



Suite 2, Level 1
33 Herbert Street
ST LEONARDS NSW 2065

PO Box 292
ST LEONARDS NSW 1590

T 02 9438 5098
F 02 9438 5398

www.acor.com.au

ENGINEERS

MANAGERS

INFRASTRUCTURE
PLANNERS

DEVELOPMENT
CONSULTANTS

SSD – 10371

Trinity Grammar School, Summer Hill Campus - The Renewal Project

Lighting and Lighting Control Strategy

ACOR Project No.: SY180898

Revision No.: 03

Disclaimer

This Report has been prepared in accordance with the scope of services described in the contract or agreement between ACOR Consultants Pty Ltd and the Client. The Report relies upon data, surveys, measurements and results taken at or under the particular terms and conditions specified herein. Changes to circumstances or facts after certain information or material has been submitted may impact on the accuracy, completeness or currency of the information or material. This Report has been prepared solely for use by the Client, ACOR Consultants Pty Ltd accepts no responsibility for its use by other parties without the specific authorisation of ACOR Consultants Pty Ltd. ACOR Consultants Pty Ltd reserves the right to alter, amend, discontinue, vary or otherwise change any information, material or service at any time without subsequent notification. All access to, or use of, the information or material is at the user's risk and ACOR Consultants Pty Ltd accepts no responsibility for the results of any actions taken on the basis of information or material provided, nor for its accuracy, completeness or currency. Any reference to "Report" where used in this Disclaimer is also a reference to any plan, table, data or other document that has been created for the purposes of the "Report" and referred to in the "Report" ²

REVISIONS

Revision	Date	Purpose	Prepared By	Approved By
01	27/11/2019	Preliminary Issue	P Kniest	W Nel
02	05/12/2019	Final Issue	P Kniest	W Nel
03	04/02/2020	SEARS Issue	P Kniest	W Nel

Review Panel	
Division/Office	Name

Unless otherwise advised, the parties who have undertaken the Review and Endorsement confirm that the information contained in this document adequately describes the conditions of the site located at corner of Seaview St, Prospect Rd and Victoria St, Summer Hill, NSW.

<p>COPYRIGHT</p> <p>No part of this document (where "document" includes any plan, specification, detail, report or other document created by ACOR Consultants Pty Ltd or any of its related or associated entities) may be reproduced, adapted, transmitted or stored in a retrieval system in any form or by any means without written permission unless otherwise permitted under the Copyright Act, 1968. Enquiries should be addressed to ACOR Consultants Pty Limited.</p> <p>© ACOR Consultants Pty Limited</p> <p>All intellectual property and copyright reserved.</p>

Table of Contents

1	Project Overview	4
	1.1 Aims and Objectives	4
	1.2 Description of the Proposal	4
	1.3 Lighting Strategy	4

1 Project Overview

1.1 Aims and Objectives

The following objectives have been identified as forming the basis of the proposed development of the existing educational establishment:

- Create an education precinct to create a high-quality teaching and learning environment for staff and students;
- Establish additional floor space to increase availability and efficiency of teaching functions for Trinity Grammar School Summer Hill Campus;
- Improve site access, car parking and surrounding traffic functions in the precinct;
- Strengthen pedestrian linkages throughout the campus;
- Enhance the overall campus aesthetic, upgrade the public domain to create visually interesting transitions through the campus, and promote the heritage elements of the campus;
- Ensure minimal environmental impact;
- Maintain the significant green fields assets and provide opportunities for new outdoor environments;
- Ensure development is compatible with surrounding development and the local context; and
- Create a safe environment to support and nurture the boy's growth.

The site and proposed design are considered to meet the objectives of the project as it allows for development on land that has been previously used for educational purposes.

1.2 Description of the Proposal

The proposed development seeks detailed built form approval of new teaching and educational facilities, as detailed below:

- New building at the heart of the Campus to accommodate contemporary, flexible teaching and learning spaces;
- Improve movement and flow for students, with better east-west and north-south links across the school grounds and between levels, including more accessible connections between the Junior School, ovals and car park, and providing strong visual and physical connections;
- Renewal and Refurbishment of existing teaching and learning facilities;
- Reconfiguration and connection of underground car park improve traffic flow for the school drop-off and pick-up zone and improve the safety of boys and visitors who enter the school grounds as pedestrians from Victoria Street;
- New multipurpose pavilion between Ovals 1 and 3 containing a championship size basketball court with practice overlay, spectator seating and amenities;
- Demolition of school-owned residences at 46, 48, 50 and 52 Seaview Street, improving the existing service, maintenance and delivery facilities;
- Improvement and extension to Junior School outdoor teaching, assembly and recreational area.

1.3 Lighting Strategy

The latest published Australian Standards that are current or to be applicable within the time frame of construction will be applicable, unless advised by the PCA for the use of specific Australian Standards referenced within the National Construction Code of Australia.

The lighting design will comply with the requirements of:

- AS 4282 - Control of the obtrusive effects of outdoor lighting
- AS/NZS1680.0 – 2009 Interior lighting – Safe movement
- AS/NZS 1680.2.3 - Interior and workplace lighting - Specific applications - Educational and training facilities
- AS2293.1 – Emergency escape lighting and exit signs for buildings

The lighting to be designed includes but is not limited to the following:

- a) Interior lighting and lighting control systems;
- b) Emergency lighting and illuminated exit signage;
- c) External lighting and lighting control;
- d) Obtrusive lighting control.

All luminaires will utilise LED technology lamps and the luminaire’s reflector will be designed specifically for LED lamp sources.

The selection of internal light fittings will be coordinated with the architect and will be presented to the school for approval prior to documentation.

Interior Lighting

To ensure economic running costs and minimal maintenance costs a LED lighting solution will be implemented throughout.

The following lighting control model for internal lighting is proposed:

Circulation Areas	Circulation areas will be provided with motion sensors and timers. Lights will switch off, saving energy and lamp life during afterhours when minimal movement is detected after a time period specified by the school (generally 20 minutes). Manual override switches for automatic lighting shall be provided at a coordinated location with the architect and the Client.
Lobbies / Lift	An opportunity exists to investigate imaginative and interesting feature lighting. Further detailed co-ordination is needed with the Architect throughout the design development period.
Learning and support areas	Lighting groups will have motion sensors and individual switching. Lighting control will be by either integral sensors on individual luminaires or separate 360° sensors controlling a larger group of fittings
Amenities / Staff Room / Breakout	These areas will be provided with motion sensors and timers as well as manual override switches.
Service Delivery	Occupancy sensor with manual override switches.
Switch rooms, Plant or Service rooms	Manual switching
Comms rooms	Manual switching

Luminaires will utilise high colour rendering (colour corrected) lamps for enhanced lighting output and quality. Lighting colour temperature shall be confirmed by the school, should no preference be made a colour

temperature of 3000K (warm white) will be provided for interior space and 4000K (cool white) for external spaces shall be used.

To enable a cost-effective lighting solution the selection of light fixtures will be undertaken in consultation with the Architect and the School.

All lighting will generally be designed to comply with the requirements of AS 1680, and where required be supplemented to ensure comfort and safety to the public.

Emergency Lighting and Illuminated Exit Signage

Emergency lighting and illuminated exit signage will be distributed throughout the building to comply with the requirements of AS 2293.1 and the NCC.

All emergency lighting and illuminated exit signage will utilise LED technology.

All emergency lighting and illuminated exit signage shall be documented to be connected by a plug base so it can be easily swapped out for maintenance.

External Lighting

Lighting will be controlled via a combination of photo electric cells and time switches with a manual override control.

Light fittings shall be provided with a finish to the school and architect's colour scheme requirements.

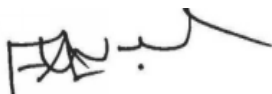
All external lighting will be designed to have less than 1 lux light spill within 2 metres of the boundary, and will be lighting, which is aligned with any sensitive boundary areas, will be shielded to negate any discomfort glare issues with neighbouring properties.

External Lighting shall generally be low height, low intensity and discreetly positioned so as to avoid spill lighting to adjacent properties and compliance with AS / NZS 1158.3.1 and AS 4282.

Should you need any additional information, please do not hesitate to contact the undersigned.

Yours faithfully,

ACOR Consultants Pty Ltd

A handwritten signature in black ink, appearing to read 'W. Nel', with a long horizontal stroke extending to the right.

William Nel
Group Electrical Services Leader