MUSEUMS DISCOVERY CENTRE EXPANSION
ENVIRONMENTAL IMPACT STATEMENT

APPENDIX M
INFRASTRUCTURE SERVICES REPORT

Northrop

NSW GOVERNMENT

NORTHROP

INFRASTRUCTURE SERVICES REPORT

Powerhouse Museums Discovery Centre

2 Green Road, Castle Hill NSW 2154

PREPARED FOR
Department Planning & Environment
c/-Lahznimmo
3 Gladstone Street
Newtown NSW 2042
Tel: 02 9550 5200

Ref: SY181569-BSIR
Rev: 4
Date: 10.09.2020

Infrastructure Services Report

Revision Schedule

Date	Revision	Issue	Prepared By	Approved By
26.06.2020	1	For Information	S.Burgess	S.Murray
24.07.2020	2	SSDA	S.Burgess	S.Murray
04.08.2020	3	SSDA	S.Burgess	S.Murray
10.09.2020	4	SSDA	S.Burgess	S.Murray

Northrop Consulting Engineers Pty Ltd

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Table of Contents

1. Introduction

1.1 General

This Infrastructure Services Report has been prepared by Northrop Consulting Engineers Pty Ltd (Northrop), the building services engineering consultants for the design and documentation of the works to be completed for the Powerhouse Museums Discovery Centre development, located at 2 Green Road, Castle Hill NSW 2154.

Northrop has performed non-invasive investigations in regard to the existing site conditions and additional loading from the proposed building onto the existing utility infrastructure available for connection to the site.

Our assessment has been based on information provided by the relevant water, sewer, and natural gas utility authorities.

1.2 Introduction

The report supports a State Significant Development (SSD) Application for the proposed construction and use of a new building to facilitate the expansion of the Museums Discovery Centre (MDC) site at 2 Green Road, Castle Hill.

The primary objective of the SSD Application is to provide expanded facilities to accommodate the Powerhouse collection including spaces for storage, conservation, research and display and spaces to facilitate increased public access to the collection through education, public programs, workshops, talks, exhibitions and events. The expansion of the existing MDC facility within the site at 2 Green Road Castle Hill will integrate with the existing MDC site located at 172 Showground Road, Castle Hill and its operations on a permanent basis.

The proposal is a type of “Information and Education Facility” with a Capital Investment Value (CIV) in excess of $30 million and is classified as SSD under Schedule 1 Clause 13 of the State Environmental Planning Policy (State and Regional Development) 2011 (State and Regional Development SEPP).

Create Infrastructure is the proponent of the SSD Application.

1.3 Background

The MDC is owned and operated by the Museum of Applied Arts and Sciences (MAAS) and features exhibitions and displays in collaboration with Australian Museum and Sydney Living Museums, who also maintain collection storage and conservation facilities on the site. The MDC is located at 172 Showground Road, Castle Hill. There are six buildings primarily providing collection storage as well as areas for displays and education and public programs, accessible to visitors (Building E). During 2017-2018 a total of 17,481 persons visited the MDC site.

The MDC Expansion is part of the renewal of the Museum of Applied Arts and Sciences, known as the Powerhouse Program, that includes:

- Powerhouse Parramatta: A new benchmark in cultural placemaking for Greater Sydney that will be a symbol of a new approach to creative activity and engagement;
- Powerhouse Ultimo: The NSW Government recently announced that the Museum’s Ultimo site will be retained, and the Museum will operate over four sites across the Greater Sydney area;

- Powerhouse Collection Relocation and Digitisation Project: The relocation of the Powerhouse collection and digitisation of around 338,000 objects, enhancing the collection's accessibility for local, national and international audiences.

The MDC expansion is an integral component of the Powerhouse Program and will provide the opportunity to increase visitation to the site, forming an important and significant cultural institution within The Hills Shire. In addition to the storage component of the proposal, the expansion will increase access to the Powerhouse collection through a range of spaces for visible storage, research and viewing of the collection, as well as flexible spaces for education and public programs, workshops, talks, exhibitions and events.

1.4 Site Description

The proposed Building J site is located within the property known as 2 Green Road, Castle Hill which comprises a single lot legally described as Lot 102 DP 1130271. The site is generally square in shape with a splay corner to the intersection of Green Road and Showground Road and a total area of approximately 3.8ha. The site has a primary frontage of approximately 183m to Green Road and a secondary frontage of approximately 186m to Showground Road. Refer to Figure 1. The location of the proposed new MDC building (to be known as "Building J") is located on the western end of the site and is marked on Figure 1 in a dashed yellow line (referred as the Building J Site). The overall site contains large institutional buildings set within a landscaped setting featuring a high tree canopy.

The overall site is a TAFE campus that caters for approximately 400 enrolled students, and provides courses on business and financial services, hospitality, general education, community services, health, nursing, carpentry, building and retail. The site currently includes TAFE buildings, car parking and vegetated open space areas. A dam is situated in the north eastern part of the site.

The MDC site is located immediately west of the existing TAFE site at 172 Showground Road, Castle Hill. A subdivision application (included within this SSD Application) will consolidate the site of the proposed Building J with the existing MDC site. The main public vehicle access to the MDC site is via Windsor Road. There is also a vehicular access point to the MDC on Showground Road. The MDC and TAFE have a longstanding arrangement, that permits vehicle access to the MDC site from Green Road, allowing vehicles to traverse across the TAFE site to access the MDC site.

1.5 Overview of Proposed Development

The successful delivery of this SSD project supports a priority cultural infrastructure project and is a NSW Government 2019 election commitment (Powerhouse Precinct at Parramatta). This application will deliver a significant cultural institution for Castle Hill and The Hills Shire.

The proposed Building J will offer many opportunities for public engagement as part of a desire to increase public access to the Powerhouse collection. The renewal of the site offers a range of opportunities to increase public access including visible storage facilities, booked tours, Open Days, public and education programs, workshops, talks and other events. The facilities in Building J will serve the needs of a variety of user groups including staff, volunteers, education groups, researchers, artists, scientists, industry partners and the general public.

The SSD Application seeks consent for the delivery of the MDC expansion as a single stage, comprising:

- Site preparation works, including the termination/relocation and installation of site services and infrastructure, tree removal (337 trees in total), earthworks, and the erection of site protection hoardings and fencing;
- Demolition of existing car park and vehicle accessway along the eastern and north eastern parts of the site. A new at-grade car park is proposed to be constructed on the eastern side of the TAFE site and will accommodate 24 car parking spaces removed from the Building J site;

- Construction of the proposed new Building J. The proposed new Building J will cater for the following uses:
    - Storage for the Powerhouse collection and archives (both collected archives and institutional archives);
    - Flexibles spaces for education and public programs, workshops, talks, exhibitions and events;
    - Suites of conservation laboratories and collection work spaces;
    - Photography, digitisation and collection documentation facilities;
    - Work space for staff, researchers, industry partners and other collaborators. This will include amenities, meeting and storage rooms, collection research and study areas as well as other ancillary facilities;
    - Components of the image and research library;
    - Object and exhibition preparation, packing, quarantine and holding areas.
- Construction of new vehicle accessways to maintain connectivity to the MDC and TAFE sites;
- Subdivision of the proposed Building J site from the TAFE site including creation of right-of-carriageway easement to facilitate access over the new realigned accessway by TAFE vehicles and consolidation to form a single lot with the existing MDC site.

Figure 1: Existing Site Layout Plan and Proposed Development Site. Source: Lahznimmo Architects

Development surrounding the site to the east, and north consists of established residential neighbourhoods generally comprising two storey detached dwellings. Opposite the site to the south east and south west are a mix of warehouses, industrial units, and large format bulky goods retail premises. Views into the TAFE and MDC site from the surrounding roads is obscured by dense trees and vegetation along the perimeter of the sites.

A public park and children's playground are adjacent to the north of the site that is bound by Sunderland Avenue to the east and Castlegate Place to the west. The dwellings along Sunderland Avenue and the southern side of Pentonville Parade are the nearest residential properties to the proposed Building J site.

1.6 Assessment Requirements

The Department of Planning, Industry and Environment have issued Secretary's Environmental Assessment Requirements (SEARs) to the applicant for the preparation of an Environmental Impact Statement for the proposed development. This report has been prepared having regard to the SEARs as follows:

SEAR	Where Addressed
15. Utilities The EIS shall:	
- Address the existing capacity and future requirements of the development for the provision of utilities, including electrical network requirements and water related infrastructure (drinking water, wastewater and recycled water services), in consultation with relevant agencies;	Section 2.1; Section 3.1; Section 4.2; Section 4.4; Section 4.6.
- Identify the existing infrastructure on-site and any possible impacts of the proposal on this infrastructure;	Section 2.2; Section 2.3; Section 3.2; Section 3.3; Section 4.3; Section 4.5; Section 4.7.
- Address Sydney Water requirements for stormwater assets and trade wastewater.	Section 4.8; Section 4.9; Section 4.10.

1.7 Referenced Documents

This Infrastructure Services Brief has been prepared with reference to the following documentation:

- Room Data Sheets - Revision 10 dated 11.08.2020;
- Architectural Plans prepared by Lahznimmo Architects – dated 07.08.2020;
- Initial BCA Assessment Report by Consult Code Solutions Reference 2019-0001-r3 dated 01.02.2019.

2. Electrical Services – Infrastructure

2.1 Incoming Supply

Northrop has initiated correspondence to the local energy authority, Endeavour Energy, to determine the proposed supply arrangement.

The expected maximum demand requires that a 1000 kVA Kiosk substation be installed on site. Electrical supply is proposed to be a direct underground service from this new substation. The contractor will be required to provide a suitable cable pathway to enable the installation of the consumer mains cabling.

5,500mm x 2,750mm clear easement is required for the substation.

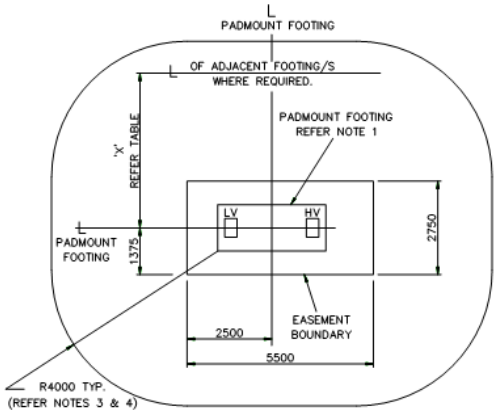


Figure 1 - Substation Easement

Substation Site Selection Requirement

- Easement must be 2.75 x 5.5m;
- Substation easement must be open to sky;
- Substation housing must be installed minimum 3m from a neighbouring boundary;
- Any building or construction within 3m of substation housing is required to be 2hrs fire rated and blast resistant;

Minimum 6m clearance from substation housing to any opening and ventilation (this includes neighbouring building);

- No fixed glass within 3m of substation housing;
- No utilities or other services under the substation easement (no water tank within 5m of substation);
- 24hrs access to the substation. Parking front of the substation may be restricted;
- 1m easement for HV cable;
- Driveway - 4.5m minimum right of Way. Consider 5.6m clearance for truck access and truck driving back;
- Driveway should comply with handling 27 ton truck;
- If a substation is located on a slope, an easement level should be minimum as same level as car park;
- No retaining wall or relevant footing is allowed under the substation easement;
- Minimum 10m clearance from a fire hydrant booster;
- No Telecommunication pit within 5m of a proposed substation; and
- Easement must be above 1:100 years flood level.

2.2 Load Assessment Calculations

The existing power demand of the facility is 988A/phase based on the MDI reading shown below.

Northrop has undertaken a preliminary assessment of the load requirements for the proposed development. Preliminary load assessment calculations according to AS/NZS 3000:2007 Table C3 have indicated that a load in the order of 1277.4 Amps per phase (885 kVA) would be anticipated for the new development.

Assumptions used in the calculation are as follows:

- We have assumed that the whole building will be air conditioning and the load will be in the order of 950A/phase. This shall be further refined during the realisation of the Mechanical Services design;
- Gas will be available on site.

The expected maximum demand requires that a 1,000 kVA Kiosk substation be installed on site. The substation can provide up to 1,400A/phase. The substation will have approximate 120A/phase spare capacity after completion of the development.

2.3 On-Site Electricity Generation

On-site electricity generation, in the form of photovoltaic panels, is proposed for the Powerhouse Museum Discovery Centre development.

Documentation of grid connected 100 kW PV system on the roof will be documented in accordance with respective input from the Structural Engineer. Full documentation will include all electrical works required to ensure the correct installation of PV system (such as in distribution boards, main switchboard, and the like).

The electrical infrastructure for the PV system will be located in a dedicated distribution board closest to the PV Panels. The PV system is proposed to be grid-connected, back feeding excess produced energy into the energy authority's infrastructure to offset the development's electricity bills.

3. Electrical Services - Communications

3.1 Lead-In Service

3.1.1 Provisions for Private Communications Services

It is proposed that the common-carrier network servicing the Powerhouse Museum Discovery Centre development is supplemented by a private communications service (e.g. Ethernet over Fibre) to allow for high-speed access to a wide area network.

3.2 Main Communications Room

A main communications room shall be located on Level 1.

nbn™ Outdoor Grade NTDs or Dual-SIM 3G/4G wireless connections (depending on nbn™ access technology provided) will be provided in the main communications room for essential services including:

- Lifts;
- Fire Indicator Panel;
- Security/Access Control System;
- Gas Metering.

The main communications room will also house communications racks/cabinets for the structured cabling system, security and access control head-end equipment, and MATV/IPTV equipment.

3.3 Structured Cabling System

The Powerhouse Museum Discovery Centre development is to be provided with a complete Structured Cabling System to support the Client's current and future requirements. The design will be and be able to support at minimum the following services:

- IEEE 802.3 (Ethernet) data networks (10/100/1000/10G Base-T);
- Wireless networks up to 802.11b/g/n/ac;
- Digital (VoIP) voice services.

3.4 Consultation with Utility Service Providers

Endeavour Energy have been contacted for the provision of electrical supply, as detailed within Appendix D. The supply offer outlines requirements for a new substation, to be located within the boundary of the development.

Existing telecommunications services throughout the site will be extended to provide connection to the new building.

3.5 Conclusion

The Development has access to both existing utility infrastructure for telecommunications, with the electrical supply via a new substation and HV extension from the existing network. The capacity of the network has been determined with the proposed electrical works commencing in consultation with the supply authority.

4. Hydraulic Services - Infrastructure

4.1 General

Northrop has performed non-invasive investigations in regards to the existing site conditions and additional loading from the proposed building onto the existing utility infrastructure available for connection to the site.

Our assessment has been based on information provided by the relevant water, sewer, and natural gas utility authorities, and information provided by the project representatives including but not limited to:

- As-Built Drawings;
- Surveyors' Drawings.

4.2 Sydney Water Sewer Infrastructure

The development has access to the following Sydney Water sewer mains:

- DN 150 concrete encased PVC sewer main located at the northern boundary of the MAAS site;
- DN 150 concrete encased PVC sewer main located at the northern boundary of the TAFE site.

4.3 Private MAAS Sewer Infrastructure

The development has access to the following private sewer mains:

- DN 100 PVC sewer main located along the eastern boundary of the existing MAAS site.

The Development will either be serviced by the Private MAAS sewer infrastructure or the existing Sydney Water sewer infrastructure. Both systems have capacity to handle the additional load created by the proposed development.

4.4 Sydney Water Potable Water Infrastructure

The development has access to the following Sydney Water potable water mains:

- DN 250 Ductile Iron Cement Lined (DICL) water main located within the northern extent of Showground Road;
- DN 150 Ductile Iron Cement Lined (DICL) water main located within the southern extent of Showground Road.

4.5 Private MAAS Water Infrastructure

The development has access to the following private water mains:

- DN 40 water main located at the south eastern boundary of the existing MAAS site;
- DN 150 fire hydrant service main located at the south eastern boundary of the existing MAAS site. This main is pressurised by an existing pumpset and comprises an existing brigade booster;
- DN 200 fire sprinkler service main located between Building H and Buildings, I, G, & F. This main is pressurised by existing pumpsets and comprises an existing brigade booster and 460kL water storage tank.

The Development will either be serviced by the Private MAAS water infrastructure or the existing Sydney Water water infrastructure. Both systems have capacity to handle the additional load created by the proposed development.

4.6 Jemena Natural Gas Infrastructure

The development has access to the following Jemena natural gas mains:

- DN 110 Polyethylene (PE) gas main located within the northern extent of Showground Road.

4.7 Private MAAS Gas Infrastructure

The development has access to the following private gas mains:

- DN 80 gas main located at the south eastern boundary of the existing MAAS site.

The Development will either be serviced by the Private MAAS gas infrastructure or the existing Jemena gas infrastructure. Both systems have capacity to handle the additional load created by the proposed development.

4.8 Sydney Water Stormwater Infrastructure

Based on the DBYD infrastructure information provided by Sydney Water it is understood that there is no Sydney Water owned stormwater infrastructure located in close proximity to the site.

4.9 On-site Rainwater Management System

A rainwater harvesting system will be installed per sustainability development requirements. The system will collect non-trafficable roof areas and drain to a below ground rainwater storage tank for storage and re-use to non-potable fixtures such as toilet & urinal flushing and landscape irrigation.

The rainwater re-use system shall be complete with a dual submersible booster pumpset, UV lamps, filters, and associated valves and pipework in accordance with Volume 3 of the NCC - The Plumbing Code of Australia and AS/NZS 3500 requirements. The rainwater re-use water service shall be utilised for irrigation purposes (via external hose taps) with the pumpset and associated equipment capable of delivering water supply to the proposed points of connection at the required pressures and on demand.

The rainwater harvesting system shall be provided with a potable cold water make-up supply backflow prevention device to prevent the collected rainwater from entering the potable water system.

4.10 Trade Waste

The proposed development does not currently comprise of areas or practices that generate trade waste, subsequently the installation of on-site treatment devices such as grease arrestors, dilutions pits, general purpose pits etc. are not currently proposed.

4.11 Consultation with Utility Service Providers

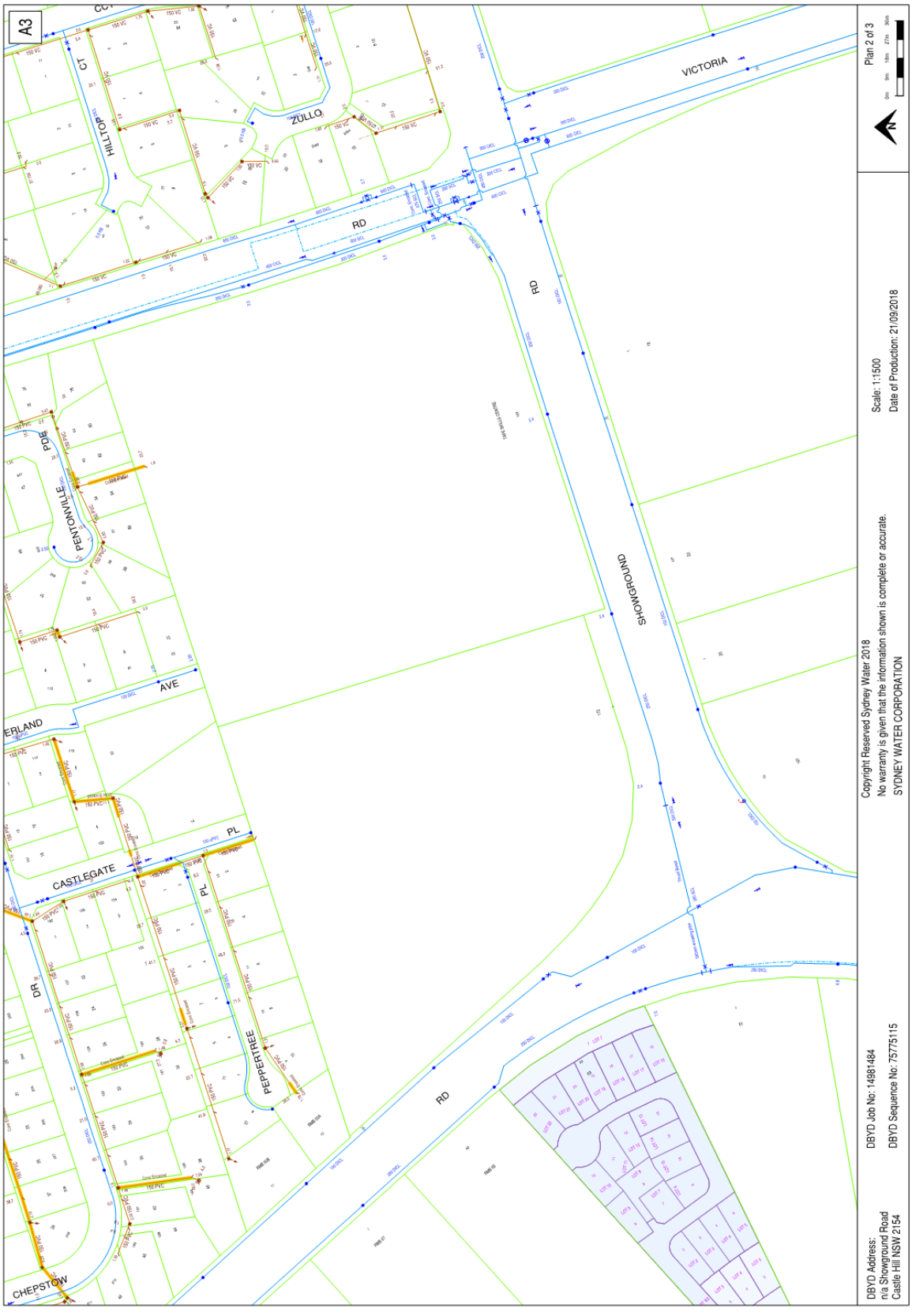
- 22.11.2018 - Submission of DBYD request and receipt of infrastructure mapping from Sydney Water and Jemena;
- 20.12.2018 – Submission of water main pressure and flow request for DN250 water main located within Showground Road to Sydney Water;
- 20.12.2018 – Submission of water main pressure and flow request for DN100 water main located within Windsor Road to Sydney Water;

- 15.02.2019 – Receipt of Statement of Available Pressure and Flow for DN1000 water main located within Windsor Road;
- 20.03.2019 – Receipt of Statement of Available Pressure and Flow for DN250 water main located within Showground Road.

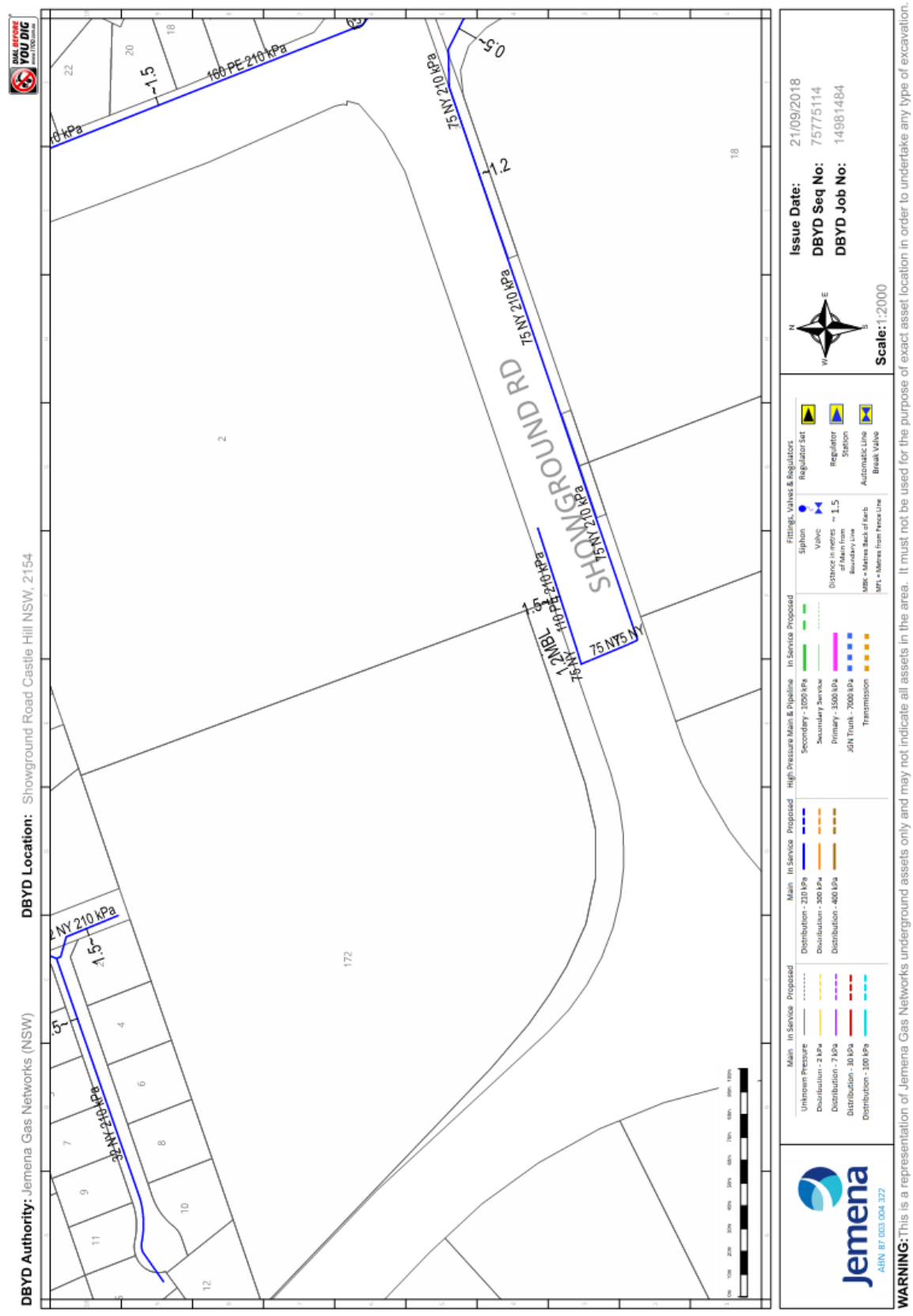
4.12 Conclusion

The Development has access to both existing utility infrastructure mains and on-site private services for sewer, water, and natural gas. The Development will either be serviced by the Private MAAS services infrastructure or the existing Utility infrastructure. Both systems have capacity to handle the additional load created by the proposed development.

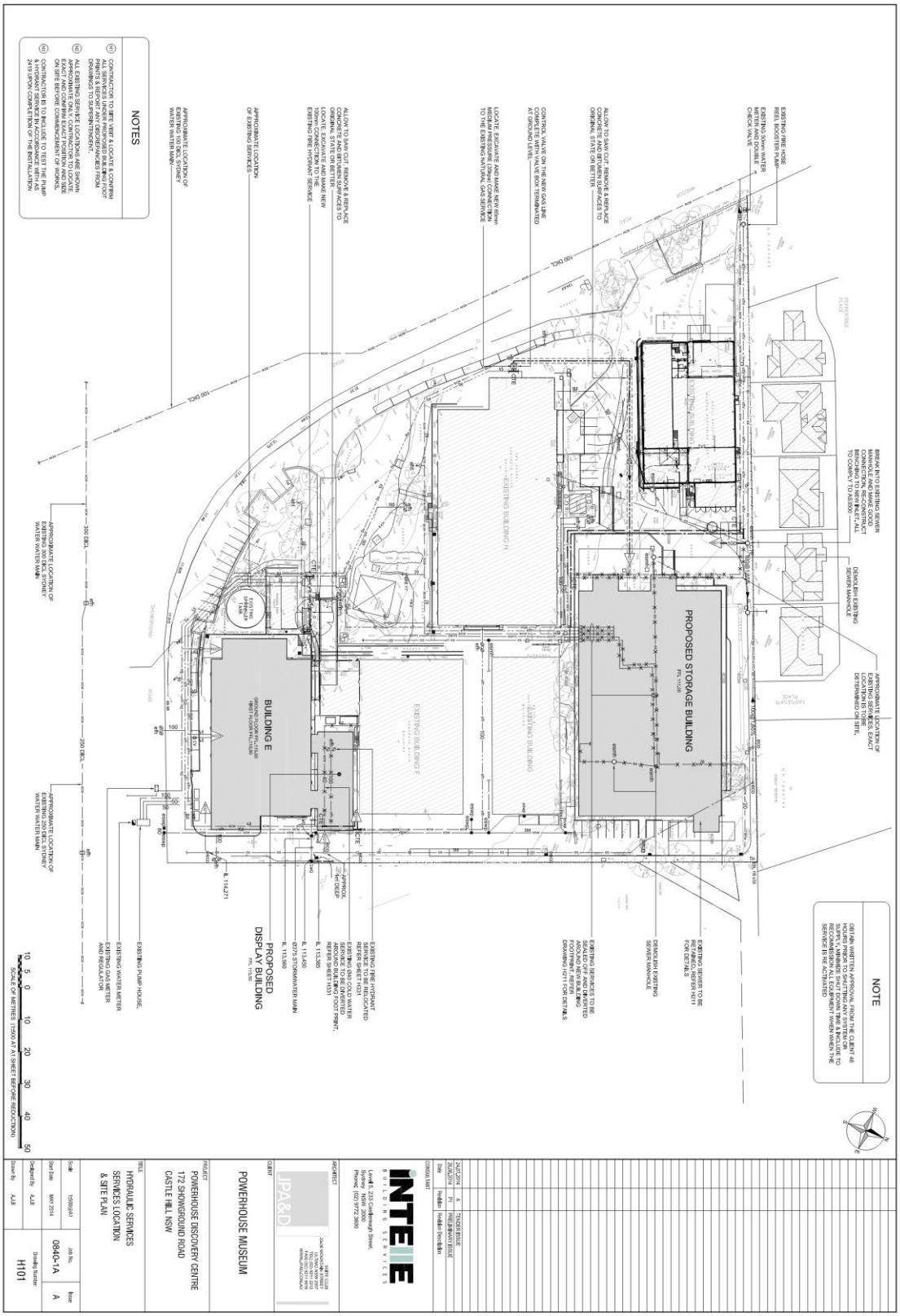
5. Appendix A – Sydney Water Infrastructure

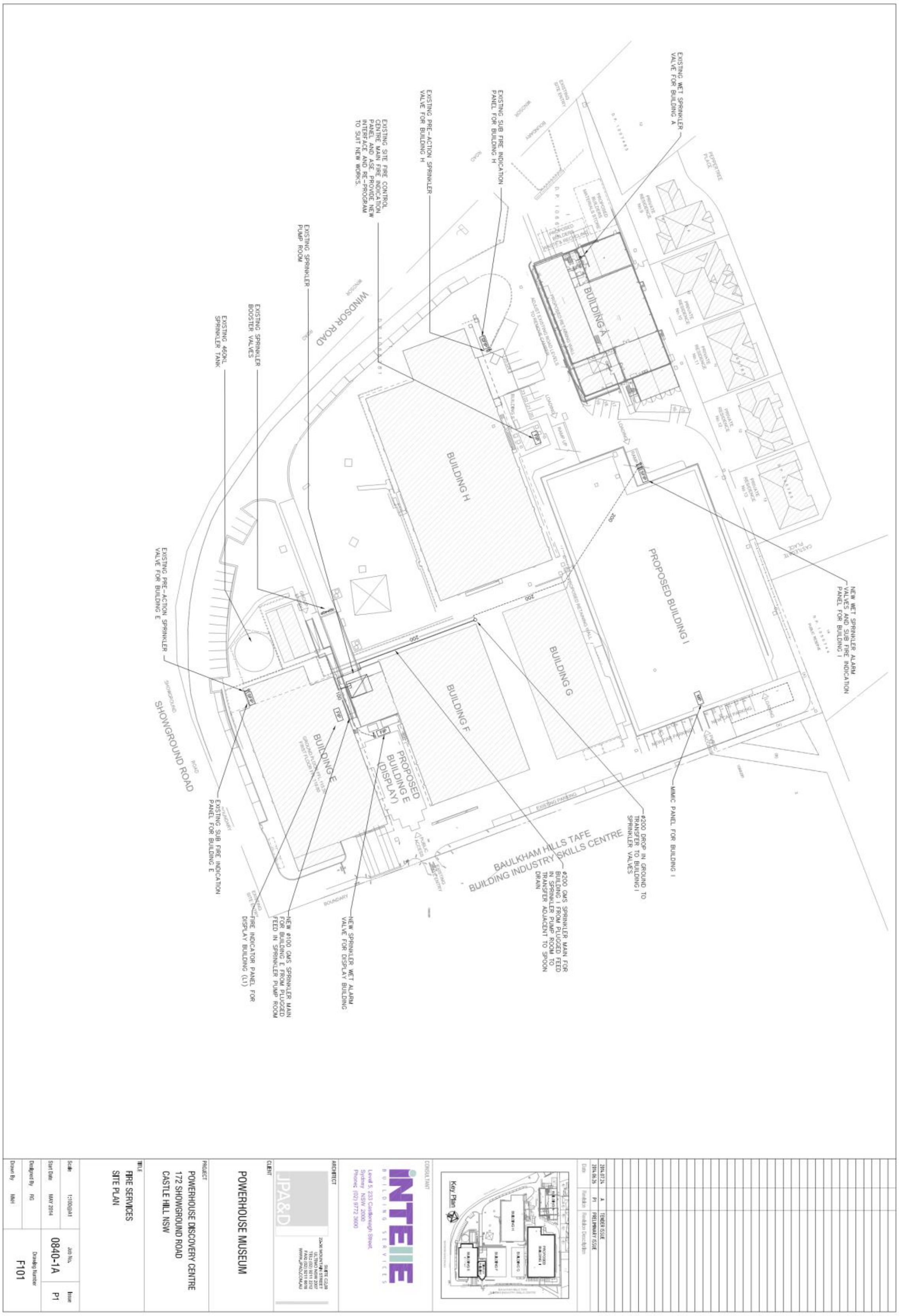


6. Appendix B - Jemena Infrastructure



7. Appendix C – MAAS Hydraulic & Fire Site Services




EXISTING WET SPRINKLER VALVE FOR BUILDING A
EXISTING SUB FIRE INDICATION PANEL FOR BUILDING H
EXISTING PRE-ACTION SPRINKLER VALVE FOR BUILDING H
EXISTING SITE FIRE CONTROL CENTRE MAIN FIRE INDICATION PANEL AND ASE. PROVIDE NEW INTERFACE AND RE-PROGRAM TO SUIT NEW WORKS.
EXISTING SPRINKLER PUMP ROOM
EXISTING SPRINKLER BOOSTER VALVES
EXISTING 460KL SPRINKLER TANK
EXISTING PRE-ACTION SPRINKLER VALVE FOR BUILDING E
WINDSOR ROAD
BUILDING A
BUILDING H
PROPOSED BUILDING I
BUILDING G
BUILDING F
BUILDING E
PROPOSED BUILDING E (DISPLAY)
SHOWGROUND ROAD
BAULKHAM HILLS TAFE BUILDING INDUSTRY SKILLS CENTRE
NEW WET SPRINKLER ALARM VALVES AND SUB FIRE INDICATION PANEL FOR BUILDING I
MIMIC PANEL FOR BUILDING I
Ø200 DROP IN GROUND TO TRANSFER TO BUILDING I SPRINKLER VALVES
Ø200 GMS SPRINKLER MAIN FOR BUILDING I FROM PLUGGED FEED IN SPRINKLER PUMP ROOM TO TRANSFER ADJACENT TO SPOON DRAIN
NEW SPRINKLER WET ALARM VALVE FOR DISPLAY BUILDING
NEW Ø100 GMS SPRINKLER MAIN FOR BUILDING E FROM PLUGGED FEED IN SPRINKLER PUMP ROOM
FIRE INDICATOR PANEL FOR DISPLAY BUILDING (L1)
EXISTING SUB FIRE INDICATION PANEL FOR BUILDING E
Key Plan
INTEGRAL BUILDING SERVICES
JPA&D
POWERHOUSE MUSEUM
POWERHOUSE DISCOVERY CENTRE
172 SHOWGROUND ROAD
CASTLE HILL NSW
FIRE SERVICES
SITE PLAN
PRELIMINARY ISSUE
TENDER ISSUE
0840-1A
F101
P1

8. Appendix D – Endeavour Energy Supply Offer

6 February 2019

Endeavour Energy Ref: UCL9918 – 2019/00180/001
Customer Ref:

Northrop Consulting Engineers
Level 11, 345 George Street
SYDNEY NSW 2000

Attention: Brandon Shutlar

CONNECTION OFFER – STANDARD CONNECTION SERVICE

UCL9918 – LOT 1, DP 1066281, Connection of Load Application: 172 Showground Road, CASTLE HILL

Thank you for your application providing information of the proposed development at the above location. Your application has been registered under the above reference number. Please quote this reference number on all future correspondence.

This connection offer is made in accordance with the Terms and Conditions of the Model Standing Offer for a Standard Connection Service available on our website. To accept this offer, please complete the enclosed Notice of Advice form and obtain your Level 3 Accredited Service Provider (ASP) signature on the form prior to returning it to Endeavour Energy.

Endeavour Energy has completed a preliminary desk top assessment of the information provided in your application and issued an enclosed Supply Offer. Your next step is to obtain the services of a Level 3 ASP to prepare and provide an electrical design to Endeavour Energy in the form of a Proposed Method of Supply. This activity is customer funded contestable work and you will need to pay for it. An estimate of fees related to review of your design is attached.

A list of the Accredited Service Providers is available at the NSW Trade and Investment website: *https://energysaver.nsw.gov.au/households/you-and-energy-providers/installing-or-altering-your-electricity-service* or can be obtained via phone 13 77 88.

Please note under the National Electricity Rules (NER) customer may choose to enter into a negotiated agreement. A negotiation framework describing this process is available on our website.

Should you have any enquiries regarding your application please contact the undersigned.

Yours faithfully,

Raj Kumar Adhikari
Contestable Works Engineer
Ph: 9853 5692
Fax: 9853 7925
Email: cwtech@endeavourenergy.com.au

6 February 2019

Endeavour Energy Ref: UCL9918 – 2019/00180/001

Endeavour Energy
PO Box 811
Seven Hills NSW 1730
cwadmin@endeavourenergy.com.au

Attention: Contestable Works Administrator

NOTICE OF ADVICE

APPOINTMENT OF ACCREDITED DESIGNER FOR THE PROPOSED DEVELOPMENT AT:
LOT 1, DP 1066281, 172 SHOWGROUND ROAD, CASTLE HILL

**** Please complete and return when a Level 3 Service Provider has been nominated****

Please accept this letter as notification that I intend to proceed with the development described above. I own or am developing the land and works on the land, (and/or where relevant on public land). I intend to supply this development to Endeavour Energy requirements.

By signing this Notice of Advice I am accepting the Terms and Conditions of Endeavour Energy's Model Standing Offer for a Standard Connection Service.

- Electricity Supply to Developments.

The Level 3 Service Provider appointed is:…..……

The Fees will be Paid to Endeavour Energy by: ……..

……	……
Signature of Level 3 ASP	Name of Level 3 ASP
……	……
Signature of Applicant/ Applicant's Representative	Name of Applicant/ Applicant's Representative
……	……
Date	Company Name

The signatory warrants that they are authorised to execute this Application.

APPLICATION NO: UCL9918
DATE: 6 February 2019

SUBJECT: SUPPLY OFFER FOR
172 Showground Road, CASTLE HILL

Endeavour Energy has carried out a desk top assessment and has prepared the attached Supply Offer for this development.

The supply offer will assist your Level 3 ASP to develop the most efficient solution to meet your needs whilst complying with Endeavour Energy's standards and with the Terms and Conditions of the Model Standing Offer for a Standard Connection Service. Please find below a list of some requirements that will need to be addressed by your nominated Level 3 ASP.

- Field visit to verify physical details
- Trench length
- Cable length
- Length of cable using existing ducts
- Length of new ducts required to be installed
- Substation location shown on a preliminary sketch and HV switchgear numbers
- Types and number of poles to be replaced or installed
- Complexity of trenching (ie rock, under-bore, commercial area etc)
- Earthing requirements and complexity
- Overhead construction and isolation point requirements
- Asset Valuation form must be completed including any extraordinary costing requirements
- Environmental issues addressed in a fully documented Environmental Assessment
- Generation requirements
- Rail Crossing requirements

A sketch of the proposed design utilising the GIS as a base must be returned with the above information.

This Supply Offer is part of the Connection Offer for a Standard Connection Service and is valid for three (3) months from the date of issue.

Where this Connection Offer has lapsed, you or your Level 3 ASP must contact Endeavour Energy with the request to extend the Connection Offer. Endeavour Energy will assess your request and will inform you of the outcome. It must be recognised that the network is being constantly extended/augmented as new customers get connected. This means that for your Connection Offer to be extended, your Supply Offer may require alteration. If this is the case, additional fees to cover administrative costs may apply.

The fees applicable to this phase of the project will need to be paid prior to design certification and are outlined in the Network Price List available on the Endeavour Energy website.

6 February 2019

Endeavour Energy Ref: UCL9918 – 2019/00180/001

SUPPLY OFFER

(Based on a desktop assessment)

Development Details & Applicant's Assessed Load:
Application for connection of additional commercial load for Museum storage located in LOT 1, DP 1066281, 172 Showground Road, CASTLE HILL.

Applicant's assessed total load is 2274.8 Amps three phase (1277.4 additional load) as per submitted application form.

Endeavour Energy Assessed Load:
Applicant's assessed total load is 2274.8 Amps three phase (1277.4 additional load) as per submitted application form.

Development & Site Plans received/not received: Not Received

HV/LV Connection Point & Connection Asset Requirements:

There is 1500 kVA existing sub 17195 on site which is not enough to supply applicant requested load. The existing sub 17195(showground Road) on site supplied from WEST CASTLE HILL Z/S feeder no 27191 Fairway Drive. The developer is required to engage the service of ASP level 3 to investigate and to propose a method of supply additional load.

ASP Level 3 to submit a detailed proposed method of supply for assessment and approval.

The scope of works is to be undertaken in accordance with the Terms and Conditions of the Model Standing Offer for a Standard Connection Service and must comply with all relevant policies, regulations and network standards.

All service works are to comply with the requirements of the NSW service and Installations Rules.

6 February 2019

Endeavour Energy Ref: UCL9918 – 2019/00180/001

Initial Funding Arrangements

Endeavour Energy Supplied Materials:
Nil

Endeavour Energy Funded and Constructed:
Nil

Endeavour Energy Funded and Level1 ASP Constructed – Reimbursement Paid by Endeavour Energy
TBA

Reimbursement to be paid to Endeavour Energy by Customer:
Nil

Customer Funded Monopoly Services:
Network switching, commissioning, contractor inspection, ancillary fees, etc.

Customer Funded Contestable Works:
All other works required

ANCILLARY FEE ESTIMATE

(for assessment of the Proposed Method of Supply and approval of the Design)

CAP No. : UCL9918 **File No: 2019/00180/001**

Proposed Location: Lot 1, DP 1066281, 172 Showground Road
CASTLE HILL

Detailed below is the **estimate** of the proportion of applicable Ancillary Network Services Fees (GST Inclusive) related to design assessment for your information only. The final fees for this phase of the project will be sent to you with a Design Brief. Ancillary Network Services Fees will also apply for the construction and connection phase of the project (e.g., site establishment fee). These fees will be conveyed to you after the receipt of a signed Letter of Intent indicating that you will proceed with the construction phase of the project.

Administration Fee	06-02-2019	$329.50
Design Certification Fee	06-02-2019	$2642.14
Design Information Fee	06-02-2019	$3522.86
Standard Connection Offer Fee	06-02-2019	$282.49
Estimate Total (inc GST)		$6776.99

Where Endeavour Energy assets may need to be placed on private property, property easements will be required. Urgent action should be taken to create easements so that timely acquisition and registration with the Land and Property Information (NSW) can be completed.

Endeavour Energy will accept a property tenure bond while the property owner is in the process of creating the easement. The property tenure bond will be returned after the easement has been registered.

Please do not make any fee payment at this time.

Once the design fee amount has been finalised Endeavour Energy will send a request for the fees and property tenure bond payment (if required) to your nominated Level 3 Accredited Service Provider.