

# St Lukes Grammar School - SSD

## Electrical Services

## Infrastructure

## Management Plan

**Prepared for:** Anglican Schools Corporation

**Attention:** Toby James

**Date:** 03 Mar 2020

**Prepared by:** Theodore Mirabile

**Ref:** 43194

**Wood & Grieve Engineers now part of Stantec**

Level 6, Building B, 207 Pacific Highway, St Leonards NSW 2065

Tel: +61 2 8484 7000 Email: [sydney@wge.com.au](mailto:sydney@wge.com.au) [www.wge.com.au](http://www.wge.com.au)

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**WOOD & GRIEVE ENGINEERS**

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# Revision

Revision	Date	Comment	Prepared By	Approved By
A	03.03.2020	Issued For SSDA	TMM	TMM

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# 1. Introduction

WGE/Stantec have been commissioned on behalf of St Lukes Grammar School Dee Why, to assist with the preparation of an Environmental Impact Statement (EIS) to accompany a State Significant Development Application for the extension/development of a new school located at 100 Pittwater Rd.

This report has been prepared to address a number of key issues as stated in the Planning Secretary's Environmental Assessment Requirements issued on 3<sup>rd</sup> May 2019. The issues addressed in this report include:

## ***Item 14 . Utilities***

- *Prepare an Infrastructure Management Plan in consultation with relevant agencies, detailing information on the existing capacity and any augmentation and easement requirements of the development for the provision of utilities including staging of the infrastructure.*
- *Identify any potential impacts of the proposed construction and operation on the existing utility infrastructure and service provider assets and demonstrate how these will be protected or impacts mitigated.*

This report has been prepared based on the following information:

- Architectural drawings received from TZG to date
- Site inspections conducted to date
- Information received from Ausgrid



## 2. Existing Infrastructure

### 2.1 Electrical

The existing building is currently supplied via a dedicated kiosk substation (asset #S16636) located in the driveway adjacent to the botanical gardens northern boundary to the site.



*Location of existing site kiosk substation circled above*

Investigations completed to date have confirmed the following:

- Substation S16636 is a 750kVA substation with a non-firm rating of 1090A/ph.
- The substation is currently loaded to approx.. 770A/ph
- The substation supplies the existing building through a low voltage distributor. The distributor fuseway is rated to 1200A/ph with 1200A fuses installed.
- The loading on the low voltage distributor to the exiting building is approx.. 680A/ph.
- The substation is an obsolete E-type substation. Upgrades to this type of substation are not possible.
- Ausgrid have confirmed the substation location can be retained in the current location if clearance and access requirements are provided in accordance with Ausgrid's Network Standards.

### 2.2 Communications

The existing building is currently served by incoming communications services off Pittwater Rd. Details of these services are shown in Appendix 1.

## 3. Proposed Infrastructure

### 3.1 Electrical

Following consultation with the design team and the Authority, the issues identified below have catalysed the requirement to relocate the existing substation:

**Substation Location** - the advice received from Ausgrid (as noted above) has confirmed that the existing substation location is able to be maintained provided adequate clearance and access requirements are met. However, in reference to the landscape drawings proposed for the area around the substation (refer Landscape drawing L-105 - Stage 3 Detailed Plan – West), changes in the existing landscaping treatment to improve the amenity of the site, particularly around reducing the grade of the site to improve access by the introduction of features such as stepping and ramping, has compromised access to the existing substation location to the extent that the Ausgrid requirements with regards to access cannot be achieved.

**Substation Rating** - the preliminary maximum demand for the building (calculated in accordance with AS3000 Table C3) has determined that the maximum demand for the proposed development will exceed 1000kVA (1400A/ph) which is generally the load limit for Ausgrid Type L kiosk substations. Based on these expected loads it is anticipated that multiple substations will be required.

The proposed location of the new substations has been nominated near the top of the driveway entry. This location has been chosen as it improves accessibility to the substations and mitigates the requirement to provide truck access to the existing substation location. The construction of the new substation will generally tie into the staging of the landscape/building works and it is expected that the works will be carried out in Stage 2. Refer to Appendix 2 for markup showing the proposed substation location.

### 3.2 Communications

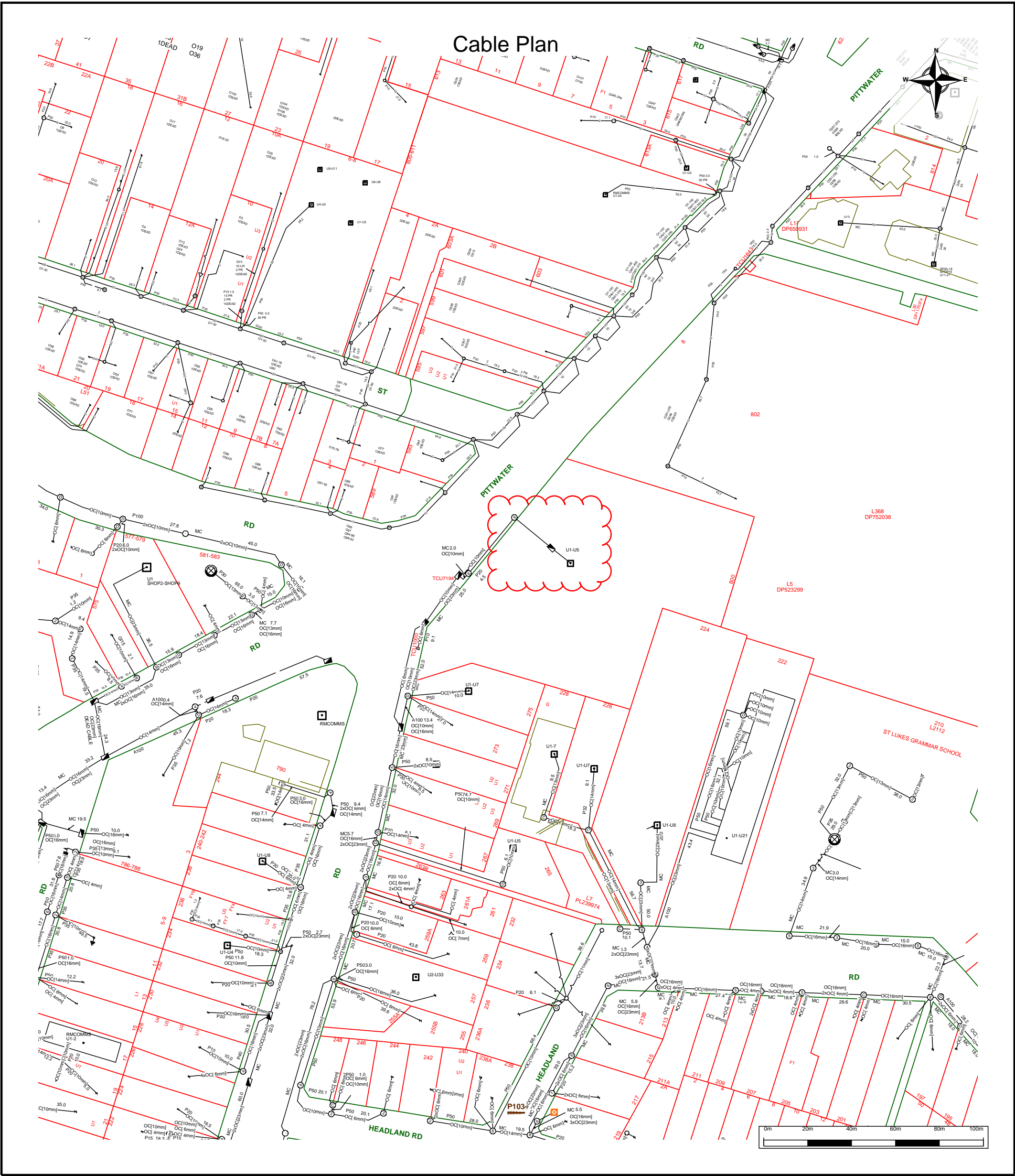
Details around the proposed relocation of the incoming communications services for the site have not been developed at this stage however it is anticipated that the existing incoming services will be demolished as part of the building works and be redirected to come into the site through the driveway similar to the new power requirements. New incoming communications will share the same trench as the new incoming electrical services.




## 4. Appendices

### 4.1 Appendix 1 – Existing Communications





	<p>For all Telstra DBYD plan enquiries - email - Telstra.Plans@team.telstra.com For urgent onsite contact only - ph 1800 653 935 (bus hrs)</p>	<p>Sequence Number: 95504459</p>
<p>TELSTRA CORPORATION LIMITED A.C.N. 051 775 556</p>		<p><b>CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.</b></p>
<p>Generated On 05/03/2020 13:29:07</p>		

The above plan must be viewed in conjunction with the Mains Cable Plan on the following page

WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

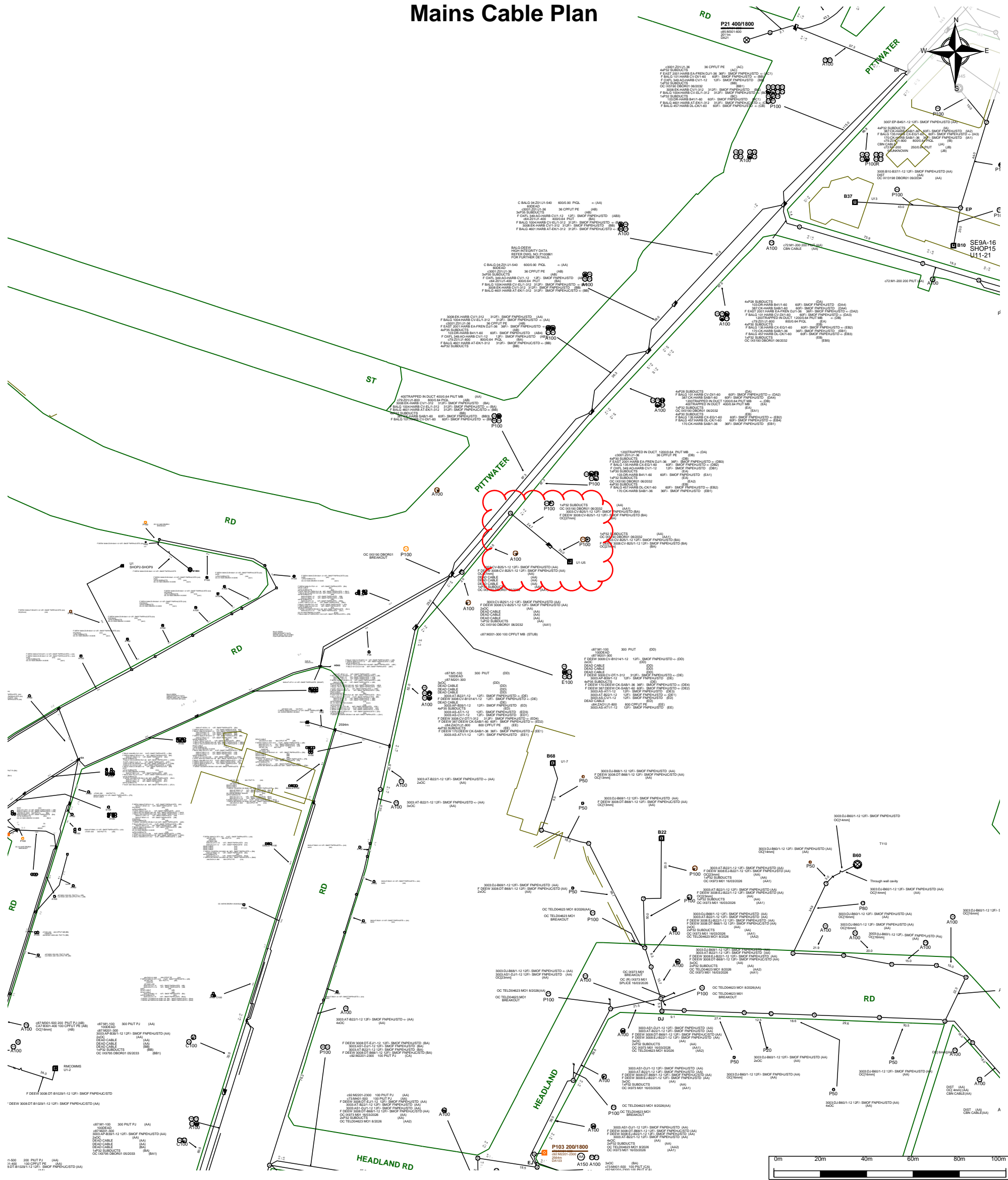
It is your responsibility to locate Telstra's underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.

Please read and understand the information supplied in the duty of care statement attached with the Telstra plans. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY DAMAGE TO ITS PLANT.

Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.



# Mains Cable Plan



For all Telstra DBYD plan enquiries -  
email - Telstra.Plans@team.telstra.com  
For urgent onsite contact only - ph 1800 653 935 (bus hrs)

TELSTRA CORPORATION LIMITED A.C.N. 051 775 556

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## 4.2 Appendix 2 – Proposed Substation Location



APPROXIMATE LOCATION OF EXISTING SUBSTATION

- NOISE WALL. REFER ARCHITECTS DRAWINGS
- SHADE TREES IN TURF MOUND
- GROUPED PEBBLE SEATING
- PICK-UP/DROP-OFF AREA LINEMARKING
- TWO TYPES OF PAVING TO INDICATE SHARED ZONE
- EXISTING RETAINING WALL
- NATIVE PLANTINGS
- ACCESS TO BIKE PARKING (GROUND LEVEL)
- NEW PATH AND KERB RAMP
- CONCRETE TERRACED SEATING AND TURF
- FEATURE TREES AT ENTRY
- SCHOOL ENTRY STEPS
- STAGE 2 REMOVED

LOCATION OF NEW SUBSTATIONS

HARLORD ROAD

ALL DAY CAR ACCESS

EXISTING STAGE 2 WORKS

PITTWATER ROAD

STONY RANGE BOTANIC GARDENS

224 HEADLAND ROAD

KEY

- 800 PITTWATER ROAD PROPERTY BOUNDARY
- PAVING TYPE 1
- PAVING TYPE 2
- CONCRETE DRIVEWAY
- FIBREGLASS REINFORCED PLASTIC (FRP) GRATING FOOTPATH
- NATIVE GARDEN BEDS
- TURF
- LOW GROUND COVERS
- TIMBER PLATFORM SEATING WITH CONCRETE EDGE
- SOFT FALL
- SOLID SHADE STRUCTURE
- PEBBLE SEATING
- CONCRETE SEATING
- PING PONG TABLE
- PLEXI GLASS NOISE WALL
- MASONARY NOISE WALL
- GAMES WALL TO EXTERNAL HARD COURT
- FENCE TYPE A - TIMBER
- FENCE TYPE B - STEEL
- GATE
- REMOVABLE BOLLARDS
- SUBSTATION
- GAS METER / WATER METER / FIRE HYDRANT + SPRINKLER
- EXISTING TREE RETAINED
- EXISTING TREE REMOVED
- PROPOSED NATIVE TREE
- PROPOSED NATIVE PALM
- EXISTING TREES IN STONEY RANGE

DRAFT

PROJECT  
ST LUKE'S GRAMMAR SCHOOL  
NEW SENIOR SCHOOL AND SPORTS CENTRE

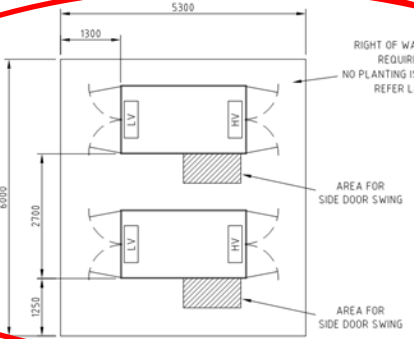
DRAWING  
Stage 3 - Master Plan

DRAWING L-103 SCALE 1:500@A3  
NUMBER

CLIENT  
The Anglican Schools Corporation

SMM PROJECT No. 19063  
ISSUE B-Final Draft  
DATE 1/11/19

spackman mossop michael



Design with  
**community** in mind

Level 6, Building B  
207 Pacific Highway  
St Leonards NSW 2065  
Tel +61 +61 2 8484 7000  
E [sydney@wge.com.au](mailto:sydney@wge.com.au)

For more information please visit  
[www.wge.com.au](http://www.wge.com.au)



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