

# 33 Cross St Redevelopment, Double Bay

## Mechanical, Electrical, Fire & Hydraulic Services Planning Application Utilities Report

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Client

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## **1. INTRODUCTION**

### **1.1 AIM OF REPORT**

This report briefly outlines the extent of the initial infrastructure design and strategy and the associated utility liaison for the 33 Cross St redevelopment.

### **1.2 GENERAL INFORMATION**

An initial enquiry was lodged with Dial B4 U Dig to ascertain the existing survey information. Record drawings were obtained from the following providers:

- Energy Australia
- Alinta
- Agility
- Sydney Water

## **2. ELECTRICAL SERVICES**

### **2.1 EXISTING INCOMING POWER SUPPLY SERVICES**

The site is supplied via the local High Voltage network reticulating along the length of Cross St, the infrastructure being owned and managed by Energy Australia. The supply to site is taken at basement car park level from the roadside into a chamber sub-station located in the south west corner of the development. The existing sub-station is owned by Energy Australia and access is restricted to Energy Australia personnel only with 24 hr dedicated access supplied from the ground floor level at the roadside. The sub-station is located within the boundary wall but is not dedicated to the existing site, with other services taken at Low Voltage from the sub-station. Power to the site is reticulated via the main LV switchroom located adjacent to the existing sub-station. A series of electrical risers housing sub-main cabling and distribution boards are located throughout the site and complete the services supply to the existing development.

### **2.2 EXISTING SUPPLY CAPACITY & ADDITIONAL LOAD REQUIREMENT**

The existing development is serviced from the basement chamber sub-station at low voltage as described above. The proposed development will require a power supply upgrade due to the increased in size of the development and nature of the proposed load. The new load will be in the order of 1.3MVA including spare capacity for future expansion.

### **2.3 PROPOSED INCOMING SERVICES ARRANGEMENT & SUPPLY AUGMENTATION**

Following extensive correspondence and site meetings with Energy Australia's representative, it was initially deemed necessary to completely isolate and remove all existing basement plant within the existing Energy Australia Sub-station and allow for a new basement level chamber sub-station in the south east corner of the proposed development. The basis for the sub-station refurbishment was the apparent lack of available capacity to adequately supply the revised electrical load offered by Lincolne Scott as part of the original application.

Following the payment of E.A's monopoly fees, the design package will be issued by Energy Australia.

The requirement to provide a new substation has subsequently been revisited, with Energy Australia confirming that the existing sub-station is adequately sized to meet the proposed site load.

Minor works will still need to be completed within the sub-station, namely to the LV distribution equipment which is dated and in need of replacement. As part of the works the existing obsolete switchgear shall be stripped out with new LV switchgear installed by Energy Australia. The proposed increased load for the refurbished site shall be supplied from this new switchgear installation and shall be utilised by the client within the proposed basement LV switchroom.

Architectural issues which need to be addressed as part of the proposed development include the reinstatement of 2No dedicated 24hr accessible personnel ingress/egress staircases and an equipment access hatch.

This requirement is part of ongoing discussions between Energy Australia and the project architect.

## **2.4 PROGRESS REPORT**

A full design package is due to be issued by the Energy Australia project engineer imminently. Energy Australia have confirmed that a level 3 designer is not required to complete a design as part of the construction process.

Lincolne Scott and Architectus will liaise closely with the Energy Australia project engineer to achieve the required solution.

Regarding input from the client, Energy Australia have received the monopoly fees as requested and will not need further funding until such a time that a level 1 installer is in place and equipment placed on order.

## **2.5 TELSTRA INCOMING COMMUNICATIONS**

An initial application for connection has been completed by Lincolne Scott for the supply to site of a new communication service. This application has been processed and a project engineer assigned.

Initial clarifications from the Telstra project engineer include:

- Confirmation of the location of the existing Telstra infrastructure along the length of Cross St.
- Confirmation of an existing supply to site and confirmation that a minimum of four weeks will be required prior to final connection.
- Confirmation of sufficient capacity for the new development.

## **3. FIRE SERVICES**

### **3.1 EXISTING FIRE SERVICES ARRANGEMENT**

The existing hotel building is provided with a Fire Sprinkler System, with 100mm diameter supply connection to 100mm diameter towns main in Cross Street.

### **3.2 PROPOSED INCOMING FIRE SERVICES ARRANGEMENT**

The available water supply from Cross Street towns main is inadequate to supply the proposed new sprinkler system. It is proposed to provide 2 x sprinkler storage tanks at lower basement level with electric and diesel booster pumps, to provide Grade 1 water supply to the new sprinkler system.

The existing 100mm dia Fire Sprinkler connection to towns main will be isolated during construction and reused as fill for new storage tanks.

### 3.3 PROGRESS REPORT

Pressure and flow inquiry has been received from Sydney Water to confirm available requirements.

## 4. HYDRAULIC SERVICES

### 4.1 EXISTING HYDRAULIC SERVICES ARRANGEMENT

The existing hotel building is provided with water, gas, sewer, and stormwater drainage systems from Sydney Water authority connections in Cross Street.

A cold water reticulation system from a 100mm diameter supply connected from a 100mm diameter Sydney Water town main in Cross Street. This service is visible in the basement car park level.

There is currently two existing sewer connection points located in the basement car park level. Both connection points are 150mm in diameter discharging into a 150mm Sydney Water authority service located in Cross Street.

An existing 50mm 210kpa gas reticulation service is visible in the basement car park serving the existing development. A 70mm 210kpa authority gas service is located in Cross Street.

The existing 150mm stormwater service is connected into the Sydney Water authority service located in basement car park level.

### 4.2 PROPOSED INCOMING HYDRAULIC SERVICES ARRANGEMENT

The available water supply from Cross Street towns main is adequate to supply the proposed new hydraulic water reticulation system. It is proposed to provide cold water and hot water plant and pump arrangements at lower basement level to reticulate supply to all water consuming fixtures. Connection to existing on-site service shall be utilised, however, additional connection to authority water service in Cross Street shall be investigated if necessary.

Sewer and treated trade waste services from the proposed development shall connect and discharge into Sydney Water authority service located in Cross Street via two existing on-site connections. Upgrade of these two connections for additional capacity shall be further investigated if necessary

Connection to existing authority gas service in Cross Street shall reticulate natural gas to all gas consuming fixtures. An upgrade of the existing 50mm service shall be investigated further if necessary to serve the proposed development.

Existing stormwater connection shall be utilised to discharge all stormwater services into Sydney Water authority service located in Cross Street.

### 4.3 PROGRESS REPORT

Pressure and flow inquiry has been received from Sydney Water to confirm available water requirements.

Location and size of gas, water, sewer, and stormwater services have been located via a Dial Before You Dig (DBYD) assessment of Cross Street with Sydney Water.

*Note: Section 73 Notice of Requirements will set out Sydney Water requirements regarding authority connection requirements once DA approval has been submitted.*