

# Infrastructure Management Plan

ELECTRICAL AND COMMUNICATION SERVICES

Roseville College – SWELL Centre

Prepared for: Roseville College

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**REVISIONS**

Revision	Date	Purpose	Prepared By	Approved By
R1	02.10.2019	For Review	W Nel	W Nel
R2	04.10.2019	Issue for SSDA	W Nel	P Kniest
R3	21.10.2019	Re-Issue for SSDA – Section 3.4 Updated	Y Jayathilaka	W Nel

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## 1 Executive Summary

ACOR Consultants Pty Ltd (ACOR) are engaged to provide Electrical Engineering services for the proposed new Sports and Wellbeing Centre (SWELL) at Roseville College.

The details within this document are preliminary and based on the information available at the time of issue.

This report is provided in response to the Secretary's Environmental Assessment Requirements (SEARs) issued for the project and has been prepared for lodgement to the State Significant Development (SSD) application for Roseville College SWELL Centre.

The report is provided to facilitate a record of the existing capacity of these services and any augmentation/upgrades required. The report also provides a record of consultation with any relevant agencies.

This report also provides proposed services augmentations for electrical and communication services, as well as determining where discussions are required with statutory authorities (if discussions haven't already taken place).

This report further captures ACOR's assessment of existing infrastructure, identifying constraints and proposing the measures to most effectively meet the needs of the new development.

The report is based on Architectural Drawings prepared by Brewster Hjorth Architects.

In preparing this Report, ACOR remains cognisant of the following design factors:

- a. The design life of the services elements (excluding consumables) should be a minimum of 20 years where possible and practical;
- b. All equipment and componentry selected need to be reliable, sourced from a reputable manufacturer or supplier who has a proven history for ongoing service in Australia and should consider any Client's supply preferences;
- c. The design solution should be sustainably responsible and use low energy systems and equipment (while being cognisant of life cycle costings and capital cost implications);
- d. The design solution should be flexible and easily adaptable to accommodate changes in use and expansion;
- e. The engineering design solutions should have aesthetic appeal that is consistent with the school's preferences and the Architect's vision for the development;
- f. Safety in Design is a legislated requirement and forms part of our engineering design practice.

## 2 Electrical Infrastructure

### 2.1 Existing

The site is bounded by Bancroft Avenue to the north, an existing residential dwelling (No 39 Bancroft Avenue) to the east, the existing Roseville College site to the west and Recreation Avenue to the south.

The site is currently fed from two locations. Refer to site mark up plan for delineation.

- A 200A supply from Bancroft Avenue from the Authority Network
- An 800A supply is fed from a direct distributor from a kiosk substation (No 8211) located on Victoria Street.



**Figure 1. Existing Site Plan and Power Supply Arrangement**

The main supply is from Victoria street and the high voltage supply to the kiosk is via underground cables using the specifically installed underground conduits along Victoria Street.

The 200A supply from Bancroft Avenue is fed overhead line and power supply cable drop down to ground on pole PY 63536.

Underground submain cables are reticulated to the individual buildings within the college grounds

The electrical supply to the development falls within AusGrid's area.

### 3 Proposed Development

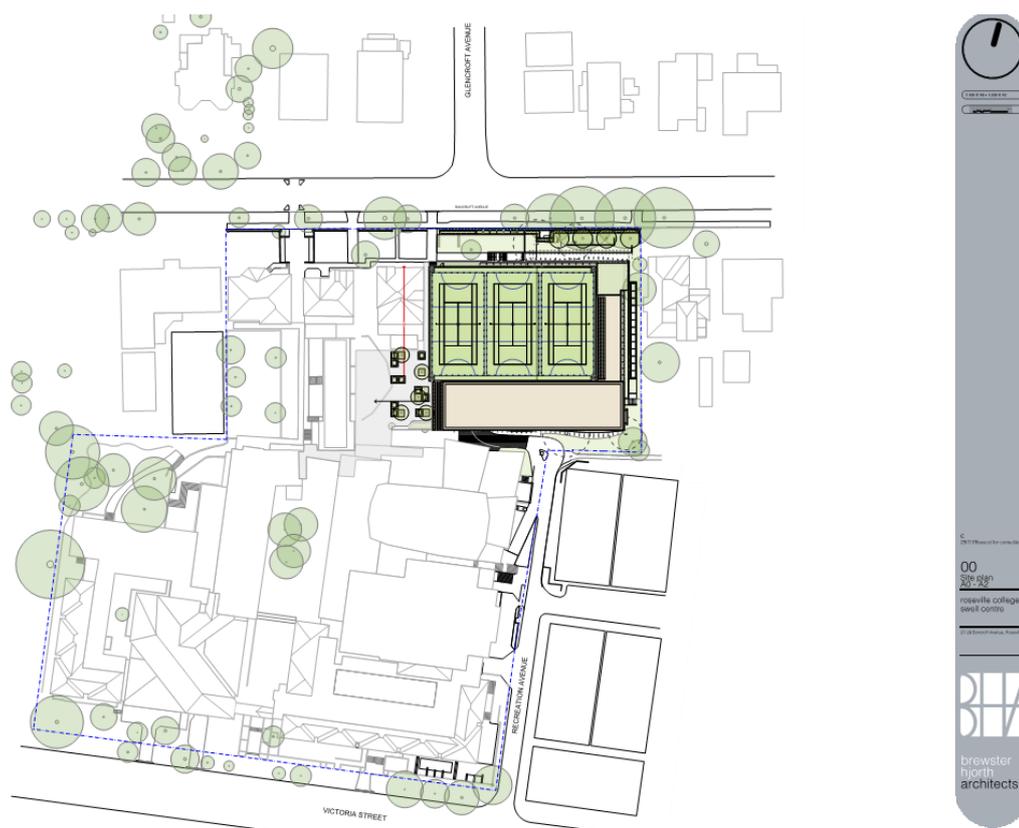
#### 3.1 Site Characteristics

The Roseville College SWELL Centre site (“the subject site”) consists of a re-development of two lots, being:

- The existing on-grade sports courts within the Roseville College site (No. 27-29 Bancroft Avenue); and
- Consolidation of the neighbouring residential lot at No. 37 Bancroft Avenue

The proposed development will involve demolition of the existing sports courts, residential dwellings and ancillary structures on-site and construction of a three-storey SWELL Centre.

The SWELL Centre will incorporate two levels of off-street carparking, an 8-lane heated swimming pool with amenities facilities, general learning areas and rooftop tennis courts.



**Figure 2. Proposed SWELL Centre Architectural Site Plan. Source: Brewster Hjorth Architects**

An electrical switchroom shall be provided to house the building’s main switchboard. The location of the main switchroom has been coordinated with the architect and is currently shown on the proposed architectural drawings. The main switchboard will be served from a single underground distributor feeder from the new kiosk substation.

### 3.2 Ausgrid

We have consulted with Ausgrid, the electrical network Authority, who have advised that the existing 200A supply from Bancroft Avenue does not have the capacity to connect the proposed SWELL Centre.

The proposed SWELL Centre and existing facility will require an electrical supply in the order of 800A.

An extension / augmentation of the Ausgrid High Voltage network will be required to supply a new kiosk substation in Bancroft Avenue.

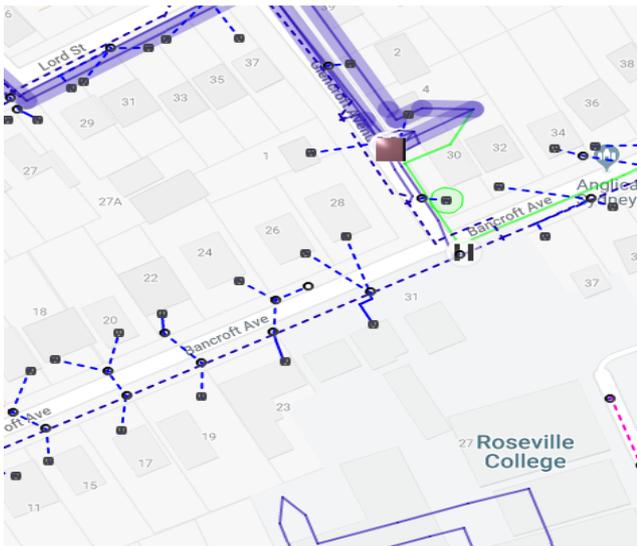
Final supply arrangement will be determined in conjunction with the Electricity Distributor.

Ausgrid correspondence Ref No. 1900092666. Refer Appendix A

### 3.3 Substation Requirements

A pad mounted kiosk substation is proposed for the development located in Bancroft Avenue in proximity of the new SWELL Centre as shown on the architectural drawings.

Underground HV cabling will reticulate from an existing kiosk substation in Glencroft Avenue to the new dedicated kiosk substation in Bancroft Avenue as shown on the site plan.



ACOR as the nominated An Accredited Service Provider (ASP) Level 3 will design the pad mounted kiosk substation and high voltage cable path between the existing kiosk substation in Glencroft Avenue and the new substation location in Bancroft Avenue based on the Design Information Package (DiP) and Network Standards from Ausgrid.

The Electrical Distributor's main requirements for a kiosk substation to be established on site include:

- a. Dedicated easement of 5,300 x 3,300mm;
- b. No services and structures above/below or through the easement;

- c. Above 1:100yr flood level;
- d. No non combustible building elements within 3,000mm of the kiosk housing;
- e. No supply or exhaust openings and the like within 6,000mm of the kiosk housing.

The new location must be level and clear of all construction

The installation of high voltage cabling and associated works such as trenching, backfilling etc will be governed by Ausgrid Network standards for laying underground cables up to and including 11kV

Suitable precaution will be undertaken during detail design and construction stage in the vicinity of the existing 132kV cables in Bancroft Avenue to ensure ongoing operation.

### **3.4 Accredited Service Provider**

The College have commissioned ACOR as the Level 3 Accredited Service Provider to design the contestable works of the Ausgrid network, including the design of the extension / augmentation of the underground cables and conduits.

All installation works on public infrastructure shall be carried out by a Level 1 Accredited Service Provider with suitable field, technical and engineering staff experienced in projects of this nature.

Preliminary desktop investigation has been completed using DBYD and Ausgrid WebGIS system information. There are two 132kV feeder cables installed in the Glencroft and Bancroft avenues. These 132kV HV cables are installed in parallel and in the close proximity of the existing 11kV feeder cable to be tapped in for the new kiosk substation. The restrictions will apply when work near 132kV transmission lines and it is a requirement that an Ausgrid inspector to be present at the site when any underground construction works happen within 2 meters of 132kV cables.

The certified ASP3 design should provide appropriate construction notes and details for the ASP1 contractor to follow and undertake the construction works scope associated with the extension of the existing 11kV underground cable to the new kiosk substation site.

The figure below shows the 132kV transmission cables and the proposed path for the 11kV cable extension. The extension of 11kV feeder cable requires a joint pit near the 132kV underground cable and conduits to cross Bancroft avenue.

The next step in the ASP 3 design process is to submit the Proposed Design Scope (PDS) for the extension of the 11kV feeder cable. This PDS should provide adequate details on the existing HV assets, construction methodology and new asset locations.

Prior to developing this PDS a detailed survey is required to locate the existing 132kV and 11kV cables. It is assumed that 11kV cable can be tapped outside the 132kV cable system, but the determination of the exact locations is essential to determine the size and the location of new 11kV cable jointing pits. These details are to be highlighted in the PDS for Ausgrid review and design brief.



## 4 Communications Services

The existing communication services within the school are proposed to be extended to the development and no dedicated additional services from the street is proposed.

The SWELL Centre will be provided with a communications room where incoming services will be terminated. The main service to the SWELL Centre will originate from the existing College infrastructure and will therefore not necessitate public road closures and the like

The SWELL Centre communication cabling will be reticulated internally using dedicated risers and ducts specifically set aside for this purpose.

The existing communication services provided to the College do not require augmentation by the services provider beyond the property boundary.

It is envisaged that the necessary works required to bring the SWELL Centre up to contemporary standards and expectations will originate from the existing internal services.

All ITC works shall be in strict compliance with the school's ICT Services Network Infrastructure specification / design guidelines.

## 5 Appendix A – Ausgrid Correspondence



Address all relevant correspondence to:

Ausgrid Contestability Section  
Building 3, 51-59 Bridge Road  
Hornsby NSW 2077

E: [Contestability@ausgrid.com.au](mailto:Contestability@ausgrid.com.au)

20 May 2019

ACOR  
Attention: Mr Patrick Kniest  
Suite 2, Level 1, 33 Herbert St Leonards NSW 2065

Email: [pkniest@acor.com.au](mailto:pkniest@acor.com.au)

Reference Number: **1900092666**

Dear Patrick

**Electricity Network Connection Application at: ROSEVILLE COLLEGE 27 BANCROFT AVE ROSEVILLE NSW 2069**

We have received your Connection Application and assigned it the reference number 1900092666.

We have made a preliminary assessment of your Connection Application and wish to advise the application is incomplete and we cannot proceed to a connection offer at this stage. To enable *Ausgrid* to further consider and process your request you will require a certified design and associated certification number, and you should include this on your application.

This letter provides guidance on how to obtain a certified design and associated certification number.

### Scope of Network Alterations

*Ausgrid's* assessment has determined that the following works are likely to be required to connect your development.

- New kiosk substation

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.

### Design Stage

You or the person you represent must engage an ASP/3 to design the necessary network alterations. *Ausgrid* has classified the design information requirement for this connection as **standard**. Therefore, for this connection, the ASP/3 must submit a Proposed Design Scope (PDS) to *Ausgrid* for assessment. This will form the basis of

Design Information – Site Specific Terms and Conditions for the project, which your ASP/3 will use to prepare and submit a design that is certifiable.

You will also need to enter into a Contract for Design Related Services with *Ausgrid* as outlined below. This Contract sets out the rights and obligations of *Ausgrid* and yourself with respect to certification of your ASP/3's design by *Ausgrid*.

Once the design has been certified by *Ausgrid*, your Connection Application will be complete and you may use the design certification number to request that your Connection Application proceed to a connection offer or expedited connection, provided you assure *Ausgrid* that the development has not materially changed since you submitted your original Connection Application.

### **Contract for Design Related Services**

This letter is an offer to enter into a Contract for Design Related Services. It remains open for acceptance for 45 business days. A copy of the Contract for Design Related Services is available for your review on our website <http://www.Ausgrid.com.au> at the following link: <https://www.ausgrid.com.au/-/media/Documents/Technical-Documentation/Contracts-and-Deeds/Contract-for-Design-Related-Services/Design-Contract-2017.pdf>.

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 payable upon acceptance. *Ausgrid* will invoice you once we receive your signed acceptance form. The Contract will not commence until you pay the invoiced fee.

These fees are an estimate for the *Ausgrid* services required. Further fees may apply for any additional services required and these will be quoted on each occasion. *Ausgrid's* published rates for our services are amended from time to time in our Connection Policy – Connection Charges 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.

The Acceptance Fee will be calculated as follows (GST inclusive). These fees and rates are set by the Australian Energy Regulator:

Design Information	\$1,409.84
Design Certification	\$1,807.43
Administration	\$659.40
Facilitation	\$498.70
<b>TOTAL</b>	<b>\$4,375.37</b>

## General

Standard *Ausgrid* documents mentioned in this letter, including those enclosed, are available on *Ausgrid*'s website [www.ausgrid.com.au](http://www.ausgrid.com.au). If you do not have access to the web and would like to read any of the documents mentioned in this letter they may be obtained by contacting the phone number below.

Should you require any further information please contact me on the phone number or email address detailed below.

## What to do next

- Read the Contract for Design Related Services on our website. To accept our offer to enter into a Contract for Design Related Services,
  - Complete and sign the Acceptance of Offer in the space provided below and return it to *Ausgrid*.  
**Note that a tax invoice will be generated based on the details provided on the form.**
  - You will also need to pay *Ausgrid*'s fees as detailed above. An invoice for the above total amount will be forwarded to you on acceptance of the contract.
- Engage the services of an ASP/3 to submit a Proposed Design Scope (PDS) to *Ausgrid* for assessment. Note that *Ausgrid* will not accept the PDS for assessment until the Contract for Design Related Services is in place. *Ausgrid* requires the PDS to be submitted within 12 months of the contract commencement date.

Yours sincerely,



Cedric Halforty  
Team Leader - Contestable Connections - Sydney North  
*Ausgrid*

Direct Telephone Number: 02 95855663

Email: [Chalfort@ausgrid.com.au](mailto:Chalfort@ausgrid.com.au)

Encl: Acceptance of Offer Form  
Contestable Connection or Relocation flowchart

# Acceptance of Offer



**Date of Design Offer:** 20 May 2019  
**Design Offer Expiry Date:** 23.07.2019

**Ausgrid – MC Reference Number:** 1900092666  
**Ausgrid - AP/AE Reference Number:** 800261987  
**Ausgrid - HPRM Reference Number:** B19/2588

**Premises:** ROSEVILLE COLLEGE 27 BANCROFT AVE ROSEVILLE NSW 2069

The Connection Applicant accepts the above Ausgrid’s offer of a Contract for Design Related Services in relation to the design of connection assets at the above premises.

**Please note that a tax invoice will be generated based on the details provided on this form. Changes to this information following invoice processing will result in additional charges.**

Details of Person or Company to invoice for the payment of Ausgrid Fees and Charges.	
<p><b>This is the party that will be billed and responsible for payment.</b></p> <p><b>If you are signing on behalf of a third party, we require their details for invoicing</b></p> <p><b>ALL FIELDS MANDATORY</b></p>	_____ print name of person or company
	_____ ABN / ACN
	_____ postal address - line 1
	_____ postal address – line 2
	_____ contact name
	_____ contact phone number
	_____ email address
	Purchase Order Number Obtained: <b>Yes</b> <input type="checkbox"/> <b>NA</b> <input type="checkbox"/> If yes, please provide Purchase Order Number:
	_____ purchase order number

**Signed by the Connection Applicant** (as per application form details)

\_\_\_\_\_ signature

\_\_\_\_\_ print name of signatory

\_\_\_\_\_ print position of signatory

\_\_\_\_\_ date

\_\_\_\_\_ company name

\_\_\_\_\_ ABN / ACN

\_\_\_\_\_ email address

\_\_\_\_\_ contact phone number



Date of Design Offer: 20 May 2019  
 Design Offer Expiry Date: 23.07.2019

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Details of Person or Company to invoice for the payment of Ausgrid Fees and Charges.	
This is the party that will be billed and responsible for payment.	THE ANGLICAN SCHOOLS CORPORATION print name of person or company
	ABN 63544 529 806 ABN / ACN
	PO Box 465 HURSTVILLE BC NSW 1481 postal address - line 1
If you are signing on behalf of a third party, we require their details for invoicing	postal address – line 2
	DENNIS MACAN contact name
	0487 11 1129 contact phone number
	dmacan@sasc.nsw.edu.au email address
ALL FIELDS MANDATORY	Purchase Order Number Obtained: Yes <input type="checkbox"/> NA <input checked="" type="checkbox"/>
	If yes, please provide Purchase Order Number: purchase order number

Signed by the Connection Applicant (as per application form details)

PKA signature  
PATRICK KNIEST print name of signatory  
CONSULTANT print position of signatory  
23/07/19 date  
ACOR company name  
26 522 454 721 ABN / ACN  
pkniest@acor.com.au email address  
02 94 38 50 98 contact phone number