Report

Infrastructure Management Plan

NEW HIGH SCHOOL IN BUNGENDORE

School Infrastructure NSW

CONFIDENTIAL

Revision: G - TOA
Issued: 6 September 2021

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A TETRA TECH COMPANY

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1 INTRODUCTION

This Infrastructure Management Plan accompanies an Environmental Impact Statement (EIS) pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act) in support of an application for a State Significant Development (SSD No 14394209). The SSDA is for a new high school located at Bungendore.

This report addresses the Secretary's Environmental Assessment Requirements (SEARs), notably:

SEARs Requirement	Response
A site plan showing all infrastructure and facilities (including any infrastructure that would be required for the development, but the subject of a separate approvals process).	
14. Utilities In consultation with relevant service providers: • assess the impacts of the development on existing utility infrastructure and service provider assets surrounding the site. • identify any infrastructure upgrades required off-site to facilitate the development and any arrangements to ensure that the upgrades will be implemented on time and be maintained. • provide an infrastructure delivery and staging plan, including a description of how infrastructure requirements would be co-ordinated, funded and delivered to facilitate the development.	This IMP report details the hydraulic, communications and electrical services infrastructure available to service the proposed development. This report also includes details regarding augmentation / amplifications required to service the proposed development

2 PROPOSAL

The proposed development is for the construction of a new high school in Bungendore. The proposal has been designed as a stream 3 high school to initially provide for approximately 450 students with core 4 facilities aimed to future proof demand forecasted to 2036.

The site is located adjacent to the existing Bungendore Public School to the south enabling the creation of an education style precinct that will enable a cohesive connection between the two schools as well as the wider Bungendore community.

The proposal will include the demolition of the Bungendore Swimming Pool (to be relocated to Queanbeyan-Palerang Regional Council's proposed new Bungendore Sports Hub) and the Bungendore Community Centre; repurposing of existing council buildings; and the construction of new school buildings. New facilities for the high school will comprise of 24 general learning spaces; dedicated science and technology spaces; a gymnasium; library; canteen; outdoor learning and play areas that include two games courts.

A new agricultural plot is also proposed to the north of the main school site including a new agricultural building and scout storage shed, adjacent to the existing scout hall.

The proposal will also provide for shared administration and staff facilities between the high school and existing primary school and construction of a warm shell for community facilities including a community library, council shopfront and community health hub.

Additionally, miscellaneous off-site works, including upgrades to nearby road intersections and infrastructure, crossings, footpaths and the like will be provided to encourage active transport opportunities and respond to changing traffic conditions.

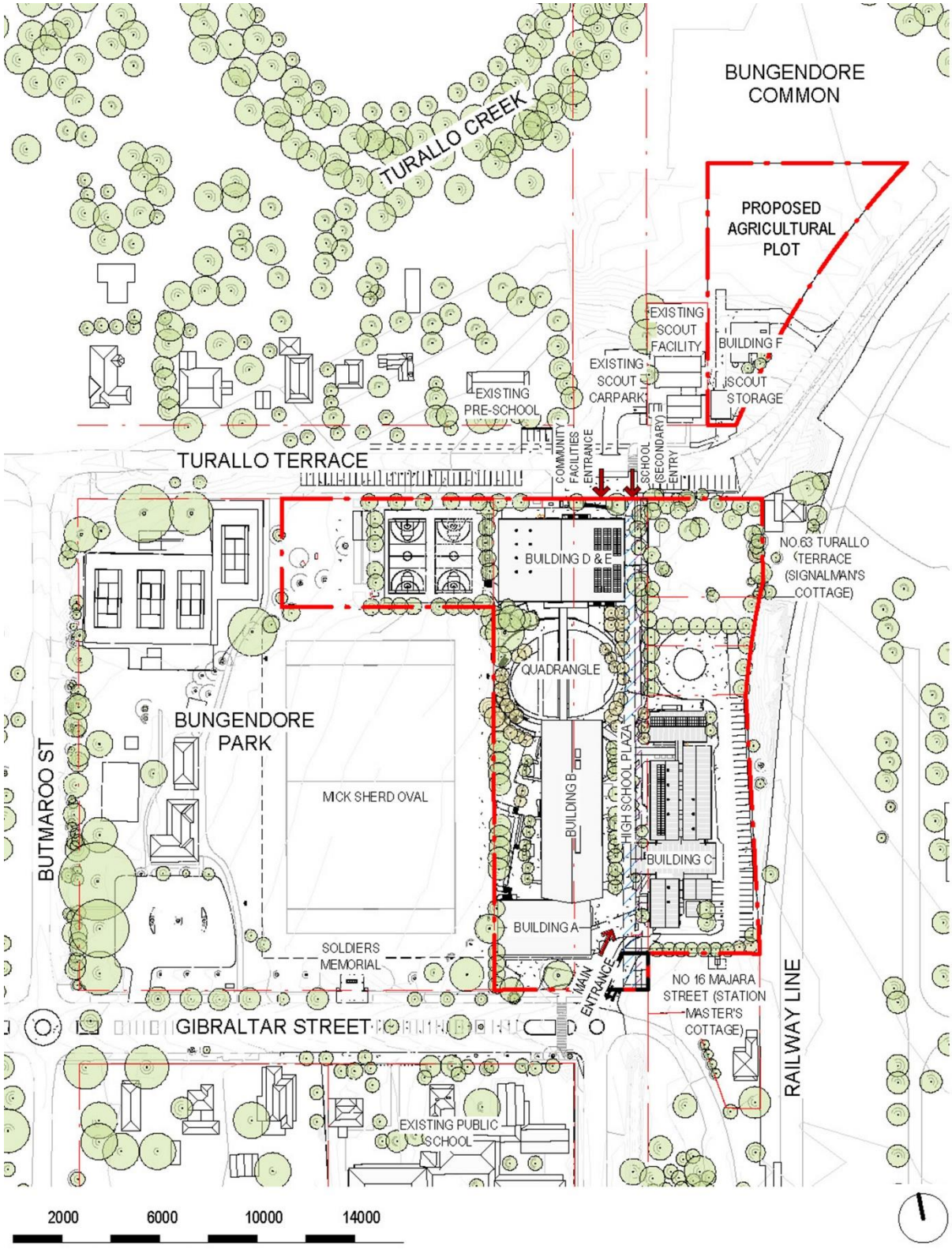

Figure 1: Proposed site plan
Source: TKD Architects

3 SITE DESCRIPTION

The proposed development is located within the Bungendore Town Centre within the local government area of Queanbeyan-Palerang Regional Council. The proposal involves the use of land which includes Bungendore Park bounded by Gibraltar Street, Majara Street, Turallo Terrace and Butmaroo Street, the existing former Palerang Council site at 10 Majara Street, the Majara Street road reserve bounded by Turallo Terrace and Gibraltar Streets and Nos. 2, 4 and 6 Majara Street (Refer to Table 1 below).

The site is approximately 29,205m2 in area and consists of a relatively flat topography. It contains part of Bungendore Park, existing Council buildings and maintained public open space areas. The land is mostly cleared of vegetation with some mature trees intersperse throughout subject lots.

The surrounding area generally includes low density residential developments to the north and west, an existing rail line to the east and Bungendore Public School and the Bungendore train station to the south and south west respectively.

Table 1 - New high school in Bungendore legal descriptions

Property Address	Lot Numbers
6-14 Butmaroo Street	Part Lot 701 DP1027107
2 Majara Street	Lot 12 DP1139067
4-6 Majara Street	Lot 13 DP1139067 Lot 14 DP1139067
10 Majara Street	Lot 3 DP830878
Butmaroo Street	Part Lot 701 DP96240
Portion of Majara Street (between Turallo Terrace and Gibraltar Street)	N/A

Figure 2: Site aerial depicting the land subject to the proposed High School.
Source: TKD Architects

4 INFRASTRUCTURE DEMANDS

The maximum demand for the site is as follows:

Sl No.	Service	Unit	Maximum Demand	Remarks
1.	Electricity	KVA	1119	Based on AS3000
2.	Potable Water	kL/day	3.1	peak
3.	Sewer Drainage	500FU ADWF = 0.17 l/s PDWF = 1.39l/s		Sydney Water Average Water Usage Data
4.	Fire Hydrant	l/s	20	AS2419.1-2005
5.	Fire Sprinklers	No sprinklers required		
6.	Fire Drenchers	No drenchers required		
7.	Natural Gas	MJ/h	1200	F&B, Domestic Hot Water Plant, mechanical heating

5 INFRASTRUCTURE OVERVIEW

5.1 Potable Water Services

The following information has been provided and sourced to inform this report and our assessment of the Potable Water Service.

- Dial Before You Dig
- Discussions with the Council
- Pressure & Flow Enquiry

Queanbeyan-Palerang Regional Council (QPRC) own and operate the potable water infrastructure.

5.1.1 Existing Potable Water Services

The site has frontage to the following water mains:

- A 150mm and 80mm potable water main within Turallo Terrace located towards the northern verge;
- 150mm water main reticulating within Majara Street located towards the eastern verge of the road;
- 150mm water main reticulating within Gibraltar Street located towards the southern verge of the road;
- 150mm water main reticulating within Butmaroo Street located towards the western verge of the road;

Refer to figure H1 for details.

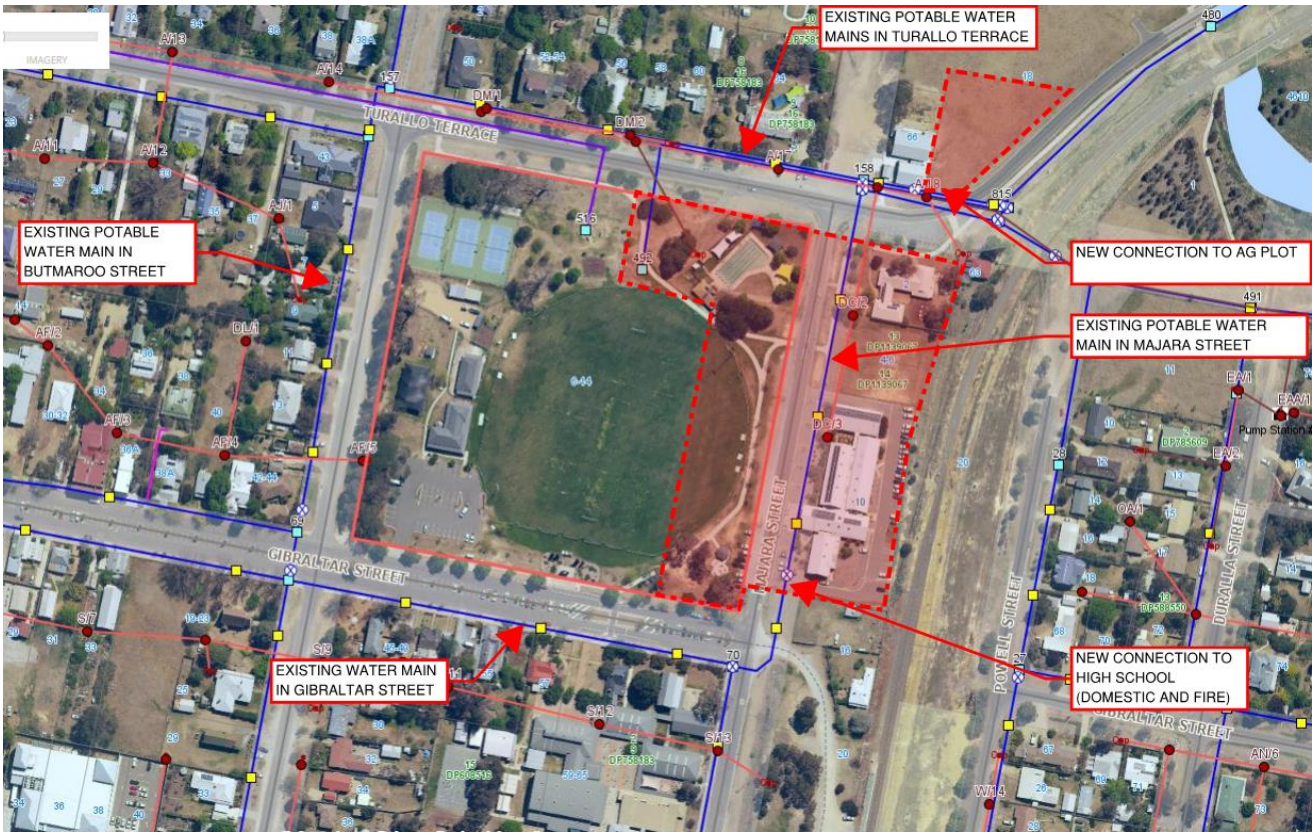

Figure H1 QPRC Water Infrastructure

5.1.2 Majara Street Closure

As Majara Street is being closed as part of the works, the existing QPRC water main running through the site will require a permanent easement.

New buildings on the site will not be located over the main.

5.1.3 Proposed Potable Water Supply

A new potable water connection shall be made to the existing water main north east of the site, adjacent to block A for the main site. The Agriculture Plot will be provided with a separate connection off Turallo Terrace.

Pressure and flow information has been received, indicating that there is sufficient capacity for both domestic and fire fighting purposes without the need for pumps

The potable cold water supply shall be provided with a backflow prevention devices and private water meter assembly.

5.2 Sewer Drainage Services

5.2.1 Existing Sewer Drainage

The site has frontage to the following QPRC sewer mains:

- 150mm sewer main terminating within the site adjacent to the south western boundary;
- 150mm sewer main terminating within the site adjacent to the north eastern boundary;
- 150mm Sewer main reticulating within Majara Street located towards the eastern verge of the road terminating adjacent to the QPRC Building;
- 150mm Sewer main reticulating within Turallo Terrace located towards the northern verge of the road.

Figure H2 Sewer Drainage Infrastructure Overview

5.2.2 Majara Street Closure

As Majara Street is being closed as part of the works, the existing QPRC sewer main running through the site will now be located on the school site. It is proposed that this existing line from the council building connection (now school building) back to the main line in Turallo Terrace is privatised for the school to utilise.

New buildings on the site will not be located over the main.

5.2.3 Proposed Sewer Drainage

All the proposed new buildings are located over and adjacent to the existing Majara Street. The sewer drainage from the proposed buildings are proposed to be connected to the existing QPRC sewer main

reticulating within Majara Street. The 150mm QPRC sewer main within Majara Street has sufficient capacity to service the school development. Additionally, the 150mm sewer main terminating within the site adjacent to the north eastern boundary is also available for connection of the Agricultural Plot and appears to have adequate capacity.

5.3 Natural Gas Services

5.3.1 Existing Gas Supply

The site has access to the following Evoenergy natural gas mains:

- 110mm 250kPa natural gas main within Turallo Terrace located towards the northern verge;
- 63mm 250kPa natural gas main reticulating within Gibraltar Street located towards the southern verge of the road

Figure H3 Natural Gas Infrastructure Overview

5.3.2 Proposed Natural Gas Supply

The existing Evoenergy natural gas mains within Turallo Terrace and Gibraltar Street appears to have adequate capacity to service the proposed development works subject to preliminary service advise from Evoenergy.

An application shall be lodged with Evoenergy for connection once the development application is approved.

A master gas meter and boundary regulator assembly and manual shut-off valve shall be installed prior to reticulation within the building. The gas meter and regulator will be located at the property boundary.

5.4 Electrical High Voltage Services

5.4.1 Existing Electrical Supply

As the proposed school site is an amalgamation of several different sites, there are multiple existing power supplies to the existing Lots, including existing street lighting in Majara Street.

In addition to this, there is existing underground high voltage cabling in Majara Street.

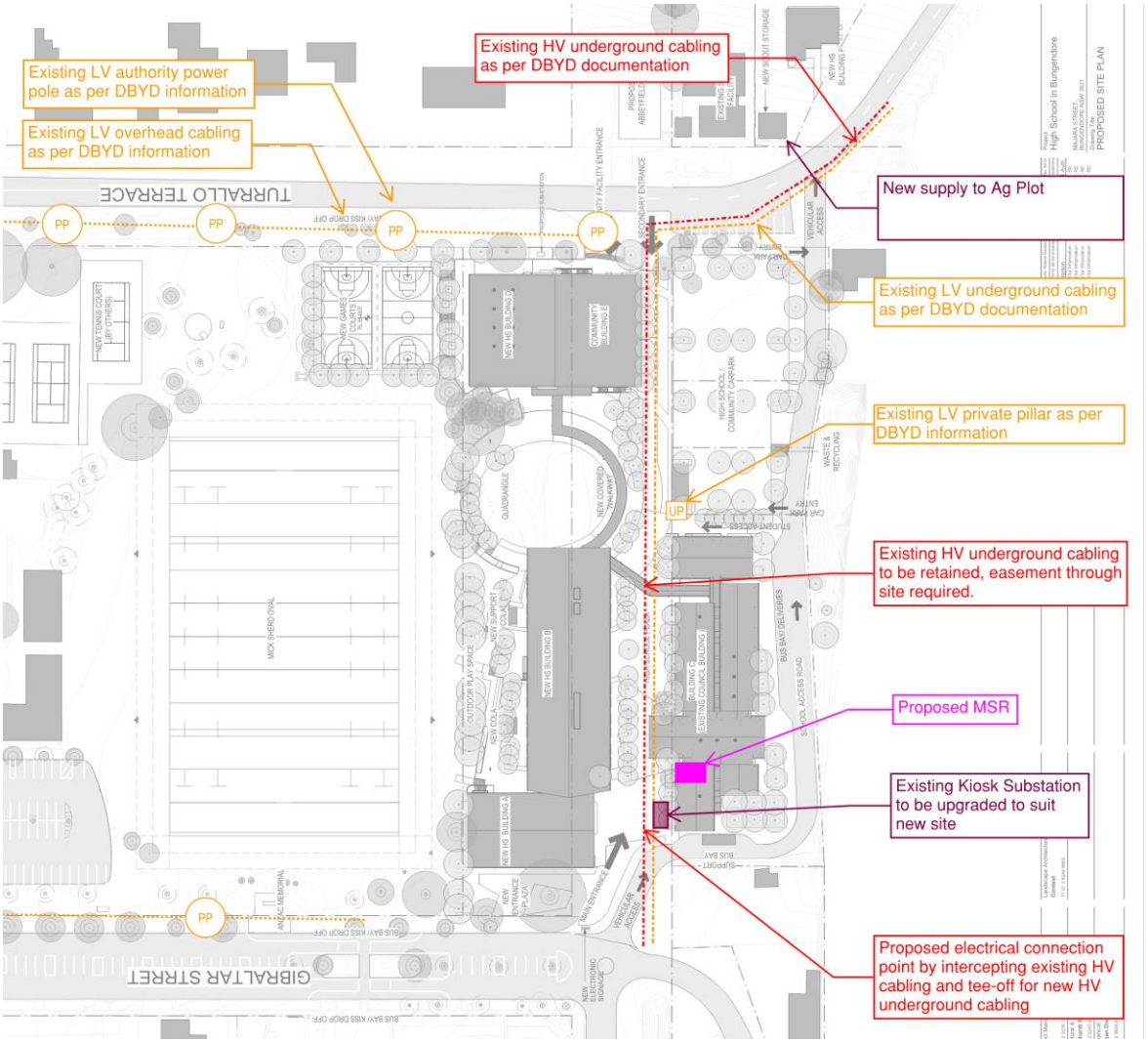

Figure E1 Electrical Infrastructure

5.4.2 Majara Street Closure & Combination of Lots

As Majara Street is being closed as part of the works, the following will be required:

1. Establishment of a permanent easement through the school site for the existing underground HV cabling route.
2. Decommission the Low Voltage supply for the street lighting.
3. Decommissioning of the existing pool electrical supply

5.4.3 Proposed Electrical Supply

Due to the size of the new development, one 1500 kVA new kiosk substation will be required. A request for an Application for Connection to Essential Energy has been undertaken.

The existing substation that currently services the existing council building will be replaced with a new larger Essential Energy kiosk substation. Refer to Figure E1 for the Electrical Infrastructure Site plan.

The new Agricultural Plot that is located off site will be provided with a new authority connection from an adjacent low voltage power pole.

Applications for decommissioning and connection have been submitted and are currently with Essential Energy.

5.1 Photovoltaic Solar Power (PV system)

A 70kW photovoltaic (PV) solar power grid-connect rooftop system shall be provided to offset power consumption costs at the school.

The PV system design shall receive approval from Essential Energy, an application to connect the PV system will be required.

5.2 Communication Services

5.2.1 Incoming Communication Services for New High School

Based on DBYD documentation, there is an existing Telstra/NBN pit in Turralo terrace in front of Buildings D and E. It is proposed to use this existing infrastructure to connect the new independent NBN/Telstra network to the new high school.

New NBN/Telstra pits and lead-in conduits will be terminated in a new main communications room to be located in the library building (building D). New NBN/Telstra pits and associated underground NBN/Telstra conduits are proposed to be installed as per Figure E3 below for NBN/Telstra Lead-in optic fibre reticulation.

The existing connections for the pool, and council buildings will be removed as part of the works.

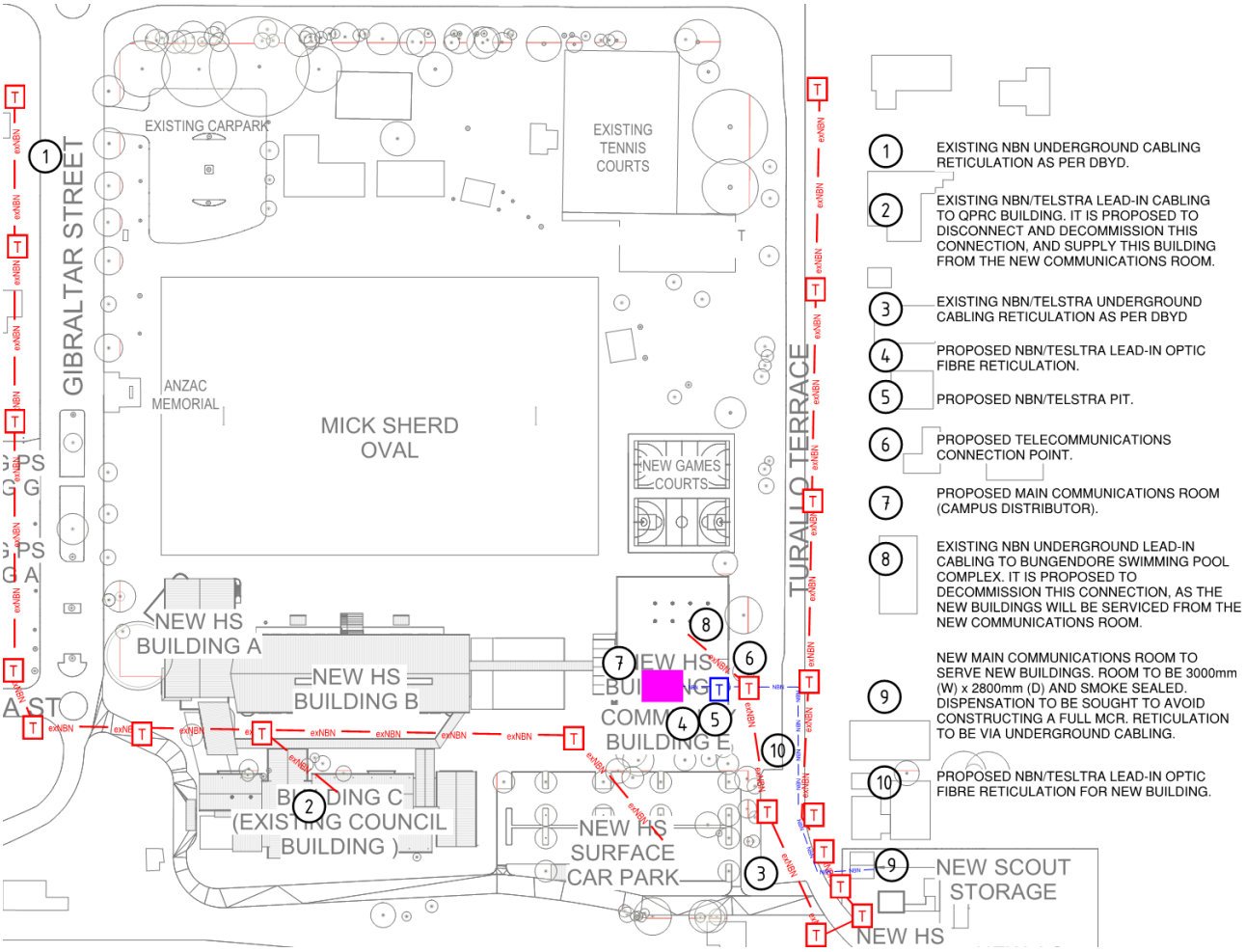

Figure 2: Communications Infrastructure Site Plan for HS

Applications for decommissioning and connection have been submitted and are currently NBN.

5.3 Stormwater

Refer to separate report by civil engineers M&G Consulting Engineers.

6 INFRASTRUCTURE DELIVERY AND STAGING

As there are no existing buildings on the site, there are no particular staging requirements for the infrastructure works.

The below table outlines the approval pathways, time lines and funding responsibilities of the different authority approvals required for the Project.

Service	Authority	Process	Funding Responsibility
Power	Essential Energy	– Engage Level 3 Designer – Submit application for connection – Receive Design Brief – ASP Design and 40 day notice – Submit Design – Authority review – Resubmit design – Authority approval – Construction	Project / Builder
Communications	NBN	– Submit application – 15 days for offer – Client accepts offer – NBN Design, appointed builder engages accredited installer.	Project / Builder
Communications	Telstra	– Submit application – 15 days for offer – Client accepts offer – Telstra Design and Construct	NSW Department of Education
Water & Sewer	QPRC	– Engage Sydney Water accredited Water Services Coordinator (WSC) and lodge section 73 application – Water connection application via tap in – Authority review and approval – Sydney Water meter procurement by contractor and inline pumping application via tap in – Builder to manage construction	Project / Builder
Natural Gas	Evoenergy	– Submit application – Receive offer – Builder to manage install and completion with Jemena	Project / Builder although no development contribution expected

7 CONCLUSION

The project can be adequately serviced by power, telecommunications, water, sewer and gas services.

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NDY QA SYSTEM

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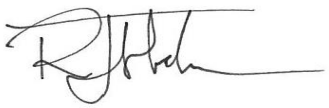

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