

Blacktown Hospital Stage 2 Acute Services Building

HEALTH INFRASTRUCTURE

SSDA Report

Electrical, ICT and Security Services

Rev 1

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JACOBS®

Blacktown Hospital Stage 2 – Acute Services Building

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Executive Summary

Electrical and ICT

This schematic design report describes the Electrical, Communications (ICT) and Security services proposed for the new Acute Services Building (ASB) as well as a number of areas to be refurbished in the existing hospital at Blacktown Hospital which represents Stage 2 in the construction program.

The ASB is located within the hospital campus to the west of the Stage 1 Clinical Services Building (CSB) and to the south of the University of Western Sydney building.

The existing hospital is located adjacent to Blacktown Road.

In addition to the above building a new substation, site main switchroom and standby diesel generator room is to be constructed to the south of the Stage 2 ASB which will be located within a new multi-storey car park (subject to a separate DA to council). This proposed car park will be an extension of the existing multi-level car park.

The key infrastructure work for the new Stage 2 ASB development includes the establishment of:-

- Additional Endeavour Energy transformer in the existing Stage 1 CEP chamber substation (located in the existing multi-level car park) – this is required for additional mechanical plant for the Stage 2 ASB
- Additional site LV main switchboard MSB3 in the existing Stage 1 CEP main switchroom
- New Endeavour Energy chamber substation on the ground floor of the new multi-storey car park (subject to a separate DA)
- Augmentation to the Endeavour Energy High voltage cabling on site to provide the power requirements for the new chamber substation.
- New site electrical main LV switch room for the ASB to be located adjacent to the new chamber substation on the ground floor of the new multi-storey car park. This will house Main Switchboard 4(MSB4) and Main Switchboard 5 (MSB5)
- Diesel Generator room to be located adjacent to both the new substation and the site main switchroom on the ground floor of the new multi-storey car park.
- In-ground Bulk Fuel diesel storage tank with associated pumps and fill point
- ASB main switchroom
- Distribution Board cupboards and risers throughout the ASB
- Telecommunications Carrier room
- Campus distributor room
- Building and Floor Distributor rooms
- Interconnection of the ASB ICT/Comms infrastructure with the existing hospital on Blacktown road and the recently completed Stage 1 CSB.

The additional Endeavour Energy 1 x 1500kVA oil filled transformer to be installed within the existing Stage 1 CEP substation shall be used for the additional mechanical services requirement (additional chiller) for the Stage 2 ASB

The new endeavour Energy chamber substation shall be sized to accept 3 x 1500kVA oil filled transformers, however only 2 x 1500kVA transformers will be installed at this stage. These will be for the lighting and general purpose medical power requirements for the ASB as well as mechanical air handling plant, lifts, medical gases and hydraulic services.

The key infrastructure work associated with the refurbished areas of the existing hospital are:-

- Modifications/additions to the two existing main building switchboards to provide for additional sub mains that will be required to some of the existing areas requiring refurbishment.
- The reconfiguration of the existing ICT/Comms cupboards to cater for the revised and updated voice and data cabling in these areas.

This report should be read in-conjunction with the architectural and other engineering services schematic design reports.

Security Services

This schematic design report describes the Security Services Design proposed for the new Acute Services Building (ASB) at Blacktown Hospital which forms part of the hospital's Redevelopment Master Plan.

Key infrastructure for the new ASB includes the establishment of new infrastructure for the following:

- Electronic Access Control System (EACS) and Intruder Detection System (IDS);
- Closed Circuit Television System (CCTV); and
- Intercommunications System (ICS).

This report will be read in-conjunction with the architectural and other engineering services design reports.

1. Introduction

1.1 Overview

The proposed Acute Services Building (ASB) will be constructed due west of the just completed Stage1 CSB and to the south of the existing University of Western Sydney building within the overall Blacktown Hospital campus. The ASB will comprise nine levels from level 1 up to and including level 9 (which is the main plant room floor).

This report will cover the construction of a new ASB the refurbishment of specific areas in the existing hospital.



Figure 1 : Proposed elevation of the completed ASB project looking north west across the hospital campus

The major clinical areas/departments within the new ASB include:

- Accident and Emergency Dept
- Medical Imaging Dept.
- Operating theatre suite and recovery
- CSSD
- Front of House and Main Entry
- Intensive Care Unit (ICU)
- Neonatal Intensive Care Unit (NICU)
- Birthing Unit
- General Inpatient units
- General administration
- Plant and circulation areas
- Additional clinical support

The clinical areas/departments to be refurbished in the existing hospital include:

- Engineering Services
- Kitchen Expansion
- Linen/Laundry expansion
- Bio-Med
- Maintenance
- Body Holding area
- Conversion of an existing recovery area into Endoscopy Recovery
- Existing Pathology converted into open plan Administration
- Additional MRI for the Medical Imaging Dept
- Relocation of an existing CT scanner
- Existing Emergency Dept converted into Ambulatory care unit.

The scope of work is divided into the following areas:

Location	GFA (m ²)
New Stage 2 Acute Services Building	36,500
Refurbishment of specific areas of the existing hospital	5,400
New substation main switchroom and generator plant room	340

The following site plan shows the overall site and the location of the new ASB and related new substation, site LV switchroom and generator rooms that are required to provide the additional power requirements for this new building. It also shows the existing CEP substation where the additional transformer and site LV main switchboard is to be located.

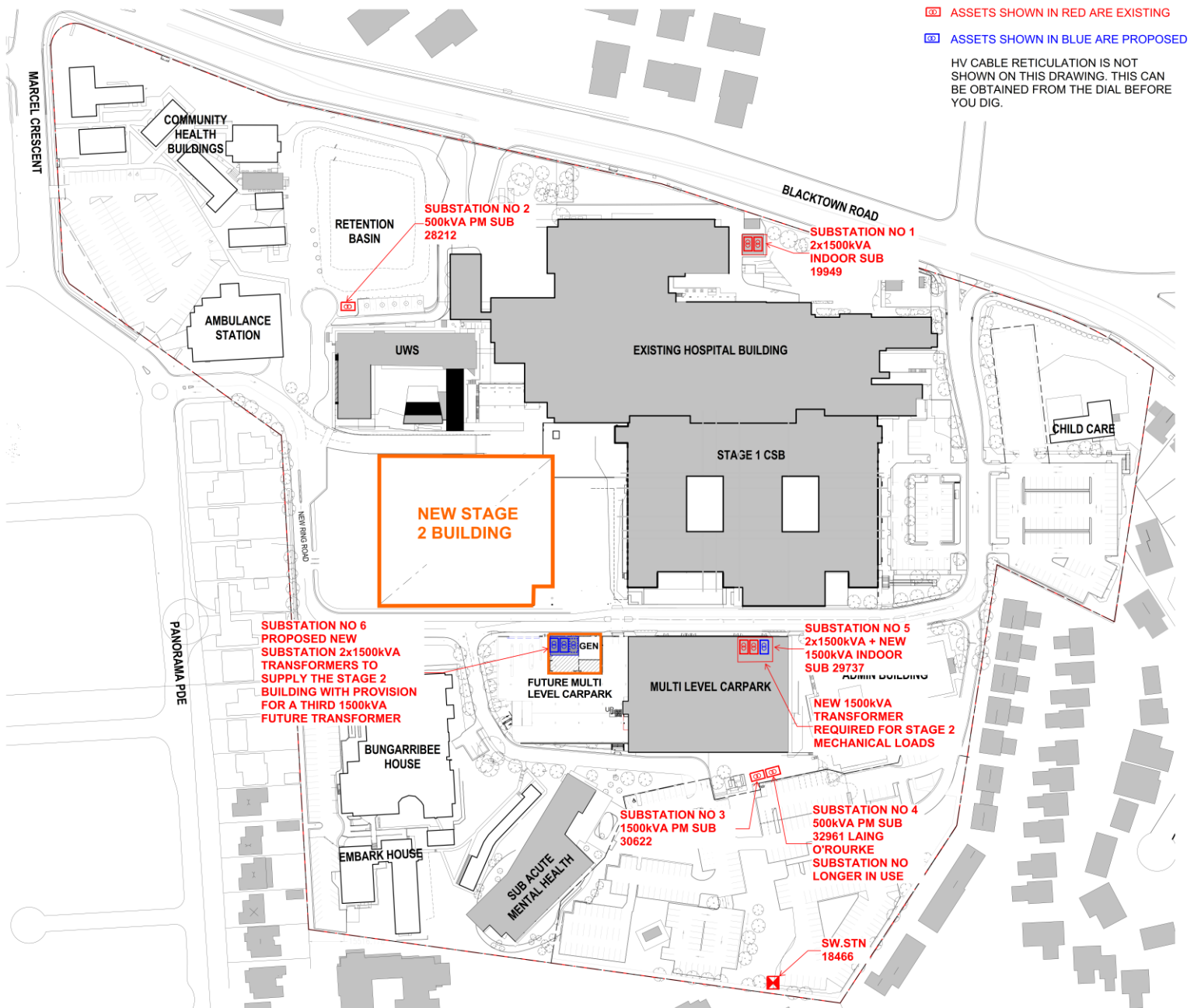


Figure 2 : Existing Hospital Campus Building identification with the new ASB and associated new substation complex highlighted

8 June 2016

Endeavour Energy Ref: ULL2585 – 2016/03937/001

Jacobs Australia Pty Ltd
PO BOX 164
ST LEONARDS NSW 1590

Attention: Patrick Barnes

Dear Sir

ULL2585 – CONNECTION OF LOAD APPLICATION LOT 3, DP 71010, 18 BLACKTOWN ROAD, BLACKTOWN – STAGE 1

Endeavour Energy acknowledges your application which is registered under the Endeavour Energy reference number shown above. Please quote this number on any further correspondence.

Endeavour Energy will assess your application and provide you with an appropriate response which will address your requirements generally within two weeks.

This letter does not allow release of plans from the Constituent Council or from your Private Certifier.

Should you need to contact Endeavour Energy regarding this application, please use contact details provided below.

Yours faithfully,

Louise Fabrello

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8 June 2016

Endeavour Energy Ref: ULL2586 – 2016/03939/001

Jacobs Australia Pty Ltd
PO BOX 164
ST LEONARDS NSW 1590

Attention: Patrick Barnes

Dear Sir

ULL2586 – CONNECTION OF LOAD APPLICATION LOT 3, DP 71010, 18 BLACKTOWN ROAD, BLACKTOWN – STAGE 2

Endeavour Energy acknowledges your application which is registered under the Endeavour Energy reference number shown above. Please quote this number on any further correspondence.

Endeavour Energy will assess your application and provide you with an appropriate response which will address your requirements generally within two weeks.

This letter does not allow release of plans from the Constituent Council or from your Private Certifier.

Should you need to contact Endeavour Energy regarding this application, please use contact details provided below.

Yours faithfully,

Louise Fabrello

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