

Case Number: **134916**

31 July 2015

Rose Atkins Rimmer

Dear Sir/Madam

Property: 145 Old Pittwater Road, Brookvale
Your Reference: 46/23141
Plan Identification Number: 134916WW

Attached is the Waste Water Design Package for the location of works shown above. This package was received by Sydney Water and dated 15 July 2015/Version No. 12. **You have indicated that this plan is for tendering purposes.** After you have engaged a Constructor and the following matters have been addressed, this plan can be used for construction. If there are any changes after tendering, you must give us the appropriate Project Variation documents.

With respect to proposed Line 3, you will need to determine whether:

1. The DN1200 main is to be removed and the proposed DN300 is laid in its place. (easement extinguished/encumbrance removed). This is Sydney Water's preference.
2. Line 3 is removed from the design, the section of DN1200 is transferred (via deed of disuse and transfer) and connection is made to the chamber at 'A'.
3. The main is laid within the existing DN1200 main and the existing easement above that section will remain. (easement /encumbrance remains on the property)

After you tell us who the approved Constructor is, lodge both the completed ITP and executed Deed Poll with Sydney Water, we will review them and then release your ITP. This will complete your Design Package and enable you to start construction.

For that package, the following is to be addressed;

- (a) The following costs will be invoiced to your Company at the finalisation of these works:

Contract Administration

This fee will be invoiced to your company at the current hourly rate of \$139.05 (includes \$12.64 GST). It is for time spent by the Development Services Officer during the design, construction and connection phases of this work.

Notes:

- **An invoice can be issued for the above costs before finalisation. However, if costs are incurred after that invoice we will charge you at finalisation.**

- **To obtain an invoice before finalisation, you must email the Sydney Water Case Manager.**
 - **The Tax Invoice must be paid to Sydney Water within 30 days of being issued.**
 - **You should tell your developer/applicant client of these Sydney Water costs before proceeding with this work.**
- (b) If Sydney Water needs additional site inspections, you will be invoiced at the current hourly rate at the completion of this work.
- (c) At the finalisation of these works, and before we can issue the Section 73 Compliance Certificate or the release of the Security Bond, the Developer will need to pay any outstanding Developer (DSP) or Recovery charges **directly to Sydney Water**. Remember that you need to obtain an invoice so these charges can be paid. The invoice can be obtained by contacting the Sydney Water Case Manager.

Connections

While connections to existing Sydney Water assets are generally at the end of construction, the constructor, in conjunction with the WSC, must review the design prior to commencement of works and identify all connections to Sydney Water's existing assets. All connections at any stage of construction must only proceed after obtaining the appropriate approval from Sydney Water.

- (d) Before connection, the Generic Asset Hazards (detailed in Instructions to Water Servicing Coordinators (Major Works)) **must** be addressed in your Safe Work Plan and Environmental Management Plan.

The Generic Asset Hazards/Conditions - At the Point of Connection, listed in the Provider Instructions, **must** be addressed in your Safe Work Plan and Environmental Management Plan.

Notes:

Remember that:

1. There are work environment hazards that include (but are not limited to) traffic and the closeness of other utility services;
 2. All developers, constructors and individuals have an OH&S obligation and a duty of care when working near underground plant; and
 3. Any person who destroys, damages or interferes with any Sydney Water asset is liable to compensate Sydney Water.
- (e) Extra hold points might be included in the ITP by Sydney Water when you lodge the Construction Commencement Notice.
- (f) The new works will be connecting to a main that is deemed critical to the system and so you need to implement Sydney Water's Health and Safety Procedure – Flow Management and Isolation of Hydraulic Assets (HSP-070) and submit, via email, a Flow Management Plan addressing any specific requirements provided by Sydney Water.
- At the last meeting, held Sydney Water asked about the duration of the steps. This

is important because at the MHs at either end of the new 1200, there are 750mm inserts during construction.

- If we are likely to have wet weather during the sequence construction step, then the 750mm sections will not cope and we are likely to have overflows in the system and possibly at the site. If the construction duration is long and wet weather cannot be avoided, then a contingency such as pumping needs to be considered.

Submit your Wastewater Form 'A' FIFM requests via email address: wastewaterfifm@sydneywater.com.au

All Wastewater FIFM requests, enquiries, issues and correspondence are also to be submitted via the above email address.

Connection to Sydney Water's asset cannot be carried out prior to submission of a valid Inspection and Test Plan (ITP) and implementation of an approved Flow Management Plan.

(g) Adjustment/Deviation Construction Works on a Live Main

Because this work involves construction on a "live" Sydney Water sewer main, the Developer must:

- lodge either a cash or unconditional bank guarantee security bond from an acceptable financial institution; and
- signify their acceptance of bonding conditions that we will provide in another agreement.
- Have your temporary pipework (if required) constructed by a listed provider
- Submit the Construction Commencement Notice for construction of the temporary pipework

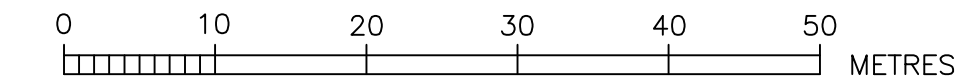
The bond and signed agreement must be given to and executed by Sydney Water before you start constructing the work.

The bond will be released after you have completed the construction of the works. (This includes lodgement of Work As Constructed plans and production and/or recreation of documentation and reports needed for the total project.)

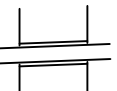
Construction Commencement Sydney Water Contact

You must send your Construction Commencement Notice to Sydney Water's Developer Works Inspections team at Email: DeveloperConnectionsDWI@sydneywater.com.au as set down in the Instructions to Water Servicing Coordinators (Major Works).

END



NOTES :-

1. WATER SERVICING COORDINATOR: ROSE ATKINS RIMMER (INFRASTRUCTURE) Pty. Ltd.
142 SUNNYHOLT ROAD BLACKTOWN NSW 2148
Ph: (02) 9853 0200
- SURVEYOR: RPS AUSTRALIA EAST PTY LTD
SU17 404, 29-31 LEXINGTON DRIVE, BAULKHAM HILLS NSW 2153
Ph: (02) 8884 6900
- FOR: SCENTRE DESIGN AND CONSTRUCTION PTY LTD
85 CASTLEBRAGH STREET, SYDNEY NSW 2000
Ph: (02) 9358 7000; Fax: (02) 9028 8500
2. THE PROPOSED WORKS AS DETAILED HERE ON MUST BE CONSTRUCTED IN ACCORDANCE WITH THE SEWERAGE CODE OF AUSTRALIA – WSA 02-2002-2.2 SYDNEY WATER EDITION 1 (Ver. 3), THE CONSTRUCTOR MUST HAVE A COPY OF THESE DOCUMENTS ON SITE AT ALL TIMES.
3. ALL SERVICES SHOWN ARE INDICATIVE ONLY. A CURRENT SERVICES SEARCH & SITE CHECK OF ALL EXISTING SERVICES WILL BE REQUIRED PRIOR TO COMMENCEMENT OF ANY WORKS.
4. THE CONSTRUCTOR IS TO DETERMINE LEVELS & LOCATIONS OF SERVICES PRIOR TO CONSTRUCTION.
5. THE CONSTRUCTOR IS TO VERIFY THE EXISTING INVERT LEVEL PRIOR TO CONSTRUCTION. IF THE SURVEYED INVERT LEVEL DIFFERS FROM LEVELS INDICATED ON THE LONG SECTION, CONTACT ROSE ATKINS RIMMER (INFRASTRUCTURE) Pty. Ltd. ON (02) 9853 0200 IMMEDIATELY.
6. ALL STRUCTURES TO BE CONSTRUCTED TO PROPOSED FINISHED SURFACE LEVELS. THE CONSTRUCTOR IS TO LIAISE WITH THE SITE SUPERINTENDENT TO VERIFY ALL FINAL LEVELS.
7. PIPES TO BE CONCRETE ENCASED (SUPPORT TYPE 12u) SHOWN ACCORDINGLY: 
8. ALL LEVELS ELECTRONICALLY GENERATED. NO LEVEL BOOK AVAILABLE.
9. EXISTING SEWERS TO BE DECOMMISSIONED AS FOLLOWS:
- i) SEWER 'A'-B'-C'-D' APPROX. 360m TO BE DISUSED. (WO 41047 DN1200 RC 1958)
- ii) SEWER 'C'-E' APPROX. 9.0m TO BE DISUSED (WO 27474 DN2525 C1CL 1960)
- iii) SEWER 'F'-G' APPROX. 90.58m TO BE DISUSED (WO 41656 DN425 C1CL 1960)
10. UNLESS NOTED OTHERWISE SEWERS TO BE DECOMMISSIONED AS FOLLOWS:
- i) DISUSED PIPES SHALL BE GROUT FILLED OR MAY BE BROKEN OUT AND DISPOSED OF.
- ii) DISUSED MAINTENANCE STRUCTURES SHALL HAVE UPPER 1.0m TO BE BROKEN OUT AND REMOVED REMAINING M.H. STRUCTURE TO BE SAND FILLED AND COMPACTED.

11. ALL EXISTING CUSTOMER SEWER CONNECTIONS TO REDUNDANT SEWERS SHALL BE RECONNECTED TO THE NEW SEWER BY A LICENSED PLUMBER, THE WORKS MUST BE INSTALLED IN ACCORDANCE WITH THE CURRENT NSW CODE OF PRACTICE FOR PLUMBING AND DRAINAGE AND AS/NZS3500. AND INSPECTED BY A N.S.W. FAIR TRADING PLUMBING INSPECTION ASSURANCE SERVICE (PIAS) OFFICER PRIOR TO BACKFILL.
12. BUILDING OVER/ADJACENT TO SEWER. CONDITIONS APPLY. REFER TO QUICKCHECK.
13. NOT USED.
14. THE MINIMUM NUMBER OF COMPACTION TESTS REQUIRED TO SATISFY THE SEWERAGE CODE OF AUSTRALIA (CLAUSE 22.3.4.4) ARE:
- | ENVIRONMENT | |
|--------------------------------|--|
| <u>PIPE EMBEDMENT ZONE:</u> | NIL (REFER CL. 22.3.3.1) |
| <u>TRENCH FILL ZONE:</u> | 12 (1 TESTS / 900mm LAYER / 100m) |
| <u>MAINTENANCE STRUCTURES:</u> | 32 (1 TEST / 1m LAYER WITHIN 300mm OF EACH M.H. OR M.S.) |
15. U.N.O. ALL M.H.'S SHALL BE CONSTRUCTED IN ACCORDANCE WITH DTC-2200 AND SUPPLEMENTAL REFERENCE DRAWINGS: DTC-2000, DTC-2220, DTC-2221, DTC-2222 & DTC-2223 WITH TYPE 2 PRECAST ROOF SLAB AND TIMBER PIPE SUPPORT - REFER SHEET 11
16. REFER TO SHEET 5 FOR CONSTRUCTION NOTES.
17. ⊕ REFER SEWER SET OUT TABLE - SHEET 5.

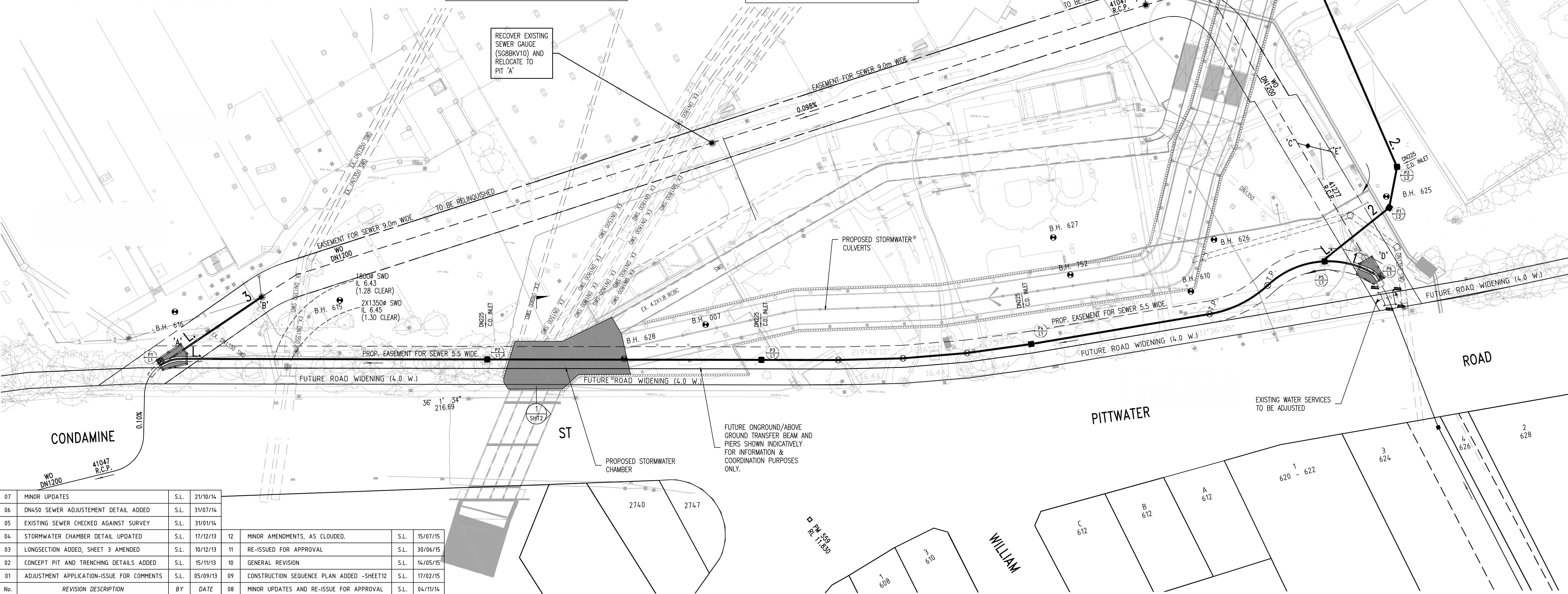
18. REINFORCED CONCRETE PIPES SHALL BE IN ACCORDANCE WITH WSA 113, WITH THE FOLLOWING ADDITIONAL REQUIREMENTS:
- i) MINIMUM CEMENT CONTENT 500kg/m³;
 - ii) INTERNAL COVER TO REINFORCEMENT SHALL BE 30mm
 - iii) HDPE LINING THICKNESS SHALL BE 5mm MIN.

CAUTION
EXISTING SERVICES ALLOCATED IN FOOTPATH RESERVE ARE
SUBJECT TO VARIABLE PLACEMENT. THE CONTRACTOR IS
REQUIRED TO ACQUIRE THE LATEST SEARCH INFORMATION
& FIELD CHECK AT THE TIME OF WORKS.

RECOVER EXISTING
SEWER GAUGE
(SG8BKV10) AND
RELOCATE TO
PIT 'A'

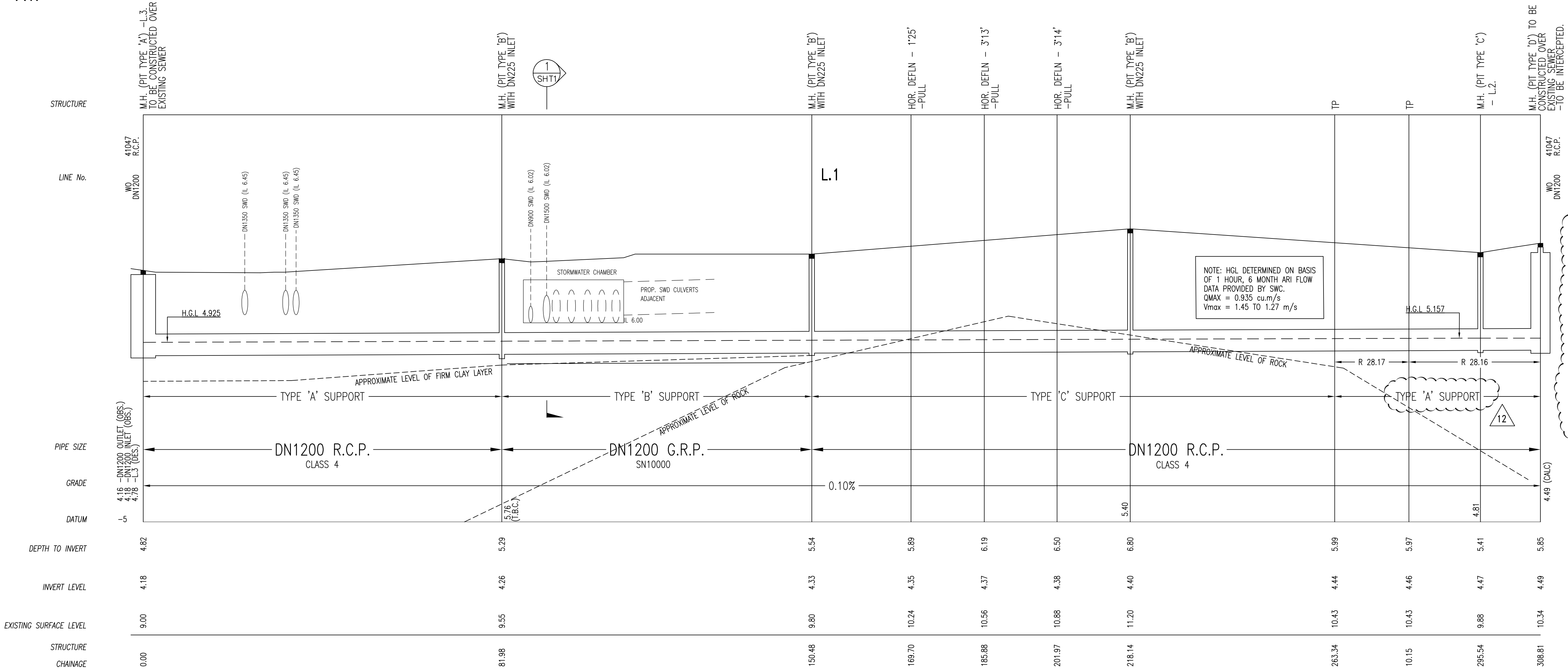
ENVIRONMENTAL REQUIREMENTS

- 1 THE MAIN CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS IN ANY REVIEW OF ENVIRONMENTAL FACTORS (REF) REPORT.
- 2 SILT-STOP FENCES OR STRAW BALE FILTERS TO BE INSTALLED DOWNSLOPE OF ALL WORKS, PRIOR TO ANY CONSTRUCTION ACTIVITY, EFFECTIVELY MAINTAINED, & TO BE REMOVED ONLY AFTER THE AREA HAS BEEN SATISFACTORILY REVEGETATED.
- 3 THE EXTENT OF CLEARING OF VEGETATION IS TO BE KEPT TO THE ABSOLUTE MINIMUM NECESSARY TO EFFECT THE WORKS.
- 4 AREAS BEYOND WHICH DISTURBANCE WILL NOT BE PERMITTED, SHALL BE SECURED WITH EXCLUSION FENCING AS AGREED TO BY THE SUPERINTENDENT.
- 5 TOPSOIL FROM CONSTRUCTION AREAS IS TO BE STRIPPED & STOCKPILED, PRIOR TO ANY CONSTRUCTION ACTIVITY FOR LATER REUSE IN SITE RESTORATION.
- 6 NATIVE VEGETATION IN BUSHLAND AREAS IS TO BE STRIPPED & STOCKPILED, PRIOR TO ANY CONSTRUCTION ACTIVITY FOR LATER REUSE IN SITE RESTORATION.
- 7 ALL STOCKPILES OF ERODABLE MATERIAL ARE TO BE SURROUNDED BY A BANK OF STRAW BALES STAKED INTO THE GROUND.
- 8 ALL DISTURBED AREAS ARE TO BE RESTORED, STABILISED & RESEEDED/REVEGETATED IMMEDIATELY UPON COMPLETION OF CONSTRUCTION ACTIVITIES.
- 9 SILTATION CONTROLS, SITE RESTORATION AND ENVIRONMENTAL REQUIREMENTS TO BE CARRIED OUT TO THE SATISFACTION OF THE SUPERINTENDENT.



07	MINOR UPDATES	S.L.	21/10/14			
06	DN450 SEWER ADJUSTMENT DETAIL ADDED	S.L.	31/07/14			
05	EXISTING SEWER CHECKED AGAINST SURVEY	S.L.	31/01/14			
04	STORMWATER CHAMBER DETAIL UPDATED	S.L.	17/12/13	12	MINOR AMENDMENTS, AS CLOUDED.	S.L. 15/07/15
03	LONGSECTION ADDED, SHEET 3 AMENDED	S.L.	10/12/13	11	RE-ISSUED FOR APPROVAL	S.L. 30/06/15
02	CONCEPT PIT AND TRENCHING DETAILS ADDED	S.L.	15/11/13	10	GENERAL REVISION	S.L. 14/05/15
01	ADJUSTMENT APPLICATION-ISSUE FOR COMMENTS	S.L.	05/09/13	09	CONSTRUCTION SEQUENCE PLAN ADDED -SHEET12	S.L. 07/02/15
No.	REVISION DESCRIPTION	BY	DATE	08	MINOR UPDATES AND RE-ISSUE FOR APPROVAL	S.L. 14/01/14

PLAN TO BE READ IN CONJUNCTION WITH CURRENT SYDNEY WATER STANDARDS SYDNEY WATER CORPORATION PRIOR TO COMMENCEMENT OF EXCAVATION FOR PROPOSED AND EXISTING SERVICES CONTACT :- DIAL BEFORE YOU DIG Ph. 1100 ELECTRICITY ENDOWAUR ENERGY Ph. 131 003 GAS JEMENA GAS Ph. 131 999 TELECOMMUNICATIONS TELSTRA Ph. 132 203 GIVING AT LEAST 48 HOURS NOTICE.	UTILITIES				WORK AS CONSTRUCTED CERTIFICATION				PIPE SCHEDULE				AUSTRALIAN HEIGHT DATUM		NO AMENDMENTS ARE TO BE MADE TO THIS PLAN WITHOUT REFERENCE TO SYDNEY WATER. THIS PLAN IS NOT NECESSARILY UP TO DATE OR CORRECT AND SYDNEY WATER ACCEPTS NO RESPONSIBILITY.		Sydney WATER SYDNEY WATER CORPORATION		
	TYPE		DATE	REF.	TYPE		DATE	REF.	DEVELOPER		SIZE (DN)	TYPE	CLASS	LENGTH	PIPE JOINING METHOD / NOTES	SCALES		Case No. 134916WWW	
	WATER: DN100 Water		14.04.14	HYDRA	STORMWATER: ---SWD---		04.04.14	CARDNO	WATER SERVICE CO-ORDINATOR		1200	G.R.P.	SN10000	65.50	SEE NOTE 18.	PLAN 1:500 SECTION { HOR. VERT. {		U.S. DIRECTORY 177-L12 (Version 7 Digital)	
	GAS: G(HP) G(HP)		08.10.13	SURVEY	PROP STORMWATER: ---SWD---		04.04.14	CARDNO	CONSTRUCTOR		1200	R.C.P.	4	240.31		CROSS SECTIONS --- NATURAL		WARRINGAH SEWERAGE	
	TELSTRA: TEL TEL		08.10.13	SURVEY	ENDEAVOUR ENERGY: -IE-		03.03.14	DBYD	COMPLETED		450	P.P.P.	SN10	180.43		LENGTHS, DEPTHS & LEVELS ARE IN METRES.		ADJUSTMENT OF	
					PROP ENDEAVOUR ENERGY: -IE---		04.04.14	CARDNO	DESIGNER		300	u.P.V.C.	SN8	30.42				NARRABEEN SUBMAIN	
										I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS.		DESIGN HEAD . . . m		BOUNDARY TRAPS REQUIRED.				SHEET 1 OF 15	
																		File No. N/A	



NOTE:
APPROXIMATE ROCK LINE IS INDICATIVE ONLY.
AND IS REPRESENTATIVE OF THE INTERFACE
BETWEEN:

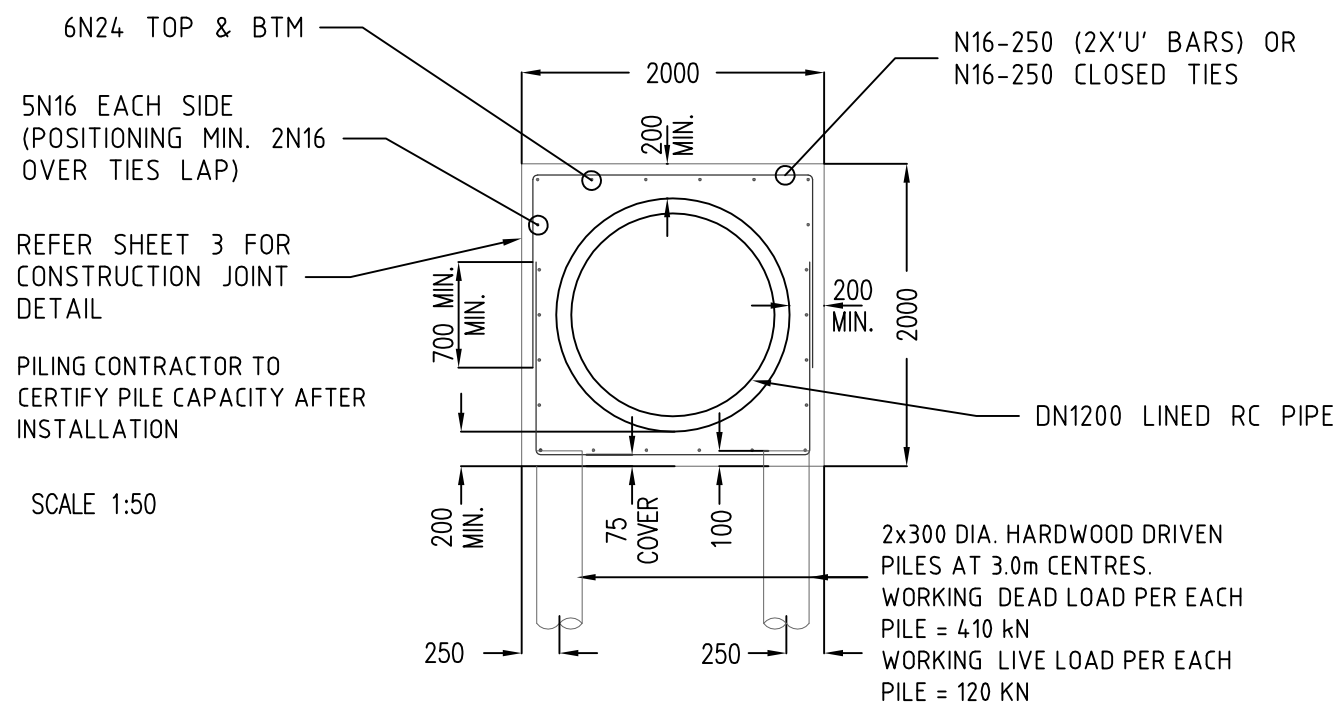
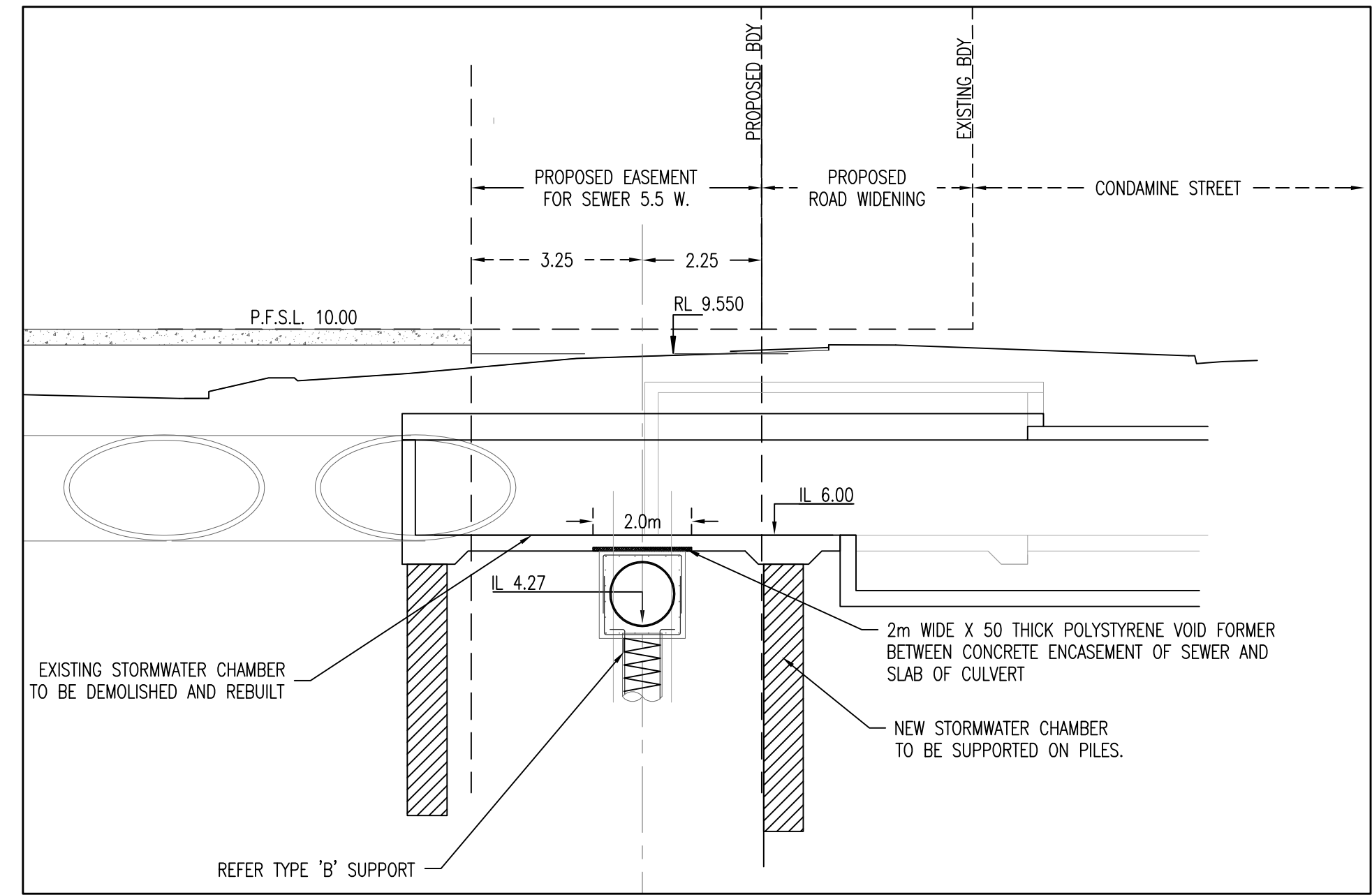
STIFF AND MEDIUM DENSE SOILS (INCLUDING
MEDIUM DENSE AND DENSE SAND AND VERY
STIFF AND HARD CLAY AND SANDY CLAY)

AND

HAWKESBURY SANDSTONE (CLASS V EXTREMELY
LOW STRENGTH SANDSTONE MAY ALSO INCLUDE
AND HIGH STRENGTH CLAY SEAMS).

CONTRACTOR TO REFER TO DOUGLAS
PARTNERS REPORT.

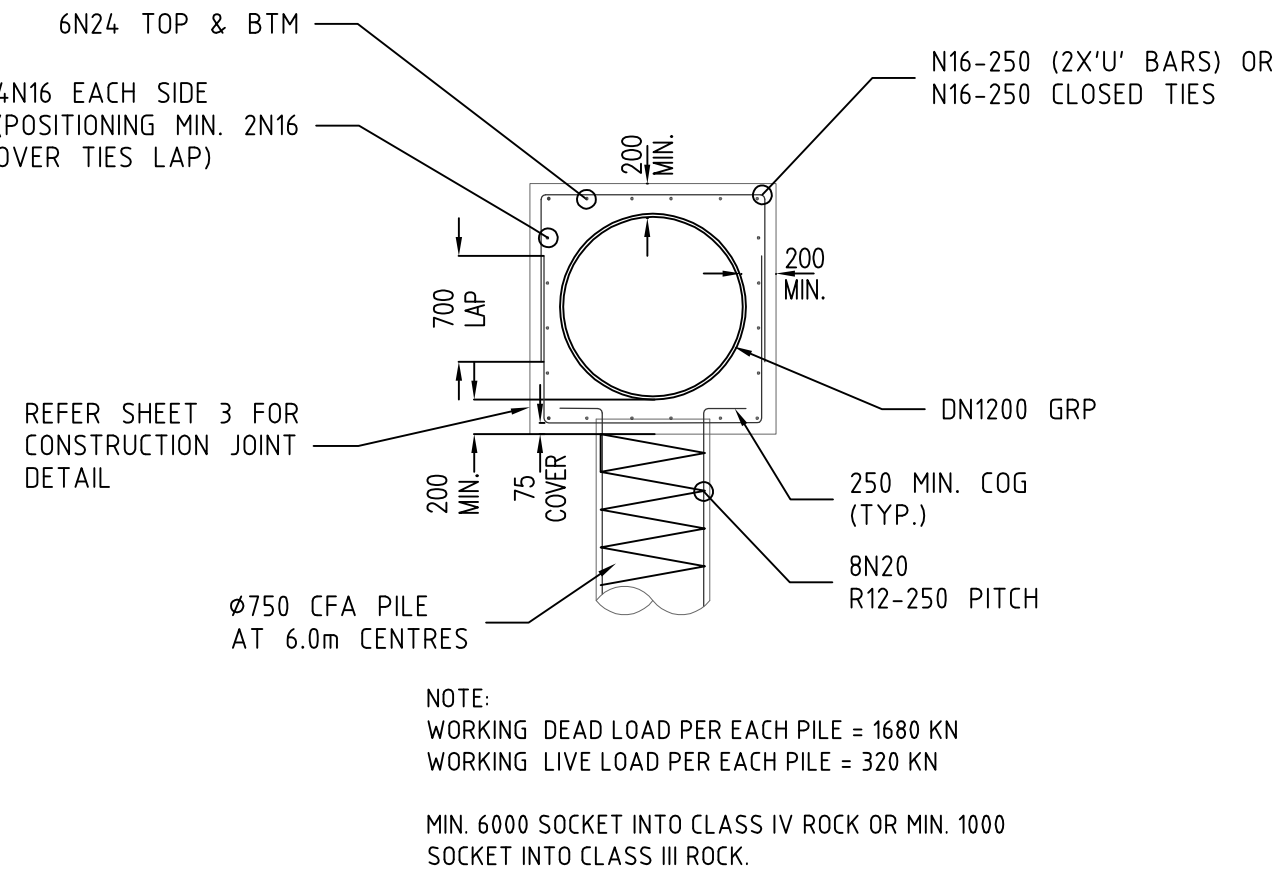
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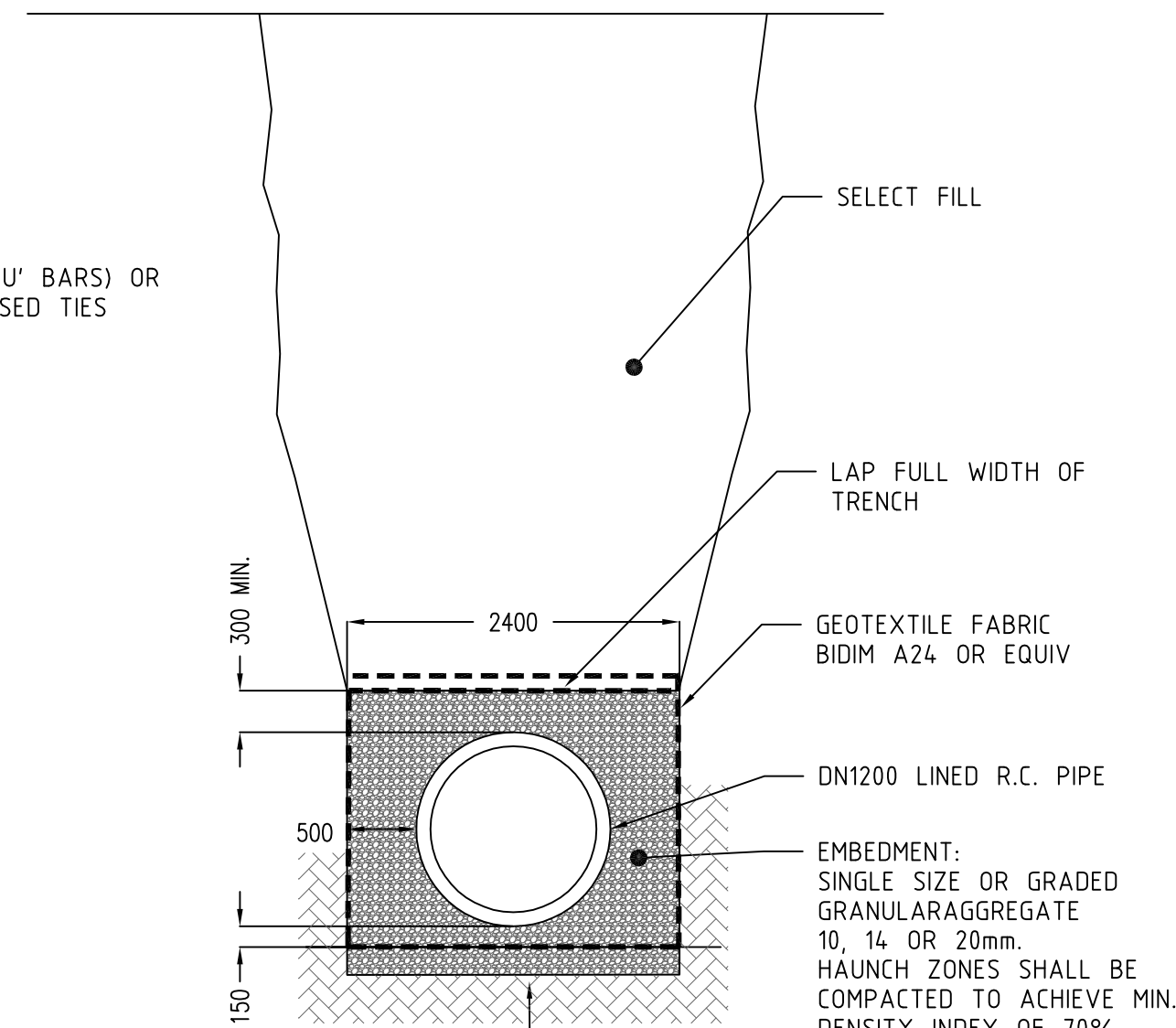
TYPE 'A' SUPPORT
SCALE 1:50

TIMBER PILE NOTES:
T.1. GRADE: HARDWOOD F17
T.2. TREATMENT LEVEL: H5

STRUCTURAL CRITERIA
SD1. SOIL PROPERTIES:
DENSITY (γ) = 20kN/m²
SD2. LOADS:
LIVE LOAD = SM1600 TO AS 5100.2

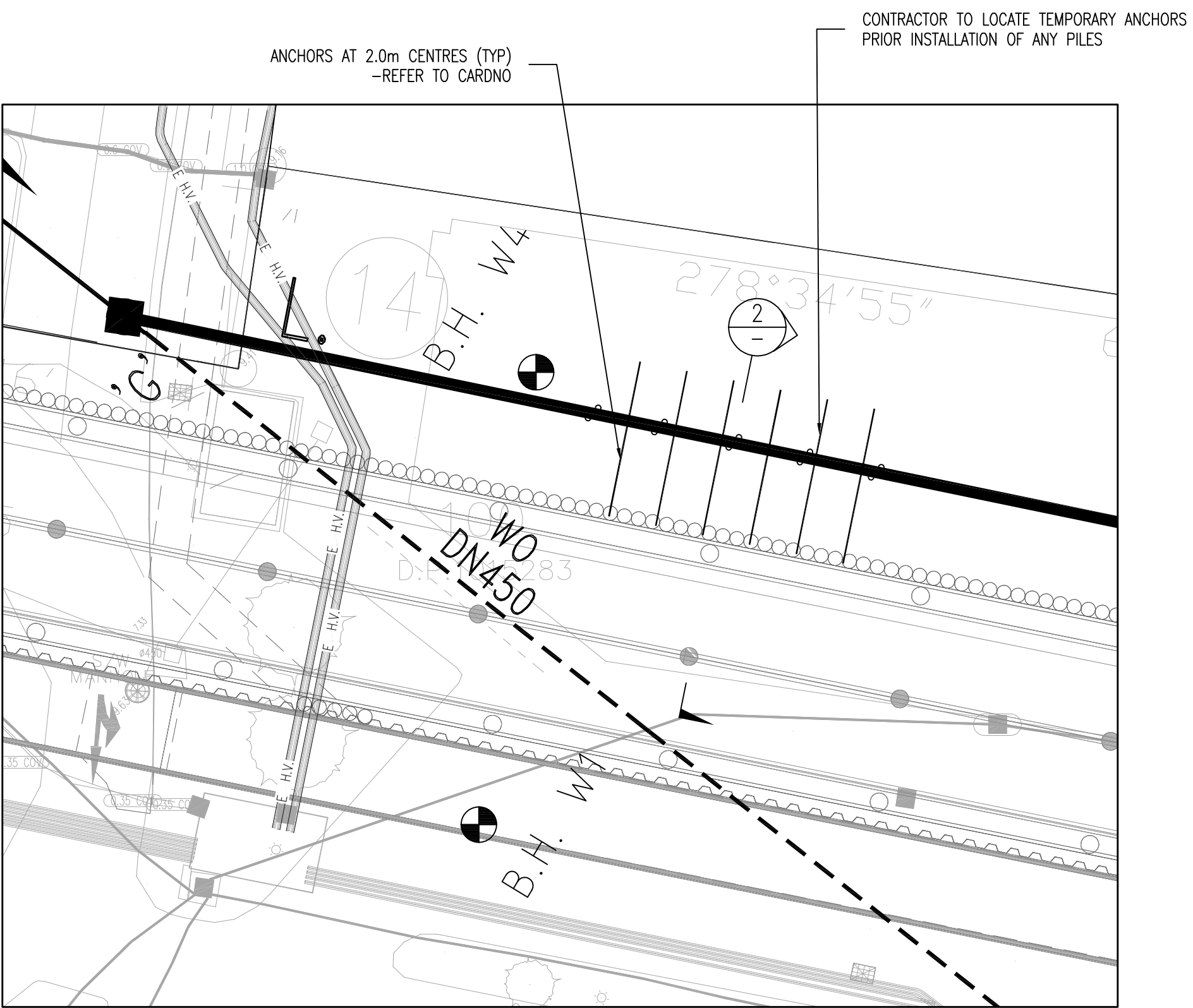
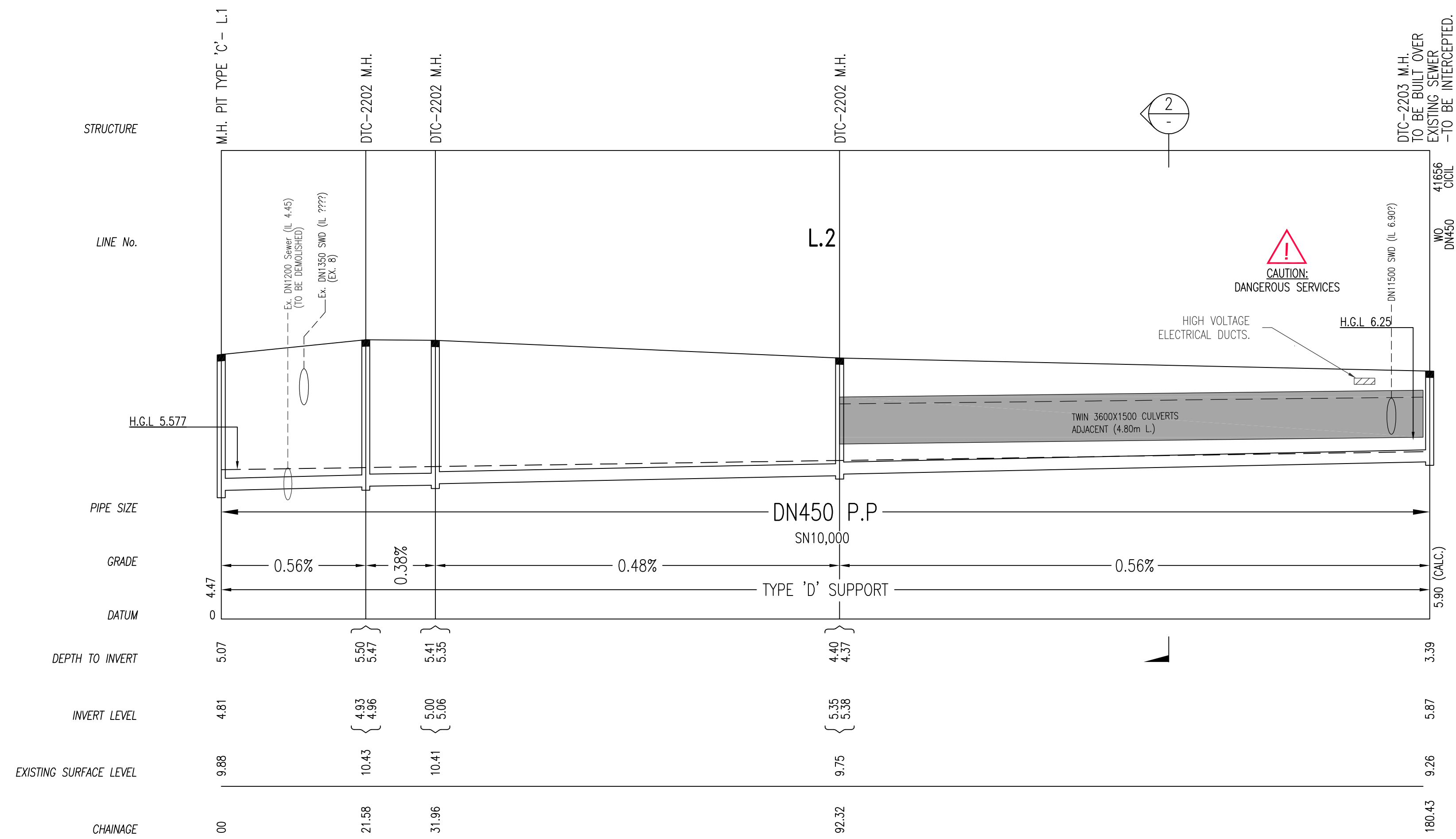


TYPE 'B' SUPPORT
SCALE 1:50

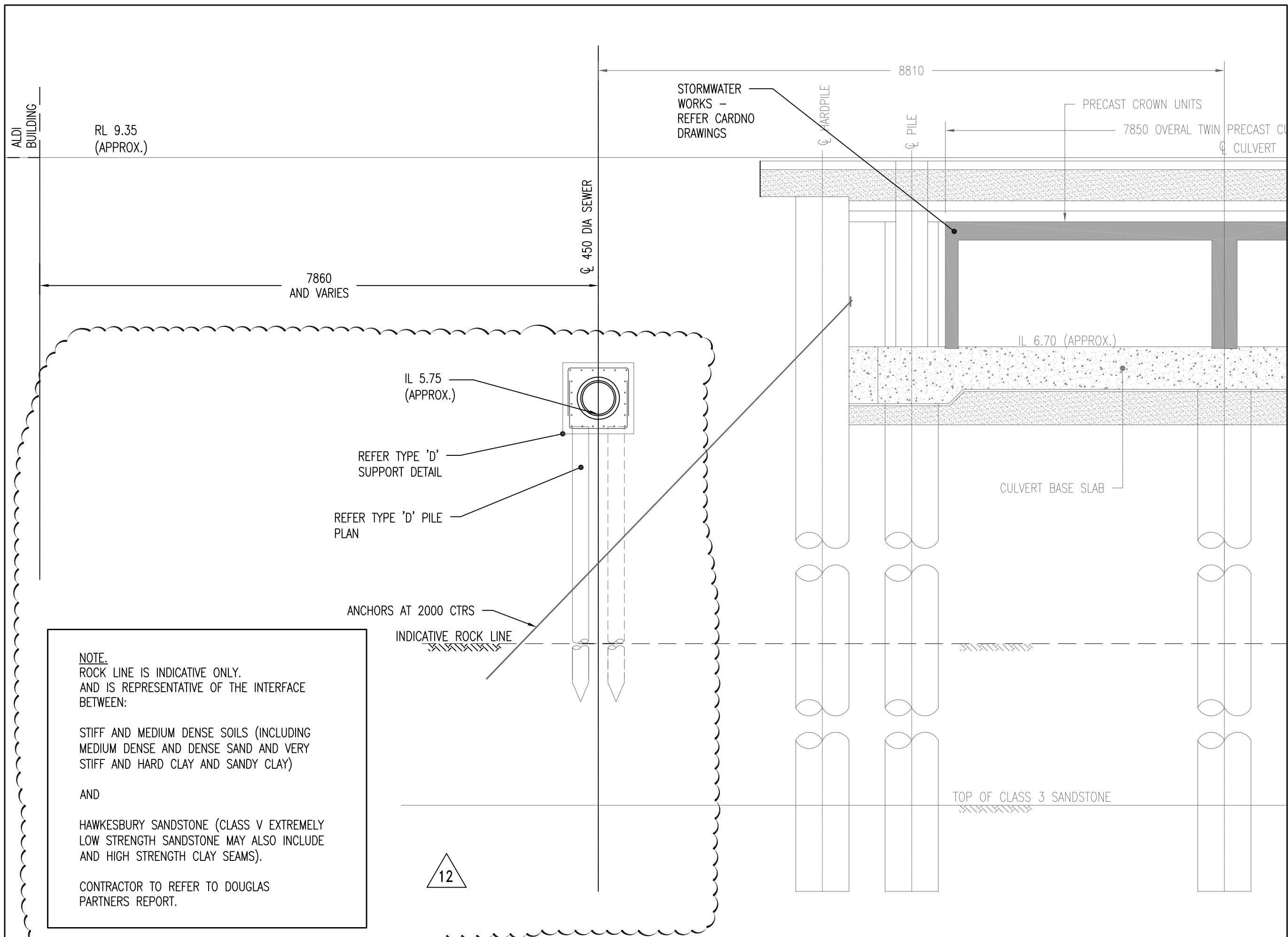


TYPE 'C' SUPPORT
SCALE 1:50

WORK AS CONSTRUCTED CERTIFICATION		Sydney WATER SYDNEY WATER CORPORATION	
DEVELOPER W.S.C.		CASE 134916WW SHT 2 OF 15 SHTS.	
CONSTRUCTOR COMPLETED			
W.A.C. PREPARED			
DESIGNER			
I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS		SYDNEY WATER CORPORATION FOR DETAILS OF SERVICES SEE SHEET 1	



STORMWATER SHORING WALL ANCHOR AND SEWER PILE COORDINATION



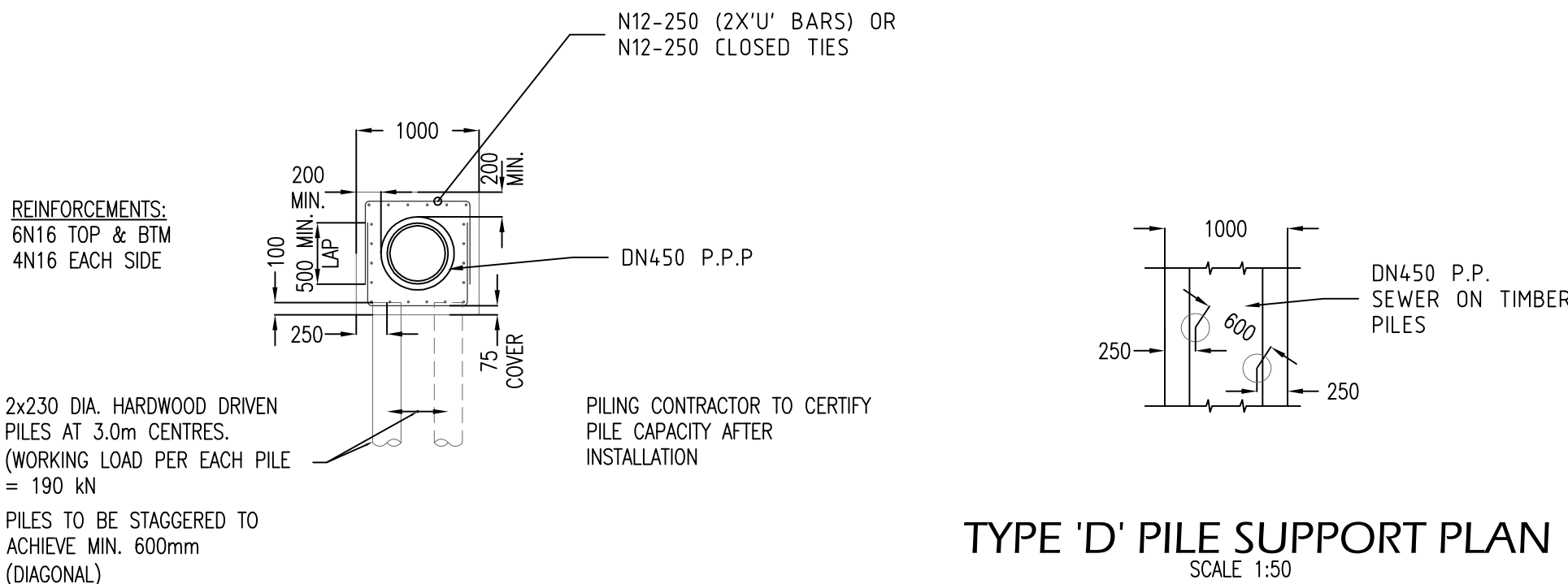
NOTE
ROCK LINE IS INDICATIVE ONLY.
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BETWEEN:

STIFF AND MEDIUM DENSE SOILS (INCLUDING
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AND

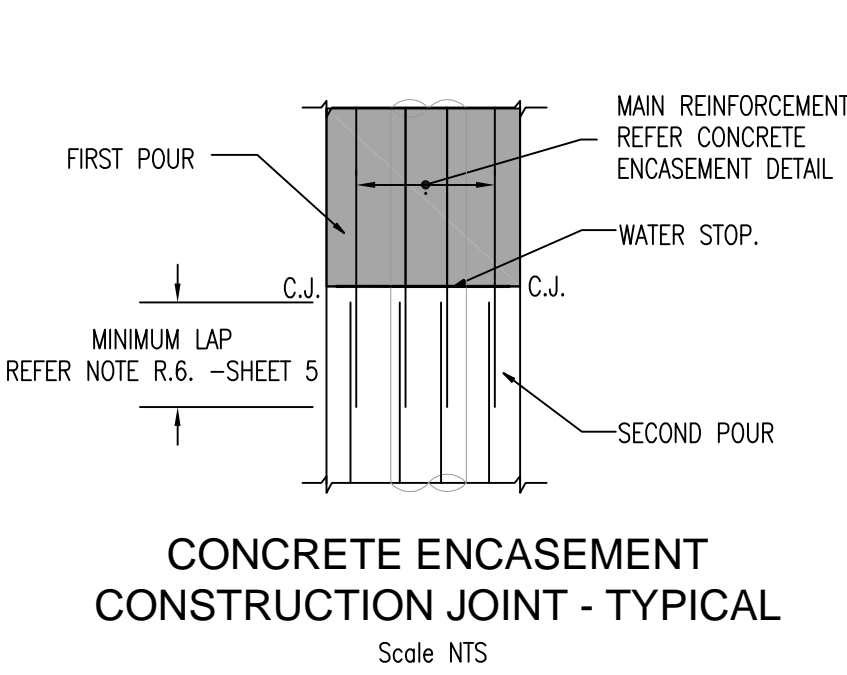
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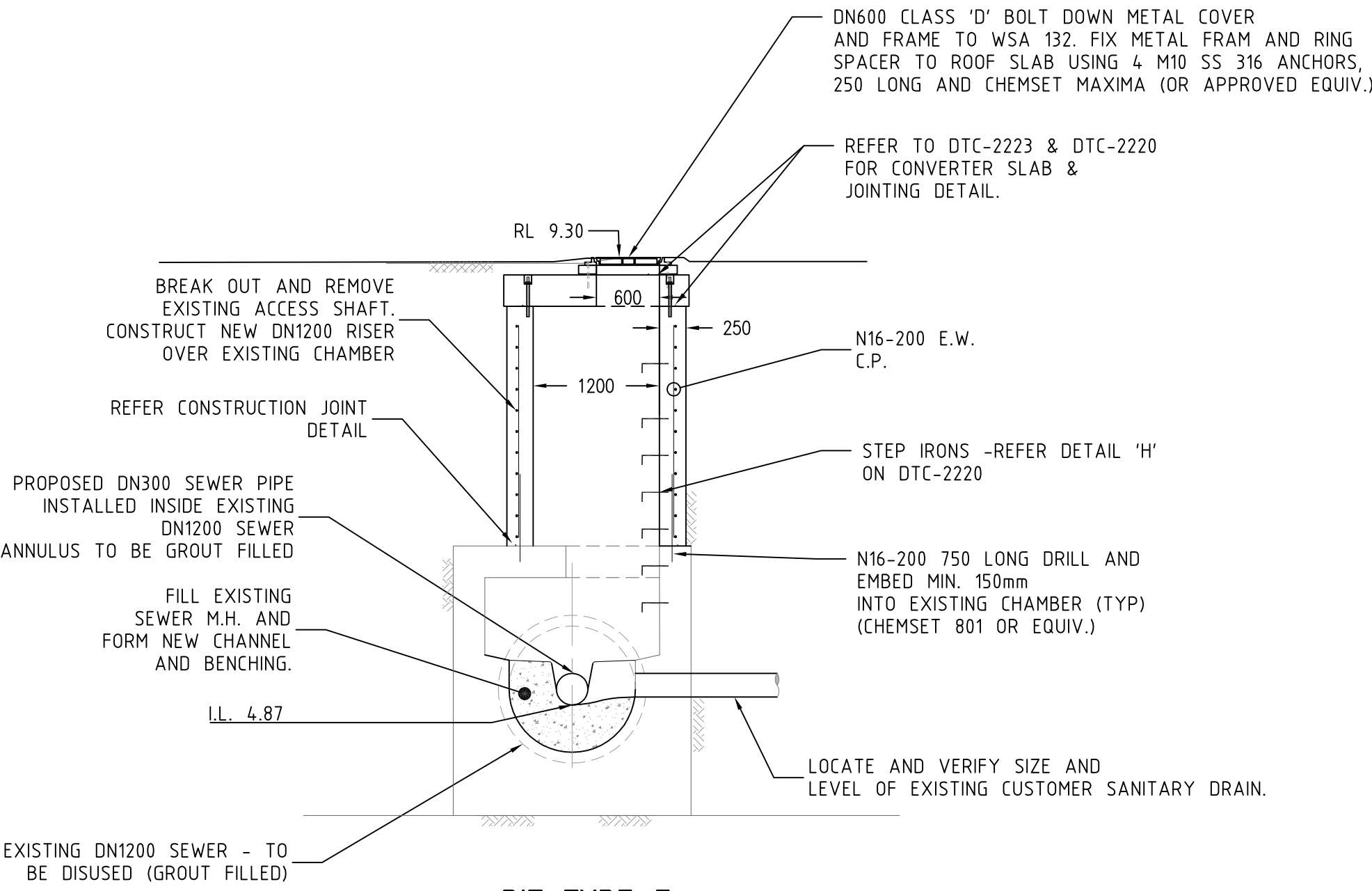
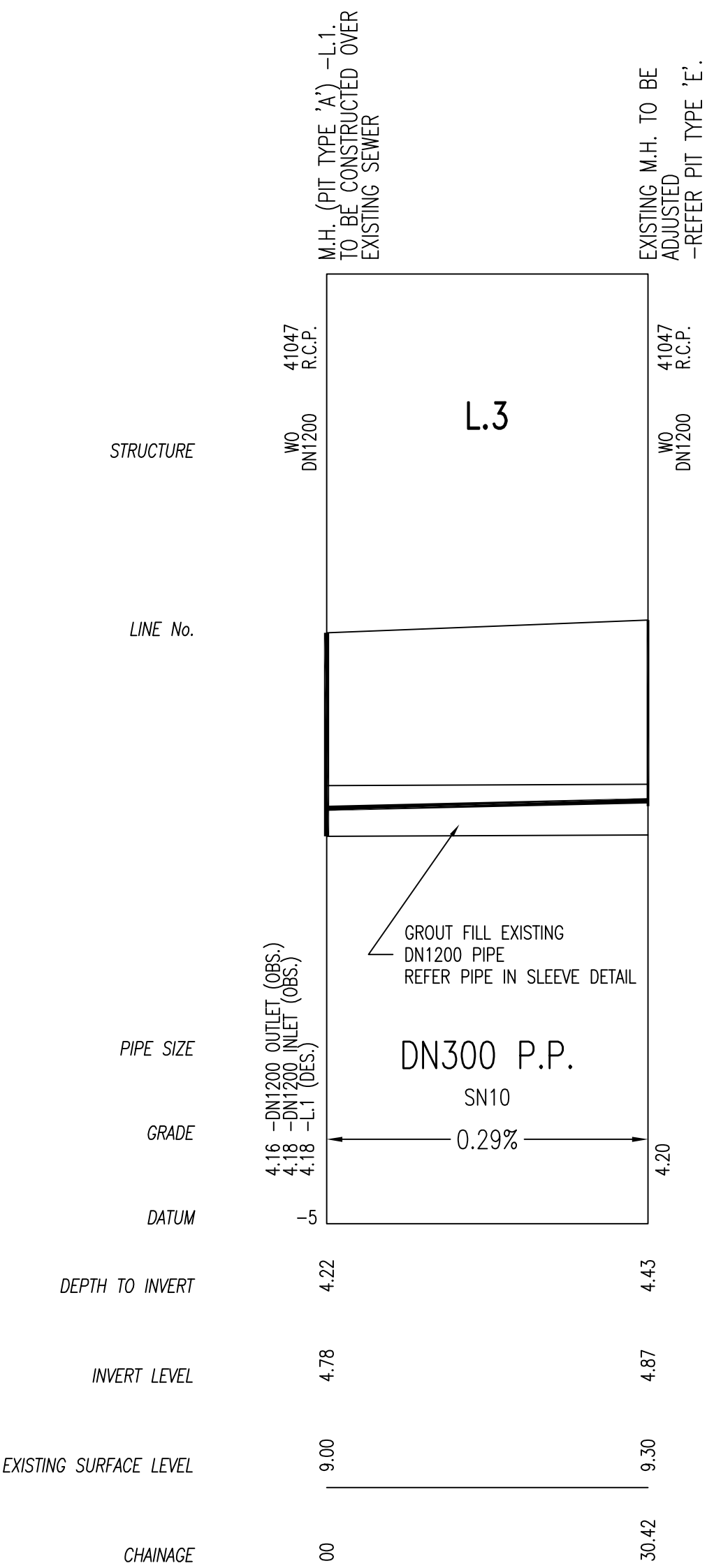
TYPE 'D' SUPPORT
SCALE 1:50

TYPE 'D' PILE SUPPORT PLAN
SCALE 1:50

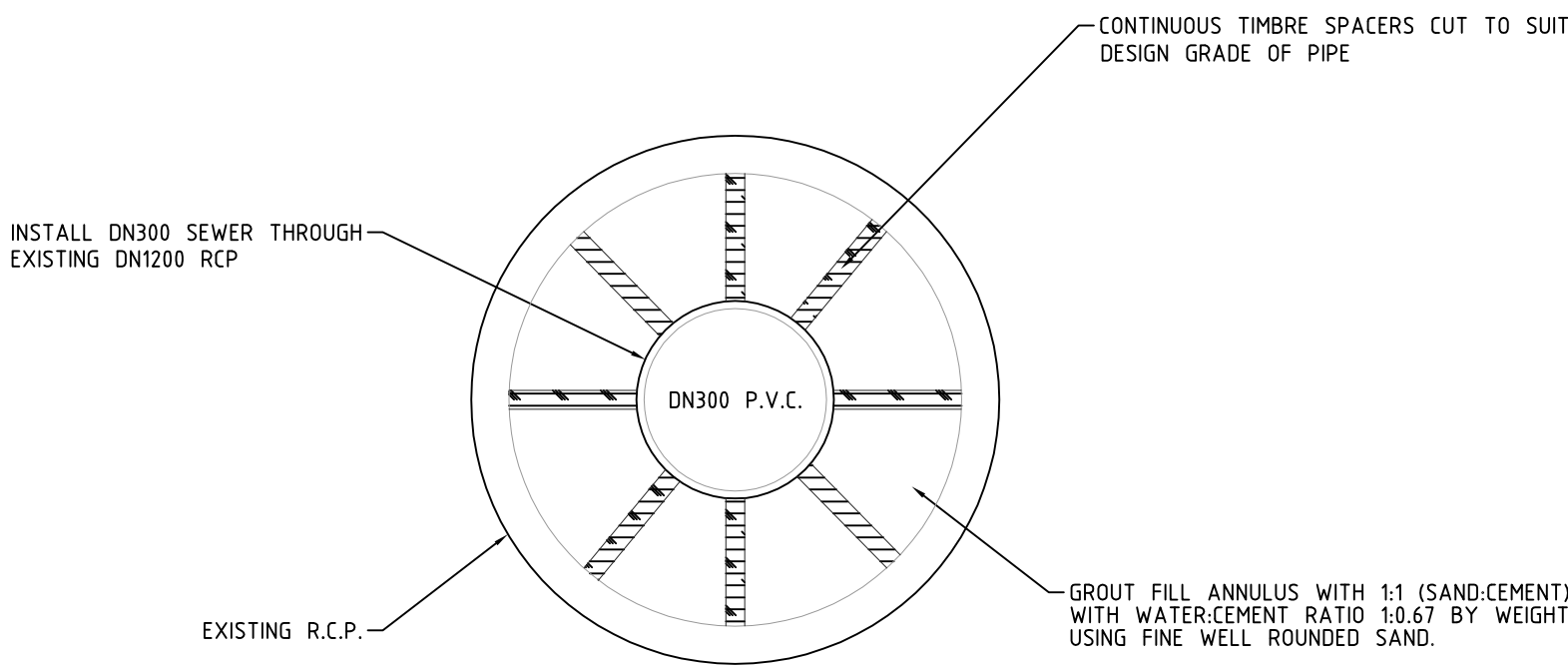


- NOTES:
1. ALL REINFORCEMENT SHALL HAVE MIN. 70mm MIN. COVER.
 2. CONCRETE SHALL BE N40 TO WSA PS-357.
 3. ONLY PLASTIC CHAIRS ARE PERMITTED TO BE USED DURING INSTALLING OF REINFORCEMENT
 4. ALL REINFORCEMENT TO MEET AS/NZ 4671 GRADE 500N
 5. ALL CONSTRUCTION JOINTS TO HAVE WATERSTOPS PLACED. JOINT SURFACE TO BE SCABBLED, BRUSHED CLEAN AND PRIMED WITH CEMENT SLURRY PRIOR TO NEXT POUR.
 6. WATERSTOPS: HYDROTITE CJ-0725-3K OR APPROVED EQUIV. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS WITH 50 MIN. COVER
 7. DO NOT ALLOW CONCRETE TO ENTER OR IMPEDE RUBBER RING JOINT.
 8. CONSTRUCTION JOINTS TO BE PROVIDED AT MAX. 25m CTRS.
 7. CONSTRUCTIONS JOINTS TO BE LOCATED AT THIRD SPANS OF CONCRETE ENCASEMENT.

WORK AS CONSTRUCTED CERTIFICATION		Sydney WATER		SYDNEY WATER CORPORATION	
DEVELOPER		CASE 134916WW		SHT 3 OF 15 SHTS.	
W.S.C.					
CONSTRUCTOR					
COMPLETED					
W.A.C. PREPARED					
DESIGNER		SYDNEY WATER CORPORATION			
I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS		FOR DETAILS OF SERVICES SEE SHEET 1			



PIT TYPE E
ADJUSTMENT OF EXISTING M.H.
AT L.3. CH 30.42
SCALE 1:50



PIPE IN SLEEVE DETAIL
SCALE: NTS

WORK AS CONSTRUCTED CERTIFICATION		Sydney WATER SYDNEY WATER CORPORATION	
DEVELOPER	.....	CASE 134916WW | SHT 4 OF 15 SHTS.	
W.S.C.	.....	
CONSTRUCTOR	.....	
COMPLETED	.....	
W.A.C. PREPARED	.....	SYDNEY WATER CORPORATION FOR DETAILS OF SERVICES SEE SHEET 1	
DESIGNER	.....	
I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS			

A1F
GENERAL NOTES

- G1.

THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH OTHER CONSULTANTS DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS THAT MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCIES IN THESE DOCUMENTS SHALL BE REFERRED TO THE SUPERINTENDENT FOR A DECISION BEFORE PROCEEDING WITH THE WORK.
- G2.

THE CONTRACTOR SHALL CHECK AND BE RESPONSIBLE FOR THE CORRECTNESS OF ALL DIMENSIONS AND ANY DISCREPANCY SHALL BE REPORTED IMMEDIATELY TO THE SUPERINTENDENT. DIMENSIONS SHALL NOT BE OBTAINED BY SCALING FROM THE DRAWINGS.
- G3.

STABILITY OF THE STRUCTURE DURING CONSTRUCTION AND EXCAVATION IN THE VICINITY OF ADJACENT STRUCTURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. NO PART OF THE STRUCTURE SHALL BE OVER STRESSED. APPROVAL OF ALL PROPOSALS MUST BE GRANTED BY THE SUPERINTENDENT PRIOR TO THE COMMENCEMENT OF WORK.
- G4.

THE CONTRACTOR SHALL NOTIFY THE ENGINEER FORTY EIGHT (48) HOURS BEFORE THE REINFORCEMENT IS COMPLETED. THE CONTRACTOR SHALL ALLOW TWO (2) HOURS AFTER THE COMPLETION OF THE REINFORCEMENT FOR THE ENGINEER'S INSPECTION. CONCRETE SHALL NOT BE ORDERED UNTIL THE REINFORCEMENT IS APPROVED BY THE ENGINEER.
- G5.

ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT SAA CODES, THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITY AND THE SPECIFICATION.
- G6.

NO CHANGES SHALL BE MADE WITHOUT THE WRITTEN CONSENT OF THE ENGINEER.
- G7.

U.N.O. DENOTES UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- G8.

AT THE COMPLETION OF WORKS, ALL DISTURBED AREAS INCLUDING ROAD PAVEMENTS, KERBS AND FOOTPATHS SHALL BE REINSTATED TO MATCH EXISTING ADJACENT MATERIAL.
- G9.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL SERVICES TO BE RELOCATED, ADJUSTED OR PROTECTED.
- G8.

DESIGN LOADS:
LIVE LOAD = SM1600 LOAD TO AS5100.2
SURCHARGE AROUND STRUCTURES = 20kPa
UPLIFT FROM GROUND WATER = 40kPa

FORMWORK

- FW1.

FORMWORK AND CONCRETE FINISHES SHALL COMPLY WITH AS3610 SAA FORMWORK CODE.
SURFACES EXPOSED TO VIEW TO – CLASS 2;
SURFACES NOT EXPOSED TO VIEW – CLASS 4
- FW2.

CONCRETE SHALL ACHIEVE A MINIMUM COMPRESSIVE STRENGTH OF 25MPA PRIOR TO STRIPPING OF FORMWORK

CONCRETE NOTES

- C1.

CONCRETE DIMENSIONS SHOWN DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.
- CS.

MINIMUM CLEAR COVER TO REINFORCEMENT SHALL BE 75mm AT INTERNAL FACE AND 55mm COVER AT EXTERNAL FACE UNO.
- C3.

CONCRETE SHALL BE SPECIAL CLASS SCC40 TO WSA 114–2002 EXCEPT AS VARIED BELOW.

SECTION 4 – MIX DESIGN	
MINIMUM F'c AT 28 DAYS	40MPa
MINIMUM BINDER CONTENT	450kg/m³
MAXIMUM 56 DAY DRYING SHRINKAGE STRAIN	600x10 ⁻⁶
MAXIMUM WATER:CEMENT RATIO	0.45
SLUMP	80–120mm

SECTION 6 – SUPPLEMENTARY CEMENTITIOUS MATERIALS

THE TOTAL AMOUNT OF SUPPLEMENTARY CEMENTITIOUS MATERIALS SHALL NOT BE MORE THEN 60% BY WEIGHT OF THE TOTAL CEMENT MATERIAL.

SECTION 6.2 – FLYASH

THE MAXIMUM AMOUNT OF SLAG FLYASH SHALL BE 25% BY WEIGHT OF THE TOTAL CEMENT MATERIAL.

SECTION 6.3 – SLAG

THE MAXIMUM AMOUNT OF SLAG SHALL BE 50% BY WEIGHT OF THE TOTAL CEMENT MATERIAL.

SECTION 6.5 – AGGREGATES.

THE MAXIMUM NOMINAL SIZE OF AGGREGATE SHALL BE 20mm. RECYCLED MATERIAL OR SLAG PRODUCTS SHALL NOT BE USED AS AGGREGATES.

SECTION 6.7 – CHEMICAL ADMIXTURES.

WHERE TWO OR MORE ADMIXTURES ARE PROPOSED FOR INCORPORATION INTO A CONCRETE MIX THE MANUFACTURES SHALL CERTIFY THE COMPATIBILITY OF THE ADMIXTURES.

- C4.

ALL CONCRETE SHALL BE MECHANICALLY VIBRATED. THE VIBRATOR SHALL NOT BE USED TO SPREAD CONCRETE.
- C5.

CURING OF ALL CONCRETE TO BE ACHIEVED BY KEEPING SURFACES CONTINUOUSLY WET FOR A PERIOD OF 7 DAYS. POLYETHYLENE SHEETING OR WET HESSIAN MAY BE USED. POLYETHYLENE AND HESSIAN TO BE ADEQUATELY SECURED TO RESIST WIND AND TRAFFIC FORCES. ALTERNATIVE CURING MAY BE ACHIEVED BY APPLYING SIKa ANTISOL WB CURING COMPOUND OR APPROVED EQUIVALENT TO ALL SURFACES IN ACCORDANCE WITH THE MANUFACTURES REQUIREMENTS FOR A PERIOD OF 14 DAYS.
- C6.

CONCRETE SHALL ACHIEVE A MINIMUM COMPRESSIVE STRENGTH OF 32MPa PRIOR TO BACKFILLING AND TESTING OF STRUCTURES. BACKFILL SHALL BE PLACED AND COMPACTED EVENLY AROUND MAINTENANCE HOLES IN LAYERS NOT EXCEEDING 300mm LOOSE THICKNESS.

REINFORCEMENT NOTES

- R1.

STEEL REINFORCING MATERIALS SHALL BE TO AS/NZS4671.
- R2.

REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY: IT IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.
- R3.

DESIGNATION OF REINFORCEMENT BARS AS IN EXAMPLE:

No. OF BARS IN A GROUP

BAR GRADE AND TYPE

NOMINAL BAR SIZE IN mm

LOCATION OR COMMENT

SPACING IN mm

SHAPE – D

STRENGTH GRADE = 500MPa

DUCTILITY CLASS – N

17 N20 – 350 EF
- R4.

THE FOLLOWING ABBREVIATIONS APPLY TO THE LOCATION OF REINFORCEMENT:

EW EACH WAY

FF FAR FACE

CP CENTRALLY PLACED

EF EACH FACE

B BOTTOM

BB BOTTOM BOTTOM (LAID FIRST)

NF NEAR FACE

T TOP

TT TOP TOP (LAID LAST)
- R5.

EXTENT OF BARS SHOWN THUS:

TYPICAL BAR
- R6.

SPLICE REINFORCEMENT ONLY AT LOCATIONS SHOWN ON DRAWINGS. LAP LENGTHS TO COMPLY WITH THE FOLLOWING UNLESS NOTED OTHERWISE.

BAR TYPE AND SIZE	VERTICAL BARS	HORIZONTAL BARS WITH MORE THAN 300mm OF CONCRETE BELOW BAR	OTHER LOCATIONS	90° COG LENGTH
N12	500	550	500	200
N16	700	800	700	200
N20	1000	1250	1000	250
N24	1200	1500	1200	300
N28	1400	1750	1400	350
N32	1600	1900	1600	400
N36	1700	2200	1700	450

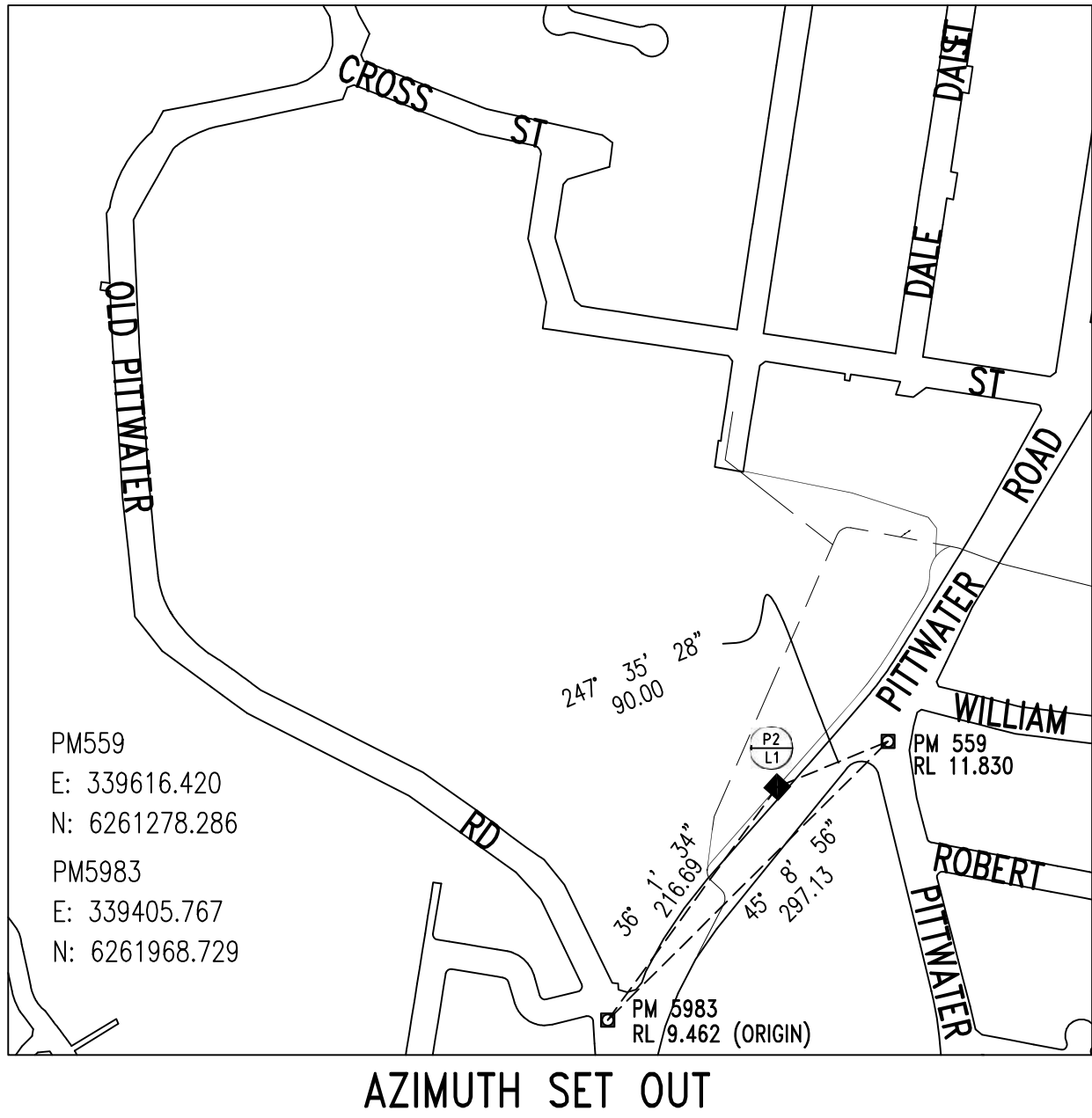
- R7.

REINFORCEMENT SHALL BE SUPPORTED ON APPROVED PLASTIC OR PLASTIC TIPPED WIRE STOOLS AT NOT MORE THAN 600MM CENTRE BOTHWAYS IN SLABS AND AT 1000MM CENTRES IN BEAMS.
- R7.

WELDING OF REINFORCEMENT IS NOT PERMITTED.
- R8.

EXPOSURE CLASS B2 FOR EXTERNAL CONCRETE FACE;
EXPOSURE CLASS D FOR INTERNAL CONCRETE FACE.
- R9.

MINIMUM COVER TO BE 55mm FOR CLASS B2 EXPOSURE;
MINIMUM COVER TO BE 75mm FOR CLASS D EXPOSURE.



SEWER SET OUT TABLE			
MGA ZONE 56			
PIT NUMBER	PIT TYPE	EASTING	NORTHING
P1/L1	A	339479.82	626082.26
P2/L1	B	339533.21	6262143.98
P3/L1	B	339578.40	6262195.46
PULL	N/A	339578.40	6262195.46
PULL	N/A	339591.08	6262209.90
PULL	N/A	339610.97	6262235.30
P4/L1	B	339619.83	6262248.83
TP	N/A	339643.52	6262287.32
TP	N/A	339647.68	6262302.94
P5/L1	C	339664.53	626235.56
P6/L1	D	302446.53	6240336.54
P1/L2	DTC-2200	339653.09	6262338.63
P2/L2	DTC-2200	339646.71	6262346.82
P3/L2	DTC-2200	339589.21	6262365.16
P4/L2	DTC-2200	339502.93	6262383.01

PILING NOTES -GENERAL

- P.1

THE CONTRACTOR SHALL PROVIDE A PILING SUBMISSION FOR REVIEW AND ACCEPTANCE BY THE WSC PRIOR TO UNDERTAKING THE WORKS. THE SUBMISSION SHALL INCLUDE:
- P.1.01

GEOTECHNICAL INFORMATION RELEVANT TO THE DESIGN OF THE PILING SYSTEM;
- P.1.02

DESIGN CALCULATIONS IN ACCORDANCE WITH AS2159–2009 INCLUDING LOAD AND LOADS COMBINATION CALCULATIONS FOR STRENGTH, SERVICIBILITY AND DURABILITY;
- P.1.03

MATERIAL SPECIFICATIONS FOR ALL COMPONENTS OF THE SYSTEM;
- P.1.04

PROTECTIVE TREATMENT FOR PILES;
- P.1.05

PILE SPLICE, WELDING PROCEDURES;
- P.1.06

DRAWINGS SHOWING PILE LAYOUT, POSITION, PILE LENGTH, CUT-OFF LEVEL, FOUNDING LEVEL AND POSITIONAL TOLERANCES OF THE PILES;
- P.1.07

HANDLING AND STORAGE OF PILES ON SITE;
- P.1.08

PROPOSED PILING EQUIPMENT INCLUDING PILING RIG, HAMMER, PILE HELMET, CUSHION ASSEMBLY, & PILE SHOES;
- P.1.09

CALCULATIONS OF PILE DRIVING ENERGY AND SET TO ACHIEVE THE REQUIRED PILE RESISTANCE; DRIVING METHOD AND PROCEDURE AND OR CONSTRUCTION METHODOLOGY;
- P.1.10

EQUIPMENT AND METHODS TO BE USED FOR PRE-BORING (IF REQUIRED);
- P.1.11

METHODOLOGY FOR REPAIRING SPLIT PILES INCLUDING DETAILS AND SPECIFICATIONS OF REPAIR BANDS;
- P.1.12

NUMBER AND LOCATIONS OF TEST PILES;
- P.1.13

PROPOSED TESTING METHODOLOGY FOR STATIC, DYNAMIC AND INTEGRITY TESTING, AND THEIR RESPECTIVE ACCEPTANCE CRITERIA;
- P.1.14

PROPOSED DRIVING RECORD SHEET.
- P.2

PILES GIVING ANOMALOUS RESULTS MUST BE SUBJECT TO ALTERNATIVE TESTING BY THE CONTRACTOR AND MAY BE REJECTED IF THEY DO NOT COMPLY WITH THE STANDARD. ALTERNATIVE TESTING IS AT THE DISCRETION OF THE SUPERINTENDENT BUT MAY INCLUDE STATIC LOAD TESTING IN ACCORDANCE WITH AS 2159 TO ENSURE THE PILE SERVICEABILITY AND ULTIMATE GEOTECHNICAL STRENGTH. ALL ALTERNATIVE TESTING IS AT NO COST TO THE PRINCIPAL.

- P.3

THE CONTRACTOR SHALL PROVIDE CERTIFICATE FOR ALL PILES INSTALLED AS MEETING THE DESIGN REQUIREMENTS.

TIMBRE PILING NOTES NOTES

- GENERAL:
- T.P.1

GRADE: HARDWOOD F17
- T.P.2

TREATMENT LEVEL: H5
- T.P.3

DESIGN AND PERFORMANCE: TO AS 2159
- T.P.4

MATERIALS AND INSTALLATION: TO AS 2159
- T.P.5

SETTLEMENT LIMITS FOR DN1200 SEWER:
TOTAL SETTLEMENT = 3mm
DIFFERENTIAL SETTLEMENT BETWEEN ADJACENT PILES = 1mm
- T.P.6

SETTLEMENT LIMITS FOR D450 SEWER:
MAX. TOTAL SETTLEMENT = 4mm
MAX. DIFFERENTIAL SETTLEMENT BETWEEN ADJACENT PILES = 2mm
- T.P.7

LOAD TEST:
10% OF PILES SHALL BE DYNAMICALLY TESTED, 10% OF PILES INTEGRITY TESTED.
- T.P.8

NUMBER OF TESTS CAN BE REDUCED WHERE THE PILE CONTRACTOR CAN PROVE THE GEOTECHNICAL STRENGTH REDUCTION FACTOR (*G) EMPLOYED FOR THE DESIGN, IN ACCORDANCE WITH AS 2159–2009 (PILING CODE) IS SUITABLY LOW. THE PILING CONTRACTOR SHALL ALSO PROVIDE AVERAGE RISK RATING CALCULATION TO JUSTIFY THE LEVEL OF TESTING EMPLOYED.
- T.P.6.

TOLERANCES:
CUT OFF LEVEL: 25mm;
PILE POSITION AT CUT OFF LEVEL: 50mm;
STRAIGHTNESS: 1 IN 50.

CFA PILING NOTES NOTES

- GENERAL:
- C.P.1.

DESIGN AND PERFORMANCE: TO AS 2159
- C.P.2.

MATERIALS AND INSTALLATION: TO AS 2159
- C.P.3.

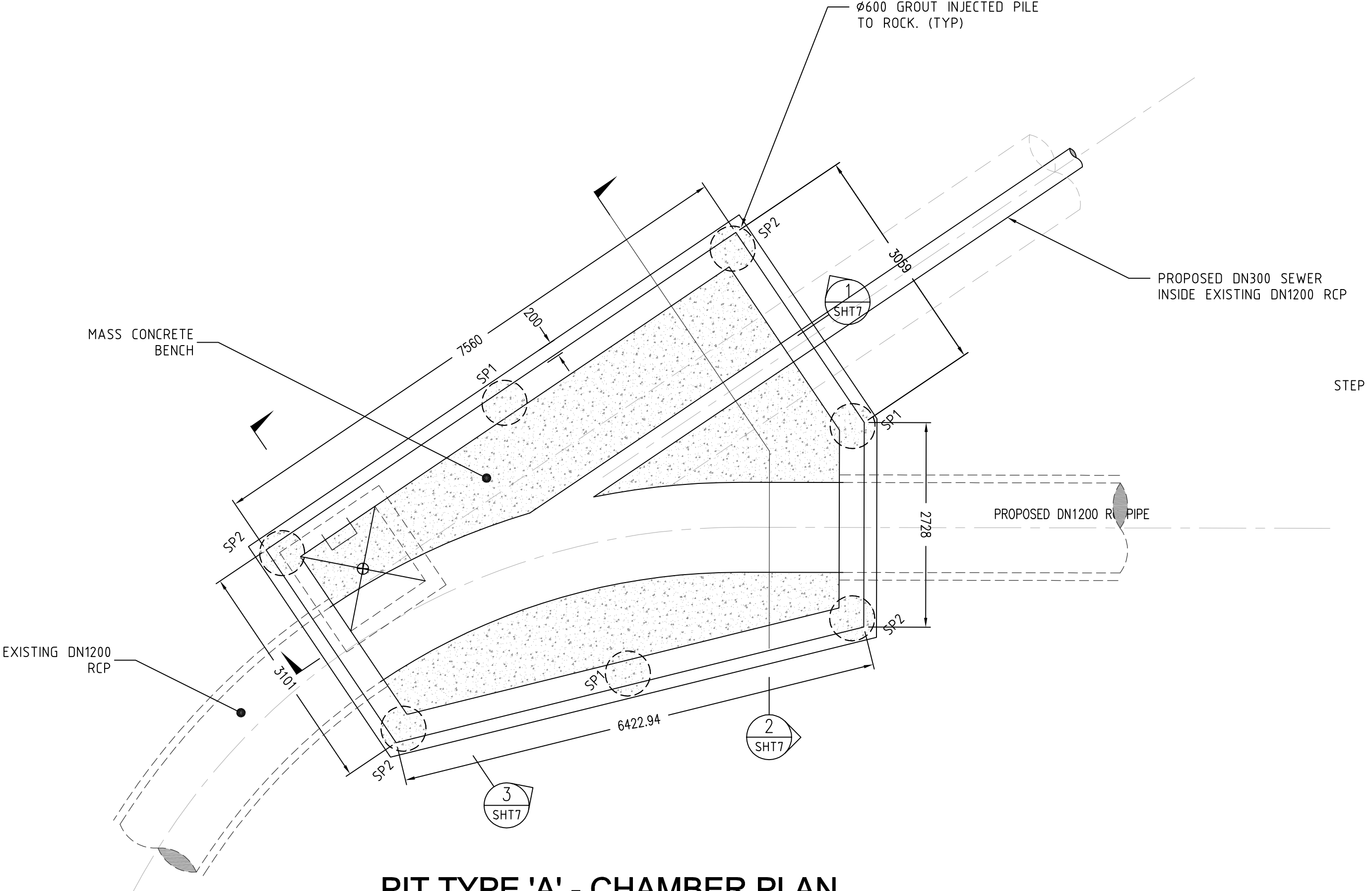
ALL PILES SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE CFA PILING SPECIFICATIONS PREPARED FOR THIS CASE.
- C.P.4

SETTLEMENT LIMITS:
TOTAL SETTLEMENT = 3mm
DIFFERENTIAL SETTLEMENT BETWEEN ADJACENT PILES = 1mm
- C.P.5

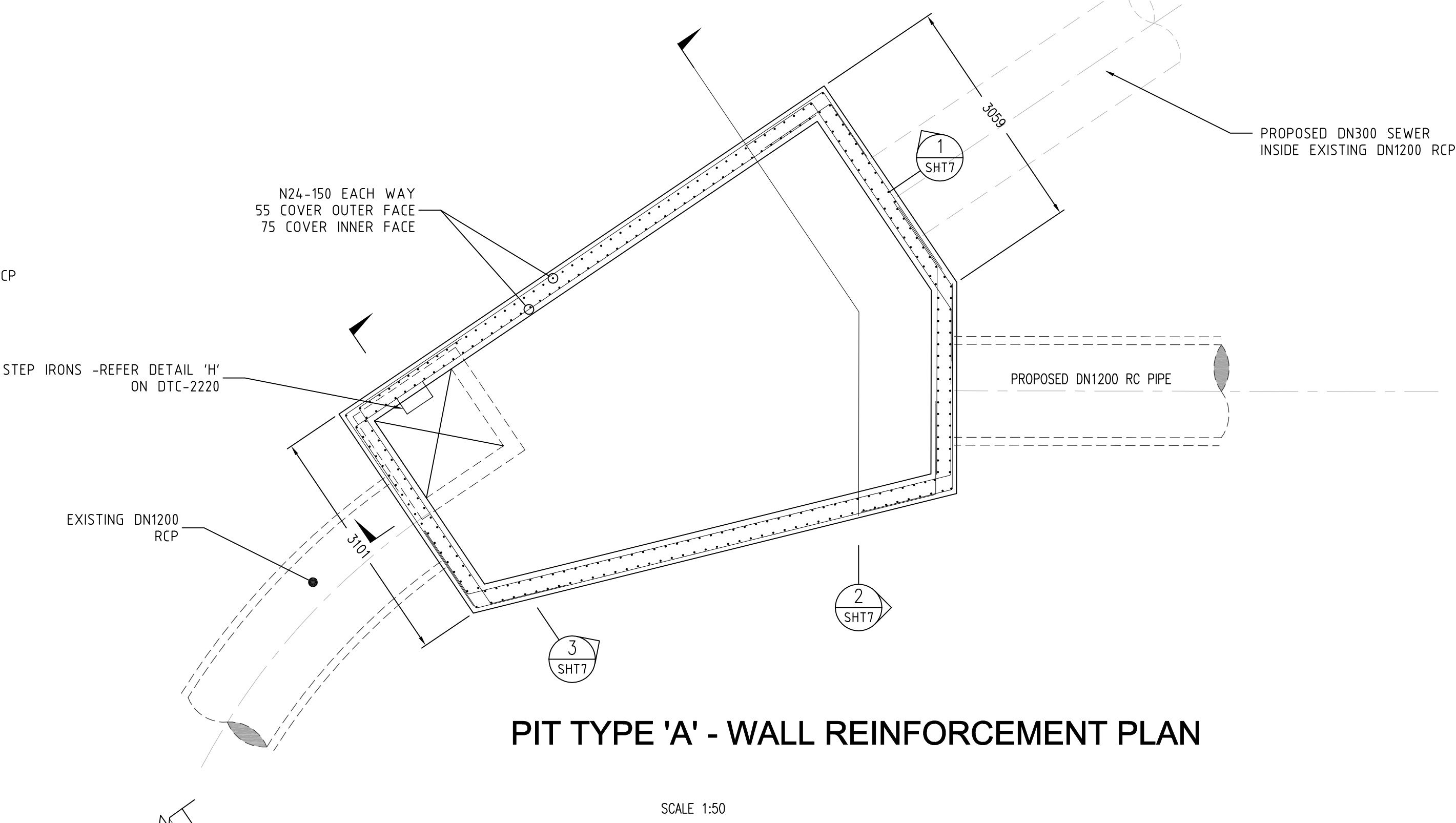
LOAD TEST:
AS A MINIMUM, 3% OF PILES SHALL BE DYNAMICALLY TESTED; 3% OF PILES SHALL BE STATIC TESTED; 10% OF PILES INTEGRITY TESTED.
- C.P.6

TOLERANCES:
CUT OFF LEVEL: 25mm;
PILE POSITION AT CUT OFF LEVEL: 75mm;
STRAIGHTNESS: 1 IN 50.

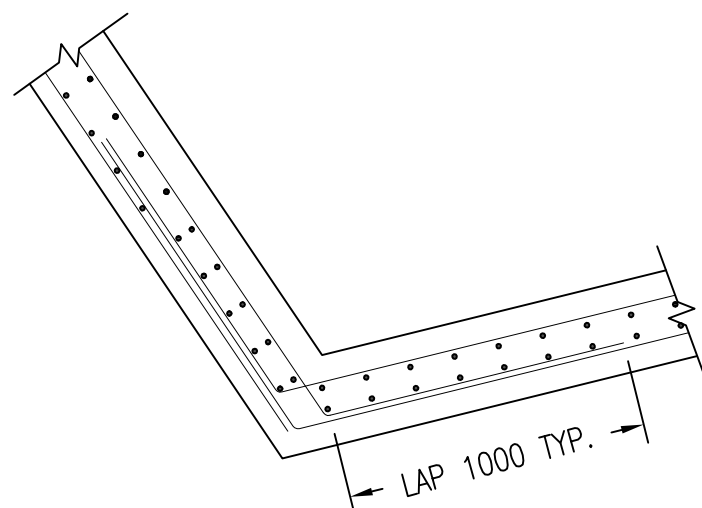
WORK AS CONSTRUCTED CERTIFICATION		Sydney WATER SYDNEY WATER CORPORATION	
DEVELOPER	.....	CASE 134916WW SHT 5 OF 15 SHTS.	
W.S.C.	.....	
CONSTRUCTOR	.....	
COMPLETED	.....	SYDNEY WATER CORPORATION FOR DETAILS OF SERVICES SEE SHEET 1	
W.A.C. PREPARED	.....	
DESIGNER	.....	
I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS			



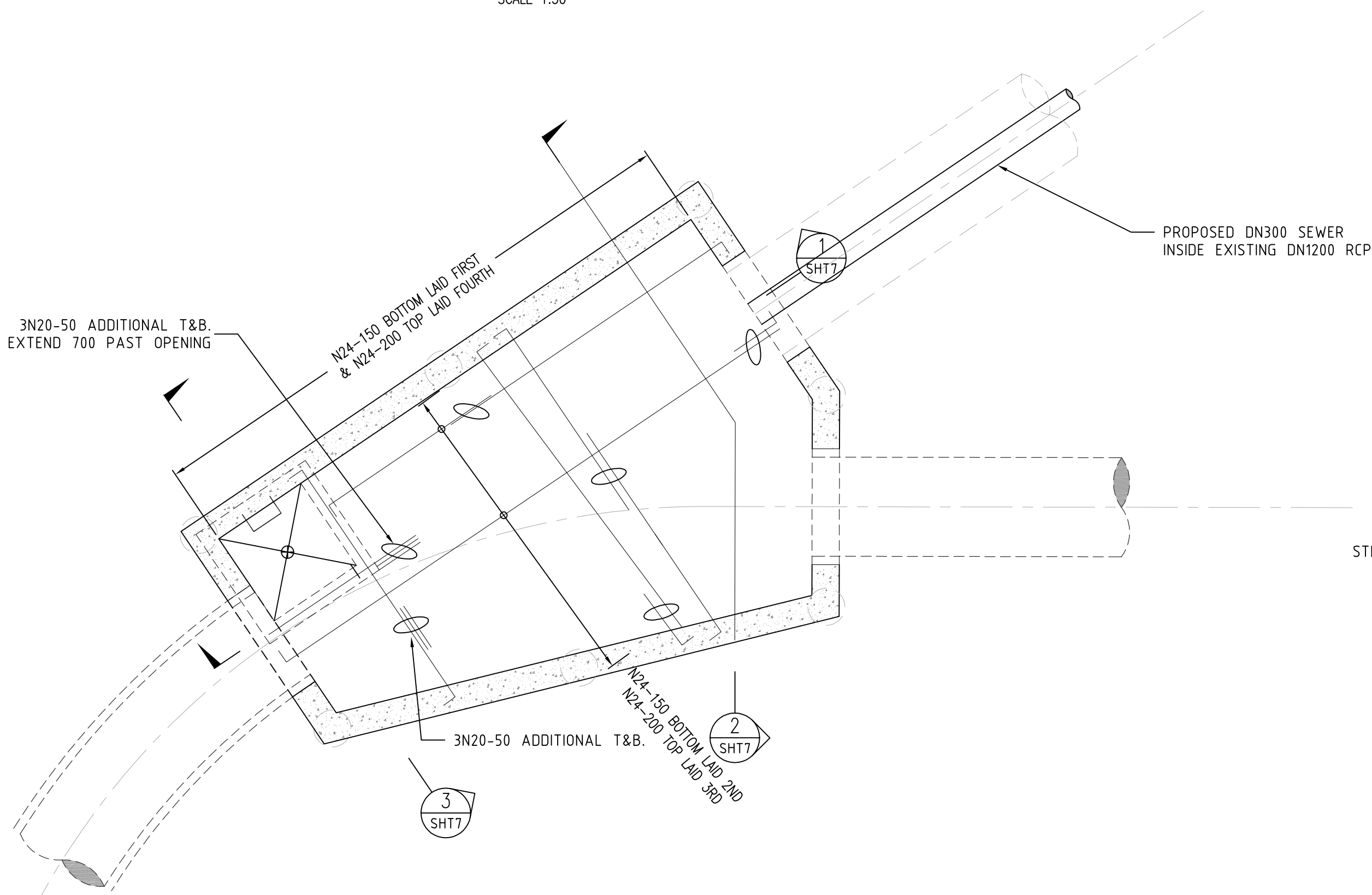
PIT TYPE 'A' - CHAMBER PLAN
SCALE 1:50



PIT TYPE 'A' - WALL REINFORCEMENT PLAN
SCALE 1:50

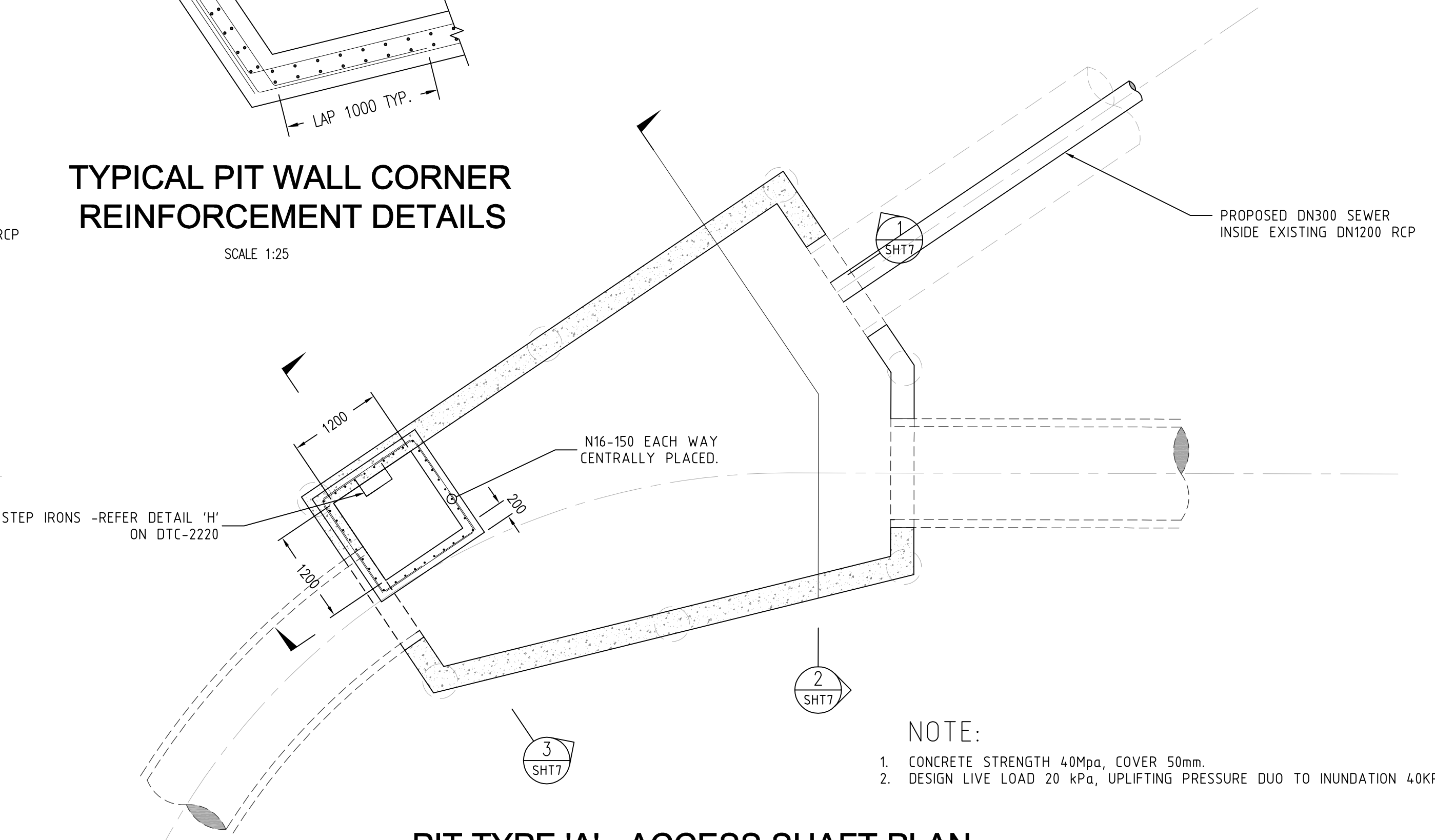


TYPICAL PIT WALL CORNER REINFORCEMENT DETAILS
SCALE 1:25



PIT TYPE 'A' - ROOF SLAB REINFORCEMENT PLAN
SCALE 1:50

NOTE:
TOP REINFORCEMENT LAPPED AT MID SPAN
BOTTOM REINFORCEMENT LAPPED AT WALL SUPPORT

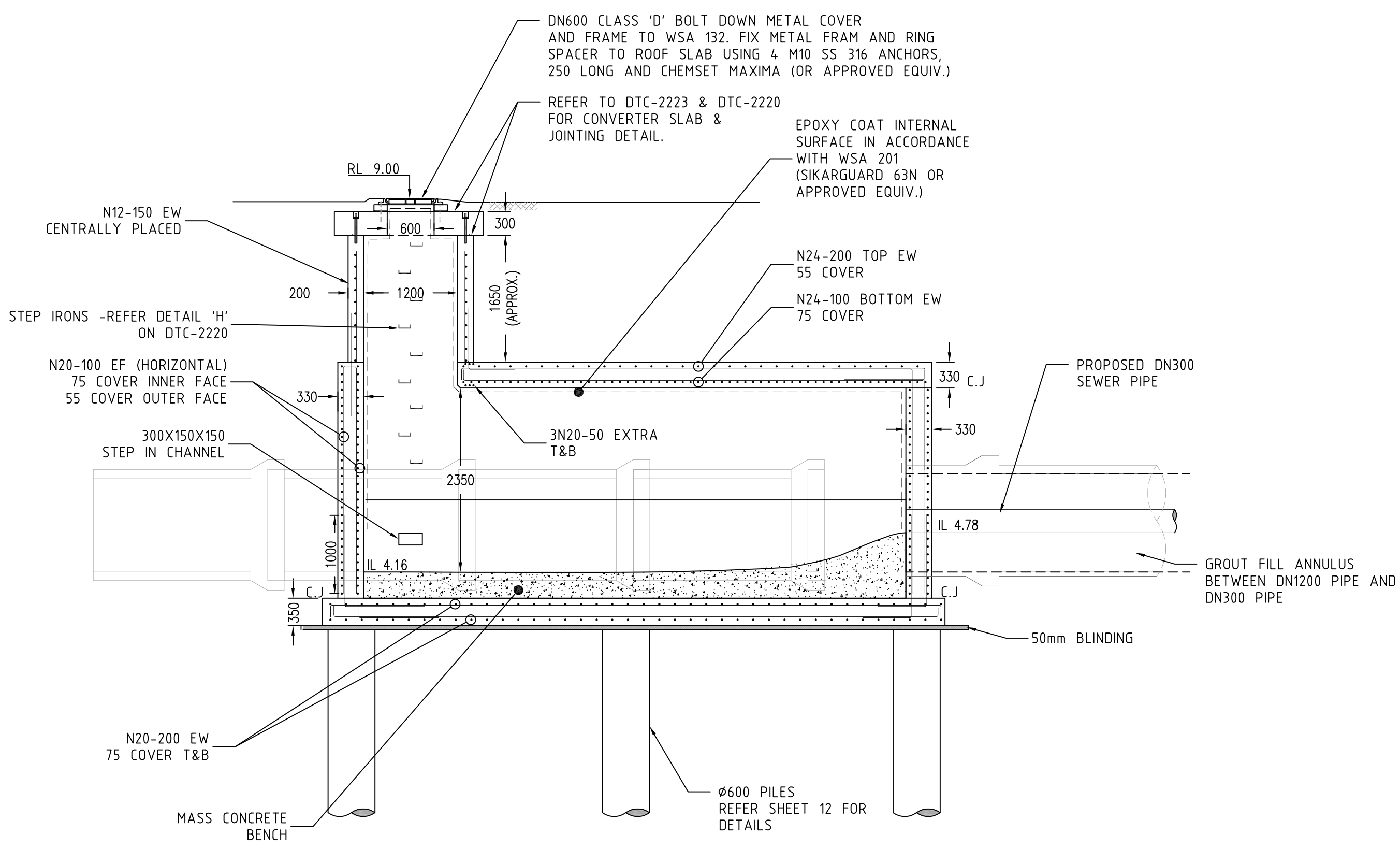


PIT TYPE 'A' - ACCESS SHAFT PLAN
SCALE 1:50

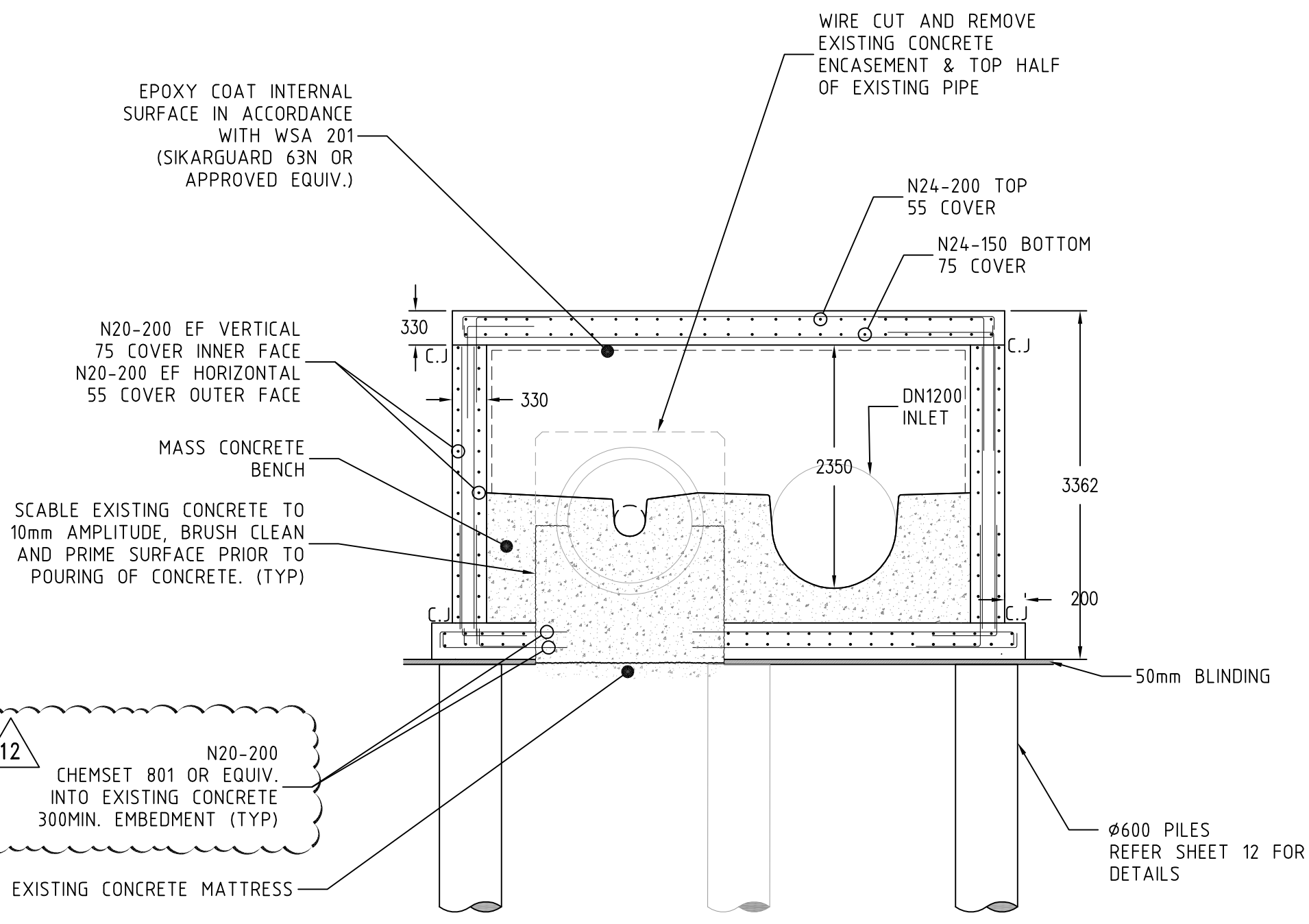
NOTE:
1. CONCRETE STRENGTH 40Mpa, COVER 50mm.
2. DESIGN LIVE LOAD 20 kPa, UPLIFTING PRESSURE DUE TO INUNDATION 40KPA

PITS HAVE BEEN DESIGNED IN ACCORDANCE WITH AS 3735

WORK AS CONSTRUCTED CERTIFICATION		Sydney WATER		SYDNEY WATER CORPORATION	
DEVELOPER		CASE 134916WW		SHT	6 OF 15 SHTS.
W.S.C.					
CONSTRUCTOR					
COMPLETED					
W.A.C. PREPARED					
DESIGNER		SYDNEY WATER CORPORATION			
I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS		FOR DETAILS OF SERVICES SEE SHEET 1			



SECTION 1
SCALE 1:50
SHT6

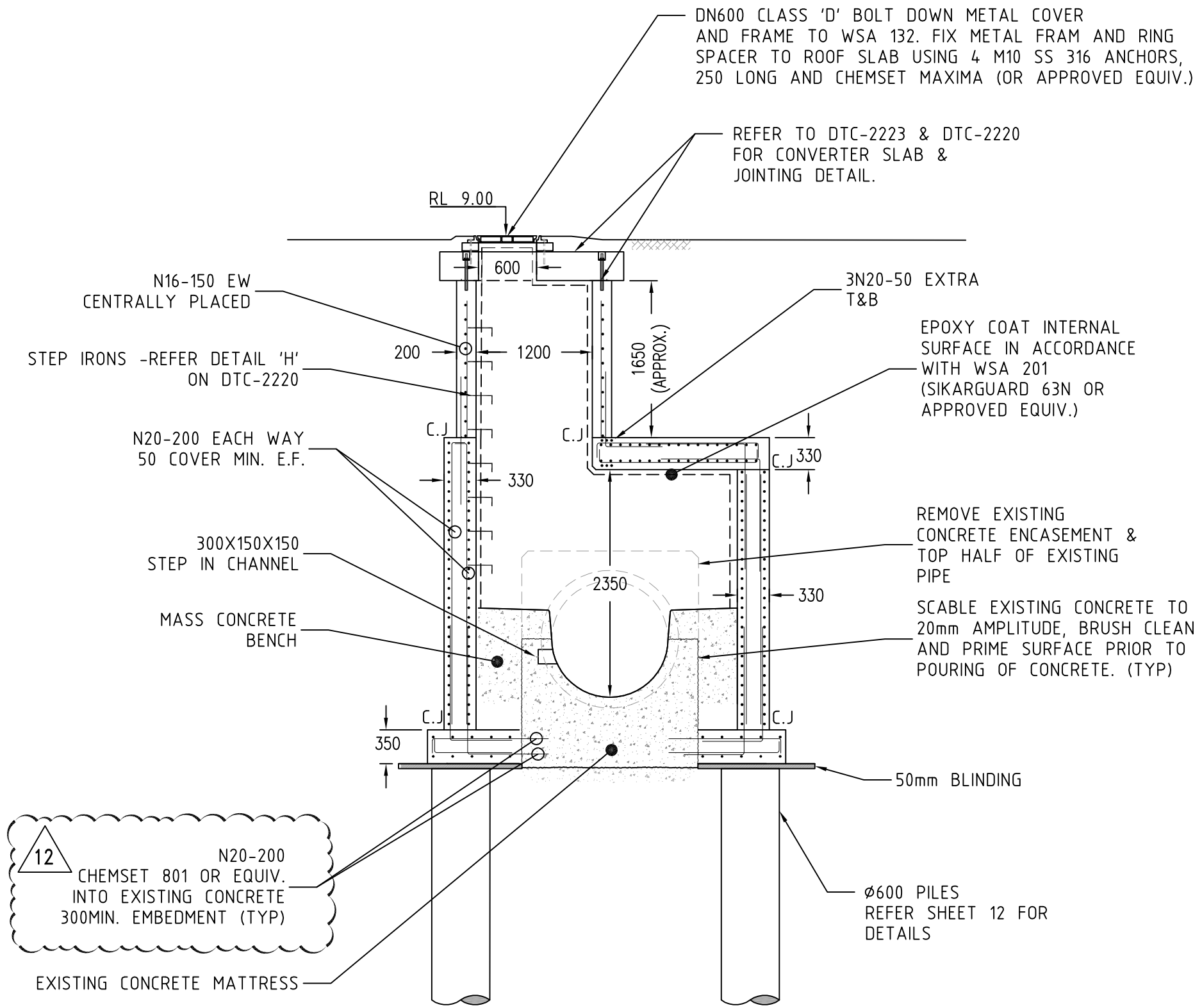


SECTION 2
SCALE 1:50
SHT6

PIT TYPE 'A' PILING NOTES:

- P1. PILES SHALL BE SOCKETED INTO ROCK TO SUFFICIENT DEPTH. REFER TO SHT. SHEET 12 FOR DETAILS.
- P2. CONTRACTOR TO PROVIDE FULL DOCUMENTATION AND COMPLIANCE CERTIFICATE FOR PILE INSTALLATION.

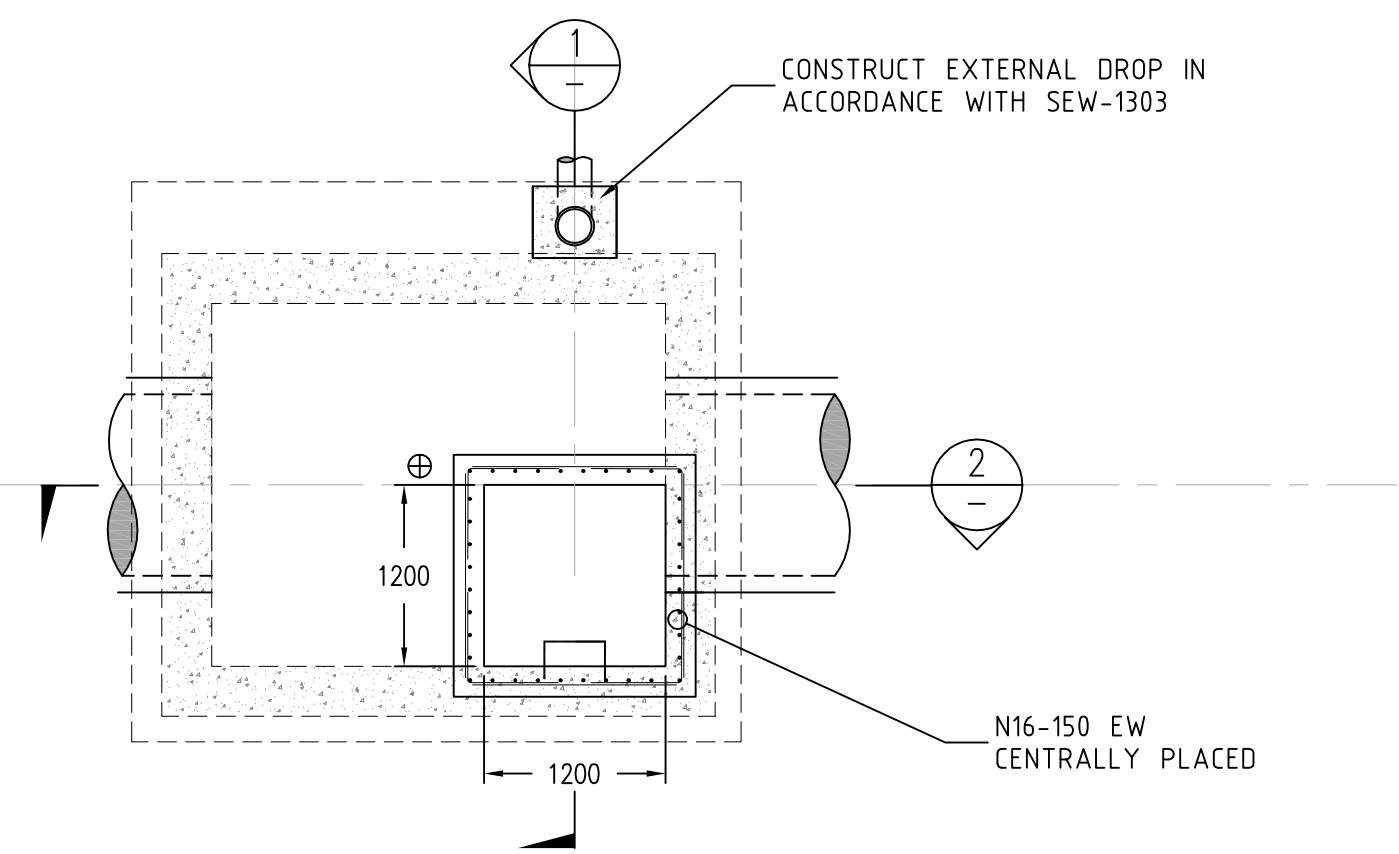
PITS HAVE BEEN DESIGNED IN ACCORDANCE WITH AS 3735



SECTION 3
SCALE 1:50
SHT6

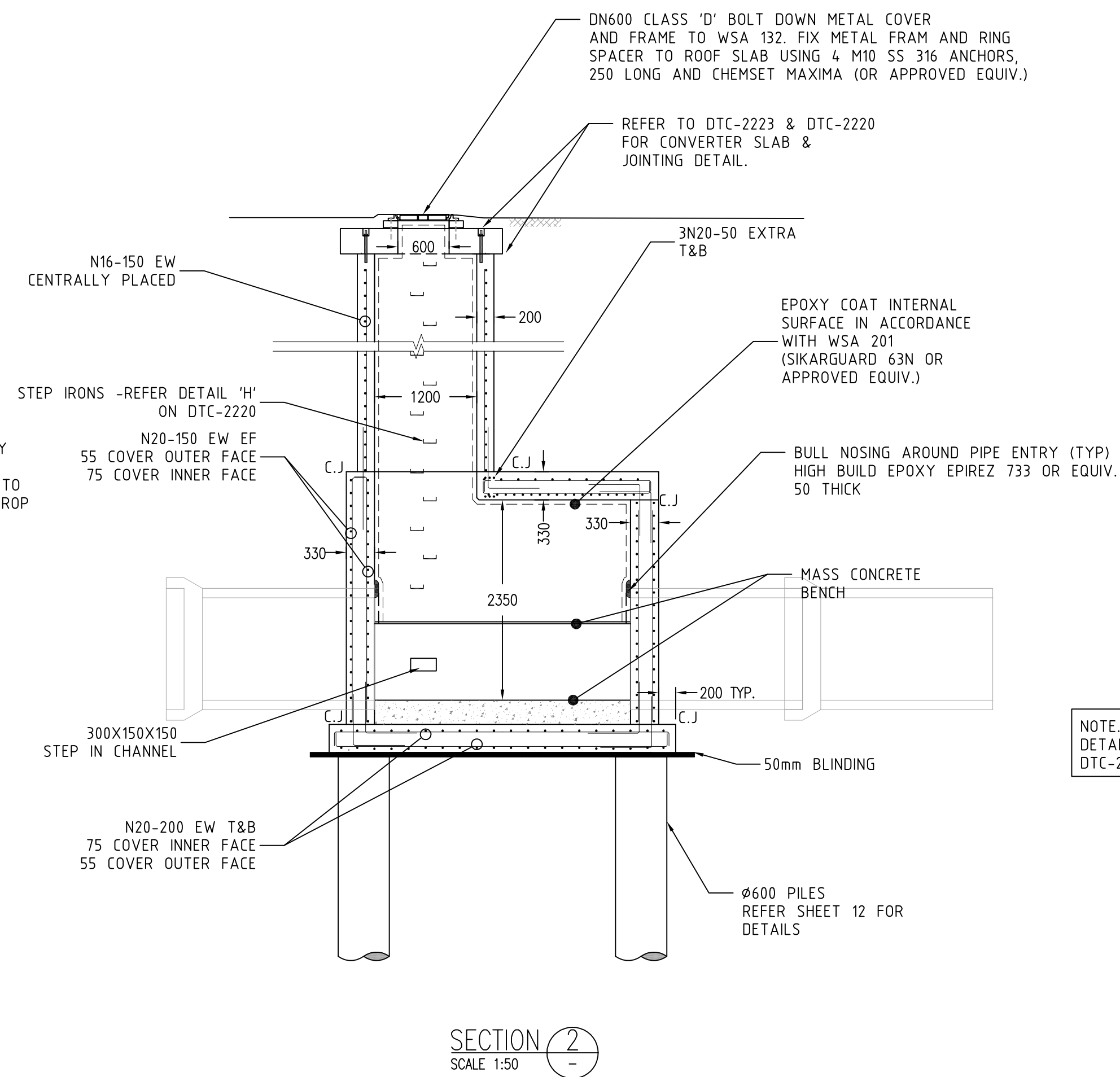
NOTE FOR CONSTRUCTION JOINT DETAIL, REFER DETAIL 'F' ON DTC-2220

WORK AS CONSTRUCTED CERTIFICATION		Sydney WATER SYDNEY WATER CORPORATION	
DEVELOPER	.....	CASE 134916WW	
W.S.C.	.....	
CONSTRUCTOR	.....	
COMPLETED	.....	
W.A.C. PREPARED	.....	SYDNEY WATER CORPORATION FOR DETAILS OF SERVICES SEE SHEET 1	
DESIGNER	.....	
I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS			



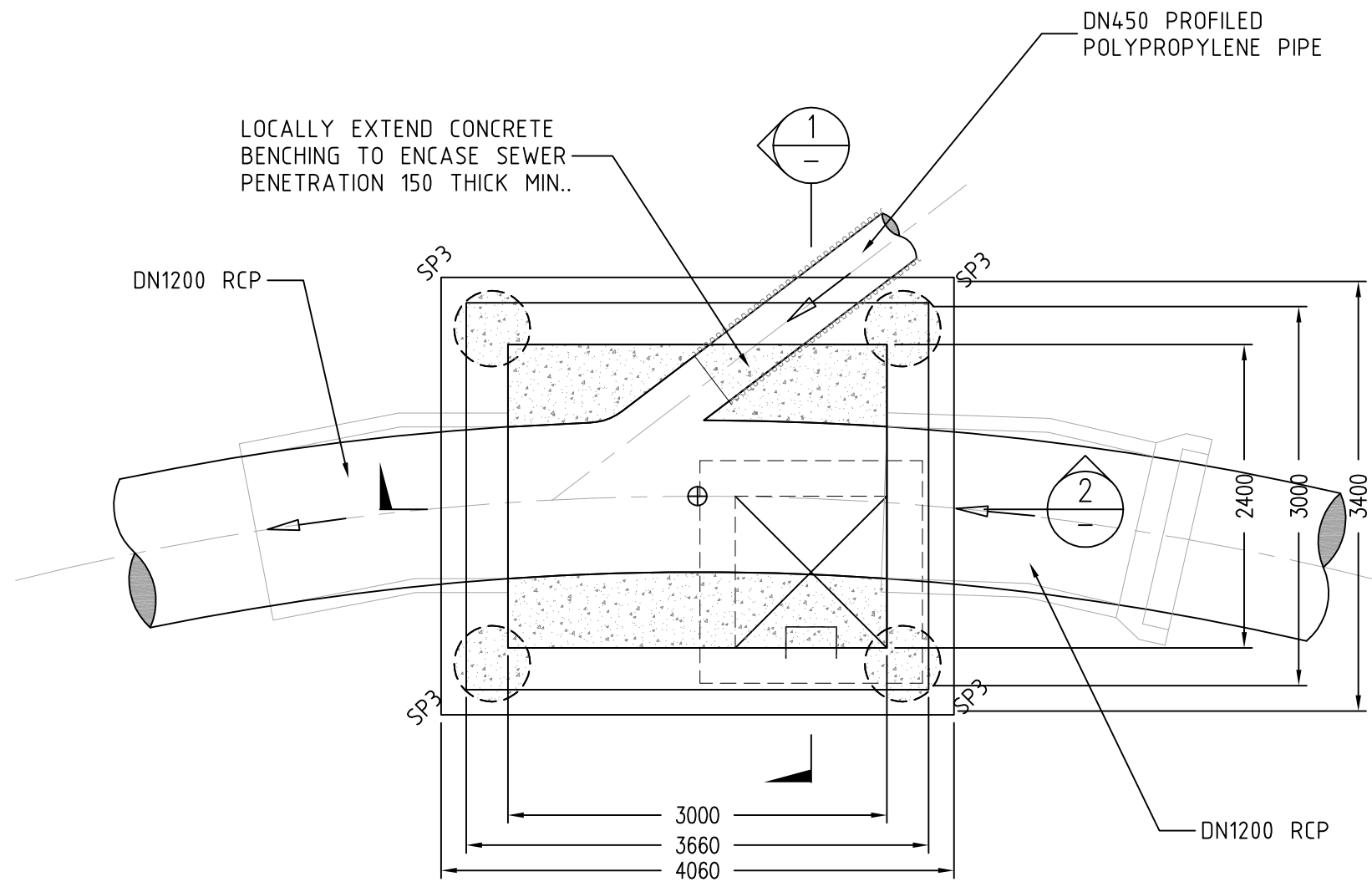
PIT TYPE B - ACCESS SHAFT REINFORCEMENT PLAN

SCALE 1:50



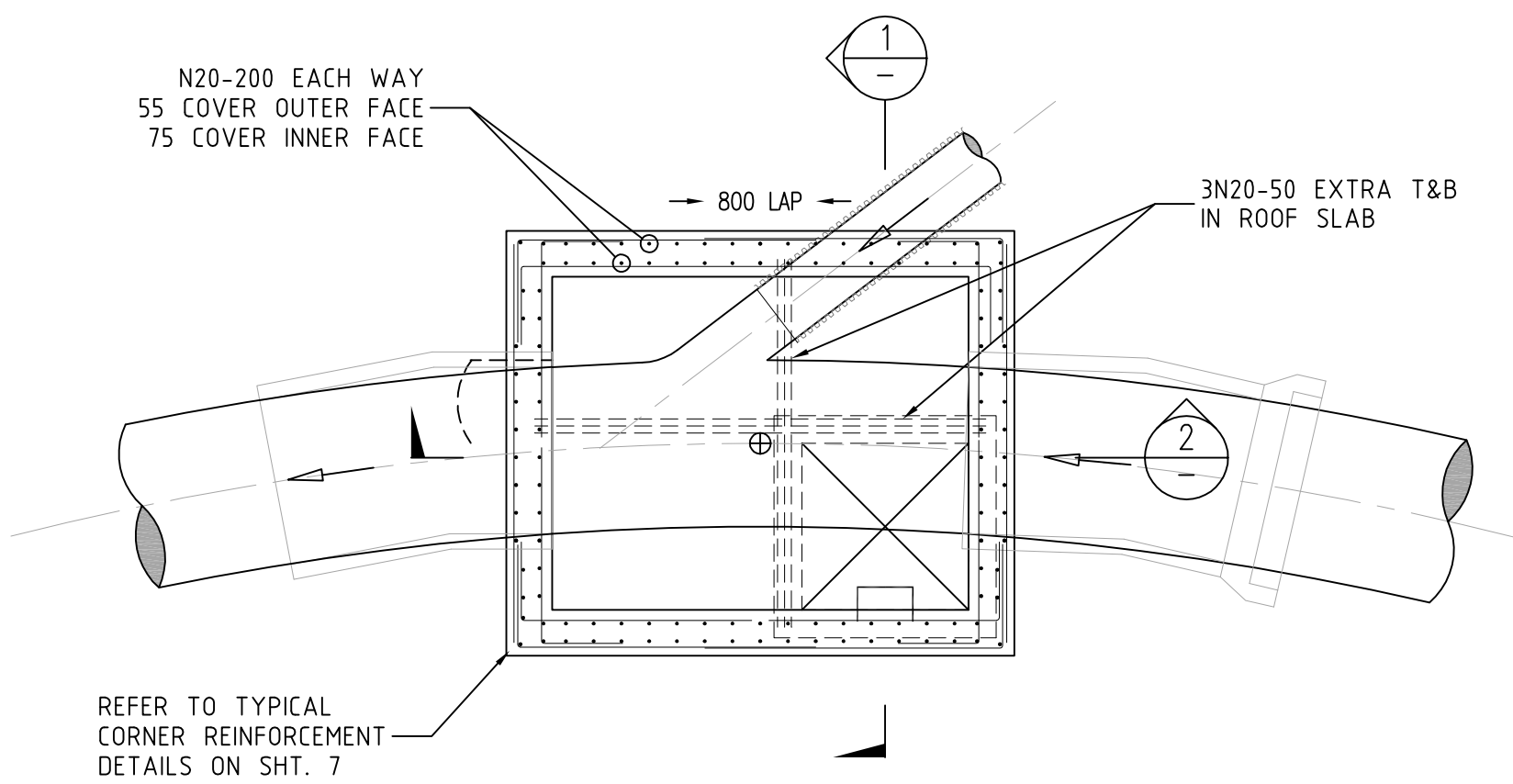
PITS HAVE BEEN DESIGNED IN ACCORDANCE WITH AS 3735

WORK AS CONSTRUCTED CERTIFICATION		Sydney WATER		SYDNEY WATER CORPORATION	
DEVELOPER W.S.C.		CASE 134916WW		SHT 8 OF 15 SHTS.	
CONSTRUCTOR COMPLETED					
W.A.C. PREPARED					
DESIGNER		SYDNEY WATER CORPORATION			
I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS		FOR DETAILS OF SERVICES SEE SHEET 1			



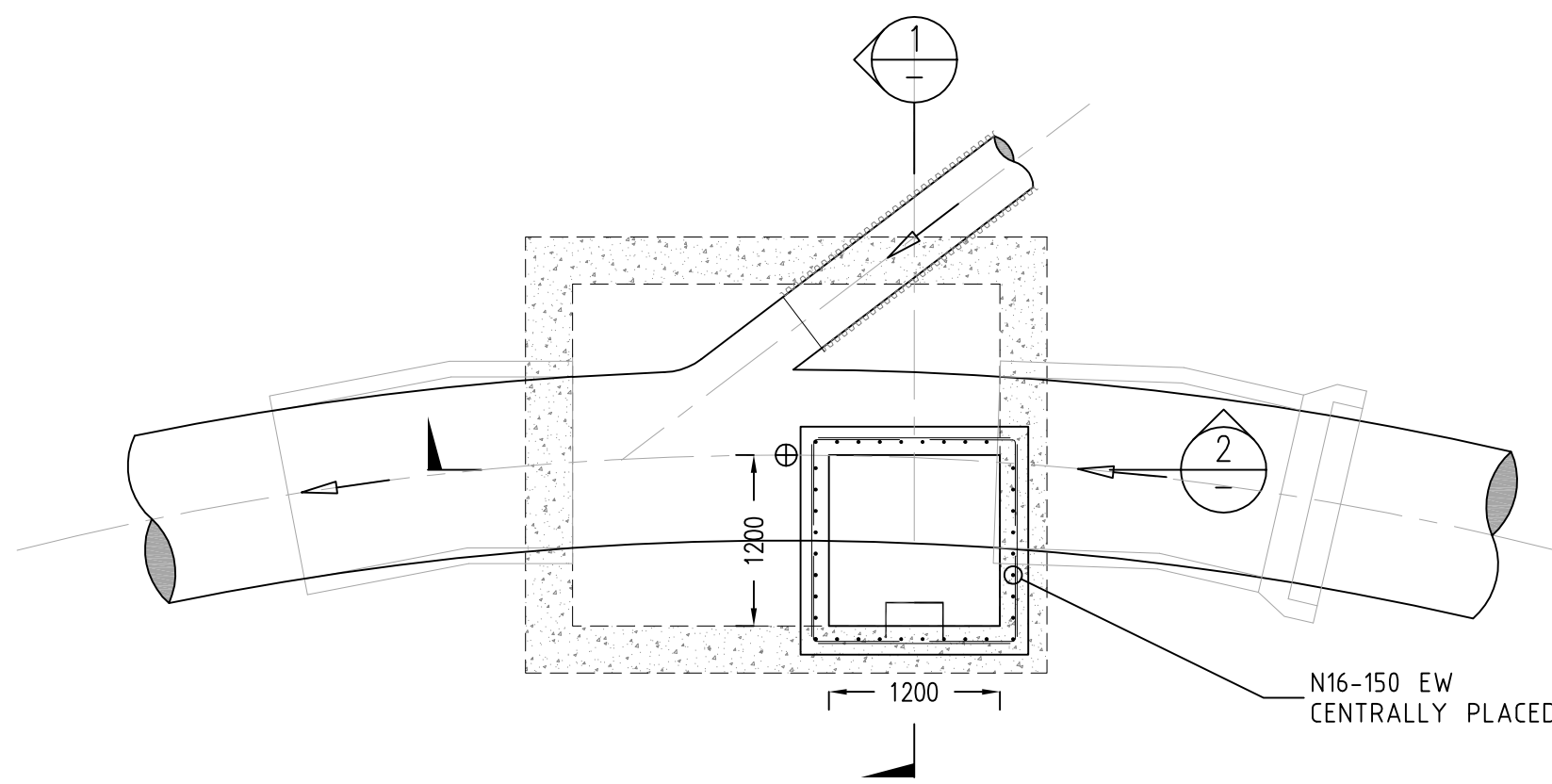
PIT TYPE C - CHAMBER PLAN

SCALE 1:50



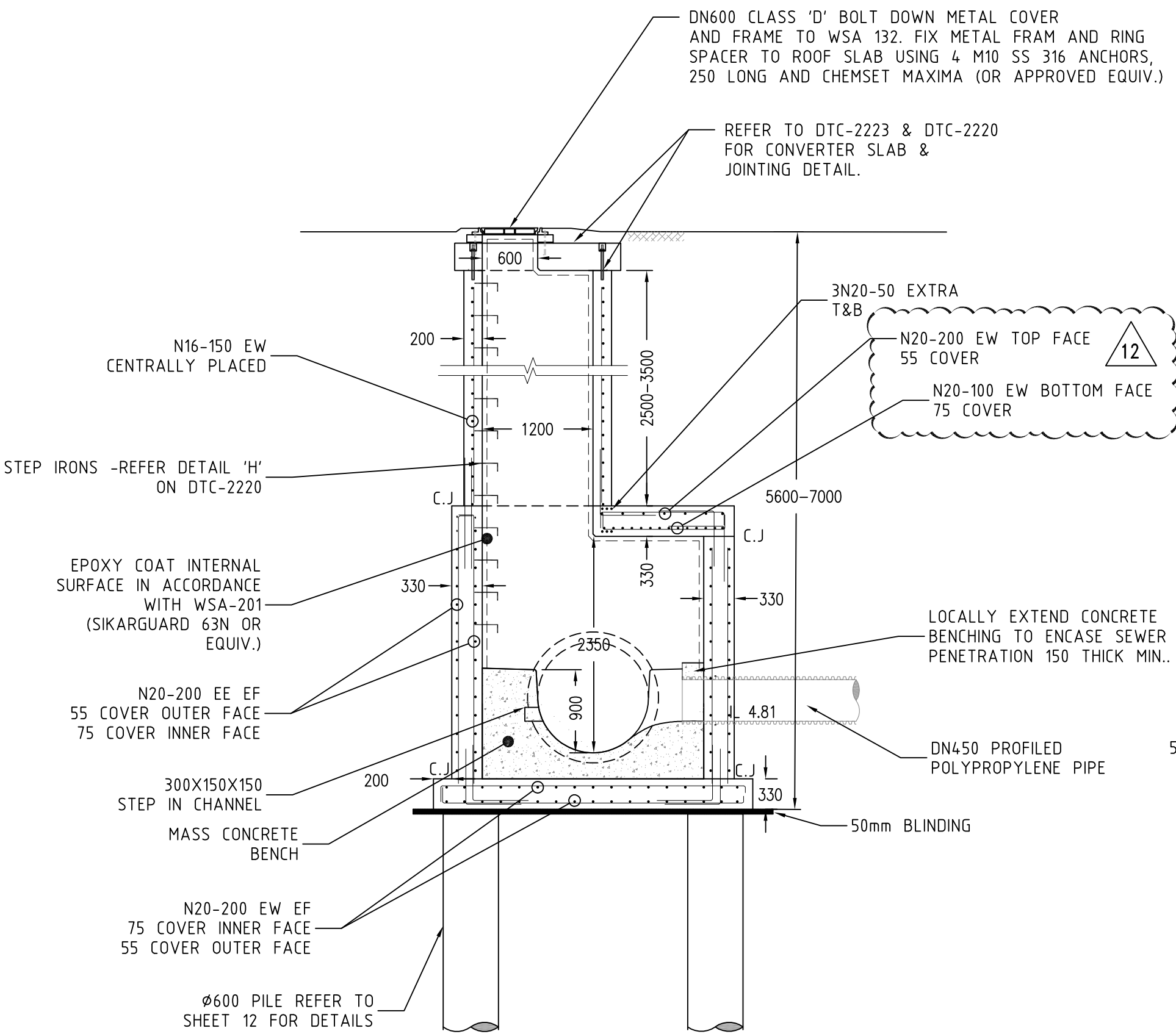
PIT TYPE C - CHAMBER REINFORCEMENT PLAN

SCALE 1:50

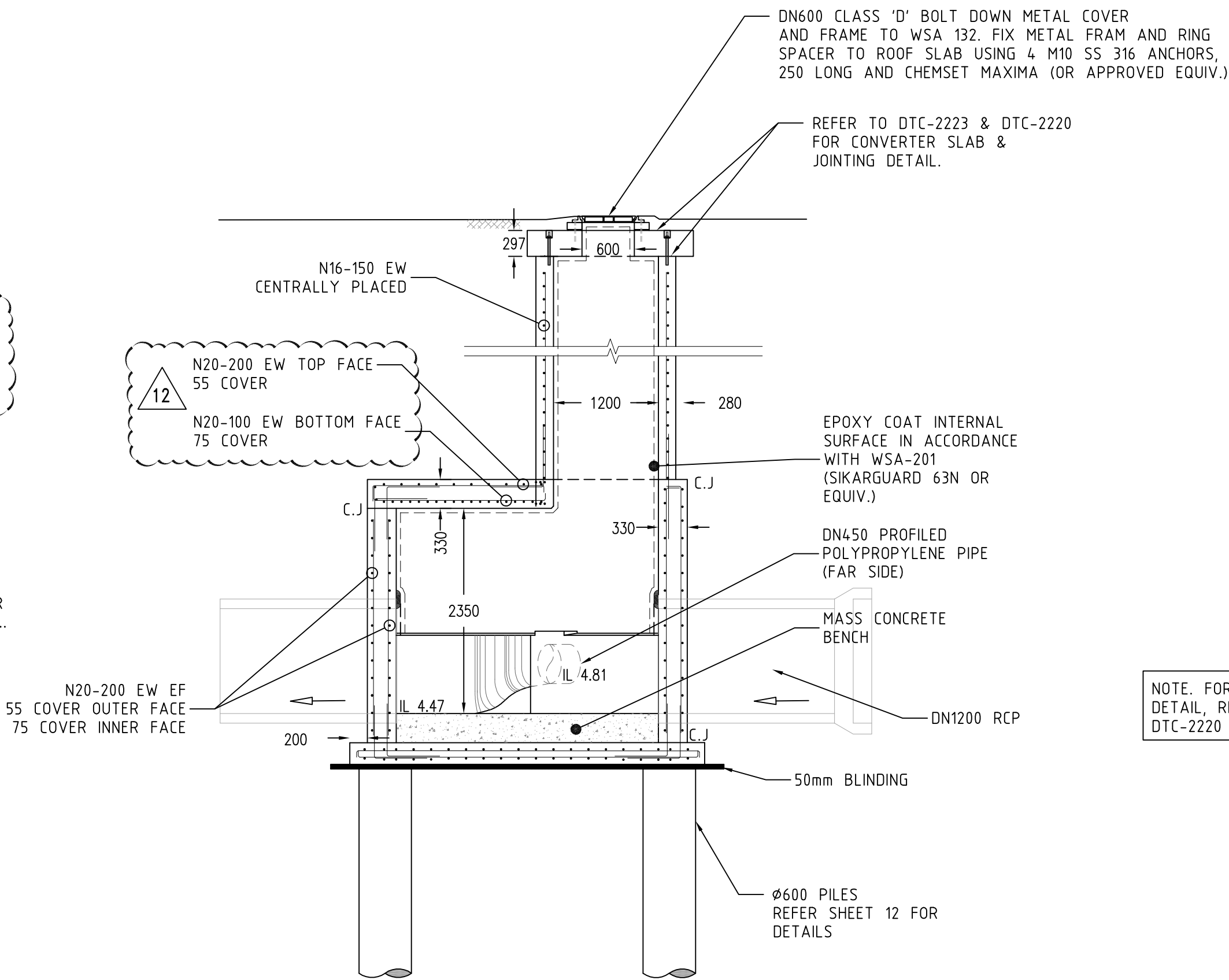


PIT TYPE C - ACCESS SHAFT REINFORCEMENT PLAN

SCALE 1:50



SECTION 1
SCALE 1:50



SECTION 2
SCALE 1:50

NOTE. FOR CONSTRUCTION JOINT DETAIL, REFER DETAIL 'F' ON DTC-2220

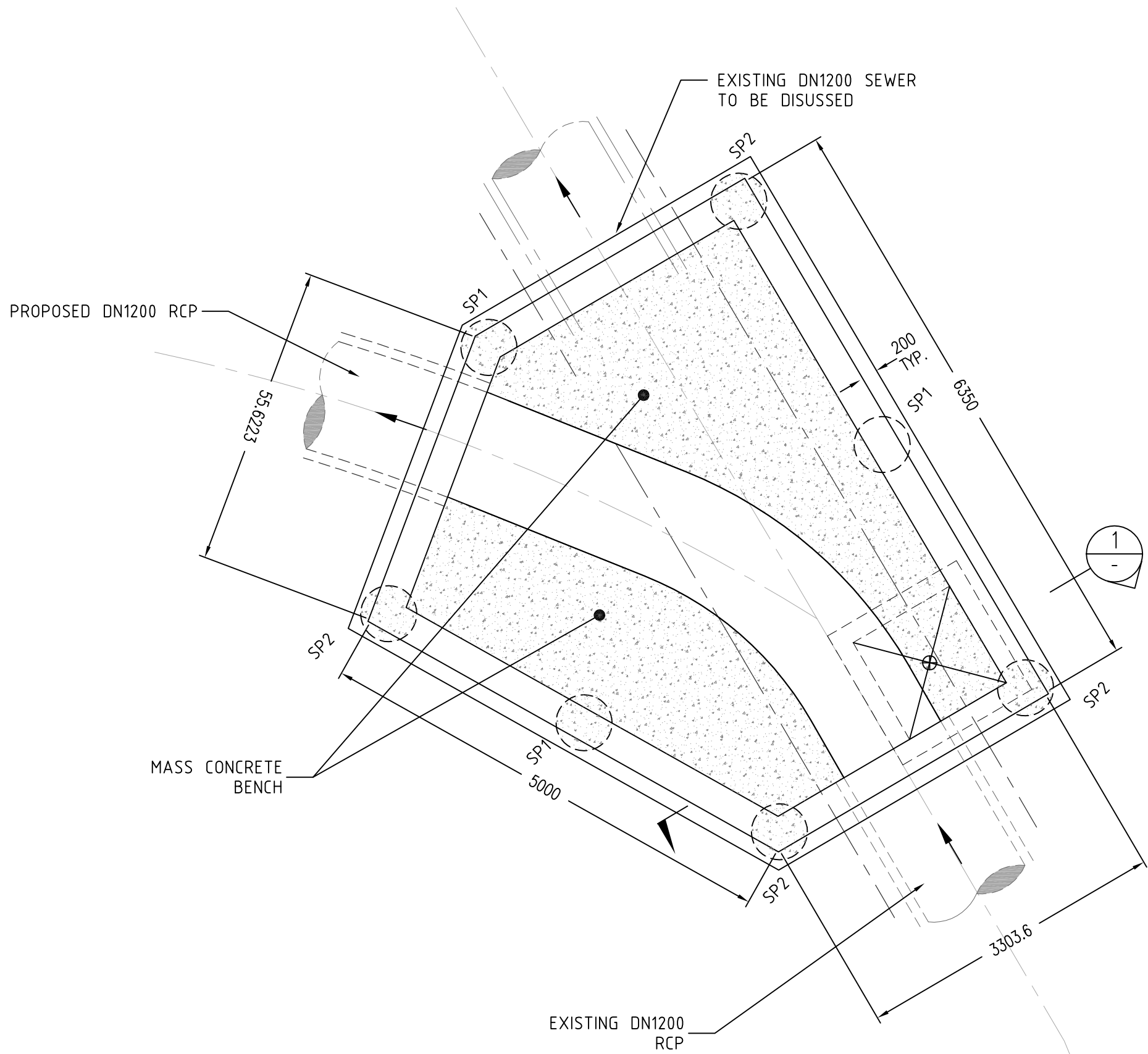
PITS HAVE BEEN DESIGNED IN ACCORDANCE WITH AS 3735

WORK AS CONSTRUCTED CERTIFICATION		Sydney WATER	
DEVELOPER	W.S.C.	CASE 134916WW	
CONSTRUCTOR	COMPLETED	SHT 9 OF 15 SHTS.	
W.A.C. PREPARED		SYDNEY WATER CORPORATION	
DESIGNER		FOR DETAILS OF SERVICES SEE SHEET 1	
I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS			

PIT TYPE 'D' PILING NOTES:

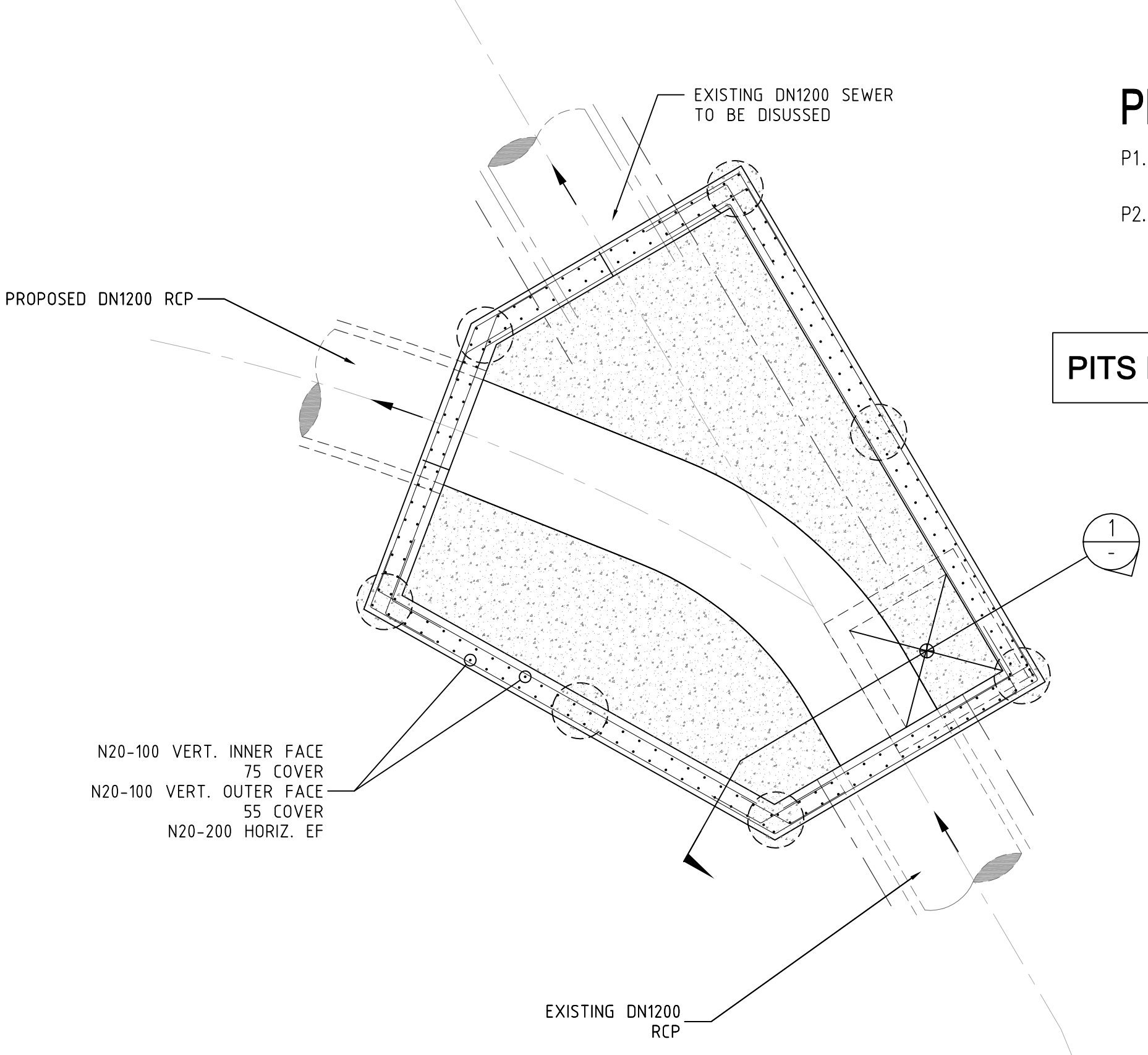
- P1. PILES SHALL BE SOCKETED INTO ROCK TO SUFFICIENT DEPTH. REFER TO SHT. SHEET 12 FOR DETAILS.
- P2. CONTRACTOR TO PROVIDE FULL DOCUMENTATION AND COMPLIANCE CERTIFICATE FOR PILE INSTALLATION.

PITS HAVE BEEN DESIGNED IN ACCORDANCE WITH AS 3735



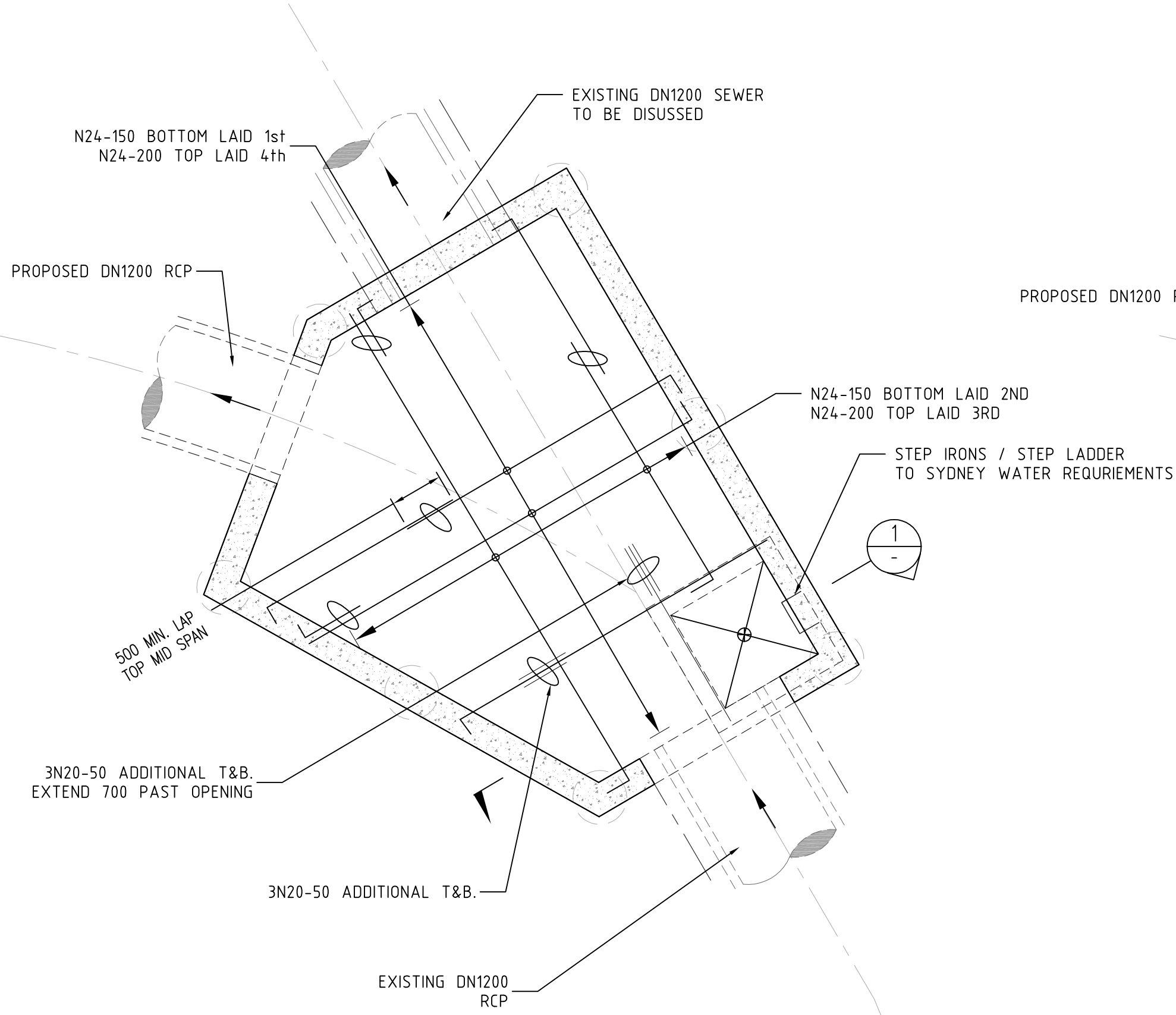
PIT D - CHAMBER PLAN

SCALE 1:50



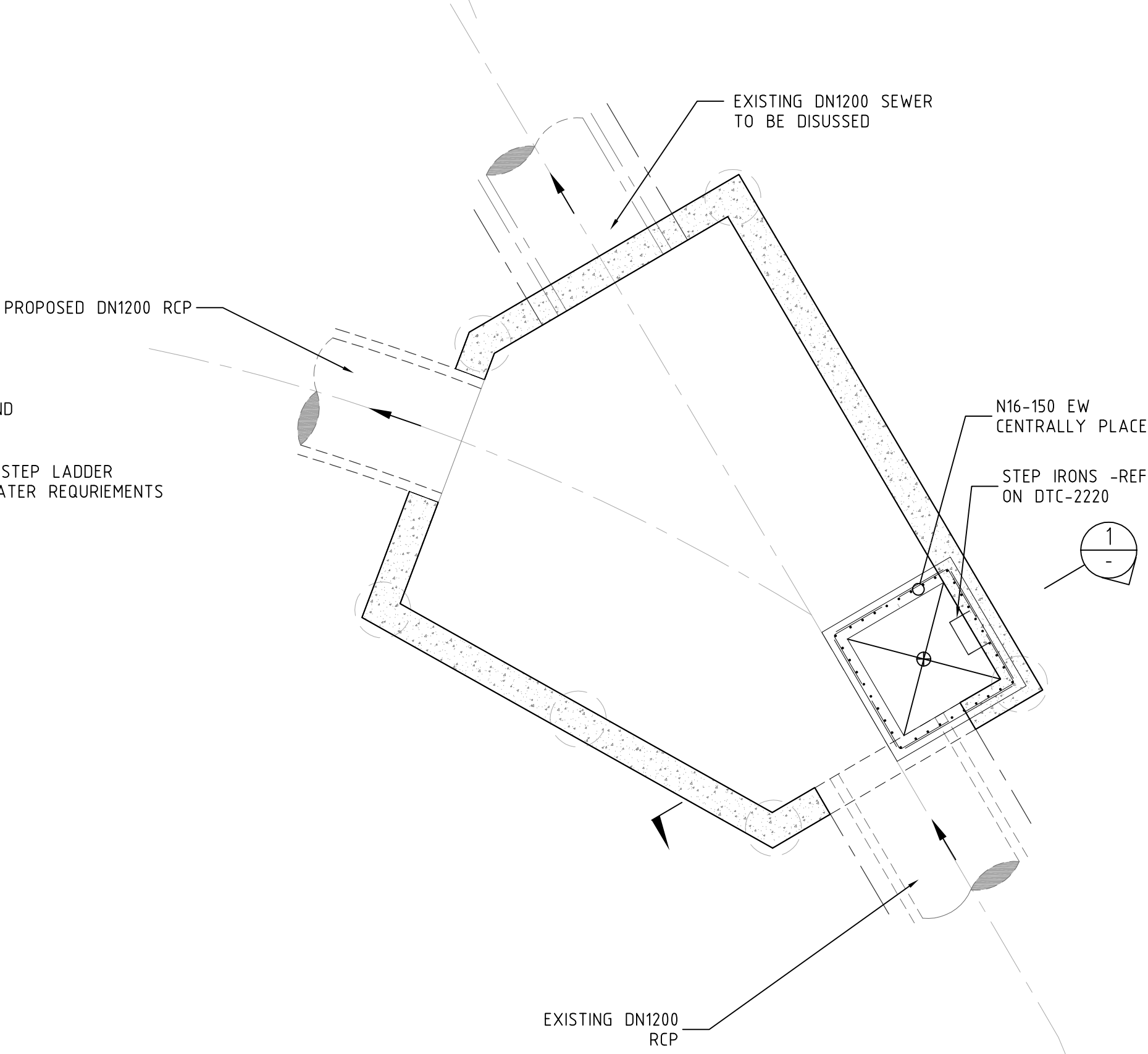
PIT D - CHAMBER PLAN

SCALE 1:50



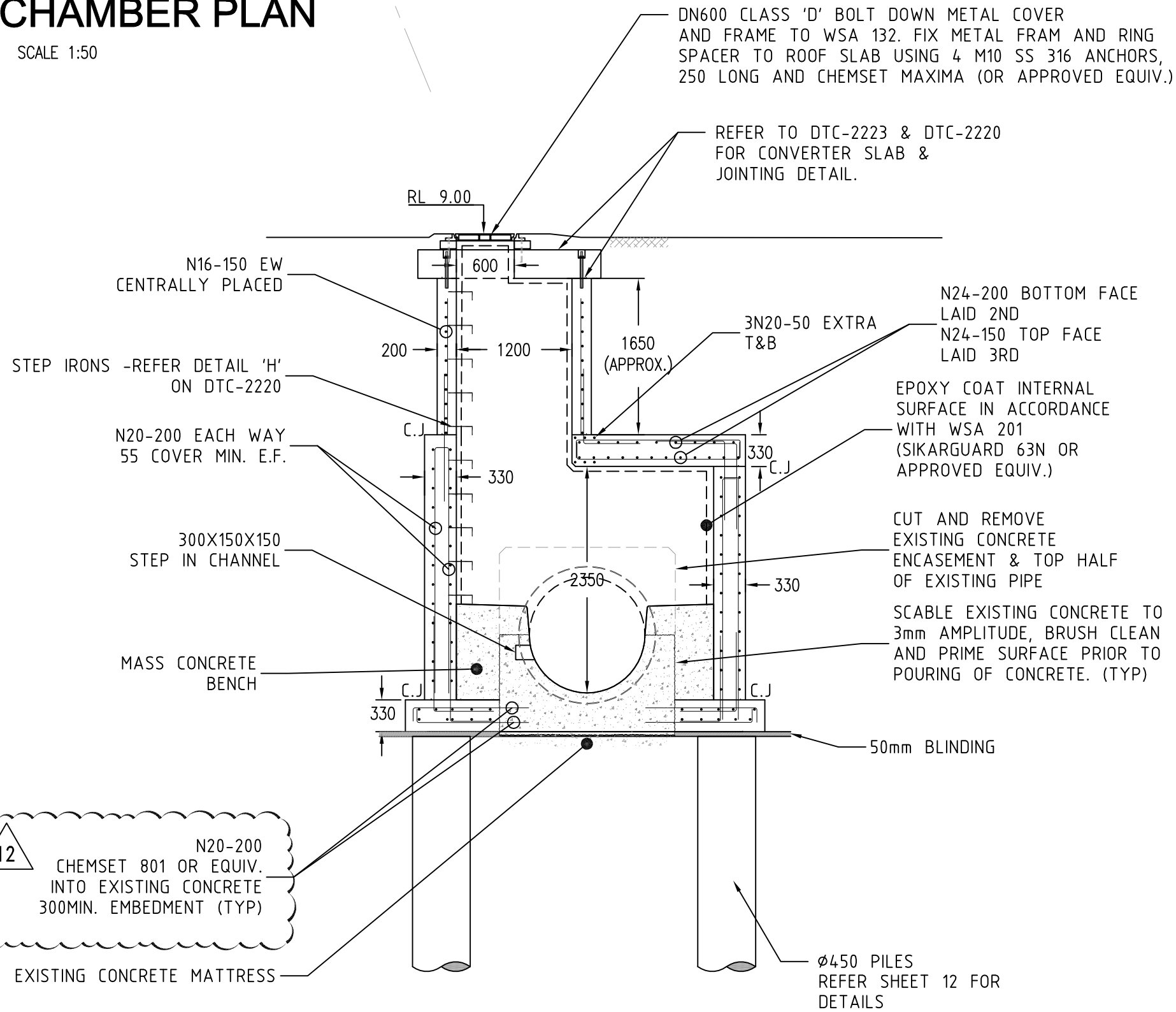
PIT TYPE D - ROOF SLAB REINFORCEMENT PLAN

SCALE 1:50



PIT TYPE D - ACCESS SHAFT REINFORCEMENT PLAN

SCALE 1:50



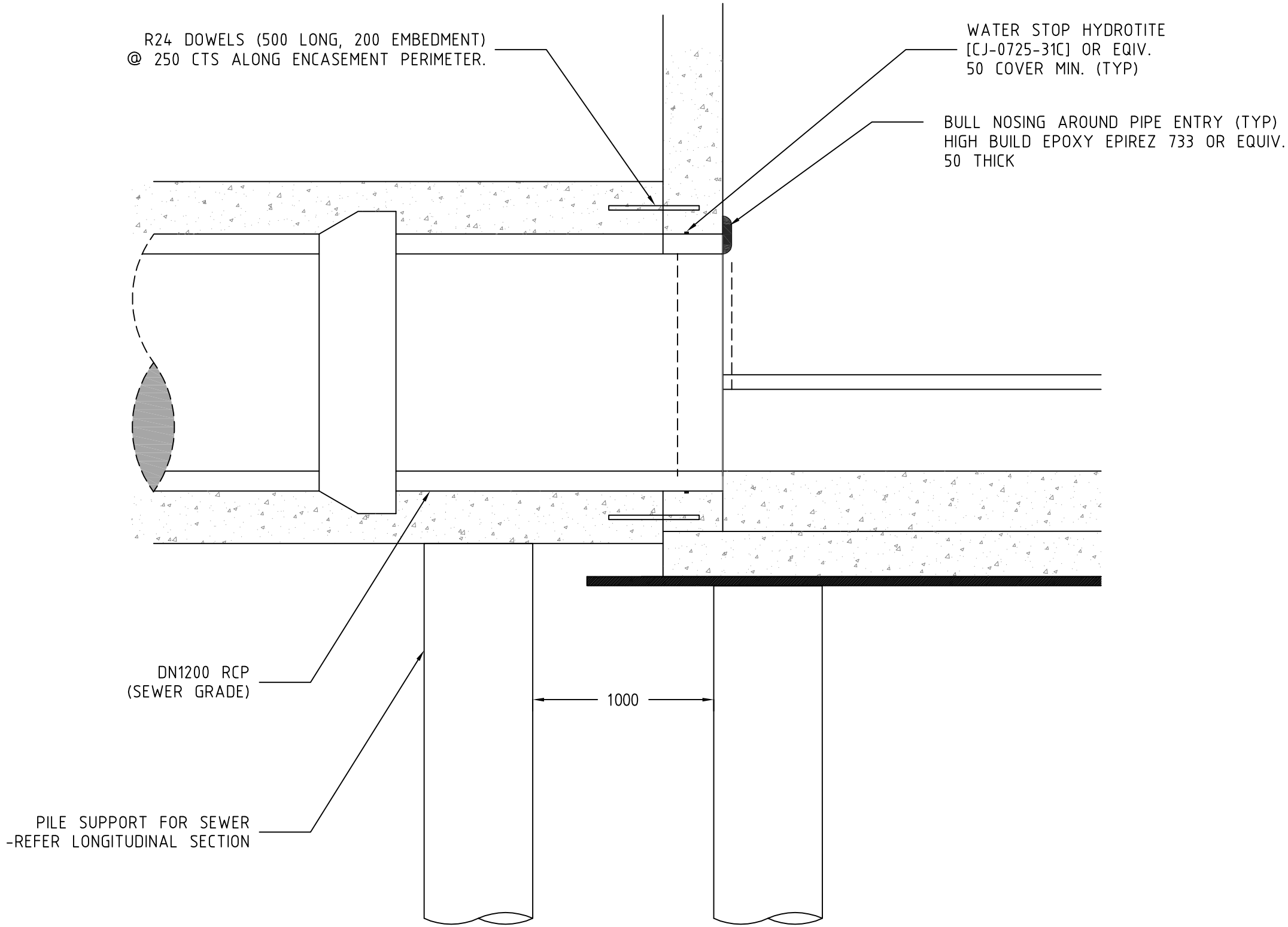
SECTION 1-1

SCALE 1:50

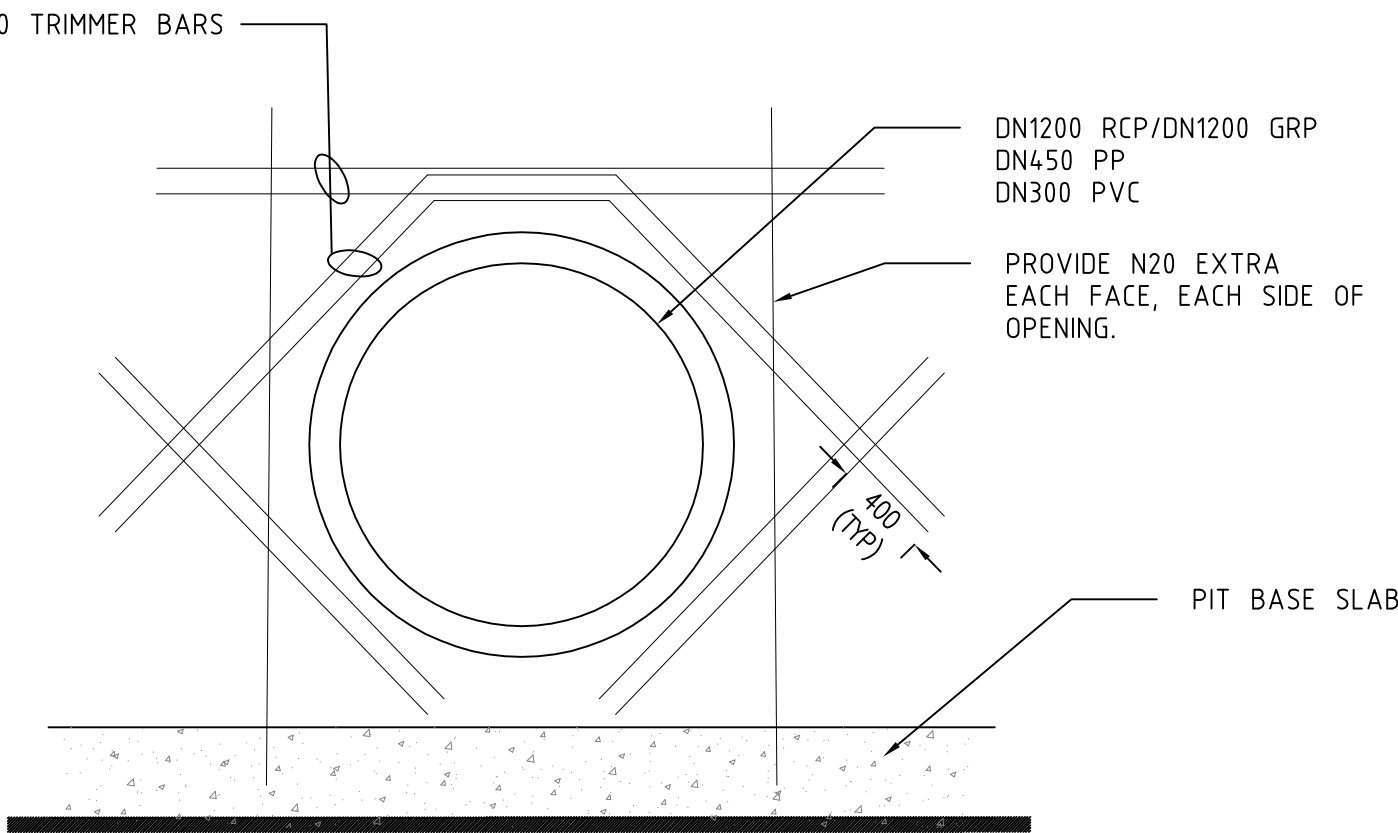
NOTE: FOR CONSTRUCTION JOINT DETAIL, REFER DETAIL 'F' ON DTC-2220

WORK AS CONSTRUCTED CERTIFICATION		Sydney WATER		SYDNEY WATER CORPORATION	
DEVELOPER		CASE 134916WW		SHT 10 OF 15 SHTS.	
W.S.C.					
CONSTRUCTOR					
COMPLETED					
W.A.C. PREPARED					
DESIGNER		SYDNEY WATER CORPORATION			
I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS		FOR DETAILS OF SERVICES SEE SHEET 1			

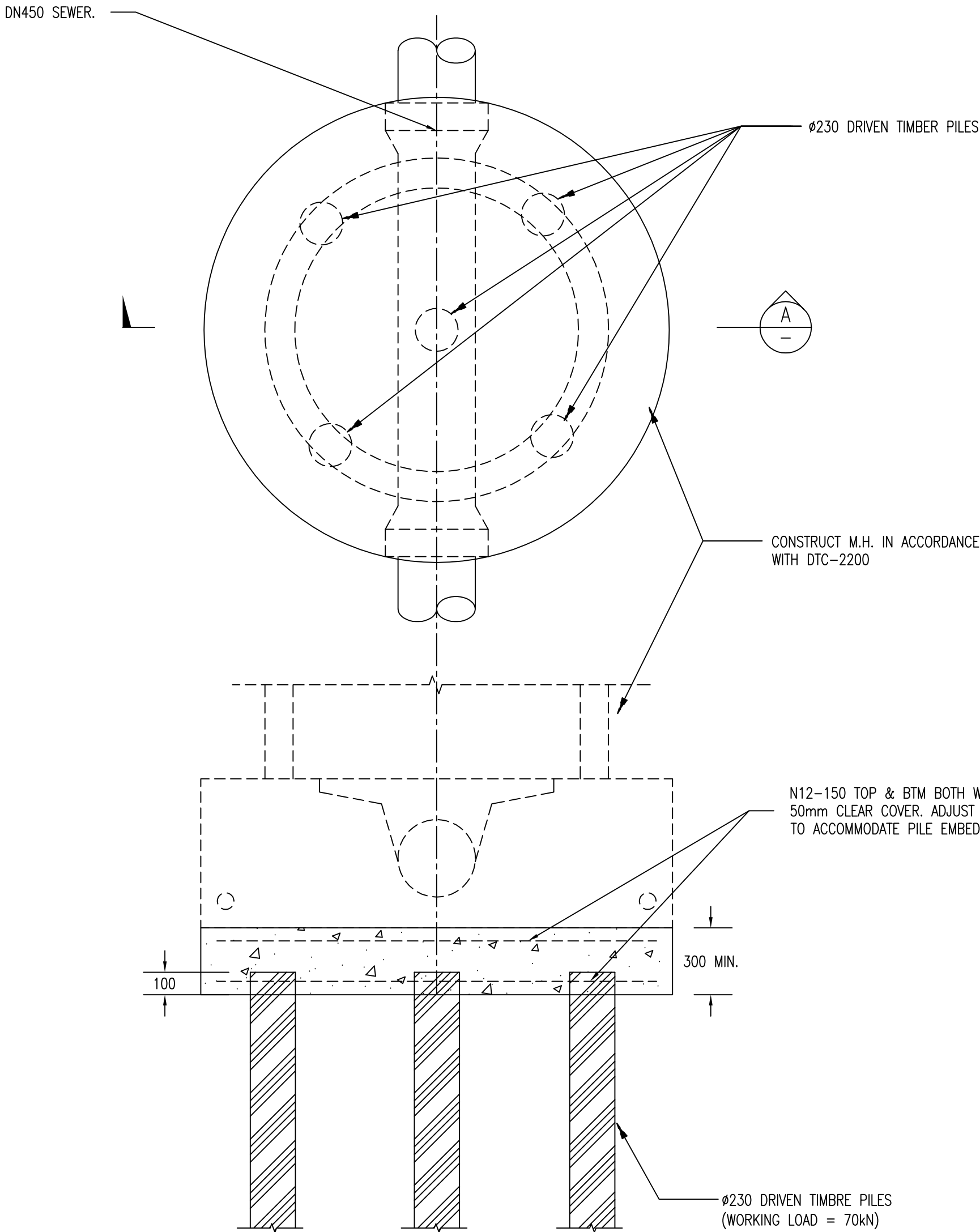
REINFORCEMENT TRIMMER BARS AND CLOSURE BARS (IE: U-BARS) ARE TO BE PROVIDED AT ALL OPENINGS WHERE MAIN REINFORCEMENT HAS BEEN CURTAILED. SIZE OF TRIMMER BAR TO MATCH MAIN REINFORCEMENT. IF REINFORCEMENT IS PROVIDED ON EACH FACE, TRIMMER BAR(S) TO BE PROVIDED ON EACH FACE.



RCP CONNECTION
DETAIL
SCALE 1:25

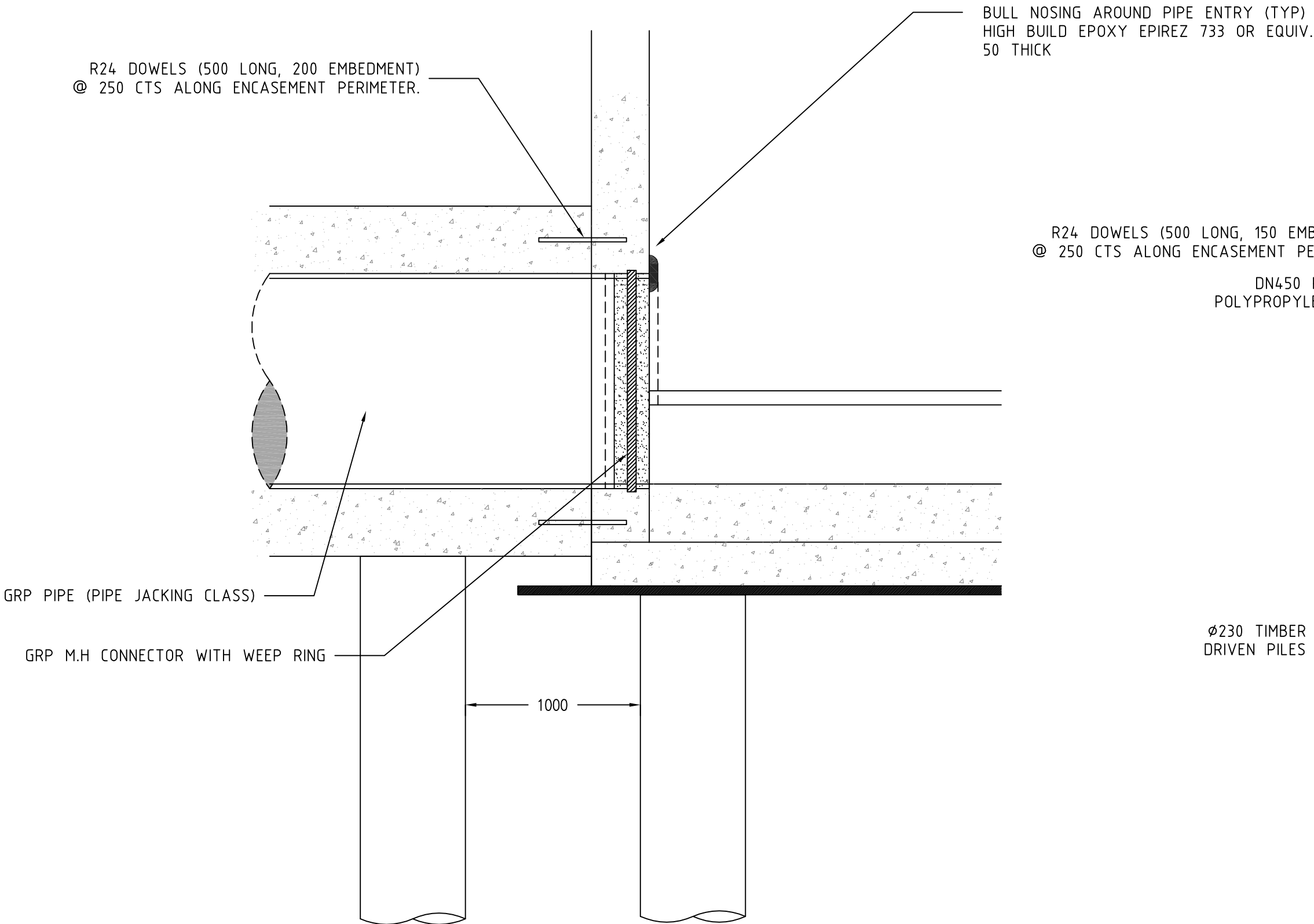


PIPE TRIMMER BAR DETAIL (TYP)
SCALE NTS

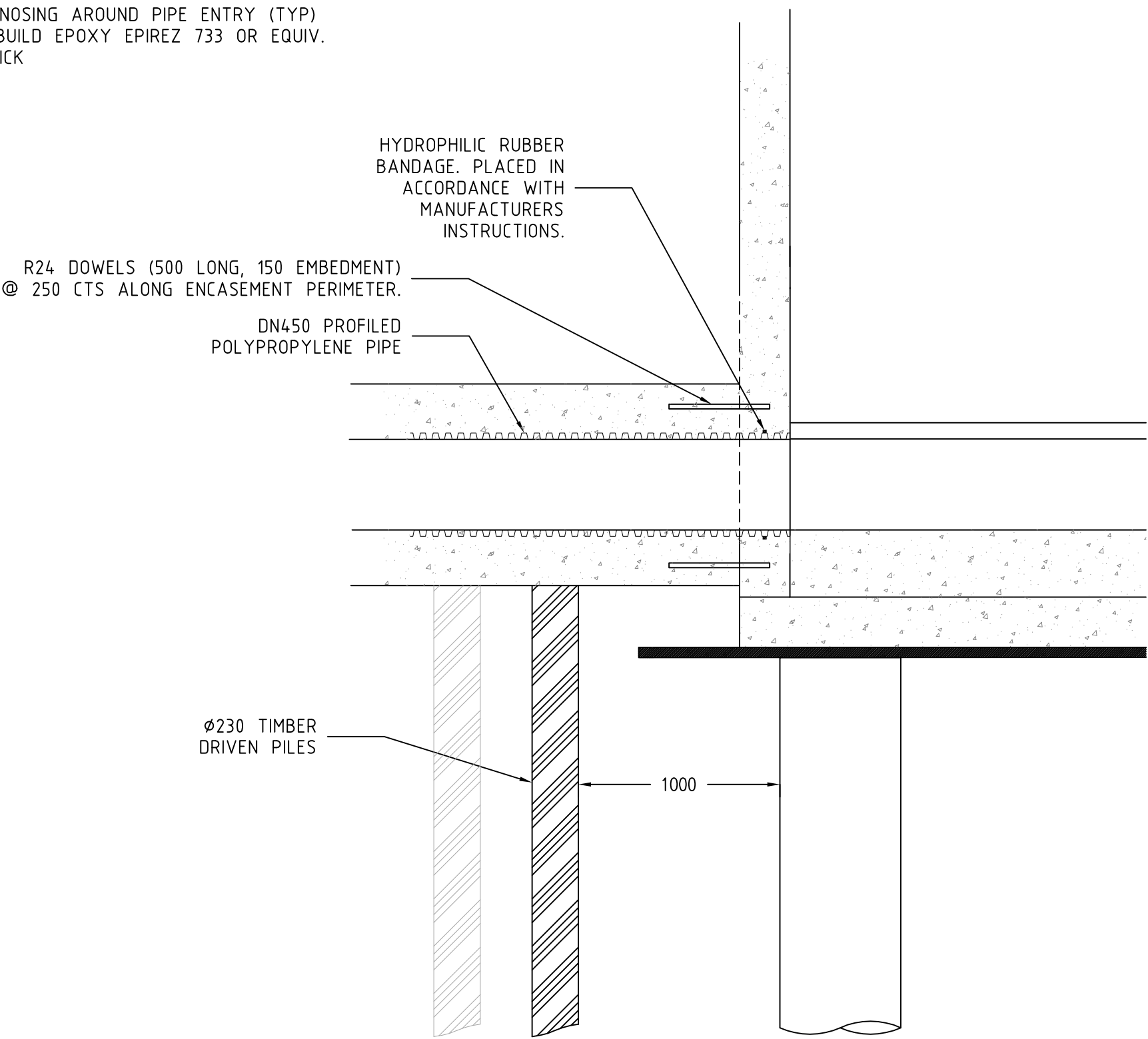


SECTION A
—

SUPPORT DETAIL FOR DTC-2200 M.H.
SCALE: NTS



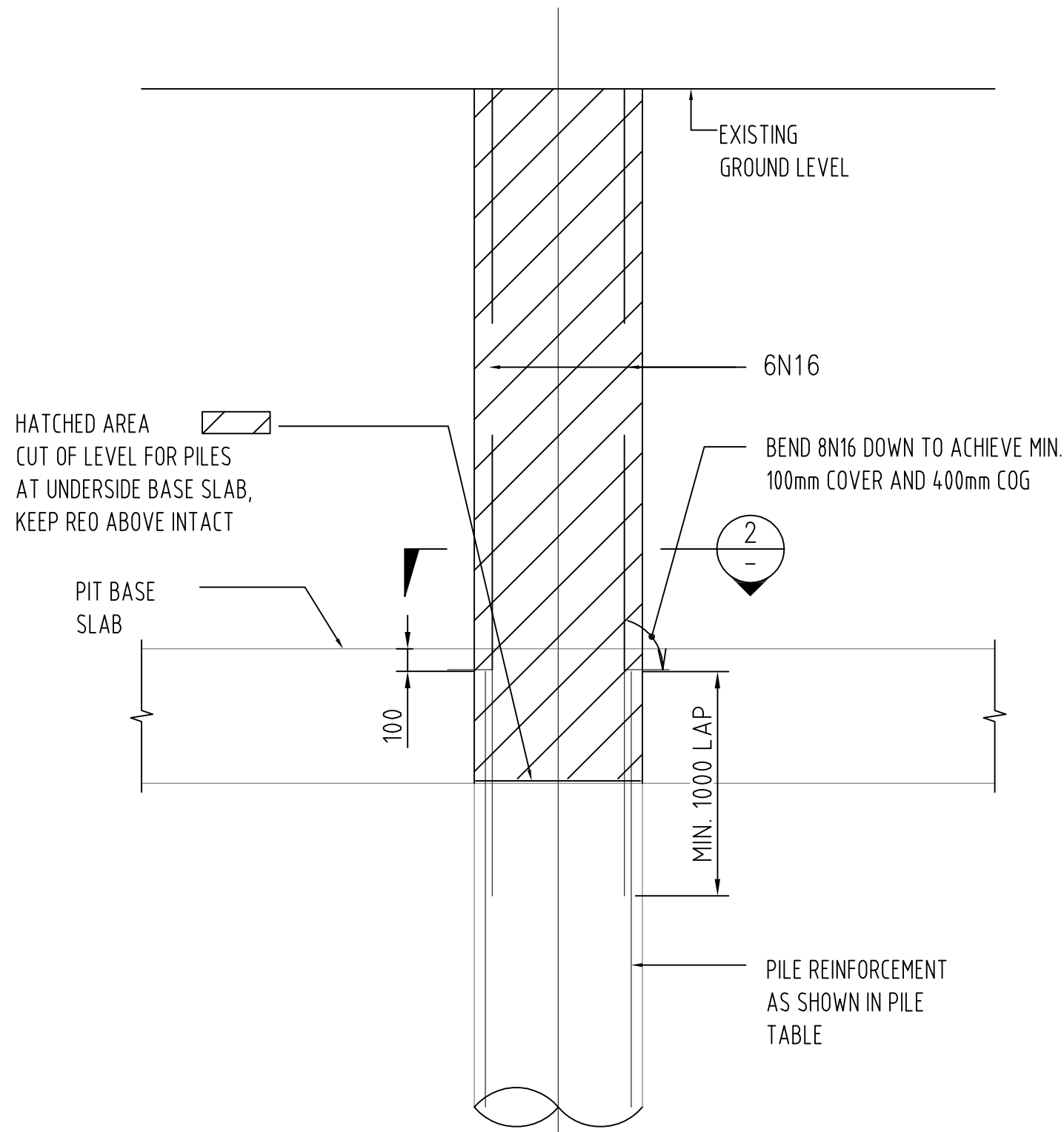
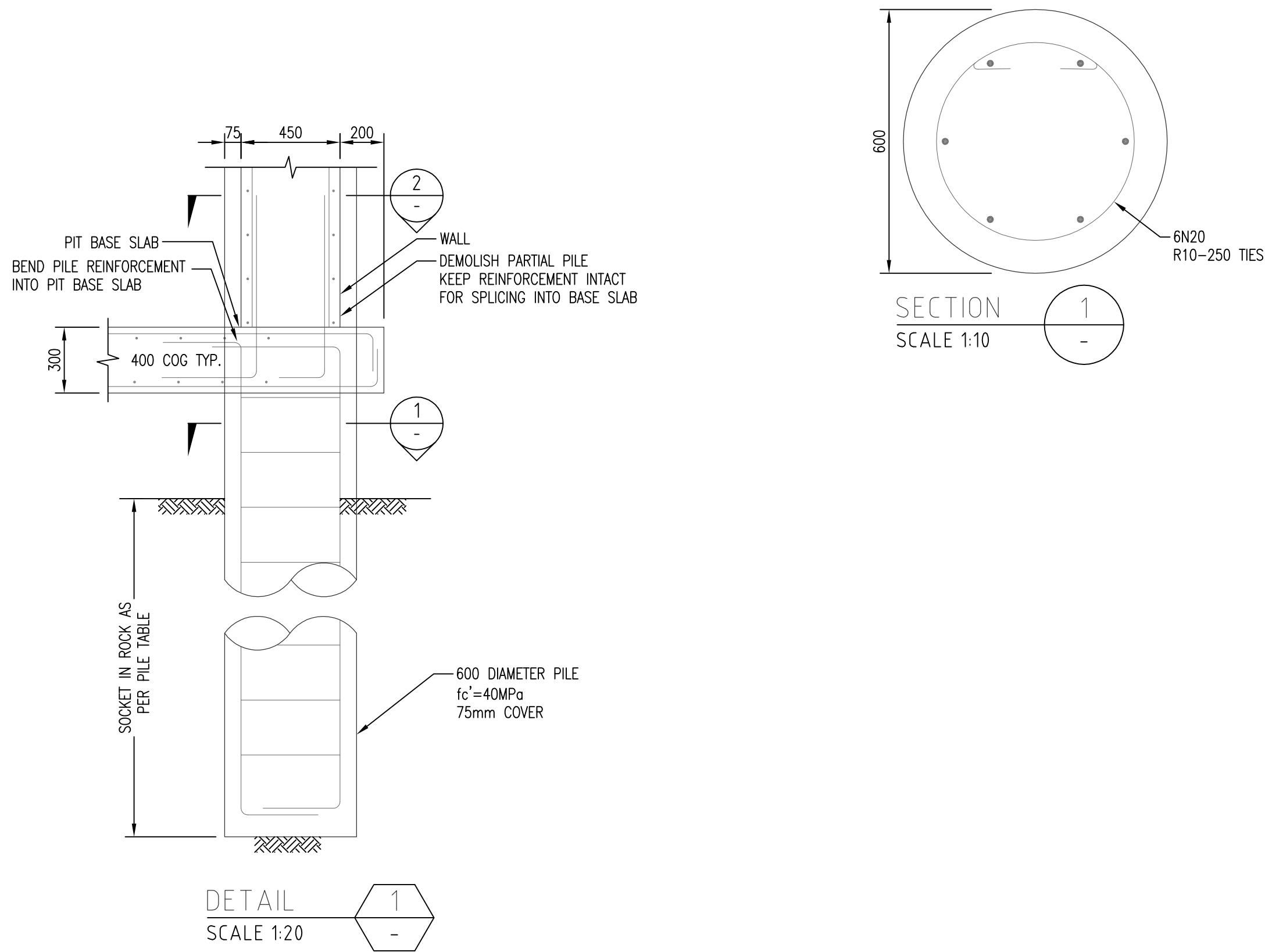
GRP PIPE CONNECTION
DETAIL
SCALE 1:25



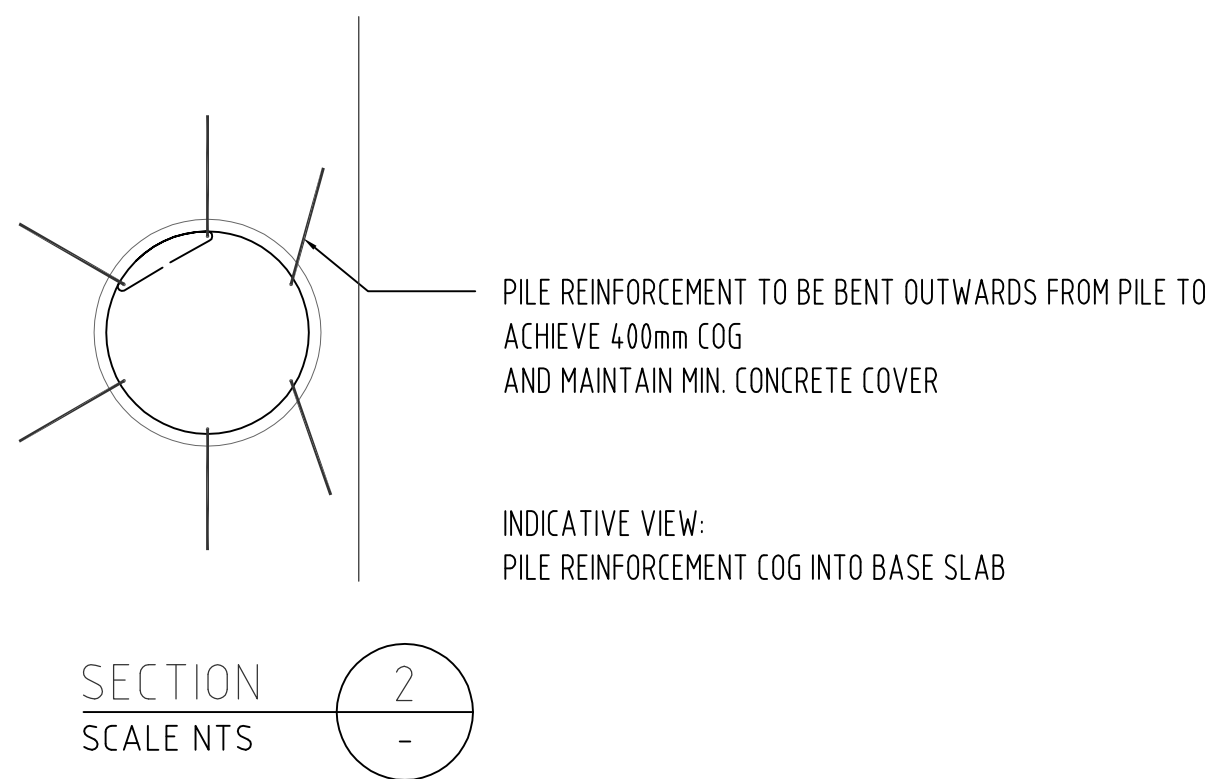
POLY PROPYLENE PIPE CONNECTION
DETAIL
SCALE 1:25

WORK AS CONSTRUCTED CERTIFICATION		Sydney WATER SYDNEY WATER CORPORATION	
DEVELOPER W.S.C.		CASE 134916WW	
CONSTRUCTOR COMPLETED			
W.A.C. PREPARED			
DESIGNER			
I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS		SYDNEY WATER CORPORATION	
		FOR DETAILS OF SERVICES SEE SHEET 1	

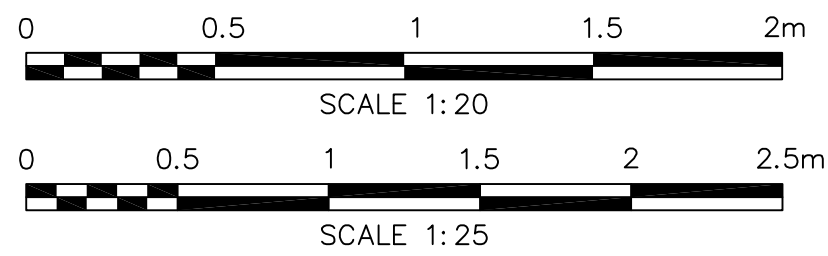
Pile type	DL [kN]	LL [kN]	1.2W-0.9DLmin (tension) [kN]	Pile Dia. [mm]	Min. Socket length [mm]		Reinft
					Class IV rock	Class III rock	
SP1	1200	320	100	600	6000	1000	6N20
SP2	650	200	60	600	2300	400	6N20
SP3	550	200	60	600	1800	400	6N20



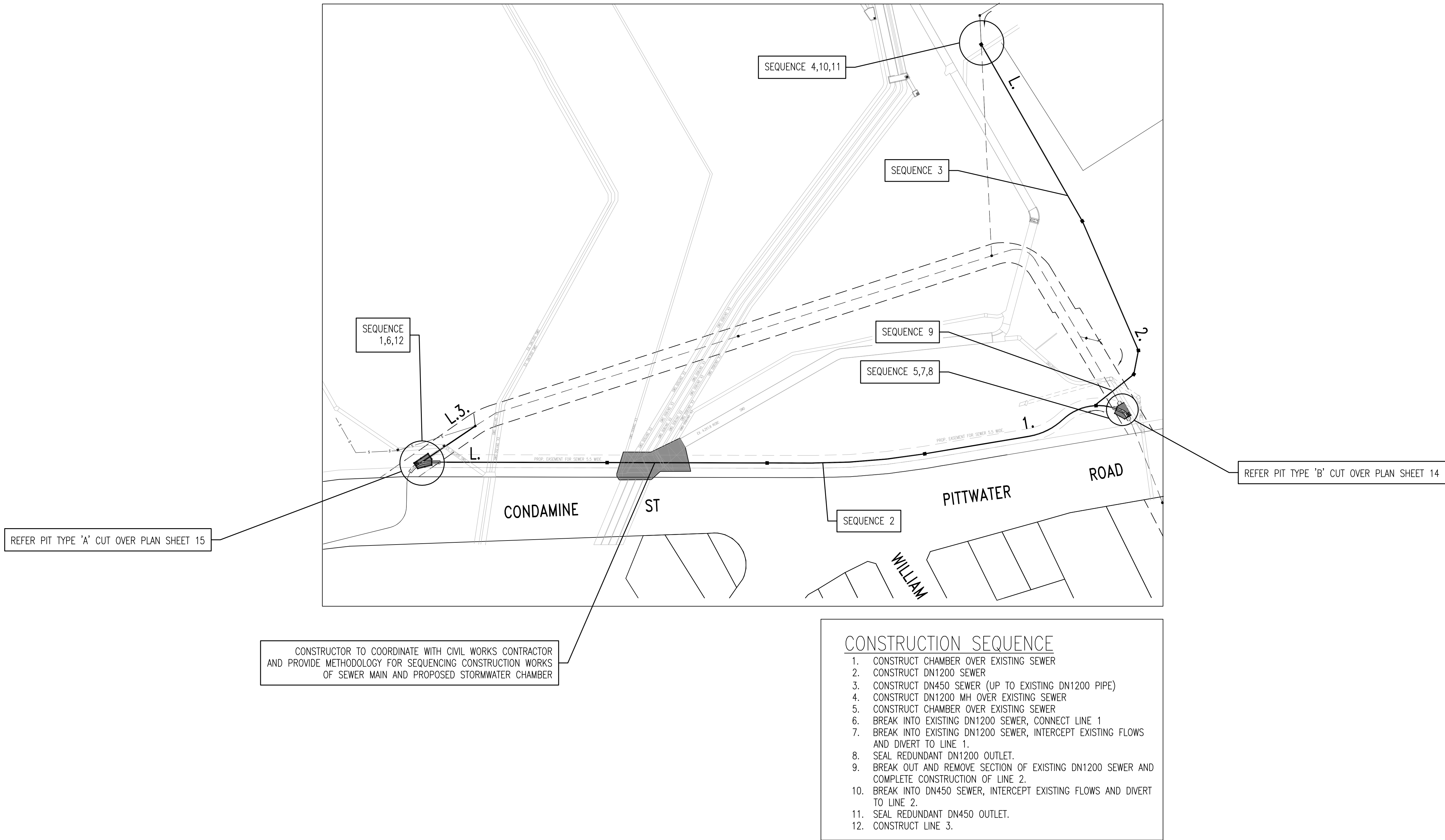
TYPICAL PILE CUTTING DETAIL
SCALE 1:25



SECTION 2
SCALE NTS



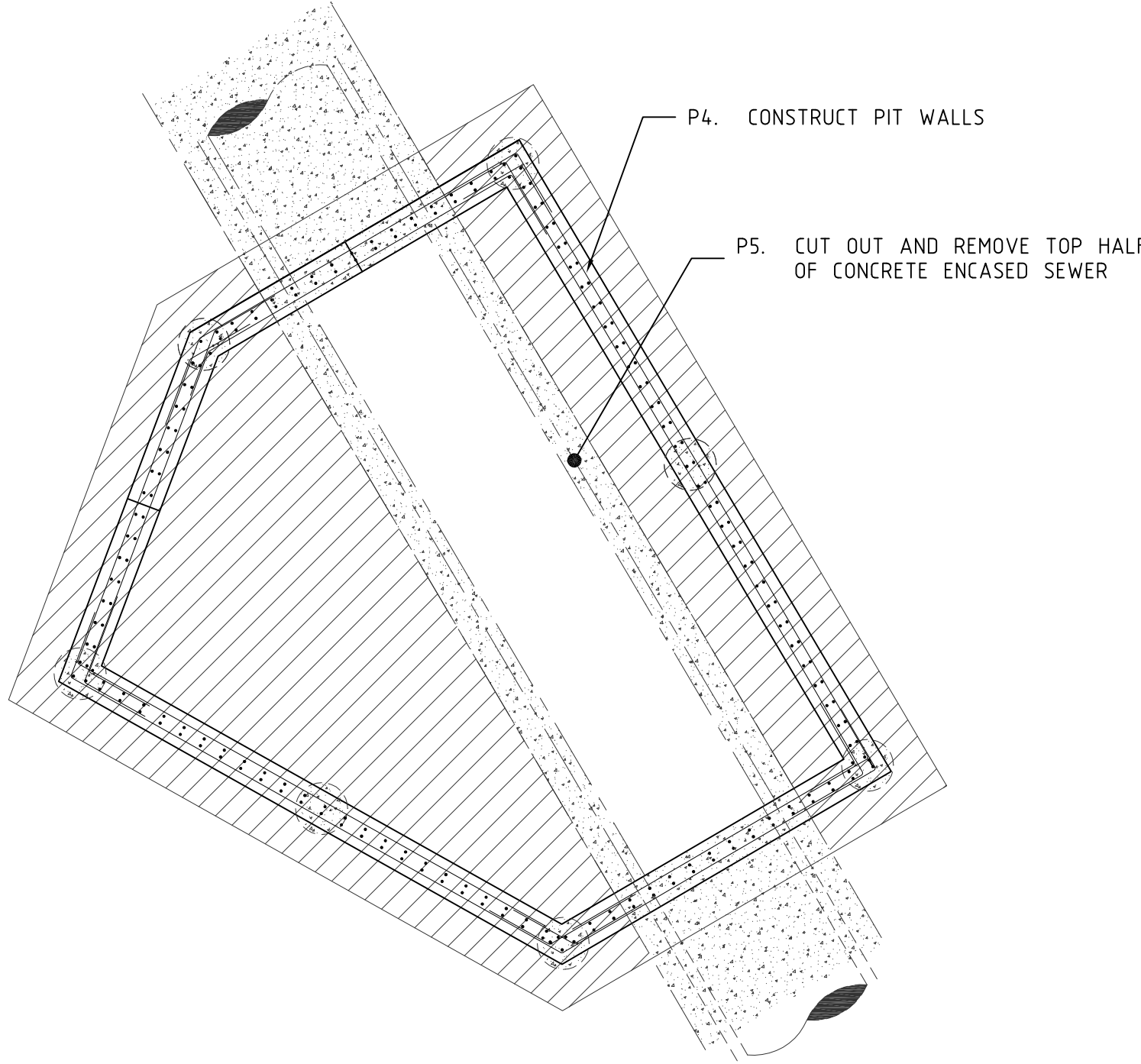
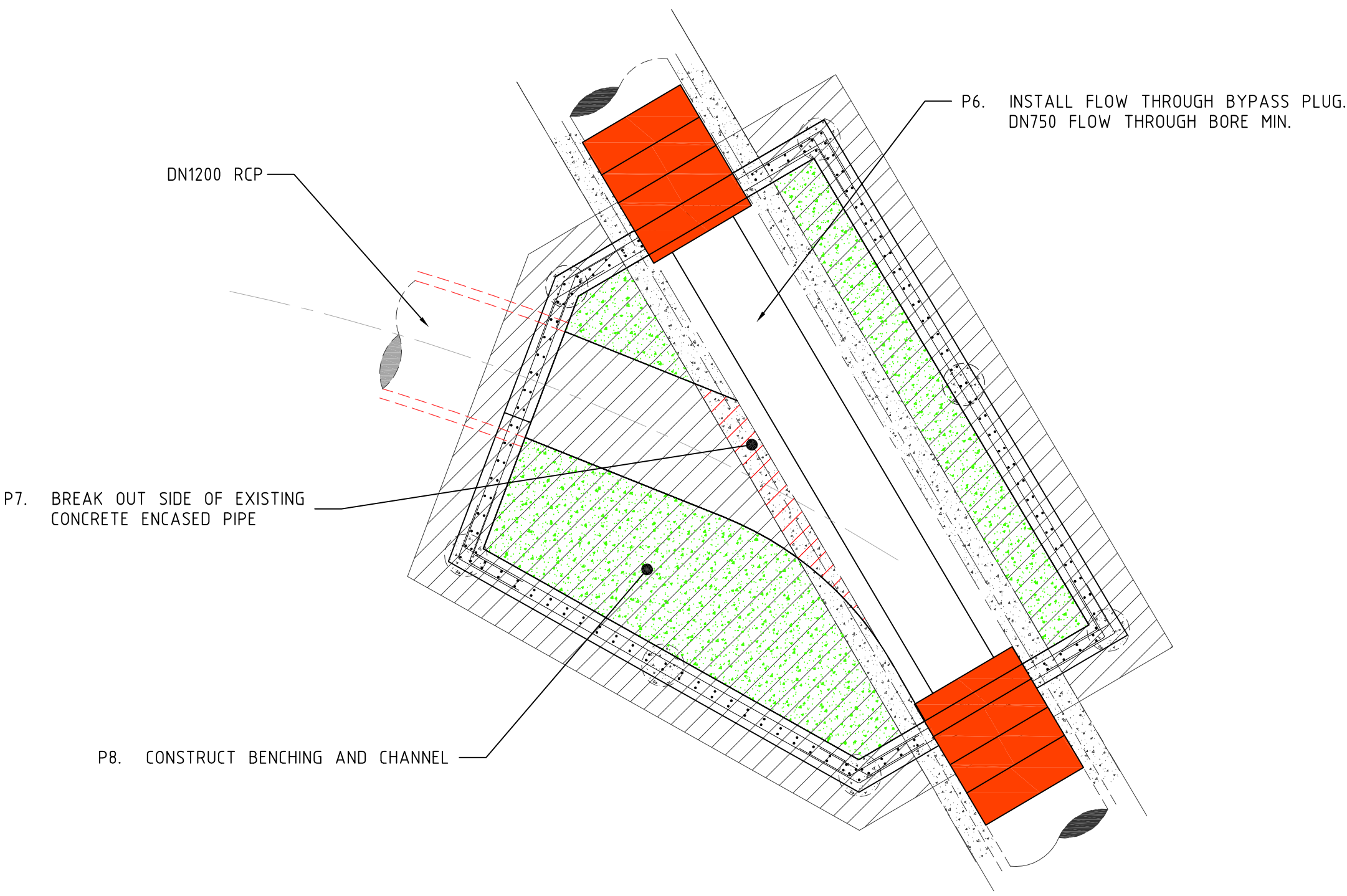
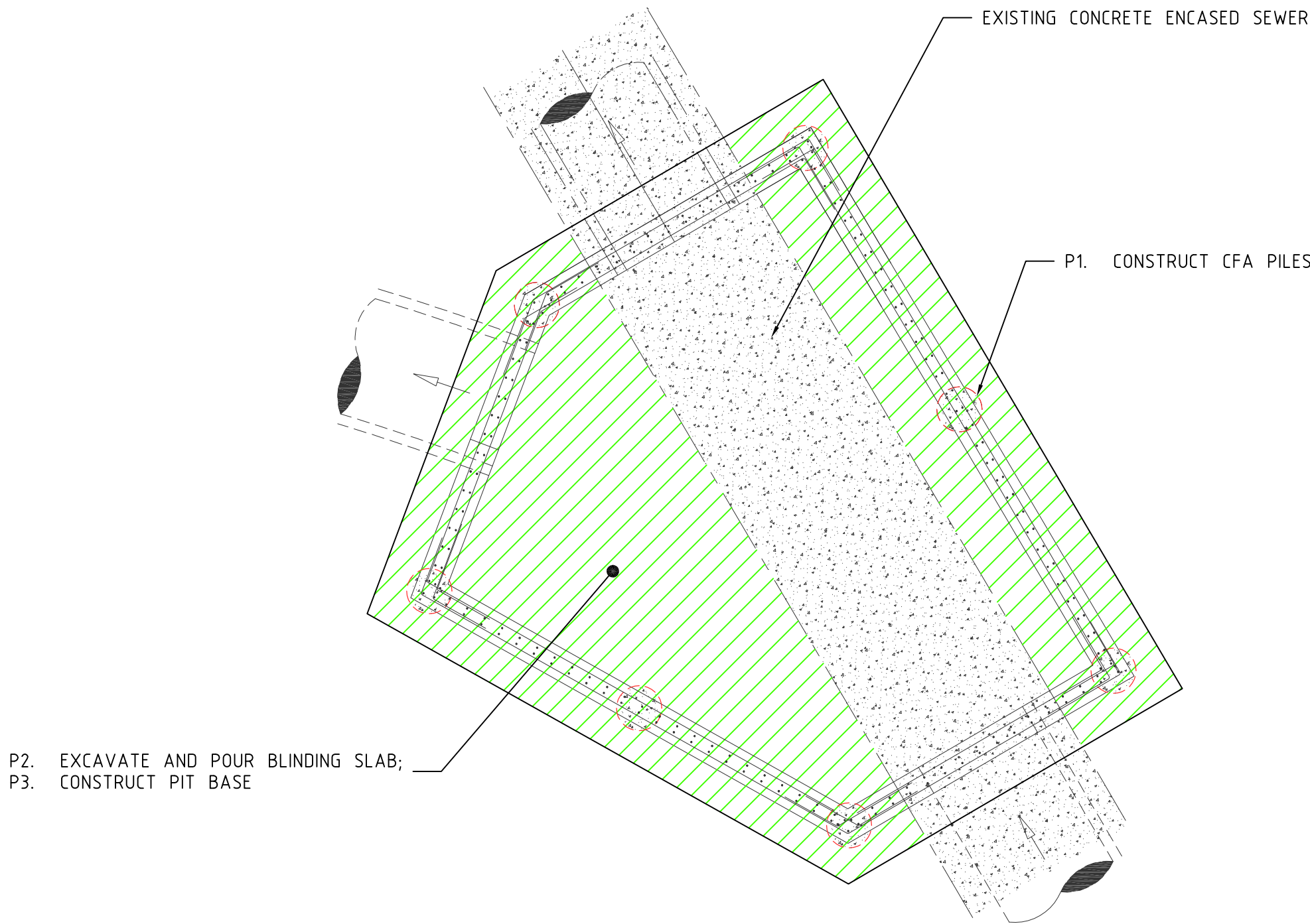
WORK AS CONSTRUCTED CERTIFICATION		Sydney WATER SYDNEY WATER CORPORATION	
DEVELOPER	.....	CASE 134916WW SHT 12 OF 15 SHTS.	
W.S.C.	.....	
CONSTRUCTOR	.....	
COMPLETED	.....	
W.A.C. PREPARED	.....	SYDNEY WATER CORPORATION FOR DETAILS OF SERVICES SEE SHEET 1	
DESIGNER	.....	
I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS			



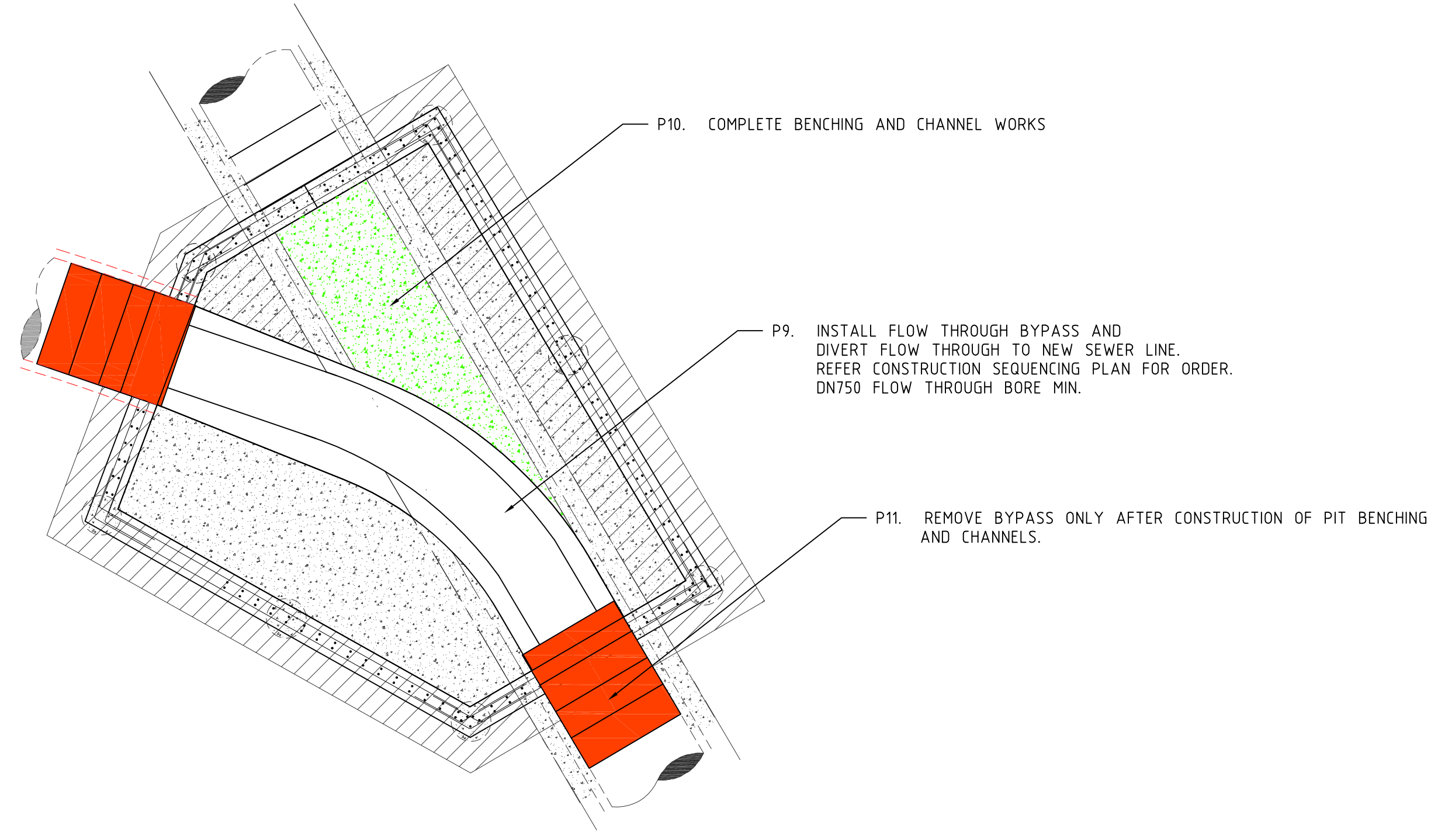
PLAN DRAWN DATE: 15/07/15 VERSION: 15 SHEET 13 OF 15 SHEETS

SUGGESTED CONSTRUCTION SEQUENCING PLAN

WORK AS CONSTRUCTED CERTIFICATION		Sydney WATER SYDNEY WATER CORPORATION	
DEVELOPER	.....	CASE 134916WW SHT 13 OF 15 SHTS.	
W.S.C.	.....	
CONSTRUCTOR	.....	
COMPLETED	.....	
W.A.C. PREPARED	.....	SYDNEY WATER CORPORATION FOR DETAILS OF SERVICES SEE SHEET 1	
DESIGNER	.....	
I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS			



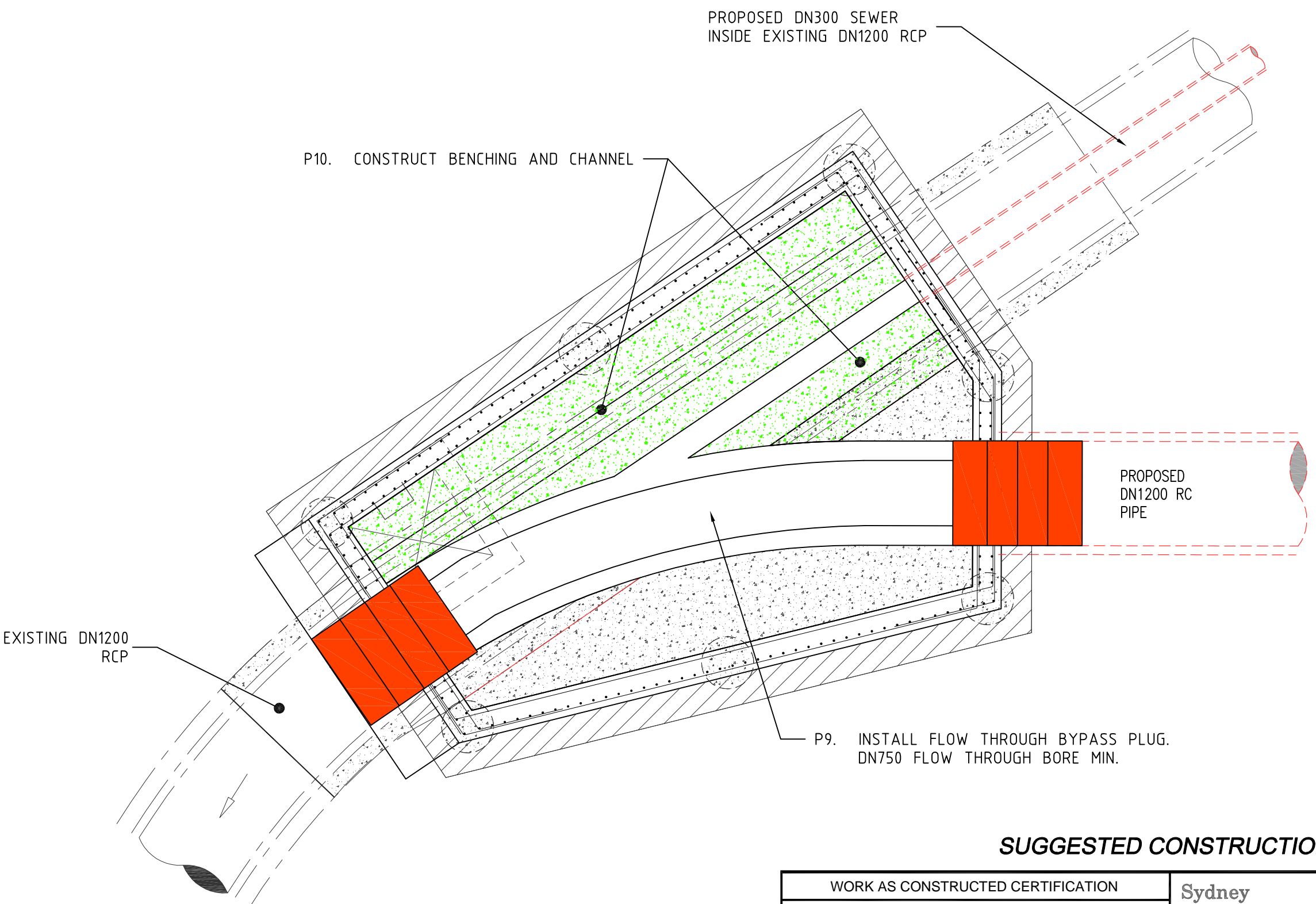
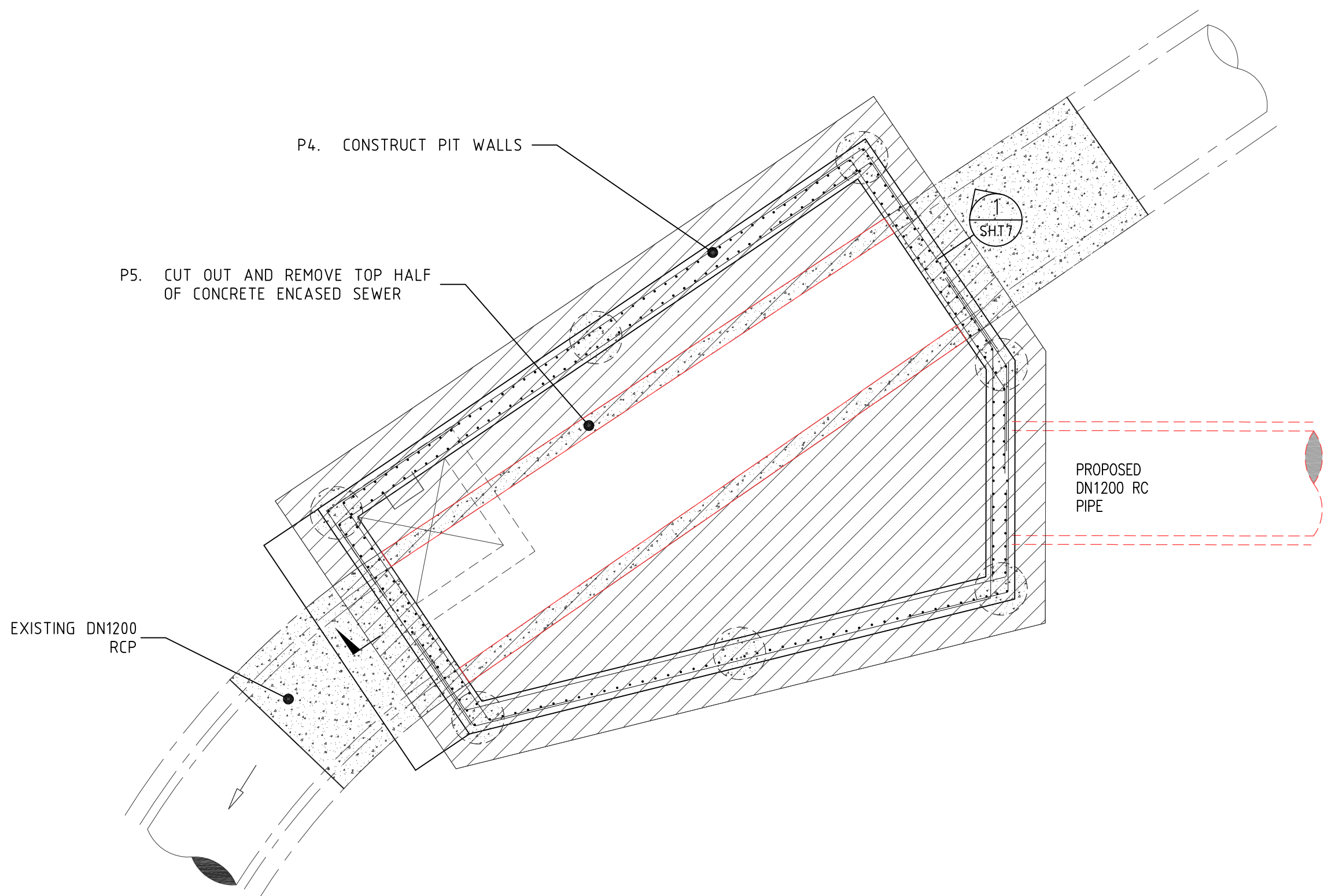
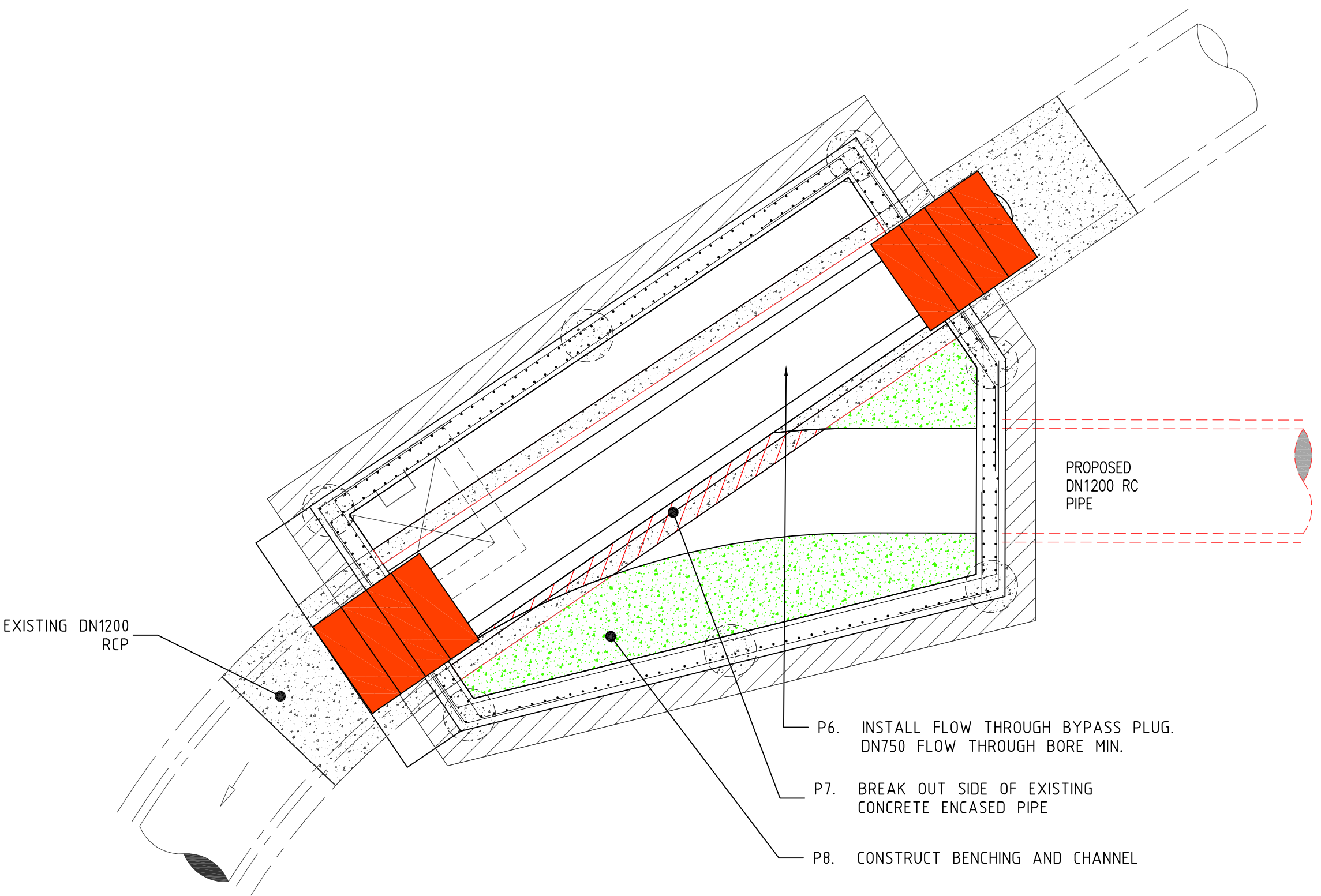
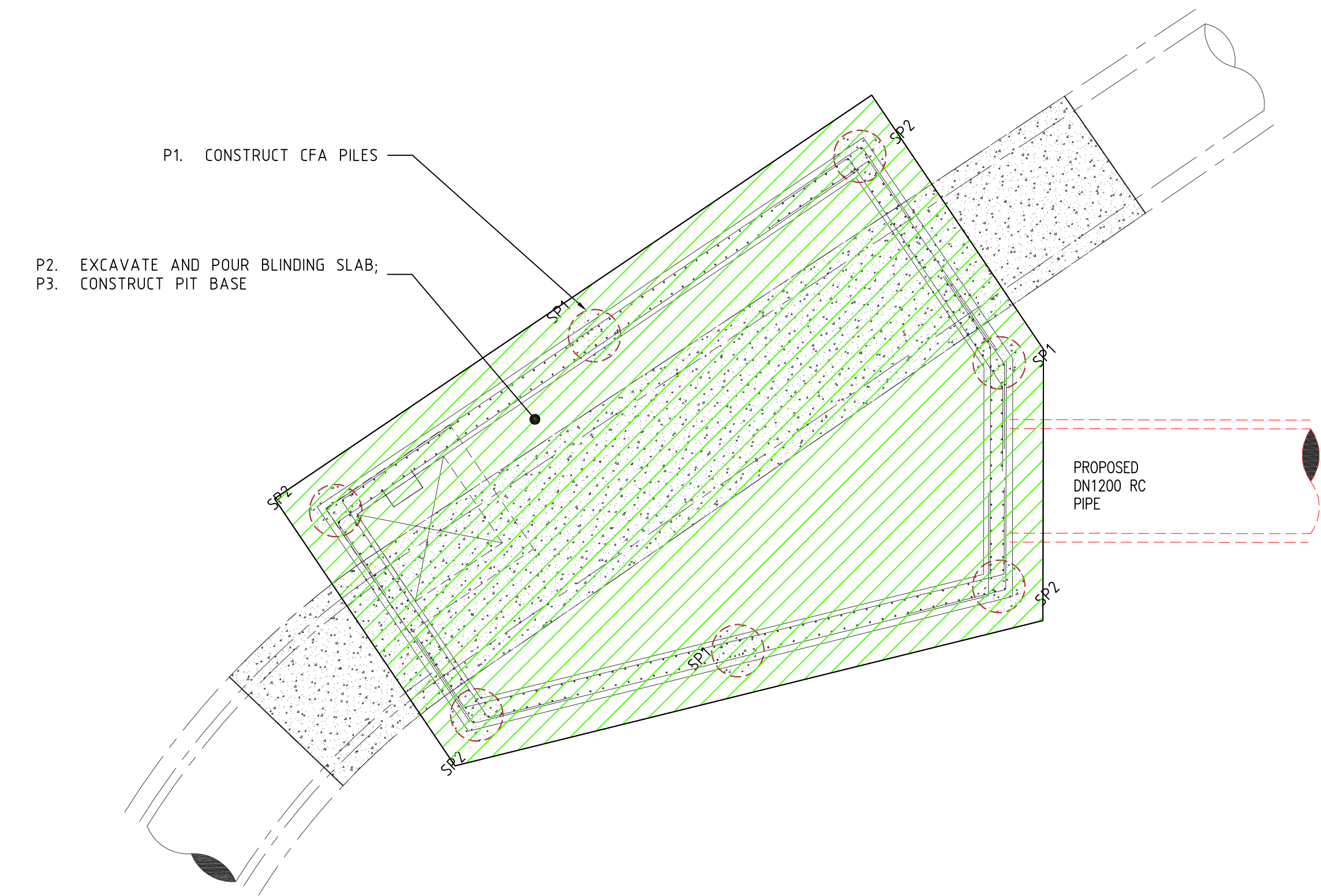
P8. CONSTRUCT BENCHING AND CHANNEL



PIT TYPE 'B' CUT OVER SEQUENCE PLAN
SCALE: NTS

SUGGESTED CONSTRUCTION SEQUENCING PLAN

WORK AS CONSTRUCTED CERTIFICATION		Sydney WATER SYDNEY WATER CORPORATION	
DEVELOPER	.....	CASE 134916WW | SHT 14 OF 15 SHTS.	
W.S.C.	.....	
CONSTRUCTOR COMPLETED	.....	
W.A.C. PREPARED	.....	SYDNEY WATER CORPORATION FOR DETAILS OF SERVICES SEE SHEET 1	
DESIGNER	.....	
I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS			



PIT TYPE 'A' CUT OVER SEQUENCE PLAN
SCALE: NTS

SUGGESTED CONSTRUCTION SEQUENCING PLAN

WORK AS CONSTRUCTED CERTIFICATION		SYDNEY WATER CORPORATION	
DEVELOPER	W.S.C.	Sydney WATER	
CONSTRUCTOR	COMPLETED	CASE 134916WW	SHT 15 OF 15 SHTS.
DESIGNER	SYDNEY WATER CORPORATION		
I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS		FOR DETAILS OF SERVICES SEE SHEET 1	