If a building becomes architecture, then it is art. Clearly, if a building is not functionally and technically in order, then it isn't architecture either – it's just a building.
Arne Jacobsen

Mechanical Engineering
Lighting Design
Sustainable Design
Electrical Engineering

Copenhagen
London
Sydney
Canberra
Hong Kong
New York

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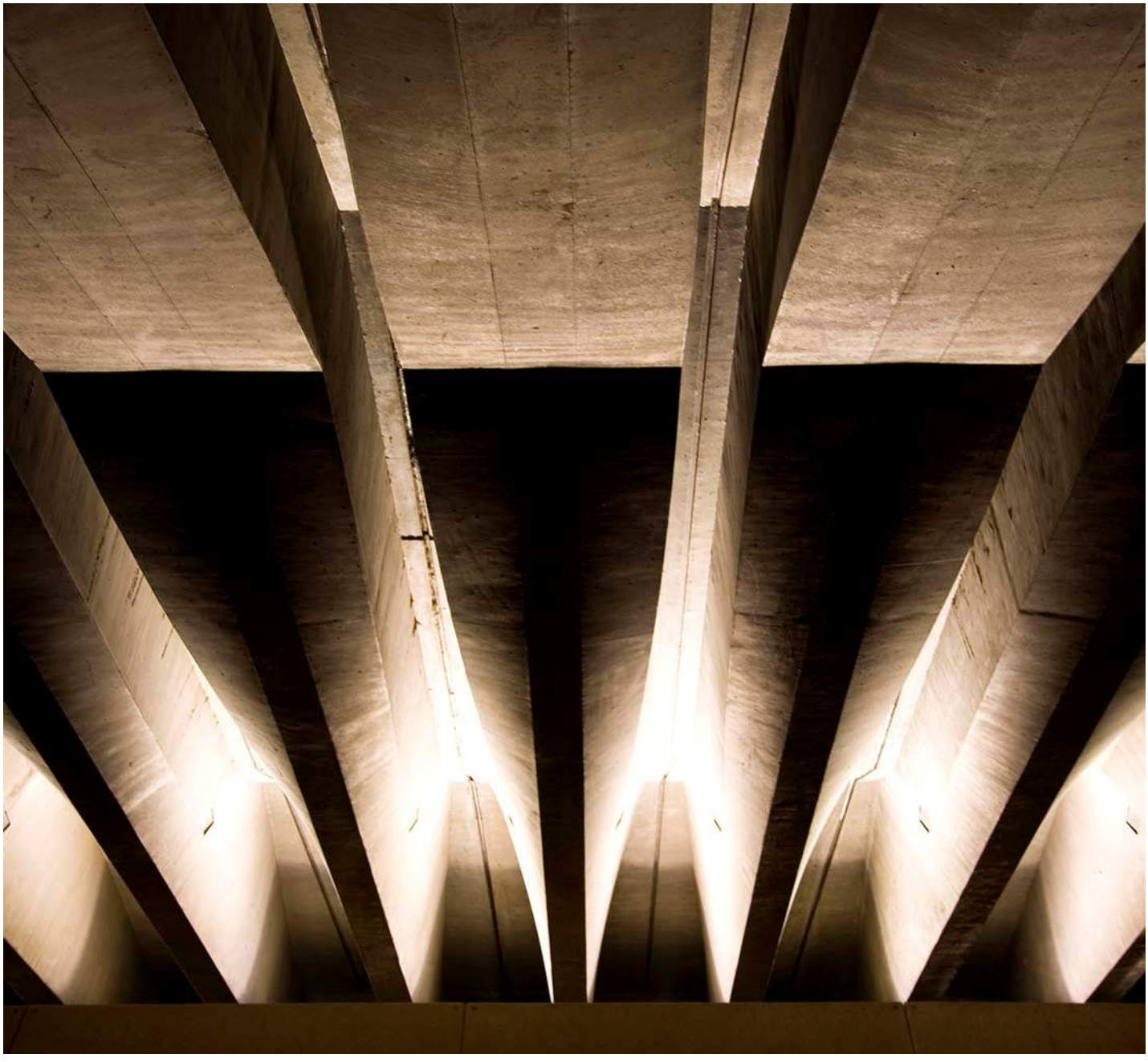
BUILDING SERVICES

STEENSEN VARMING

Newington College
Concept Proposal and Stage 1 Infrastructure Requirements and Utility Assessment



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Document Revision and Status

Date	Rev	Issue	Notes	Checked	Approved
27/08/2025	01	Draft	For Comment	AZ	BJ
24/10/2025	02	Draft	For Comment	IM	BJ
14/11/2025	03	Final	Final	IM	BJ
17/11/2025	04	Final	Final	IM	BJ
27/11/2025	05	Final	Final	IM	BJ
01/04/2026	06	Final	Final	IM	BJ
10/04/2026	07	Final	Final	IM	BJ

Sydney 27th November 2025
Ref. No. 247236 E01

Ivan Mira
Associate

Ivan.mira@steensenvarming.com
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1.0 Introduction

Steensen Varming has been commissioned by the Council of Newington College (the Applicant) to prepare this report in accordance with the technical requirements of the Secretary's Environmental Assessment Requirements (SEARs), and in support of the State Significant Development Application (SSD-78268465) for alterations and additions to the Newington College Senior Campus in Stanmore.

1.1 Description of the site and Locality

The Newington College Senior Campus is located at 200-244 Stanmore Road, Stanmore and is bordered by Stanmore Road to the north, Newington Road to the south and College Lane to the west. The College boundary also includes the Concordia building to the north at 221-235 Stanmore Road. The main campus is legally described as Lot 8 in DP710369 and the Concordia site is legally described as Lot A in DP109269, Lot 1 in DP49, Lot B in DP330028, and Lot 1 in DP526319.

Key features of the site include:

- The main campus site is a regular shaped allotment with an area of 8.7ha. The Concordia site (and access handle to Cavendish Street), immediately north of the main campus is irregular in shape and is 2,903sqm in area.
- The topography of the main campus is a defining characteristic, particularly the grassed slope from the historic Founders Building down to Johnson Oval. The site has an overall fall of approximately 18m from the north-west corner to south-east corner.
- The at-grade car park adjacent to the Concordia building sits approximately 2.8m above the Stanmore Road street level, and is accessed via Cavendish Street (to the rear).
- The existing school buildings are largely located along the College Lane and Newington Road edges of the site. Existing buildings generally range from 2-4 storeys in scale. The balance of the site comprises at-grade car parking and sporting facilities, including sporting ovals and tennis courts.
- The Concordia building across Stanmore Road is a two-storey building with basement and car parking accessed from Stanmore Road. An at-grade car park is located within the eastern portion of this site, with vehicular access from a driveway to Cavendish Street (to the north).
- The site has a primary frontage to Stanmore Road (which accommodates both vehicular and pedestrian access to the site) and a secondary frontage to Newington Road, which is generally limited to pedestrian access and service vehicles.
- The area surrounding the site is predominantly zoned R2 Low Density Residential and includes a combination of single dwellings and residential flat building ranging from 1-3 storeys in height. Stanmore Train Station is located approximately 220m to the north. An existing pedestrian bridge and signalised traffic lights provide pedestrian access over Stanmore Road to Stanmore Train Station, further north.

The site is identified in the figure overleaf.

Source: Urbis 2024

1.2 Project Description

The SSDA seeks consent for staged alterations and additions to the Newington College Senior Campus comprising:

Concept Proposal for the provision of new and upgraded facilities, including:

- Building envelope for the redevelopment of Sevington Courts to accommodate recreational facilities and teaching spaces (refer to detailed Stage 1 Works below).
- Building envelope for alterations and additions to Centenary Hall and development of an adjoining, four storey teaching and learning facility (College Lane building). This development will accommodate a cafeteria and dining hall, lecture theatre, multi-purpose teaching spaces and additional pastoral spaces.
- Building envelope for the redevelopment of the Concordia building to accommodate a performance theatre, multi-purpose gallery and exam centre, new teaching spaces and basement car parking. The Concordia redevelopment includes a new pedestrian bridge across Stanmore Road to the main campus.
- Landscaping design strategy across the campus.

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- Car parking provision and circulation arrangements.
- Increase of 368 students and 45 full-time equivalent (**FTE**) staff.

Detailed Stage 1 Works, including:

- Earthworks and the associated demolition of Sevington Courts.
- Construction, fit-out and operation of 3 storey building comprising multi-purpose indoor and rooftop courts, fitness centre, multi-purpose teaching spaces, amenities and basement car parking.
- Construction, fit-out and operation of 4 storey building comprising multi-purpose teaching spaces, administrative functions and amenities.
- Alterations to the existing driveway within the site to facilitate vehicle access to the new basement car park.
- Temporary car park during construction phase of Stage 1 Works.
- Tree removal and new landscaping adjacent to the Stage 1 development site.
- Increase of 368 students and 45 FTE staff.

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2.0 Electrical Services

2.1 Description of Works

The scope of works includes electrical infrastructure upgrades to support development/redevelopment of the following:

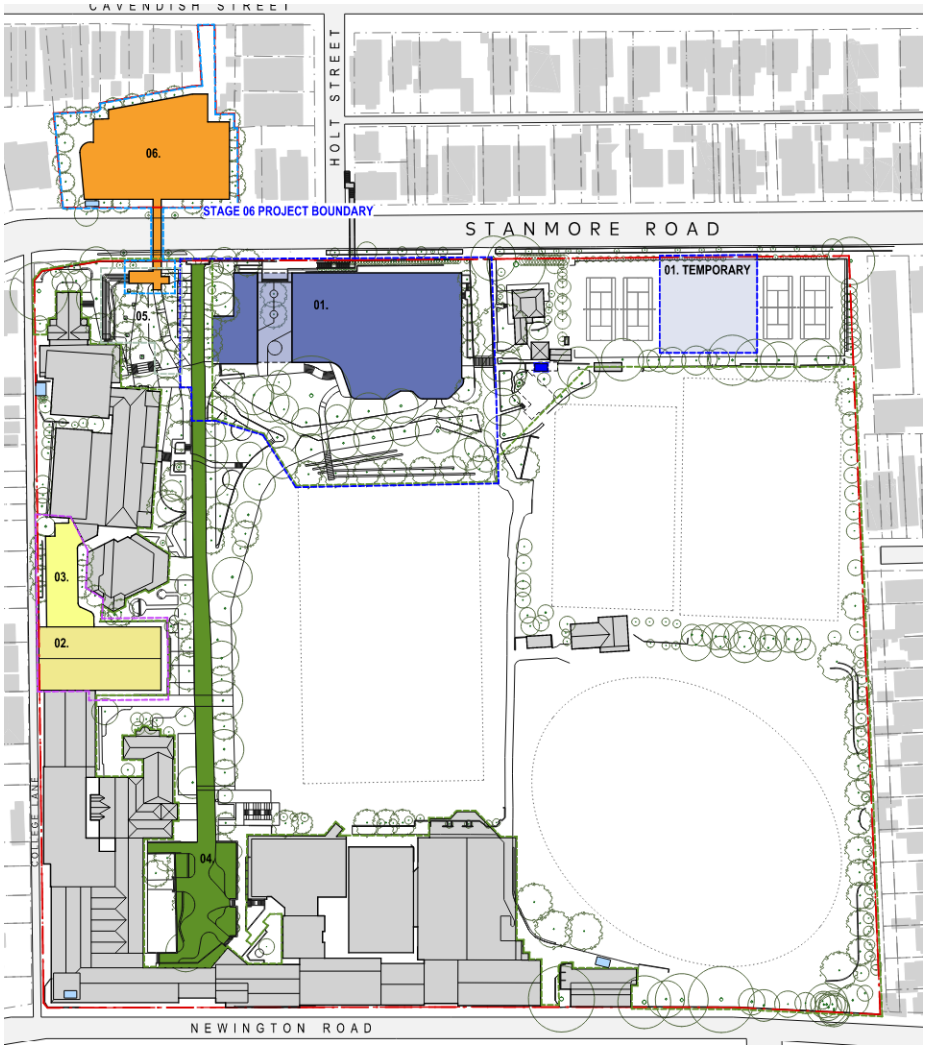
Stage 1 – Sevington Courts (new build)

Stage 2 – Centenary Hall (refurbishment)

Stage 3 – College Lane Building (new build)

Stage 4 – Memorial Drive & Surrounds (Landscape Works)

Stage 6 – Concordia Building (redevelopment)



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3.0 Power Supply

3.1 Review of Existing Infrastructure

3.1.1 Ausgrid

Steensen Varming has completed a Dial Before You Dig as well as a review of Ausgrid services maps to get an understanding of the services in the area of the works.

The DBYD and review of the GiS maps indicate that there are several existing substations in the vicinity of the school and described in the following sections.

The following substations exist which service the existing school:

S-50147 – Located within the school boundary suppling into an existing main switchboard. The substation is rated at 800kVA with a non-firm rating of 1169A. It believed to have approximately 400A of spare capacity.

S-2882 – Located within the school boundary suppling into an existing main switchboard. The exact rating of this substation is not known. It believed to have approximately 1000A of spare capacity.

S-4204 – Located within the school boundary supplying into an existing main switchboard. The exact rating of this substation is not known. It believed to have approximately 900A of spare capacity.

S-3225 – Located outside the school boundary on the footpath of Stanmore Road supplying the Concordia Building. The exact rating of this substation is not known. It believed to have approximately 500A of spare capacity.

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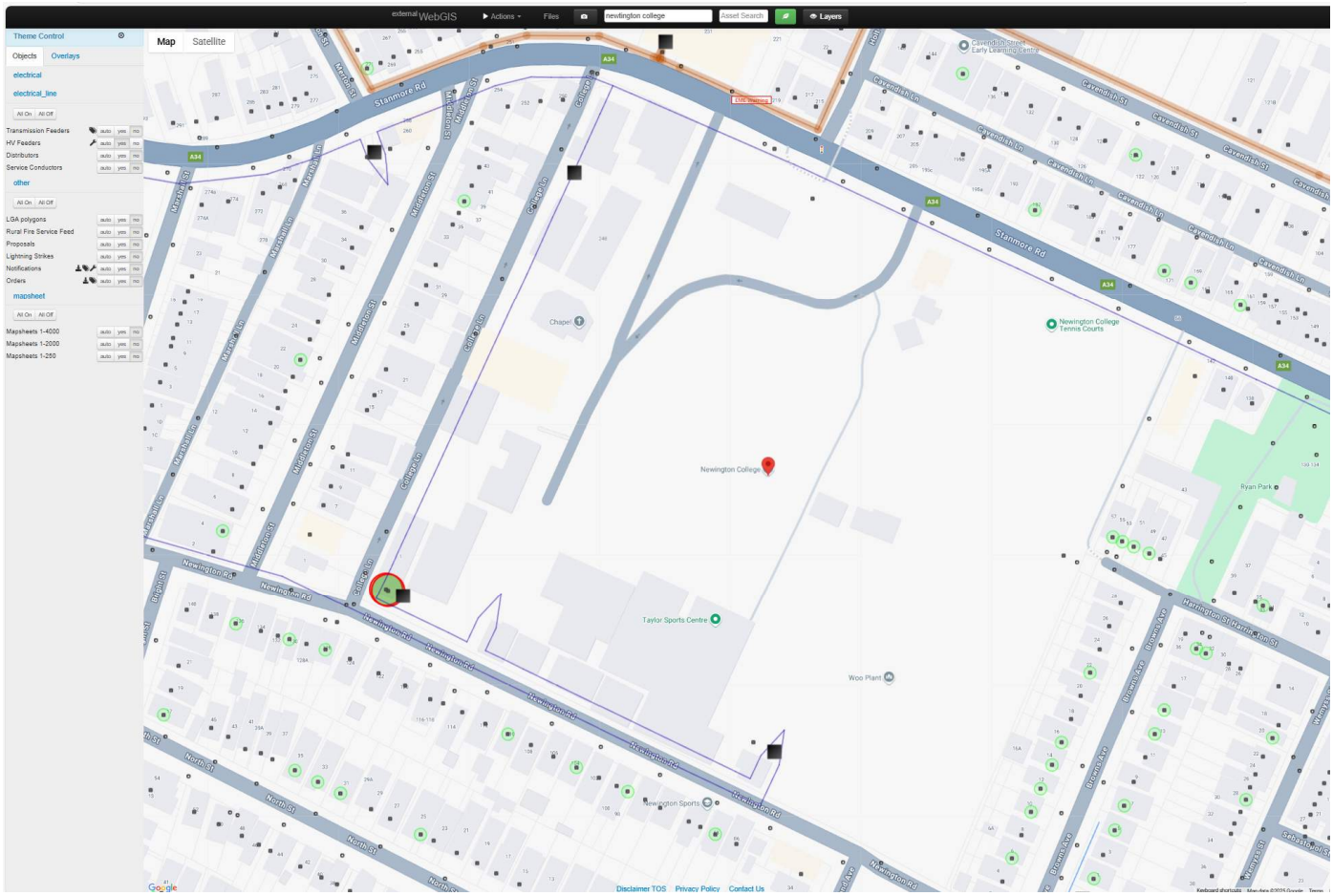
The below extract from Ausgrid's WebGiS illustrates the same information in the previous sketch related to the existing substations on site and their locations.



Ausgrid WebGiS

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The snapshots below, taken from Ausgrid's WebGiS, provides the ratings and maximum demands regards for each of the relevant 4 transformers / substations.

Substation S-50147

Distribution Substation Report - D.S.S050147

low voltage distribution load and does not consider existing electrical load constraints and connection applications.

Ausgrid makes no representation or warranty as to the accuracy, reliability, completeness or suitability for particular purposes of the information in this site. Ausgrid reserves its rights to make a final determination on technical assessments for connections.

S050147 NEWINGTON BROWNS - S050147

Substation Rating (All): 1169 **Comm Date:** 2012-07-31

Rating Type: Non - firm

Busbar: 1

Reading Date	Max Load (A)
2024-02-14	214.25
2023-10-10	108
2023-09-19	293
2023-08-19	236.5
2023-07-17	400

Substation S-2882

Distribution Substation Report - D.S.S002882

completeness or suitability for particular purposes of the information in this site. Ausgrid reserves its rights to make a final determination on technical assessments for connections.

S002882 Newington College No 2 - S2882

Substation Rating (All): 1762 **Comm Date:** 1998-01-19

Rating Type: Firm

Busbar: 1

Reading Date	Max Load (A)
2023-06-19	166
2023-06-19	166
2023-03-06	146
2023-03-06	146
2022-05-09	740

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<table>
<tr><td>Substation S-4204</td><td>

Distribution Substation Report - D.S.S004204

Substation Rating (All): 1354 **Comm Date:** 1997-12-13

Rating Type: Non - firm

Busbar: 1

Reading Date	Max Load (A)
2023-06-19	223
2023-03-06	192
2018-11-27	384
2017-06-06	283
2017-02-05	255

</td></tr>
<tr><td>Substation S-3225</td><td>

Distribution Substation Report - D.S.S003225

completeness or suitability for particular purposes of the information in this site. Ausgrid reserves its rights to make a final determination on technical assessments for connections.

S003225 **Stanmore Holt - S3225**

Substation Rating (All): 758 **Comm Date:** 1969-10-21

Rating Type: Non - firm

Busbar: 1

Reading Date	Max Load (A)
2023-05-28	212
2023-03-06	206
2017-02-22	160
2017-02-15	208
2016-07-24	248

</td></tr>
</table>

3.2 Mitigation Measures

No specific mitigation measures are deemed necessary due to the works required to the electricity network as a result of the development. The works are not considered to be of a significant impact.

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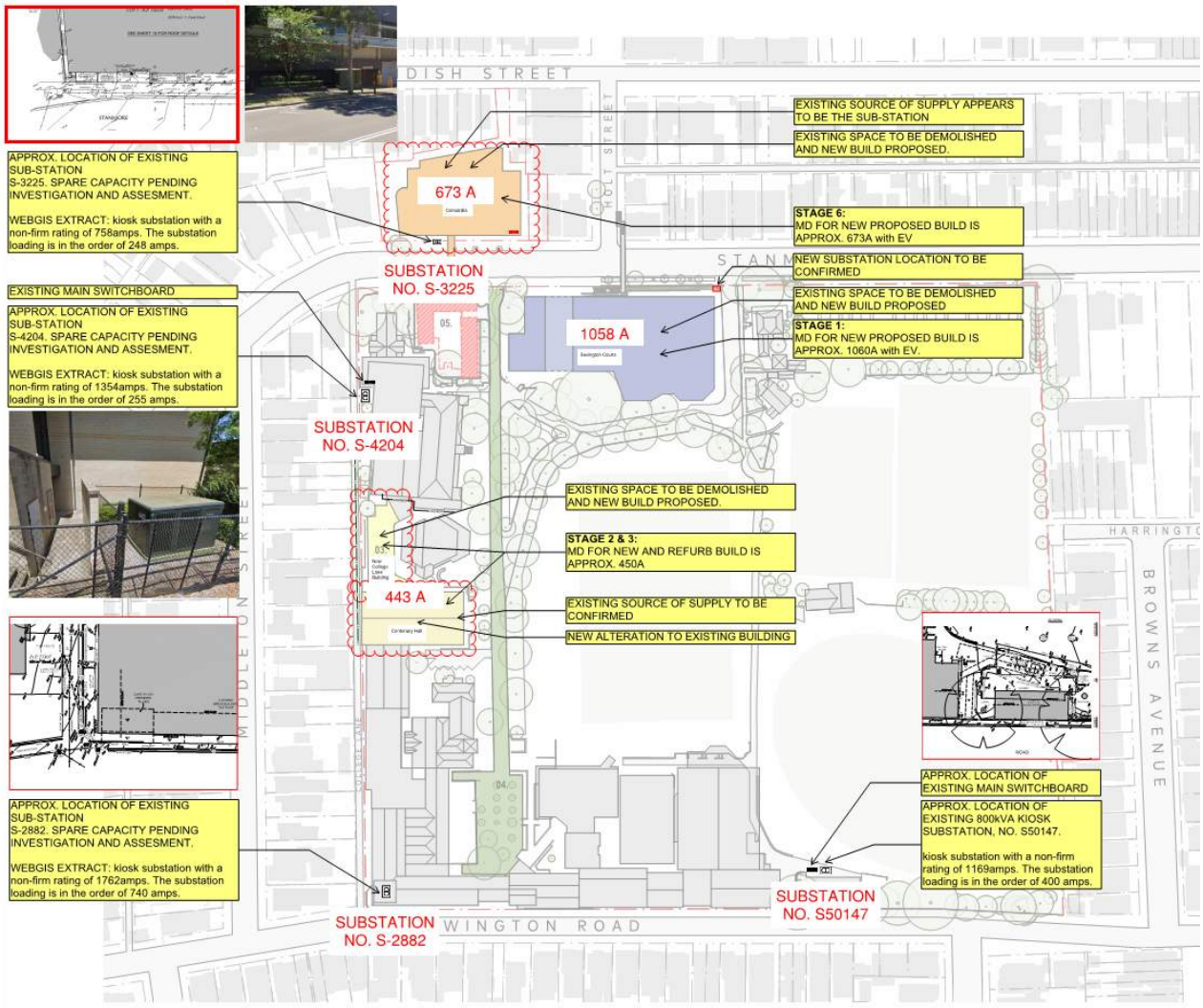
3.3 Building Requirements and Proposed Works

A preliminary maximum demand calculation has been undertaken for all buildings which includes Concordia Building, Centenary Hall and College Lane Building and Sevington Courts. The calculations provided below indicate the following preliminary maximum demands:

Building Name	New Maximum Demand (A/PH)
Sevington Courts	1058A
Centenary Hall and College Lane Building	443A
Concordia Hall	673A

The following diagram illustrates the locations of all existing substations, projects in this scope of works and their demand estimates as described within this report.



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3.3.1 Concordia Building

Located adjacent to Stanmore Road and Cavendish Street.

Proposed redevelopment with electrical demand ~673A 3 phase demand.

Current supply is from existing substation S-3225 which is rated at 758 A (non-firm) with only ~500 A spare based on 2023 load data.

Existing supply is insufficient, upgrade or new dedicated substation is required pending an application for connection.

Preliminary Electrical Maximum Demand			
Project Name: Newington College Masterplan and Sevington Sports Hall			
Concordia Building		**Job Number**	247236
		Date	24/10/2025
		Revison	2
		Author	AZ
		Checked	IM
Room Name	**Total Area of Room Space(m^2)**	**Elec and Mech VA/m2**	**Total VA**
Basement			
60 Car Parking	2036	30	61080
			0
			0
Ground			0
Multipurpose Hall	662	80	52960
Sitting Area, Seats + Stage	630	80	50400
Circulation	328	20	6560
			0
			0
Level 1			0
252 seats	632	80	50560
circulation	470	20	9400
GLA	460	100	46000
Learning	57	100	5700
			0
			0
Level 2			0
GLA Area	928	100	92800
Circulation	250	20	5000
Amenities	86	20	1720
			0
Totals	**6539**		
Avg. VA/m2	**58**	**Total KVA**	**382**
		Current Per Phase (A)	**552**
		Total KVA with EV	**466**
		Current Per Phase (A)	**673**

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3.3.2 Centenary Hall and College Lane Building

Proposed redevelopment and new building with electrical demand ~443A 3 phase.

Nearby substations assessed:

- S-2882: Rated at 1762 A with ~1000 A spare (based on highest recorded load of 740 A)
- S-4204: Rated at 1354 A with ~ 900 A spare

Based on available data for both substation, the existing infrastructure is suitable to support the load without upgrade. Application for connection to be submitted to confirm.

Preliminary Electrical Maximum Demand			
Project Name: Newington College Masterplan and Sevington Sports Hall			
Centenery Hall Refurbishment and College Lane Building		**Job Number**	247236
		Date	24/10/2025
		Revison	2
		Author	AZ
		Checked	IM
Room Name	**Total Area of Room Space(m^2)**	**Elec and Mech VA/m2**	**Total VA**
Ground Floor			
Centenary Hall + Cafeteria Area	600	100	60000
Kitchen / Servery	247	120	29640
Amenities	48	20	960
CLA Area	301	100	30100
Circulation	163	20	3260
			0
			0
Level 01			0
450 Person Lecture Hall	415	80	33200
Stage and Back Stage	411	80	32880
CLA Area	301	100	30100
Circulation	163	20	3260
			0
			0
Level 02			0
450 Person Lecture Hall (Void only)	415	20	8300
Stage and Back Stage (Void Only)	411	20	8220
CLA Area	301	100	30100
Circulation	163	20	3260
			0
			0
Level 03			0
CLA Area	301	100	30100
Circulation	163	20	3260
			0
			0
Totals	**4403**		
Avg. VA/m2	**70**	**Total KVA**	**307**
		Current Per Phase (A)	**443**

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3.3.3 Sevington Courts

Proposed new building with electrical demand ~1058A 3 phase.

Closest substation S-50147 (800 kVA) rated at 1169 A with estimated load of 400 A.

Limitations:

- Insufficient spare capacity
- Physical distance from site
- Kiosk type and access constraints

A new substation is required to supply the new building, location to be confirmed on final masterplan. Application for connection to be submitted to confirm.

Preliminary Electrical Maximum Demand

Project Name: Newington College Masterplan and Sevington Sports Hall

Sevington Sports Hall New Build

Job Number	247236
Date	24/10/2025
Revison	2
Author	AZ
Checked	IM

Room Name	Total Area of Room Space(m^2)	Elec and Mech VA/m2	Total VA
Basement			
Car Park	2772	30	83160
Plant Rooms	107	30	3210
Circulation	140	20	2800
			0
Level 01			0
Strength and Activation	932	80	74560
GLA	676	100	67600
Amenities, Storage and Staff Room	725	20	14500
Circulation	680	20	13600
			0
Level 02			0
Courts	2184	80	174720
Function and Serve	96	80	7680
Storage	89	20	1780
Amenities	18	20	360
Circulation	534	20	10680
			0
Level 03			0
GLA/Function	332	100	33200
Storage	5	20	100
Amenities	23	20	460
Circulation	418	20	8360
			0
Level 04			0
Plant Room	137	30	4110
GLA	238	100	23800
Circulation	169	20	3380
			0
Level 05			0
Courts (Open to Sky)	2085	5	10425
Circulation (Open to Sky)	269	5	1345
Plant (Open to Sky)	133	5	665
Circulation	92	20	1840
Admin and Meet	173	80	13840
			0
Roof Level			0
Circulation (Open to Sky)	312	5	1560
Totals	**13027**		
Avg. VA/m2	**43**	**Total KVA**	**558**
		Current Per Phase (A)	**805**
		Total KVA with EV	**733**
		Current Per Phase (A)	**1058**

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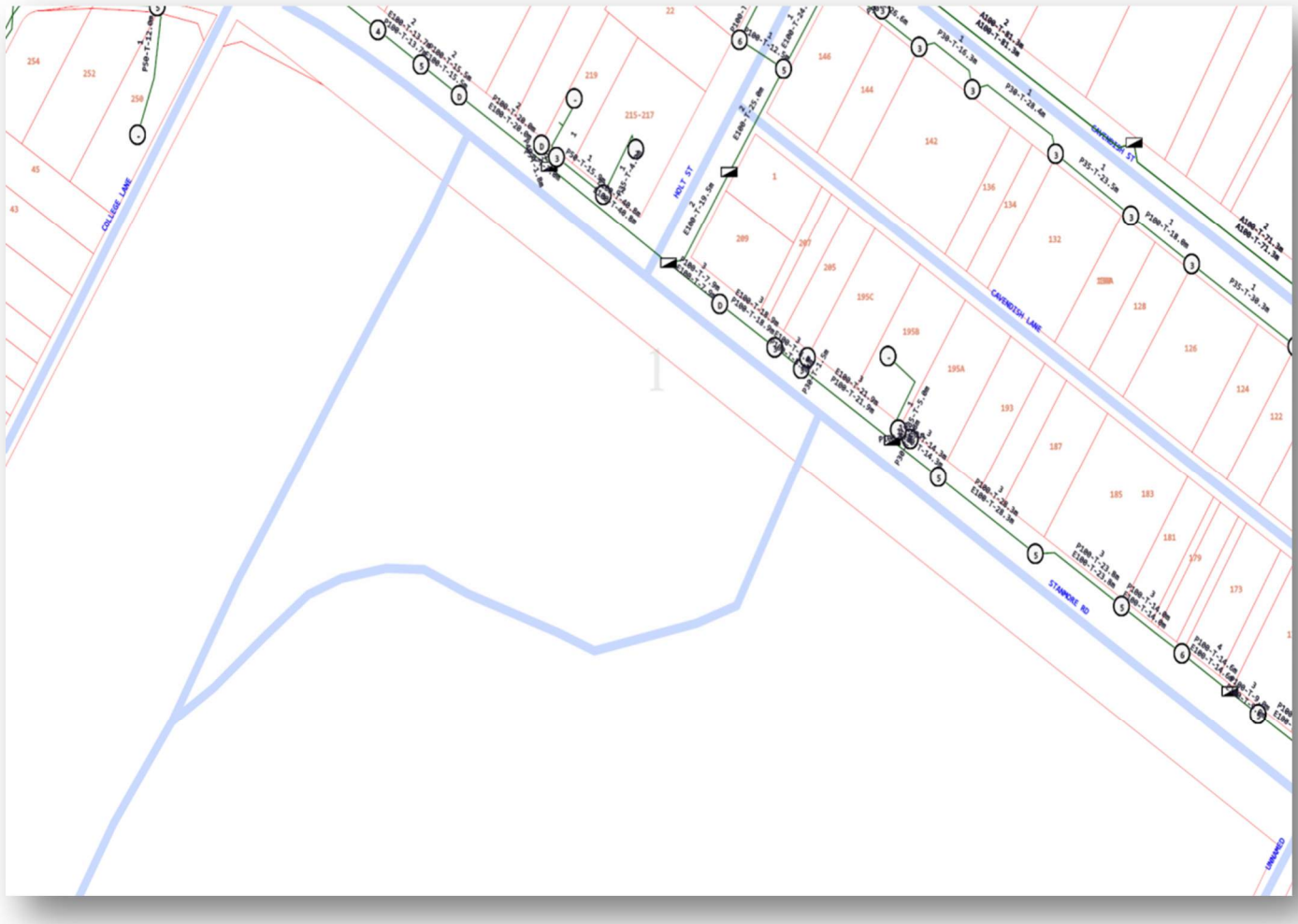
4.0 Telecommunications

4.1 Review of Existing Infrastructure

4.1.1 NBN

DBYD maps indicate presence of NBN infrastructure in the vicinity of the school. We understand the school has an existing Telstra service to it. Refer to the diagram below for the DBYD results from NBN.



NBN Cable Plan - DBYD

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ABN 50 001 189 037
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4.1.2 Telstra

DBYD maps indicate presence of Telstra infrastructure in the vicinity of the school. We understand the school has an existing Telstra service to it. Refer to the diagram below for the DBYD results from Telstra.

Telstra Cable Plan - DBYD

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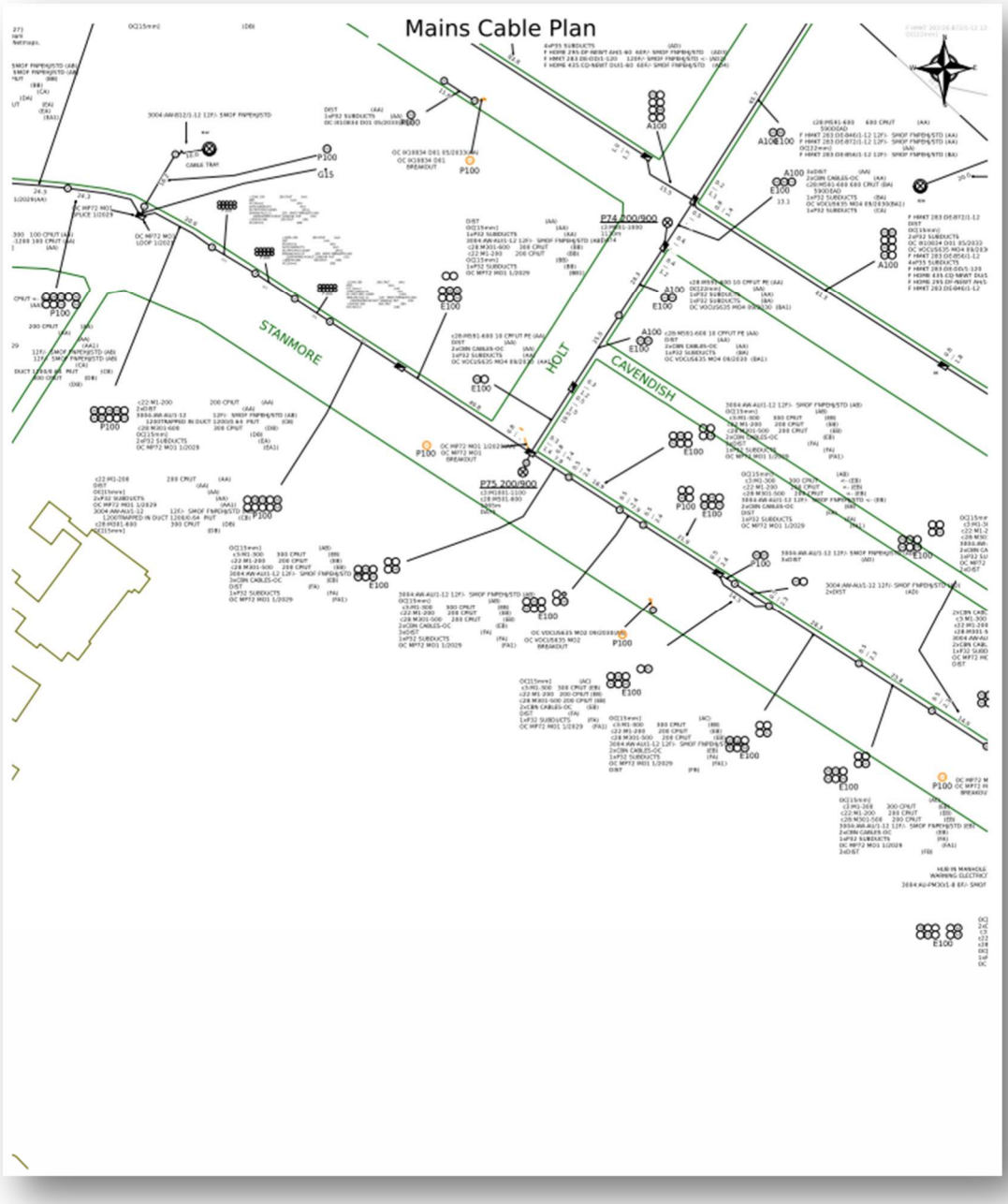

Telstra Mains Cable Plan - DBYD

4.2 Building Requirements and Proposed Works

4.2.1 Concordia Building

The Concordia building is an existing building being demolished with an existing incoming telecommunications authority service. The existing incoming telecommunications service will be decommissioned. A new building shall be constructed in its place and a new incoming telecommunications service will be established to the new main communications room in the new building.

4.2.2 Centenery Hall and College Lane Building

The Centenery Hall is an existing building being refurbished with an existing telecommunications connection provided to it via the site wide private telecommunications network. The scope also includes some new build. It is proposed that this existing connection is retained if suitable or a new connection to the existing private network is provided if necessary to service both the existing building and new build areas. Regardless of the option, this portion of the work does not impact or require modification to the existing incoming authority telecommunications service.

4.2.3 Sevington Courts

The Sevington Courts is a new development on the existing site. There is no existing authority or private connection to the development at this stage. It is proposed that a new connection from the existing private telecommunications network is provided to the building. As such, this building does not impact or require modification to the existing incoming authority telecommunications service.

4.3 Mitigation Measures

No specific mitigation measures are deemed necessary due to the works required to the electricity network as a result of the development. The works are not considered to be of a significant impact.

5.0 Appendix A – Hydraulics and Fire SSDA Report

Refer to the attached report completed by our sub-consultants Entec for related to the Hydraulics and Fire services for the project.

NEWINGTON COLLEGE STANMORE

MASTERPLAN and SEVINGTON SPORTS HALL

HYDRAULIC AND FIRE SERVICES INFRASTRUCTURE and UTILITY ASSEMENT REPORT

Prepared for: Steensen Varming Australia
Issue no: F

Revision	Date	Purpose	Prepared By	Reviewed By
A	22/08/25	1ST Draft Issue	R Gruber	D. Hansen
A1	03/10/25	Entec Updated	R Gruber	D. Hansen
B	24/10/25	Final Issue	R Gruber	D. Hansen
C	05/11/25	Survey drawings reference date corrected	R Gruber	D. Hansen
D	13/11/25	AJC and Urbis comments incorporated	R Gruber	D. Hansen
E	26/11/25	Section 5.3 updated	R Gruber	D. Hansen
F	18/12/25	Introduction updated	R Gruber	D. Hansen
F	01/04/26	Section 5 updated	R Gruber	D. Hansen

Table of Contents

Introduction

Entec Consultants Pty Ltd has been commissioned by the Council of Newington College (the Applicant) to prepare this report in accordance with the technical requirements of the Secretary's Environmental Assessment Requirements (SEARs), and in support of the State Significant Development Application (SSD-78268465) for alterations and additions to the Newington College Senior Campus in Stanmore.

This report encompasses all hydraulic and fire Services, as briefed.

Mechanical, electrical, communications and civil stormwater are not included as being delivered by separate reports.

Proposal Background

The Newington College Senior Campus is located at 200-244 Stanmore Road, Stanmore and is bordered by Stanmore Road to the north, Newington Road to the south and College Lane to the west. The College boundary also includes the Concordia building to the north at 221-235 Stanmore Road. The main campus is legally described as Lot 8 in DP710369 and the Concordia site is legally described as Lot A in DP109269, Lot 1 in DP49, Lot B in DP330028, and Lot 1 in DP526319.

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- The topography of the main campus is a defining characteristic, particularly the grassed slope from the historic Founders Building down to Johnson Oval. The site has an overall fall of approximately 18m from the north-west corner to south-east corner.
- The at-grade car park adjacent to the Concordia building sits approximately 2.8m above the Stanmore Road street level and is accessed via Cavendish Street (to the rear).
- The existing school buildings are largely located along the College Lane and Newington Road edges of the site. Existing buildings generally range from 2-4 storeys in scale. The balance of the site comprises at-grade car parking and sporting facilities, including sporting ovals and tennis courts.
- The Concordia building across Stanmore Road is a two-storey building with basement and car parking accessed from Stanmore Road. An at-grade car park is located within the eastern portion of this site, with vehicular access from a driveway to Cavendish Street (to the north).
- The site has a primary frontage to Stanmore Road (which accommodates both vehicular and pedestrian access to the site) and a secondary frontage to Newington Road, which is generally limited to pedestrian access and service vehicles.
- The area surrounding the site is predominantly zoned R2 Low Density Residential and includes a combination of single dwellings and residential flat building ranging from 1-3 storeys in height. Stanmore Train Station is located approximately 220m to the north. An existing pedestrian bridge and signalised traffic lights provide pedestrian access over Stanmore Road to Stanmore Train Station, further north.

  The site is identified in the figure overleaf.

Project Description

The SSDA seeks consent for staged alterations and additions to the Newington College Senior Campus comprising:

Concept Proposal for the provision of new and upgraded facilities, including:

- Building envelope for the redevelopment of Sevington Courts to accommodate recreational facilities and teaching spaces (refer to detailed Stage 1 Works below).
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Detailed Stage 1 Works, including:

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- Construction, fit-out and operation of 4 storey building comprising multi-purpose teaching spaces, administrative functions and amenities.
- Alterations to the existing driveway within the site to facilitate vehicle access to the new basement car park.
- Temporary car park during construction phase of Stage 1 Works.
- Tree removal and new landscaping adjacent to the Stage 1 development site.
- Increase of 368 students and 45 FTE staff.

Basis of Report

This building hydraulics and fire services report has been prepared in accordance with the following requirements:

General

- NSW Department of Education Educational Facilities Standards and Guidelines
- SafeWork NSW
- Sydney Water Requirements
- NSW Fire and Rescue Requirements
- Inner West Council
- NSW Environment Protection Authority.

Building Hydraulic Services

- AS 3500.1-2021 Water Services
- AS 3500.2-2021 Sanitary Plumbing and Drainage
- AS 3500.3-2021 Section 3 Roof Drainage Systems -Design
- AS 3500.4-2021 Section 3 Heated Water Services
- NCC-2022 Volume 1 J9D3 - Energy Monitoring for Hot Water
- NCC2022 Volume 1 J8D2 - Heated Water Supply
- NCC-2022 Volume 3 – Plumbing Code of Australia
- NCC-2022 Volume 1 A5G1
- AS2419.1 2021 Fire Hydrant Installations – System Design and Commissioning
- NCC-2022 Volume 1 E1D2 – Fire Hydrants
- AS 2441.3-2005 Installation of Fire Hose Reels

- NCC-2022 Volume 1 E1D3 – Fire Hose Reels

Building Fire Services

- AS2118 – 2018 Automatic Fire Sprinkler Protection
- AS 1670.1 -2018 (Amdt 2) Fire Detection, Warning, Control and Intercom Systems
- NCC 2022 Specification 20 Smoke Detection and Alarm System. NSW E2D16, NSW S20C8, E2D3
- AS 2444-2001 Portable Fire Extinguishers and Fire Blankets
- NCC 2022 E1D14

This report is based on:

- Dial before you dig application.
- Sydney Water supplied information,
- Jemena supplied information.
- Site visit attended by R Gruber on 13th January 2025
- Site visit attended by R Gruber and D Hansen on 17th February 2025
- Architectural design plans developed by AJC Architects.

Scope

The hydraulic and fire services scope includes: _

- Potable water supply,
- Sanitary drainage,
- Fire water supply
- Natural Gas Supply
- Roof Water Collection and Re-use
- Fire hydrant protection
- Fire hose reel protection
- Portable fire extinguishers and fire blankets
- Fire detection and occupant warning system

ESD Considerations.

Hydraulic ESD considerations include the following:

- High efficiency hot water heat pump plant with flow and return system, and suitable insulation to meet NCC/PCA requirements.
- Limit hot water “dead leg” length to maximum 2 litres in volume to minimize water wastage.
- Potable water sub metering and monitoring of new buildings to monitor abnormal usage and potential pipe failures.
- Potable water sub metering and monitoring for hot water plant consumption and energy usage
- Best industry practice (WELS rated water efficient fixtures and appliances.

Refer Section 5.3 reporting on omission of roof water collection and re-use for this project.

Meters will be located in an area that allows remote monitoring and safe maintenance by facilities managers and other facilities management personnel.

Monitoring System

Water consumption shall be monitored through an electronic system capable of capturing and processing the data produced by the sub meters to meet ESD requirements. Hydraulic plant and

equipment shall also be monitored for faults or failures. The automatic monitoring system must be capable of:

- Collecting data from all meters
- Alert to any faults or failures of hydraulic plant and equipment

Mitigation Measures

The hydraulic and fire services design risks identified during design development, and the mitigation measures include:

Risk Number	Risk Identified	Risk Mitigation Description	Risk Resolved (Ongoing / yes / no / comments)
H-1	2475mm Sydney Water Trunk Water Main Traversing the Site	Proposed building works to comply with Sydney Water "Building Over or Adjacent to Sydney Water Asset" requirements	Ongoing Upon Development Approval, Section 73 Notice of Requirements Application to be submitted
H-2	2 x 225mm Sewer Mains Traversing the Site	Proposed building works to comply with Sydney Water "Building Over or Adjacent to Sydney Water Asset" requirements	Ongoing Upon Development Approval, Section 73 Notice of Requirements Application to be submitted
H-3	Parcel of land adjacent to Southeast corner of Sevington Courts in favour of the Metropolitan Water Sewer & Drainage Board (Now Sydney Water)	Proposed external civil drainage works ma	Ongoing Assume easement was created for redundant Sydney Water pumping station and could be extinguished - TBC

The Site Existing Services Infrastructure Authorities

Dial Before You Dig (DBYD) information has been provided by the following supply authorities that may affect the proposed development: -

- Sydney Water
- Ausgrid
- Telstra
- NBN Co NSW ACT
- Jemena
- Transport for NSW
- TPG
- NextGen
- Vocus
- AARNet
- OPTUS

3.1 Sydney Water Sewer Mains

Dial Before You Dig (DBYD) information shows that Sydney Water sewer connection point for the school is located within the sites in three (3) locations

Refer Figures 1 and 2

Upon receipt of "Approved DA Conditions of Consent "or similar planning approval, a Section 73 certificate application will need to be issued to Sydney Water to ascertain their specific project requirements regarding sewer.

However, based on the proposed development works, the size and location(s) of sewer mains, augmentation or upgrade of sewer main infrastructure is highly unlikely.

3.2 Sydney Water Water Mains

Dial Before You Dig (DBYD) information shows that Sydney Water Trunk main is located within the site and potable water mains are located around the proposed works site(s).

Refer Figure 1

Sydney Water potable water infrastructure is located as follows: -

- Stanmore Road – 100mm DICL watermain on southern side of street adjacent to college lot northern boundary.
- Stanmore Road – 250mm CICL watermain on northern side of street opposite college lot northern boundary.
- Stanmore Road – 100mm DICL watermain on northern side of street opposite college lot northern boundary.
- Newington Road – 100CICL in the centre of the road adjacent to the college south boundary.

Sydney Water "Statements of Available Pressure and Flow" received (Refer Appendix A), indicating: \

- **Stanmore Road 100mm water main (ADEQUATE)**

  Maximum supply pressure under normal conditions is 39m head pressure.
  Minimum supply pressure under normal conditions is 34m head pressure.
  Expected pressure for fire protection systems @ 20l/sec is 33m head pressure.
  Maximum permissible flow is 24l/sec at 32m head pressure

- **Stanmore Road 250mm water main (ADEQUATE)**

  Maximum supply pressure under normal conditions is 43m head pressure.
  Minimum supply pressure under normal conditions is 38m head pressure.
  Expected pressure for fire protection systems @ 20l/sec is 38m head pressure.
  Maximum permissible flow is 120l/sec at 31m head pressure

- **Newington Road 100mm water main (INADEQUATE)**

  Maximum supply pressure under normal conditions is 50m head pressure.
  Minimum supply pressure under normal conditions is 46m head pressure.
  Expected pressure for fire protection systems @ 20l/sec is 5m head pressure.
  Maximum permissible flow is 12l/sec at 4m head pressure

- **Cavendish Street 150mm water main "Concordia Development" (ADEQUATE)**

  Maximum supply pressure under normal conditions is 36m head pressure.
  Minimum supply pressure under normal conditions is 31m head pressure.
  Expected pressure for fire protection systems @ 20l/sec is 30m head pressure.
  Maximum permissible flow is 64l/sec at 20m head pressure

Upon receipt of "Approved DA Conditions of Consent" or similar planning approval, a Section 73 certificate application will be issued to Sydney Water to ascertain their specific project requirements regarding the water main requirements.

However, based on the proposed development works, the size and location(s) of water mains should not require augmentation or relocation.

Note 1: Available Pressure and flow information has been received from Sydney Water and is deemed suitable for the proposed project, without the storage tanks for potable water supply.

Figure 1 Sydney Water Assets Map

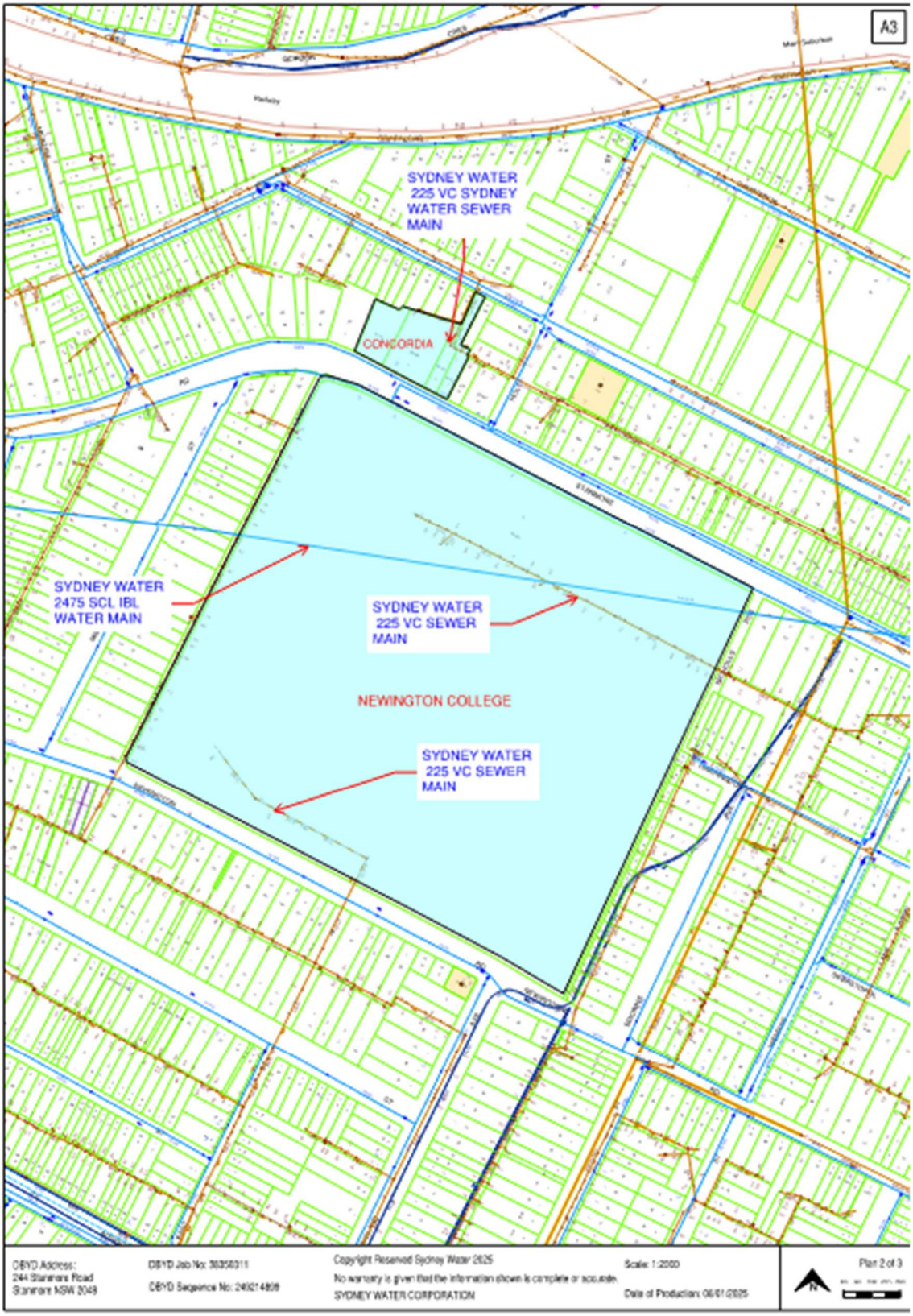


Figure 2 Sydney Water Sewer Service Diagram

Sydney WATER

Sewer Service Diagram

Application Number: 2045342

Document generated at 06-01-2025 12:55:07 PM

Disclaimer
The information in this diagram shows the private wastewater pipes on this property. It may not be accurate or to scale and may not show our pipes, structures or all property boundaries. If you'd like to see these, please buy a **Service location print**.

Page 1

Figure 3 Sydney Water Available Water Pressure and Flow Statement

Statement of Available Pressure and Flow

Sydney WATER

Dakota Masters
277 Clarence Street
Sydney, 2000

Attention: Dakota Masters Date: 07/01/2025

Pressure & Flow Application Number: 2045195
Your Pressure Inquiry Dated: 2025-01-06
Property Address: 196-240 Stanmore Road, Stanmore 2048

The expected maximum and minimum pressures available in the water main given below relate to modelled existing demand conditions, either with or without extra flows for emergency fire fighting, and are not to be construed as availability for normal domestic supply for any proposed development.

ASSUMED CONNECTION DETAILS

Street Name: Stanmore Road	Side of Street: South
Distance & Direction from Nearest Cross Street	51 metres East from College Lane
Approximate Ground Level (AHD):	36 metres
Nominal Size of Water Main (DN):	100 mm

EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	39 metre head
Minimum Pressure	34 metre head

WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	34
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	10 15 20	34 33 33
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the water main) Maximum Permissible Flow	10 15 20 24	33 33 32 32

(Please refer to reverse side for Notes)

For any further inquiries regarding this application please email :

hydraulicassessment@sydneywater.com.au

Statement of Available Pressure and Flow

Sydney WATER

Applications Entec
79-81 Chandos Street
St Leonards, 2065

Attention: Applications Entec Date: 26/08/2025

Pressure & Flow Application Number: 2212509
Your Pressure Inquiry Dated: 2025-08-20
Property Address: 196-240 Stanmore Road, Stanmore 2048

The expected maximum and minimum pressures available in the water main given below relate to modelled existing demand conditions, either with or without extra flows for emergency fire fighting, and are not to be construed as availability for normal domestic supply for any proposed development.

ASSUMED CONNECTION DETAILS

Street Name: Stanmore Road	Side of Street: North
Distance & Direction from Nearest Cross Street	70 metres West from Nicholas Parade
Approximate Ground Level (AHD):	32 metres
Nominal Size of Water Main (DN):	250 mm

EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	43 metre head
Minimum Pressure	38 metre head

WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	38
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	10 15 20 25 30 40 50 60	38 38 38 38 38 37 37 37
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the water main)	10 15 20 25 30 40 50 60	38 37 37 37 37 37 36 36
Maximum Permissible Flow	120	31

(Please refer to reverse side for Notes)

For any further inquiries regarding this application please email :

hydraulicassessment@sydneywater.com.au

Sydney Water Corporation ABN 49 776 225 038
1 Smith St Parramatta 2150 | PO Box 399 Parramatta 2124 | DX 14 Sydney | T 13 20 92 | www.sydneywater.com.au
Delivering essential and sustainable water services for the benefit of the community

Statement of Available Pressure and Flow

Sydney WATER

Applications Entec
79-81 Chandos Street
St Leonards, 2065

Attention: Applications Entec Date: 26/08/2025

Pressure & Flow Application Number: 2212495
Your Pressure Inquiry Dated: 2025-08-20
Property Address: 196-240 Stanmore Road, Stanmore 2048

The expected maximum and minimum pressures available in the water main given below relate to modelled existing demand conditions, either with or without extra flows for emergency fire fighting, and are not to be construed as availability for normal domestic supply for any proposed development.

ASSUMED CONNECTION DETAILS

Street Name: Newington Road	Side of Street: South
Distance & Direction from Nearest Cross Street	123 metres East from College Lane
Approximate Ground Level (AHD):	25 metres
Nominal Size of Water Main (DN):	100 mm

EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	50 metre head
Minimum Pressure	46 metre head

WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	45
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	10 12	18 5
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the water main) Maximum Permissible Flow	10 12	17 4

(Please refer to reverse side for Notes)

For any further inquiries regarding this application please email :

hydraulicassessment@sydneywater.com.au

Statement of Available Pressure and Flow

Sydney WATER

Applications Entec
79-81 Chandos Street
St Leonards, 2065

Attention: Applications Entec Date: 26/08/2025

Pressure & Flow Application Number: 2212503
Your Pressure Inquiry Dated: 2025-08-20
Property Address: 196-240 Stanmore Road, Stanmore 2048

The expected maximum and minimum pressures available in the water main given below relate to modelled existing demand conditions, either with or without extra flows for emergency fire fighting, and are not to be construed as availability for normal domestic supply for any proposed development.

ASSUMED CONNECTION DETAILS

Street Name: Stanmore Road	Side of Street: South
Distance & Direction from Nearest Cross Street	45 metres East from College Lane
Approximate Ground Level (AHD):	37 metres
Nominal Size of Water Main (DN):	250 mm

EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	38 metre head
Minimum Pressure	33 metre head

WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	33
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	10	33
	15	33
	20	33
	25	33
	30	33
	40	32
	50	32
	60	32
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the water main)	10	32
	15	32
	20	32
	25	32
	30	32
	40	32
	50	31
	60	31
Maximum Permissible Flow	120	28

(Please refer to reverse side for Notes)

For any further inquiries regarding this application please email :

hydraulicassessment@sydneywater.com.au

Figure 4 Sydney Water "Tap in Application"

Sydney WATER

Building plan assessment application

Application number: 2148851
Property address: 196-240 Stanmore Rd, Stanmore 2048
Lot details: Lot 8, Deposited Plan 710369
Property Number: 5303243

30/05/2025

Dear Robert Gruber

Your building plan assessment application requires

FURTHER ASSESSMENT

The proposed location of one or more of your buildings or excavation works may impact our assets. You will need to engage a Water Servicing Coordinator to complete your assessment.

Please read the details below to understand the reasons why your application was referred.

REASONS
Application automatically referred by system

NEXT STEPS

1. Engage a Water Servicing Coordinator to complete your assessment. Visit www.sydneywater.com.au and go to the Listed providers page in the plumbing, building and developing section for a list of coordinators.
2. Take this referral to the Water Servicing Coordinator so they can complete the application for you.
3. You will need to use the following Sydney Water reference number when you contact the Water Servicing Coordinator .

   REF-153258755

The Water Servicing Coordinator will charge for this service. Make sure you discuss prices with them before you select one as their prices can vary.

Your Water Servicing Coordinator may determine that your Building Plans need to be submitted to us for detailed review before any construction may commence. You will be required to pay us for our time to review your application. Your Water Servicing Coordinator will provide you with details on these costs before submitting your application.

ANY QUESTIONS?

Email us
newcustomerconnections@sydneywater.com.au

Call us
1300 082 746

STRUCTURES
The structures and information you supplied are displayed below.

Structure(s) that may impact Sydney Water infrastructure

Structure 1	New Multi Purpose Sports	64.0 m x 48.0 m x 4.0 m

Please refer to the Appendix for list of negative impacts.

The Water Servicing Coordinator will charge for this service. Make sure you discuss prices with them before you select one as their prices can vary.

Your Water Servicing Coordinator may determine that your Building Plans need to be submitted to us for detailed review before any construction may commence. You will be required to pay us for our time to review your application. Your Water Servicing Coordinator will provide you with details on these costs before submitting your application.

ANY QUESTIONS?

Email us
newcustomerconnections@sydneywater.com.au

Call us
1300 082 746

STRUCTURES
The structures and information you supplied are displayed below.

Structure(s) that may impact Sydney Water infrastructure

Structure 1	New Multi Purpose Sports	64.0 m x 48.0 m x 4.0 m

Please refer to the Appendix for list of negative impacts.

Appendix A

List of possible impacts to Sydney Water infrastructure requiring further assessment.

Structure 1	New Multi Purpose Sports	64.0 m x 48.0 m x 4.0 m

1. Sydney Water storm water asset within 10m of property.
2. Sydney Water storm water asset within 10m of property.
3. Sydney Water storm water asset within 10m of property.
4. Sydney Water storm water asset within 10m of property.
5. Sydney Water storm water asset within 10m of property.
6. Sydney Water storm water asset within 10m of property.
7. Sydney Water storm water asset within 10m of property.
8. Sydney Water storm water asset within 10m of property.
9. Easement of interest within property.
10. Easement of interest within property.
11. Easement of interest within property.
12. Easement of interest within property.
13. Sensitive sewer main material within property. Sewer Main; Asset Number: 3784543.
14. Water main size > 300mm within property. Water Main; Asset Number: 10252021.
15. Sydney Water storm water asset within 10m of property. Stormwater Channel; Asset Number: 1642317.
16. Sydney Water storm water asset within 10m of property. Stormwater Channel; Asset Number: 1639501.
17. Sydney Water storm water asset within 10m of property. Stormwater Channel; Asset Number: 1642237.
18. Sydney Water storm water asset within 10m of property. Stormwater Channel; Asset Number: 1639509.
19. Sydney Water storm water asset within 10m of property. Stormwater Channel; Asset Number: 1642865.
20. Sydney Water storm water asset within 10m of property. Stormwater Structure - Maintenance Hole; Asset Number: 10888847.
21. Sydney Water storm water asset within 10m of property. Stormwater Structure - Maintenance Hole; Asset Number: 1650634.
22. Main within load impact zone. Sewer Main; Asset Number: 3039029.
23. Main within dig impact zone. Water Main; Asset Number: 2692015.

Figure 4 Sydney Water Water Servicing Co-ordinator Response to "TAP IN" application

From: Tobin Bald <tbald@mgp.com.au>
Sent: Tuesday, 3 June 2025 3:49 PM
To: Rob Gruber <Rgruber@entec.com.au>
Cc: Emma Chapel <echapel@mgp.com.au>; Michelle Loadman <mloadman@mgp.com.au>; Harry Gaudry <hgaudry@mgp.com.au>; Callum Van Schie <cvanschie@mgp.com.au>
Subject: Building Plan Approval - Newington College - 196-240 Stanmore Road Stanmore

Hi Robert,

Appreciate you sending this project information through for review.

Looking over your proposal the works will fail what Sydney Water term as the *"dig test"*, and there is also a Sydney Water easement in proximity of your works and as a result this project will require an Out-of-Scope assessment to be sent to Sydney Water for engineering review and approval. The watermain running through the site will be at a significant depth however this will still need a fomal acceptance from sydney Water that they allow for works over/ adjacent to this major asset.

The basis for preparing your submission to Sydney Water will require architectural and structural documentation with asset information plotted showing required clearances, detailed construction methodology, project specific geotech report that includes finite element analysis modelling, and a specialist engineering assessment prepared by a suitably qualified civil engineer drawing together all these documents to make their professional confirmation of no impact. Once formally engaged I provide a comprehensive framework for what and who is required to compile this report.

Next Steps:

Please confirm your acceptance of the attached fee proposal by completing and returning a signed copy of the attached agreement, we can then commence the process of coordinating a Service Protection Report for your property.

We'll need to attend site and complete a peg out, from there we provide a Service Protection Report, which we need you to plot on your architectural drawings in plan views, elevations, and sections. At this stage I then provide a complete information package on how to prepare the Specialist Engineering Assessment, including a strong recommendation for an engineering team that is specialising in these complex reports.

For us to complete the Service Protection Report, we will need the following:

- A detailed survey, we will need this to be able to prepare our Service Protection Report - dwg and pdf
- Confirmation of access, and a photo confirming both manholes are clear and accessible as per the Hydra markup attached
- Confirmation for access to your project property
- Site contact, name, and phone number

We can arrange our field team to be onsite within the next 5-7 working days, and we will require a site contact to liaise directly with regarding access. Please allow 7-10 days after to the onsite visit for

the completion of the service protection report.

Once you have provided us with the site contact and confirmed clear access to the manhole, we will be in touch to arrange a date and time for inspection. Please note that all pegs or marks left onsite must remain in place and unaltered until all building works are completed to enable verification of the assets.

Please let me know if you have any questions.

Kind Regards,

Tobin Bald
Associate
mgp building and infrastructure services Pty Ltd

02 9451 7555 | tbald@mgp.com.au | www.mgp.com.au
Suite 203/18 Aquatic Drive, Frenchs Forest NSW 2086

Hydraulic | Fire | Civil | Mechanical | Electrical | Accredited Sydney Water Design Services (WSC) | Water Features

3.3 Jemena Natural Gas Mains

Dial Before You Dig (DBYD) information shows that natural gas mains are located around the proposed works site(s).

Jemena natural gas infrastructure is located as follows: -

- 110Ø NY 210Kpa gas main located on the south side of Stanmore Road,
- 32Ø NY 210Kpa gas main located on the north side of Stanmore Road
- 75Ø NY 210Kpa gas main located on the south side of Newington Road

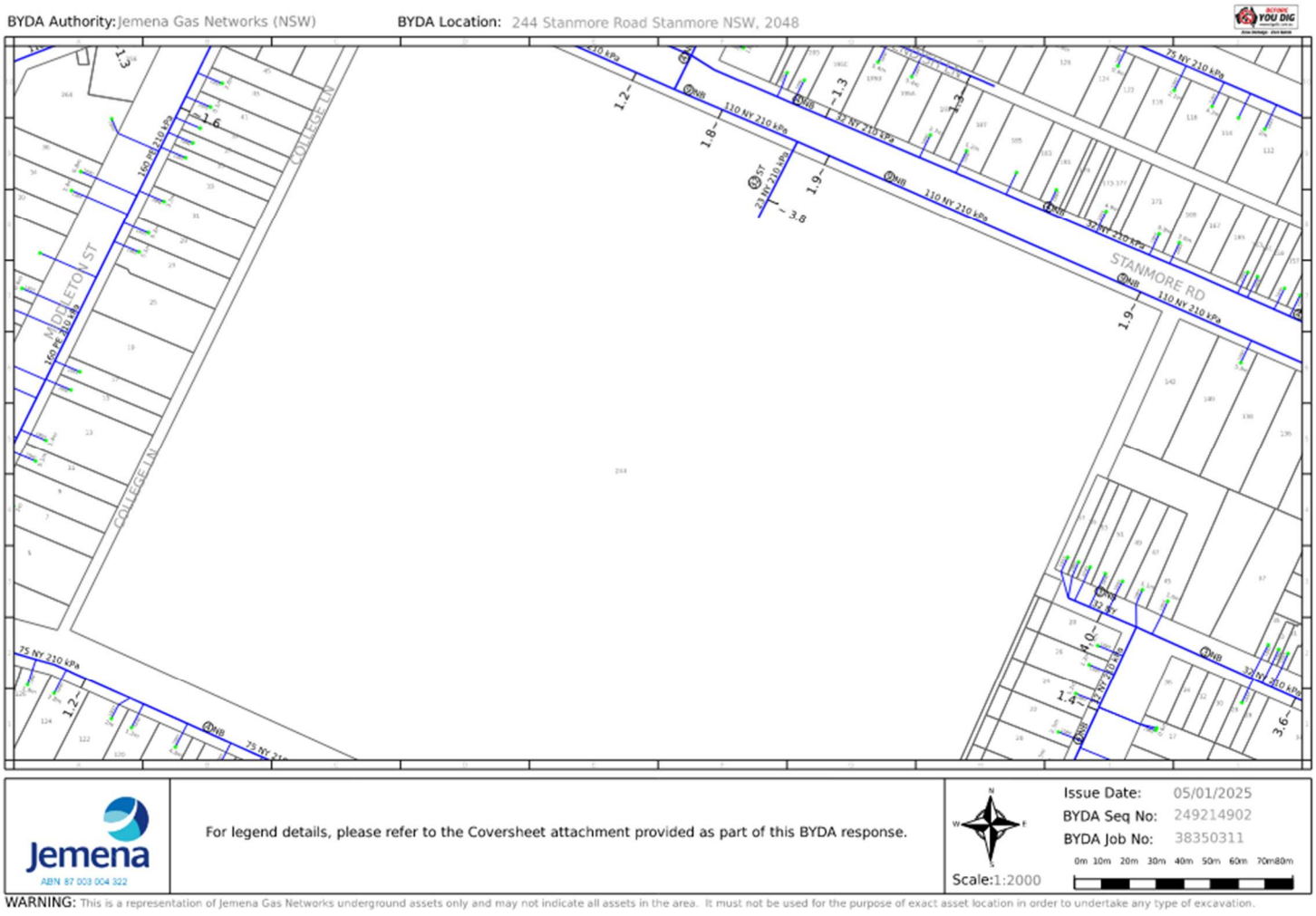
Refer Figure 5

Based on site investigation and Jemena Asset map, there is only one (1) x gas main connection, for the school site.

1 x 32Ø on Stanmore Road to site gas meter and regulator set. (outlet pressure not stipulated- assumed 7kpa)

Based on architects and clients advice, gas supply for the proposed works is not required for space heating or domestic hot water heating and therefore no impact on existing Jemena Gas infrastructure

Figures 5 – Jemena Natural Gas Assets Map



Existing Internal Site Services (Compliance, Capacity & Condition)

Hydraulic Services

Drawing References	Description	Revision or Date
SEMF Hydraulic Engineer (Level 3, 30 Berry St North Sydney) Project No- 3755.002 Drawing No-H00 Rev 1	Hydraulic Services Legend, Notes, Locality Plan and Drawing Schedule	Date of Plan: 03/06/2011
Woolacotts Consulting Engineers (Ground Floor , 12a Brown St Chatswood) Project No- 14-55 Drawing No-H02 Rev C	Hydraulic Services Site Plan Year 7 & Drama Facilities	Date of Plan: 21/01/2015

Fire Services Drawings

Drawing References	Description	Revision or Date
Shelmerdines Consulting Engineers (55 Hume St Crows Nest) Project No- 6729 Drawing No-FS-1 Rev 1	Dry Fire Services Legend, Notes, Schematic and Site Map	Date of Plan: 03/06/2011

Survey Drawings

Drawing References	Description	Revision or Date
Colliers International Engineering &Design NSW Pty Ltd 159-10G-06 (03) Sheet 1 thru 16	Detailed Survey Drawing	Date of Plan: 19/05/2025

Based on site inspections and available information provided, the existing hydraulic services and fire protection are adequately sized and compliant for connections for the proposed new works

Existing fire hydrant services located with the proposed construction zone and building will require new upgraded fire hydrant supply (100mm to 150mm), new fire hydrant pumps clear of proposed building footprint

Proposed Hydraulics and Fire Services

5.1 Potable Water

Based on preliminary hydraulic loading unit calculations (Ref AS3500.1 2021 Table 3.2.1) the proposed new building works will increase total loading units for each building stage as follows:-

Stage 1 (Sevington Courts New Building) - Increase of One Hundred and Ninety-Two (192) loading units equivalent to approximately 1.82 litres/sec

Stage 2 (Centenary Hall Refurbishment) Increase of Eighty-Four-Two (84) loading units equivalent to approximately 0.87 litres/sec

Stage 3 (College Lane New Building) Increases of Thirty-Two (32) loading units equivalent to approximately 0.43 litres/sec

Stages 6 (Concordia Building Redevelopment) – Net decrease of loading units from previous club facilities, with estimated total One hundred and Twenty Three (123) loading units equivalent to approximately 1.21 litres per second.

Based on site inspection and assessment of available water pressure and flows, water meter assembly and existing buildings and expected diversity of usage, the existing water supply capacity is considered adequate for all proposed stage works

The existing water supply is assumed to be in fair and maintainable condition and suitable for connection to the proposed new building works.

All new potable cold-water works will comply with AS3500.1 2021.

5.2 Domestic Hot Water

New hot water plant will be provided for all the new building works fixtures and fittings.

The hot water plant will utilize electric heat pump technology to ensure industry best practice energy usage. Peak load will be based on all showers operational continuously for one (1) hour.

Hot water plant will be located externally within services enclosure adjacent on level 4 and incorporate a flow and return system operated by a time clock.

Temperature outlet control for basins and showers will be controlled by approved thermostatic mixing valves within stainless steel recessed vandal proof box.

All new domestic hot water supply works will fully comply with AS3500.4 2021.

5.3 Non-Potable Water -Rainwater Reuse

Stage 1 Works

Roof water collection and re-use for Stage 1 project is not being adopted due to the site constraints of the proposed building works.

On this basis, an integrated Water Recycle Management Plan has not been prepared for the SSDA.

These site constraints include:-

1. Water collection and re-use from trafficable areas are not permitted by NSW Government policies. (Sevington building roof area is predominately used for sports and thus trafficable)
2. Capital (Capex) and ongoing maintenance cost (Opex) prohibitive to construct inground rainwater collection tanks.
3. No opportunity on eastern and western facades due to negative impact on proposed circulation routes.
4. Rainwater re-use is not recommended for pupil and staff toilet flushing due to ongoing water risk management assessment, considering level of filtration / disinfection / pumping and maintenance testing required on a ongoing basis

Stages 2, 3 and 6

Roof water collection and re-use adoption for Stages 2, 3 and 6 will be considered and assessed individually for each stage project during detailed approval phase.

Adoption will be based on:-

1. Available roof catchment areas.
2. Water balance calculations based on expected usage and historical rainfall data to determine optimum storage tank(s) size.
3. Capital (Capex) and ongoing maintenance cost (Opex)

5.4 Sewer

Based on preliminary hydraulic loading unit calculations (Ref AS3500.1 2021 Table 3.2.1) the proposed new building works will increase total loading units for each building stage as follows: -

Stage 1 (Sevington Courts New Building) - Increase of total fixture units by approximately two hundred and fifty-eight (258) requiring a 150mm sewer at 1.65% gradient.

Stage 2 (Centenary Hall Refurbishment) Increase of Increase of total fixture units by approximately Seventy-eight (78) requiring a 100mm sewer at 1.65% gradient.

Stage 3 (College Lane New Building) Increase of Increase of total fixture units by approximately Twenty-Five (25) requiring a 100mm sewer at 1.65% gradient

Stages 6 (Concordia Building Redevelopment) – Net decrease of loading units from previous club facilities, with estimated increase of total fixture units by approximately One Hundred and Twenty-Five (25) requiring a 100mm sewer at 1.65% gradient

Based on available survey information and site investigations there is internal sewer infrastructure of suitable size , capacity and compliance to connect all proposed sanitary fixtures and fitting

Based on site investigations, it is assumed to be in fair and maintainable condition.

All new proposed sewer drainage works will comply with AS3500.2 2021.

5.5 Natural Gas

Considering proposed space heating and domestic hot water heating will use electric power and therefore no impact on the existing natural gas system.

Based on site inspection, it is assumed to be in fair and maintainable condition.

All new gas services work, if required, all works will comply with AS5601 2014

5.6 Automatic Fire Sprinkler Protection

Based on proposed Stage 1 Sevington sporting facility, automatic fire sprinkler protection will be required, as a minimum to the basement carpark area.

Consultation with design stakeholders in the detailed design phase to determine if to fully sprinkler protect the entire building or incorporate other appropriate fire safety options.

It is proposed to make new dedicate fire sprinkler connection to Sydney Water 100mm watermain in Stanmore Road and extend to a fire sprinkler equipment room incorporated in the proposed building

Based on Sydney Water pressure and flow information received (refer Appendix A), the available flow and pressure will be adequate for fire sprinkler protection without the need of storage tanks.

All new fire sprinkler protection systems proposed will fully comply with AS2118-2017 and NCC 2025 or a directed by the project fire engineer.

Based on proposed Stages 2 , 3 and 6 it is currently not proposed to provide automatic fire sprinkler protections systems.

5.7 Fire Hydrant Protection

A Fire Brigade Booster assembly for the existing school site was identified during site investigations.

Based on site investigations the school relies on external dual pillar hydrants" for fire hydrant protection system.

Based on Additional investigations and studies will be required to ascertain compliant protection for each existing building.

The proposed new works would achieve compliant hydrant coverage from new internal and external fire hydrants, all in accordance with AS2419 – 2021 and NCC 2025

Based on Sydney Water pressure and flow information received (refer Appendix A), the available flow and pressure will be adequate without the need of storage tanks.

5.8 Fire Hose Reel Protection

Due to the use and classification of the new school buildings fire hose reel protection will be required as part of the new development works.

Proposed fire hose reel protection will comply with AS2441-2005 and NCC 2025.

Based on Sydney Water pressure and flow information received (refer Appendix A), the available flow and pressure will be adequate without the need of storage pumps.

5.9 Portable Fire Extinguishers and Fire Blankets

The proposed new buildings will require portable fire extinguishers and/or fire blankets in accordance with AS2444 and NCC2022.

5.10 Smoke Detection and Occupant Warning

The proposed new and refurbished buildings will incorporate smoke detection and occupant warning system in accordance with AS1670 and NCC 2025 requirements. It is expected to be mechanical shutdown only system which falls under AS1670.1-2018 Amendment 1 Section 7.

6.0 Conclusion

Based on available authority infrastructure supplied information and site investigations, it is considered that the proposed Newington College works, can be connected to authority and internal house sewer, water supplies without the need of major hydraulic and fire services authority infrastructure works and cost.

Existing fire hydrant booster valve assembly, pumps and supply line will be replaced with new and interconnect to the existing site system.

All other Hydraulic and Fire services can be constructed, for the new works, without any major unknown cost impost.