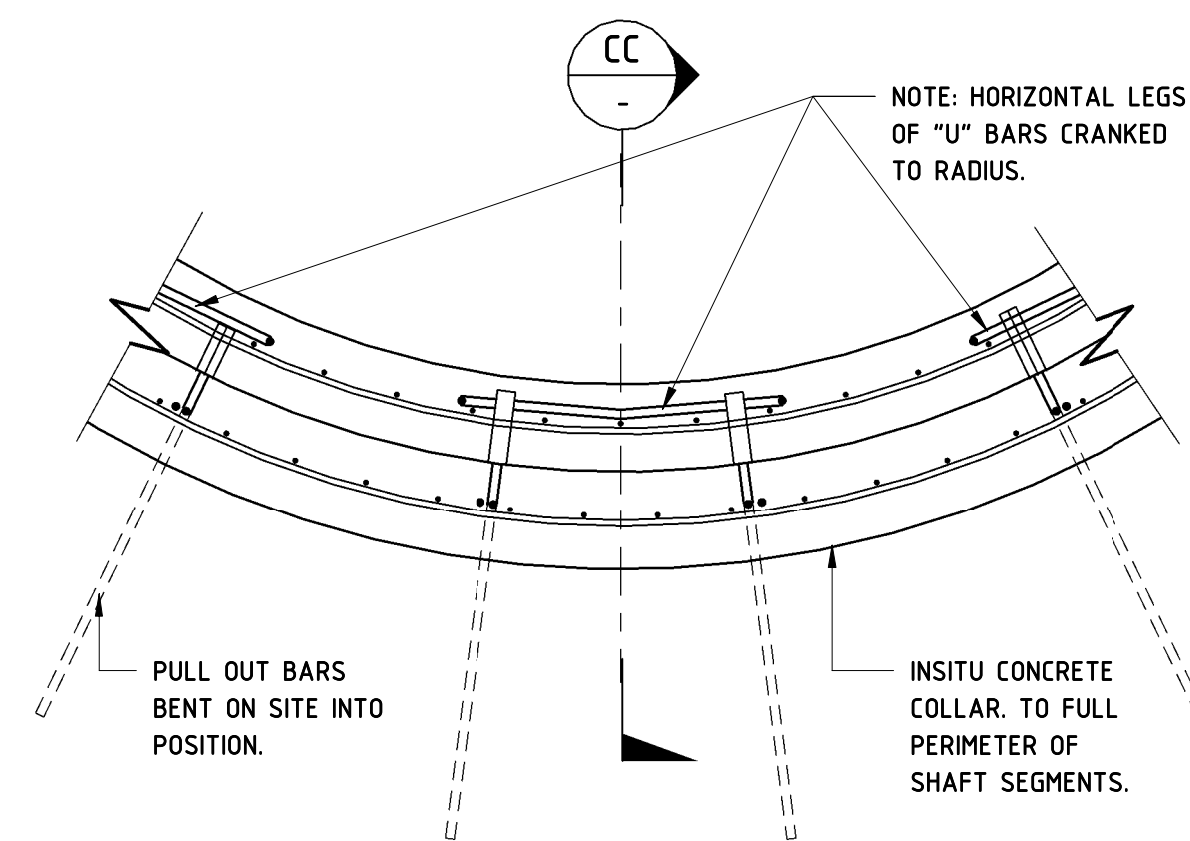


DETAIL
SCALE 1:20

DETAIL
SCALE 1:20



ELEVATION
SCALE 1:20



**TYPICAL SEGMENT INSITU JOINT
COLLAR TYPE 2**

PLAN DETAIL
SCALE 1:20

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A	23-04-19	PRELIMINARY	MT	AS
REV	DATE	DESCRIPTION	DRN	DES

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Client:	AQUATEC			
Project Name:	2.25m DIAMETER PUMP STATION TO 15m DEPTH			
Title:	VALVE CHAMBER INSITU JOINT COLLAR DETAILS - OPTION 2			
Designer: AS	Checked: AS	Drawn: MT	Authorised: AS	Date: 24-01-19
Scale:	Size: A1	Project No: 181202	Drawing No: S014	Issue: P1
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