

Infrastructure Assessment Report

IC3w Data Centre

17-23 Talavera Road, Macquarie Park, NSW 2113

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02	25/10/2021	Final	25/10/2021_DM	25/10/2021_DH	SSD Submission
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1.0 Introduction

HDR have been appointed by Macquarie Data Centres (MDC) to undertake the Infrastructure Assessment Report for the proposed development of the Macquarie Park Data Centre Campus IC3 Super West site at 17-23 Talavera Road, Macquarie Park.

This Infrastructure Assessment Report serves to support the State Significant Development Application (SSDA) relating to the proposed development. It outlines the incoming services required, with respect to capacity, availability and connections to facilitate the development.

The proposed data centre development works by Macquarie Data Centre include:

- Construction of a seven (7) level building adjacent to the existing building, housing additional data halls and associated utility and private equipment.
- Amendments to car parking areas, loading docks and internal access roads.
- Reticulation of new Ausgrid HV feeders (33kV) to site.
- Extension of existing pit and pipe system to facilitate incoming communication services pathway via diverse underground route.
- Connection into existing portable water supply from Sydney Water for hydraulic and wet fire services
- Connection into existing sewerage system currently traversing through the site.
- Diversion of Sydney Water Sewer Main around the new proposed building
- Diversion of City of Ryde Council Stormwater Easement around the new proposed building
- Modifications of the site stormwater drainage network to direct stormwater runoff to existing water quality devices and on-site detention tank/s.
- The construction of an under-croft area and modifications to external areas to allow passage of overland flow through the site.

2.0 Executive Summary

This Infrastructure Assessment Report has been prepared by HDR on behalf of Macquarie Data Centres (MDC) C/- GIDDIS Project Management.

The following Infrastructure Assessment Report has been produced to support the Environmental Impact Statement (EIS) prepared by Willottree Planning PTY Ltd (Willottree Planning).

The EIS has been submitted to the New South Wales (NSW) Department of Planning, Industry and Environment (DPIE), in support of an application for State Significant Development (SSD), for the construction and operation of a data centre, involving earth works, provision of infrastructure and expansion of an existing data centre at 17 – 23 Talavera Road, Macquarie Park (Lot 527 DP 752035).

The proposal represents an extension to the approved data centre (LDA/2018/0322) to allow for additional data storage capacity at the subject site, improving the overall operational efficiencies and provision of technology services to customers and the wider locality.

The proposal involves the construction and operation of an expansion to an existing data centre located at 17-23 Talavera Road, Macquarie Park (Lot 527 in DP 752035), comprising:

- a seven (7) storey building plus ground floor
- ancillary office space and staff amenities
- a back-up power system
- associated infrastructure, car parking, loading docks and landscaping

The subject site is located within the City of Ryde Local Government Area (LGA). The proposal seeks to operate 24 hours per day, seven (7) days per week.

The particulars of this proposal are summarised below:

- Minor earthworks involving cut and fill works
- Infrastructure comprising civil works and utilities servicing
- Construction of a seven (7) storey building plus ground floor extension, comprising up to:
 - 15 data halls
 - 20 back up generators
 - Fitout of the building for use as a data centre (on an as-needs basis)

3.0 Site Description

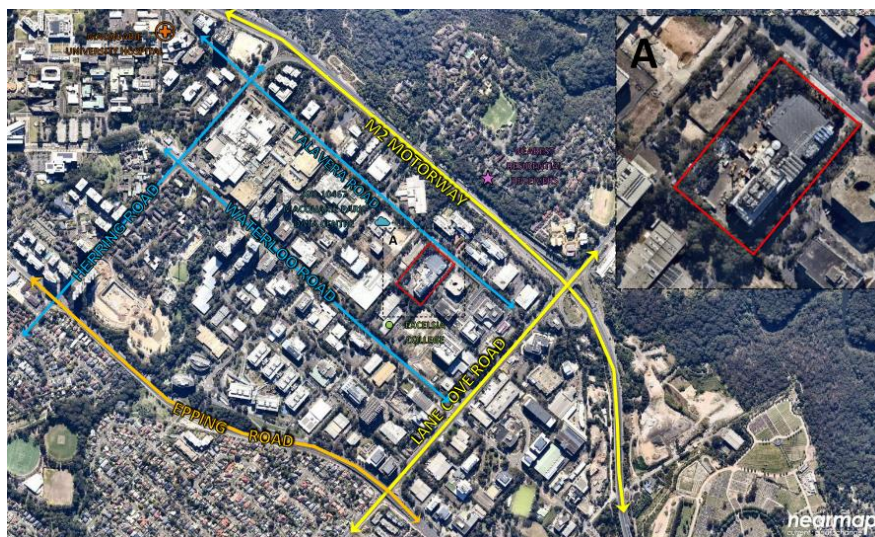
The site is described as Lot 527 DP 752035, commonly known as 17 – 23 Talavera Road, Macquarie Park. Has a total area of approximately 20,000m², with access achieved via Talavera Road.

The site forms part of the Macquarie Park Corridor, which is the strategic centre of Macquarie Park, being a health and education precinct and an important economic and employment powerhouse in Sydney's North District.

The site is described through its current commercial setting as an existing Data Centre (LDA/2018/0322), adjoining surrounding commercial premises along Talavera Road, and forming part of the wider Macquarie Park Corridor.

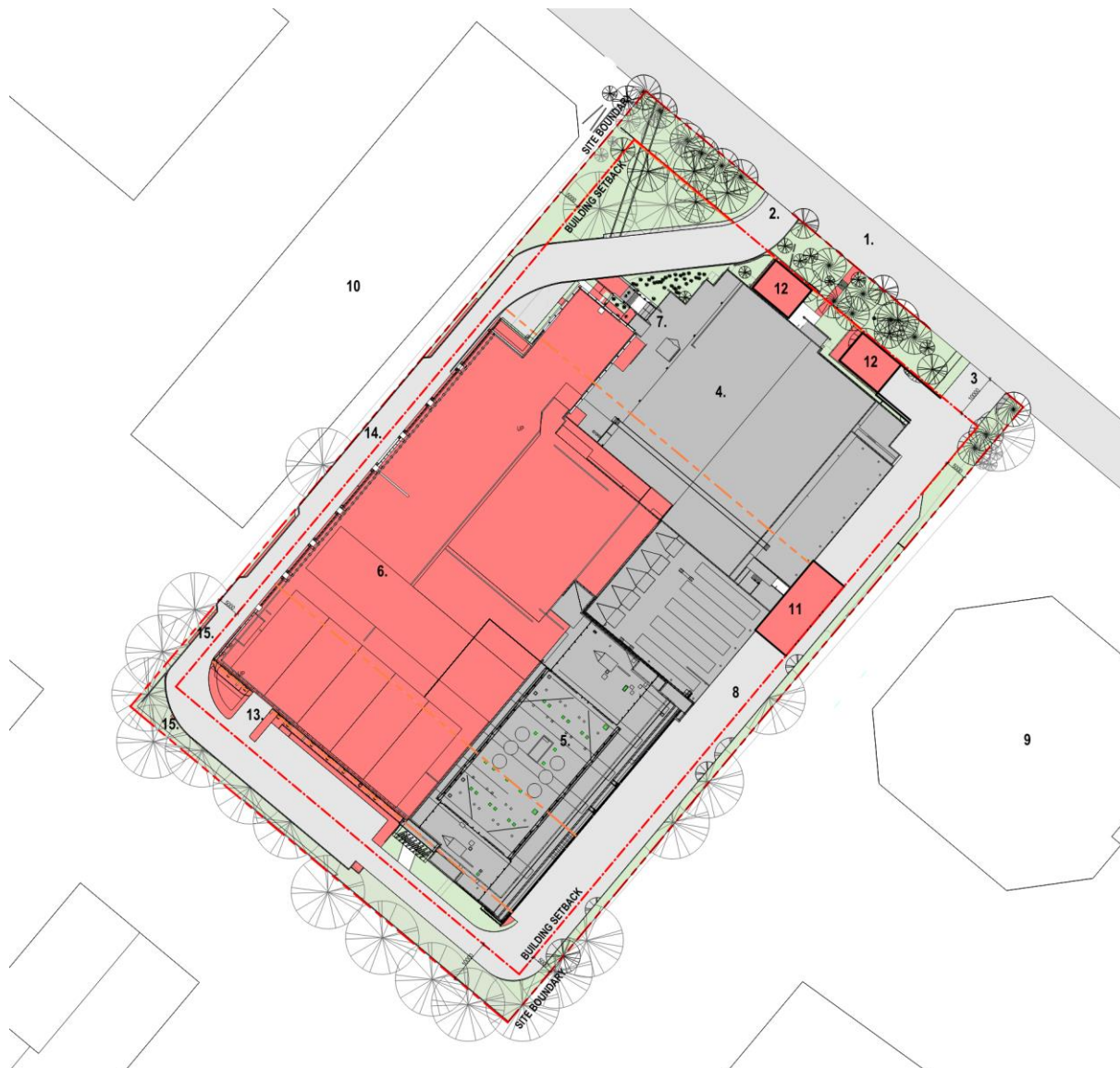
The site is situated approximately 12.5 km northwest of the Sydney CBD and 11.3 km northeast of Parramatta. It is within close proximity to transport infrastructure routes (predominantly the bus and rail networks), as well as sharing direct links with the wider regional road network, including Talavera Road, Lane Cove Road, Epping Road and the M2 Motorway.

These road networks provide enhanced connectivity to the subject site and wider locality. Additionally, the site is located within close proximity to active transport links, such as bicycle routes, providing an additional mode of accessible transport available to the subject site



3.1 Site Location

The site 17 – 23 Talavera Road, Macquarie Park, being Lot 527 DP 752035.



4.0 Secretary's Environmental Assessment Requirements

This Infrastructure Assessment Report is prepared in accordance with the Secretary's Environmental Assessment Requirements (SEARs). The SEARs for the proposal outline Key Issues to be addressed as part of this EIS and includes:

HDR have been appointed by Macquarie Data Centres (MDC) to undertake the Infrastructure Assessment Report for the proposed development of the Macquarie Park Data Centre Campus IC3 Super West site.

The following Secretaries Environmental Assessment Requirements (SEARS) are addressed within Table 1 of this report.

Table 1

SEARs Items	Secretary's Environmental Assessment Requirements	Response
Key Issue	<p>The following SEARS requirements are to be addressed within this document</p> <ul style="list-style-type: none"> • In consultation with relevant service providers: an assessment of the impacts of the development on existing utility • infrastructure and service provider assets surrounding the site • identification of any infrastructure upgrades required on-site and off-site to facilitate the development and any arrangements to ensure that the upgrades will be implemented on time and be maintained • development of an infrastructure delivery and staging plan, including a description of how infrastructure requirements would be co-ordinated, funded and delivered to facilitate the development <p>in consultation with Council:</p> <ul style="list-style-type: none"> • a detailed description of all existing easements and/or stormwater infrastructure affecting the site • an assessment of the impacts of the development upon Council's existing and proposed on-site stormwater infrastructure, including a detailed description of how the development has been designed to avoid and /or minimise potential impacts. 	<p><i>Section 5.0 Appendix A, Appendix B Appendix D Figures 3-10</i></p> <p><i>Section 5.1, 5.2 Figures 3-10</i></p> <p><i>Section 5.1 Appendix A</i></p> <p><i>Section 5.5</i></p> <p><i>Section 5.6</i></p>

5.0 Incoming Services

The incoming services outlined within this report include:

- Electricity
- Communication Services
- Portable Water
- Sewerage
- Storm Water
- Overland Flow

It is to be noted that no gas connection is proposed for the development/ site.

5.1 Electricity

The Phase 1 deployment of IC3w is currently supplied by existing site feeders installed under earlier phases within the development.

Under the IC3w proposed development there is a requirement for future dual 33kV feeders, MDC have entered into an agreement with Ausgrid around the new feeder expansion as part of future fit out works of IC3w.

The above existing and future feeders serving the site are suitability sized to cater for the existing and proposed buildings on site.

5.2 Communication Services

The site currently has dual diversely routed underground pathways for telecommunications cabling from Street pits in Talavera road to the IC2 Telco Rooms and to serve the IC3e and IC3w Data Centres. The external pit and pipe system will be extended to serve IC3w.

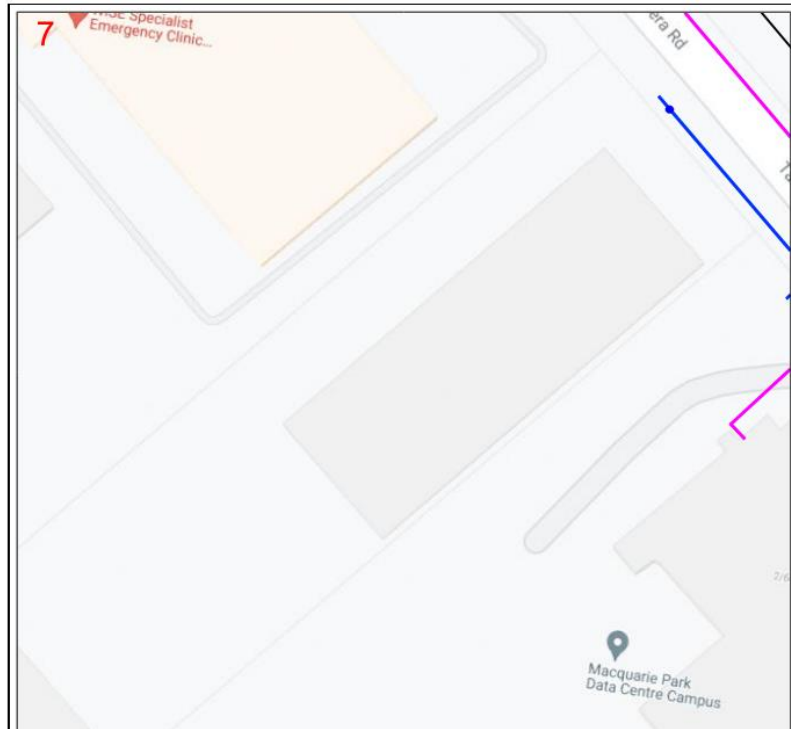
It is anticipated that carrier services will be organised directly by Macquarie Data Centre. Dial Before You Dig (DBYD) plans indicate that there are multiple telecommunication services providers in the vicinities of the site, refer to below images for details.



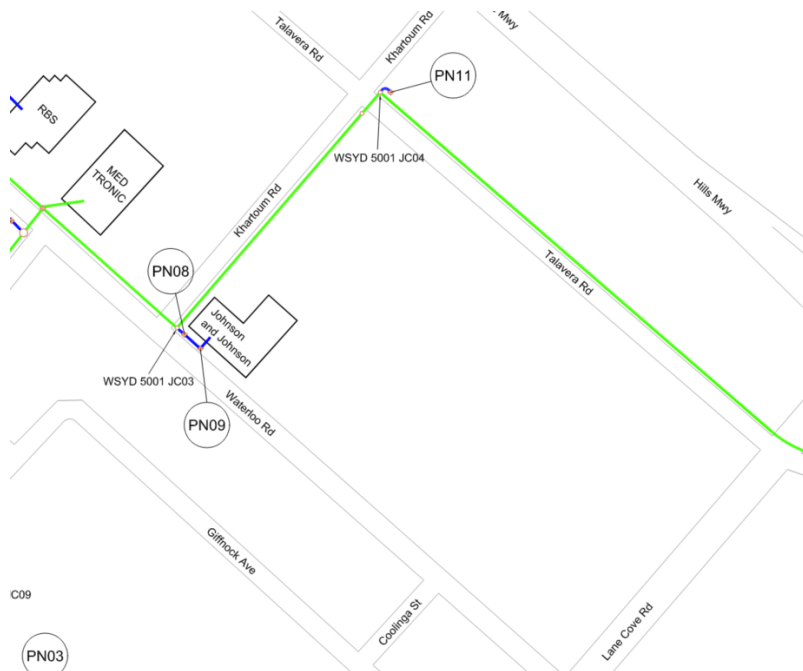
Superloop Telecommunication Assets around 17-23 Talavera Road, Macquarie Park (Source: DBYD)



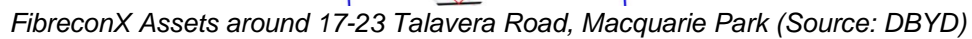
TPG Telecommunication Assets around 17-23 Talavera Road, Macquarie Park (Source: DBYD)



Detail 7 of Figure 5 (Source DBYD)

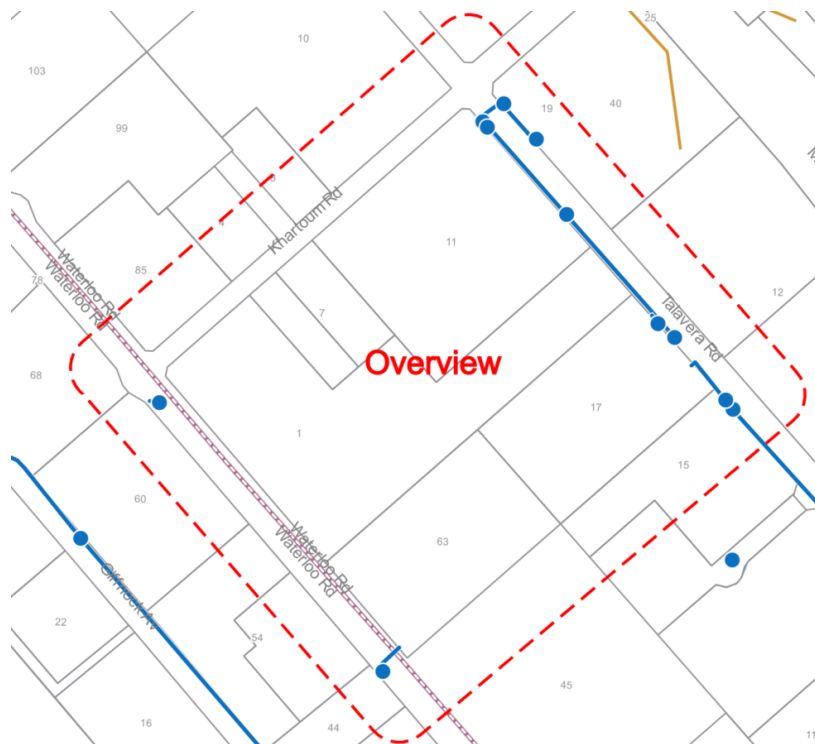


Verizon Asset around 17-23 Talavera Road, Macquarie Park (Source: DBYD)





Optus Asset around 17-23 Talavera Road, Macquarie Park (Source: DBYD)



Vocus Communications Asset around 17-23 Talavera Road, Macquarie Park

5.3 Potable Water

The existing Sydney Water portable supply is suitable to supply the combined water and wet fire services demand across the entire site (IC2, IC3e and IC3w).

The required flow rate for the site is 29.68L/s spread over the three (3) buildings as per below break up:

- Existing IC2 – 1 Litre/second
- Existing IC3e – 6.54 Litres/second
- New IC3w – 22.14 Litres/second
- Total Site Demand – 29.68 Litres/second

The Pressure and Flow Enquiry conducted in previous stages indicates that the street flow rate is capable of delivering 50L/s. (Refer to Appendix A for Pressure and Flow Statement). A new Pressure and Flow Enquiry is being conducted as part of detail design with existing pressure and flow information provided as part of this report.

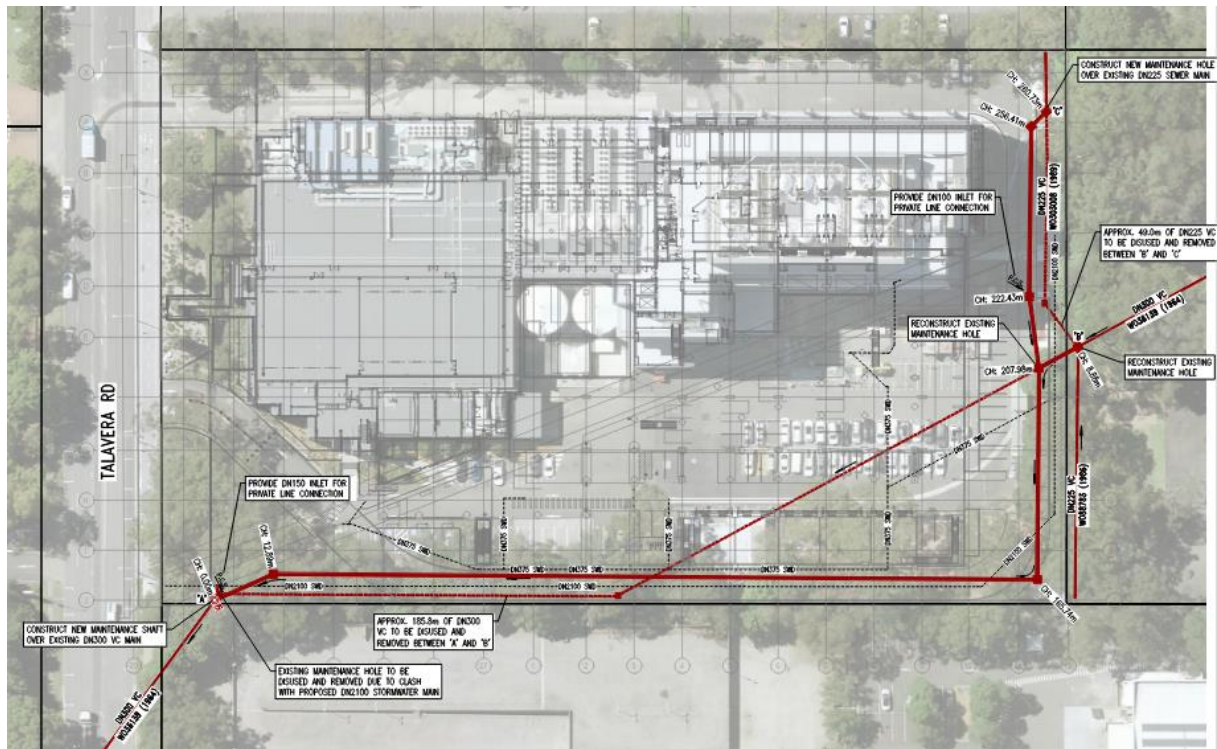
With the indicated flow rate of 29.68L/s it is anticipated that tanks and pumps will be required to meet Uptime and Tennant requirements. The project will follow the Section 73 submission requirements to Sydney Water under detailed design.

5.4 Sewerage

This site is serviced via an existing 300mm Sydney Water Sewer, and Sydney Water has confirmed that the existing main is suitable to serve the new IC3w works.

The 300mm diameter sewer main traversing through the site is currently concrete encased. (refer to below). The project will follow the Section 73 submission requirements to Sydney Water under detailed design to ascertain updated site waste water demand and approvals.

The existing Sydney Water Sewer Main is proposed to be diverted along the southern and western boundaries to be clear of new proposed IC3w building envelope. Approval has been granted from Sydney Water for the proposed diversion (Refer to Appendix B for Diversion Plans and Sydney Water Approval Letter)

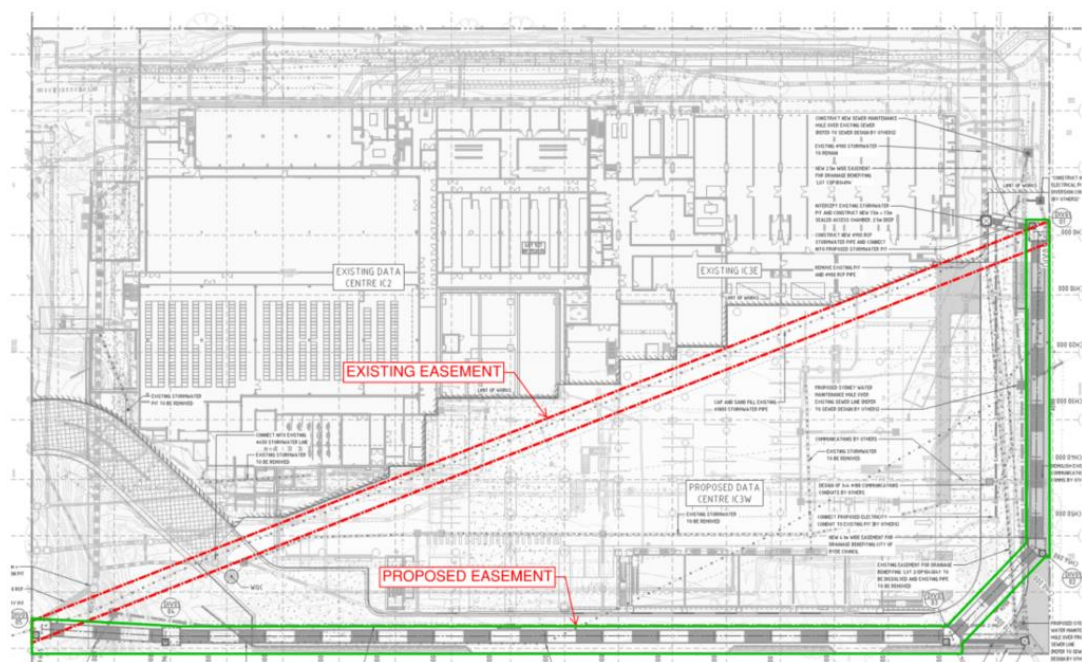


5.5 Storm Water

Existing Stormwater Drainage System

The existing site has a 3.5m wide stormwater easement (containing existing 1800mm diameter below ground pipe) traverses site draining from the southern boundary to the northern boundary. This pipeline connects into existing council drainage within Talavera Road which continues to flow North.

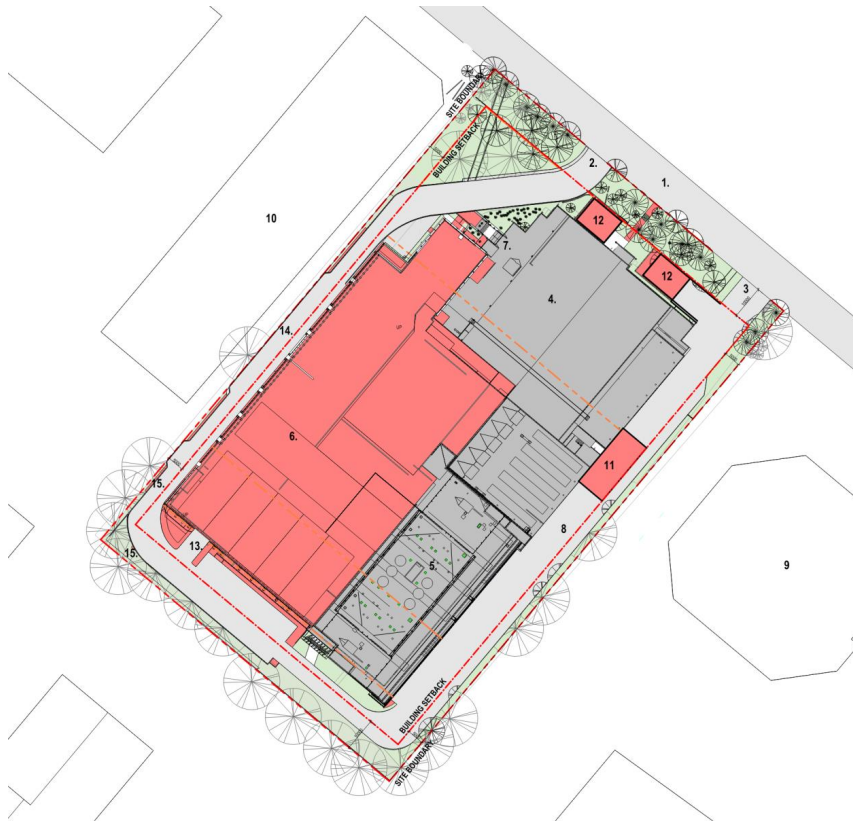
The existing easement is proposed to be diverted along the southern and western boundaries to be clear of new proposed IC3w building envelope, refer to civil engineering reports and plans for details of diversion.



Proposed Easement Diversion – Existing Red – New Green (Source: Northrop)

Drainage easements benefiting properties to the east and west of the site.

The site consists of two (2) on-site detention tanks. OSD tank 1 with a volume of 90m³ is located adjacent to the northern boundary and collects stormwater runoff from the IC2 building roof and hardstand areas on the eastern side of the site. A gross pollutant trap (GPT) and 22 stormwater filter cartridges treat stormwater runoff prior to discharge from the site. This treatment system has been over sized to compensate for treatment of flows from OSD Tank 2.



Site Location. Site extents shown in red – new building works in pink

OSD Tank 2 is located in the under croft area of the IC3 East building. This tank has a capacity of approximately 203m³. This tank was oversized in anticipation of the additional flows to be detained from the IC3 West building works. This tank currently collects stormwater runoff from the roof areas of IC3 East.

Stormwater runoff from the western hardstand areas drains to the outlet pipe from OSD Tank via an GPT and connecting to Council's Ø1800 pipe adjacent to the front boundary.

Proposed Stormwater Drainage System

Council's Trunk Drainage System

Council's existing Ø1800 pipeline will be decommissioned and a new Ø2100 pipeline adjacent to the southern and western boundary will be installed. This new alignment locates Council's pipeline outside the building envelope. The new pipeline will be located within a 4.5m wide easement benefiting Council. New access chambers will be installed at critical location to aid access for maintenance, changes in direction and connection to the existing drainage system. All works of the new Ø2100 will be performed from within the development site.

Internal Site Drainage

Stormwater runoff from the new building roof will be connected directly to OSD Tank 2 which has the capacity to accommodate this additional flow.

The stormwater runoff from the western hardstand areas will be captured in a new drainage system that joins with the outlet pipe from OSD tank 2 ultimately discharging to Council's system near the northern boundary.

The roof drainage system will be designed to drain the 1% AEP storm. The inground drainage system will be designed to convey the 5%AEP storm in accordance with Australian Standards and Council requirements.

5.6 Overland Flow

An overland flow path exists within the site which conveys stormwater from an upstream catchment in Macquarie Park south of the site, through the site to Talavera Road.

This overland flow path is proposed to be retained but modified as part of the proposed works. A 2D flow analysis of the proposed conditions has been undertaken. For further details of this refer to Northrop's Flood Impact Assessment.

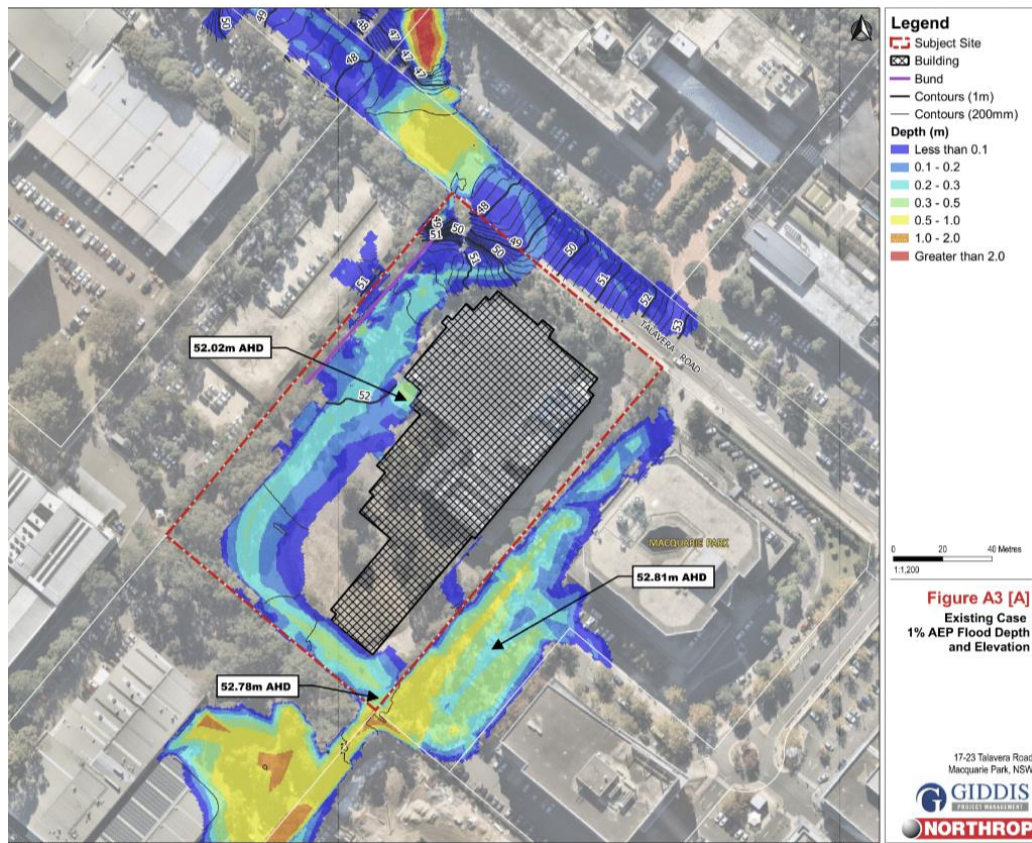
Northrop has conducted extensive flood modelling to determine flood extent and depths for the PMF and 1%AEP flood events. Northrop demonstrated that the IC3 East building and subsequent modifications to surface gradings allow overland flow to pass through the site with appropriate freeboard during the 1%AEP and PMF events. Northrop also demonstrated that no adverse impacts would occur to other properties within the catchment. This outcome could be achieved due to provision of an undercroft area such that flood waters could flow under the building.

This concept is being maintained for the IC3 West development where the entire building is elevated above the floodway.

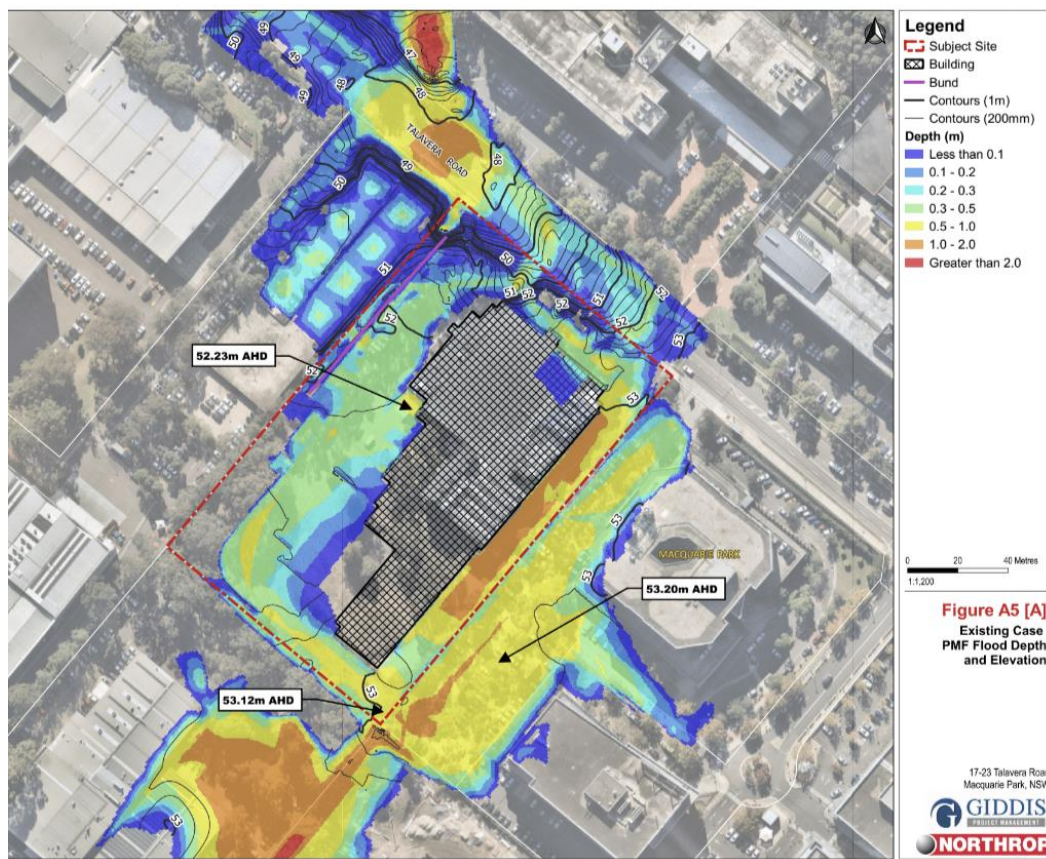
Addition of a 6m wide internal access road along the western boundary will provide additional area for overland flow with the likely reducing flood depths and ultimately flood hazards across the site. A flood wall approximately 1.0m high will be required along the western boundary to contain floodwaters within the site.

A flood study will be required to demonstrate that acceptable outcomes can be achieved. This flood study will be based on the agreed method of analysis and quantity of flow with Ryde Council as part of the flooding submission supporting the development consent for IC3 East.

The below shows the predevelopment flood map extracted from the Northrop Flood Impact Assessment Report. From Northrop's modelling, the development has been coordinated to limit negative impacts on surrounding flood conditions. Refer to the Northrop Flood Impact Assessment Report should further information be required regarding flood assessment for this development.



1% AEP Flood Conditions to be Maintained



PMF Flood Conditions to be Maintained

5.7 Construction

The proposal will be delivered as follows:

- Construction is anticipated to commence 2023. A detailed construction delivery and staging plan would be developed by the construction contractor prior to the commencement of construction. The detailed construction and staging plan would describe the dates of commencement and anticipated duration for the construction of each key project element.
- Site preparation and site establishment including set up of restricted areas, hoardings and other safety measures including traffic management measures and construction controls.
- Site compounds established
- Connection to services, including potable water, wastewater, electricity and communications would be undertaken at agreed stages during construction. Minor power use will be required during construction. The use of portable water will be minimised and construction use limited to small amounts for potable use, dust suppression and washing of hard surfaces for safety management.
- Commence construction to agreed scope and programme
- Installation of security measures
- Site commissioning and testing. Commissioning will include testing all elements of the development including safety, quality systems and processes.
- Sign off from relevant infrastructure authorities to be obtained as relevant
- Following commissioning, the construction stage will be complete. The site will move into business as usual operations.

Appendix A - Pressure and Flow Statement

Statement of Available Pressure and Flow

50 Pitt Street
Sydney, 2000

Pressure & Flow Application Number: 277835
Your Pressure Inquiry Dated: 2017-07-17
Property Address: 17-23 Talavera Road, Macquarie Park 2113

The expected maximum and minimum pressures available in the water main given below relate to modelled existing demand conditions, either with or without extra flows for emergency fire fighting, and are not to be construed as availability for normal domestic supply for any proposed development.

ASSUMED CONNECTION DETAILS

Street Name: Talavera Road	Side of Street: North
Distance & Direction from Nearest Cross Street	230 metres East from Khartoum Road
Approximate Ground Level (AHD):	50 metres
Nominal Size of Water Main (DN):	200 mm

EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	57 metre head
Minimum Pressure	47 metre head

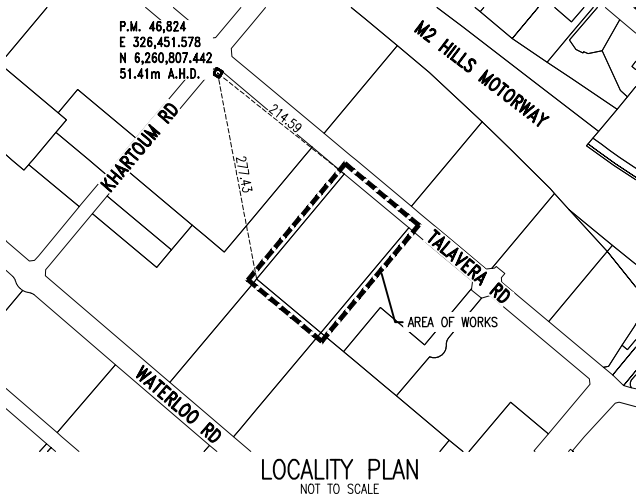
WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	47
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	5	48
	10	48
	15	47
	20	47
	26	47
	30	46
	40	45
	50	44
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the water main)	5	47
	10	47
	15	47
	20	46
	26	46
	30	46
	40	45
Maximum Permissible Flow	50	44
	118	32

(Please refer to reverse side for Notes)

For any further inquiries regarding this application please email :

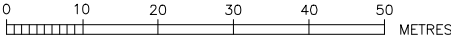
swtapin@sydneywater.com.au

Appendix B – Sydney Water Diversion Plans and Sydney Water Approval Letter



LINE No.	CHAINAGE	EASTING	NORTHING	TYPE	DN RISER	CLASS OF COVER	MATERIAL	COMMENTS
L.1	0.00	326613.196	6260665.217	M.S.	225	B	PVC-U	'POO PITS' OR APPROVED EQUIVALENT
L.1	12.89	326609.694	6260652.808	M.H.	1200	B	Cast in-situ conc	DTC-2000, DTC-2200, DTC-2220, DTC-2221, DTC-2222, DTC-2223
L.1	165.74	326510.818	6260536.253	M.H.	1200	B	Cast in-situ conc	DTC-2000, DTC-2200, DTC-2220, DTC-2221, DTC-2222, DTC-2223
L.1	207.98	326543.001	6260508.888	M.H.	1050	B	Cast in-situ conc	DTC-2000, DTC-2203, DTC-2220, DTC-2221, DTC-2222
L.1	222.43	326555.232	6260501.204	M.H.	1050	B	Cast in-situ conc	DTC-2000, DTC-2203, DTC-2220, DTC-2221, DTC-2222
L.1	256.41	326581.076	6260479.133	M.H.	1050	B	Cast in-situ conc	DTC-2000, DTC-2203, DTC-2220, DTC-2221, DTC-2222
L.1	260.73	326581.415	6260474.828	M.H.	1050	B	Cast in-situ conc	DTC-2000, DTC-2203, DTC-2220, DTC-2221, DTC-2222
L.2	0.00	326543.001	6260508.888	M.H.	1050	B	Cast in-situ conc	DTC-2000, DTC-2203, DTC-2220, DTC-2221, DTC-2222
L.2	8.88	326541.306	6260500.173	M.H.	1050	B	Cast in-situ conc	DTC-2000, DTC-2203, DTC-2220, DTC-2221, DTC-2222

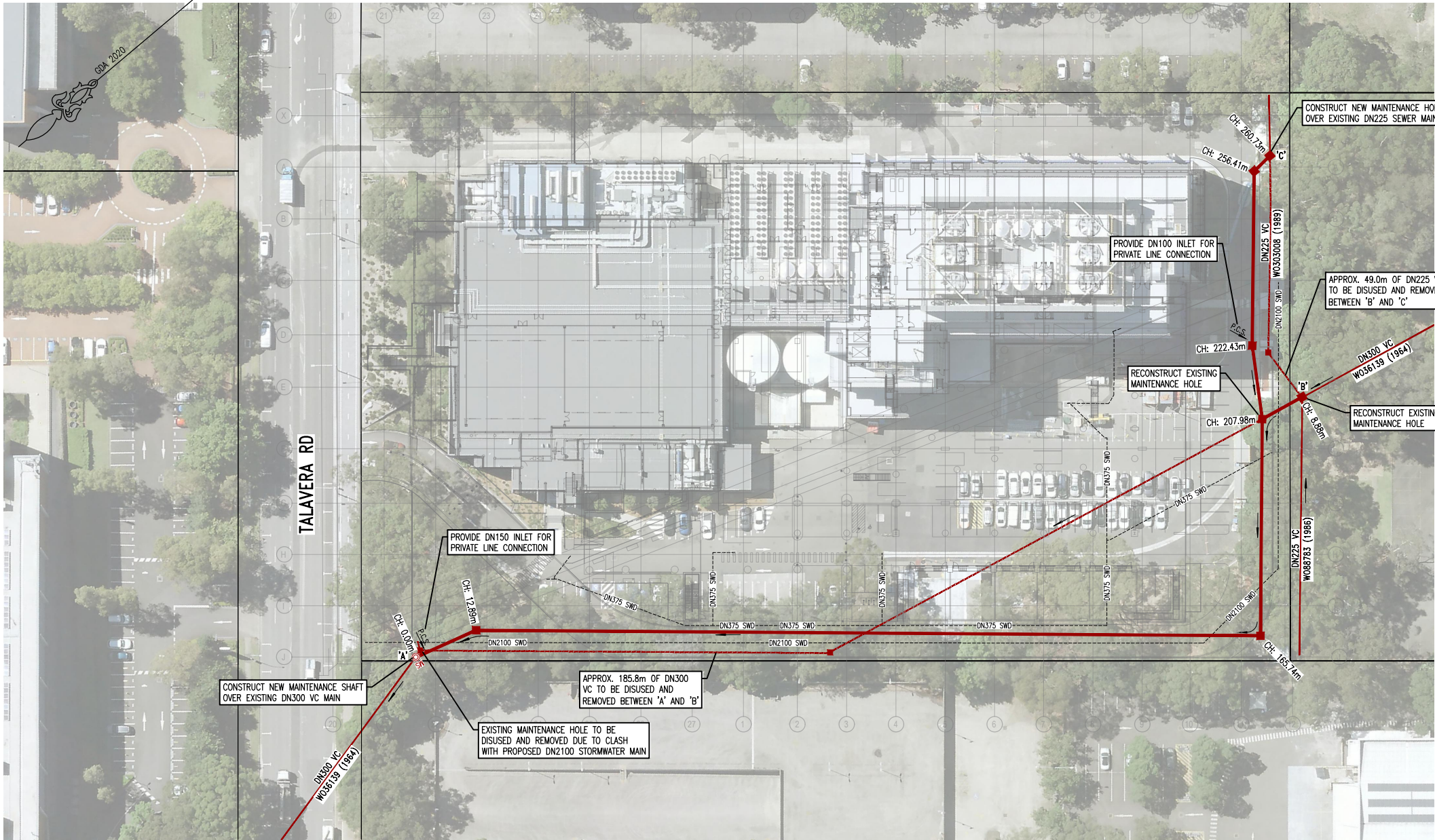
DEVELOPER CONTRACT PLAN



- GENERAL SEWER NOTES :
- WATER SERVICE COORDINATOR & DESIGNER:
CARDNO (NSW/ACT) PTY LTD
GROUND LEVEL, 16 BURELLI ST
WOLLONGONG NSW 2500
PH: (02) 4228 4133

DEVELOPER:
MACQUARIE DATA CENTRES PTY LTD
17-23 TALAVERA ROAD
MACQUARIE PARK NSW 2113
PH: 0416 227 191
 - THE PROPOSED WORKS DETAILED HEREON TO BE CONSTRUCTED IN ACCORDANCE WITH THE WSAA SEWERAGE CODE OF AUSTRALIA WS402-2002-2.2 SYDNEY WATER EDITION 1 VERSION 4 & SYDNEY WATER TECHNICAL SPECIFICATION - CIVIL. THE CONTRACTOR TO HAVE A COPY OF DOCUMENTS ON SITE AT ALL TIMES.
 - THE MINIMUM NUMBER OF COMPACTION TESTS COMPLETED TO SATISFY SECTION 22 OF THE SEWERAGE CODE OF AUSTRALIA SYDNEY WATER EDITION ARE:
PIPE EMBEDMENT ZONE: - 6
TRENCH FILL ZONE: NON TRAFFICABLE - 21
FILL ZONE: TRAFFICABLE - 0
WITHIN 300mm OF M.S./M.H - 48

NUMBER OF TESTS TO BE VERIFIED BY AN ACCREDITED FIELD TESTER, NUMBERS PROVIDED ABOVE TO BE USED AS A GUIDE ONLY.
 - ALL STRUCTURES TO BE CONSTRUCTED TO PROPOSED FINISHED SURFACE LEVELS.
 - SERVICES SHOWN ARE INDICATIVE ONLY. CURRENT SERVICES SEARCH AND SITE CHECK OF ALL EXISTING SERVICES WILL BE NECESSARY PRIOR TO COMMENCEMENT OF THE WORK AND APPROPRIATE PROCEDURES AND PRECAUTIONS NEED TO BE TAKEN WHEN WORKING WITHIN CLOSE PROXIMITY OF SERVICES. THE CONTRACTOR MUST HAVE A COPY OF THE DOCUMENTS ON SITE AT ALL TIMES.
 - ALL LEVELS ELECTRONICALLY GENERATED. NO LEVEL BOOK AVAILABLE.
 - PIPES CONCRETE ENCASED SHOWN ACCORDINGLY:
 - CONCRETE ENCASEMENT TO BE 12U
 - AREAS HATCHED THUS NOT DRAINED.
 - ALL MAINTENANCE SHAFTS TO BE 'POO PITS' OR APPROVED EQUIVALENT AND ALL ANGLES PROVIDED ARE IN AN ANTI-CLOCKWISE DIRECTION FROM DOWNSTREAM MS.
 - MAINTENANCE HOLES TO BE CONSTRUCTED IN ACCORDANCE WITH ATTACHED DEEMED TO COMPLY DRAWINGS DTC-2000 (ISSUE C, 18/03/15), DTC-2203 (ISSUE B, 18/03/15), DTC-2220 (ISSUE D, 18/03/15), DTC-2221 (ISSUE B, 01/03/15), DTC-2222 (ISSUE C, 18/03/15)
 - DENOTES PVC-U PROPERTY CONNECTION SEWER FOR SINGLE PROPERTIES (REFER TO DTC-2120 FOR DETAILS)
 - PROPERTY JUNCTIONS TO BE INSERTED 1.0m FROM DOWNSTREAM PROPERTY BOUNDARY UNLESS NOTED OTHERWISE.
 - THE CONTRACTOR TO VERIFY THE INVERT LEVELS OF THE RECEIVING SEWERS AS NECESSARY PRIOR TO ANY WORKS.
 - THE CONTRACTOR TO SUBMIT A SAFE WORK PLAN TO THE WATER SERVICING COORDINATOR FOR APPROVAL PRIOR TO COMMENCING THE WORKS.
 - THE CONTRACTOR TO SUBMIT A CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP) TO THE WATER SERVICING COORDINATOR FOR APPROVAL PRIOR TO COMMENCING THE WORKS.
 - THE CONTRACTOR TO OBTAIN ALL AUTHORITY APPROVALS AND PAY FOR ANY NECESSARY PERMITS PRIOR TO COMMENCEMENT OF ANY WORKS.
 - THE CONTRACTOR TO VERIFY EXACT LOCATION OF ALL EXISTING SERVICES WITH RELEVANT AUTHORITIES PRIOR TO COMMENCEMENT OF CONSTRUCTION AND REPORT ANY DISCREPANCIES TO THE PROJECT MANAGER. ANY DAMAGE TO EXISTING SERVICES TO BE RECTIFIED AT THE CONTRACTOR'S EXPENSE.
 - THE CONTRACTOR IS TO CARRY OUT ALL NECESSARY GEOTECHNICAL INVESTIGATIONS TO UNDERTAKE THE WORKS DETAILED IN THIS DRAWING SET.
 - PRIOR TO COMMENCEMENT OF WORK, 2 WORKING DAYS NOTICE SHALL BE GIVEN TO SYDNEY WATER.
 - THE NOMINATED CONSTRUCTION COMPANY MUST HAVE AN ACCREDITED/APPROVED PERSON ON SITE AT ALL TIMES DURING CONSTRUCTION.
 - THE CONTRACTOR IS TO PROVIDE TEST REPORTS TO THE WATER SERVICING COORDINATOR TO SYDNEY WATER STANDARDS PRIOR TO THE PRE CONNECTION.
 - THE CONTRACTOR TO PROVIDE DETAILED WORK AS CONSTRUCTED, CERTIFIED BY A REGISTERED SURVEYOR, OF THE FOLLOWING:
 - STRUCTURE LOCATION (EASTING AND NORTHING OR UPDATED TIES)
 - SEWER INVERT LEVELS
 - STRUCTURE SURFACE LEVELS
 - CONCRETE ENCASEMENT EXTENTS
 - JUNCTIONS CHAINAGES (MEASURE FROM DOWNSTREAM STRUCTURE)
- ENVIRONMENTAL NOTES :
- CONSTRUCTION SHALL COMPLY WITH ALL REQUIREMENTS AS DETAILED IN THE REVIEW OF ENVIRONMENTAL FACTORS (REF) AND THE ENVIRONMENTAL MANAGEMENT PLAN (EMP)
 - AREAS DOWNSLOPE OF CONSTRUCTION ACTIVITY TO BE ADEQUATELY PROTECTED FROM SEDIMENT POLLUTION ETC. SILT TRAP DEVICES TO BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITY, EFFECTIVELY MAINTAINED AND ARE TO BE REMOVED ONLY AFTER THE AREA HAS BEEN SATISFACTORILY REVEGETATED OR RESTORED.
 - ALL STORMWATER GRATES, OPEN CHANNELS, SWALES, TABLE DRAINS, GULLIES ETC. DOWNSLOPE OF CONSTRUCTION ACTIVITY TO BE ADEQUATELY PROTECTED BY STRAWBALES WRAPPED IN GEOTEXTILE FABRIC OR GEOTEXTILE FENCE.
 - THE EXTENT OF CLEARING OF VEGETATION TO BE KEPT TO AN ABSOLUTE MINIMUM NECESSARY TO EFFECT THE WORKS.
 - ALL SURFACE LITTER, BRANCHES AND LEAVES TO BE MULCHED AND STOCKPILED SEPARATELY. AFTER COMPLETION MULCH TO BE RE-SPREAD OVER VEGETATED AREAS TO ASSIST WITH REGENERATION.



SEWER LAYOUT PLAN
SCALE 1:500

1	ISSUE FOR REVIEW	LM	04/08/22
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. 0298534161
GAS, JEMENA GAS SOUTH Ph. 1300880900
TELECOMMUNICATIONS, TELSTRA Ph. 1800853935
TELECOMMUNICATIONS, NBN Ph. 1800826329
GIVING AT LEAST 48 HOURS NOTICE.

UTILITIES					
TYPE	DATE	REF.	TYPE	DATE	REF.
EXIST SEWER: ---	11/03/22	(SURV)	PROP SEWER: ---	22/04/22	(CDNO)
FUTURE SEWER: - - -	11/03/22	(SURV)	PROP STORMWATER: ---DN SWD---	11/03/22	(CDNO)

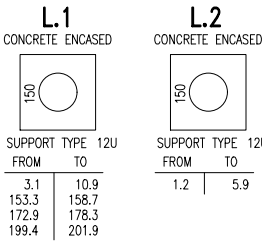
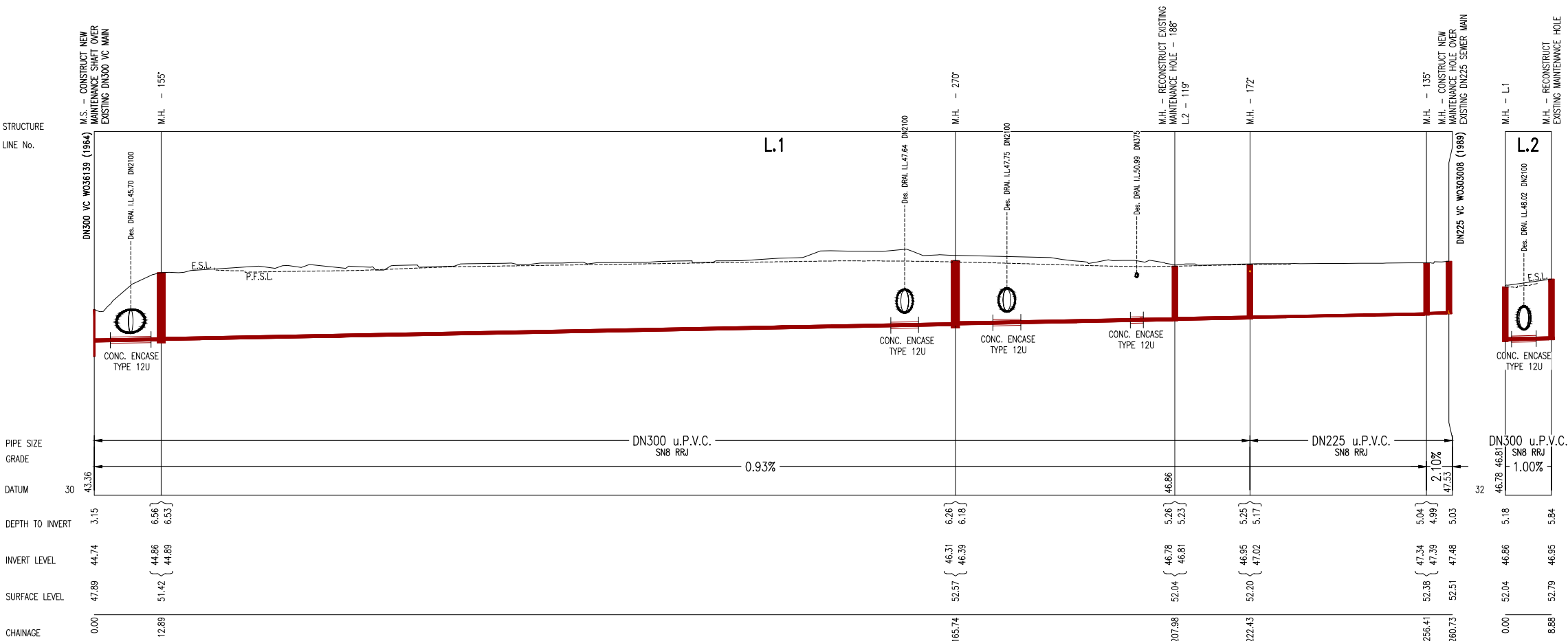
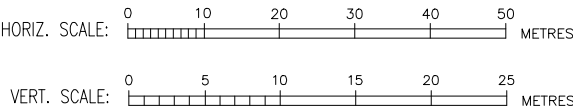
WORK AS CONSTRUCTED CERTIFICATION	
DEVELOPER	WATER SERVICE CO-ORDINATOR
CONSTRUCTOR	
COMPLETED	W.A.C. PREPARED
DESIGNER	
I CERTIFY THAT THE WORKS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE WORK AS CONSTRUCTED DRAWINGS.	

PIPE SCHEDULE				
SIZE DN	TYPE	CLASS	LENGTH	PIPE JOINING METHOD / NOTES
300	U.P.V.C.	SN8	231.48	RRJ
225	U.P.V.C.	SN8	38.31	RRJ

AUSTRALIAN HEIGHT DATUM	
SCALES	
PLAN	1:500
SECTION	1:250
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.	
U.B. DIRECTORY	Sydney UBD ED.41 MAP.194.C3
SHEET	1 OF 2
File No.	N/A

SYDNEY WATER CORPORATION	
Case No. 199708WW	
SEWERAGE DRAINS TO W036613	



1	ISSUE FOR REVIEW	LM	04/08/22
No.	AMENDMENT DESCRIPTION	BY	DATE

WORK AS CONSTRUCTED CERTIFICATION		<div>Sydney WATER</div> <div>SYDNEY WATER CORPORATION</div>	
DEVELOPER	<div>CASE199708WW</div> <div>SHT 2 OF 2 SHTS.</div>	
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	

Case Number: 199708

October 19, 2022

MACQUARIE DATA CENTRES PTY LTD
c/- CARDNO NSW ACT PTY LTD.

**Letter of conditions
For adjustment/deviation/extension of a Sydney Water asset**

Applicant: MACQUARIE DATA CENTRES PTY LTD
Your reference: 304800382
Property location: 17-23 Talavera Rd, Macquarie Park
Your application date: June 14, 2022

Dear Applicant

Your application to deviate the sewer main at the above location is approved provided you do the following things:

1. You must enter into an agreement with us in the form of the enclosed Deed.
2. You must engage your current or another authorised Water Servicing Coordinator (WSC) to manage the design and construction of the required works to Sydney Water's standards and procedures. Before you engage another WSC you must write and tell us.

You'll find a list of WSC's at [Listed providers](#) on our website. WSC will give you a quote or information about costs for services/ works including our costs.

The WSC generally will be the single point of contact between you and us. They can answer most questions you might have about our process and charges.

3. After you engage a WSC, you, and your accredited Developer Infrastructure Providers (Providers) will need to sign and lodge both copies of the enclosed Deed with your nominated WSC. After we've signed the documents, one copy will be returned to the WSC.

The Deed sets out for this project:

- your responsibilities
- our responsibilities; and
- the Provider's responsibilities.

You must do all the things that we ask you to do in that Deed.

If we don't receive the signed Deed for our signing by **October 19, 2023** you will need to re-apply (and pay another application fee).

Note: The WSC must be fully authorised by us for the whole time of the Deed.

4. If you need to enter a neighbouring property, you must have the written permission of the relevant property owners and tenants. You must use our **Permission to Enter** form(s) for this. You can get copies of these forms from your WSC or our website. Your WSC can also negotiate on your behalf.

Please make sure that you address all the items on the form(s) including payment of compensation and whether there are other ways of designing and constructing that could avoid or reduce their impacts. You will be responsible for all costs of mediation involved in resolving any disputes. Please allow enough time for entry issues to be resolved.

5. You must not start work on the existing sewer main or the proposed **adjustment/deviation/extension** until we've advised your WSC. This includes the placement of any temporary pipework. Before you can do this pipework, you must engage your WSC to lodge an application that must include appropriate temporary pipework detail as well as the design of the proposed **deviation/adjustment/extension**.

We'll then assess both designs and advise your WSC when they are approved and of any conditions to be met before pipe placement. Two conditions are:

- the lodgement of an unconditional security bond from an acceptable financial institution that will cover our risk for this work
- your acceptance in writing to bonding conditions that we will provide in another agreement.

If any work on our assets is carried out without that advice or final approval, we'll take action to have work on the site stopped. We'll apply the provisions of Section 45 of the Sydney Water Act 1994.

6. Construction of these works will require you to pay project management, survey, design, and construction costs **directly to your Providers**. Additional costs payable to us may include:
- water main shutdown and disinfection
 - connection of new water mains to our system(s)
 - design and construction audit fees
 - contract administration, Operations Area Charge & Customer Redress prior to project finalisation
 - creation or alteration of easements etc
 - water usage charges where water has been supplied for building activity purposes prior to disinfection of a newly constructed water main
 - additional fees for re-issuing a Notice of Requirements, Advice or Letter of Approval, or for updating the requirements where you have provided additional or amended information regarding your development, or for reviewing alternate options
 - if we engaged or will engage specialist consultants to review your proposal, we will pass that direct cost back to you as part of the Contract Administration costs. E.g. costs incurred from our Engineering Panel

Note: Payment for any Goods and Services (including Customer Redress) provided by us will be required prior to the release of the Bank Guarantee or Cash Bond.

Your WSC can tell you about these costs.

7. Because this work involves construction on our "live" sewer main, you must also:
- have your Building Plans approved prior to temporary pipework and excavation
 - submit your temporary pipework design (if required) with your permanent wastewater deviation design for approval
 - accept in writing to bonding conditions that will be provided in the Bond Agreement
 - submit your Bond and signed Bond Agreement
 - submit the Construction Commencement Notice for construction of the temporary pipework
 - have your temporary pipework constructed by a listed provider
 - complete your permanent deviation works.

After we receive a copy of the successful tender for the work, we can calculate the amount of this bond. We'll then send you that other agreement which will tell you this amount. You

must lodge the bond and the completed agreement with us 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 and completion of all the excavation and landscaping works needed for the total project.)

In addition, the following specific conditions apply:

Approval of your Building Plans

The deviation of our sewer main may impact the existing/proposed building. You are reminded that you must have your building plans approved with reference to the deviated sewer main. Approval is needed because current/future construction/building works may affect our assets.

Your WSC can tell you about the approval process including;

- additional design requirements to protect your proposed/existing building.
- review of your Sewer Design endorsed by us for Construction or Sewer WAC plan. This is needed to check whether the building and engineering plans show accurately where our assets are located in relation to your proposed/existing building. Your Coordinator will then either approve the plans or make requirements to protect those assets before approving the plans
- possible requirements
- Costs
- timeframes.

You can also find information about this process (including technical specifications) on our [Plumbing, building & developing](#) page or contact us on 13 20 92.

Sewer Requirements

The addition building extension to the existing Data Centre, will impact on the existing Sydney Water's assets/mains. The developer proposed to relocate these mains and assets outside of the proposed building extension.

- **The proposed development is within the Macquarie Park SCAMP and is part of the Lane Cove catchment.**
- **There is a high-risk overflow (risk rating 2) downstream of the development. To protect the environment of receiving waterways, EPA puts requirements on spilling volume and frequency from the high-risk overflow. To maintain this requirements, volume and frequency of spill from the overflow should not be increased due to any growth and development activities in the catchment.**
- **Hence, the developer will need to engage a hydraulic consultant to develop a solution to ensure that the current performance of the system is not deteriorate in both dry and wet weather due to the addition of the development. The capacity of this main need to be assessed based on the proposed flow from the development during this assessment.**
- **The proposed sewer deviation design will be included in the wastewater modelling scope.**
- **The discharge from Data Centre should meet the quality requirement of wastewater discharge onto sewer network.**
- **The Developer/WSC is required to request for an Inception meeting to further discuss the above requirements. At the Developer expense.**

END