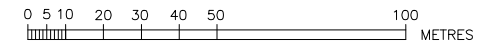
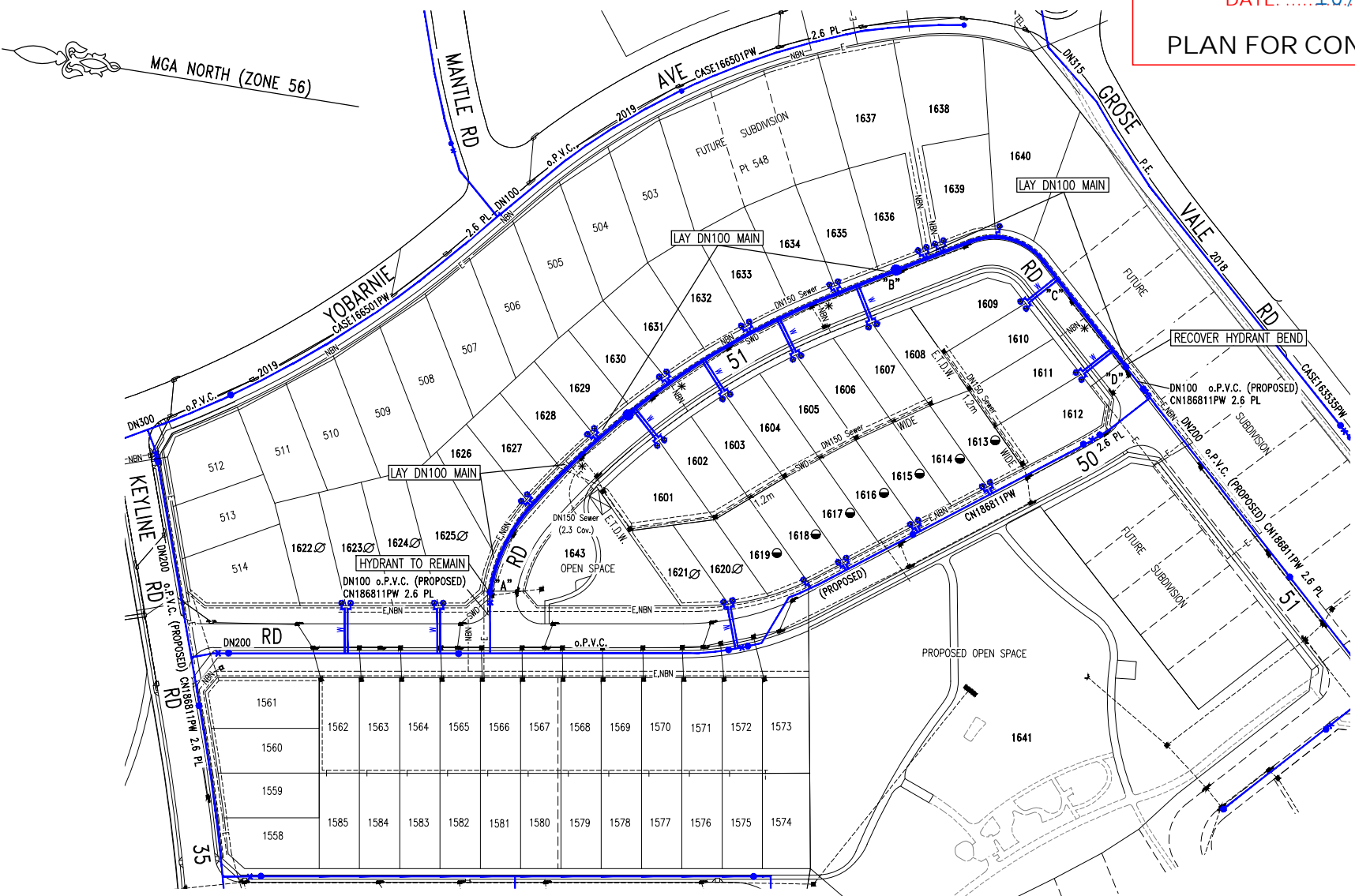


CALIBRE PROFESSIONAL SERVICES PTY LTD  
 DATE: .....10/06/2021  
 PLAN FOR CONSTRUCTION



- NOTES :
- WATER SERVICING COORDINATOR AND DESIGNER:  
 CALIBRE PROFESSIONAL SERVICES PTY LTD  
 P.O BOX 8300 NORWEST NSW 2153  
 Ph: (02) 8808 5000
  - FOR:  
 REDBANK COMMUNITIES  
 76 ARTHUR PHILLIP DRIVE  
 NORTH RICHMOND NSW 2754
  - EXISTING AND PROPOSED SERVICES ARE INDICATIVE ONLY. CURRENT SERVICES SEARCH & SITE CHECK OF ALL EXISTING & PROPOSED SERVICES WILL BE NECESSARY PRIOR TO THE COMMENCEMENT OF WORK & APPROPRIATE PROCEDURES, PRECAUTIONS AND CARE NEED TO BE TAKEN BY THE CONSTRUCTOR WHEN WORKING IN CLOSE PROXIMITY TO ALL SERVICES DURING CONSTRUCTION AND ANY DAMAGE TO EXISTING SERVICES IS TO BE RECTIFIED AT THE CONSTRUCTORS EXPENSE.
  - MAIN TO BE LAID GENERALLY 2.6m P.L. AT 0.8m COVER TO TOP OF MAIN. EXCEPT WHERE OTHERWISE SHOWN. WHERE REQUIRED, LOCALLY RAISE MAIN TO STANDARD COVER TO ACHIEVE THE REQUIRED VERTICAL CLEARANCE TO UNDERGROUND SERVICES.
  - MAIN LAYING NOT TO PROCEED PRIOR TO FORMATION OF FOOTWAYS TO FINISHED SURFACE LEVELS.
  - MAIN TO BE LAID OVER STORMWATER & SEWER LINES UNLESS OTHERWISE INDICATED.
  - ALL MAINS TO BE LAID IN EXISTING OR PROPOSED ROAD CARRIAGEWAYS - REFER TO SITE SPECIFIC COMPACTION SPECIFICATION.
  - THRUST/ANCHOR BLOCKS TO BE CONSTRUCTED AT ALL BENDS, TEES, TAPERS, FITTINGS & PARTS OF PIPELINE WHERE UNBALANCED THRUST OCCURS. REFER SYDNEY WATER DEEMED TO COMPLY DRAWINGS DTC-1110 (BENDS), DTC-1111(TYPE 2 BENDS- IF REQUIRED), DTC-1114 (HYDRANT SERVICES) & DTC-1115 (STOP VALVES- IF REQUIRED).
  - THE ALLOWABLE HORIZONTAL BEARING PRESSURE (AHP) OF UNDISTURBED NATURAL SOIL TO BE DETERMINED BY A SUITABLY EXPERIENCED GEOTECHNICAL ENGINEER PRIOR TO CASTING THRUST RESTRAINTS. CERTIFICATION TO BE PROVIDED TO W.S.C.
  - THRUST BLOCKS AT CONNECTION POINTS TO BE PREPARED AGAINST UNDISTURBED GROUND AND SHALL BE CURED FOR A MINIMUM 7 DAYS BEFORE SUBJECT TO THRUST LOADINGS.
  - TRENCH STOPS MAY BE USED IN LIEU OF BULKHEADS AT ROAD CROSSINGS. REFER WAT-1209.
  - BURIED FITTINGS & BENDS ARE NOT TO BE BACKFILLED UNTIL W.A.C. DETAILS HAVE BEEN OBTAINED BY THE DESIGNER AND APPROVAL FOR BACKFILL GIVEN BY THE W.S.C. REFER W.S.C. FOR ALTERNATIVES.
  - AREA COVERED BY TREE PRESERVATION ORDER.
  - THE MINIMUM NUMBER OF FIELD COMPACTION TESTS REQUIRED TO SATISFY THE WATER SUPPLY CODE OF AUSTRALIA ARE:  
 PIPE EMBEDMENT ZONE: - 3 TRENCH FILL ZONE: SEE NOTE 6  
 - TRAFFICABLE: NIL  
 - NON-TRAFFICABLE: - 3  
 NUMBER OF TESTS TO BE VERIFIED BY ACCREDITED FIELD TESTER. NUMBERS GIVEN ABOVE TO BE USED AS A GUIDE ONLY. ADDITIONAL TESTS MAY BE REQUIRED. PLEASE REFER TO SITE SPECIFIC COMPACTION SPECIFICATION.
  - ALL PROPERTY (MAIN TO METER) SERVICES MUST BE CONSTRUCTED TO SYDNEY WATER'S INSTALLATION REQUIREMENTS BY A LICENSED PLUMBER. THE WORKS MUST BE INSTALLED IN ACCORDANCE WITH THE CURRENT SYDNEY WATER PROPERTY (MAIN TO METER) SERVICE INSTALLATIONS TECHNICAL REQUIREMENTS, NSW CODE OF PRACTICE FOR PLUMBING AND DRAINAGE AND AS/NZS3500.
  - DICL PIPES CLASS PN35 RRJ MAY BE USED IN LIEU OF PVC-O.
  - DICL PIPES & FITTINGS MAY NEED TO BE WRAPPED IN BLUE POLYETHYLENE SLEEVING.
  - STOP VALVE ANCHOR BLOCKS, WHERE REQUIRED, TO BE CONSTRUCTED IN ACCORDANCE WITH DTC-1115 (ISS. B 29/02/12).
  - PRECAUTIONS ARE NECESSARY IN THE VICINITY OF SUB-STATION & OTHER ELECTRICAL EARTHING.
  - PRIOR TO THE USE OF INSULATING BUSHES OR NON CONDUCTIVE PIPE MATERIAL, CONTACT THE SENIOR INSULATION INSPECTOR AT AUSGRID (PH: 13 15 25) OR ENDEAVOUR ENERGY (PH: 13 10 81), RE ELECTRICAL EARTHING OF PROPERTIES.
  - ALL SAFETY PRECAUTIONS TO BE TAKEN FOR ELECTRICAL EARTHING OF BUILDINGS WHEN DISCONNECTING/CONNECTING WATER PROPERTY CONNECTION SERVICES.
  - SYDNEY WATER REQUIREMENTS FOR CONTRACTOR ELECTRICAL SAFETY DATED 19/12/2011 TO BE APPLIED, AND SITE SPECIFIC PROJECT SAFETY PLAN WITH APPROPRIATE WORK METHOD STATEMENT TO BE IMPLEMENTED.
  - RED MARKED UP DRAWING SHOWING WORK AS CONSTRUCTED DETAILS TO BE PROVIDED TO W.S.C.
  - SUBSURFACE CONDITIONS, INCLUDING GROUNDWATER, CONTAMINATION, UNRECORDED BURIED MATERIAL OR OBJECTS AND ARCHAEOLOGICAL SIGNIFICANT ITEMS MAY BE ENCOUNTERED DURING CONSTRUCTION, REQUIRING FURTHER ENVIRONMENTAL, GEOTECHNICAL OR ARCHAEOLOGICAL ASSESSMENT AND APPLICATION OF APPROPRIATE CONSTRUCTION METHODS AND STANDARDS.
  - MINIMUM CLEARANCES BETWEEN THE PROPOSED WATERMANS & OTHER UNDERGROUND SERVICES SHALL COMPLY WITH THE WATER SUPPLY CODE OF AUSTRALIA - WSA 03-2011-3.1 SYDNEY WATER EDITION 2014, TABLE 5.5 (PAGE 108).
  - PROPOSED MAIN GRADE EXCEEDS 5% BETWEEN "A"- "B" AND "C"- "D". TRENCHSTOPS TO BE CONSTRUCTED AT 8.7m INTERVALS BETWEEN "A"- "B" AND 20.0 INTERVALS BETWEEN "C"- "D", IN ACCORDANCE WITH TABLE 7.5 & DRG WAT-1209 OF THE WATER SUPPLY CODE OF AUSTRALIA (SYDNEY WATER EDITION) (WSA 03-2011-3.1, 2014).
  - WHERE A FITTING IS LOCATED IN A TRAFFICABLE AREA, INSTALL TRAFFICABLE SURFACE BOX AS PER THE WATER RETICULATION CODE OF AUSTRALIA - WSA 03-2002 SYDNEY WATER EDITION VERSION 3.1, DRG. NO. WAT-1303-V TO WAT-1306-V.
  - LIGHT DUTY STEEL SURFACE BOXES TO BE USED FOR HYDRANTS & STOP VALVES LOCATED IN CONCRETE PATHS.
  - PROPERTY SERVICE TO BE INSTALLED FROM EXISTING DN100 DUCT LAID UNDER CN186811PW.
  - PROPERTY SERVICE TO BE INSTALLED FROM EXISTING MAIN LAID UNDER CN186811PW.
  - WATERMAIN TO BE LAID OVER ETG AT 0.8m COVER. ETG TO BE LAID TO ACCOMMODATE WATERMAIN AT 0.8m COVER.



**SITE SPECIFIC CONSTRUCTION NOTE**

- IT IS ACKNOWLEDGED THAT THERE IS RECENTLY CONSTRUCTED / COMPLETED INFRASTRUCTURE THROUGHOUT THE AREA OF PROPOSED WORKS, WITH OWNERSHIP SPREAD ACROSS SYDNEY WATER, COUNCIL AND REDBANK COMMUNITIES. THE CONTRACTOR IS AT ALL TIMES, TO UNDERTAKE WHATEVER TASKS NECESSARY TO MINIMISE DISTURBANCE AND DAMAGE TO EXISTING ROAD, KERB & GUTTER, FOOTPATH AND VEGETATION ETC, WITH ALL REPAIR AND REIFICATION TO MATCH THAT WHICH EXISTED PRIOR TO THE WORKS BEING UNDERTAKEN. PHOTOS OF EXISTING CONDITION WILL BE SUPPLIED TO BOTH THE PRINCIPLE CIVIL CONTRACTOR, SYDNEY WATER ACCREDITED SUBCONTRACTOR AND SUPERINTENDENT, TO CONFIRM THE PRE-WORKS CONDITION.

- SYDNEY WATER ACCREDITED SUBCONTRACTOR AT ALL TIMES, IS TO CONSULT WITH THE PRINCIPLE CIVIL CONTRACTOR, TO ENSURE THAT THE DEVELOPER, REDBANK COMMUNITIES IS ADVISED AND APPROVES THE EXTENT OF REQUIRED DISTURBANCE PRE-WORKS, IS ADVISED AND APPROVES OF ANY CHANGES TO THIS EXTENT DURING THE WORKS, AND INSPECTS AND ACCEPTS THE COMPLETED WORKS, PRIOR TO THE SYDNEY WATER ACCREDITED SUBCONTRACTOR LODGING THEIR PROJECT COMPLETION PACKAGE (PCP) WITH THE WATER SERVICE CO-ORDINATOR, WITH THIS ROLE UNDERTAKEN BY CALIBRE CONSULTING. CALIBRE CONSULTING ARE TO ONLY ACCEPT THE PCP FOR PROCESSING, PROVIDED THIS INSPECTION AND ACCEPTANCE BY REDBANK COMMUNITIES HAS BEEN RECEIVED IN WRITING WITH THE PCP.

**SITE SPECIFIC COMPACTION SPECIFICATION**

**WITHIN FULL WIDTH OF ROAD CARRIAGEWAY PLUS 1.0M EITHER SIDE -**

- ALL SUBGRADE SHALL BE CARRIED UP IN HORIZONTAL LAYERS, OF NOT MORE THAN 300MM THICK LOOSE MEASUREMENT, IF REQUIRED, AND SHALL HAVE EACH LAYER COMPACTED TO A 100% STANDARD DRY DENSITY RATIO DETERMINED IN ACCORDANCE WITH AS 1289 5.4.1-2007 'COMPACTION CONTROL TEST - DRY DENSITY RATIO, MOISTURE VARIATION AND MOISTURE RATIO'.
- ALL SUB-BASE COURSE SHALL BE PLACED AND COMPACTED TO AT LEAST 98% MODIFIED DRY DENSITY RATIO DETERMINED IN ACCORDANCE WITH AS 1289 5.4.1-2007 'COMPACTION CONTROL TEST - DRY DENSITY RATIO, MOISTURE VARIATION AND MOISTURE RATIO'.
- ALL BASE COURSE SHALL BE PLACED AND COMPACTED TO AT LEAST 98% MODIFIED DRY DENSITY RATIO DETERMINED IN ACCORDANCE WITH AS 1289 5.4.1-2007 'COMPACTION CONTROL TEST - DRY DENSITY RATIO, MOISTURE VARIATION AND MOISTURE RATIO'.
- ALL ROAD CROSSINGS TO BE PROVIDED IN EXISTING ROADS, THE TRENCHES SHALL BE BACKFILLED AND COMPACTED WITH A SAND/CEMENT BLEND 20:1 MIX TO SUBGRADE LEVEL, THEN DOB20 TO WITHIN 50MM OF THE ROAD SURFACE, OR IF REQUIRED TO A HIGHER SPECIFICATION BY A SPECIFIC UTILITY AUTHORITY, TO THAT SPECIFICATION AS INSTRUCTED BY THE PROJECT SUPERINTENDENT.
- ALL TESTS TO BE TAKEN EVERY 50 METRE LENGTH OF PAVEMENT, TAKEN 1.0M FROM ALTERNATE SIDES OF PAVEMENT, BY A NATA REGISTERED LABORATORY.
- THESE AND ALL OTHER REQUIREMENTS TO BE COMPLIED WITH, TO BE READ IN CONJUNCTION WITH HAWKESBURY CITY COUNCIL DCP PART II - CONSTRUCTION SPECIFICATION.
- ANY ERRORS, OMISSIONS OR QUERIES TO BE SUBMITTED TO THE PROJECT SUPERINTENDENT FOR INSTRUCTION.

**WITHIN FULL WIDTH OF ROAD FOOTPATH / VERGE EXCLUDING 1.0M BESIDE ROAD CARRIAGEWAY EITHER SIDE -**

- ALL FILL SHALL BE CARRIED OUT IN HORIZONTAL LAYERS, EXTENDING THE FULL WIDTH OF THE AREA BEING FILLED, OF NOT MORE THAN 300MM CONSOLIDATED THICKNESS. EACH LAYER SHALL BE COMPACTED TO AT LEAST 98% STANDARD DRY DENSITY RATIO DETERMINED IN ACCORDANCE WITH AS 1289 5.4.1-2007 'COMPACTION CONTROL TEST - DRY DENSITY RATIO, MOISTURE VARIATION AND MOISTURE RATIO'.
- ALL TESTS TO BE TAKEN EVERY 50 METRE LENGTH OF ROAD FOOTPATH / VERGE ON CENTRELINE, BY A NATA REGISTERED LABORATORY.
- ALL TRENCHES TO BE BACKFILLED TO HAVE THE SAME COMPACTION AS THE SURROUNDING ROAD FOOTPATH / VERGE.
- ALL TRENCH TESTS TO BE TAKEN IN EACH 300MM LAYER AND EVERY 50 METRES OF TRENCH, BY A NATA REGISTERED LABORATORY.
- THESE AND ALL OTHER REQUIREMENTS TO BE COMPLIED WITH, TO BE READ IN CONJUNCTION WITH HAWKESBURY CITY COUNCIL DCP PART II - CONSTRUCTION SPECIFICATION.
- ANY ERRORS, OMISSIONS OR QUERIES TO BE SUBMITTED TO THE PROJECT SUPERINTENDENT FOR INSTRUCTION.

**WITHIN LOTS -**

- ALL FILL SHALL BE CARRIED OUT IN HORIZONTAL LAYERS, EXTENDING THE FULL WIDTH OF THE AREA BEING FILLED, OF NOT MORE THAN 300MM CONSOLIDATED THICKNESS. EACH LAYER SHALL BE COMPACTED TO A DENSITY OF AT LEAST 98% STANDARD DRY DENSITY RATIO DETERMINED IN ACCORDANCE WITH AS 1289 5.4.1-2007 'COMPACTION CONTROL TEST - DRY DENSITY RATIO, MOISTURE VARIATION AND MOISTURE RATIO'. THE DEPTHS OF FILL AND THE COMPACTION THEREOF ARE TO BE VERIFIED BY THE SUBMISSION OF COMPACTION CERTIFICATES AND A PLAN SHOWING CONTOURED DEPTHS OF FILL IN RELATION TO LOT BOUNDARIES.
- ALL TESTS TO BE A MINIMUM OF TWO COMPACTION TESTS PER LOT PER LAYER ARE TO BE CARRIED OUT, BY A NATA REGISTERED LABORATORY.
- ALL TRENCHES TO BE BACKFILLED TO HAVE THE SAME COMPACTION AS THE SURROUNDING LOTS.
- ALL TRENCH TESTS TO BE TAKEN IN EACH 300MM LAYER AND EVERY 50 METRES OF TRENCH, BY A NATA REGISTERED LABORATORY.
- THESE AND ALL OTHER REQUIREMENTS TO BE COMPLIED WITH, TO BE READ IN CONJUNCTION WITH HAWKESBURY CITY COUNCIL DCP PART II - CONSTRUCTION SPECIFICATION.
- ANY ERRORS, OMISSIONS OR QUERIES TO BE SUBMITTED TO THE PROJECT SUPERINTENDENT FOR INSTRUCTION.

**CONTACT DIAL BEFORE YOU DIG**

**CONSTRUCTION NOTES**

THE PROPOSED WORKS AS DETAILED HEREIN TO BE CONSTRUCTED IN ACCORDANCE WITH THE WATER SUPPLY CODE OF AUSTRALIA - WSA 03-2011-3.1 SYDNEY WATER EDITION 2014, THE SYDNEY WATER DEEMED TO COMPLY DRAWINGS INCLUDING DTC-1110 (ISS. A, 31/01/12), DTC-1111 (ISS. B, 29/02/12) IF REQUIRED, DTC-1114 (ISS. A, 31/01/12), DTC-1115 (ISS. B, 29/02/12) IF REQUIRED AND THE SITE SPECIFIC COMPACTION SPECIFICATION.

THE CONSTRUCTOR MUST HAVE A COPY OF THESE DOCUMENTS ON SITE AT ALL TIMES.

03	UPDATED TO SWC COMMENTS	A.S.	15/03/21
02	ISSUED FOR SWC APPROVAL	A.S.	22/02/21
01	FOR DISCUSSION	A.S.	18/12/20
No.	AMENDMENT DESCRIPTION	BY	DATE

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 ENDEAVOUR ENERGY ..... Ph: 131 003 GAS ..... JEMENA GAS ..... Ph: 1300 880 906 TELECOMMUNICATIONS ..... TELSTRA ..... Ph: 1800 114 918 SYDNEY WATER ..... Ph: 132 092 GIVING AT LEAST 48 HOURS NOTICE	<b>UTILITIES</b> <table border="1"> <tr> <th>TYPE</th> <th>DATE</th> <th>REF.</th> <th>TYPE</th> <th>DATE</th> <th>REF.</th> </tr> <tr> <td>EX. SEWER: S</td> <td>15/03/19</td> <td>CALIBRE</td> <td>PROP STORMWATER: SMD</td> <td>02/12/20</td> <td>J.W.P.</td> </tr> <tr> <td>EX. WATER: Water</td> <td>02/05/19</td> <td>CALIBRE</td> <td>PROP SEWER: S</td> <td>15/12/20</td> <td>CALIBRE</td> </tr> <tr> <td>EX. NBN: NBN</td> <td>15/11/18</td> <td>D.I.T./DBYD</td> <td>PROP ELECTRICAL: E</td> <td>25/01/21</td> <td>E.P.D.</td> </tr> <tr> <td>EX. ELECTRICAL: E</td> <td>27/10/18</td> <td>E.P.D.</td> <td>PROP NBN: NBN</td> <td>22/01/21</td> <td>D.I.T.</td> </tr> <tr> <td>EX. STORMWATER: SMD</td> <td>02/12/20</td> <td>J.W.P.</td> <td></td> <td></td> <td></td> </tr> <tr> <td>EX. TELSTRA: TEL</td> <td>15/11/18</td> <td>DBYD</td> <td></td> <td></td> <td></td> </tr> </table>	TYPE	DATE	REF.	TYPE	DATE	REF.	EX. SEWER: S	15/03/19	CALIBRE	PROP STORMWATER: SMD	02/12/20	J.W.P.	EX. WATER: Water	02/05/19	CALIBRE	PROP SEWER: S	15/12/20	CALIBRE	EX. NBN: NBN	15/11/18	D.I.T./DBYD	PROP ELECTRICAL: E	25/01/21	E.P.D.	EX. ELECTRICAL: E	27/10/18	E.P.D.	PROP NBN: NBN	22/01/21	D.I.T.	EX. STORMWATER: SMD	02/12/20	J.W.P.				EX. TELSTRA: TEL	15/11/18	DBYD				<b>WORK AS CONSTRUCTED CERTIFICATION</b> DEVELOPER ..... WATER SERVICE CO-ORDINATOR ..... CONSTRUCTOR ..... COMPLETED ..... W.A.C. PREPARED ..... DESIGNER ..... I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS.	<b>PIPE SCHEDULE</b> <table border="1"> <tr> <th>SIZE DN</th> <th>TYPE</th> <th>CLASS</th> <th>LENGTH</th> <th>PIPE JOINING METHOD / NOTES</th> </tr> <tr> <td>100</td> <td>o.P.V.C.</td> <td>PN16</td> <td>278.5</td> <td></td> </tr> </table>	SIZE DN	TYPE	CLASS	LENGTH	PIPE JOINING METHOD / NOTES	100	o.P.V.C.	PN16	278.5		<b>AUSTRALIAN HEIGHT DATUM</b> <b>SCALES</b> PLAN 1:1000 SECTION { HOR. .... VERT. .... CROSS SECTIONS ..... NATURAL LENGTHS, DEPTHS & LEVELS ARE IN METRES.	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. <b>Sydney WATER</b> SYDNEY WATER CORPORATION Case No. 186812PW WATERMAIN EXTENSION KEYLINE RD NORTH RICHMOND HAWKESBURY U.B. DIRECTORY ..... MAP 63, H16 (41st EDITION) SHEET . . . OF . . . File No. N/A
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PLAN DRAWN DATE: 16/03/2021 VERSION: 03 SHEET 1 OF 1 SHEETS