

An architectural sketch of the Sydney Olympic Park Master Plan 2030. The sketch depicts a large, modern building with a glass facade and a curved roofline. In the foreground, there is a green lawn with several trees and a paved area where people are walking. A circular logo with the letter 'M' is visible on the left side of the foreground. The sky is blue with some clouds. The overall style is a hand-drawn architectural sketch with color washes.

Sydney Olympic Park

Master Plan

2030

(Interim Metro Review)

Infrastructure Master Plan – Utilities Servicing

Central Precinct
8202119501



Prepared for
Sydney Olympic Park Authority (SOPA)
23 September 2021

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1 Introduction

Cardno has been engaged by the Sydney Olympic Park Authority to provide engineering services to assist in the preparation of an Infrastructure Services Strategy to inform the infrastructure delivery process and subsequent urban development for the Central Precinct.

The Central Precinct is located in the Sydney Olympic Park and is bounded by Murray Rose Avenue, Olympic Boulevard, Sarah Durack Avenue and Australia Avenue and covers approximately 26.67 hectares. Both Dawn Fraser and Herb Elliot Avenues have established urban characters, lined with shopfronts along both streets while the remainder of the precinct currently features low rise commercial and industrial buildings.

The SOPA Master Plan 2030 (Review 2018) envisages the transformation of the precinct to a mixed-use town centre including wide range of complementary uses including civic, retail, commercial, education, community, entertainment uses as well as a new public urban park at the centre of the precinct.

The purpose of this study is to demonstrate the proposed amendments to Master Plan 2030 can be supported by the relevant services including electricity, alternative energy systems, water, sewer, gas and telecommunications. The proposed amendments to the Master Plan 2030 are to help facilitate the delivery of a Sydney Metro West station and its integration within the Precinct. See below **Figure 1.1** that details the Public Domain Master Plan illustrating the layout aspirations for the wider Central Precinct including the location of the Sydney Metro West Station. See **Appendix A** for further details on the draft Master Plan.

Figure 1-1 Public Domain Master Plan Detailing Location of Metro



2 Master Plan 2030 (Interim Metro Review) Proposal

The delivery of Sydney Metro West into Central Precinct requires an amendment to the total gross floor area for the whole precinct. See comparison below between the Master Plan 2030 and the proposed Master Plan 2030 (interim Metro Review).

Table 2-1 Central Precinct Master Plan GFA Comparison

Sites	Master Plan 2030 GFA (2018 Review)	Master Plan 2030 GFA (Metro Interim Review)	GFA Change
40	35,917	2500	- 33,417
46 (part)		19,353	19,353
47	51,072	80,196	29,124
48	76,855	55,420	- 21,435
TOTAL	215,047	187,539	- 6,375

Although there will be some change in GFA, the change is not significant and will not substantially change the infrastructure requirements for the precinct. Moreover, it is anticipated that any uplift for the Central Precinct can be revisited and achieved as part of the Master Plan 2050 review commencing later this year.

It is also noted the loss of GFA is related almost fully to the minimal amount of GFA being delivered on Site 40, as this is now the location of the northern Metro station building. This does not change the infrastructure requirements of the precinct. The remaining GFA for the Central Precinct is detailed in **Appendix B**.

3 Utility Servicing

The purpose of this utility investigation is to review the existing network in relation to utility authority advice and its capacity to meet the needs of the future fully developed Central Precinct. Based off the authority advice, the report advises on the necessary changes to the servicing strategies proposed therein based on the Masterplan 2030 Review 2018.

This Infrastructure Master Plan is reliant upon traditional suppliers of utility infrastructure. This is the preferred approach of the Sydney Olympic Park Authority, owing to the fragmented infrastructure delivery within the Central Precinct and the potential for the full development of the Precinct to be protracted over a period of time, forecasted between 2028-2045. Notwithstanding, developers have the capacity to seek alternative servicing arrangements within the Central Precinct as part of the Development Application process.

3.1 Existing Utility Networks

Sydney Water's existing water infrastructure is shown in **Appendix C**.

3.1.1 Existing Potable Water Network

The Sydney Olympic Park Central Precinct has an existing Potable Water reticulation network with the size and material of each street depicted below:

- Olympic Boulevard: DN250 DICL
- Herb Elliot: DN250 CICL
- Murray Rose Avenue: DN200 DICL
- Australia Avenue: DN250 DICL
- Figtree Drive: DN150 DICL

The DN400 SCL main close to the western side of Herb Elliot Avenue is the closest trunk main that services the Central Precinct. It is also bounded by the DN300 DICL water main on the intersection of the Murray Rose Avenue and Australia Avenue as well as the DN250 DICL water main on the intersection of the Sarah Durack Avenue and Australia Avenue. The precinct is serviced by the DN900 CICL trunk main located on Western Motorway approximately 810m from the Central Precinct.

The Central Precinct is constrained by the existing reticulation network due to the size and pressure of the mains. Sydney Water's standards detail that the minimum pipe size for multiple developments of high residential (≥ 8 storeys) is DN250 for Cast Iron equivalent outside diameter series.

The opportunity for the precinct is that the existing DN250 mains will be able to remain, subject to Sydney Water approval. This means that the only upgrades required of existing mains will be Figtree Drive as well as the new roads.

3.1.2 Existing Recycled Water Network

The Central Precinct's recycled water network is fed from the DN450 DICL main at the intersection of Australia Avenue and Murray Rose Avenue. The main then extends south along Australia Avenue with a DN375 DICL main. This main connects to the DN200 CICL main in Herb Elliot Avenue and the DN150 DICL main in Figtree Drive.

Due to the size of the recycled water main in Australia Avenue the Precinct is not constrained for servicing and will be able to service the required upgraded mains along Figtree Drive, Herb Elliot Avenue and the new mains within the new roads of the Precinct.

The recycled water network will be constrained to the capacity of the recycled water plant and the pressure of the network.

3.1.3 Existing Wastewater Network

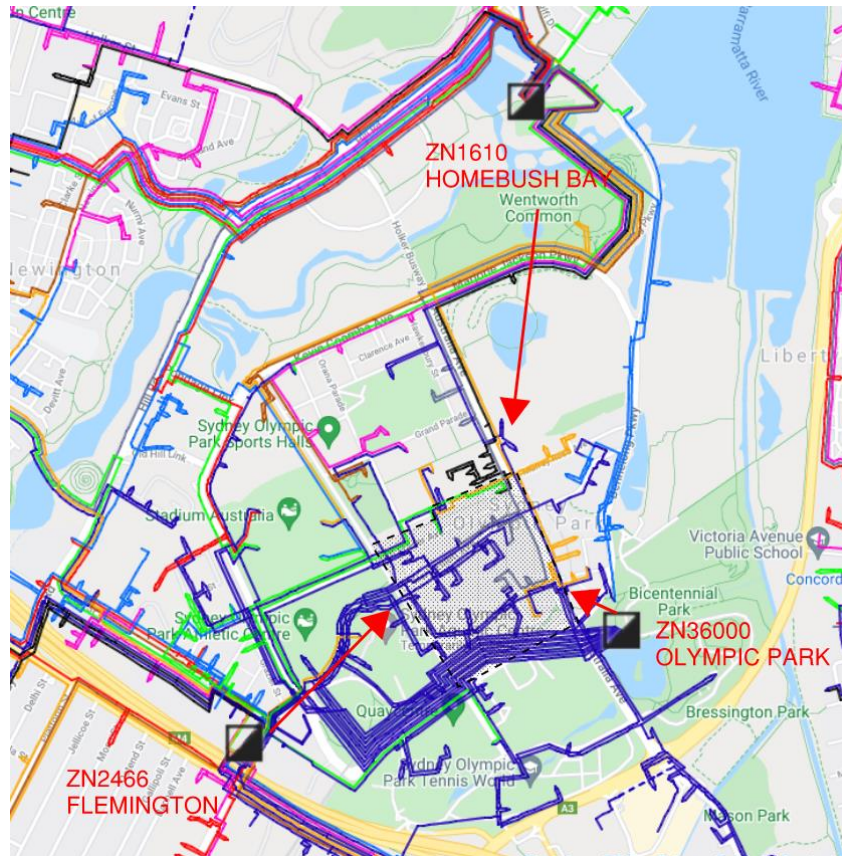
With respect to analysing the feasibility of sewer serviceability to the Central Precinct, the key consideration is the portion of the Precinct which can be drained via gravity. It is assumed that the entire precinct can be serviced via gravity and the proposed finish levels will need to be considered during design phase. These levels will be dependent on the new levels of the precinct and will be similar to the stormwater drainage

design. The existing sewer mains in the Central Precinct all gravity feed to the DN900 GRP Sewer Main that is just east of Australia Avenue, see **Appendix C**. The wastewater network is constrained to the future road levels of the precinct.

3.1.4 Existing Ausgrid network

The central precinct is currently supplied by an 11kV feeder which is connected to three zone substations (ZN1610 Homebush Bay, ZN 36000 Olympic Park and ZN2466 Flemington). These zone substations are shown in **Figure 3.1** below. All Zone Substations are supplied at 132kV.

Figure 3-1 Ausgrid Zone Substations



3.1.5 Existing Jemena Network

See **Appendix C** detailing the location of the existing network within the Central Precinct.

After collecting DBYD and contacting Jemena we can assess the existing network surrounding the Central Precinct. The following is the details of the existing gas mains:

- 559 Steel 3500kPa High Pressure Gas Main running down Sarah Durack Avenue;
- 75 Nylon 210kPa Medium Pressure Gas Main running down Figtree Drive;
- 110 Polyethylene 210 kPa Medium Pressure Gas Main in Kookaburra Lane;
- 75 Nylon 210 kPa Medium Pressure Gas Main running down Olympic Boulevard;
- 110 Nylon 210kPa Medium Pressure Gas Main in Dawn Fraser Avenue;
- 63 Polyethylene 210 kPa Medium Pressure Gas Main in Herb Elliot Avenue;
- 75 Nylon 210kPa Medium Pressure Gas Main in Australia Avenue;

150 Steel 1050kPa High Pressure Gas Main at the intersection of Herb Elliot Avenue and Olympic Boulevard.

3.1.6 Existing Telecommunications Network

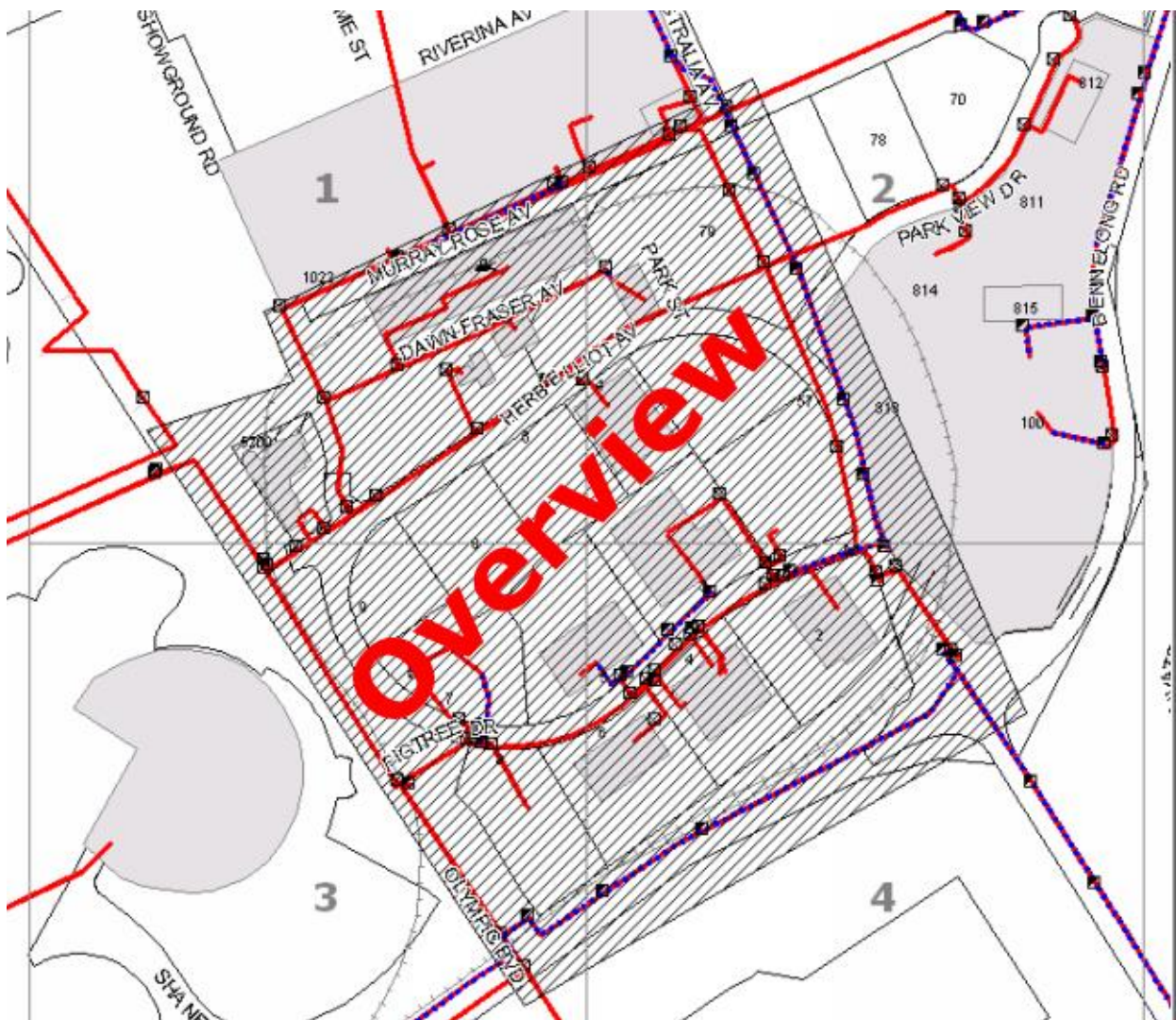
There are Telstra assets which run along all existing roads within the Central Precinct. The costs associated with any required adjustment to these assets resulting from the development of the Precinct will need to be borne by the Developer(s).

NBN is also available in the area and all future supply of the Central Precinct, mainly within the future roads, will be from NBN.

The Central Precinct is predominantly serviced by Telstra, Optus and NBN with Verizon, Vocus and TPG assets in the area, see existing Telstra layout detailed in **Appendix C** as well as the Telstra Map Legend.

In addition to Telstra and NBN Infrastructure, there is also Optus Infrastructure in the area, as shown below in **Figure 3.2**. It is advised that the costs associated with needing to adjust this infrastructure as part of the development of the Precinct will be borne by the Developer(s).

Figure 3-2 Existing Optus Network



3.1.7 Existing Stormwater Network

The existing stormwater network for the Central Precinct is to be disregarded due to the changes in the layout of the site. The existing stormwater network that is to be maintained are the connection points at the below locations:

- Intersection of Australia Avenue and Herb Elliot Avenue. Providing the connection to the Eastern Water Quality Control Pond;
- Intersection of Herb Elliot Avenue and Olympic Boulevard. Providing the connection to the Northern Water Feature;
- Intersection of Australia Avenue and Sarah Durack Avenue. Providing the connection to the Boudary Creek Catchment.

3.2 Proposed Utility Servicing

3.2.1 Proposed Potable Water Network

The proposed Potable Water network is detailed in **Appendix D**.

The potable water main in Figtree Drive is the only existing main that requires an upgrade to a DN250. The future mains in the new roads will need to be DN250 or DN300 so that every development greater than 8 storeys has a frontage to one of these mains. The remaining side streets detailed above in pink will require only a DN100 main for fire fighting requirements.

The proposed network is subject to Sydney Water approvals and the following are based on assumptions and Sydney Waters standards. Please see **Appendix F**, Sydney Water's Advice Letter, that details that they anticipate that water network amplification may be required in the future to support the significant growth projected within the Central Precinct. It is also recommended by Sydney Water that integrated water management provision via dual-pipe controls are investigated for this development in line with the wider Greater Parramatta and the Olympic Peninsula (GPOP) recycled water initiatives. They have stated that further planning is needed to assess scale and timing of future amplification. This would require detailed development information, such as staged development yield and timing.

3.2.2 Proposed Recycled Water Network

The recycled water network is similar to the above proposed potable water network with only minor changes:

- The DN200 DICL main in Herb Elliot Avenue will be required to be upsized to a DN250 or a DN300 main due to the size of the development.

Sydney Water stated in their advice letter in **Appendix F** that they are currently assessing the viability of recycled water servicing for the GPOP, in line with the Greater Sydney Commission's draft Phase 1. They recommended in the advice letter that integrated water management provision via dual-pipe controls are investigated for this development in line with the wider GPOP recycled water initiatives.

3.2.3 Proposed Waste Water Network

The proposed Waste Water Network is detailed in **Appendix D**.

The proposed waste water network is subject to Sydney Water approvals prior to development. The new mains that will need to be constructed are in Figtree Drive, Roads 07, 08 and 09 as well as along Australia Avenue. Based off this assessment no existing mains will need to be upgraded. There is potential for minor extensions required off the mains detailed above so that each development has a Property Connection Sewer (PCS).

Sydney Water stated in their advice letter shown in **Appendix F** that the proposed development lies within Homebush Sewerage Catchment Asset Management Planning (SCAMP). Sydney Water anticipates that some wastewater network amplification may be required in the future to support the significant growth projected within GPOP. Further planning is needed to assess scale and timing of future amplification. This would require detailed development information, such as stated development yield and timing.

3.2.4 Proposed Ausgrid Network


The calculated load is based on AS3000 and assumes load requirement of 5kVA per dwelling resulting in an overall demand of approximately 48.238 MVA. 20% spares have been considered for unknown load at this stage. A detailed maximum demand would need to be conducted on each of the proposed sites to determine the final loads required once the lot layouts and distributions are known.

SOPA has consulted with Sydney Metro that has detailed that the station will be powered by the dedicated Metro West line power networks. All ISD/ASD buildings are getting power supply from the Ausgrid network in the area.

3.2.4.1 Proposed Development Load

See below the proposed development demand for the Central Precinct based on provided GFA figures from SOPA.

Figure 3-3 Maximum electrical loads

 Maximum Demand Calculations							
SOAP Maximum Demand Estimation for Feasibility study							
23/09/2021							
Description	Quantity	Unit power (W)	Area (m ²)	Lighting and power (VA/m ²)	Mechanical (VA/m ²)	Diversity	Maximum Demand (kVA)
Residential Dwelling (Unit)	5374	5000				100%	26870.0
Temporary accomodation Dwelling (Unit)	1168	5000				100%	5840.0
Education			25100	50	70	100%	1757.0
Commercial			219661	70	30	100%	6589.8
Community			5700	50	70	100%	399.0
Sub-Total							41455.8
Total							49747.0

Note: Maximum demand is based on GFA figures provided on the 23/09/2021 and will be continually updated.

3.2.4.2 Ausgrid Technical enquiry

A technical enquiry has been submitted to Ausgrid with the above capacity demands. Ausgrid have been requested to provide information about current zone substations and available spare capacity to supply new development. This report will be updated with revised information once Ausgrid confirm requirements to service the proposed development.

3.2.5 Proposed Jemena Network

The proposed Jemena Network is detailed in **Appendix D**.

After initial discussions with Jemena, they have stated that capacity might not be an issue due to the secondary high-pressure gas main in the vicinity of the Central Precinct. The proposed network will extend the existing gas mains so that each proposed development is fronted and serviced by a minimum 110 Polyethylene 210kPa Medium Pressure Gas Main.

Jemena have provided feedback and detailed the new mains that are required to be constructed to service the future Central Precinct. The new mains include:

- Connecting the two 210kPa Medium Pressure Gas mains on Herb Elliot Avenue;
- Providing a new 110mm PE main through the Metro site and along Road 2 to connect Australia Avenue and Olympic Boulevard. The location of the main is to be confirmed once the Metro site is finalised;
- Provide new 63mm PE mains in roads 07, 08 and 09.

3.2.6 Proposed Telecommunications Network

The future development will require NBN connections to each of the proposed buildings. It is assumed that lead-in works will be required to facilitate these connections. NBN have been contacted and are yet to provide a response regarding future connections.

Future connections will not be provided by any of the other telecommunication providers, they will only be required to have input when any existing assets are impacted.

3.2.7 Proposed Stormwater Network

As requested by SOPA the majority of the Central Precinct is able to drain towards to the Eastern Water catchment allowing for greater water harvesting. A few key assumptions and constraints were made to aid the design:

- The critical depth was obtained from SOPA's drainage network on ArcGIS at the intersection of Dawn Fraser Avenue and Australia Avenue. This depth is to be confirmed on-site as well as depths of the existing stormwater in Herb Elliot Avenue;
- All grades were set at 1%. The final grades of the stormwater from Dawn Fraser Avenue to Road 02 along Australia Avenue as well as Herb Elliot Avenue will need to be set at lower than 1% to achieve minimum cover;
- All drainage expected to run towards the Northern Water catchment have not been included due to lack of survey information and future Metro levels.

This design is to be continually updated throughout the Infrastructure Master Plan as the future road designs become finalised and the levels surrounding the Metro are finalised.

See **Appendix D** for concept layout of the stormwater based off the road sections provided by Cardno.

4 Opportunities & Risks

Opportunities and risks for the central precinct development in regards to servicing have been prepared and are provided in **Appendix E**.

Additional risks and opportunities will be detailed as the Central Precinct progresses. This further work will be as part of the Master Plan 2050 review.

5 Conclusion

In conclusion, the proposed amendments of the Master Plan 2030 can be supported by the relevant services including electricity, alternative energy systems, water, sewer, gas and telecommunications. The above report has been completed in consultation with Sydney Water, Ausgrid, Jemena, NBN and Telstra. Further consultation with Sydney Water, Ausgrid and NBN is required to finalise the requirements of the utility providers. The amendments of the Master Plan to include the delivery of the Sydney Metro West decreases the total GFA in the Central Precinct, therefore, further augmentation of the proposed utility networks is not required. The above study outlines the requirements to service the entire future Central Precinct including the proposed Sydney Metro West.

APPENDIX

A

SYDNEY OLYMPIC PARK CENTRAL PRECINCT – DRAFT MASTERPLAN



CADASTRAL INFORMATION
SOURCE:
YYMMDD:
DWG REF:
PROJECTION:

AERIAL PHOTOGRAPHY
SOURCE:
YYMMDD:

DRAFT

F	TRAFFIC NETWORK UPDATE	210709
E	METRO COMMUNITY USE	210702
D	METRO SITE UPDATE	210624
C	PLAZA UPDATES	210622
B	UPDATE PLACE HIER	210618
A	FIRST ISSUE	210526
REV	DESCRIPTION	YYMMDD

DRAFT MASTERPLAN
 Sydney Olympic Park Central Precinct
 Sydney Olympic Park Authority
 AR TP
 AR TP
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 AR TP
 JOB CODE SERVICE DOC. TYPE DRAW NO. REV.
 SOP PDF DES DWG 001 H
 DRAWN APPR'D

DISCLAIMER: ISSUED FOR DESIGN INTENT ONLY. ALL AREAS AND DIMENSIONS ARE SUBJECT TO DETAIL DESIGN AND SURVEY

APPENDIX

B

PW & WW DEMAND ANALYSIS

DEVELOPMENT POTENTIAL OF SITES AFFECTED BY THE INFRASTRUCTURE CONTRIBUTIONS FRAMEWORK

GFA per Site and Land Use										
Site	Precinct	FSR Boundary Area	Total GFA	Commercia I GFA	Community GFA	Education GFA	Residential GFA	Temp Accomodation GFA	Retail GFA	Storeys
NI	Central	5,337	26,685					26,685		45
4A	Central	1,427	17,124					17,024	100	45
4B	Central stage 1	4,914	9,774	8,800			400		574	45
4B	Central stage 2	4,914	33,469	5,000			26000		2,469	45
5,6,7	Central	9,802	59,302	55,302					4,000	7 / 8 / 8
8A	Central	1,388	6,940	6,521					419	6
8B	Central	1,146	5,730	5,387					343	6
8C	Central	1,148	5,860	5,520					340	6
8D	Central	1,146	5,843	5,500					343	6
GPT 40	Central	9,070	2,500	0					2,500	8
GPT 41	Central	8,403	33,276	10,445		12,100			10,731	6
42	Central	6,676	26,437	21,000					5,437	20
43/44	Central	11,981	59,306	34,306			23,000		2,000	20 / 30
45A/45B	Central	12,442	61,588				59,588		2,000	30 / 20
GPT 46	Central	12,930	51,203	20,203		6,000	11,000	3,000	11,000	20
46 (orphan)	Central	3,771	19,353	5,006			14,023		324	20
GPT 47	Central	11,428	80,196	28,741	3,500		47,336		619	40
GPT 48	Central	8,447	55,420	7,930			45,201		2,289	45
50	Central	11,147	79,701		2,000	7,000	68,701		2,000	45
51	Central	11,744	41,339				41,339			20
52	Central	9,512	33,482				33,482			20
53	Central	12,697	62,850				59850		3,000	20
110	Central	8,299	200		200					2
Total	Central	169,769	777,578	219,661	5,700	25,100	429,920	46,709	50,488	

Key	
	Land the subject of a development consent (or a development proposal that has been received and is likely to be determined prior to the approval of Master Plan 2030) that utilises the maximum development potential under Master Plan 2030 and which is subject to other infrastructure
	Land that has been identified in Master Plan 2030 exclusively for either community, transport or venues GFA.
* Dwelling units calulcated as an average 80m2 for residential and 40m2 for Temp Accommodation	

Assumtions

80% of PW goes down the sewer

EP * 0.15 = KL/Day

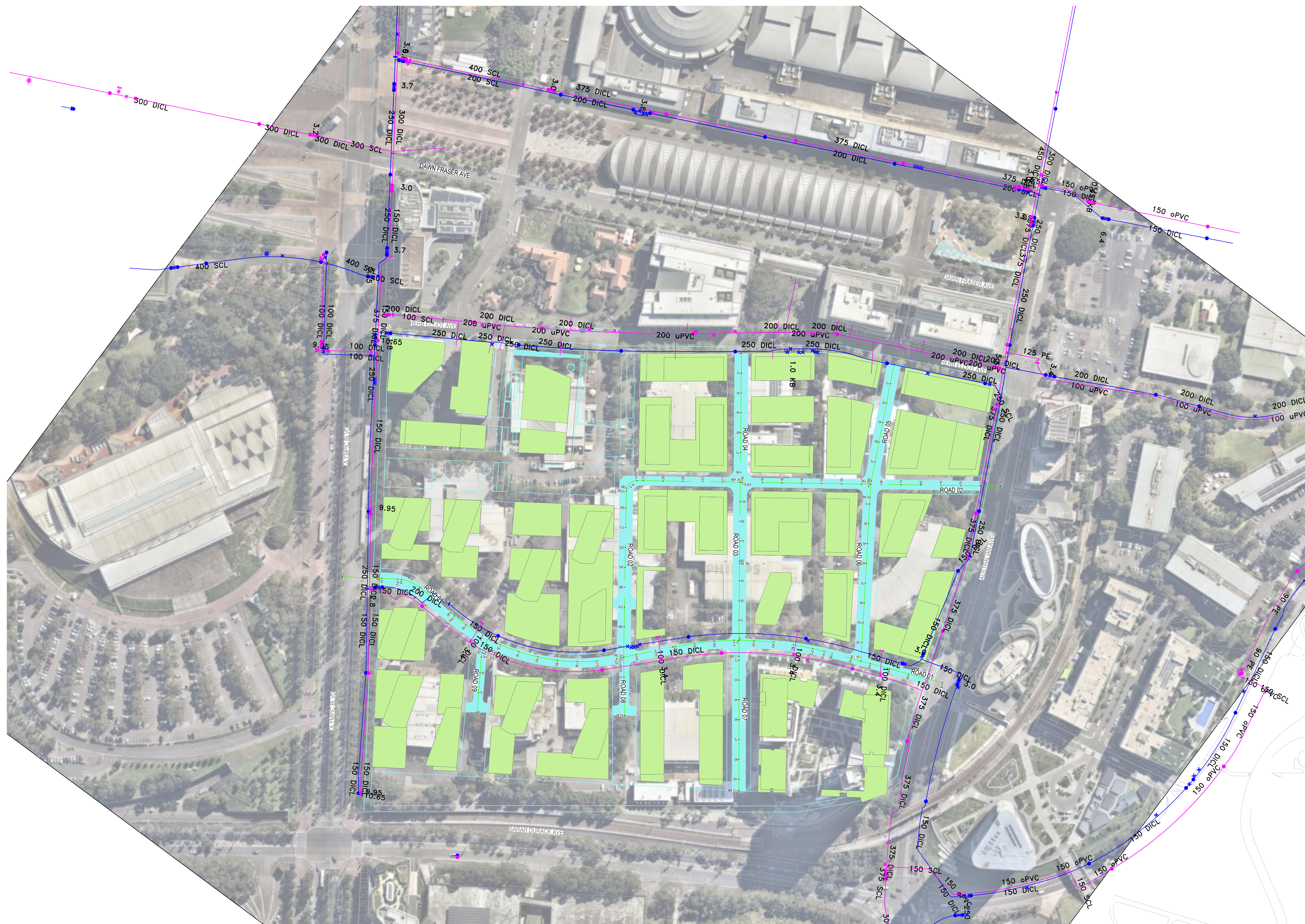
EP Calculation		
Classification	Unit	EP per unit
Commerical	Gross Hectare	800
Community	Gross Hectare	20
Education	Gross Hectare	800
Residential	Dwelling Unit	2.5
Temp Accomm	Dwelling Unit	2.5

GFA Calculated as Per Unit Required for EP Calculation					PW & WW Demand		
Commerical (Gross Hectare)	Community (Gross Hectare)	Education (Gross Hectare)	Residential (Dwelling Unit)*	Temp Accommodation (Dwelling Unit)*	EP	WW KL/Day	PW KL/Day
0.00	0.00	0.00	0.00	667.13	1667.81	250.17	312.71
0.00	0.00	0.00	0.00	425.60	1064.00	159.60	199.50
0.88	0.00	0.00	5.00	0.00	716.50	107.48	134.34
0.50	0.00	0.00	325.00	0.00	1212.50	181.88	227.34
5.53	0.00	0.00	0.00	0.00	4424.16	663.62	829.53
0.65	0.00	0.00	0.00	0.00	521.68	78.25	97.82
0.54	0.00	0.00	0.00	0.00	430.96	64.64	80.81
0.55	0.00	0.00	0.00	0.00	441.60	66.24	82.80
0.55	0.00	0.00	0.00	0.00	440.00	66.00	82.50
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.04	0.00	1.21	0.00	0.00	1803.63	270.54	338.18
2.10	0.00	0.00	0.00	0.00	1680.00	252.00	315.00
3.43	0.00	0.00	287.50	0.00	3463.23	519.48	649.36
0.00	0.00	0.00	744.85	0.00	1862.13	279.32	349.15
2.02	0.00	0.60	137.50	75.00	2627.49	394.12	492.65
0.50			175.29				
2.87	0.35	0.00	591.70	0.00	3785.53	567.83	709.79
0.79	0.00	0.00	565.01	0.00	2046.93	307.04	383.80
0.00	0.20	0.70	858.76	0.00	2710.91	406.64	508.29
0.00	0.00	0.00	516.74	0.00	1291.84	193.78	242.22
0.00	0.00	0.00	418.53	0.00	1046.31	156.95	196.18
0.00	0.00	0.00	748.13	0.00	1870.31	280.55	350.68
0.00	0.02	0.00	0.00	0.00	0.40	0.06	0.08
21.97	0.57	2.51	5,374.00	1,168	35,107.92	5,266.19	6,582.73

APPENDIX

C

EXISTING NETWORK DESIGNS



NOTES

1. IMAGE SOURCED FROM NEARMAP (MAY, 2021)

	PROPOSED ROAD CENTRELINIE
	PROPOSED ROAD CHAINAGES
	PROPOSED ROAD NAMES
	EXISTING ROAD NAMES
	TURF ROAD LAYOUT
	TURF BUILDING LOCATIONS
	EXISTING PW MAIN
	EXISTING RW MAIN



1	23/07/21	ISSUED FOR INFORMATION		LOC		JS
Rev.	Date	Description		Des.	Verif.	Appd.

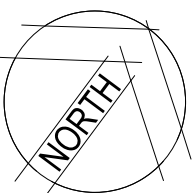
SydneyOlympicPark 

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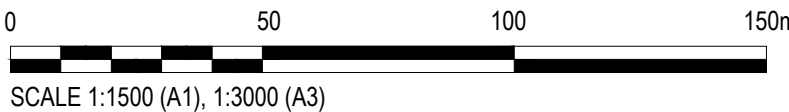
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Drawn LOC	Date 23/07/21	Client SYDNEY OLYMPIC PARK AUTHORITY	<div>Status FOR INFORMATION ONLY NOT TO BE USED FOR CONSTRUCTION PURPOSE</div>				
Checked	Date						Project INFRASTRUCTURE MASTER PLAN
Designed LOC	Date 23/07/21						
Verified	Date						
Approved	Date						
Title EXISTING PW & RW GENERAL LAYOUT PLAN		Drawing Number 82021195-01-PW002				Revision 1	



NOTES
1. IMAGE SOURCED FROM NEARMAP (MAY, 2021)

- LEGEND**
- PROPOSED ROAD CENTRELINE
 - PROPOSED ROAD CHAINAGES
 - PROPOSED ROAD NAMES
 - EXISTING ROAD NAMES
 - TURF ROAD LAYOUT
 - TURF BUILDING LOCATIONS
 - EXISTING SEWER MAIN



GENERAL ARRANGEMENT LAYOUT
SCALE 1:1500

SydneyOlympicPark

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Drawn LOC Checked	Date 23/07/21 Date	Client SYDNEY OLYMPIC PARK AUTHORITY	Status FOR INFORMATION ONLY NOT TO BE USED FOR CONSTRUCTION PURPOSES
Designed LOC Verified	Date 23/07/21 Date	Project INFRASTRUCTURE MASTER PLAN	DATUM AHD
Approved JS	Date 23/07/21	Title EXISTING WASTEWATER GENERAL LAYOUT PLAN	Scale 1:1000
			Size A1
			Drawing Number 82021195-01-WW002
			Revision 1

1	23/07/21	ISSUED FOR INFORMATION	LOC	JS
Rev.	Date	Description	Des.	Verif. Appd.



NOTES

1. IMAGE SOURCED FROM NEARMAP (MAY, 2021)
2. DESIGN SHOWS EXISTING GAS MAINS ONLY. PROPOSED MAINS ARE TO BE INCLUDED AFTER JEMENA FEEDBACK

— 150	PROPOSED ROAD CENTRELINE
	PROPOSED ROAD CHAINAGES
ROAD 01	PROPOSED ROAD NAMES
ROAD 01	EXISTING ROAD NAMES
	TURF ROAD LAYOUT
	TURF BUILDING LOCATIONS
	210kPa MEDIUM PRESSURE GAS MAIN
	1050kPa HIGH PRESSURE GAS MAIN
	3500kPa HIGH PRESSURE GAS MAIN
	ISOLATED STEEL MAIN - TREAT AS HIGH PRESSURE



1	25/07/21	ISSUED FOR INFORMATION		LOC	JS	
Rev.	Date	Description		Des.	Verif.	Appd.

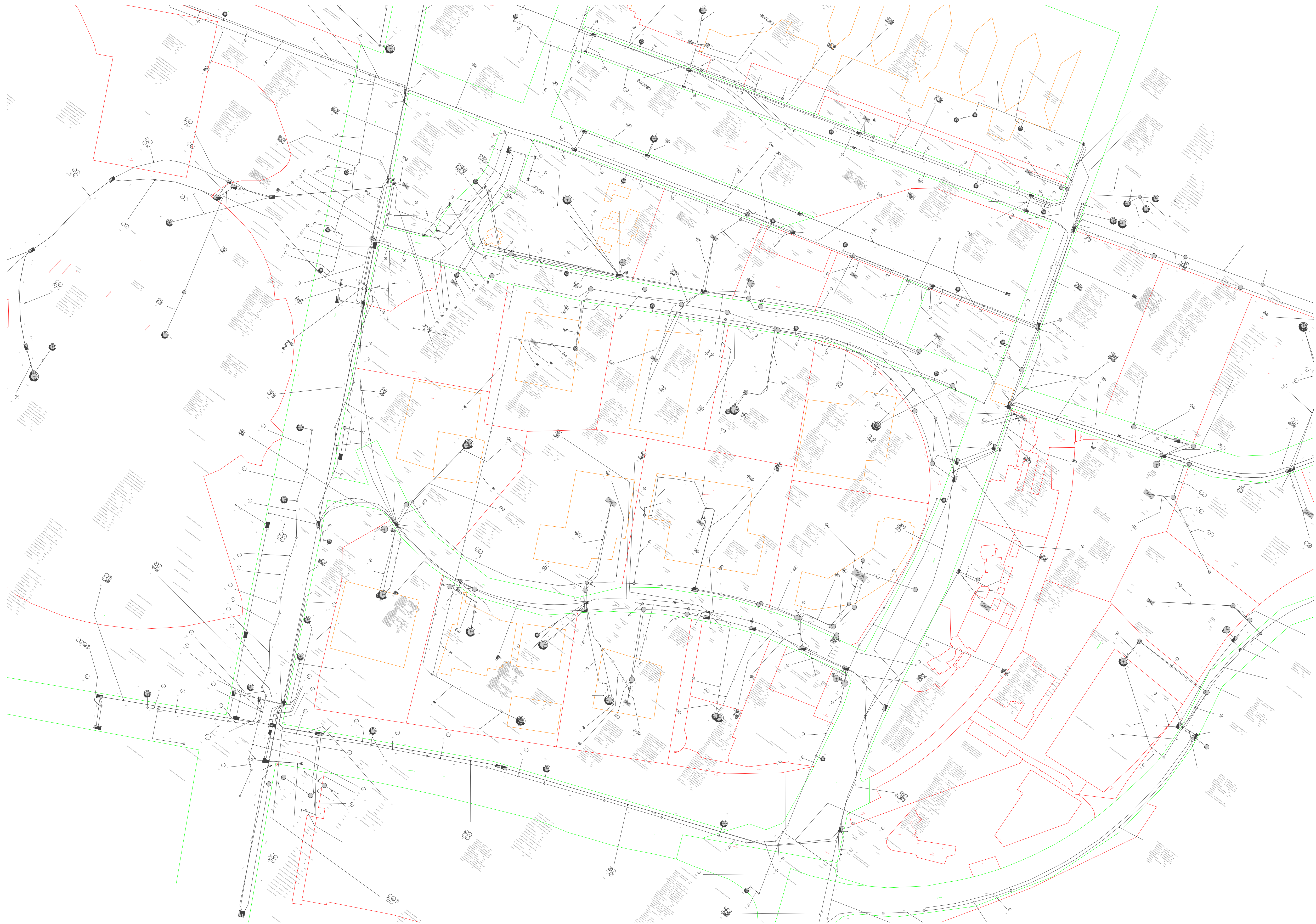
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Drawn LOC	Date 25/07/21	Client SYDNEY OLYMPIC PARK AUTHORITY				
Checked	Date	Project INFRASTRUCTURE MASTER PLAN		Status FOR INFORMATION ONLY		
Designed LOC	Date 25/07/21			NOT TO BE USED FOR CONSTRUCTION PURPOSES		
Verified	Date	Title EXISTING GAS MAIN GENERAL LAYOUT PLAN		DATUM AHD	Scale 1:1500	Size A1
Approved				Drawing Number 82021195-01-GS002		Revision 1
JS	25/07/21					



0 50 100 150m
SCALE 1:1500 (A1), 1:3000 (A3)

[illegible]

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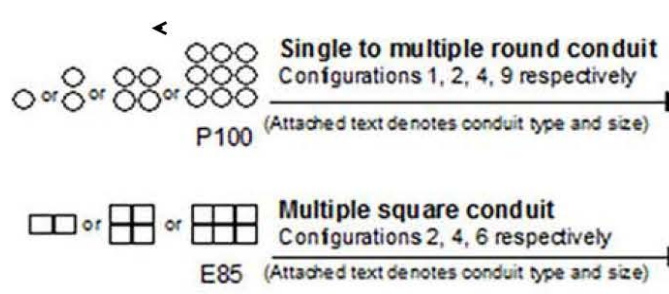
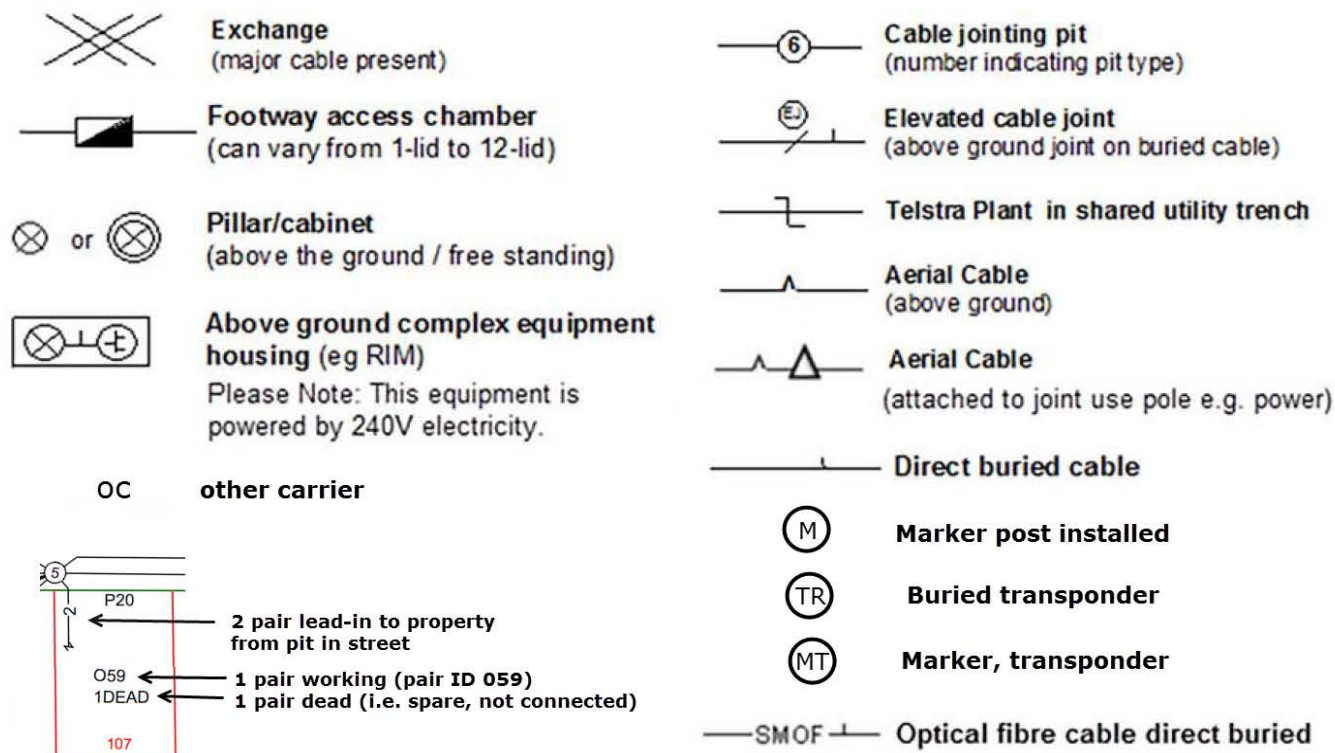


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Drawn LOC	Date 26/07/21	Client SYDNEY OLYMPIC PARK AUTHORITY	<div>Status FOR INFORMATION ONLY NOT TO BE USED FOR CONSTRUCTION PURPOSES</div>			
Checked	Date	Project INFRASTRUCTURE MASTER PLAN				
Designed LOC	Date 28/07/21	Title EXISTING TELSTRA GENERAL LAYOUT PLAN	DATUM AHD		Scale 1:1000	Size A1
Verified	Date		Drawing Number 82021195-01-CM001		Revision 1	
Approved						
JS	26/07/21					



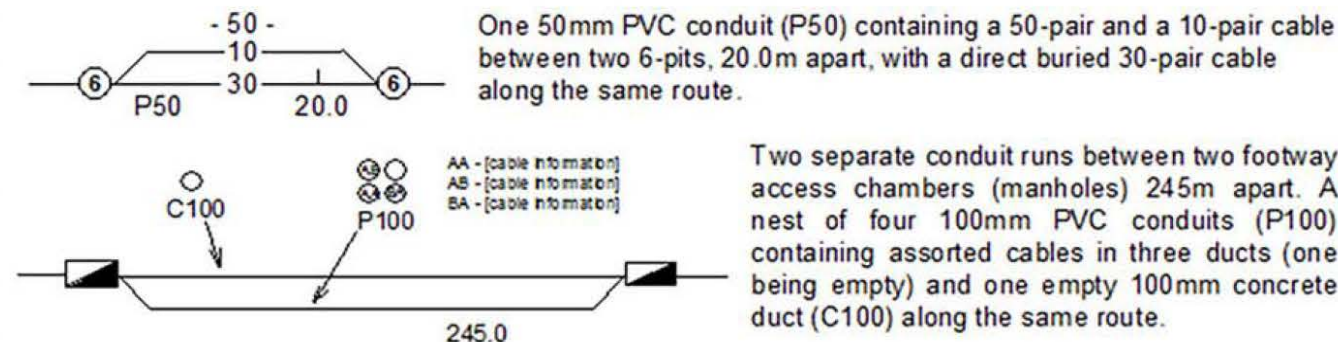
For more info contact a Telstra Accredited Locator or Telstra Plan Services 1800 653 935



Some examples of conduit type and size:
A - Asbestos cement, P - PVC / plastic, C - Concrete, GI - Galvanised iron, E - Earthenware.
Conduit sizes *nominally* range from 20mm to 100mm.

P50	50mm PVC conduit
P100	100mm PVC conduit
A100	100mm asbestos cement conduit
E 85	85mm square earthenware conduit

Some examples of how to read Telstra plans:

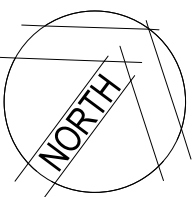
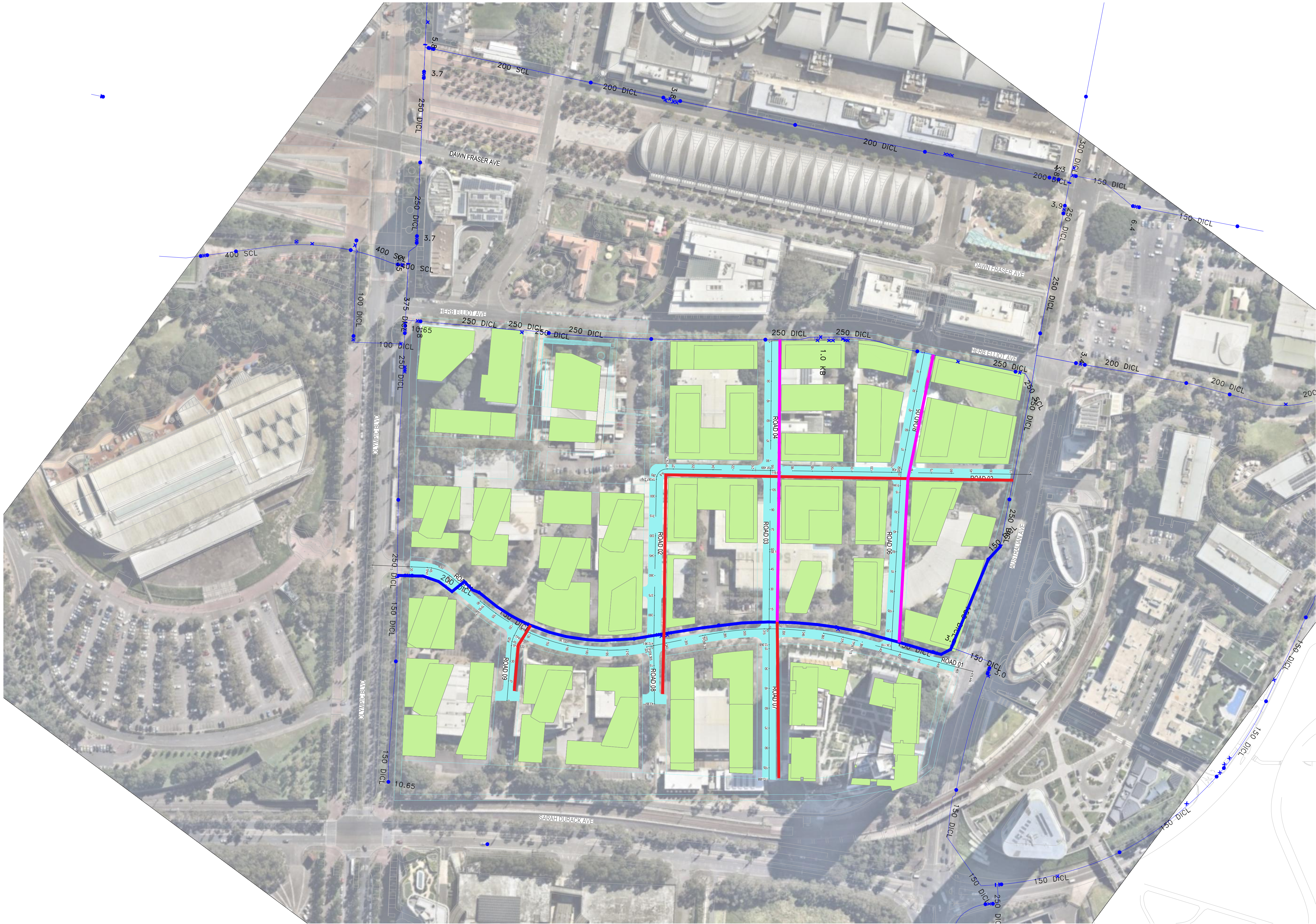


WARNING: Telstra plans and location information conform to Quality Level 'D' of the Australian Standard AS 5488 - Classification of Subsurface Utility Information. As such, Telstra supplied location information is indicative only. Spatial accuracy is not applicable to Quality Level D. Refer to AS 5488 for further details. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans. FURTHER ON SITE INVESTIGATION IS REQUIRED TO VALIDATE THE EXACT LOCATION OF TELSTRA PLANT PRIOR TO COMMENCING CONSTRUCTION WORK. A plant location service is an essential part of the process to validate the exact location of Telstra assets and to ensure the asset is protected during construction works. The exact position of Telstra assets can only be validated by physically exposing it. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers.

APPENDIX

D

PROPOSED NETWORK DESIGNS



NOTES

1. IMAGE SOURCED FROM NEARMAP (MAY, 2021)
2. MAINS TO BE CONFIRMED BY SYDNEY WATER ONCE FEASIBILITY LETTER IS OBTAINED

LEGEND

- PROPOSED ROAD CENTRELINE
- PROPOSED ROAD CHAINAGES
- ROAD 01 PROPOSED ROAD NAMES
- ROAD 01 EXISTING ROAD NAMES
- TURF ROAD LAYOUT
- TURF BUILDING LOCATIONS
- EXISTING PW MAIN
- EXISTING PW MAIN TO BE UPSIZED
- PROPOSED MINIMUM DN250 PW MAIN
- PROPOSED MINIMUM DN100 PW MAIN



GENERAL ARRANGEMENT LAYOUT
SCALE 1:1500

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Drawn	LOC	Date	25/07/21
Checked		Date	
Designed	LOC	Date	25/07/21
Verified		Date	
Approved			
JS		25/07/21	

Client	SYDNEY OLYMPIC PARK AUTHORITY		
Project	INFRASTRUCTURE MASTER PLAN		
Title	POTABLE WATER GENERAL LAYOUT PLAN		

Status	FOR INFORMATION ONLY		
NOT TO BE USED FOR CONSTRUCTION PURPOSES			
DATUM		Scale	Size
AHD		1:1500	A1
Drawing Number			Revision
82021195-01-PW001			1

1	25/07/21	ISSUED FOR INFORMATION	LOC	JS
Rev.	Date	Description	Des.	Verif.
				Appd.



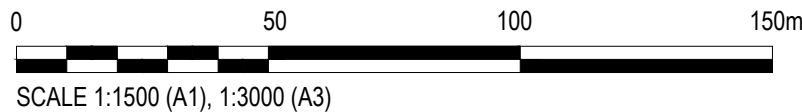
GENERAL ARRANGEMENT LAYOUT
SCALE 1:1500

NOTES

1. IMAGE SOURCED FROM NEARMAP (MAY, 2021)
2. SYDNEY WATER TO SPECIFY THE SIZING OF THE MAINS AND ANY UPGRADES REQUIRED

LEGEND

- PROPOSED ROAD CENTRELINE
- PROPOSED ROAD CHAINAGES
- ROAD 01 PROPOSED ROAD NAMES
- ROAD 01 EXISTING ROAD NAMES
- TURF ROAD LAYOUT
- TURF BUILDING LOCATIONS
- EXISTING SEWER MAIN
- PROPOSED SEWER MAIN



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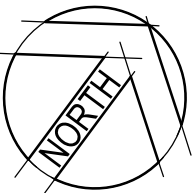
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Drawn	LOC	Date	25/07/21
Checked		Date	
Designed	LOC	Date	25/07/21
Verified		Date	
Approved			
JS		25/07/21	

Client	SYDNEY OLYMPIC PARK AUTHORITY		
Project	INFRASTRUCTURE MASTER PLAN		
Title	WASTEWATER GENERAL LAYOUT PLAN		

Status	FOR INFORMATION ONLY		
NOT TO BE USED FOR CONSTRUCTION PURPOSES			
DATUM		Scale	Size
AHD		1:1500	A1
Drawing Number			Revision
82021195-01-WW001			1

1	25/07/21	ISSUED FOR INFORMATION	LOC	JS
Rev.	Date	Description	Des.	Verif.
				Appd.



GENERAL ARRANGEMENT LAYOUT
SCALE 1:1500

- NOTES**
1. IMAGE SOURCED FROM NEARMAP (MAY, 2021)
 2. DESIGN SHOWS EXISTING GAS MAINS ONLY. PROPOSED MAINS ARE TO BE INCLUDED AFTER JEMENA FEEDBACK

- LEGEND**
- PROPOSED ROAD CENTRELINE
 - PROPOSED ROAD CHAINAGES
 - PROPOSED ROAD NAMES
 - EXISTING ROAD NAMES
 - TURF ROAD LAYOUT
 - TURF BUILDING LOCATIONS
 - 210kPa MEDIUM PRESSURE GAS MAIN
 - 1050kPa HIGH PRESSURE GAS MAIN
 - 3500kPa HIGH PRESSURE GAS MAIN
 - ISOLATED STEEL MAIN - TREAT AS HIGH PRESSURE
 - 110mm PE MAIN PROPOSED BY JEMENA
 - 63mm PE MAIN PROPOSED BY JEMENA



Rev.	Date	Description	Des.	Verif.	Appd.
1	25/07/21	ISSUED FOR INFORMATION	LOC	JS	

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Drawn LOC	Date 25/07/21	Client SYDNEY OLYMPIC PARK AUTHORITY
Checked	Date	Project INFRASTRUCTURE MASTER PLAN
Designed LOC	Date 25/07/21	Status FOR INFORMATION ONLY NOT TO BE USED FOR CONSTRUCTION PURPOSES
Verified	Date	DATUM AHD
Approved JS	Date 25/07/21	Title EXISTING GAS MAIN GENERAL LAYOUT PLAN
		Drawing Number 82021195-01-GS002
		Scale 1:1500
		Size A1
		Revision 1



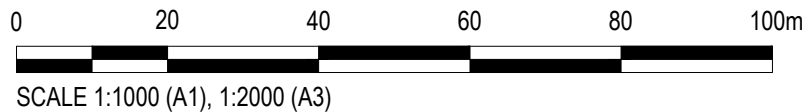
GENERAL ARRANGEMENT LAYOUT
SCALE 1:1000

NOTES

1. IMAGE SOURCED FROM NEARMAP (MAY, 2021)
2. ALL STORMWATER PIPES ASSUMED TO BE 1% GRADE
3. ORIGINAL DEPTH AT THE INTERSECTION OF AUSTRALIA AVENUE AND DAWN FRASER AVENUE OBTAINED FROM SOPA'S DRAINAGE NETWORK ON ARCGIS

LEGEND

- PROPOSED ROAD CENTRELINE
- PROPOSED ROAD CHAINAGES
- ROAD 01 PROPOSED ROAD NAMES
- ROAD 01 EXISTING ROAD NAMES
- TURF ROAD LAYOUT
- TURF BUILDING LOCATIONS
- STORMWATER FLOW ARROW
- STORMWATER PIPE TO EASTERN WATER CATCHMENT
- STORMWATER PIPE TO BOUNDARY CREEK CATCHMENT



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Drawn	LOC	Date	Client
Checked		2/06/2021	SYDNEY OLYMPIC PARK AUTHORITY
Designed	LOC	Date	Project
Verified		2/06/2021	INFRASTRUCTURE MASTER PLAN
Approved		Date	Title
JS		3/06/2021	DRAINAGE LAYOUT PLAN

Status	FOR INFORMATION ONLY		
NOT TO BE USED FOR CONSTRUCTION PURPOSES			
DATUM		Scale	Size
AHD		1:1000	A1
Drawing Number			Revision
82021195-01-DR001			1

APPENDIX

E

OPPORTUNITIES & RISK MATRIX

Risk Register

Project Name:	Central Precinct
Project No.:	8202119501

		Step 1 - Nature of Risk	Step 2 - Identified Risks		Step 3 - Evaluation			Step 4 - Potential Solutions	
UID	Constraint	Cause, trigger or issue	Risk, challenge or opportunity	Potential consequences	Severity	Likelihood	Level of risk	Conducted during this study	Action required by developers
Planning & Design									
1	Potable Water	Capacity of the existing infrastructure isn't suitable for the new development demands. Requirement for Sydney Water to install new trunk infrastructure to service the development	Risk	Development delivery delays Disturbance of public and residents	Major	Possible	14 (MEDIUM)	Feasibility application has been submitted to Sydney Water which will identify if any upgrades to trunk infrastructure is necessary	Developers to carry site specific studies as required by the Authorities. Design to be submitted to SOPA for approval to ensure the consistency within the precinct and public domain design principles.
2	Waste Water	Capacity of the existing infrastructure isn't suitable for the new development demands. Requirement for Sydney Water to install new trunk infrastructure to service the development	Risk	Development delivery delays Disturbance of public and residents	Major	Possible	14 (MEDIUM)	Feasibility application has been submitted to Sydney Water which will identify if any upgrades to trunk infrastructure is necessary.	Developers to carry site specific studies as required by the Authorities. Design to be submitted to SOPA for approval to ensure the consistency within the precinct and public domain design principles. All major pits, access points, junctions must be coordinated in the design to avoid major interference with the publicly accessible areas.
3	Electrical	Capacity of the existing infrastructure isn't suitable for the new development demands. Requirement for new HV infrastructure to be installed to service the development	Risk	Development delivery delays Disturbance of public and residents	Major	Possible	14 (MEDIUM)	Technical enquiry has been submitted to Ausgrid which will identify if and what upgrades to existing infrastructure is required	Developers to carry site specific studies as required by the Authorities. Design to be submitted to SOPA for approval to ensure the consistency within the precinct and public domain design principles. HV infrastructure to be designed to be within the development boundary including substations and isolation pillars.
4	Gas	Capacity of the existing infrastructure isn't suitable for the new development demands. Requirement for new trunk infrastructure to be installed to service the development	Risk	Development delivery delays Disturbance of public and residents	Major	Possible	14 (MEDIUM)	Jemena are currently reviewing the proposed development yield to determine if their infrastructure will be capable for servicing the development in the short, medium and long term scenarios	Developers to carry site specific studies as required by the Authorities. Design to be submitted to SOPA for approval to ensure the consistency within the precinct and public domain design principles.
5	Telecommunications	Capacity of the existing infrastructure isn't suitable for the new development demands. Requirement for new trunk infrastructure to be installed to service the development. Conduits to be installed not fit for the future and require additional conduits to be installed in the medium and long term	Risk	Development delivery delays Disturbance of public and residents	Major	Likely	18 (HIGH)	Spare conduits installed in the same trench which are fit for the future for the medium and long term scenarios - Sharing infrastructure - SOPA may deliver some of the infrastructure which can be shared to other telco companies. NBN to deliver future infrastructure.	Developers to carry site specific studies as required by the Authorities. Design to be submitted to SOPA for approval to ensure the consistency within the precinct and public domain design principles.
6	Approvals and Funding	Uncertainty with funding arrangements and infrastructure costs	Risk	Delays in construction Uncertain funding arrangements and cost	Major	Likely	18 (HIGH)	Early communication with utility owners on funding requirements and accurate cost estimates	
7	Utilities	Lack of infrastructure space in the road reserve for all telecommunications	Opportunity	Coordinate with utility owners to share conduits in the road reserve	Moderate	Likely	13 (MEDIUM)	Early communication with utility owners	
8	Value Engineering	Installing infrastructure without the coordination with future technology	Risk	Future construction, public impact and reputational consequences	Moderate	Likely	13 (MEDIUM)	Early communication with utility owners on funding requirements and accurate cost estimates	
Construction									
9	Utility servicing	Install all utilities for the long term scenario at the commencement of the first development.	Opportunity	No continual construction and disturbance of the public and residents					
10	Cost estimates	High level cost estimates of construction are incorrect	Risk	Increased costs in construction	Moderate	Likely	13 (MEDIUM)		Detailed BOQ with additional item stated at provisional costs.
11	Potable Water	Variations from the constructor arising due to poor scope management	Risk	Greater costs to SOPA rather than through Sydney Water funding	Major	Possible	14 (MEDIUM)		Ensure everything necessary is detailed in the tender specification
12	Waste Water	Variations from the constructor arising due to poor scope management	Risk	Greater costs to SOPA rather than through Sydney Water funding	Major	Possible	14 (MEDIUM)		Ensure everything necessary is detailed in the tender specification
13	Electrical	Puncturing electrical conduits	Risk	Electrocution	Major	Possible	14 (MEDIUM)		Ensure detailed survey has been completed prior to construction. Ensure Ausgrid are aware of works surrounding existing assets
14	Utilities	Existing utility asset penetrated during construction	Risk	Development delivery delays Disturbance of public and residents	Major	Possible	14 (MEDIUM)		Ensure all building plan approval and detailed survey are conducted prior to construction
Operation & Maintenance									
15	Utilities	Breakage/failure of utility	Risk	Interruption to the public and residents for multiple hours	Major	Possible	14 (MEDIUM)	Concrete encasement for the sewer mains Steel pipe for water mains, and or 100 year design life Up to date survey and spotters prior to any digging Guidelines to be prepared to ensure large trunk infrastructure is to be kept off the major pedestrian and public pathways	
16	Asset maintenance	Maintenance on utility infrastructure post construction	Challenge	Disturbance to the public and residents	Moderate	Possible	9 (MEDIUM)	Design the utility infrastructure to ensure it has a minimum 100 year design life. This will result in additional upfront costs but will ultimately reduce the medium term maintenance costs	
17	Asset maintenance	Impacts to the public during maintenance of infrastructure (green infrastructure)	Opportunity	Place infrastructure that is required to be accessed frequently in local streets rather than main streets or shared ways.	Moderate	Possible	9 (MEDIUM)		

APPENDIX

F

SYDNEY WATER ADVICE LETTER

Case number 190162

July 8, 2021

SYDNEY OLYMPIC PARK AUTHORITY

c/ - CARDNO (NSW/ACT) PTY LTD

Feasibility letter

Developer:	SYDNEY OLYMPIC PARK AUTHORITY
Your reference:	8202119501
Development:	Lot 59 DP786296 7 FIGTREE DR, Sydney Olympic Park
Development Description:	The Central Precinct currently features low rise commercial and industrial buildings. The SOPA Master Plan envisages the transformation of the precinct to a mixed-use town centre including wide range of complementary uses including civic, retail, commercial, education, community, entertainment uses as well as a new public urban park at the centre of the precinct.
Your application date:	May 12, 2021

Dear Applicant

We've assessed your application for a Feasibility. The information in this letter is a guide only and is general information about what our requirements could you do apply for a Section 73 Certificate for your proposed development. **The information is accurate at today's date only.**

If you do get development consent for this development from your consent authority (typically from the Council) they'll ask you to get a Section 73 Compliance Certificate from us. You'll need to submit a new application and pay another application fee. Once you've applied we'll send you a:

- Notice of Requirements
- Developer Works Deed (if applicable)
- Section 73 Certificate.

There may be changes in requirements between the issue date of this letter to when you submit your new application. Below we explain what the changes could be.

Developer charges

The Developer charges could change because:

- the Consumer Price Index (CPI) had an increase or decrease
- scheduled reviews by the Independent Pricing and Review Tribunal (IPART)
- there's rezoning of land within the development proposal.

Changing the proposed development

If your development changes, for example the development description or the plan/site layout changes after today the requirements in this letter can change when you submit your new application.

If you decided to do your development in stages then you must submit a new application and pay another application fee for each stage.

What you must do to get a Section 73 Compliance Certificate in the future

To get your Certificate in the future you'll need to do the following things. You can also find about our process at [Plumbing, building & developing](#) on our website.

1. Get Development Consent from the consent authority for your development proposal.

2. Engage a Water Servicing Coordinator

You'll need to engage your current or another Water Servicing Coordinator (WSC) to manage the design and construction of works that you must provide, at your cost to service your **development**.

You'll find a list of WSC's at [Listed providers](#) on our website.

Your WSC will be your point of contact with us. They'll answer questions about our process and any developer charges you might have to pay. They can give you a quote or information about costs for services, works and our costs.

4. Drinking water, recycled water and Sewer Works

4.1 Drinking water

We've assessed your application and found that:

The proposed development lies within the Greater Parramatta and the Olympic Peninsula (GPOP) corridor. GPOP subregional plan 2018 looked at the short-term strategy and recommended to maximise the utilisation of existing assets and optimise operation where feasible. Additionally, Sydney Water anticipates that water network amplification may be required in the future to support the significant growth projected within GPOP. It is also recommended that integrated water management provision via dual-pipe controls are investigated for this development in line with the wider GPOP recycled water initiatives. Further planning is needed to assess scale and timing of future amplification. This would require detailed development information, such as staged development yield and timing.

4.2 Recycled water

We've assessed your application and found that:

Sydney Water is assessing the viability of recycled water servicing for the Greater Parramatta and the Olympic Peninsula (GPOP), in line with the Greater Sydney Commission's draft Phase 1.

It is recommended that integrated water management provision via dual-pipe controls are investigated for this development in line with the wider GPOP recycled water initiatives.

4.2.1 Our standards for dual water reticulation

Your development is in an area where both drinking and recycled water systems are available. The drinking and recycled water works required above must comply with the standards for Dual Water Reticulation Systems that are set down in the Water Supply Code of Australia (Sydney Water Edition) (the Code).

These standards require that service connections and property services be provided for both drinking and recycled water for your development. The installation of these services must either be carried out or supervised by a licensed plumber. It must meet the:

- (a) Administrative requirements of the Plumbing Code of Australia; and
- (b) Technical requirements of the Dual Water Drawings Set within the Code.

4.3 Sewer

We've assessed your application and found that:

The proposed development lies in Homebush SCAMP. As in water, GPOP subregional plan 2018 looked at the short-term strategy and has identified some dry weather amplification downstream. Additionally, Sydney Water anticipates that some wastewater network amplification may be required in the future to support the significant growth projected within GPOP (refer Figure 2)

Further planning is needed to assess scale and timing of future amplification. This would require detailed development information, such as staged development yield and timing.

5. Ancillary adjustments

5.1 Asset adjustments

If any of our drinking water main, recycled water main, sewer or stormwater asset constructed or under construction is found, after the issue of this Notice, to require adjustment or deviation as a result of your development; then you'll need to do this work as well as any other works we have detailed above at your cost. The work must meet the conditions of this Notice and you'll need to complete it **before we can issue the Certificate**. We'll need to see the completed designs for the work, and we'll require you to lodge a security. The security will be refunded once the work is completed.

6. Developer charges

Development Servicing Plan (DSP)	Basis of Calculation	Charge (\$) for Applicable Period (7/8/21-6/30/22)
DEVELOPER CHARGES TOTAL:		\$Nil

6. Approval of your Building Plans

You must have your building plans approved **before the Certificate can be issued. Building construction work MUST NOT commence until we've granted approval.** Approval is needed because construction/building works may affect our assets (e.g. water and sewer mains).

Your WSC can tell you about the approval process including:

- Your provision, if required, of a "Services Protection Report" (also known as a "pegout"). This is needed to check whether the building and engineering plans show

accurately where our assets are located in relation to your proposed building work. Your WSC will then either approve the plans or make requirements to protect those assets before approving the plans

- Possible requirements
- Their Costs
- Timeframes.

We recommend that you apply for Building Plan Approval early as in some instances your WSC may need to refer your building plans to us for detailed review. You'll be required to pay us for the costs associated with the detailed review.

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

Notes:

- **The Certificate will not be issued until the plans have been approved and, if required, our assets are altered or deviated**
- **You can only remove, deviate, or replace any of our pipes using temporary pipework if you have written approval from us. You must engage your WSC to arrange this approval**
- **You must obtain our written approval before you do any work on our systems. We'll take action to have work stopped on the site if you do not have that approval. We'll apply Section 44 of the *Sydney Water Act 1994*.**

Other things you need to do

There might be other things you need to do that are NOT a requirement for the Certificate. These could be requirements set by us in the future because of the impact of your development on our assets. You must read them before you go any further.

Disused Sewerage Service Sealing

Please don't forget that you must pay to disconnect all disused private sewerage services and seal them at the point of connection to our sewer main. This work must meet our standards in the Plumbing Code of Australia (the Code) and be done by a licensed drainer. The licensed drainer must arrange for an inspection of the work by a NSW Fair Trading Plumbing Inspection Assurance Services (PIAS) officer. After that officer has looked at the work, the drainer can issue the Certificate of Compliance. The Code requires this.

Soffit Requirements

Please be aware that floor levels must be able to meet our soffit requirements for property connection and drainage.

Requirements for Business Customers for Commercial and Industrial Property Developments

If this property is to be developed for Industrial or Commercial operations, it may need to meet the following requirements:

Trade Wastewater Requirements

If this development is going to generate trade wastewater, the property owner must submit an application requesting permission to discharge trade wastewater to Sydney Water's sewerage system. You must wait for approval of this permit before any business activities can commence.

The permit application should be emailed to Sydney Water's [Business Customer Services](mailto:businesscustomers@sydneywater.com.au) at businesscustomers@sydneywater.com.au

It is illegal to discharge Trade Wastewater into the Sydney Water sewerage system without permission.

A **Boundary Trap** is required for all developments that discharge trade wastewater where arrestors and special units are installed for trade wastewater pre-treatment.

If the property development is for Industrial operations, the wastewater may discharge into a sewerage area that is subject to wastewater reuse. Find out from Business Customer Services if this is applicable to your development.

Backflow Prevention Requirements

Backflow is when there is unintentional flow of water in the wrong direction from a potentially polluted source into the drinking water supply.

All properties connected to Sydney Water's supply must install a testable **Backflow Prevention Containment Device** appropriate to the property's hazard rating. Property with a high or medium hazard rating must have the backflow prevention containment device tested

annually. Properties identified as having a low hazard rating must install a non-testable device, as a minimum.

Separate hydrant and sprinkler fire services on non-residential properties, require the installation of a testable double check detector assembly. The device is to be located at the boundary of the property.

Before you install a backflow prevention device:

1. Get your hydraulic consultant or plumber to check the available water pressure versus the property's required pressure and flow requirements.
2. Conduct a site assessment to confirm the hazard rating of the property and its services. Contact PIAS at NSW Fair Trading on **1300 889 099**.

For installation you will need to engage a licensed plumber with backflow accreditation who can be found on the Sydney Water website:

<http://www.sydneywater.com.au/Plumbing/BackflowPrevention/>

Water Efficiency Recommendations

Water is our most precious resource and every customer can play a role in its conservation. By working together with Sydney Water, business customers are able to reduce their water consumption. This will help your business save money, improve productivity and protect the environment.

Some water efficiency measures that can be easily implemented in your business are:

- Install water efficiency fixtures to help increase your water efficiency, refer to WELS (Water Efficiency Labelling and Standards (WELS) Scheme, <http://www.waterrating.gov.au/>
- Consider installing rainwater tanks to capture rainwater runoff, and reusing it, where cost effective. Refer to <http://www.sydneywater.com.au/Water4Life/InYourBusiness/RWTCalculator.cfm>
- Install water-monitoring devices on your meter to identify water usage patterns and leaks.
- Develop a water efficiency plan for your business.

It is cheaper to install water efficiency appliances while you are developing than retrofitting them later.

Contingency Plan Recommendations

Under Sydney Water's [customer contract](#) Sydney Water aims to provide Business Customers with a continuous supply of clean water at a minimum pressure of 15meters head at the main tap. This is equivalent to 146.8kpa or 21.29psi to meet reasonable business usage needs.

Sometimes Sydney Water may need to interrupt, postpone or limit the supply of water services to your property for maintenance or other reasons. These interruptions can be planned or unplanned.

Water supply is critical to some businesses and Sydney Water will treat vulnerable customers, such as hospitals, as a high priority.

Have you thought about a **contingency plan** for your business? Your Business Customer Representative will help you to develop a plan that is tailored to your business and minimises productivity losses in the event of a water service disruption.

For further information please visit the Sydney Water website at:

<http://www.sydneywater.com.au/OurSystemsandOperations/TradeWaste/> or contact Business Customer Services on **1300 985 227** or businesscustomers@sydneywater.com.au

Fire Fighting

Your firefighting service must be drawn from the recycled water system.

Definition of fire fighting systems is the responsibility of the developer and is not part of the Section 73 process. It is recommended that a consultant should advise the developer regarding the fire fighting flow of the development and the ability of our systems to provide that flow in an emergency. Our Operating Licence directs that our mains are only required to provide domestic supply at a minimum pressure of 15 m head.

A report supplying modelled pressures called the Statement of Available pressure can be purchased on-line through [Sydney Water Tap in](#)™ and may be of some assistance when defining the fire fighting system. The Statement of Available pressure may advise flow limits that relate to system capacity or diameter of the main and pressure limits according to pressure management initiatives. If mains are required for fire fighting purposes, the mains shall be arranged through the water main extension process and not the Section 73 process.

Large Water Service Connections (Dual Water)

A drinking water main and a recycled water main are available to serve your development. The size of your development means that you will need dual water connections larger than the standard domestic 20 mm size.

To get approval for your connection, you will need to lodge an application on our [Sydney Water Tap in](#)™. You, or your hydraulic consultant, may need to supply the following:

- a plan of the hydraulic layout
- a list of all the fixtures/fittings within the property
- a copy of the fireflow pressure inquiry issued by us
- a pump application form (if a pump is required)
- all pump details (if a pump is required).

You'll have to pay an application fee.

The service connection will need to meet with:

Administrative requirements of the Plumbing Code of Australia; and
Technical requirements of the Dual Water Drawings Set within the Code.

We don't consider whether a water main is adequate for fire fighting purposes for your development. We can't guarantee that this water supply will meet your Council's fire fighting requirements. The Council and your hydraulic consultant can help.

Disused Water Service Sealing

You must pay to disconnect all disused private water services and seal them at the point of connection to our water main. This work must meet our standards in the Plumbing Code of Australia (the Code) and be done by a licensed plumber. The licensed plumber must arrange for an inspection of the work by a NSW Fair Trading Plumbing Inspection Assurance Services (PIAS) officer. After that officer has looked at the work, the drainer can issue the Certificate of Compliance. The Code requires this.

Other fees and requirements

The requirements in this Advice Letter relate to your future Certificate application only. We may be involved with other aspects of your development and there may be other fees or requirements. These include:

- construction/building plan approval fees
- plumbing and drainage inspection costs
- the installation of backflow prevention devices
- trade waste requirements
- large water connections and
-
- council firefighting requirements. (It will help you to know what the firefighting requirements are for your development as soon as possible. Your hydraulic consultant can help you here)

No warranties or assurances can be given about the suitability of this document or any of its provisions for any specific transaction. It does not constitute an approval from us and to the extent that it is able, we limit its liability to the reissue of this Letter or the return of your application fee. You should rely on your own independent professional advice.

END OF ADVICE