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To: Charter Hall Holdings Pty Limited

Project: 520 Gardeners Road, Alexandria – Ascent Logistics Centre
Service Infrastructure Assessment

Our Ref: SY075373.000

Date: MARCH 2022

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Revision:

Issue	Date	Comment
A	12/2021	Issue for comment
B	12/2021	Response from Ausgrid
C	03/2022	Infrastructure Staging & Delivery Plan

EXECUTIVE SUMMARY

Servicing Capability

- Potable Water
 - ▲ Estimated Potable Water Demand
 - Average Day Demand 29kl/day
 - Max Day Demand 55kl/day
 - ▲ Potable water reticulation system exists adjacent to the site.
 - ▲ Substantial potable water mains exist adjacent to the site in Bourke Road and Gardeners Road. A 250mm reticulation potable water main exists in Bourke Road (available for connection), together with a 750mm trunk water main (not available for connection). A 150mm reticulation water main provides frontage in Gardeners Road, this main is available for connection.
- Waste Water
 - ▲ Estimated Waste Water Demand 27kl/day
 - ▲ The site is served by a 225mm sewer main adjacent to the south-east corner of the site.
 - ▲ Adequate waste water capacity exists to serve the proposed development.
- Electricity
 - ▲ Electrical demand has been estimated as 1.5MVa.
 - ▲ Substantial electrical services exist within Gardeners Road and Bourke Road. These services consist of conduit banks with 11kv high voltage feeder cables installed within the conduits.
 - ▲ A 132kv electrical feeder cable is laid within easement within the site. This asset is not available for connection.
 - ▲ Significant capacity exists within the electrical system to service the proposed development.
 - ▲ The developers Level 3 ASP electrical designer has lodged a supply application with Ausgrid and Ausgrid have responded (refer to Appendix B) noting that 2 chamber substations are likely to be installed to service the development.
- Telco
 - ▲ NBN is the network provider for the area and has established underground fibre optic cables within Bourke Road and Gardeners Road.
- Gas
 - ▲ Jemena have a 1,050kPa high pressure gas reticulation main in Bourke Road and Gardeners Road immediately along the frontage of the site, together with a 210kPa main also in Bourke Road and Gardeners Road. The 210kPa main is available for connection.

1.0 INTRODUCTION

It is anticipated that a State Significant Development (SSD) application will be made to Department of Planning, Industry and Environment. As part of that application the Department has issued SEARS requirements for the proposed development under application No. SSD-32489140

The site is described as Lot 302 DP1231238 located within a well-established and well serviced industrial precinct. Substantial infrastructure has been installed by the utility service operators that will provide adequate capacity to service the proposed development.

Concept architectural layout has been provided that is the basis of comments within this report. The architectural is shown as follows:



Area Schedule (GFA)	
Name	Area (sqm)
OFFICE 1A	100
OFFICE 1B	70
OFFICE 1C	14
OFFICE 2	38
OFFICE 3	35
OFFICE 4	38
OFFICE 5	38
OFFICE 6	38
OFFICE 7	38
OFFICE 8	38
OFFICE 9	38
OFFICE 10	38
OFFICE 11	38
OFFICE 12	38
OFFICE 13	38
OFFICE 14	38
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OFFICE 514	

1.1 SEARS REQUIREMENTS

The project is described as “Construction of a two-storey warehouse and distribution centre comprising 21,952m² of warehouse and distribution gross floor area (GFA), with 5,557m² ancillary office space, landscaping at ground and second floor levels, bicycle and car parking.”

Sears requirements outlined in SSD-32489140 from the Department of Planning, Industry & Environment have been used. Those requirements outline key issues one of which is the following:

Infrastructure Requirements & Utilities	How It Is Addressed	Section of this Report
Assess the impacts of the development on existing utility infrastructure & service provider assets surrounding the site. Infrastructure Delivery, Management and Staging Plan	Identify existing services through site inspection and utilising existing service utility plans	Section 3, 4, 5 & 6
Identify any infrastructure upgrades required onsite and offsite to facilitate the development and any arrangements to ensure that the upgrades will be implemented on time and be maintained.	Determine demand requirements for the development, determine if any upgrades or infrastructure amplifications required.	Appendix A & B
Provide infrastructure staging plan, description of how infrastructure requirements would be coordinated, funded and delivered to facilitate the development.	Assess existing infrastructure if staging of any upgrades (if required) will be required and if so what funding is required	Sec 7.0

2.0 SERVICE AUTHORITIES:

The service authorities who provide infrastructure services to this area are:

- | | | |
|-----|---------------|--|
| (a) | Sydney Water: | Potable Water & Waste Water Infrastructure |
| (b) | Ausgrid: | Electrical Infrastructure |
| (c) | NBN Co: | Telecommunications Infrastructure |
| (d) | Jemena: | Gas Infrastructure |

3.0 POTABLE WATER AND WASTE WATER

3.1 POTABLE WATER

- Immediately adjacent to the site along the frontage of Bourke Road is a 250mm reticulation water main. This main is available for connection. A 150mm reticulation main is available for connection in Gardeners Road. A 750mm trunk water main is laid in Bourke Road – this main is not available for connection.
- Potable Water Average Day Demand is estimated at 29kl/day for warehouse/distribution development with associated office facilities (refer Appendix A). This calculates as a demand of 0.7litres/second over a 12 hour working shift. This level of demand can be catered by the existing reticulation mains in Bourke Road or Gardeners Road.
- Sydney Water Sec 73 process is an asset creation process that would outline any system requirements for the development. No amplifications or adjustments or deviations of existing Sydney Water assets are expected. The only Sydney Water requirement that would be expected for this development is a Building Plan Approval as per Sydney Water’s standard requirements.
- Pressure and Flow enquiry has been lodged with Sydney Water and results are Shown in Appendix A. The results indicate excellent pressure & flow rates from the surrounding Sydney Water infrastructure.

3.2 WASTE WATER

- a) A 225mm sewer line serves the subject property. The 225mm pipe size is a standard size required by Sydney Water for commercial and industrial developments.
- b) This existing main will adequately cater for the proposed development.
- c) Waste Water discharge is estimated as 27kl/day or 0.6litres/second over a 12 hour work shift – a level of discharge that will be adequately catered for by the existing Sydney Water system.

4.0 ELECTRICITY

- a) The client has engaged a Level 3 ASP Consultant to design a new electrical connection for the development.
- b) The consultant has lodged an application with Ausgrid for the establishment of new electrical substation with high voltage feeder connection from the existing surrounding high voltage network. Ausgrid have responded noting that 2 chamber substations can be installed to service the development. It is anticipated that the chamber substations will be 1000kVa capacity substations. Existing substation S2999 is to be decommissioned and recovered.
- c) Electrical demand for the development has been estimated at approximately 1MVA-1.5MVA. Demand for warehouse distribution and associated office calculates an approximate 1MVA based on the gross floor areas noted in the architectural scheme. An allowance of 50% increase in that demand level is allowed to assess requirements for a heavier load for end users
- d) Due to the site being located in a well-established industrial area the “After Diversity Maximum Demand (ADMD)”, which calculates a demand over a larger “holistic” area (i.e., the industrial precinct), would ensure that sufficient electrical service would be available to support a range of development types within the industrial precinct – including the development proposed for the subject site.

5.0 GAS

- a) Jemena is the utility supplier for gas. Jemena has installed a 1,050kPa high pressure gas main in Bourke Road immediately adjacent to the frontage of the site with a 1,050kPa high pressure gas main in Gardeners Road. A medium pressure 210kPa main is located immediately adjacent to the frontage of the site within Gardeners Road.
- b) The subject site is adequately serviced by these existing gas mains.

6.0 TELECOMMUNICATIONS

- a) NBN Co is the network provider for this area.
- b) Prior to NBN Co being the provider for this area Telstra had fibre optic systems within Bourke Road and Gardeners Road. The prior user of the subject site was connected to Gardeners Road reticulation system.
- c) The subject site is adequately serviced by the existing fibre optic systems in Bourke Road and Gardeners Road.
- d) A number of other telecommunications providers (Optus, Aarnet, Vocus, Nextgen, TPG, FibreConx) have fibre optic systems adjacent to the site. These systems are also available for connection.

7.0 EXPECTED IMPACTS ON EXISTING INFRASTRUCTURE

- a) Existing 132kv electrical feeder within easement is located on site. Ausgrid will require asset protection processes to be implemented during construction phase of the development.
- b) The site is located adjacent to the underground airport rail link. Appropriate approvals and asset protection processes will be implemented for any proposed construction activity. It is expected that referral of the development application will be made to TfNSW for commentary. The stratum level of the tunnel easement (top level) is denoted as between 2.27m–2.55m adjacent to the development site (tunnel is beneath Bourke Road corridor). Existing ground levels are approximately 6.3-7m along Bourke Road frontage. Adequate clearance to the rail stratum easement for construction of drainage system connections from the site to the existing drainage systems in Bourke Road exists.
- c) An existing stormwater drainage system which benefits Sydney City Council is to be relocated from the proposed building footprint area and replaced with a new 825mm stormwater pipe (within a new easement) clear of any building structure.
- d) Driveway ingress/egress for vehicles using the site from Gardeners Road and Bourke Road will be subject to the normal clearances and protection process required by utility authorities for services located in the footway areas. It is expected that the development consent for the project will outline the standard requirement to liaise with the utility service providers for the driveway crossings.

8.0 INFRASTRUCTURE STAGING & DELIVERY PLAN

8.1 SYDNEY WATER INFRASTRUCTURE

Sydney Water has a standard asset creation path through their Sec 73 process.

The development does not have any substantial impact on the delivery of potable water and waste water services to the site and as such no amplification of existing Sydney Water assets is expected.

The site is already serviced by Sydney Water assets so no staging of delivery of any Sydney Water asset is required.

8.2 ELECTRICITY

Decommissioning of the existing electrical substations can commence once the Level 3 ASP consultant receives Ausgrid approval.

Provision of new chamber padmount substations within the site with high voltage feeder connection to existing Ausgrid assets in Bourke Road and Gardeners Road will occur as per Ausgrid's normal asset creation path. The new substations will be installed during the development process for the new building.

8.3 TELCO & GAS

Existing assets exist to serve the proposed development.

8.4 COST

All assets will be delivered through the service utility organisations asset creation path and this instance those assets will be developer funded.

9.0 CONCLUSION

Significant utility service assets exist in the industrial precinct the development site is located. Those service assets adjacent to the development site provide adequate capacity to support the proposed development.

APPENDIX A

POTABLE WATER & WASTE

WATER DEMAND

1. Charter Hall have provided an architectural plan as noted in the report.
(Nettleton Tribe Drawing No. 11596_SK-081 issue 1)
2. The architectural plan outlines the following development areas:
 - (a) Warehouse 19,913m²
 - (b) Office 5,414m²
 - (c) Café/Gym 292m²

Potable Water

Development Type	Floor Area (m ²)	EP/m ²	EP	P.W Demand/EP	P.W Demand
Warehouse	19,913	1EP/250m ²	80	80litres/day	6.4kl/day
Office	5,414	1EP/20m ²	270	80litres/day	21.6kl/day
Café/Gym	292	*			0.7kl/day
Total					Say 29kl/day

So: Average Day Demand 29kl/day
 Max Day Demand 55kl/day

*Note: potable water demand for café/gym based on Sydney Water publication "Average Daily Water Use by Property Type" – Café at 2.48litres/day/m²

Waste Water

An estimate of 95% of Potable Water for Waste Water discharge:

$$29\text{kl/day} \times 0.95 = 27\text{kl/day}$$

Statement of Available Pressure and Flow

Lilliane Moujalli
23-29 South Street
Rydalmere, 2116

Attention: Lilliane Moujalli

Date: 13/12/2021

Pressure & Flow Application Number: 1309843
Your Pressure Inquiry Dated: 2021-12-07
Property Address: 520-530 Gardeners Road, Alexandria 2015

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: Bourke Road	Side of Street: West
Distance & Direction from Nearest Cross Street	50 metres North from Gardeners Road
Approximate Ground Level (AHD):	7 metres
Nominal Size of Water Main (DN):	200 mm

EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	68 metre head
Minimum Pressure	41 metre head

WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	41
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	5	41
	10	41
	15	41
	20	41
	26	41
	30	41
	40	40
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the water main)	50	40
	5	41
	10	41
	15	41
	20	40
Maximum Permissible Flow	26	40
	30	40
	40	40
	50	39
	118	35

(Please refer to reverse side for Notes)

For any further inquiries regarding this application please email :

swtapin@sydneywater.com.au

Statement of Available Pressure and Flow

Lilliane Moujalli
23-29 South Street
Rydalmere, 2116

Attention: Lilliane Moujalli

Date: 13/12/2021

Pressure & Flow Application Number: 1309852
Your Pressure Inquiry Dated: 2021-12-07
Property Address: 520-530 Gardeners Road, Alexandria 2015

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: Gardeners Road	Side of Street: South
Distance & Direction from Nearest Cross Street	100 metres East from Bourke Road
Approximate Ground Level (AHD):	8 metres
Nominal Size of Water Main (DN):	150 mm

EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	67 metre head
Minimum Pressure	40 metre head

WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	40
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	5	40
	10	40
	15	40
	20	40
	26	39
	30	39
	40	38
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the water main)	50	38
	5	39
	10	39
	15	39
	20	39
Maximum Permissible Flow	26	38
	30	38
	40	37
	50	35
	67	32

(Please refer to reverse side for Notes)

For any further inquiries regarding this application please email :

swtapin@sydneywater.com.au

General Notes

This report is provided on the understanding that (i) the applicant has fully and correctly supplied the information necessary to produce and deliver the report and (ii) the following information is to be read and understood in conjunction with the results provided.

1. Under its Act and Operating Licence, Sydney Water is not required to design the water supply specifically for fire fighting. The applicant is therefore required to ensure that the actual performance of a fire fighting system, drawing water from the supply, satisfies the fire fighting requirements.
2. Due to short-term unavoidable operational incidents, such as main breaks, the regular supply and pressure may not be available all of the time.
3. To improve supply and/or water quality in the water supply system, limited areas are occasionally removed from the primary water supply zone and put onto another zone for short periods or even indefinitely. This could affect the supply pressures and flows given in this letter. This ongoing possibility of supply zone changes etc, means that the validity of this report is limited to one (1) year from the date of issue. It is the property owner's responsibility to periodically reassess the capability of the hydraulic systems of the building to determine whether they continue to meet their original design requirements.
4. Sydney Water will provide a pressure report to applicants regardless of whether there is or will be an approved connection. Apparent suitable pressures are not in any way an indication that a connection would be approved without developer funded improvements to the water supply system. These improvements are implemented under the Sydney Water 'Urban Development Process'.
5. Pumps that are to be directly connected to the water supply require approval of both the pump and the connection. Applications are to be lodged online via Sydney Water Tap in™ system - Sydney Water Website – www.sydneywater.com.au/tapin/index.htm. Where possible, on-site recycling tanks are recommended for pump testing to reduce water waste and allow higher pump test rates.
6. Periodic testing of boosted fire fighting installations is a requirement of the Australian Standards. To avoid the risk of a possible 'breach' of the Operating Licence, flows generated during testing of fire fighting installations are to be limited so that the pressure in Sydney Water's System is not reduced below 15 metres. Pumps that can cause a breach of the Operating Licence anywhere in the supply zone during testing will not be approved. This requirement should be carefully considered for installed pumps that can be tested to 150% of rated flow.

Notes on Models

1. Calibrated computer models are used to simulate maximum demand conditions experienced in each supply zone. Results have not been determined by customised field measurement and testing at the particular location of the application.
2. Regular updates of the models are conducted to account for issues such as urban consolidation, demand management or zone change.
3. Demand factors are selected to suit the type of fire-fighting installation. Factor 1 indicates pressures due to system demands as required under Australian Standards for fire hydrant installations. Factor 2 indicates pressures due to peak system demands.
4. When fire-fighting flows are included in the report, they are added to the applicable demand factor at the nominated location during a customised model run for a single fire. If adjacent properties become involved with a coincident fire, the pressures quoted may be substantially reduced.
5. Modelling of the requested fire fighting flows may indicate that local system capacity is exceeded and that negative pressures may occur in the supply system. Due to the risk of water contamination and the endangering of public health, Sydney Water reserves the right to refuse or limit the amount of flow requested in the report and, as a consequence, limit the size of connection and/or pump.
6. The pressures indicated by the modelling, at the specified location, are provided without consideration of pressure losses due to the connection method to Sydney Water's mains.

APPENDIX B

ELECTRICAL DEMAND

1. Charter Hall have provided an architectural plan as noted in the report.
(Nettleton Tribe Drawing No. 11596_SK-081 issue 1)
2. The architectural plan outlines the following development areas:

- (a) Warehouse 19,913m²
- (b) Office 5,414m²
- (c) Café/Gym 292m²

Development Type	Floor Area (m²)	Demand/m²	Demand
Warehouse	19,913	17/VA/m ²	0.3MVA
Office	5,414	100VA/m ²	0.5MVA
Café/Gym	292	120VA/m ²	Say 0.1MVA
Total			SAY 1MVA

Based on possible uses of some of the proposed units greater than traditional warehousing and distribution a load factor of 50% should be allowed to cater for “heavier” demand uses such as refrigeration, printing press, etc.

Therefore, demand allowance is 1.5MVA.

OFFER to provide DESIGN RELATED SERVICES



DESIGN RELATED SERVICES OFFER

Premises address: 520-530 GARDENERS ROAD, ALEXANDRIA 2015

NMI - Number: Webform Ref 298512

MC Reference: 1900111151 AP Reference: 800451648

This offer is made on 9/12/2021

By Ausgrid of 24 Campbell St, Haymarket NSW 2000.

To the **connection applicant** named in the *connection application* received on 12/1/2021 in respect of the *premises* referred to above.

Ausgrid has determined that network alterations are required to connect your development and we cannot proceed to a connection or relocation offer at this stage. To enable Ausgrid to further consider and process your application you will require a certified design and associated certification number. Your application remains technically incomplete until you have been issued a certification number.

This Design Related Services Offer provides guidance on how to obtain a certified design and associated certification number.

Scope of Network Alterations

Ausgrid has determined that the following works are likely to be required:

- Installation of two standard surface chamber type substations.
- Decommission & recover S.2999

These works are classified as contestable, which means that you are required to fund the design and some or all of the construction works. If you have not already done so, you will need to engage and manage suitably qualified contractors, known as Accredited Service Providers (ASPs) to undertake the design and construction.

Initially, your ASP Level 3 (ASP/3) will undertake the design, and then your ASP Level 1 (ASP/1) will undertake construction in accordance with the design and Ausgrid's policies and standards. The timeframe for the works will vary depending on factors such as the complexity and the way in which you manage your ASP's.

Once the works have been satisfactorily completed and electrified, the premises connection assets will be owned and maintained by Ausgrid as part of the electricity distribution network.

Contract for Design Related Services

This letter is an offer for the Customer to enter into a Contract for Design Related Services with Ausgrid. It remains open for acceptance for 45 business days. If the offer is accepted by the Applicant, the Applicant does so as the Customer's agent. No work will be undertaken by Ausgrid until a Design Contract is in place.

You are encouraged to contact ASP/3's and ASP/1's to understand the likely overall costs you will incur for design and construction before you accept and commit to the Contract for Design Related Services.

IMPORTANT: The contractual arrangements provide the framework for a design to be prepared by your ASP/3, and NOT by Ausgrid. Ausgrid's fees as outlined below are for the design related network services we provide during the design phase and are **IN ADDITION** to the fees charged by your ASP/3 in preparing the design.

Acceptance Fees

The acceptance fees relating to the Contract for Design Related Services are outlined in the attached Acceptance Fee Summary and also detailed on the Ausgrid Portal page. Ausgrid will invoice **the Customer** once we receive acceptance via the Ausgrid Portal along with a Customer Details Form (attached). The Contract will commence when you pay the invoiced fee.

The acceptance fees are an estimate for the Ausgrid services required and are payable up front by the **Customer**. Further fees may apply for any additional services required and these will be quoted via the Ausgrid Portal on each occasion.

Ausgrid's published rates for our services are amended from time to time in our Alternative Control Services Fee Schedule Publication, and in accordance with the Contract, Ausgrid reserves the right to charge the rates that are applicable at the time the service is provided.

Fees for Ausgrid's services are in addition to the design and construction costs charged by your ASP's, and some fees may not be refundable if the service has already been provided. Fees and rates are set by the Australian Energy Regulator.

WHAT TO DO NEXT

- To move ahead, please accept the offer (see below) outlined in this document and then have the **Customer** pay the invoice that will be forwarded
- **Complete and forward the [Customer Details Form](#)**
- Engage an ASP Level 3 designer
 - On the Ausgrid Portal, nominate the ASP/3 as the designer for this project
 - Advise the ASP/3 that the Design Information Category for this project is **Standard**

Enquiries: connections.technical.enquiries@ausgrid.com.au

Enclosures: Contract terms – via website at:
<https://ausgrid.com.au/CDRS>.

Customer Details Form – via website at
<https://ausgrid.com.au/customerdetailsform>

Acceptance Fee Summary – attached

PLEASE REVIEW THE OFFER OUTLINED IN THIS LETTER, ALONG WITH THE TERMS LINKED ABOVE, THEN PROCEED TO THE AUSGRID PORTAL

IF YOU WISH TO ACCEPT THIS OFFER

SELECT "ACCEPT" AGAINST THE OFFER ON THE AUSGRID PORTAL WITHIN 45 BUSINESS DAYS

RETURN THE [CUSTOMER DETAILS FORM BY EMAIL](#)
TO contestability@ausgrid.com.au

IF YOU WISH TO DECLINE THE OFFER

SELECT "DECLINE" AGAINST THE OFFER ON THE AUSGRID PORTAL.

Should you wish to proceed in the future, a new connection application will need to be lodged.

DESIGN RELATED SERVICES OFFER

ACCEPTANCE FEE SUMMARY

Service Description	Unit	Quantity	Price per unit	Total Price
Design Service Package 05	Service	1.00000	\$0.00	\$0.00
Administration of Contestable Works - General - Design	Service	1.00000	\$247.40	\$247.40
Design Information - Standard	Hour	7.00000	\$205.27	\$1,436.89
Design Certification - Other - R3	Hour	30.00000	\$205.27	\$6,158.10
SUBTOTAL				\$7,842.39
GST (10%)				\$784.24
TOTAL				\$8,626.63

These fees are an **initial estimate** for the services we will require to provide throughout the design contract and are payable up front by the **Customer**, on acceptance of the contract.

IMPORTANT: **Additional** services may be required through the course of the design contract (e.g. asset number requests, specialist services, consultancy services). The fee for such services will be billed to the **Customer** in accordance with the contract, and are payable prior to design certification. Typical examples include, but are not limited to, fees for asset creation, additional certification effort and requests to vary network standards.

TO AVOID DELAYS, DON'T FORGET TO RETURN A COPY OF THE COMPLETED **CUSTOMER DETAILS FORM** TO AUSGRID (contestability@ausgrid.com.au)