

# HUNTLEE - PRECINCT 2

## PRESSURE SEWER & POTABLE WATER, RECYCLED WATER

### STAGE 5



LOCALITY PLAN  
(NOT TO SCALE)

DRAWING LIST	
SHEET 1	COVER SHEET
SHEET 2	GENERAL NOTES
SHEET 3	PRESSURE SEWER DETAIL PLAN
SHEET 4	TYPICAL SECTIONS
SHEET 5	POTABLE WATER DETAIL PLAN
SHEET 6	RECYCLED WATER DETAIL PLAN

No.	REVISION DESCRIPTION	BY	DATE
04	WORK-AS-CONSTRUCTED	D.S.	1/11/16
03	SERVICES CROSSINGS REVISED AT W.P. REQUEST	D.S.	21/8/15
02	REVISION FOR DESIGN SUBMISSION	D.S.	21/5/15
01	ORIGINAL ISSUE FOR TENDER PURPOSES	D.S.	13/5/15

SERVICE	DATE	REF.	WORK-AS-CONSTRUCTED CERTIFICATION	CLIENT	TITLE	COVER SHEET				SHEET 1 OF 6	VERSION	
			DEVELOPER: LWP PROPERTY GROUP PROJECT SUPERVISOR: ROSE ATKINS RIMMER (INFRASTRUCTURE) Pty. Ltd. CONSTRUCTOR: KCE Pty. Ltd. COMPLETED: W.A.C. PREPARED: 1/11/2016	ROSE ATKINS RIMMER (Infrastructure) Pty. Ltd. <b>RAR</b> WATER RELATED INFRASTRUCTURE DESIGN AND MANAGEMENT 142 SUNNYHOLT ROAD, BLACKTOWN P.O. BOX 6745, BLACKTOWN N.S.W. 2148 PH: (02) 9853 0200 FAX: (02) 9671 7399	LWP Huntlee + Water bringing communities to life	PLAN OF PROPOSED WATER INFRASTRUCTURE SERVICES HUNTLEE DEVELOPMENT - PRECINCT 2 (STAGE 5) WINE COUNTRY DRIVE, NORTH ROTHBURY L.G.A. CESSNOCK	DRAFTED: D.SHEATHER SCALE: 1:500	DESIGNED: D.SHEATHER DATE:	REVIEWED: V.VIKSNE U.S.D. REFERENCE:	VERIFIED: R.CHIVAS DATE OF ISSUE: 1/11/2016	JOB No. 39/23357/5	WAC



GENERAL NOTES

- THIS DRAWING SET SHALL BE READ IN CONJUNCTION WITH CESSNOCK CITY COUNCIL STANDARDS, FLOW SYSTEMS SUPPLEMENTARY MANUAL TO W.S.A.A. & OTHER ASSOCIATED DRAWINGS AND TECHNICAL SPECIFICATIONS.
- THE CONTRACTOR SHALL LOCATE AND IDENTIFY ALL UNDERGROUND SERVICES PRIOR TO COMMENCEMENT OF WORKS AND SHALL REPAIR ANY DAMAGE CAUSED TO SUCH SERVICES DURING THE COURSE OF WORKS. ANY SERVICE LOCATIONS ON THE FOLLOWING DRAWINGS ARE INDICATIVE ONLY.
- MAKE SMOOTH TRANSITION TO EXISTING WORKS (i.e. ROAD PAVEMENTS AND FOOTPATHS TO P.C.A. AND SUPERINTENDENTS REQUIREMENTS).
- SUITABLE PROTECTION OF EXISTING ROAD PAVEMENT, KERB AND GUTTER, FOOTPATHS AND ANY EXISTING FEATURES SHALL BE PROVIDED UNTIL THE CONSTRUCTION WORKS ARE COMPLETED.

SEWER NOTES

- ALL WORKS WERE CONSTRUCTED IN ACCORDANCE WITH THE DESIGN DRAWINGS, CONSTRUCTION SPECIFICATION, PRESSURE SEWERAGE CODE OF AUSTRALIA WSA 07-2007 VERSION 1.1, FLOW SYSTEMS SUPPLEMENTARY MANUAL TO W.S.A.A., POLYETHYLENE PIPELINE CODE WSA 01-2004 & URBAN WATER SOLUTIONS Pty Ltd MASTER PLAN DRAWINGS CURRENT AT THE TIME OF CONSTRUCTION.
- ALL EQUIPMENT, MATERIALS & ACCESSORIES USED IN THIS CONTRACT WAS NEW, AND CONFORMED WITH THE APPROPRIATE CURRENT AUSTRALIAN STANDARDS & SHALL COMPLY WITH FLOW SYSTEMS REQUIREMENTS.
- ALL SERVICES SHOWN WERE INDICATIVE ONLY. A CURRENT SERVICES SEARCH & SITE CHECK OF ALL EXISTING SERVICES WAS REQUIRED PRIOR TO COMMENCEMENT OF WORKS. THE CONSTRUCTOR WAS TO DETERMINE LEVELS & LOCATIONS EXISTING SERVICES IN THE VICINITY OF THE CONSTRUCTION SITE AND ANY CONSTRUCTED STRUCTURES FOR PROPOSED SERVICES, SUCH AS DUCTING FOR WATER OR ELECTRICITY WITHIN THE SUBDIVISION. THE CONTRACTOR WAS TO ENSURE ALL SERVICES WERE LOCATED BY THE RELEVANT AUTHORITY PRIOR TO COMMENCEMENT OF WORKS.
- PRESSURE SEWER MAINS ARE BLACK POLYETHYLENE (PE100 PN16) WITH A CREAM STRIPE AS PER WSA 07-2007.
- ALL POLYETHYLENE MAINS ≤DN200 WERE JOINED BY ELECTROFUSION TECHNIQUES IN ACCORDANCE WITH THE MANUFACTURERS REQUIREMENTS.
- MAIN LAID GENERALLY AS INDICATED IN SERVICE ALLOCATION DIAGRAMS. INSTRUCTION NOTES WERE TO TAKE PRECEDENCE OVER DIAGRAMS WHERE PROVIDED. 600mm HORIZONTAL CLEARANCE WAS MAINTAINED BETWEEN ALL SEWER & WATER MAINS. MINIMUM PIPE COVER IS 800mm IN FOOTPATHS & 1200mm FOR ROAD CROSSINGS. MAXIMUM PIPE COVER IS 1500mm UNLESS SPECIFIED ON THE DESIGN PLANS OR APPROVAL IS OBTAINED FROM THE HUNTLEE WATER REPRESENTATIVE.
- ALL PIPE BEDDING MATERIAL COMPLIES WITH WSAA PRODUCT SPECIFICATION WSA-PS350 & WSA-PS351.
- ALL BENDS ARE ELECTROFUSION OR BUTTWELD SWEEP BENDS. FABRICATED BENDS WERE NOT USED IN LIEU.
- MINIMUM BENDING RADIUS FOR PN16 PE100 (SDR11) ARE 20 x DN (i.e. DN400-R8.0m, DN250-R5.0m, DN200- R4.0m, DN160-R3.2m, DN125-R2.5m, DN90-R1.8m, DN75-R1.5m, DN63-R1.3m, DN50- R1.0m, DN40- R0.8m)
- ALL HOUSE SERVICE LATERALS ARE DN40 (PE100 PN16).
- FLUSHING PITS CONFORM WITH FLOW SYSTEMS STANDARD DRAWING PSS-1017-FS.
- DETECTABLE MARKING TAPE WAS LAID ON TOP OF THE PIPE EMBEDMENT MATERIAL BEFORE BACKFILLING & CONNECTED TO SURFACE VALVES.
- ALL SURFACE FITTINGS LOCATED IN TRAFFICABLE AREAS (i.e. ROADWAYS, PATHS etc) WERE TO HAVE HEAVY DUTY SURROUNDS INSTALLED.
- DURING CONSTRUCTION, ALL OPEN ENDS OF PIPE WERE CAPPED OFF TO PREVENT ENTRY OF FOREIGN MATTER.
- ALL VALVES ARE RESILIENT SEATED SLUICE VALVES (CLOCKWISE CLOSING), & RESTRAINED IN ACCORDANCE WITH WAT-1207 & COMPLY WITH FLOW SYSTEMS STANDARD DRAWING PSS-1015-FS.
- ALL MAINS WERE TESTED IN ACCORDANCE WITH WSA 07-2007 Version 1.1.
- FOR LOTS WITH TANKS IN THE REAR, 1 x 25mm INSTRUMENTATION CONDUIT (ORANGE) AND 1 x 25mm ELECTRICAL CONDUIT (ORANGE) (WITH DRAW WIRES) WAS INSTALLED FROM THE COLLECTION TANK TO WATER METERS. THE CONDUITS WERE LAID IN A COMMON TRENCH WITH THE SEWERAGE AND MAINTAIN A MINIMUM HORIZONTAL CLEARANCE OF 400mm.
- UPON COMPLETION OF WORKS, ALL SURFACES WERE RESTORED AS CLOSE AS POSSIBLE, TO THE CONDITION THAT EXISTED PRIOR TO COMMENCEMENT OF WORK.
- BURIED FITTINGS WERE NOT BACKFILLED UNTIL W.A.C. DETAILS HAD BEEN OBTAINED & APPROVAL FOR BACKFILLING GIVEN BY THE HUNTLEE WATER REPRESENTATIVE. THE CONTRACTOR PROVIDED M.G.A. COORDINATED WORK-AS-CONSTRUCTED INFORMATION REGARDING THE INSTALLATION TO THE HUNTLEE WATER SITE REPRESENTATIVE.
- THE MINIMUM NUMBER OF COMPACTION TESTS REQUIRED TO SATISFY THE PRESSURE SEWER CODE OF AUSTRALIA (CLAUSE 213.4) ARE:  
TRAFFICABLE:  
PIPE EMBEDMENT ZONE: 1 TEST / CROSSING TRENCH FILL ZONE: 1 TEST / CROSSING  
NON-TRAFFICABLE:  
PIPE EMBEDMENT ZONE: 1 TEST / 100m TRENCH FILL ZONE: 1 TEST / 100m
- BOUNDARY KITS ARE 316 STAINLESS STEEL BALL VALVE & SWING CHECK VALVE (CLASS 16), COMPLETE WITH OPEN BASE ACCESS BOX WITH LID. COLLECTION TANKS (AS SPECIFIED BY HUNTLEE WATER) WERE INSTALLED WITH BOUNDARY KIT (REFER FLOW SYSTEMS STANDARD DRAWINGS PSS-112-FS & PSS-113-FS). PUMP TO BE INSTALLED BY OTHERS.
- ALL MAINS (UP TO THE BOUNDARY KIT) WERE PRESSURE TESTED TO 1600 kPa.
- ALL MAINS WERE FLUSHED WITH WATER TO REMOVE ANY DEBRIS PRIOR TO COMMISSIONING.
- SURFACE IDENTIFICATION MARKERS WERE PROVIDED TO HUNTLEE WATER REQUIREMENTS.
- AREAS HATCHED THUS NOT DRAINED.

WATER & RECYCLED WATER NOTES



- ALL WORKS WERE CONSTRUCTED IN ACCORDANCE WITH THE DESIGN DRAWINGS, CONSTRUCTION SPECIFICATION, WSA 03-2011-3.1 (SYDNEY WATER WATER EDITION - 2014), FLOW SYSTEMS SUPPLEMENTARY MANUAL TO W.S.A.A. & WORLEYPARSONS SERVICES Pty Ltd MASTER PLAN DRAWINGS CURRENT AT THE TIME OF CONSTRUCTION.
- POTABLE WATER SHALL BE UTILISED FOR FIRE FIGHTING PURPOSES.
- ALL EQUIPMENT, MATERIALS & ACCESSORIES USED IN THIS CONTRACT WAS NEW, AND CONFORMED WITH THE APPROPRIATE CURRENT AUSTRALIAN STANDARDS & COMPLIED WITH FLOW SYSTEMS REQUIREMENTS.
- ALL SERVICES SHOWN WERE INDICATIVE ONLY. A CURRENT SERVICES SEARCH & SITE CHECK OF ALL EXISTING SERVICES WAS REQUIRED PRIOR TO COMMENCEMENT OF WORKS. THE CONSTRUCTOR WAS TO DETERMINE LEVELS & LOCATIONS EXISTING SERVICES IN THE VICINITY OF THE CONSTRUCTION SITE AND ANY CONSTRUCTED STRUCTURES FOR PROPOSED SERVICES, SUCH AS DUCTING FOR WATER OR ELECTRICITY WITHIN THE SUBDIVISION. THE CONTRACTOR WAS TO ENSURE ALL SERVICES WERE LOCATED BY THE RELEVANT AUTHORITY PRIOR TO COMMENCEMENT OF WORKS.
- THE CONSTRUCTOR WAS TO VERIFY WITH THE SITE SURVEYOR THE POSITION & LEVEL OF ALL EXISTING & PROPOSED BOUNDARIES PERTINENT TO THE INFRASTRUCTURE INSTALLATIONS.
- MAIN LAID GENERALLY AS INDICATED IN SERVICE ALLOCATION DIAGRAMS. INSTRUCTION NOTES TOOK PRECEDENCE OVER DIAGRAMS WHERE PROVIDED. 600mm HORIZONTAL CLEARANCE TO BE MAINTAINED BETWEEN ALL SEWER & WATER MAINS. MINIMUM PIPE COVER IS 600mm IN FOOTWAYS (TYPE B EMBEDMENT: WAT-1202-V) & 900mm FOR ROADWAYS (TYPE L EMBEDMENT: WAT-1204-V). MAXIMUM PIPE COVER IS 1500mm UNLESS SPECIFIED ON THE DESIGN PLANS OR APPROVAL IS OBTAINED FROM A HUNTLEE WATER REPRESENTATIVE.
- ALL POTABLE WATER MAINS ARE PLAIN BLUE mPVC (PN16). ALL RECYCLED WATER MAINS ARE LILAC mPVC (PN16). DIFFERENTIATION OF POTABLE & RECYCLED WATER SYSTEMS WERE AS PER TABLE 4.1 WSA03-2011 WITH BOTH SERVICES BEING CLASSIFIED AS WATER MAINS. RECYCLED WATER MAINS SHALL ALWAYS BE LOWER THAN POTABLE MAINS. 150mm VERTICAL CLEARANCE BETWEEN POTABLE WATER & RECYCLED WATER MAINS SHALL BE PROVIDED.
- MAXIMUM JOINT DEFLECTIONS WERE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
- LOCALLY LOWERED PIPEWORK IN VICINITY OF STOP VALVES TO ENSURE SUFFICIENT COVER WAS MAINTAINED OVER VALVES. LOWERING OF PIPEWORK WAS ACHIEVED OVER A NUMBER OF PIPE LENGTHS EITHER SIDE OF VALVES TO ELIMINATE ANY SHARP DEFLECTIONS.
- ALL PIPE BEDDING MATERIAL COMPLIES WITH WSAA PRODUCT SPECIFICATION PS-350, 368 & 369. GEOTECHNICAL CONDITIONS WERE ASSESSED DURING CONSTRUCTION BY THE CONTRACTOR IN ASSOCIATION WITH THE HUNTLEE WATER REPRESENTATIVE TO DETERMINE THE NEED TO MODIFY EMBEDMENT/TRENCHFILL TYPE & THE ROAD FOR TRENCH DRAINAGE/BULKHEADS.
- DURING CONSTRUCTION, ALL OPEN ENDS OF PIPES WERE CAPPED OFF TO PREVENT ENTRY OF FOREIGN MATTER.
- HYDRANTS, STOP VALVES & ALL OTHER FITTINGS ARE THE SAME SIZE AS THROUGH WATER MAIN & ANTICLOCKWISE CLOSING.
- HYDRANTS SHALL NOT BE INSTALLED IN POTENTIAL DRIVEWAY LOCATIONS. HYDRANTS & WATER SERVICES WERE NOMINALLY AT LEAST 5m FROM EACH BOUNDARY OR ON BOUNDARIES. WHERE POSSIBLE, FITTINGS WERE LOCATED BEHIND KERB INLET PITS.
- LAID DETECTABLE MARKING TAPE OVER ALL MAINS & PROPERTY HOUSE SERVICE LINES AS PER WAT-1854-S & WAT-1855-S (ENSURING A CONTINUOUS ELECTRICAL PATHWAY ALONG THE TRACE WIRE) ON EACH SERVICE FROM THE PROPERTY METERS TO & ALONG THE RELEVANT MAIN TO HYDRANTS AND VALVES. MARKER TAPE WAS CONNECTED TO SURFACE VALVES OR HYDRANTS.
- THRUST BLOCKS WERE INSTALLED IN ACCORDANCE WITH WAT-1205.
- ALL PROPERTY (MAIN TO METER) SERVICE CONNECTIONS ARE IN ACCORDANCE WITH WSA STANDARD DRAWINGS, SYDNEY WATER VERSION FOR DUAL WATER SUPPLY SYSTEMS (A SUPPLEMENT TO WSA03-2002) WAT-1853-S, WAT-1854-S, WAT-1855-S & WAT-1856-S. THE WORKS WERE INSTALLED IN ACCORDANCE WITH THE CURRENT SYDNEY WATER PROPERTY (MAIN TO METER) SERVICE INSTALLATIONS TECHNICAL REQUIREMENTS, NSW CODE OF PRACTICE FOR PLUMBING & DRAINAGE & AS/NZS3500.
- HOUSE SERVICES CONNECTION WERE FLUSHED & LOCKED (BY THE HUNTLEE WATER REPRESENTATIVE) FOLLOWING SUCCESSFUL PRESSURE TESTING.
- SURFACE FITTINGS LOCATED IN TRAFFICABLE AREAS (i.e. ROADWAYS, PATHS etc) WERE TO HAVE HEAVY DUTY SURROUNDS INSTALLED.
- ALL MAINS WERE TESTED IN ACCORDANCE WITH WSA 03-2011-3.1.
- ALL MAINS WERE FLUSHED WITH WATER TO REMOVE ANY DEBRIS PRIOR TO COMMISSIONING.
- WATER QUALITY TESTING WAS CONDUCTED IN ACCORDANCE WITH WSA 03-2011-3.1 (CLAUSE 19.7).
- UPON COMPLETION OF WORKS, ALL SURFACES WERE RESTORED AS CLOSE AS POSSIBLE, TO THE CONDITION THAT EXISTED PRIOR TO COMMENCEMENT OF WORK.
- BURIED FITTINGS WERE NOT BACKFILLED UNTIL W.A.C. DETAILS HAD BEEN OBTAINED & APPROVAL FOR BACKFILLING GIVEN BY THE HUNTLEE WATER REPRESENTATIVE. THE CONTRACTOR PROVIDED M.G.A. COORDINATED WORK-AS-CONSTRUCTED INFORMATION REGARDING THE INSTALLATION.
- THE MINIMUM NUMBER OF COMPACTION TESTS REQUIRED TO SATISFY THE WATER SUPPLY CODE OF AUSTRALIA ARE:  
TRAFFICABLE:  
PIPE EMBEDMENT ZONE: 1 TEST / CROSSING TRENCH FILL ZONE: 1 TEST / CROSSING  
NON-TRAFFICABLE:  
PIPE EMBEDMENT ZONE: 1 TEST / 100m TRENCH FILL ZONE: 1 TEST / 100m  
  
TESTING SHALL BE IN ACCORDANCE WITH TABLE 16.1 & 17.1 OF THE WATER SUPPLY CODE OF AUSTRALIA
- SURFACE IDENTIFICATION MARKERS WERE PROVIDED TO HUNTLEE WATER REQUIREMENTS.

CLEARANCES BETWEEN PIPELINES & UNDERGROUND SERVICES

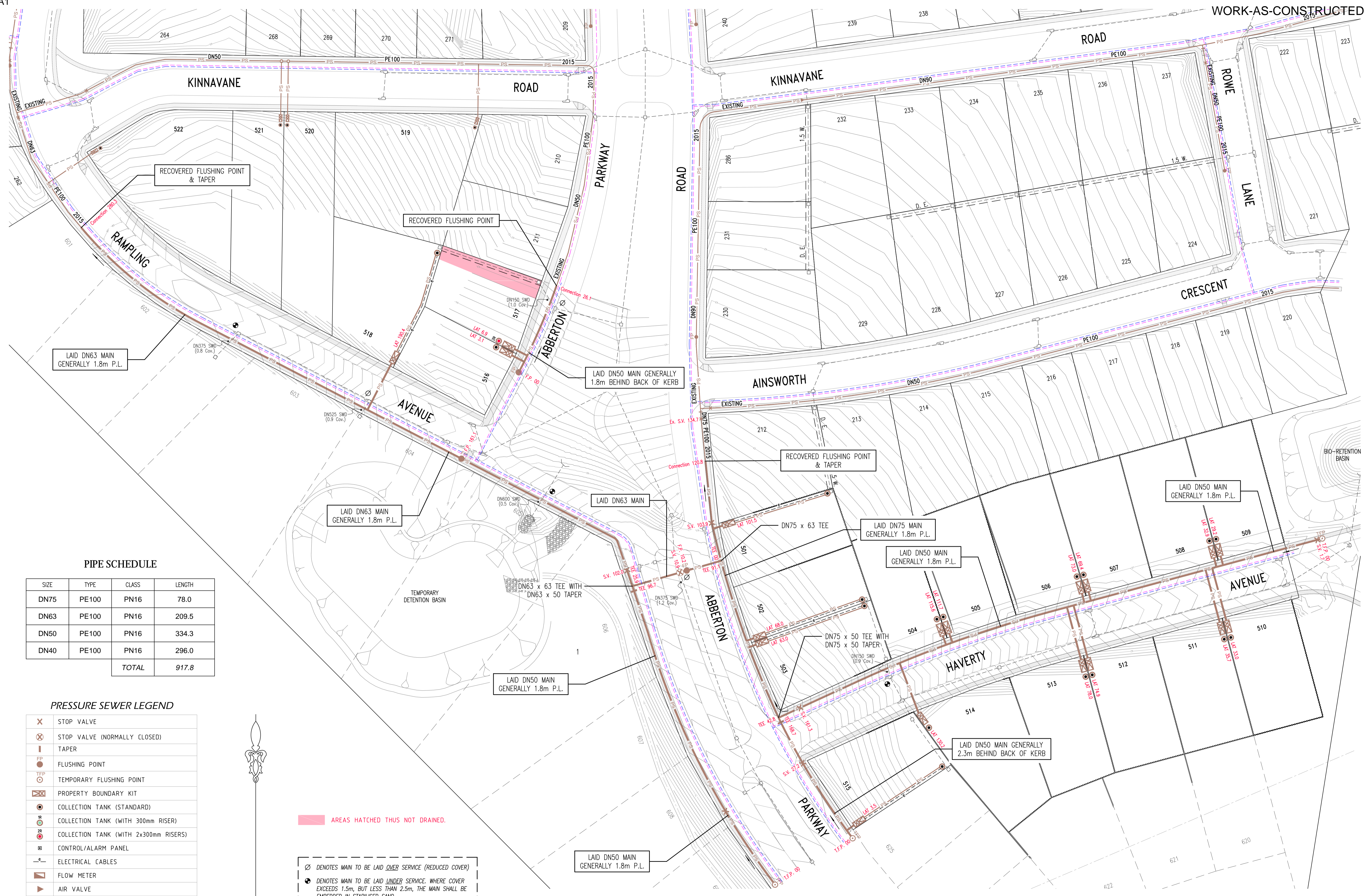
Utility (Existing or proposed service)	Minimum horizontal clearance mm		Minimum vertical clearance <sup>1</sup> mm
	New main size		
	≤DN200	>DN200	
Water mains <sup>1</sup> > DN375	600	600	300
Water mains <sup>2</sup> < DN375	300 <sup>4</sup>	600	150
Gas mains	300 <sup>4</sup>	600	150
Telecommunication conduits and cables	300 <sup>4</sup>	600	150
Electricity conduits and cables	500	1000	225 <sup>4</sup>
Stormwater drains	300 <sup>4</sup>	600	150 <sup>4</sup>
Sewers - gravity	1000 <sup>4</sup> / 600	1000 <sup>4</sup> / 600	500 <sup>4</sup>
Sewers - pressure and vacuum	600	600	300 <sup>4</sup>
Kerbs	150	600 <sup>1</sup>	150 (where possible)

- NOTES:
- Vertical clearances apply where pipelines cross other utility services, except in the case of water/sewer mains when a vertical separation shall always be maintained, even when the pressure sewer and water main are parallel. The pressure sewer should always be located below the water main to minimise the possibility of backflow contamination in the event of a pressure main break.
  - Water mains includes mains supplying both potable and recycled water.
  - For areas with existing water reticulation, clearances can be further reduced to 600mm with the approval of the water authority.
  - Clearances can be further reduced to 150mm for distances up to 2m when passing installations such as poles, pits, and small structures, providing the structures is not destabilised in the process.
  - Clearances from kerbs shall be measured from the nearest point of the kerb. For water/sewer <DN375, clearances from kerbs can be progressively reduced until the minimum of 150mm is reached for water/sewer <DN200.
  - Where a parallel sewer is of minimum vertical clearance lower than the water main (500mm), maintain a minimum horizontal of 1000mm. This minimum clearance can be progressively reduced to 600mm as the vertical clearance is increased to 750mm.
  - For pressure sewer laterals, minimum vertical clearances may be reduced to 150mm providing there is no joint in the lateral within 500mm of either side of the service being crossed.
  - An additional clearance from high voltage electrical installations should be maintained above the conduits or cables to allow for a protective barrier and marking to be provided.
  - Water mains should always cross over sewers and stormwater drains. For cases where this is no alternative and the main must cross under the sewer, the design shall nominate an appropriate protection treatment (joint-free in the vicinity of the sewer).

- SHOULD THE RECOMMENDED CLEARANCES NOT BE ACHIEVED, NOTIFICATION SHALL BE CONVEYED TO THE HUNTLEE WATER REPRESENTATIVE IN WRITING.

 ROSE ATKINS RIMMER (Infrastructure) Pty. Ltd. WATER RELATED INFRASTRUCTURE DESIGN AND MANAGEMENT 142 SUNNYHOLT ROAD, BLACKTOWN P.O. BOX 6745, BLACKTOWN N.S.W. 2148 PH: (02) 9853 0200 FAX: (02) 9671 7399	 Quality Standard Company	GENERAL NOTES				SHEET 2 OF 6	VERSION WAC
		DESIGNED: D.SHEATHER CHECKED: D.SHEATHER SCALE: 1:500	REVIEWED: V.VIKSNE DATE: - U.S. REFERENCE: -	VERIFIED: R.CHIVAS DATE OF ISSUE: 1/11/2016	JOB No. 39/23357/5		





PIPE SCHEDULE

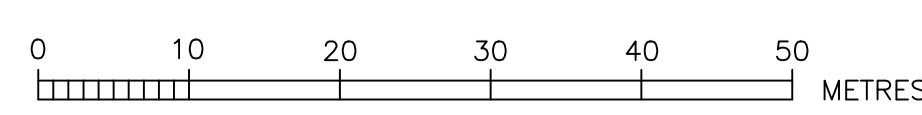
SIZE	TYPE	CLASS	LENGTH
DN75	PE100	PN16	78.0
DN63	PE100	PN16	209.5
DN50	PE100	PN16	334.3
DN40	PE100	PN16	296.0
TOTAL			917.8

PRESSURE SEWER LEGEND

	STOP VALVE
	STOP VALVE (NORMALLY CLOSED)
	TAPER
	FLUSHING POINT
	TEMPORARY FLUSHING POINT
	PROPERTY BOUNDARY KIT
	COLLECTION TANK (STANDARD)
	COLLECTION TANK (WITH 300mm RISER)
	COLLECTION TANK (WITH 2x300mm RISERS)
	CONTROL/ALARM PANEL
	ELECTRICAL CABLES
	FLOW METER
	AIR VALVE
	PRESSURE MONITORING POINT
	REMOTE MONITORED PRESSURE TRANSDUCER
	VERTICAL DEFLECTION

AREAS HATCHED THUS NOT DRAINED.

⊗ DENOTES MAIN TO BE LAID OVER SERVICE (REDUCED COVER)  
 ⊙ DENOTES MAIN TO BE LAID UNDER SERVICE. WHERE COVER EXCEEDS 1.5m, BUT LESS THAN 2.5m, THE MAIN SHALL BE EMBEDDED IN STABILISED SAND.



ROSE ATKINS RIMMER (Infrastructure) Pty. Ltd.  
 WATER RELATED INFRASTRUCTURE DESIGN AND MANAGEMENT  
 142 SUNNYHOLT ROAD, BLACKTOWN  
 P.O. BOX 6745, BLACKTOWN N.S.W. 2148  
 PH: (02) 9853 0200 FAX: (02) 9671 7399



PRESSURE SEWER DETAIL PLAN			
DESIGNED BY: D.SHEATHER	DESIGNED BY: D.SHEATHER	REVIEWED BY: V.VIKSNE	VERIFIED BY: R.CHIVAS
SCALE: 1:500	DRAWN BY: A.H.D.	DATE OF ISSUE: 1/11/2016	

SHEET 3 OF 6  
 VERSION: WAC  
 JOB No: 39/23357/5



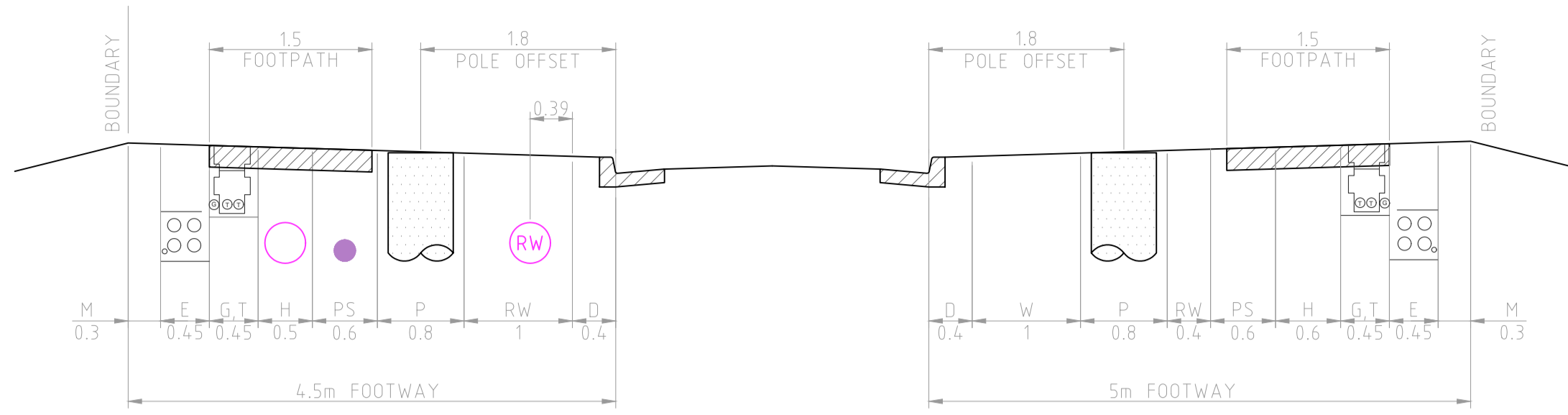
**NOTES**

1. CONCRETE PATHS TO BE PART OF LANDSCAPE CONTRACT.
2. FOR KERB DETAILS REFER TO DWG No. 0102

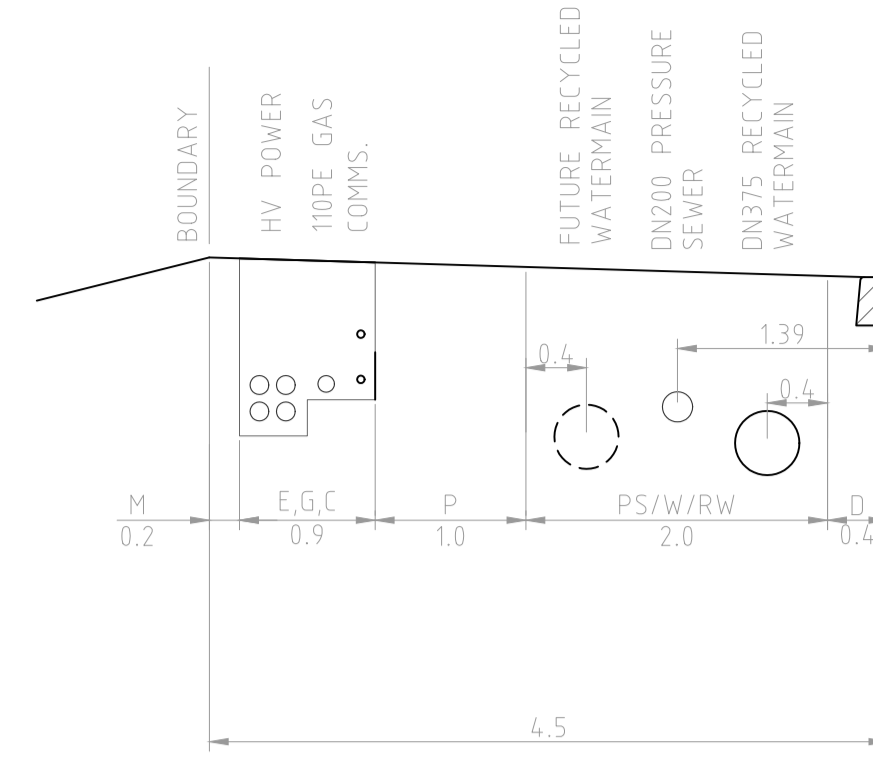
**SERVICES LEGEND**

M	MISCELLANEOUS
E	ELECTRICITY
G	GAS
C	COMMUNICATIONS
P	POLES & TREES
W/RW	WATER + RECYCLED WATER
D	DRAINAGE
RW	RECYCLED WATER ONLY
H	HUNTLEE FUTURE SERVICES
PS	PRESSURE SEWER

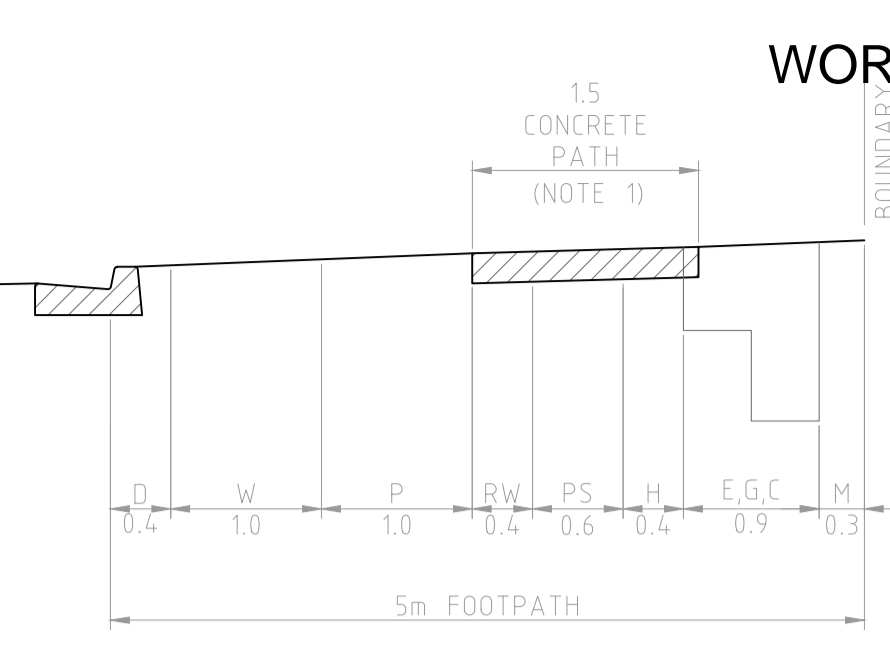
**WORK-AS-CONSTRUCTED**



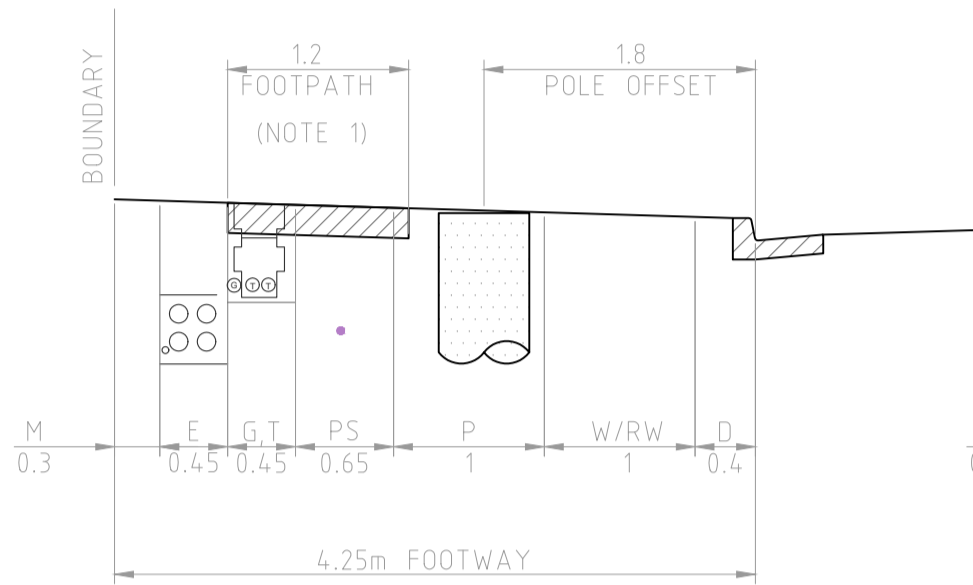
**SERVICE ALLOCATION  
- ROAD 1  
SCALE 1:50**



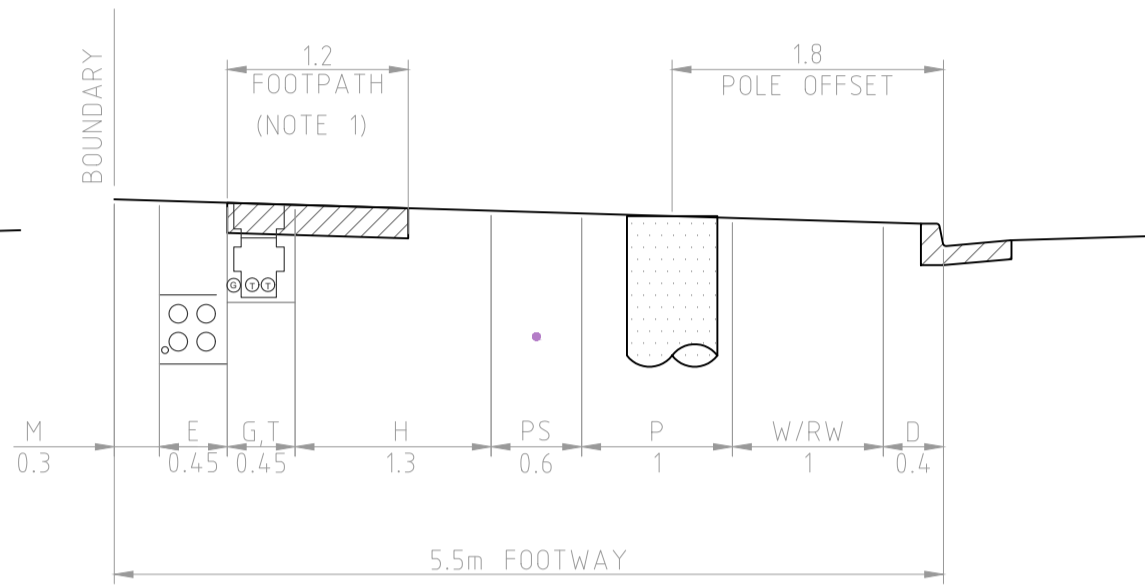
**SERVICE ALLOCATION  
4.5m FOOTWAY (ROAD 1)  
SCALE 1:50**



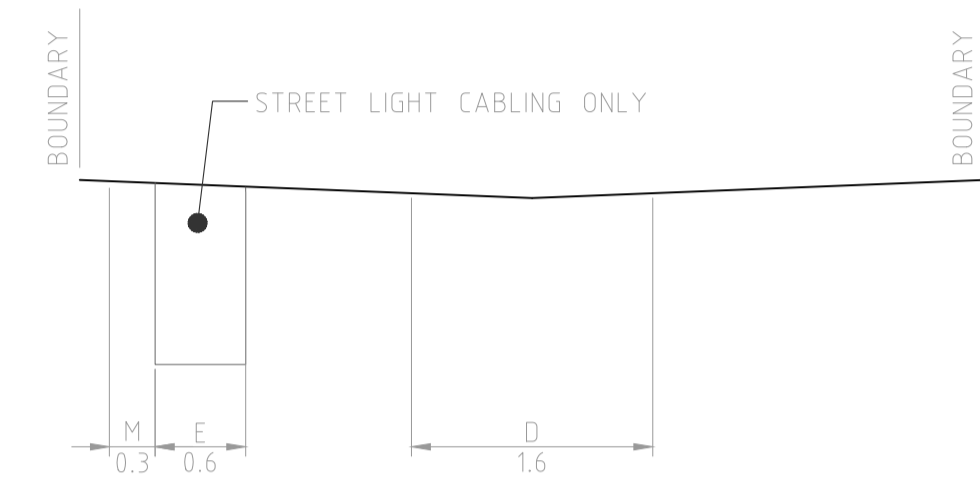
**SERVICE ALLOCATION  
5.0m FOOTWAY (ROAD 1)  
SCALE 1:50**



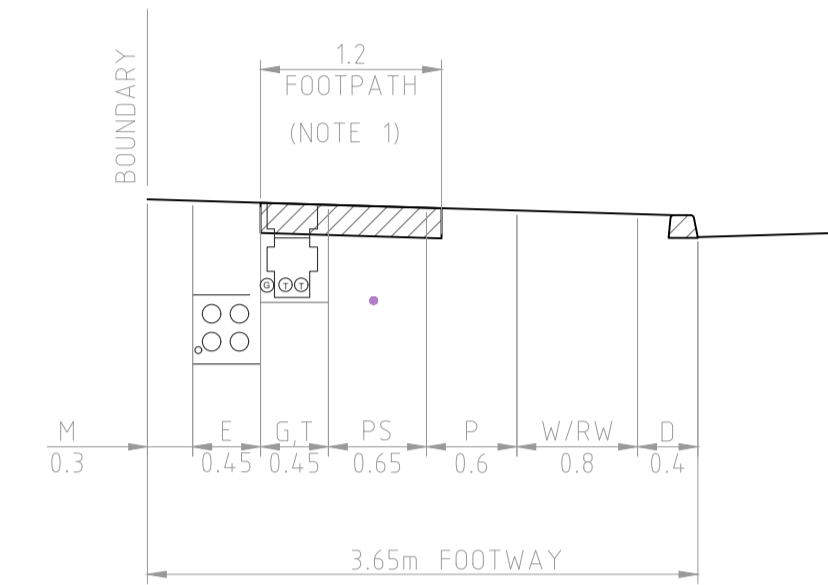
**SERVICE ALLOCATION  
4.25m FOOTWAY  
SCALE 1:50**



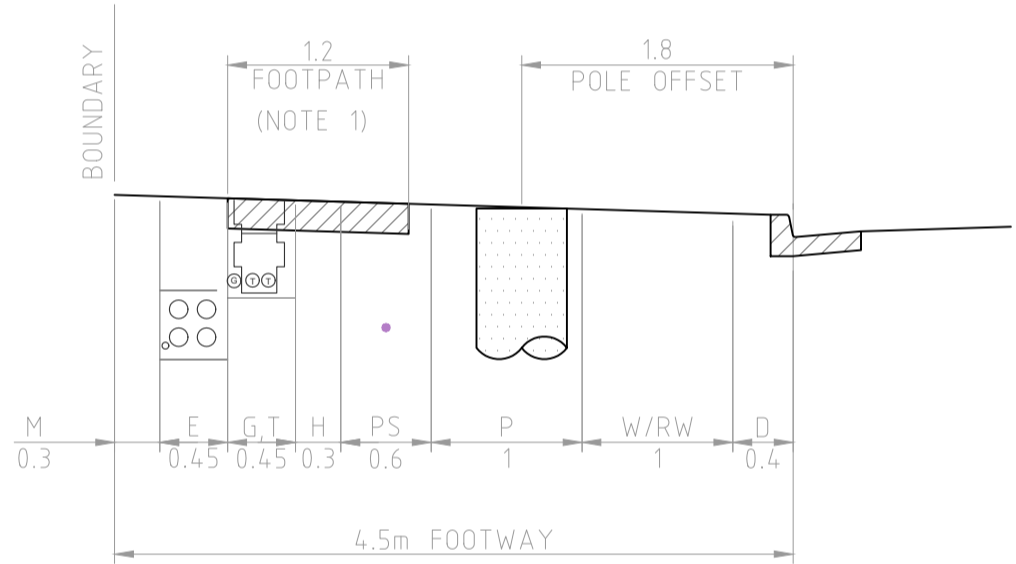
**SERVICE ALLOCATION  
5.5m FOOTWAY  
SCALE 1:50**



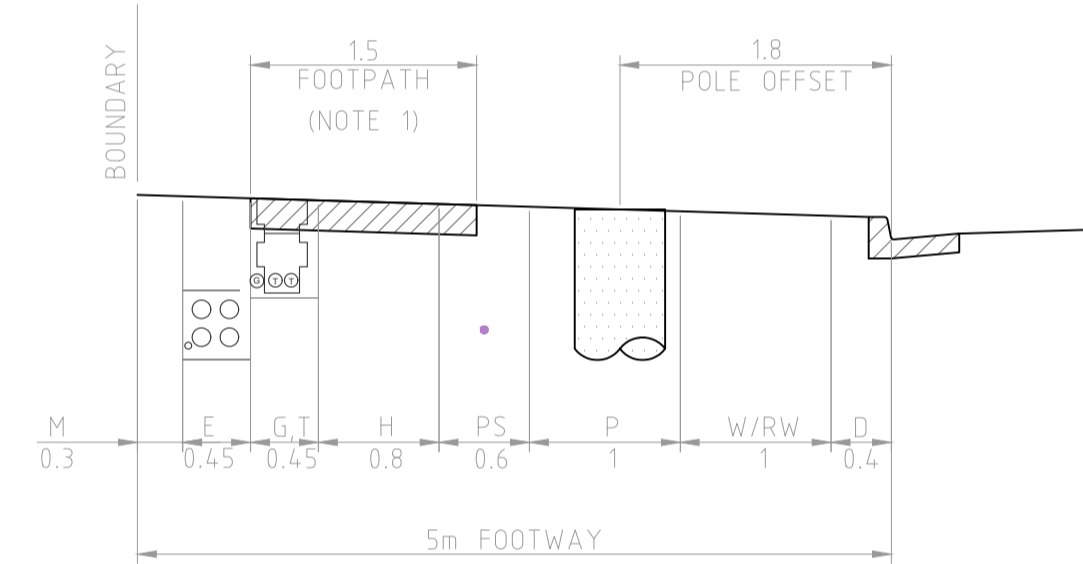
**SERVICE ALLOCATION  
LANEWAY  
SCALE 1:50**



**SERVICE ALLOCATION  
3.65m FOOTWAY  
SCALE 1:50**



**SERVICE ALLOCATION  
4.5m FOOTWAY (EXCL ROAD 1)  
SCALE 1:50**



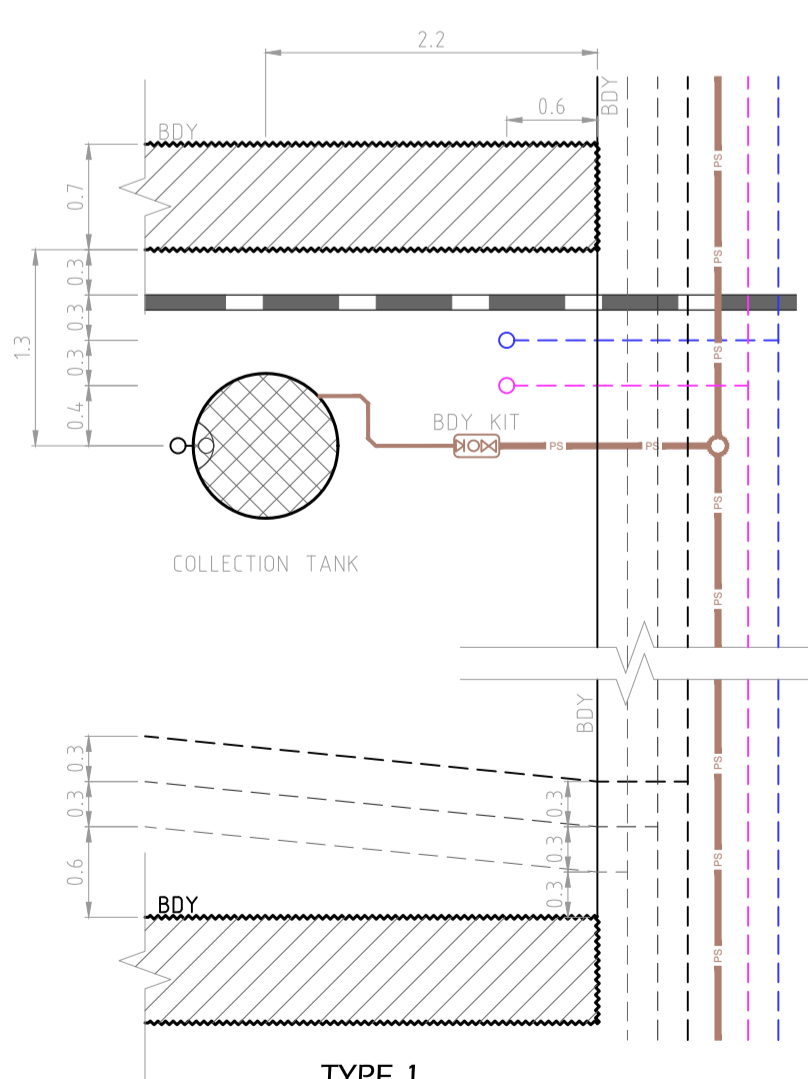
**SERVICE ALLOCATION  
5.0m FOOTWAY (EXCL ROAD 1)  
SCALE 1:50**

**UTILITIES CONFIGURATION**

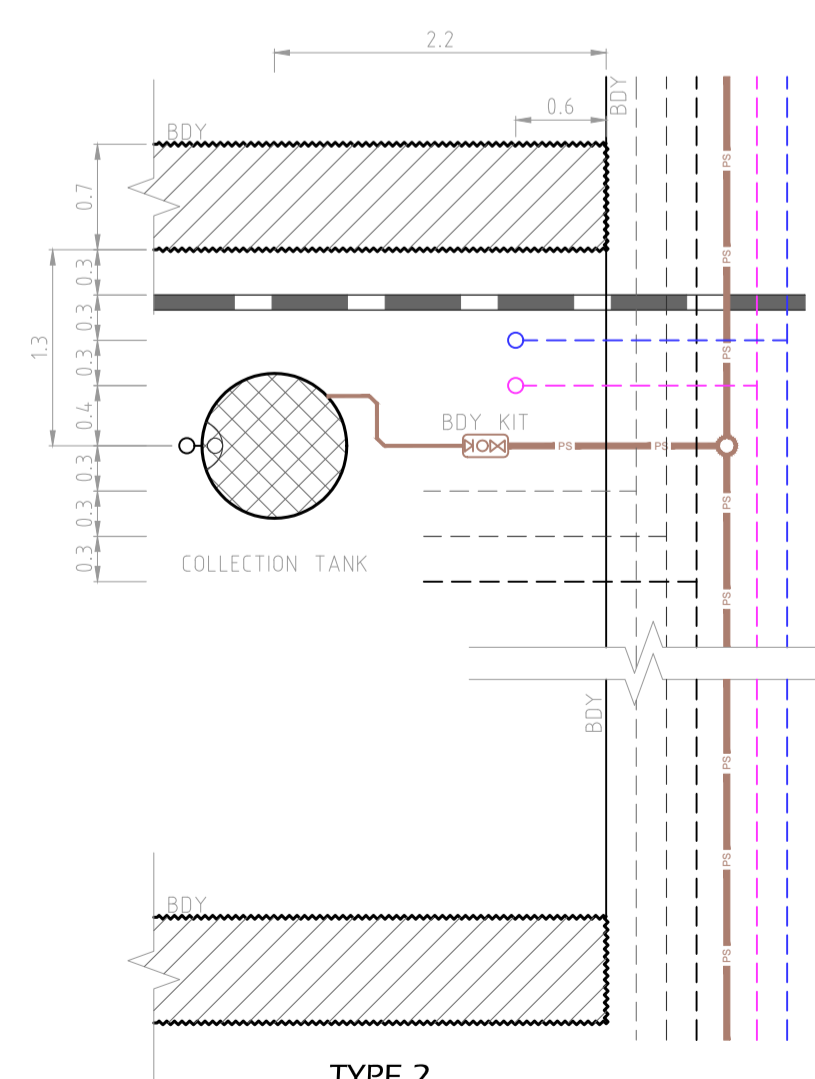
SCALE 1:25  
NOTE: REFERS TO LOTS DENOTED BY 'x' ON WORLEY PARSONS UTILITY CONDUIT PLANS. (THESE DETAILS ARE TO BE CONFIRMED ON-SITE WITH THE UTILITY AUTHORITIES)

**LEGEND**

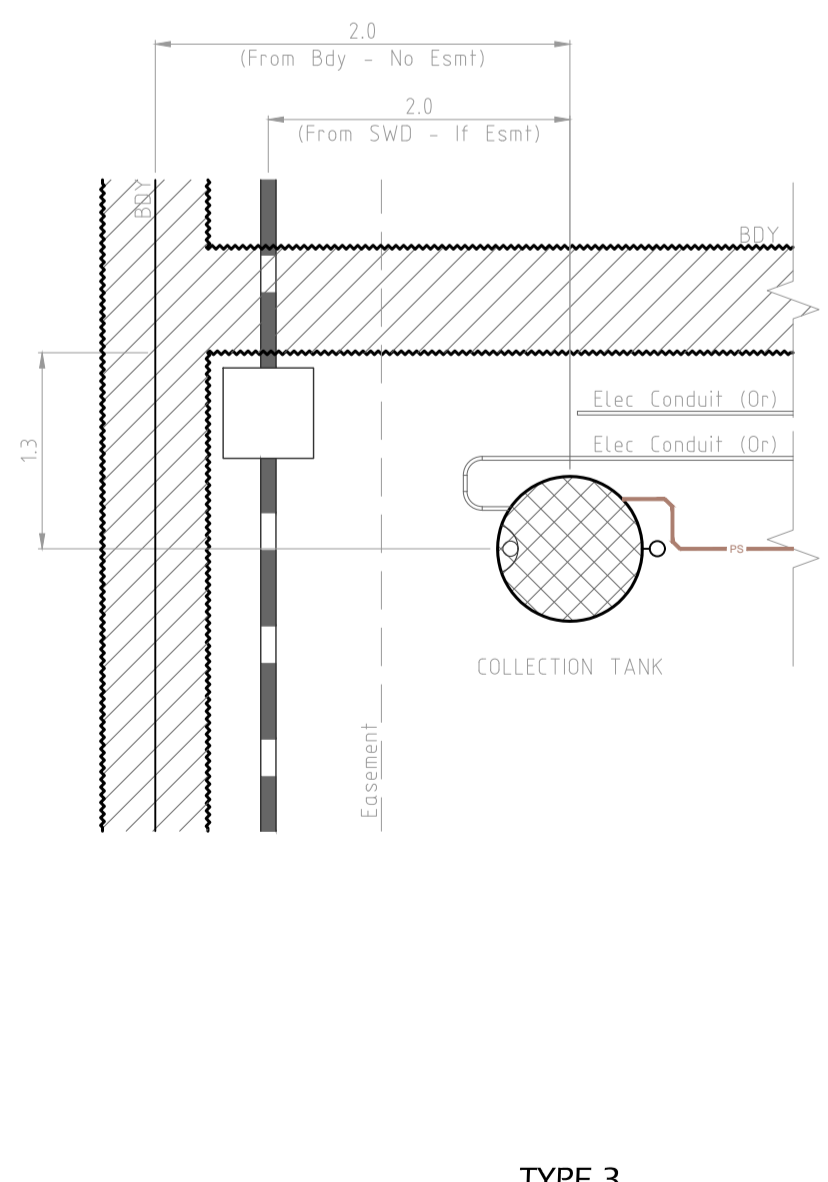
	RETAINING WALL (AREA OF BLOCKS & NO FINES BACKFILL)
	GAS
	COMMUNICATIONS
	ELECTRICAL
	RECYCLED WATER
	POTABLE WATER
	PRESSURE SEWER
	STORMWATER



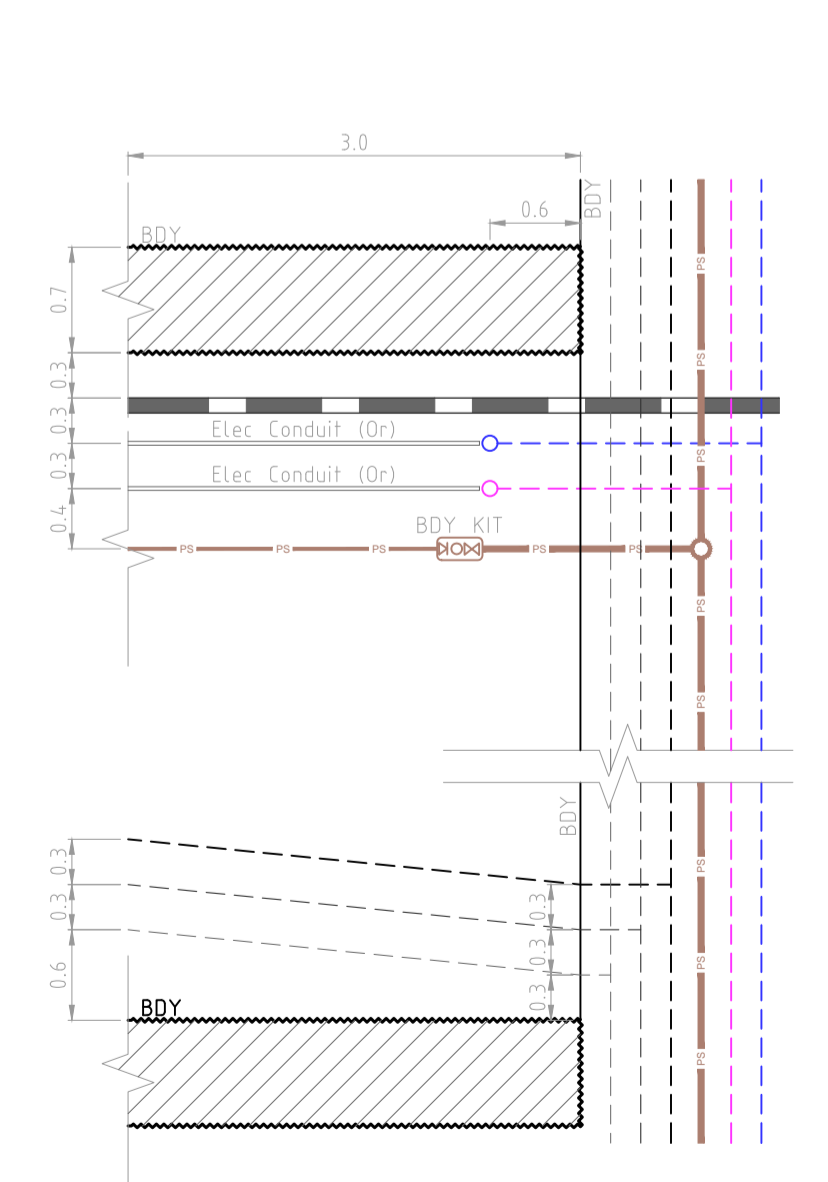
TYPE 1



TYPE 2



TYPE 3



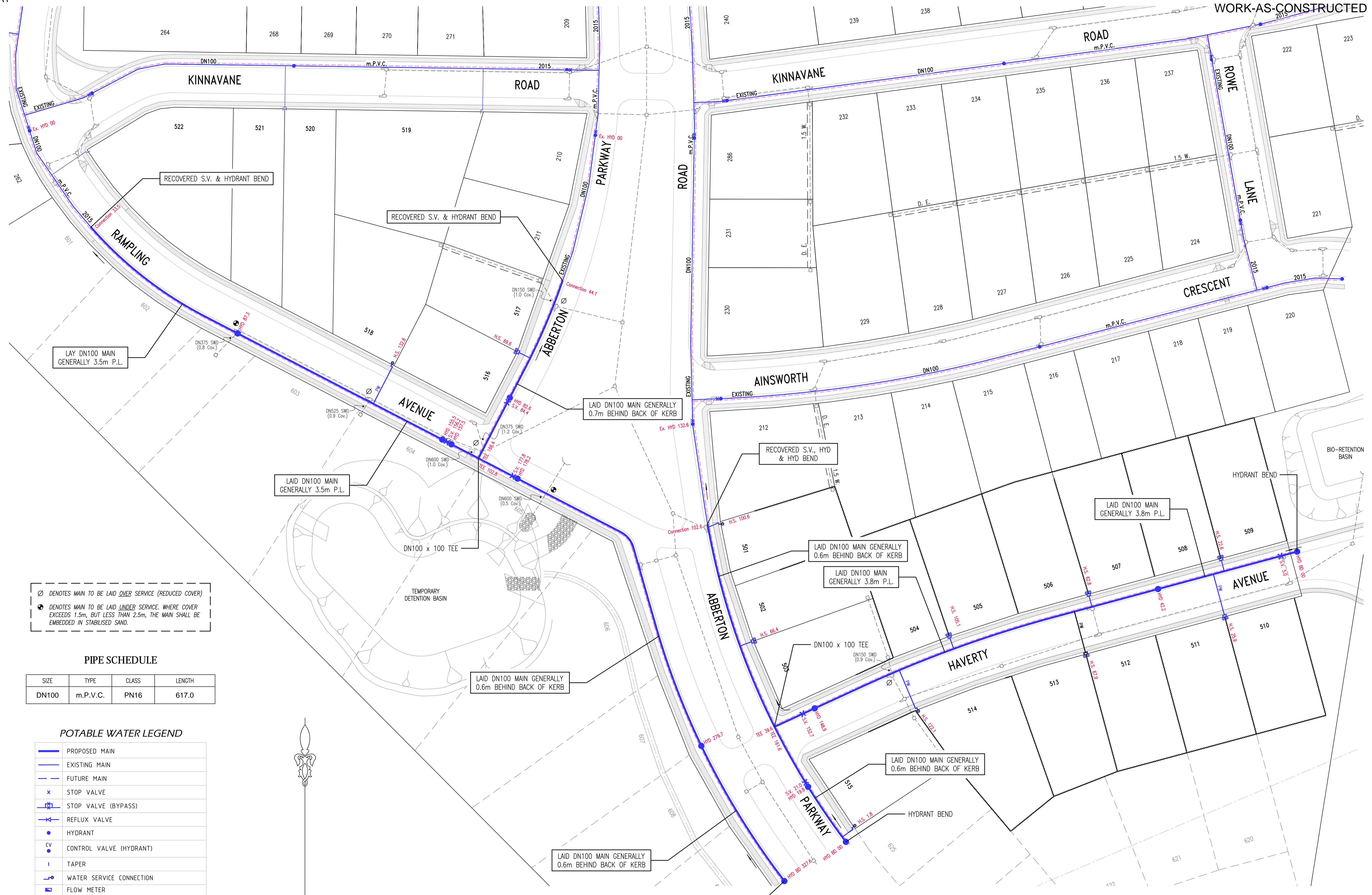
TYPE 4

ROSE ATKINS RIMMER (Infrastructure) Pty. Ltd.  
**RAR** WATER RELATED INFRASTRUCTURE DESIGN AND MANAGEMENT  
 142 SUNNYHOLT ROAD, BLACKTOWN  
 P.O. BOX 6745, BLACKTOWN N.S.W. 2148  
 PH: (02) 9853 0200 FAX: (02) 9671 7399



TYPICAL SECTIONS			
DESIGNED BY D.SHEATHER	DESIGNED BY D.SHEATHER	REVIEWED BY V.VIKSNE	CHECKED BY R.CHIVAS
SCALE	DATE	ISS. REFERENCE	DATE OF ISSUE 1/11/2016





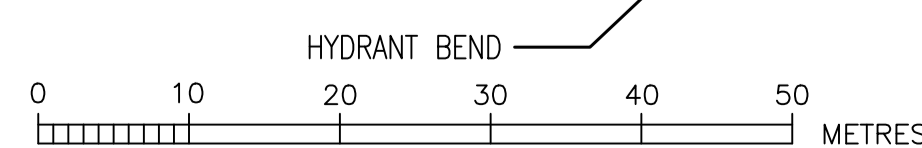
⊗ DENOTES MAIN TO BE LAID OVER SERVICE (REDUCED COVER)  
 ⊕ DENOTES MAIN TO BE LAID UNDER SERVICE, WHERE COVER EXCEEDS 1.5m, BUT LESS THAN 2.5m, THE MAIN SHALL BE EMBEDDED IN STABILISED SAND.

PIPE SCHEDULE

SIZE	TYPE	CLASS	LENGTH
DN100	m.P.V.C.	PN16	617.0

POTABLE WATER LEGEND

	PROPOSED MAIN
	EXISTING MAIN
	FUTURE MAIN
	STOP VALVE
	STOP VALVE (BYPASS)
	REFLUX VALVE
	HYDRANT
	CONTROL VALVE (HYDRANT)
	TAPER
	WATER SERVICE CONNECTION
	FLOW METER
	AIR VALVE
	VERTICAL DEFLECTION
	REMOTE MONITORED PRESSURE TRANSDUCER



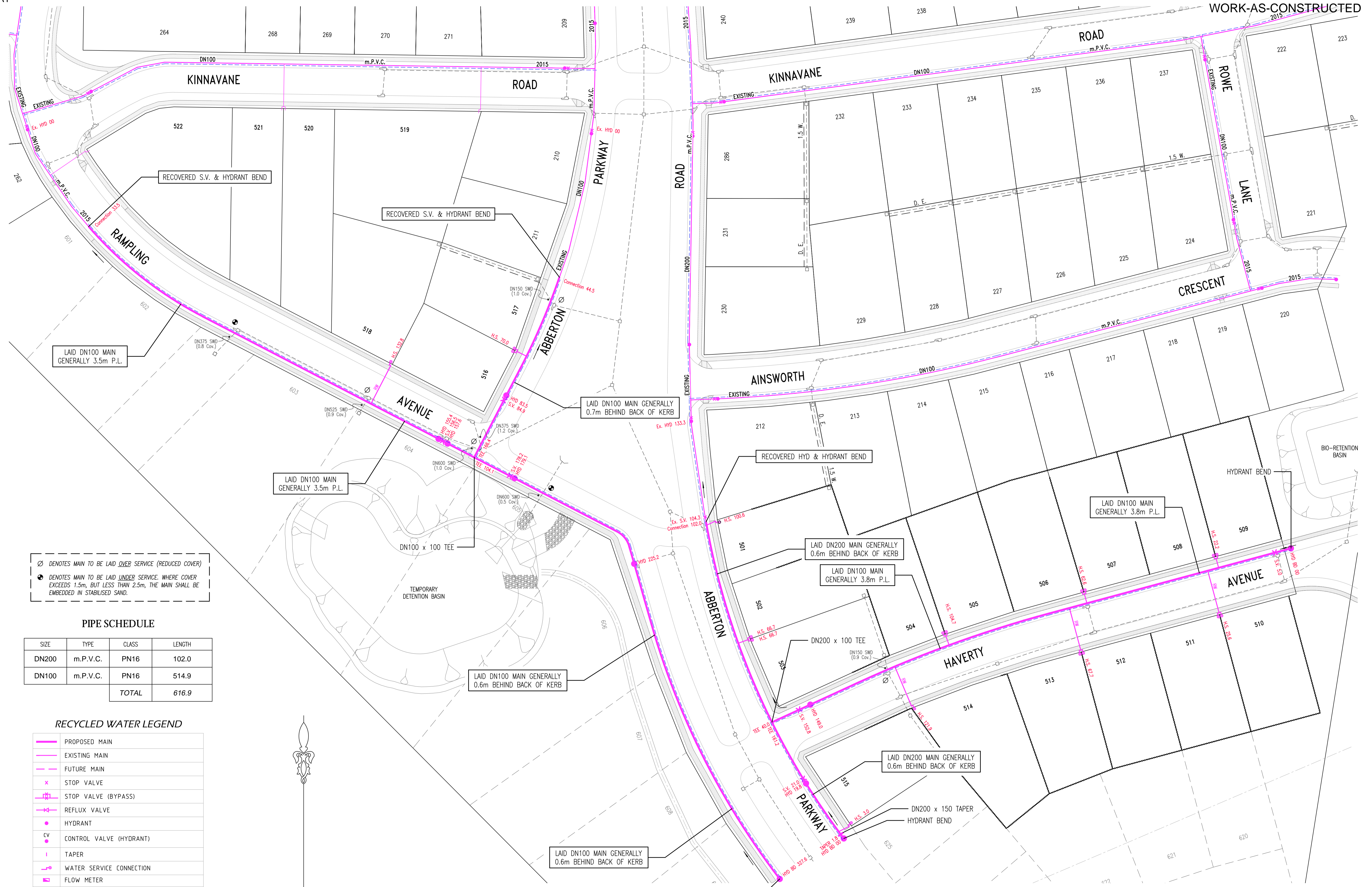
ROSE ATKINS RIMMER (Infrastructure) Pty. Ltd.  
 WATER RELATED INFRASTRUCTURE DESIGN AND MANAGEMENT  
 142 SUNNYHOLT ROAD, BLACKTOWN  
 P.O. BOX 6745, BLACKTOWN N.S.W. 2148  
 PH: (02) 9853 0200 FAX: (02) 9671 7399



POTABLE WATER DETAIL PLAN			
DESIGNED	CHECKED	REVIEWED	VERIFIED
D.SHEATHER	D.SHEATHER	V.VIKSNE	R.CHIVAS
SCALE: 1:500	DATUM:	U.S. REFERENCE:	DATE OF ISSUE: 1/11/2016

SHEET 5 OF 6  
 WAC  
 39/23357/5





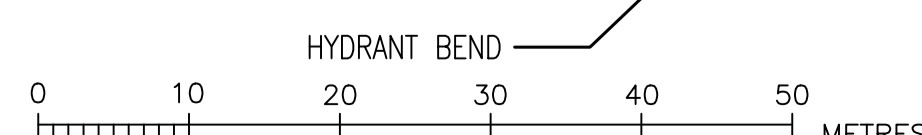
⊗ DENOTES MAIN TO BE LAID OVER SERVICE (REDUCED COVER)  
 ⊕ DENOTES MAIN TO BE LAID UNDER SERVICE, WHERE COVER EXCEEDS 1.5m, BUT LESS THAN 2.5m, THE MAIN SHALL BE EMBEDDED IN STABILISED SAND.

PIPE SCHEDULE

SIZE	TYPE	CLASS	LENGTH
DN200	m.P.V.C.	PN16	102.0
DN100	m.P.V.C.	PN16	514.9
		TOTAL	616.9

RECYCLED WATER LEGEND

	PROPOSED MAIN
	EXISTING MAIN
	FUTURE MAIN
	STOP VALVE
	STOP VALVE (BYPASS)
	REFLUX VALVE
	HYDRANT
	CONTROL VALVE (HYDRANT)
	TAPER
	WATER SERVICE CONNECTION
	FLOW METER
	AIR VALVE
	VERTICAL DEFLECTION
	REMOTE MONITORED PRESSURE TRANSDUCER



ROSE ATKINS RIMMER (Infrastructure) Pty. Ltd.  
**RAR** WATER RELATED INFRASTRUCTURE DESIGN AND MANAGEMENT  
 142 SUNNYHOLT ROAD, BLACKTOWN  
 P.O. BOX 6745, BLACKTOWN N.S.W. 2148  
 PH: (02) 9853 0200 FAX: (02) 9671 7399

RECYCLED WATER DETAIL PLAN				SHEET 6 OF 6	VERSION WAC
DESIGNED BY: D.SHEATHER	DESIGNED BY: D.SHEATHER	REVIEWED BY: V.VIKSNE	REVIEWED BY: R.CHIVAS	DATE: 1/11/2016	JOB No. 39/23357/5
SCALE: 1:500	DRAWN BY:	DATE:	DATE OF ISSUE:		