Utilities Report

Sutherland Entertainment Centre

30 Eton Street, Sutherland NSW 2232

JN
Responsive Engineering

19010144

Revision History

REVISION	DATE	BY	CHECKED	COMMENTS
A		GC/DL/SD		Issued for Draft

The recipient of the latest issue as noted above will be responsible for superseding/destroying all previous documents.

Contents

1. Introduction

JN has been engaged to provide a utilities report.

This report addresses the existing capacity and future requirements of the development for the provision of utilities, including staging of infrastructure in consultation with relevant agencies and details the impacts to any existing infrastructure assets of utility stakeholders from demolition/construction and any proposed mitigation/protection measures.

2. Existing Site

The existing site is approximately 4050m^2 in area and is situated between Eton Street to the West and Merton Street to the East. In its current state, the site is occupied by the existing Sutherland Entertainment Centre building.

Figure 1. Existing Site (Nearmap January 2020)

3. Proposed Development

The proposed development consists of a major refurbishment of the existing building, along with landscaping to the existing neighbouring Peace Park. The works include:

- refurbished main theatre with reconfigured fixed seating for 700
- improved wings, stage and new staging system suitable for major theatrical productions
- improved back of house
- new flexible teaching and rehearsal space
- fresh foyer and front of house with improved customer experience
- new entry forecourt and flexible outdoor event space
- new cafe/restaurant for 75 diners (can be expanded to 150)
- enhanced accessibility
- upgrade of building fabric and services including BCA compliance works
- improved energy performance and ecological sustainability
- enhanced interaction with the adjoining park and the public domain

Figure 2. Proposed Development

4. Existing Capacity and Future Requirements

4.1. Electrical

The current Entertainment Centre has a sub station on the North East Corner with a 400 Amps 3 phase supply to the building. The sub station also supplies other buildings within the local area.

With the refurbishment of the building and the additional air conditioning, lifts and audio visual equipment, the load will increase significantly. It has been advised by Council to cap the capacity at 800 Amps for the new incoming power supply from the sub station and they will manage the load within this amount. Limiting the increase to 800 Amps will allow the sub station to remain in place and have an upgrade completed by Ausgrid, rather than the installation of a new sub station.

A new Main Switchboard will be designed with a capacity of 1000 Amps for the refurbished Entertainment Centre to accommodate the increase in load and also an allowance for future load increases.

A new NBN connection will be reticulated into the building to supply telecommunications to the Entertainment Centre.

4.2. Water

The existing development is served by a 50mm water service. This water service connects to the 100mm dia. 'Sydney Water' water main in Merton Street. From the watermain it extends to an existing 50mm dia. master water meter assembly that is located on the eastern façade. The water service reticulates around the building to supply the potable fixtures and equipment.

Photos H1 & H2 –

Existing building master water meter assembly off Merton Street

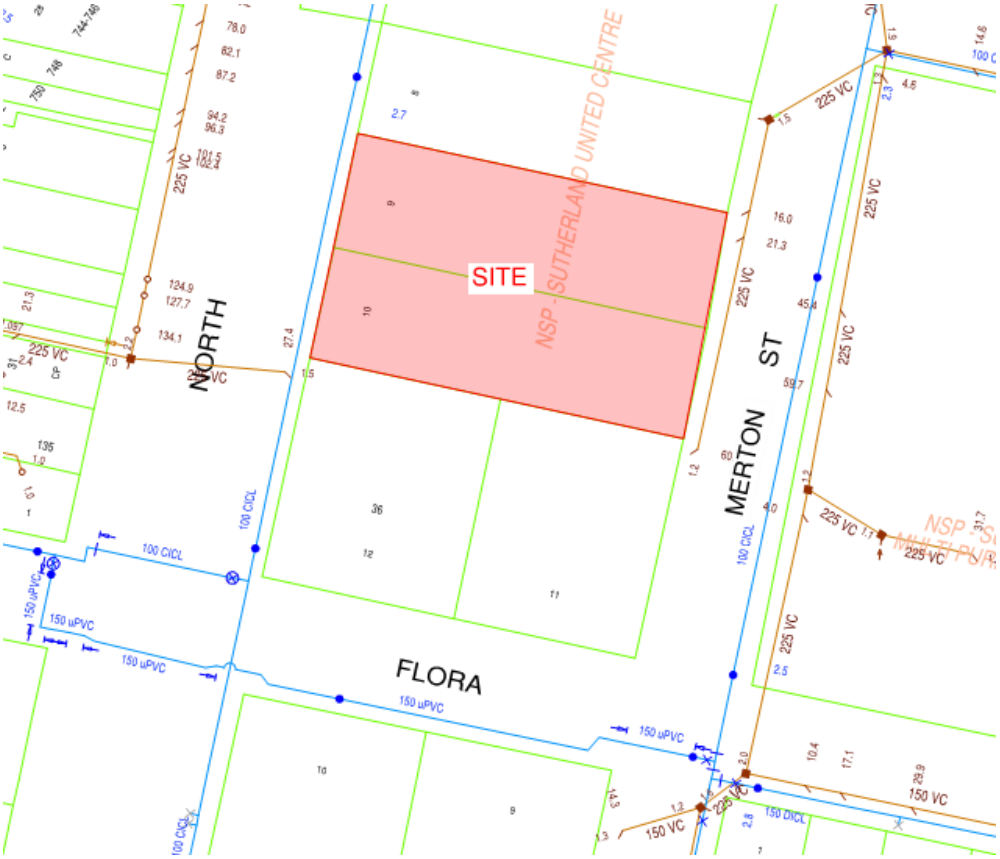


Photo H3 – 'Sydney Water' Hydra Plan – 100mm dia. Water Main in Merton Street serving property

A new cold-water service be designed including but limited to the following:

- New 100mm incoming water service from the existing 'Sydney Water' 100mm dia. water main in Merton Street
- 100mm dia. Master water meter and RPZD assembly located within a cupboard fronting Merton Street
- A new water service into the building to supply all new and existing fixtures and equipment

4.3. Sanitary Drainage

The existing development is provided with a gravity sewer system that connects to the 'Sydney Water' 225mm dia. sewer main in Merton Street at the north eastern corner of the property.

Photo H4

Existing sewer connection at Merton Street adjacent to Sub-station

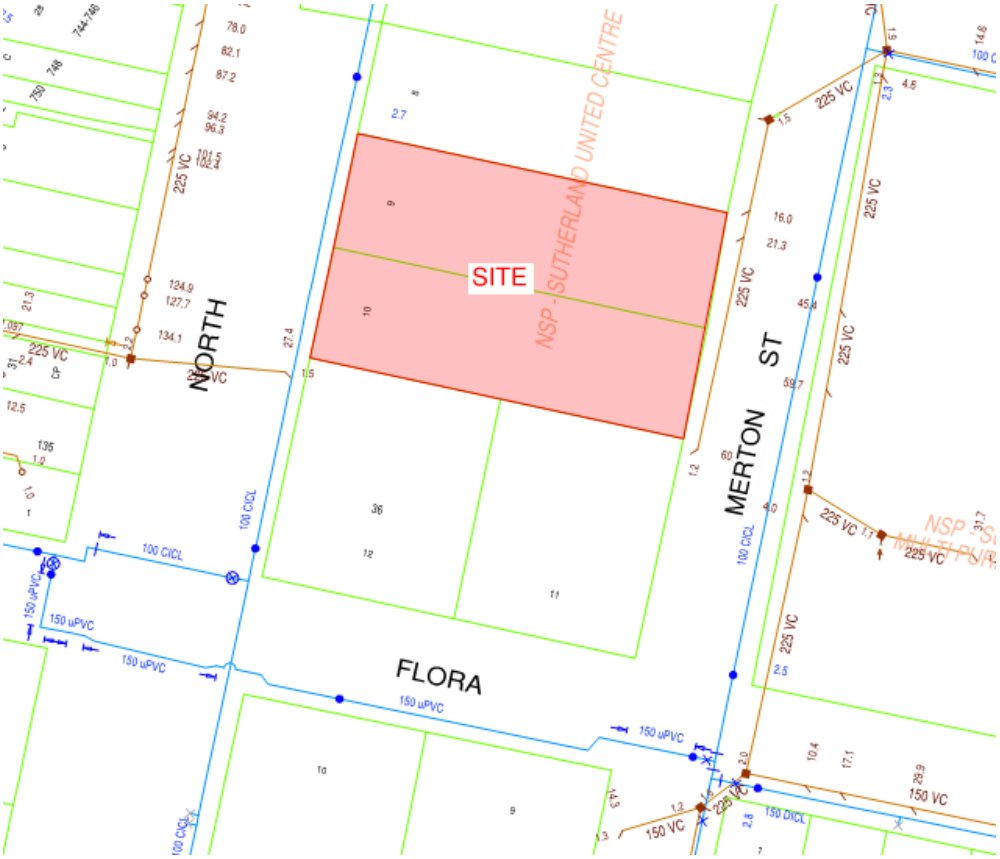


Photo H5 – 'Sydney Water' Hydra Plan – 225mm dia. Sewer Main in Merton Street serving property

A new sanitary drainage system will be designed to serve the development that incorporates the following:

- New 150mm dia. sewer connection to the sewer main in Merton Street at the north eastern corner of the property clear of the sub-station easement
- 100mm dia. sewer boundary trap
- 100mm sewer overflow relief gully
- A new sanitary drainage system to all new and existing wet areas, fixtures and equipment

4.4. Gas

The building is currently provided with an incoming 210kpa gas service from the medium pressure gas main in Eton Street extending to a master gas meter/regulator assembly located in an undercroft area adjacent to the main entry.

A low pressure 2.75kpa gas system is reticulated into the building to serve all appliances and equipment.

Photo H6 – 'Jemena' Plan – 32mm dia. 210kpa Gas Main in Eton Street serving property

Photo H7 -

Existing Gas Meter enclosure in undercroft area off Eton Street

Photo H8 –

Existing Volume Gas Meter Assembly

Photo H9 –

Existing Gas regulator at meter assembly set to 2.75kpa

supply pressure to building

Relocating of the existing gas meter assembly will be designed to suit the new building layout and shall include but not be limited to the following works:

- Extension of existing incoming 210kpa gas service to the new gas meter location
- A new 2.75kpa gas service into the building to supply all new and existing appliances and equipment
- The new gas loads will require a meter upgrade. This is to be applied for with 'Jemena' during the design stage.

4.5. Stormwater

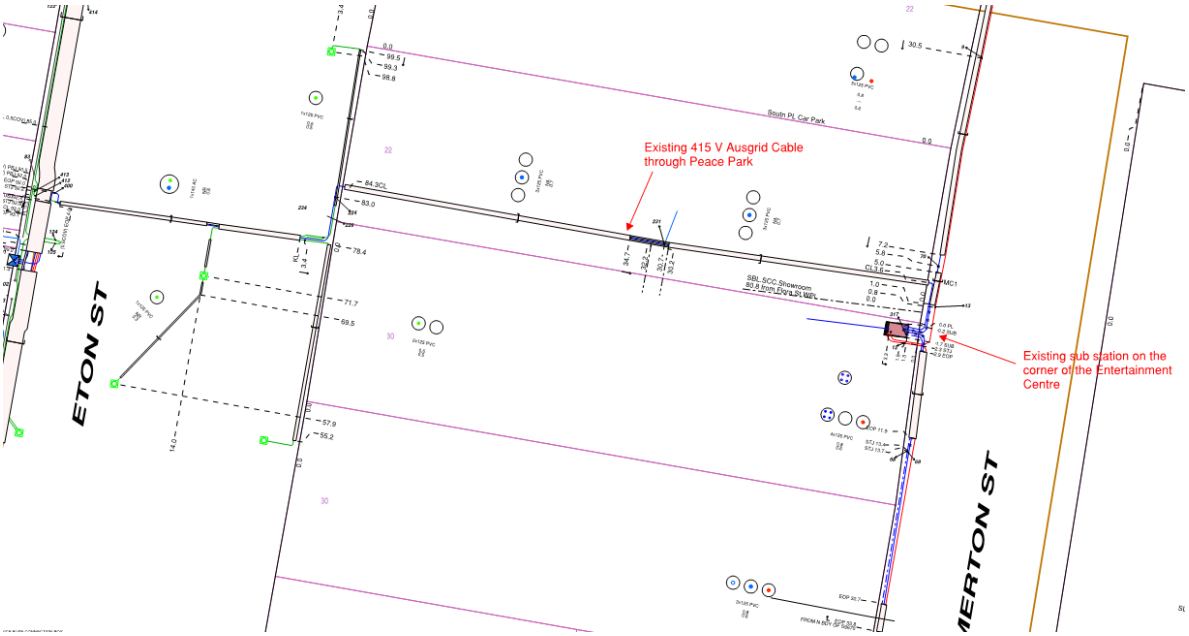
The site stormwater runoff is currently collected and conveyed through a series of pipes to a junction pit under the existing Merton St Loading Dock. Stormwater is then discharged from this junction pit to the adjacent existing stormwater pit in Merton St. No rainwater tank can be found within the existing entertainment centre.

DRAINS modelling has determined that the current 'pre-development' discharge rate of the site into Council's street drainage stormwater system is 190L/s.

5. Impacts on Existing Infrastructure

5.1. Electrical

A low voltage (ie 415 Volts) Ausgrid cable reticulates within an easement from the sub-station through Peace Park to the retail buildings on the Western side of Eaton Street. This cable and easement may require relocation due to the location of the new foyer entrance.



An existing Ausgrid light pole (as shown below) in Merton Street is likely to require relocation to make way for the new loading dock entrance.

5.2. Water

The new works will require Section 73 and Building Plan Approval applications with 'Sydney Water' to assess the impact on the existing water main in Merton Street.

It is expected the existing 100mm water main has sufficient capacity to serve the proposed development.

The existing incoming water service shall be capped off and disused within the property.

The existing site master water meter shall be removed post installation of new master water assembly.

5.3. Sanitary Drainage

Sutherland Shire Council have requested that all sanitary drainage within the building be removed due to the age and condition of the existing system. This will be replaced with a new sanitary drainage system. The new system will connect to the existing 225mm dia. 'Sydney water' sewer main in Merton Street and extend to all new and existing fixtures & equipment.

Extensive investigative, and demolition works required to remove the existing drainage system to make way for the new sewer system.

The current connection to the sewer main in Merton Street will be disused and capped off inside the property boundary.

5.4. Gas

The existing 210kpa incoming gas service is sufficient to supply the proposed development.

5.5. Stormwater

The site stormwater runoff is collected and conveyed through a series of pipes to a treatment chamber that houses a system of filters. Drainage is then stored in an OSD tank before being released at a controlled rate into Council's stormwater system. Roof Drainage is conveyed to a large rainwater tank for reuse to irrigate Peace Park. The rainwater tank is connected to the OSD via an overflow pipe.

The OSD has been designed to meet DCP requirements and ensure that the post-development stormwater discharge rate for the site does not exceed the pre-development discharge rate of 190L/s. Thus, the rate of discharge of stormwater from the site into Council's street drainage system is limited to 189L/s, placing no additional load on the current system from that which is already in place.

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