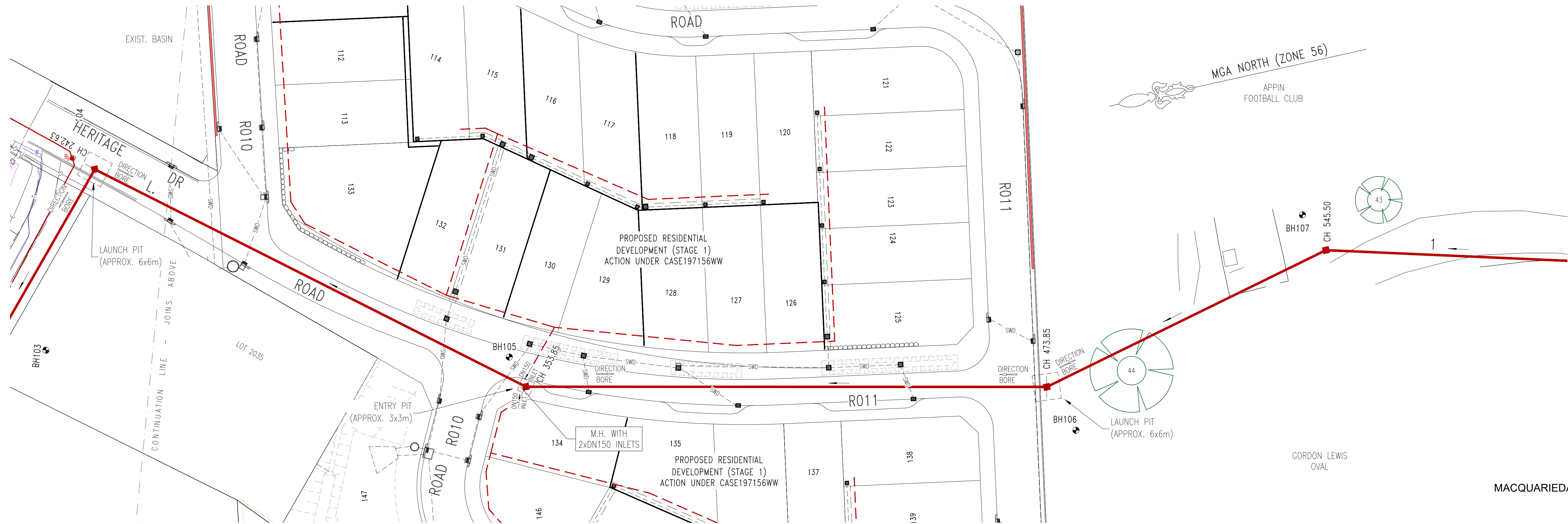
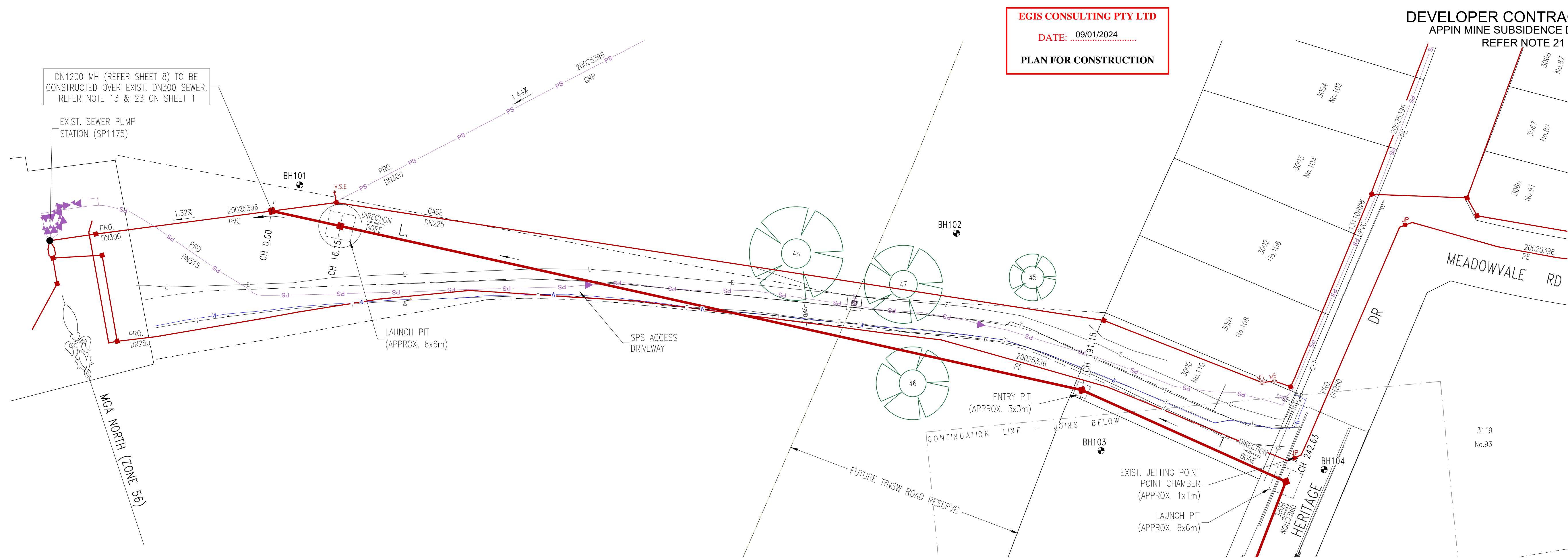
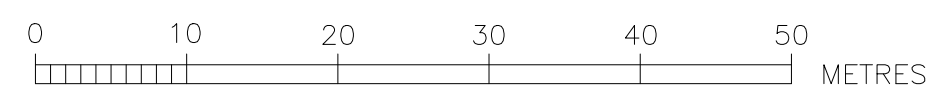
LOCALITY PLAN & B.M. DIAGRAM
(NOT TO SCALE)

03	AMENDED AS PER SW COMMENTS	M.W.	29/11/23
02	ISSUE FOR SYDNEY WATER ENDORSEMENT	M.W.	14/07/23
01	ISSUE FOR INFORMATION	M.W.	22/06/23
No.	AMENDMENT DESCRIPTION	BY	DATE

PLAN TO BE READ IN CONJUNCTION WITH CURRENT SYDNEY WATER STANDARDS SYDNEY WATER CORPORATION		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	CONSTRUCTOR	DESIGNER	SIZE DN	TYPE	GLASS	LENGTH	PIPE JOINING METHOD / NOTES					PLAN 1:500	CROSS SECTIONS	SHEET	FILE NO.		
PRIOR TO COMMENCEMENT OF EXCAVATION FOR PROPOSED AND EXISTING SERVICES CONTACT :- DIAL BEFORE YOU DIG Ph. 1100 ELECTRICITY ENDEAVOUR ENERGY Ph. 131 003 GAS JEMENA GAS Ph. 1300 880 906 TELECOMMUNICATIONS TELSTRA Ph. 1800 114 915 SYDNEY WATER Ph. 132 092 GIVING AT LEAST 48 HOURS NOTICE.		EXIST. STORMWATER: SWD	SWD	06/06/23	SURVEY	PROP. STORMWATER: SWD	--- SWD	22/12/21	ENSPIRE	WATER SERVICE CO-ORDINATOR	COMPLETED	W.A.C. PREPARED				300	G.R.P.	SN10K	972.54	REFER BORE DETAIL (SHEET 6)	SCALES PLAN 1:500 SECTION { HOR. 1:500 VERT. 1:125 CROSS SECTIONS --- NATURAL LENGTHS, DEPTHS & LEVELS ARE IN METRES.	U.B. DIRECTORY MAP 373, G10 (41st Edition)		WOLLONDILLY SEWERAGE DRAINS TO GLENFIELD STP VIA SP1175	
		EXIST. ELECTRICAL: E	E	06/06/23	SURVEY								300	G.R.P.	SN50K	16.15	ENCASING PIPE	SHEET 1 OF 8	File No. N/A						
		EXIST. TELECOM: T	T	06/06/23	SURVEY								450	G.R.P.	SN50K	972.54									
		EXIST. WATER: W	W	06/06/23	HYDRA																				
		EXIST. P.S.M.: PS	PS	06/06/23	SURVEY																				
		EXIST. GAS: G	G	06/06/23	B.Y.D.																				



REFER NOTE 21 AND BOREHOLE LEGEND ON SHEET 1



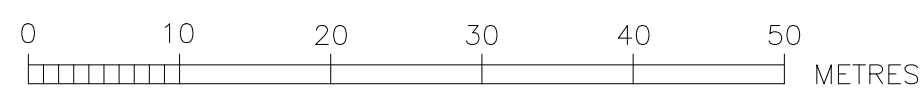
CONTACT BEFORE YOU DIG AUSTRALIA

WORK AS CONSTRUCTED CERTIFICATION		Sydney WATER	
DEVELOPER	W.S.C.	Case No. 198143WW SHT 2 OF 8 SHTS.	
CONSTRUCTOR	COMPLETED	SYDNEY WATER CORPORATION	
W.A.C. PREPARED	DESIGNER	FOR DETAILS OF SERVICES SEE SHEET 1	
I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS			



CONTINUATION LINE - JOINS SHEET 2

REFER NOTE 21 AND BOREHOLE LEGEND ON SHEET 1

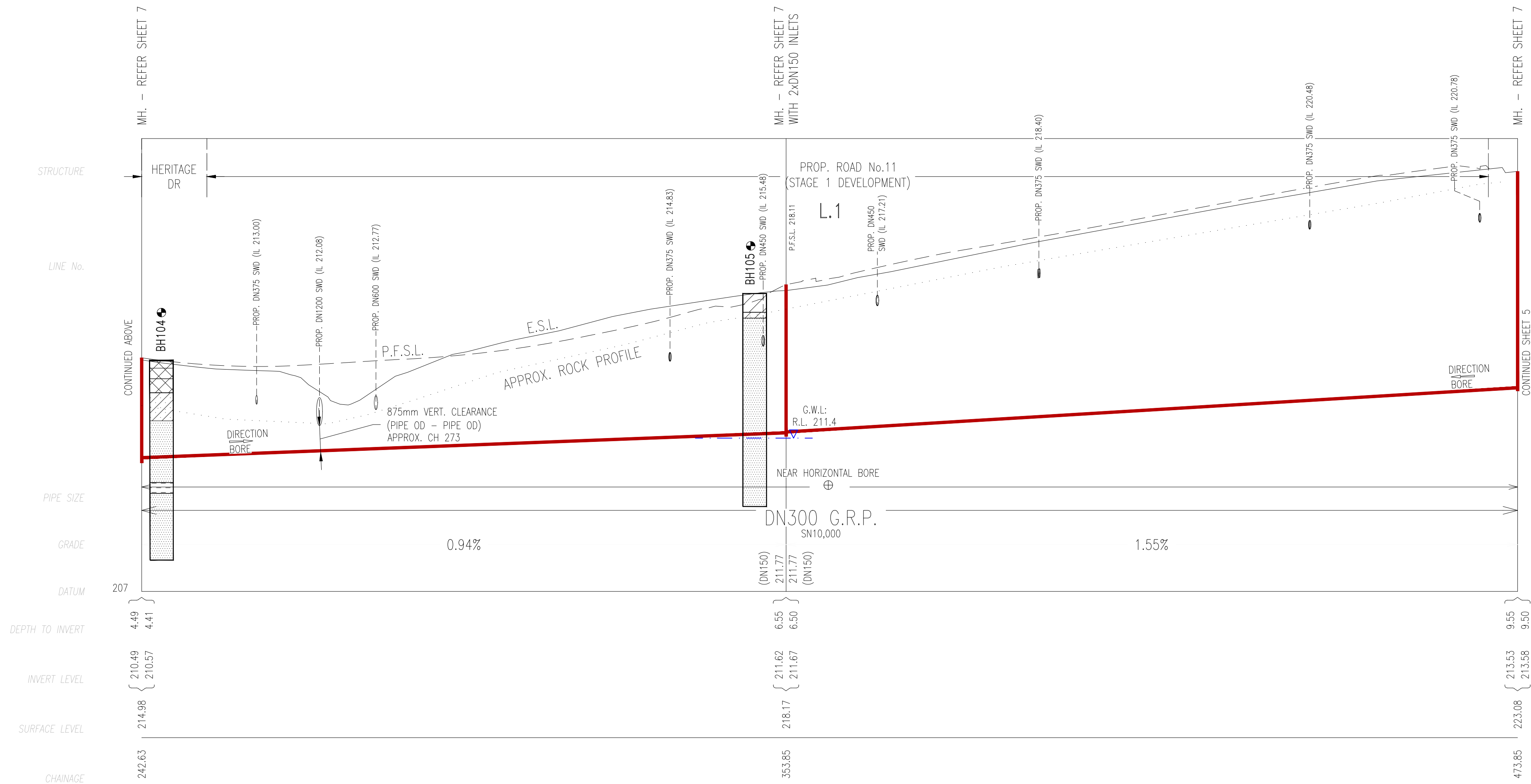
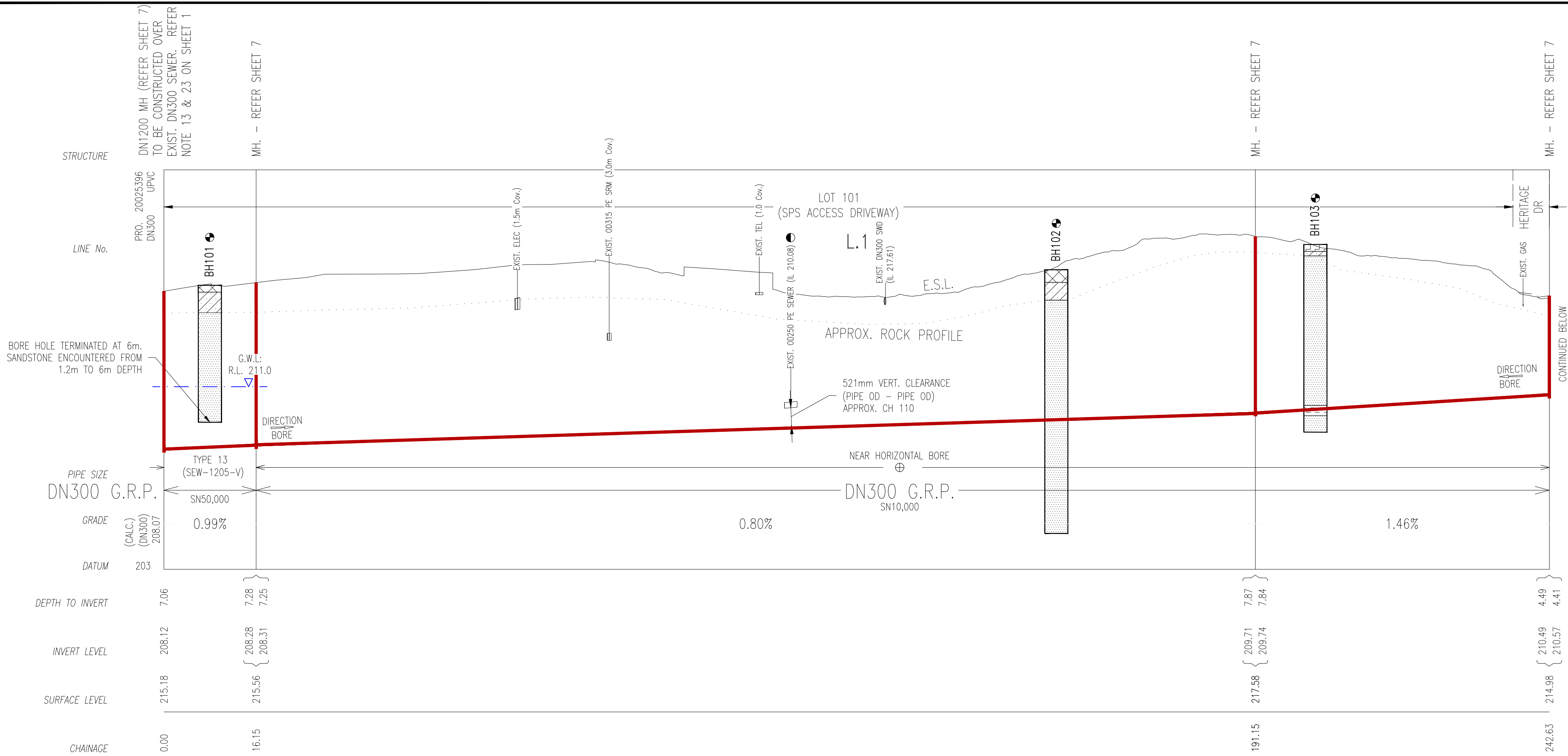


CONTACT BEFORE YOU DIG AUSTRALIA

MACQUARIEDALE PRECINCT,
SOUTH APPIN,
WW LEAD-IN

WORK AS CONSTRUCTED CERTIFICATION		Sydney WATER SYDNEY WATER CORPORATION	
DEVELOPER W.S.C.	COMPLETED	Case No. 198143WW	SHT 3 OF 8 SHTS.
CONSTRUCTOR			
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	

EGIS CONSULTING PTY LTD
DATE: 09/01/2024
PLAN FOR CONSTRUCTION

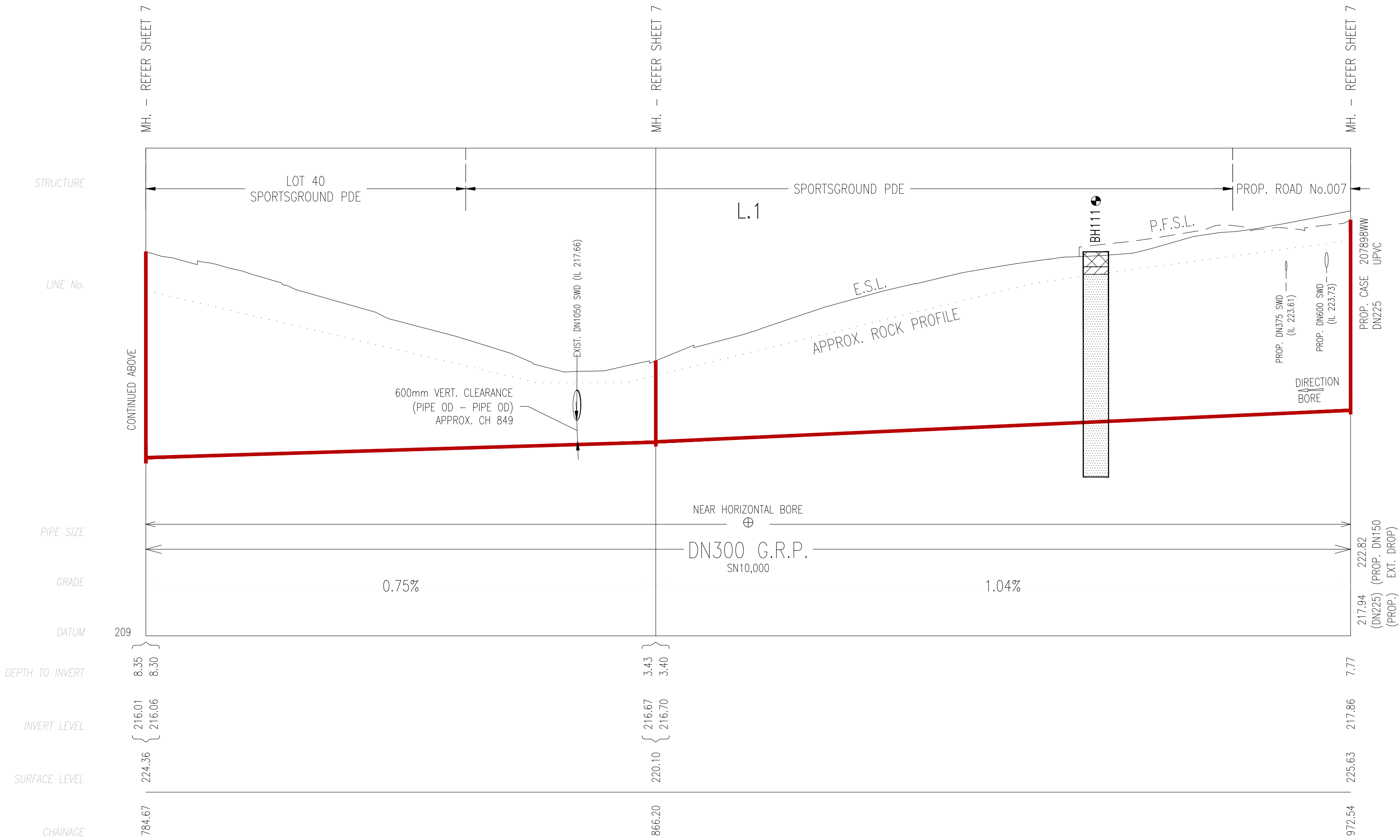
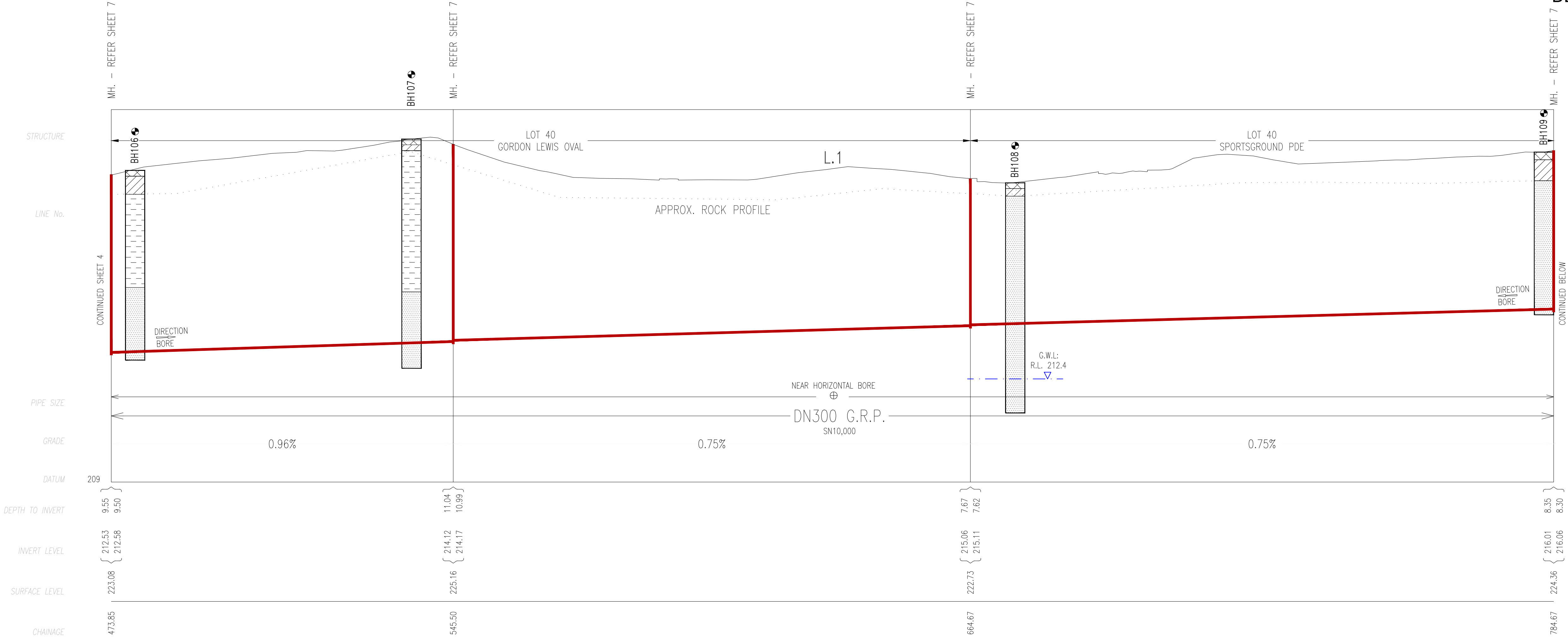


CONTACT BEFORE YOU DIG AUSTRALIA

- ⊕ REFER NEAR-HORIZONTAL MICROTUNNEL BORE DETAILS ON SHEET 6
- ⊕ REFER NOTE 21 AND BOREHOLE LEGEND ON SHEET 1
- EXIST. DN250 (OD280) PE GRAVITY SEWER CONSTRUCTED VIA HDD. LEVELS HAVE BEEN ADOPTED FROM WAC DRAWINGS (FILE No. PSP-13-SN0015-C-008). CLEARANCE SHOWN ON LONG-SECTION IS BETWEEN EXIST. SEWER PIPE OD AND OD363 G.R.P. IT IS CRITICAL THAT THE LEVEL OF THE EXIST. DN250 PE GRAVITY SEWER BE CONFIRMED PRIOR TO CONSTRUCTION. REFER NOTE 8 ON SHEET 1

WORK AS CONSTRUCTED CERTIFICATION		SYDNEY WATER CORPORATION	
DEVELOPER	W.S.C.	Sydney WATER	
CONSTRUCTOR	COMPLETED	Case No. 198143WW SHT 4 OF 8 SHTS.	
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	

EGIS CONSULTING PTY LTD
DATE: ..09/01/2024.....
PLAN FOR CONSTRUCTION



CONTACT BEFORE YOU DIG AUSTRALIA

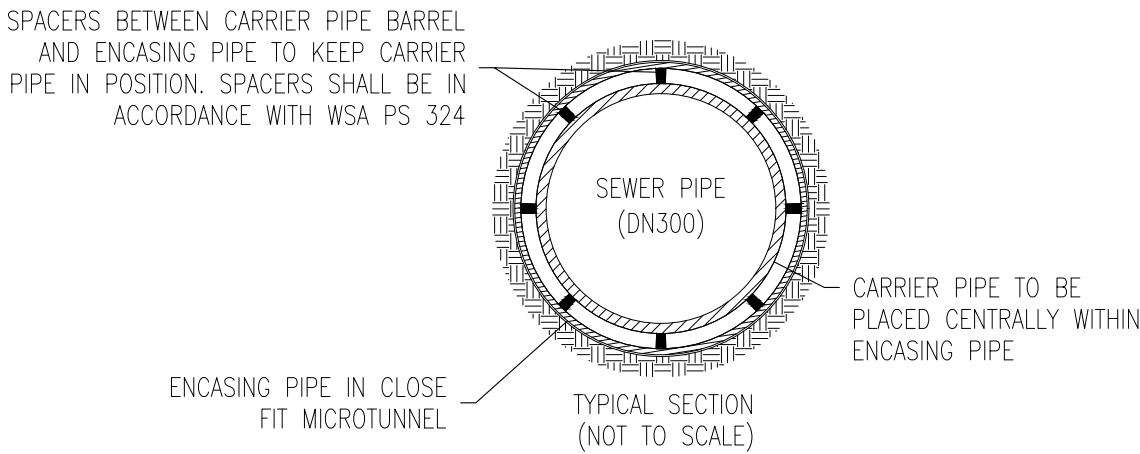
⊕ REFER NEAR-HORIZONTAL MICROTUNNEL BORE DETAILS ON SHEET 6
⚙ REFER NOTE 21 AND BOREHOLE LEGEND ON SHEET 1

WORK AS CONSTRUCTED CERTIFICATION		SYDNEY WATER CORPORATION	
DEVELOPER		<div>Sydney WATER</div>	Case No. 198143WW SHT 5 OF 8 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	

EGIS CONSULTING PTY LTD
DATE: 09/01/2024
PLAN FOR CONSTRUCTION


⊕ NEAR HORIZONTAL BORE DETAILS
LASER-GUIDED MICROTUNNEL

1. THE FOLLOWING CARRIER/ENCASING PIPE(S) ARE CONSIDERED ACCEPTABLE OPTIONS. SELECTION OF ENCASING PIPE SHALL BE IN ACCORDANCE WITH SYDNEY WATER TECHNICAL SPECIFICATION – CIVIL (VER 10.0 01/08/22), STD. DRG. SEW-1402-V (SYDNEY WATER VERSION), MANUFACTURERS RECOMMENDATIONS AND PRODUCT AVAILABILITY:
- G.R.P. CARRIER PIPE IN G.R.P. ENCASING PIPE:
DN300 SNT10,000 PN1 G.R.P. RUBBER RING JOINT CARRIER PIPE CARRIER PIPE TO BE CENTRALLY LOCATED WITHIN DN450 G.R.P. ENCASING PIPE, CLASS SN50,000, STAINLESS STEEL JOINT BANDS (TYPE SE). ANNULUS BETWEEN ENCASING AND CARRIER PIPES NOT TO BE FILLED WITH GROUT DUE TO MINE SUBSIDENCE PARAMETERS.
- MICROTUNNEL DIAMETER: 530mm
 - G.R.P. ENCASING PIPE ID: 487mm
 - G.R.P. ENCASING PIPE OD: 525mm
 - G.R.P. CARRIER PIPE ID: 328mm
 - G.R.P. CARRIER PIPE OD: 345mm
 - CARRIER PIPE MAXIMUM ALLOWABLE AXIAL FORCE: 78.4kN
 - JACKING PIPE MAXIMUM ALLOWABLE AXIAL FORCE: 440kN
2. PIPE SPACERS TO BE LOCATED EVERY 1.0m ALONG LENGTH IN ACCORDANCE WITH WSA PS 324 AND INSTALLED IN ACCORDANCE WITH PIPE MANUFACTURER.
3. ALL CARRIER AND/OR ENCASING PIPE SPECIFICATIONS TO BE CONFIRMED WITH PIPE MANUFACTURER PRIOR TO CONSTRUCTION.



MAINTENANCE STRUCTURE SCHEDULE									
LINE NO.	CHAINAGE	EASTING	NORTHING	TYPE	DN RISER	COVER CLASS (REFER NOTE 17 ON SHEET 1)	MATERIAL (PVC, CAST IN-SITU, ETC)	DEFLECTION ANGLE (DEGREES)	COMMENT
1	0.00	295679.803	6214441.226	MH	1.2	D	CAST IN-SITU	20	MH (REFER SHEET 8) TO BE CONSTRUCTED OVER EXIST. DN300 SEWER. REFER NOTE 13 & 23 ON SHEET 1
1	16.15	295693.719	6214433.040	MH	1.2	D	CAST IN-SITU	0	MH (REFER SHEET 8)
1	191.15	295844.425	6214344.086	MH	1.2	D	CAST IN-SITU	12	MH (REFER SHEET 8)
1	242.63	295882.532	6214309.462	MH	1.2	D	CAST IN-SITU	87	MH (REFER SHEET 8)
1	353.85	295812.232	6214223.275	MH	1.2	D	CAST IN-SITU	DN300 IN-LINE: 27 WESTERN DN150 INLET: 68 EASTERN DN150 INLET: 87	MH (REFER SHEET 8) WITH 2xDN150 INLETS
1	473.85	295786.334	6214106.103	MH	1.2	D	CAST IN-SITU	26	MH TO DTC-2200
1	545.50	295803.248	6214036.480	MH	1.2	D	CAST-IN-SITU	29	MH (REFER SHEET 8)
1	664.67	295772.461	6213921.353	MH	1.2	D	CAST IN-SITU	57	MH (REFER SHEET 8)
1	784.67	295853.487	6213832.839	MH	1.2	D	CAST IN-SITU	55	MH (REFER SHEET 8)
1	866.20	295835.796	6213753.258	MH	1.2	D	CAST IN-SITU	9	MH (REFER SHEET 8)
1	972.54	295795.002	6213649.899	MH	1.2	D	CAST IN-SITU	DN225 INLET: 71° DN150 INLET: 58°	MH (REFER SHEET 8) WITH DN225 AND DN150 INLETS (DN150 EXTERNAL DROP TO DTC-2221)

MACQUARIEDALE PRECINCT,
SOUTH APPIN,
WW LEAD-IN

WORK AS CONSTRUCTED CERTIFICATION		SYDNEY WATER CORPORATION	
DEVELOPER W.S.C.		Case No. 198143WW	
CONSTRUCTOR COMPLETED			
W.A.C. PREPARED		SHT 6 OF 8 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	

NOTES:

- REFER TO DRG SHEET 1 FOR GENERAL NOTES.
- NUMBER, SIZE & LOCATION OF INLETS AND OUTLET ARE INDICATIVE ONLY.
- NOTE NOT USED.
- HYDROPHILIC SEAL TO BE INSTALLED AT ALL INLETS & OUTLET. SEAL TO BE HYDROTITE CJ-0725-3K (25x7mm) OR APPROVED EQUIVALENT.
- PRECAST CONCRETE ROOF PANEL TO HAVE A MINIMUM STRENGTH OF 25MPa AT LIFTING.
- SPREADER BARS TO BE USED DURING LIFTING TO ENSURE LIFT FORCE IS VERTICAL.
- NOTE NOT USED.
- 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.

STANDARD STRUCTURAL NOTES:

- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH:
 - AS1170(2002) – STRUCTURAL DESIGN ACTIONS,
 - AS3600(2018) – CONCRETE STRUCTURES,
 - AS4678(2002) – EARTH-RETAINING STRUCTURES,
 - STANDARDS ASSOCIATION OF AUSTRALIA (SAA) CODES, AND
 - NATIONAL CONSTRUCTION CODE.
 - SYDNEY WATER TECHNICAL SPECIFICATION (CIVIL) V10
- ALL WORK SHALL BE UNDERTAKEN IN A SAFE AND RESPONSIBLE MANNER AND IN ACCORDANCE WITH ALL WORKCOVER REQUIREMENTS AND WH&S ACT REGULATIONS.
- NOTE NOT USED.
- NOTE NOT USED.
- DURING CONSTRUCTION MAINTAIN THE STRUCTURE IN A STABLE CONDITION AND ENSURE NO PART IS OVERSTRESSED. PROVIDE ALL TEMPORARY PROPPING AND BRACING NECESSARY TO ACHIEVE THIS. ANY TEMPORARY WORKS SHOWN ON THE DRAWINGS ARE INDICATIVE ONLY.
- WHERE STRUCTURAL CERTIFICATION IS REQUIRED BY COUNCIL, THE CONTRACTOR SHALL GIVE 'EGIS' A MINIMUM OF 24HRS' NOTICE TO COMPLETE THE INSPECTION PRIOR TO ANY CONCRETE BEING POURED. THE ELEMENTS WHICH 'EGIS' ARE REQUIRED TO INSPECT ARE THOSE OUTSIDE COUNCIL SPECIFICATIONS, AND NOT BEING INSPECTED BY COUNCIL. THE CONTRACTOR IS RESPONSIBLE FOR CHECKING WITH COUNCIL AND NOTIFYING 'EGIS' FOR INSPECTION OF ALL ELEMENTS NOT BEING INSPECTED BY COUNCIL.
- NOTE NOT USED.
- ENSURE THAT SUFFICIENT TOLERANCES ARE PROVIDED AND INTEGRATED THROUGHOUT ALL ELEMENTS OF THE WORKS.
- NOTE NOT USED.
- NOTE NOT USED.

FOUNDATION NOTES:

- FOOTINGS HAVE BEEN DESIGNED TO BEAR ON CONTROLLED FILL WITH AN ALLOWABLE BEARING PRESSURE OF 150kPa, TO BE VERIFIED BY A GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION.
- THE BUILDER SHALL OBTAIN APPROVAL OF THE FOUNDATION MATERIAL BEFORE PLACING CONCRETE.
- NOTE NOT USED.
- FOOTINGS TO BE CONSTRUCTED AND BACKFILLED AS SOON AS POSSIBLE FOLLOWING EXCAVATION TO AVOID SOFTENING OR DRYING OUT BY EXPOSURE. ENSURE FREE DRAINING BACKFILL AND DRAINAGE IS IN PLACE.
- ALL FOUNDATIONS SHALL BE FREE OF WATER AND LOOSE MATERIAL.

CONCRETE NOTES:

- COMPRESSIVE STRENGTH (f'c) FOR CAST IN SITU CONCRETE SHALL BE A MINIMUM 32MPa AT 28 DAYS U.N.O. AS PER SYDNEY WATER TECHNICAL SPECIFICATION (CIVIL), REFER C3.6.3.
- MAXIMUM AGGREGATE SIZE IS 20mm.
- NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING.
- ALL CONCRETE FORMWORK SHALL BE DESIGNED, ERECTED, SUPPORTED, BRACED AND MAINTAINED IN ACCORDANCE WITH AS3610(2018).
- NO HOLES, CHASES OR EMBEDMENT OF PIPES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR WRITTEN APPROVAL OF THE SUPERINTENDENT.
- CONSTRUCTION JOINTS SHALL BE LOCATED TO THE APPROVAL OF THE SUPERINTENDENT.
- CURING OF CONCRETE IS TO BE ACHIEVED BY KEEPING SURFACES CONTINUOUSLY WET FOR A PERIOD OF 7 DAYS, AND PREVENTION OF LOSS OF MOISTURE FOR A TOTAL OF 7 DAYS FOLLOWED BY A GRADUAL DRYING OUT.
- CONDUITS, PIPES, ETC. SHALL ONLY BE LOCATED IN THE MIDDLE THIRD OF THE SLAB DEPTH. PIPES OR CONDUITS SHALL NOT BE PLACED WITHIN THE COVER TO REINFORCEMENT.
- SIZE OF CONCRETE MEMBERS DO NOT INCLUDE THE THICKNESS OF APPLIED FINISHES.

REINFORCEMENT NOTES:

- TYPICAL REINFORCEMENT ABBREVIATIONS;

S DENOTES GRADE 250 S HOT ROLLED DEFORMED BARS TO AS4671
N DENOTES GRADE D 500 N BARS TO AS4671
SL & RL DENOTES GRADE 250 HOT ROLLED PLAIN BARS TO AS4671 SQUARE AND RECTANGULAR MESH RESPECTIVELY

NO OF BARS IN GROUP 2N12-200 CP
NOMINAL BAR SIZE IN mm 2N12-200 CP
LOCATION OR COMMENT
BAR SPACING IN mm

- COVER TO REINFORCEMENT SHALL BE 75mm U.N.O.
- IF DURING CONSTRUCTION THE WALL THICKNESS IS GREATER THAN SPECIFIED. COVER TO REINFORCEMENT SHALL BE NO GREATER THAN 85mm TO INTERNAL FACE OF WALL.
- ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON PLASTIC CHAIRS AT NO GREATER THAN 1.0 METRE CENTRES BOTH WAYS. BARS SHALL BE TIED AT ALTERNATING INTERSECTIONS.
- REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND NOT NECESSARILY IN TRUE PROJECTION.

FURTHER ABBREVIATIONS:

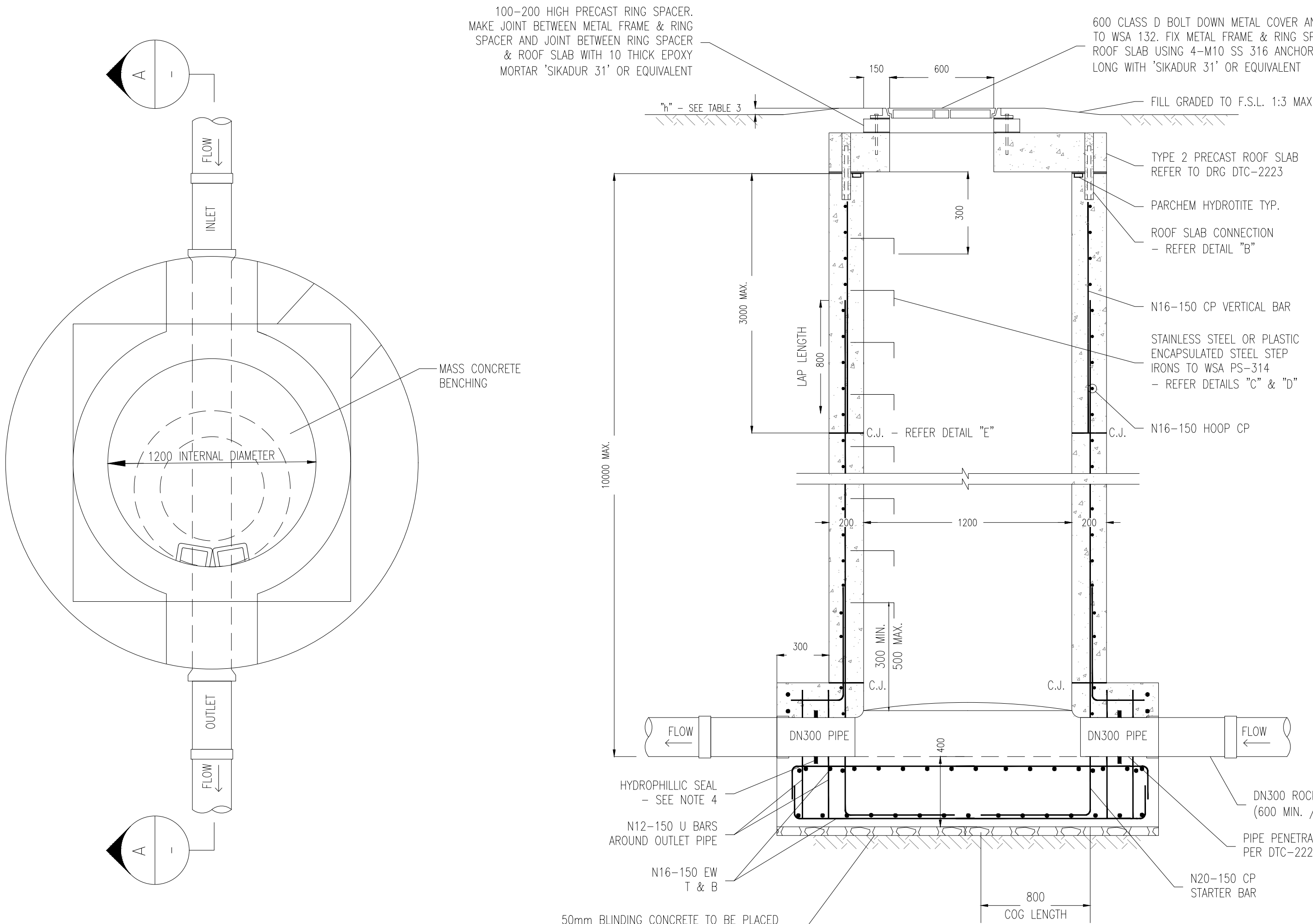
B BOTTOM
CRS CENTRES
CL CENTRELINE
DWG DRAWING
EF EACH FACE
EW EACH WAY
HORIZ HORIZONTAL
N.T.S. NOT TO SCALE
TYP TYPICAL
UNO UNLESS NOTED OTHERWISE
VERT VERTICAL
CP CENTRALLY PLACED

COVER-UNLESS NOTED OTHERWISE

ELEMENT	EXTERIOR
BASE SLAB	75mm
WALLS	75mm

TABLE 3 – FINISHED LEVELS ON M.H. COVERS

LOCATION	"h" (mm)
UNDEVELOPED AREAS	100
ROADS, LANEWAYS, FOOTWAYS & DRIVEWAYS	FLUSH



TYPICAL DN1200 MAINTENANCE HOLE DETAIL – PLAN

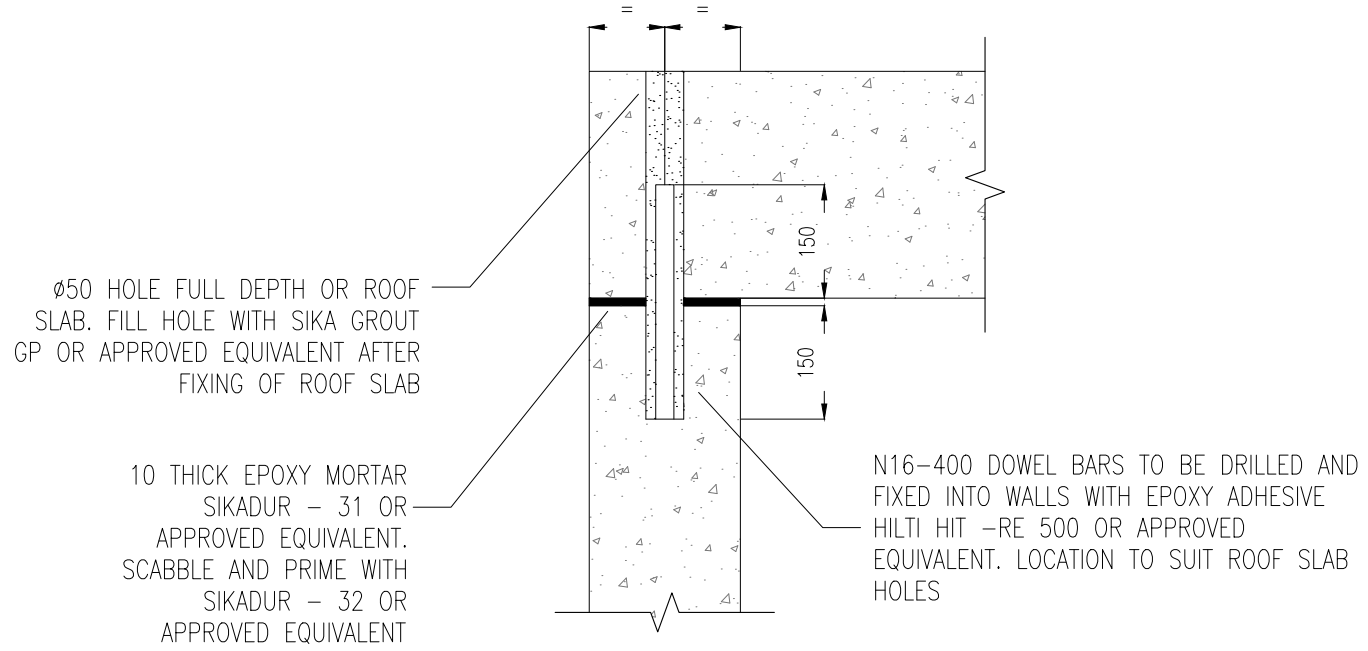
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SECTION A-A

N.T.S

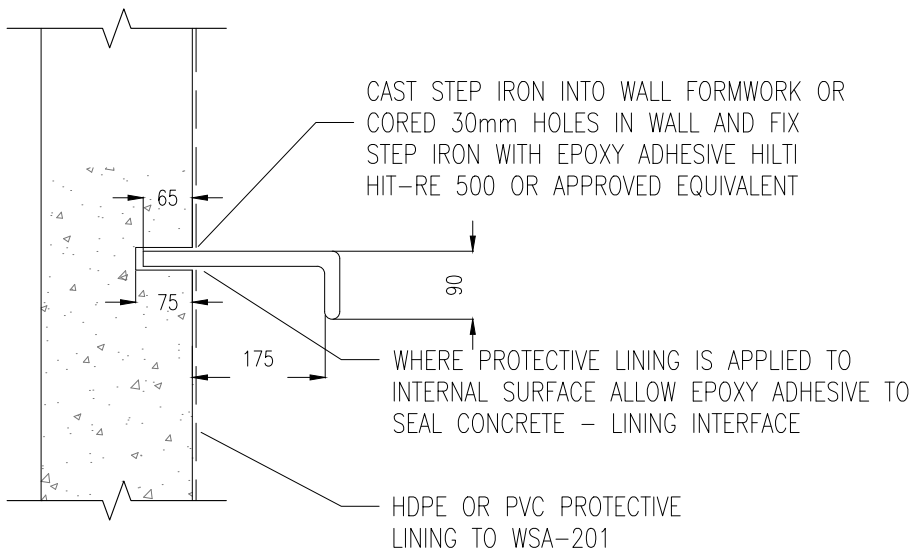
DETAIL E – CONSTRUCTION JOINT DETAIL

N.T.S



DETAIL B – PRECAST ROOF SLAB CONNECTION DETAIL

N.T.S



DETAIL C – STEP IRON FIXING DETAIL

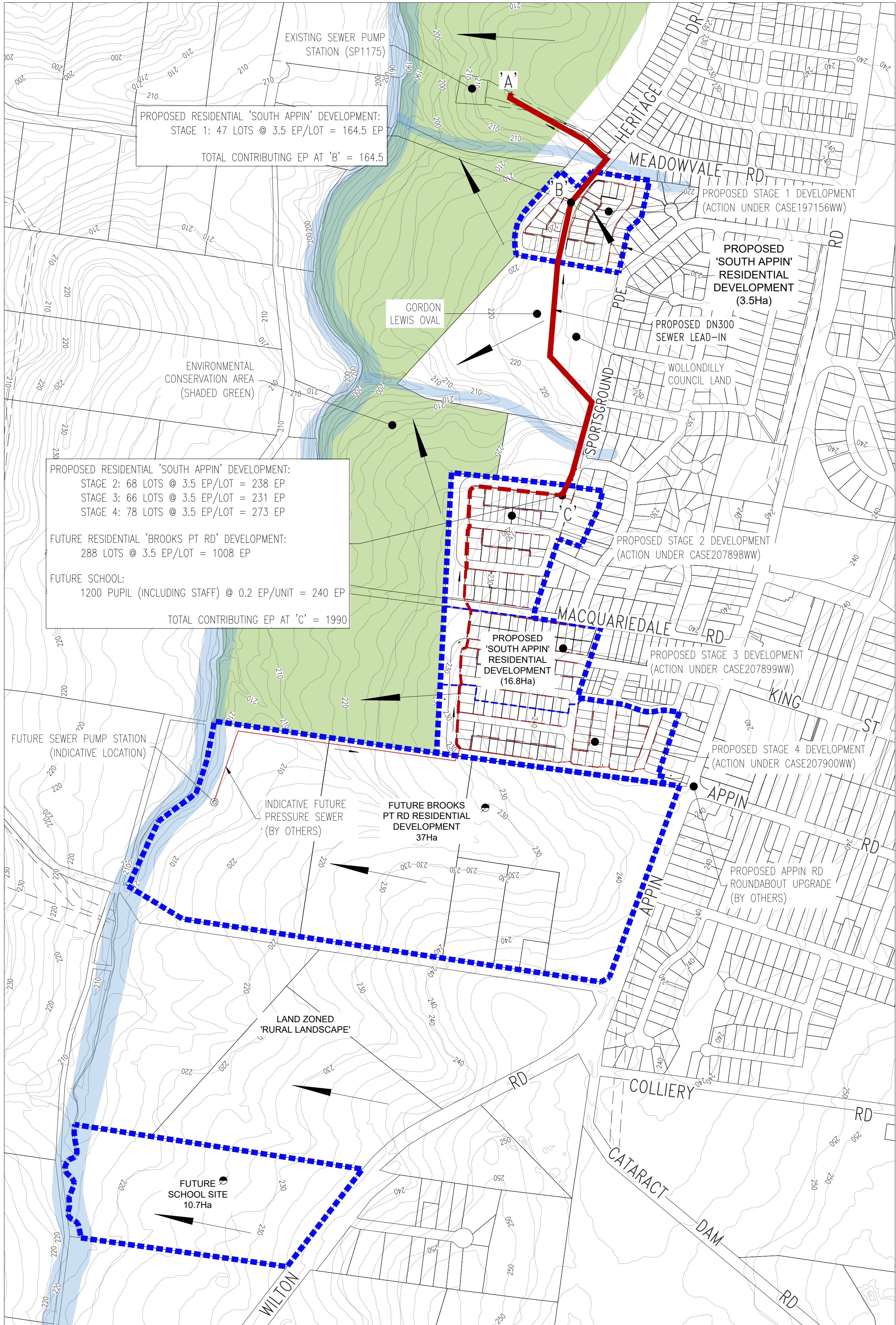
N.T.S

EGIS CONSULTING PTY LTD

DATE: 09/01/2024

PLAN FOR CONSTRUCTION

WORK AS CONSTRUCTED CERTIFICATION		SYDNEY WATER CORPORATION	
DEVELOPER	W.S.C.	Sydney WATER	
CONSTRUCTOR	COMPLETED	Case No. 198143WW SHT 7 OF 8 SHTS.	
DESIGNER	W.A.C. PREPARED	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	



SEWER CATCHMENT PLAN
SCALE 1:10,000



DEVELOPER CONTRACT PLAN
APPIN MINE SUBSIDENCE DISTRICT:
REFER NOTE 21

EGIS CONSULTING PTY LTD

DATE: 09/01/2024

PLAN FOR CONSTRUCTION

FUTURE SCHOOL SITE:
1200 STUDENTS @ 0.2 EP/STUDENT - EP = 240

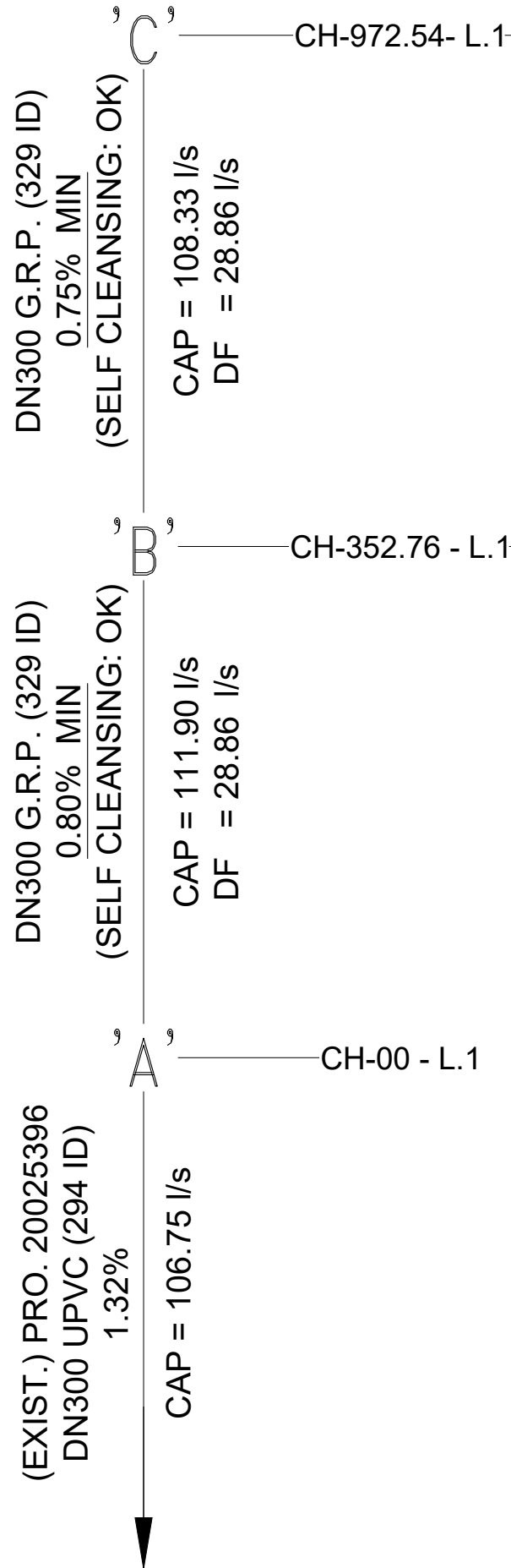
FUTURE BROOK PT RD RESIDENTIAL DEVELOPMENT:
288 LOTS @ 3.5 EP/LOT - EP = 1008

PROPOSED SOUTH APPIN RESIDENTIAL DEVELOPMENT (STAGES 2-4):
212 LOTS @ 3.5 EP/LOT - EP = 742

TOTAL CONTRIBUTING EP = 1990

PROPOSED SOUTH APPIN RESIDENTIAL DEVELOPMENT (STAGE 1):
47 LOTS @ 3.5 EP/LOT - EP = 164.5

TOTAL CONTRIBUTING EP = 2154.5



SEWER FLOW SCHEDULE *
(AFTER APPLYING
MINE-SUBSIDENCE PARAMETERS)

* SEWER GRADES INCLUSIVE OF ADDITIONAL 0.1% GRADE INCREASE FROM 0.55% TO SATISFY MINE-SUBSIDENCE TILT REQUIREMENTS. GRADES OF 0.55% (PRIOR TO APPLYING MINE-SUBSIDENCE PARAMETERS) HAVE BEEN SUCCESSFULLY CHECKED FOR SELF-CLEANSING. REFER NOTE 21.4 ON SHEET 1

CATCHMENT PLAN AND FLOW TO BE READ IN CONJUNCTION WITH 'APPIN SOUTH WASTEWATER SERVICING PREFERRED OPTION' REPORT PREPARED BY CALIBRE FOR WALKER CORPORATION

MACQUARIEDALE PRECINCT,
SOUTH APPIN,
WW LEAD-IN

WORK AS CONSTRUCTED CERTIFICATION		SYDNEY WATER CORPORATION	
DEVELOPER	W.S.C.	Sydney WATER	
CONSTRUCTOR	COMPLETED	Case No. 198143WW SHT 8 OF 8 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			