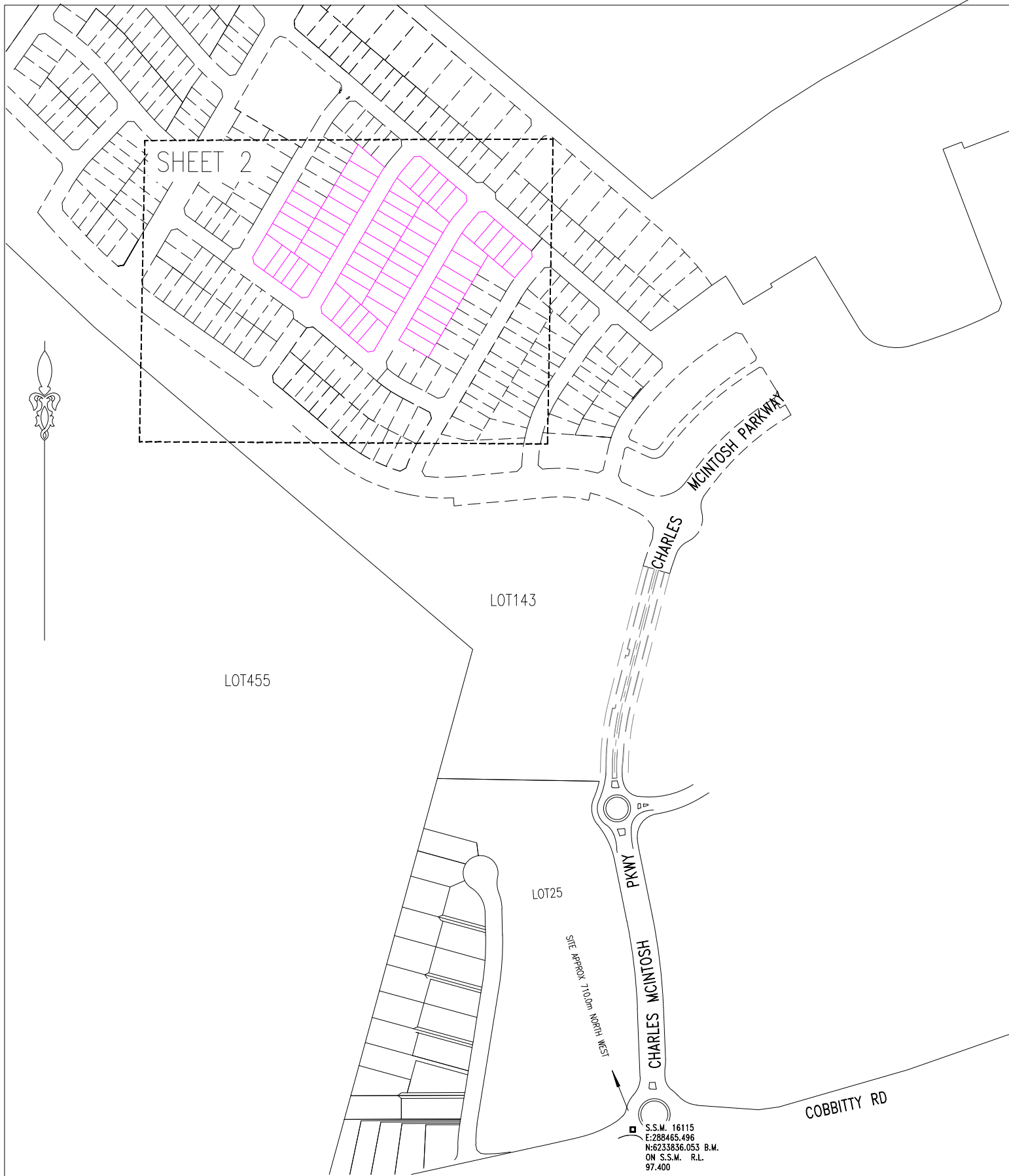


- DESIGNER AND WSC:
ORION CONSULTING ENGINEERS PTY LTD
SUITE 4.04/12 Century Circuit, Norwest, NSW 2153
PH.: 02 8660 0035
www.theoriongroup.au
- FOR: MIRVAC HOMES (NSW) PTY LTD
ADDRESS : LEVEL 28/200 GEORGE ST SYDNEY NSW 200
CONTACT : 0416 623 295
2. THE PROPOSED WORKS AND MATERIALS ARE IN ACCORDANCE WITH THE SYDNEY WATER TECHNICAL SPECIFICATION – CIVIL VERSION 11.0 AS WELL AS THE SEWERAGE CODE OF AUSTRALIA WSA 02-2002-2.2 SYDNEY WATER EDITION VERSION 4 (2017) INCLUDING THE SYDNEY WATER SUPPLEMENT & APPENDICES. THE CONTRACTOR MUST HAVE A COPY OF THESE ON SITE AT ALL TIMES.
3. ALL STRUCTURES CONSTRUCTED TO PROPOSED FINISHED SURFACE LEVELS. ALL LEVELS REFER TO PROPOSED FINISHED SURFACE LEVELS. CONTRACTOR LIAISED WITH ROAD AND/OR CIVIL CONTRACTOR TO VERIFY ALL LEVELS IN PARTICULAR IN OR ADJACENT TO ROADS. WSC WERE INFORMED OF ANY DISCREPANCIES.
4. ALL BUILDING LAYOUTS, FINISHED SURFACE LEVELS, STORMWATER INFORMATION, AND GENERAL CIVIL ENGINEERING DETAILS TAKEN FROM 'ORION CONSULTING ENGINEERS' ENGINEERING PLANS REVISION 'B' DATED '18.03.25'
5. THE CONTRACTOR APPLIED THE CONDITIONS OF THE SYDNEY WATER TECHNICAL SPECIFICATION – CIVIL VERSION 11.0 REGARDING BACKFILLING AND TESTING (SECTIONS C2.7 AND C2.8). A CONSTRUCTION QUALITY ASSURANCE PLAN SUBMITTED TO THE WSC AS PER THE REQUIREMENTS. THIS PLAN IS TO CLEARLY SPECIFY THE NUMBER OF TESTS REQUIRED FOR THE WORKS.
- THE NUMBER OF TESTS COMPLETED TO SATISFY THE TECHNICAL SPECIFICATION IS:
- TRENCH FILL ZONE: 110 TESTS
MAINTENANCE STRUCTURE FILL ZONE: 236 TESTS
- NOTE: A HIGHER LEVEL OF COMPACTION COMPLIED (FOR EXAMPLE TNSW OR COUNCIL REQUIREMENTS), THE CONTRACTOR LIAISED WITH THE SITE SUPERINTENDENT REGARDING REQUIREMENTS.
6. ALL LEVELS ELECTRONICALLY GENERATED. NO LEVEL BOOK AVAILABLE.
7. THE REVIEW OF ENVIRONMENTAL FACTORS WAS AN INTEGRAL PART OF THIS DESIGN AND WAS READ IN CONJUNCTION WITH THIS PLAN. ALL MITIGATION MEASURES IN THE REF WAS ADHERED TO.
8. PRIOR TO ANY EXCAVATION THE CONTRACTOR HAD A CURRENT COPY OF THE UNDERGROUND SERVICES REPORT, THIS WAS READ IN CONJUNCTION WITH THIS PLAN.
9. SERVICES SHOWN FROM 'DIAL BEFORE YOU DIG' SERVICES SEARCH WERE INDICATIVE ONLY AND WAS CONFIRMED BY THE CONTRACTOR PRIOR TO ANY EXCAVATION WORKS ON SITE.
10. BUILDING OVER/ADJACENT TO SEWER – CONDITIONS WERE NOT APPLICABLE .
11. ALL EXCAVATION, SHORING EXCAVATION AND STABILITY OF ANY ADJACENT STRUCTURES, SERVICES OR DWELLINGS WAS THE RESPONSIBILITY OF THE CONTRACTOR. USE OF SHORING BOXES WAS NOT A FORM OF STABILITY CONTROL, NEITHER WAS SAND CEMENT BACKFILL OR CONCRETE ENCASEMENT.
12. ALL JUNCTIONS FOR THE PCS'S WERE LOCATED 0.7m MIN. OFF THE DOWNSTREAM PROPERTY BOUNDARY (CURRENT AND FUTURE) OR DOWNSTREAM EASEMENT BOUNDARY OR MINIMUM 1.0m MIN. OFF THE DOWNSTREAM STRUCTURE. ALL PCS'S WERE CLEAR OF DRIVEWAYS, FOR LOCATION OF DRIVEWAYS CONTRACTOR LIAISED WITH CIVIL CONTRACTOR OR SITE SUPERINTENDENT FOR CONFIRMATION OF LOCATIONS.
↘ DENOTES STANDARD PCS CONNECTION (REFER DTC-2120 ISSUE B DATE 31.07.24)
13. IT WAS THE CONTRACTORS RESPONSIBILITY TO PROVIDE THE CHAINAGES FOR THE PCS's, THE LENGTH OF THE PCS's, THE TYPE OF CONNECTION USED, THE LOCATION OF THE IO AND THE INVERT LEVEL AT THE PCP (IF APPLICABLE) TO THE WSC FOR WAC PURPOSES.
14. THE TOTAL LENGTH OF THE DN100 PCS'S EXCLUDING RISERS ARE 78.0m. PCS'S HAVE MINIMUM STIFFNESS RATING OF SN10. JOINTING WAS SOLVENT WELDED.
15. CONTRACTOR ENSURED THAT WORKS WERE CONSTRUCTED IN ACCORDANCE WITH SYDNEY WATER'S DEEMED TO COMPLY DRAWINGS:
FOR ALL MH'S DTC-2000 (ISSUE D 31.07.24), DTC-2220 (ISSUE E 31.07.24), DTC-2202 (ISSUE F 31.07.24), DTC-2203 (ISSUE C 31.07.24), DTC-2221 (ISSUE D 31.07.24), DTC-2222 (ISSUE D 31.07.24), DTC-2223 (ISSUE C 31.07.24), DTC-2200 (ISSUE G 31.07.24)
16. CONCRETE ENCASED PIPES SHOWN ACCORDINGLY:  – REFER TO SEW-1205-V
17. ALL MCs & MSs CONFORMED TO WSA-137-2019 VERSION 3.1, "INDUSTRY STANDARD FOR UNPLASTICISED POLYVINYL CHLORIDE (PVCU), POLYPROPYLENE (PP) AND POLYETHYLENE (PE) MAINTENANCE SHAFTS, MAINTENANCE CHAMBERS AND MAINTENANCE HOLES FOR SEWERAGE".
18. ANY CONCRETE WORKS CONFORMED TO SECTION 3 TECHNICAL SPECIFICATION – CIVIL VERSION 11.0, CONCRETE TESTING UNDERTAKEN AS PER SECTION 3.12.
19. THE CONTRACTOR USED PRODUCTS AND MATERIALS APPROVED BY SYDNEY WATER.
20. 491.0m OF EXISTING SEWER 'A1'- 'B1' (DN225 PP CASE113130 LAID IN 2011) BROKEN OUT AND REMOVED FROM SITE.

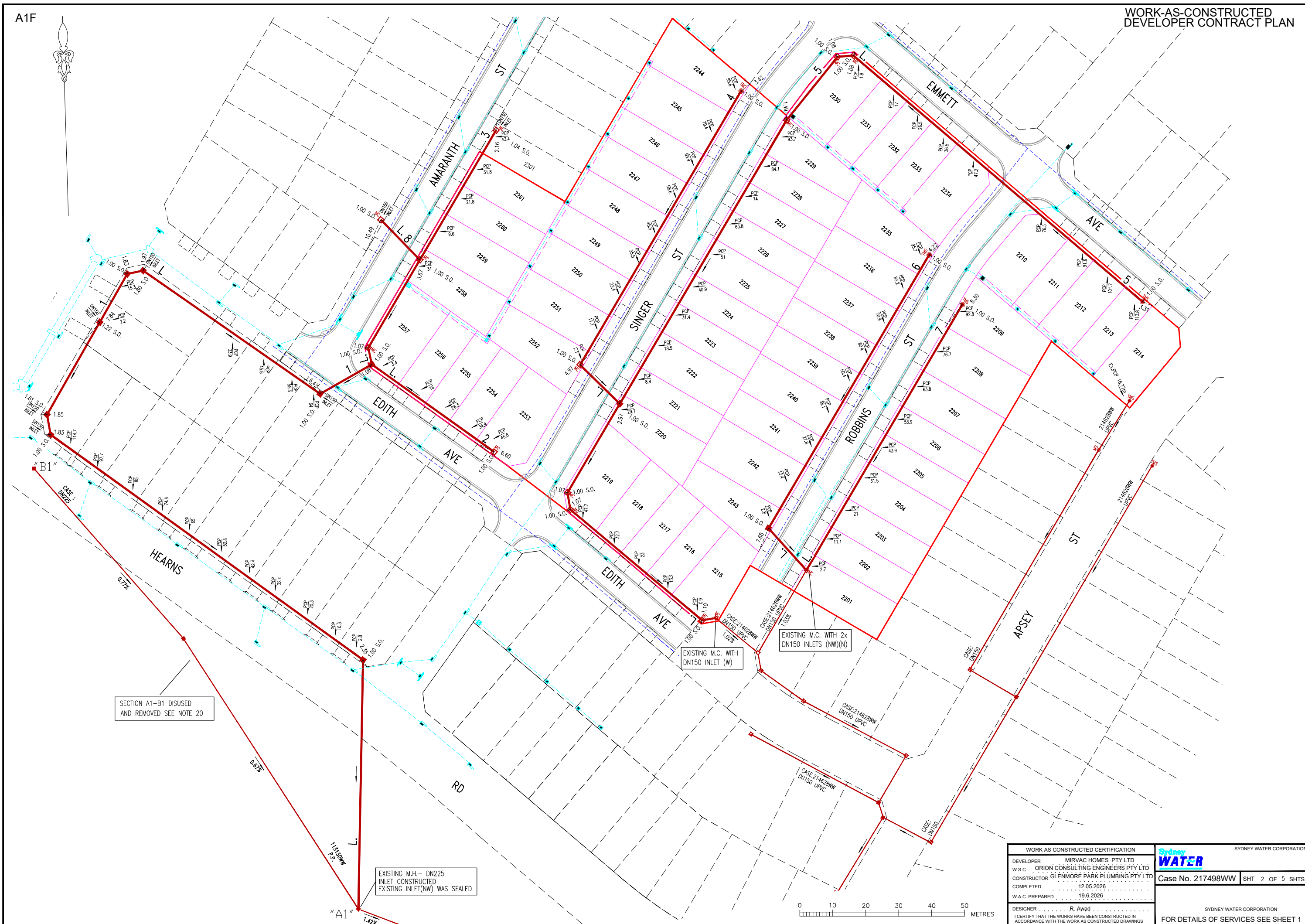
MAINTENANCE STRUCTURE SCHEDULE						
LINE	CHAINAGE	TYPE	DN RISER	CLASS OF COVER	MATERIAL	COMMENTS
1	75.52	M.H.	DN1200	B	CONCRETE	DTC-2200
1	192.38	M.H.	DN1050	B	CONCRETE	DTC-2203
1	198.54	M.H.	DN1050	B	CONCRETE	DTC-2203
1	230.83	M.H.	DN1050	B	CONCRETE	DTC-2203
1	247.68	M.H.	DN1050	B	CONCRETE	DTC-2203
1	252.59	M.H.	DN1050	B	CONCRETE	DTC-2203
1	318.04	M.H.	DN1050	B	CONCRETE	DTC-2203
1	336.10	M.H.	DN1050	B	CONCRETE	DTC-2203
2	45.63	T.M.S.	DN300	B	P.V.C.	
3	5.12	M.C.	DN600	B	P.P.	AWASHAFT PP 600
3	36.04	M.C.	DN600	B	P.P.	AWASHAFT PP 600
3	81.68	M.C.	DN600	B	P.P.	AWASHAFT PP 600
4	00	M.H.	DN1050	B	CONCRETE	DTC-2203
4	16.99	T.M.S.	DN300	B	P.V.C.	
4	113.29	M.C.	DN600	B	P.P.	AWASHAFT PP 600
5	4.21	M.C.	DN600	B	P.P.	AWASHAFT PP 600
5	56.44	M.C.	DN600	B	P.P.	AWASHAFT PP 600
5	61.63	M.C.	DN600	B	P.P.	AWASHAFT PP 600
5	92.90	M.H.	DN1050	B	CONCRETE	DTC-2203
5	192.78	M.C.	DN600	B	P.P.	AWASHAFT PP 600
5	217.38	M.C.	DN600	B	P.P.	AWASHAFT PP 600
5	222.21	M.C.	DN600	B	P.P.	AWASHAFT PP 600
5	337.29	T.M.S.	DN300	B	P.V.C.	
6	17.19	M.H.	DN1050	B	CONCRETE	DTC-2203
6	113.31	T.M.S.	DN300	B	P.V.C.	
7	93.43	T.M.S.	DN300	B	P.V.C.	
8	17.02	M.C.	DN600	B	P.P.	AWASHAFT PP 600

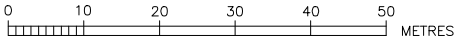
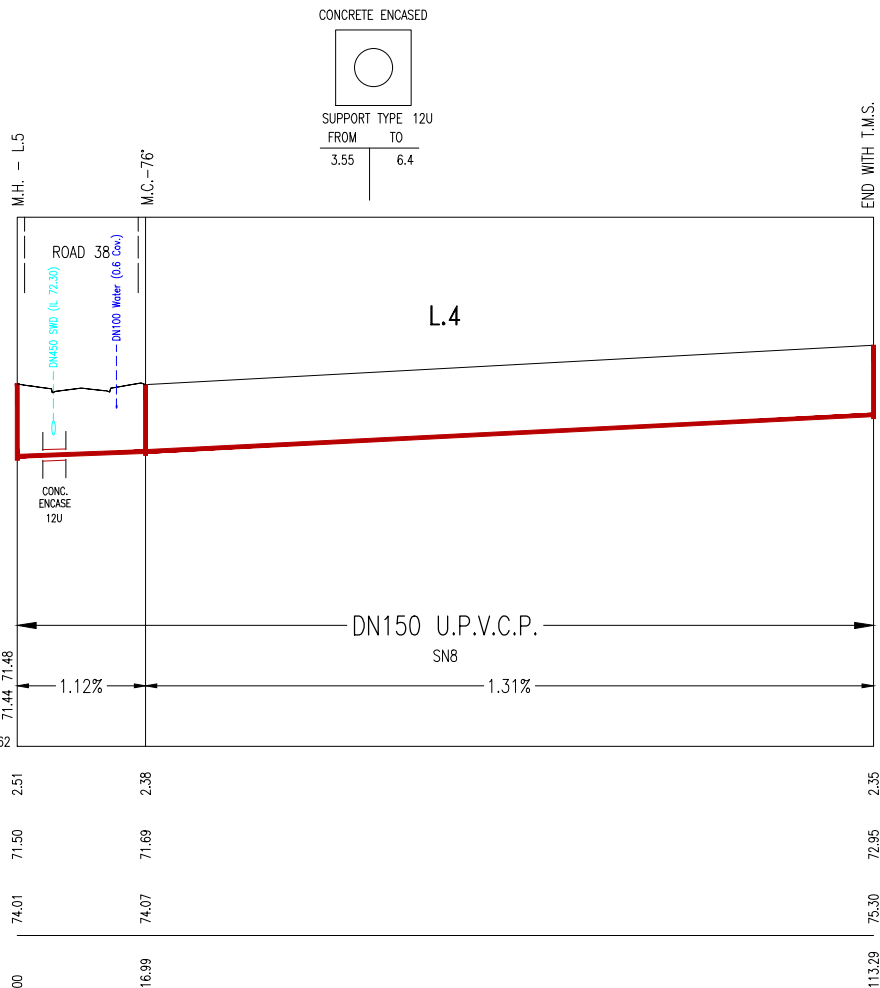
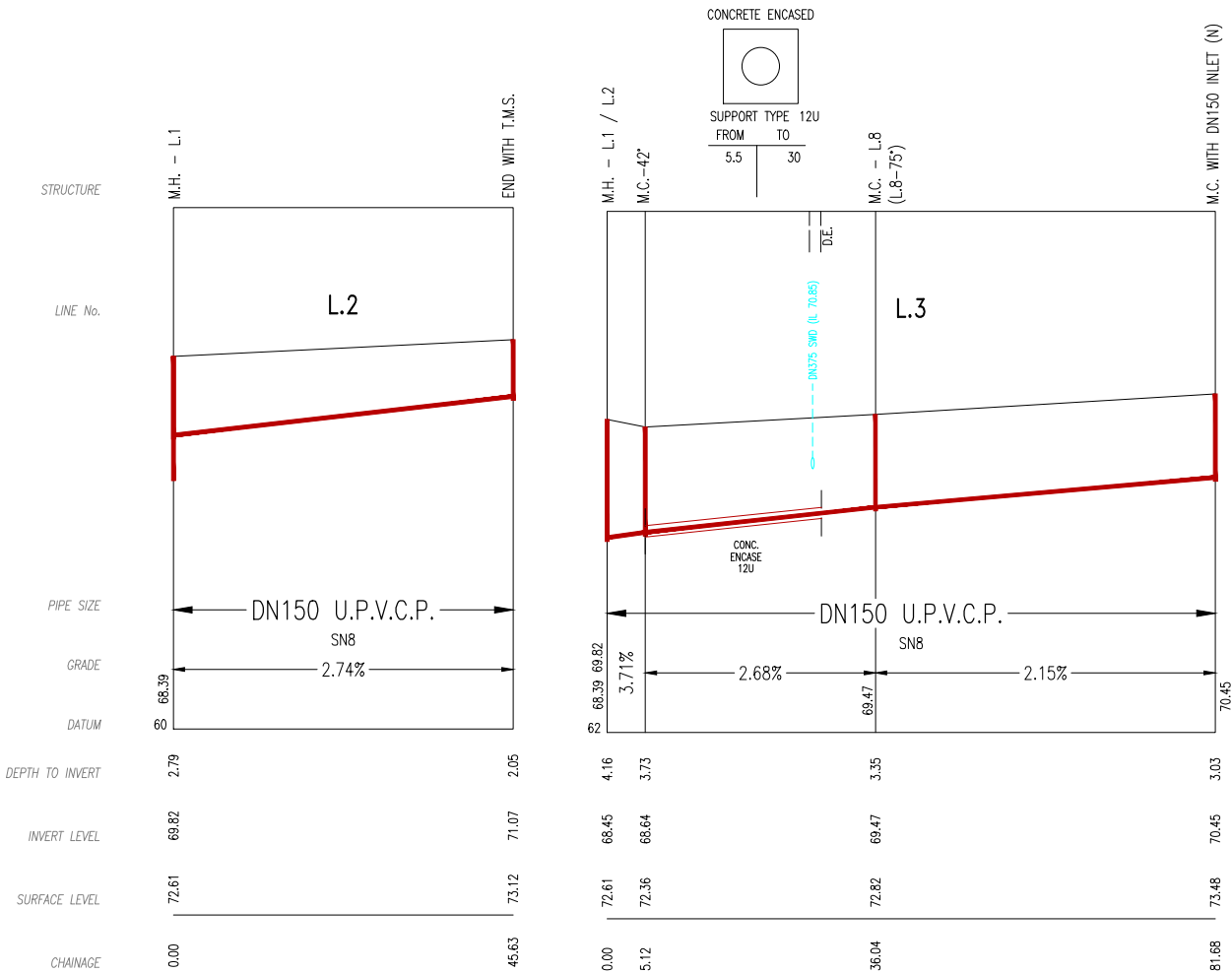
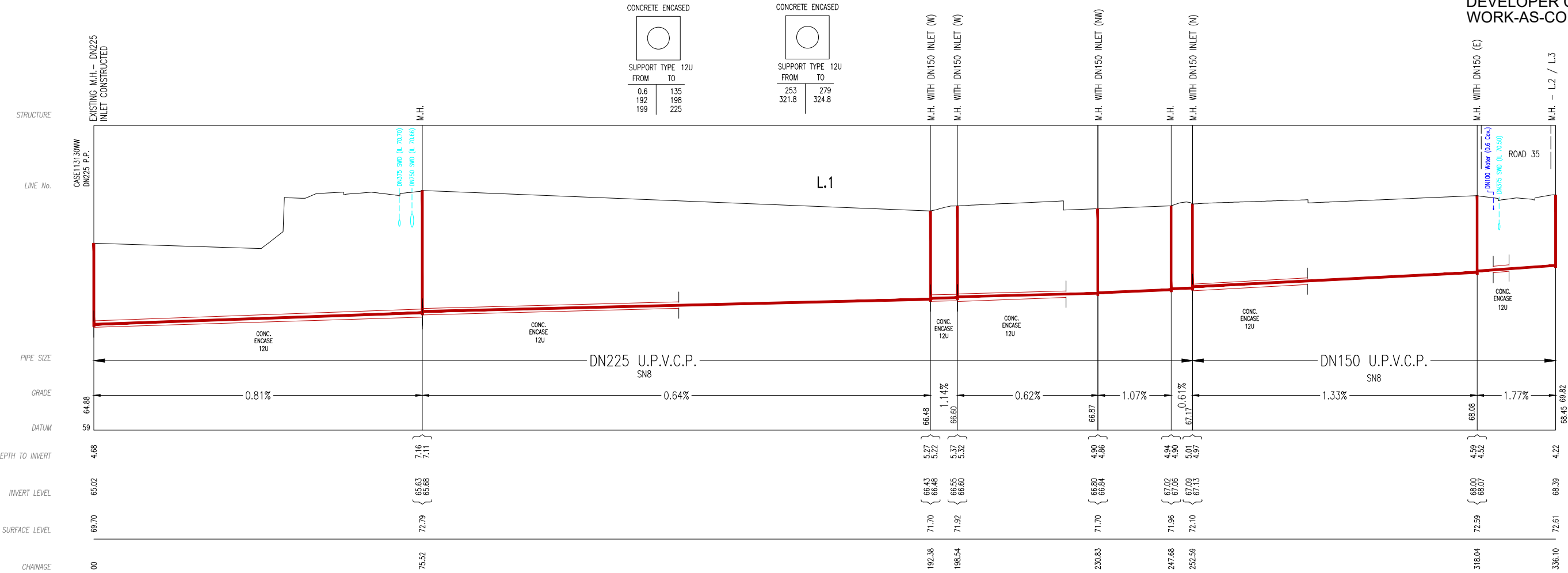


LOCALITY PLAN
(NOT TO SCALE)

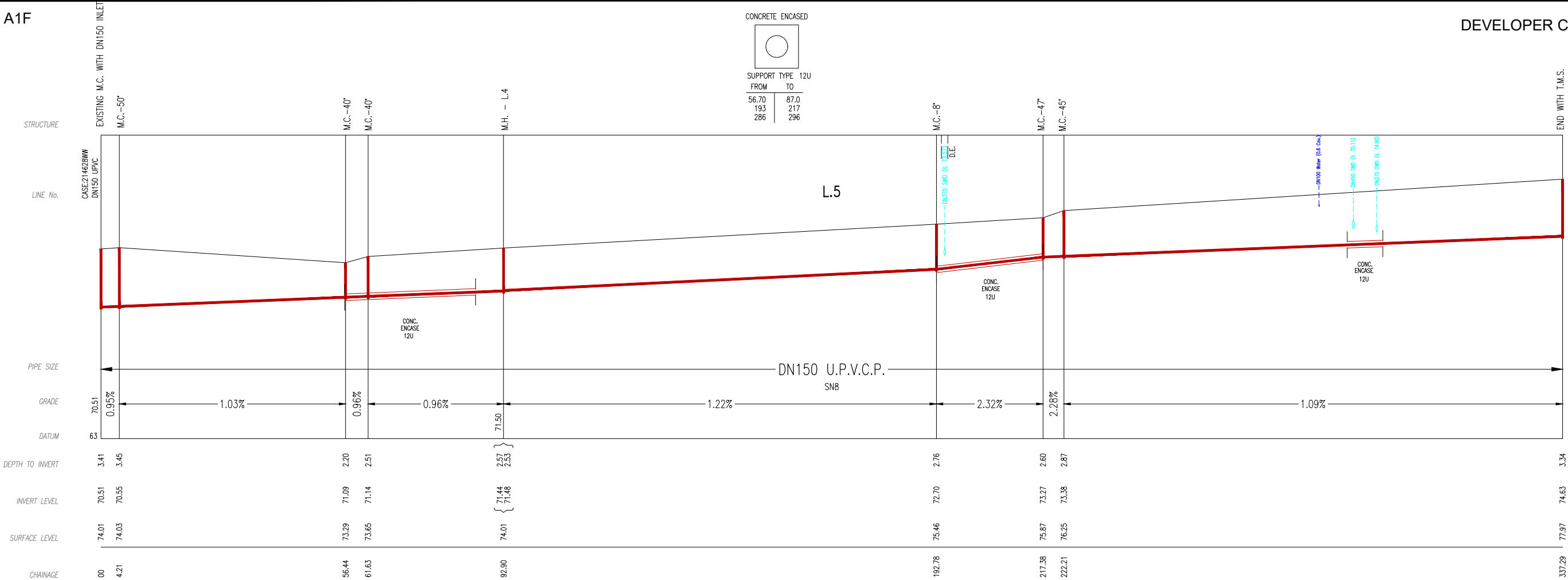
3	WORK AS CONSTRUCTED	RA	19.6.26
2	AMENDED AS PER SWC COMMENTS	RA	29.8.25
1	ISSUE FOR REVIEW	RA	10.7.25
No.	AMENDMENT DESCRIPTION	BY	DATE

PLAN TO BE READ IN CONJUNCTION WITH CURRENT SYDNEY WATER STANDARDS SYDNEY WATER CORPORATION	UTILITIES						WORK AS CONSTRUCTED CERTIFICATION						PIPE SCHEDULE				MGA 2020		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 CORPORATION
	TYPE	DATE	REF.	TYPE	DATE	REF.	DEVELOPER	MIRVAC HOMES PTY LTD	SIZE DN	TYPE	CLASS	LENGTH	PIPE JOINING METHOD / NOTES	AUSTRALIAN HEIGHT DATUM						
	PROP. STORMWATER: SWD	18.03.25	ENG.				WATER SERVICE CO-ORDINATOR	ORION CONSULTING ENGINEERS PTY LTD	150	U.P.V.C.	SN8	885.16	RRJ	SCALES						
	PROP. WATER: PW	15.07.24	DESIGN				CONSTRUCTOR	GLENMORE PARK PLUMBING & DRAINAGE	225	U.P.V.C.	SN8	252.59	RRJ	PLAN : 1:500 SECTION { HOR. : 1:500 VERT. : 1:125						
PRIOR TO COMMENCEMENT OF EXCAVATION FOR PROPOSED AND EXISTING SERVICES CONTACT -						COMPLETED	12.05.2026 W.A.C. PREPARED 19.6.2026							CROSS SECTIONS NATURAL		U.B. DIRECTORY 304/B13 41ST EDITION	WEST CAMDEN SEWERAGE DRAINS TO WEST CAMDEN STP VIA SP1161 AND SP0673			
DIAL BEFORE YOU DIG ELECTRICITY, ENDUSEV ENERGY GAS, JENEA GAS TELECOMMUNICATIONS, TELSTRA SYDNEY WATER GIVING AT LEAST 48 HOURS NOTICE	Ph. 1100 Ph. 131 003 Ph. 1300 880 906 Ph. 1800 114 918 Ph. 132 092					DESIGNER	R. Awad							NO BOUNDARY TRAPS REQUIRED.		SHEET. . 1 OF . 5				
						I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS.						DESIGN HEAD, . . m		File No. 24-0549 (LIGHT GREEN S12)						



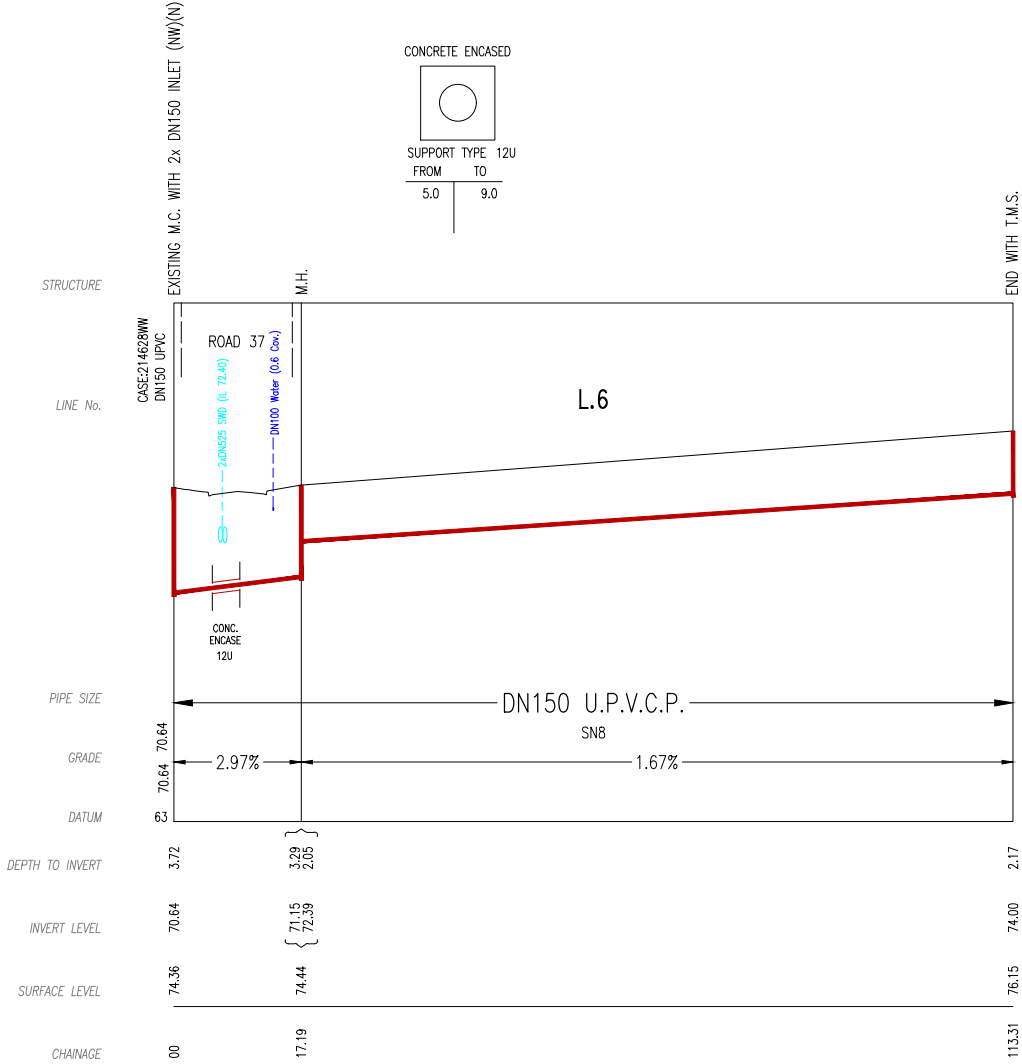


WORK AS CONSTRUCTED CERTIFICATION		SYDNEY WATER CORPORATION	
DEVELOPER	MIRVAC HOMES PTY LTD		
W.S.C.	ORION CONSULTING ENGINEERS PTY LTD		
CONSTRUCTOR	GLENMORE PARK PLUMBING PTY LTD	Case No. 217498WW SHT 3 OF 5 SHTS.	
COMPLETED	12.05.2026		
W.A.C. PREPARED	19.6.2026	SYDNEY WATER CORPORATION FOR DETAILS OF SERVICES SEE SHEET 1	
DESIGNER	R. Awad		
I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS			



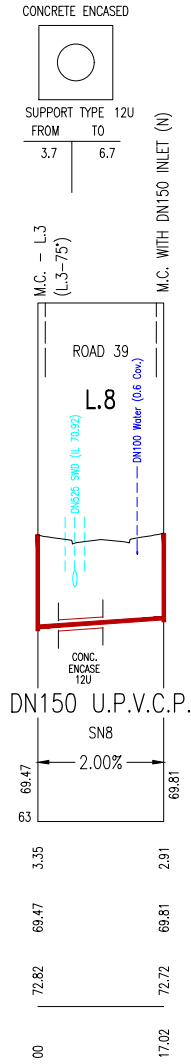
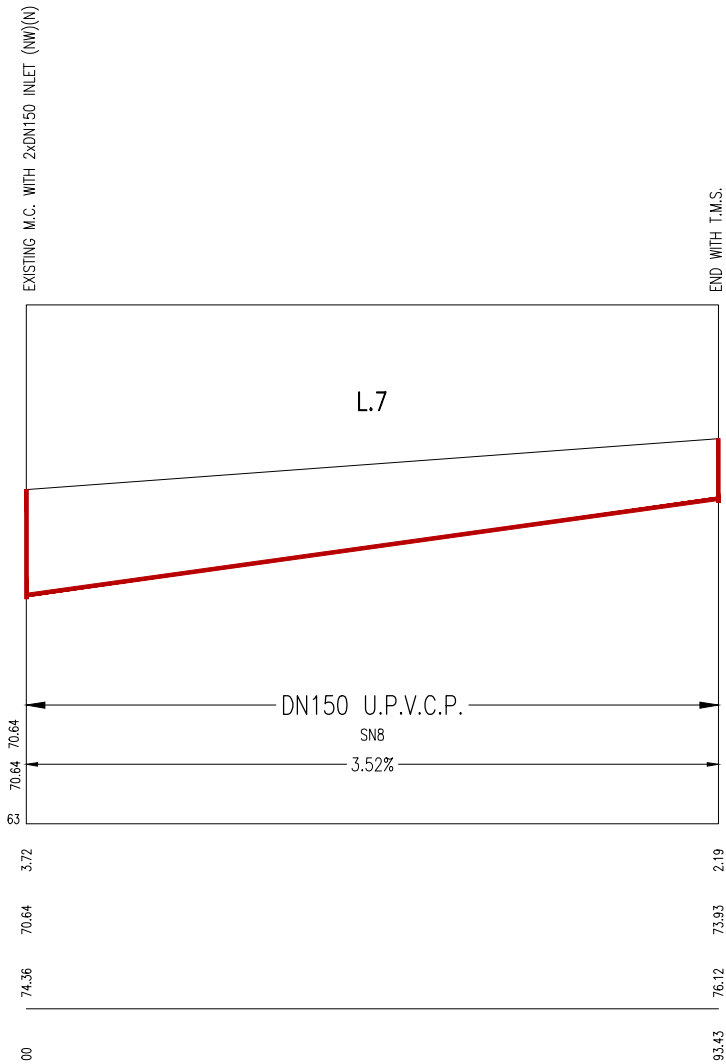
CONCRETE ENCASED

SUPPORT TYPE 12U	
FROM	TO
56.70	87.0
193	217
286	296



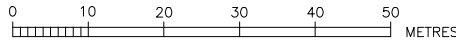
CONCRETE ENCASED

SUPPORT TYPE 12U	
FROM	TO
5.0	9.0

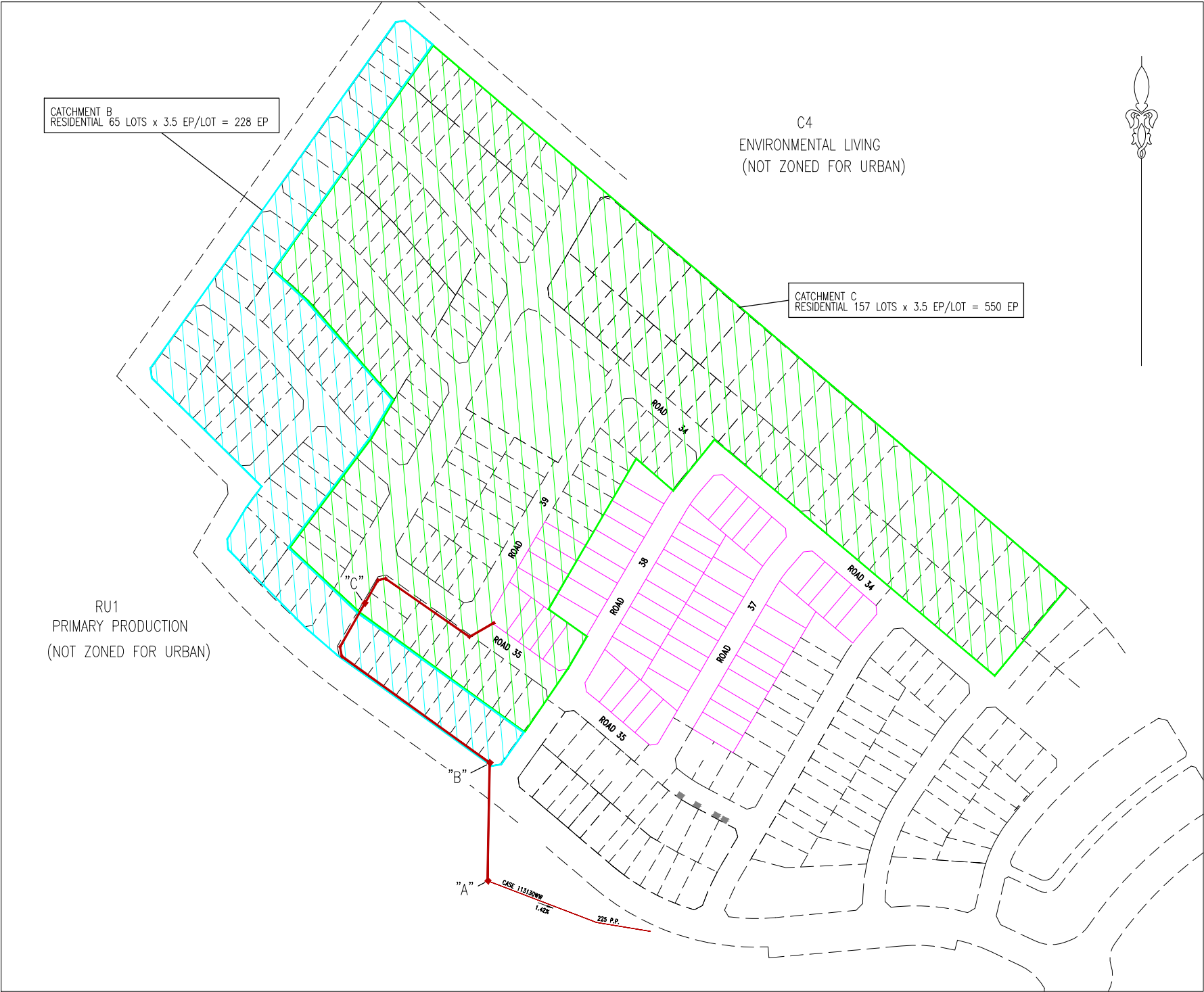


CONCRETE ENCASED

SUPPORT TYPE 12U	
FROM	TO
3.7	6.7



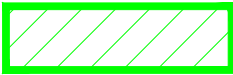
WORK AS CONSTRUCTED CERTIFICATION		SYDNEY WATER CORPORATION	
DEVELOPER	MIRVAC HOMES PTY LTD	Sydney WATER	
W.S.C.	ORION CONSULTING ENGINEERS PTY LTD		
CONSTRUCTOR	GLENMORE PARK PLUMBING PTY LTD		
COMPLETED	12.05.2026		
W.A.C. PREPARED	19.6.2026	Case No. 217498WW SHT 4 OF 5 SHTS.	
DESIGNER R. Awad		SYDNEY 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	



CATCHMENT PLAN
(NOT TO SCALE)



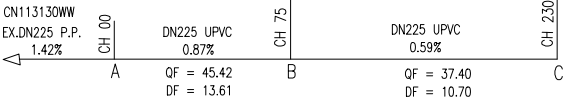
CATCHMENT B



CATCHMENT C

CATCHMENT B (LOW RESIDENTIAL)
65 LOTS x 3.5 EP/LOT = 228 EP

CATCHMENT C (LOW RESIDENTIAL)
RESIDENTIAL= 157 LOTS x 3.5 EP/LOT = 550 EP



FLOW DIAGRAM - L1 (A-C)

SUMMARY																					
Section	Line No	Chainage	Pipe Status	Total Area	Total Gravity	Total Grav + Pump	Pipe Material	Pipe Size	Pipe Size (ID)	Pipe Grade	Design Flow (DF)	Actual PDWF	Qf (Capacity)	Velocity @ Qf	Velocity @ PDWF	SHEAR STRESS	Grade Check	Max EP Check	Self Cleansing	Slime Control	Capacity Check
		m		Ha	EP	EP		mm	mm	%	L/s	L/s	L/s	m/s	m/s	Pa		for dia <=300			
B-A	1	75-00	new	11.71	777	777	PVC-U PN16	225	231	0.87	13.61	4.54	45.42	1.09	0.70	2.51		RETIC 2781EP MAX	Self Cleansing OK	NA - Reticulation	Capacity OK
C-B	1	230-75	new	9.05	550	550	PVC-U PN16	225	231	0.59	10.70	3.57	37.40	0.90	0.56	1.67		RETIC 2162EP MAX	Self Cleansing OK	NA - Reticulation	Capacity OK

WORK AS CONSTRUCTED CERTIFICATION		SYDNEY WATER CORPORATION	
DEVELOPER	MIRVAC HOMES PTY LTD		
W.S.C.	ORION CONSULTING ENGINEERS PTY LTD		
CONSTRUCTOR	GLENMORE PARK PLUMBING PTY LTD		
COMPLETED	12.05.2026		
W.A.C. PREPARED	19.6.2026	Case No. 217498WW SHT 5 OF 5 SHTS.	
DESIGNER	R. Awad	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	