MULTIPLEX

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

MOSMAN HIGH SCHOOL PROJECT – SSD 10465

Revision 5

10 December 2021

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EMP Preparation Checklist - Condition B16 - CEMP

Use the checklist below to help develop an EMP that contains all the required information. The checklist should be completed and supplied to the Department with the EMP. One checklist should be submitted for each EMP.

Requirement	Plan Reference	Yes/No/Not Applicable
Document preparation and endorsement		
Has the EMP been prepared in consultation with all relevant stakeholders as per the requirements of the conditions of consent? (Section 4.1)	**Appendix.3** CTMP – Attachment 4 Traffic Management Strategy **Appendix.4** CNVMP – Appendix. B Community Communication Strategy **Appendix.7** CSWMP –Consultation Form	Yes
Have the views of the relevant stakeholders been taken into consideration? Have appropriate amendments been made to the EMP and does the EMP clearly identify the location of any changes? (Section 4.1)	**Appendix.3** CTMP – Attachment 4 Traffic Management Strategy **Appendix.4** CNVMP – Appendix. B Community Communication Strategy **Appendix.7** CSWMP –Consultation Form	Yes
Has the EMP been internally approved by an authorised representative of the proponent or contractor? (Section 4.2)	**Section 1.10** Document Control **Appendix.3** CTMP – Document Control **Appendix.4** CNVMP – Document Control **Appendix.5** EWMP – Document Control **Appendix.6** CWMP – Page 5	Yes
Version and content		
Does the EMP describe the proponent's Environmental Management System (EMS) (if any), and identify how the EMP relates to other documents required by the conditions of consent? (Section 3.5.1)	**Section 1.1** Purpose **Section 1.5** Interface with other operational procedures and project plans	Yes
Does the EMP include the required general content and version control information? (Section 3.1)	**Section 1.10** Document Control **Appendix.3** CTMP – Document Control **Appendix.4** CNVMP – Document Control **Appendix.5** EWMP – Document Control **Appendix.6** CWMP – Cover Page	Yes
Does the EMP have an introduction that describes the project, scope of works, site location and any staging or timing considerations? (Section 3.2)	**Section 1.6** Project Overview **Section 1.7** Project Scope **Appendix 6.** CSWMP – appendix B Multiplex Construction Staging Plans/Methodology **Section 1.9** Hours of Work	Yes
Does the EMP reference the project description? (Section 3.3)	**Section 1.6** Project Overview	Yes

Does the EMP reference a Community and Stakeholder Engagement Plan (or similar) or include community and stakeholder engagement actions (if required)? (Section 3.4)	**Section 4.1** Communication **Appendix.3** CTMP – 5.24 Method of Communicating Traffic Changes **Appendix.4** CNVMP – Appendix.B Community Communication Strategy	Yes
Have all other relevant approvals been identified? Has appropriate information been provided regarding how each approval is relevant? (Section 4)	**Appendix.5** CTMP – Section 5.28 CTMP Approval, Monitoring and Review, Section 6. TSG Confirmation and Approval	Yes
Has the environmental management structure and responsibilities been included? (Section 3.5.2)	**Section 3.** Responsibility and Accountability	Yes
Does the EMP include processes for training of project personnel and identify how training and awareness needs will be identified? (Section 3.5.3)	**Section 7.** Training and Competency	Yes
Does the EMP clearly identify the relevant legal and compliance requirements that relate to the EMP? (Section 3.5.3)	**Section 1.8** Legal and Other Requirements **Appendix.3** CTMP – Section 5.6 General Requirements **Appendix.4** CNVMP –Section 4 Noise and Vibration Criteria **Appendix.5** EWMP – Section 3 Environmental Policy **Appendix.6** CSWMP – Appendix A Construction Environmental Management Plans	Yes
Does the EMP include all the conditions of consent to be addressed by the EMP and identify where in the EMP each requirement has been addressed? (Section 3.5.13)	**Section 1.8.3** Development Conditions	Yes
Have all relevant guidelines, policies and standards been identified, including details of how they are relevant? (Section 3.5)	**Section 1.8** Legal and Other Requirements **Appendix.3** CTMP – Section 5.6 General Requirements **Appendix.4** CNVMP –Section 4 Noise and Vibration Criteria **Appendix.5** EWMP – Section 3 Environmental Policy **Appendix.6** CSWMP – Appendix A Construction Environmental Management Plans	Yes
Is the process that will be adopted to identify and analyse the environmental risks included? (Section 3.5.5)	**Section 6.** Risk Management **Appendix.3** CTMP – Section 5.23 Hazard and Risk Identification **Appendix.4** CNVMP –Section 4 Noise and Vibration Criteria **Appendix.5** EWMP – Section 10.0 Environmental Aspects, Impacts and Control Measures **Appendix.6** CSWMP – N/A	Yes

Have all the environmental management measures in the EIA been directly reproduced into the EMP? (Section 3.5.7)	**Section 6.3** EIA Environmental Management Measures	Yes
Have any additional environmental management measures been included in the EMP? (Section 3.5.7)	**Section 6** Risk Management **Appendix.3** CTMP – NA **Appendix.4** CNVMP – Section 7 Noise and Vibration Control Recommendations **Appendix.5** EWMP – Section 10. Environmental Aspects/Impacts and Control Measures **Appendix.6** CSWMP – Section 8. Erosion and sediment control measures	Yes
Have environmental management measures been written in committed language? (Section 3.5.7)	**Section 6** Risk Management	Yes
Have project environmental management measures, including hold points, been identified and included? (Section 3.5.6)	**Section 6** Risk Management **Section 14.** Environmental Management Sub Plans	Yes
Are relevant details of environmental monitoring that will be carried out included? (Section 3.5.8)	**Section 5.4** Subcontractor Environmental Management Monitoring **Section 10.** Inspections, testing and Monitoring **Appendix.3** CTMP – Section 5.28 CTMP Approval, Monitoring and Review **Appendix.4** CNVMP – Section 7.9 Monitoring Programme **Appendix.5** EWMP – Section 11. Environmental Inspections, 11.1 Audits **Appendix.6** CSWMP – NA	Yes
Have the components of any environmental monitoring programs been incorporated? (Section 3.5.8)	**Appendix.3** CTMP – Section 5.28 CTMP Approval, Monitoring and Review **Appendix.4** CNVMP – Section 7.9 Monitoring Programme **Appendix.5** EWMP – Section 11. Environmental Inspections, 11.1 Audits	Yes
Are environmental inspections included? (Section 3.5.9)	**Section 10.** Inspections, testing and monitoring	Yes
Does the EMP document all relevant compliance monitoring and reporting requirements for the project? (Section 3.5.12 and 3.5.13)	**Section 13.** Reporting	Yes
Does the EMP describe the types of plans or maps (such as environmental control maps) that will be used to assist with the management of environmental matters on site? (Section 3.5.10)	**Section 6.3** Environmental Controls Map **Appendix.3** CTMP – Figure 17 Phase 1 Plan, Figure 18 Phase 2&3 Plan **Appendix.4** CNVMP – Figure 3 Site **Appendix.5** EWMP – NA **Appendix.6** CSWMP – Appendix A Construction Environmental Management Plans	Yes

Does the EMP list environmental management documents? (Section 3.5.11)	**Appendix 2** EMS Forms and Guides	Yes
Is an auditing program referenced? (Section 3.5.13)	**Section 11.** Audits and non-conformances **Appendix.2** EMS Forms and Guides	Yes
Does the EMP include the incident notification and reporting protocols that comply with the relevant conditions of consent? (Section 3.5.15)	**Section 9.1** Incident Management	Yes
Does the EMP identify the project role/position that is responsible for deciding whether an occurrence is an incident? (Section 3.5.15)	**Section 3.5** Multiplex Roles and Responsibilities	Yes
Does the EMP describe a corrective and preventative action process that addresses the requirements? (Section 3.5.16)	**Section 11.2** Non-Conformances, Corrective and Preventative Action	Yes
Does the EMP include details of a review and revision process that complies with the requirements? (Section 3.6)	**Section 1.10** Document Control	Yes

Contents

1. Introduction

1.1 Purpose

The purpose of this Environmental Management Plan is to provide a coordinated high level plan that details, at a Project level, the environmental management strategies and procedures that will be adopted on the Mosman High School Project (MHS) on which Multiplex is operating as the Principal Contractor.

This plan is a sub-plan of the Project Management Plan and is in accordance with GC21 Preliminaries, which forms part of Multiplex Management System which is certified to:

» ISO 9001:2015 – Quality Management System

» ISO 14001:2015 – Environmental Management System

» ISO 45001:2018 – Occupational Health and Safety Management System

» Federal Safety Commission Accreditation Scheme.

Copies of these certifications can be found on the Multiplex Operating System 'Document and Forms Library'.

1.2 Scope of this Plan

This Plan applies to the works associated with the Project and consists of:

» An overview of the Environmental Management System (EMS)

» The organisational structure for environmental management

» Applicable legislative requirements

» Sub-plans to manage the environmental aspects of the Project

» Environmental incident management processes

» Processes to monitor and evaluate environmental performance.

1.3 Abbreviations

The abbreviations used in this Plan are outlined below.

Abbreviation	Definition
AS/NZS	Australian and/or New Zealand Standard
ASS	Acid Sulfate Soil
EMP	Environment Management Plan
DEC	Department of Environment and Conservation
DIA	Department of Indigenous Affairs
EMS	Environmental Management System
EWMS	Environmental Work Method Statement
SDS	Safety Data Sheet
MPX	Multiplex Constructions Pty Ltd
MSOP	Management System Operational Procedures
NEPC	National Environment Protection Council
NEPM	National Environmental Protection Measures

Figure 1 Abbreviations

1.4 Precedence

Where ambiguity is detected between the procedures and requirements in this plan and the MSOPs located on Multiplex Operating System, then the procedures nominated in this Plan will take precedence.

1.5 Interface with other Operational Procedures and Project Plans

This Plan should be read in conjunction with the MSOP and Management Plans detailed in Section 2.2 of this Plan.

The MSOP referenced in this Plan are confidential documents, and as such, will not be issued outside of Multiplex. However, they will be made available, for the purpose of surveillance and audit of the EMS.

1.6 Project Overview

The proposed upgrade to Mosman High School will include new building works, including a new building on the corner of Military and Belmont Roads with capacity for up to 1,200 students, associated core infrastructure, new outdoor play areas including roof top play space and associated landscaping works. This application seeks approval for the following development:

» Demolition of Building B, Building C and part Building E;

» Removal of existing sports court and surrounding retaining walls and nominated trees;

» Construction of a new part 3/ part 4 storey building plus lift overrun and net enclosure to rooftop multi-court (Building G) on the corner of Military Road and Belmont Road providing:

– administration and staff facilities;

– multipurpose gym/hall;

– library; o canteen facilities;

– general and senior learning units;

– science learning unit;

– health / PE and performing arts unit; and

– learning and admin support unit. − Associated landscaping works including new outdoor play areas, a rooftop play space and rooftop multi-purpose court; and − Relocation of the main pedestrian entrance from Military Road to Belmont Road.

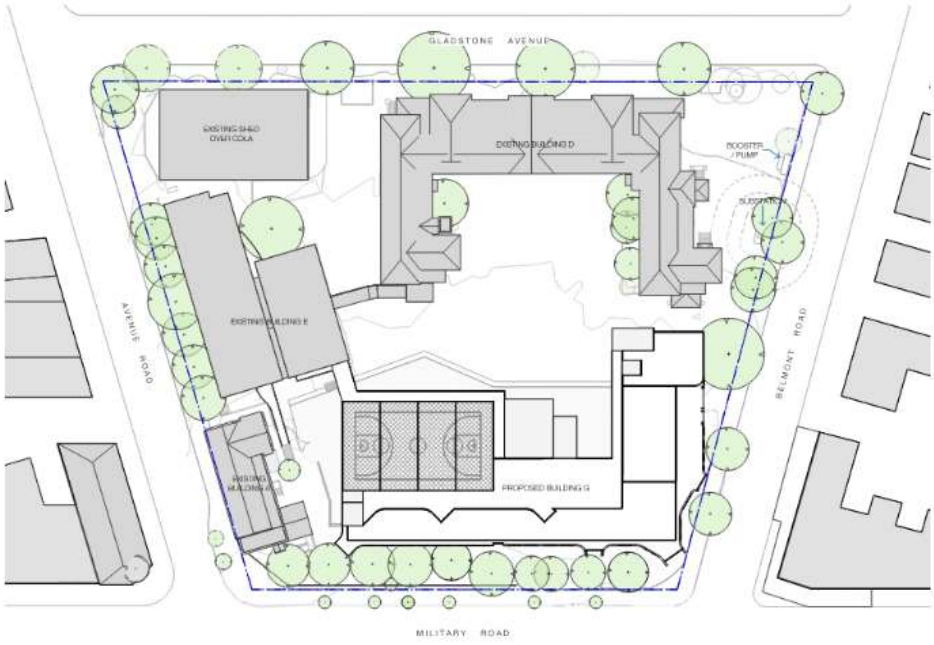


Figure 2 Proposed Site Plan

1.7 Project Scope

Scope	Overview
General	Multiplex is engaged to design, procure, construct, test, commission and handover the following building and areas as part of their works.
Demolition	This will incorporate the demolition of the following Buildings: » Building B and associated link way and stairwell structure » Building C » Annexe to Building E » External Tennis Court » External Hardstand to courtyard playground
New Building G	Building G is a part three (3) / part four (4) storey building plus lift overrun and rooftop multi-court enclosure. Building G accommodates expansion in the following learning units: » A new Gymnasium with Stage » A new Canteen » A new Admin unit » A new Lecture Theatre » New amenities » 2 Performing Arts/Fitness Workshops » 4 Performing Arts/Fitness GLSs » 4 Science General Learning Spaces » 9 Senior GLSs and associated informal spaces » 2 GLSs » New staff rooms » A new Library » A new rooftop Games court
External Landscaping – Soft and Hard	The key landscape components include: » Military Road Landscape; » Arts Courtyard; » Hall Forecourt; » Central Lawn; » Lower Terrace; » Curtilage Works; » Level 3 Library Terrace; and » Level 4 Rooftop multi-court.

Figure 3 *Project Scope*

1.8 Legal and Other Requirements

In accordance with Procedure BU AUS IMS P DIV 050 – Document and Records Management, a schedule of environmental legislation has been developed to identify all environmental legal and other requirements that are applicable to the project. This schedule is maintained on Multiplex Operating System and is reviewed annually by the WHS&E Manager/Coordinator.

1.8.1 Legislative References

The pertinent Acts, Regulations and Guidelines that apply to the project are outlined below:

ENVIRONMENTAL LEGISLATION REGULATIONS AND GUIDELINES	
Acts	
» Contaminated Land Management Act 1979	» Ozone Protection Act 1989
» Environmentally Hazardous Chemicals Act 1985	» Pesticides Act 1999

ENVIRONMENTAL LEGISLATION REGULATIONS AND GUIDELINES	
» Environmental Planning and Assessment Act 1979 » Heritage Act 1977 » Land and Environment Court Act 1979 » Local Government Act 1993 » National Parks and Wildlife Act 1974	» Protection of the Environment Operations Act 1997 » Soil Conservation Act 1938 » Sydney Water Act 1994 » Waste Avoidance and Resource Recovery Act 2001 » Water Act 1912
Regulations	
» Contaminated Land Management Regulation 2013 » Environmentally Hazardous Chemicals Regulation 2017 » Environmental Planning and Assessment Regulation 2000 » Heritage Regulation 2012 – various amendments and Regulations » Land and Environment Court Regulation 2005 » Local Government (General) Regulation 2005 » National Parks and Wildlife Regulation 2009 » Pesticides Regulation 2017	» Protection of the Environment Operations (Clean Air) Regulation 2010 » Protection of the Environment Operations (General) Regulation 2009 » Protection of the Environmental Operations (Underground Petroleum Storage Systems) Regulations 2014 » Protection of the Environment Operations (Noise Control) Regulation 2017 » Protection of the Environment Operations (Waste) Regulation 2014 » Sydney Water Regulation 2017
Commonwealth (National) Environmental Legislation	
» Aboriginal and Torres Strait Islander Heritage Protection Act 1984 » Environmental Protection and Biodiversity Conservation Act 1999 » National Environment Protection Council Act 1994 » National Greenhouse and Energy Reporting Act 2007	» Ozone Protection and Synthetic Greenhouse Gas Management Act 1989 » Product Stewardship Act 2011 » Water Efficiency Labelling and Standards Act 2005
Commonwealth National Environmental Protection Measures	
» National Environment Protection (National Pollutant Inventory) Measures 1998 » National Environment Protection (Ambient Air Quality) Measure 1998 » National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013)	» National Environment Protection (Diesel Vehicle Emissions) Measure 2001 » National Environment Protection (Used Packaging Materials) Measure 2011 » National Environment Protection (Air Toxics) Measure 2011
NSW Environmental Planning Policies	
» State Environmental Planning Policy (State and Regional Development 2011 » State Environmental Planning Policy (Exempt and Complying Development Codes (2008) » State Environmental Planning Policy (Infrastructure) 2007 » State Environmental Planning Policy (Major Development) 2005	» State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004 » State Environmental Planning Policy No 71 (Coastal Protection) » State Environmental Planning Policy No 55 (Remediation of Land) » Sydney Local Environmental Plan 2012
Guidelines/ Australian Standards	
» Air Quality Guidance Notes for Construction Sites » Assessing Significance for Historical Archaeological Sites and Relics » Assessing Vibration – Technical Guidelines (2006) – DEC (EPA) AS1055 » Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000) » City of Sydney Code of Practice for the Construction Hours/Noise 1992 » City of Sydney Council's Policy for Waste Minimisation in New Developments 2005 » Technical Guidelines to Minimise Blasting Overpressure and Ground Vibration	» NSW Heritage Office Guidelines- Photographic Recording of Heritage Items using Film or Digital Capture. » AS 1940-2017- The storage and handling of flammable and combustible liquid » AS 4976-2008- The removal and disposal of underground petroleum storage tanks » AS 4897-2008 – The design, installation and operation of underground petroleum storage systems » UPSS Technical Note:Site Validation Reporting » UPSS Techinal Note: Decommissioning, Abandonment and removal of UPSS

ENVIRONMENTAL LEGISLATION REGULATIONS AND GUIDELINES
» Environmental Management Systems Guidelines for the Construction Industry » Interim Construction Noise Guideline » Know Your Responsibilities – Managing Waste From Construction Sites » Managing Urban Stormwater – Soils and Construction » National Australian Built Environment Rating System (NABERS Energy) »

Figure 4 *Environmental Legislative Regulation and Guidelines*

1.8.2 Approvals, Licenses and Permits

The relevant approvals, permits and licenses for the project are outlined below:

Approval/Licence/Permit	Relevant Authority	Details
» Crown Certificate	» Environmental Planning and Assessment Act 1979	» Under section 6.28 of EPAA certificate is to be obtained prior to any works commencing
» State Significant Development Approval	» Independent Planning Commission	» The Project is deemed to have state signficance.

Figure 5 *Approvals, permits and licenses*

1.8.3 Development Conditions

This plan has been prepared in accordance with the below consent conditions for the project. A full list of the consent conditions can be found in appendix 7.

Condition No.	Condition Heading	Condition Description	Reference
B17	Contruction Environmental Management Plan	"Prior to the commencement of construction, the Applicant must submit a Construction Environmental Management Plan (CEMP) to the Certifier and provide a copy to the Planning Secretary for information. The CEMP must include, but not be limited to, the following:	
B17	Contruction Environmental Management Plan	(a) Details of:	
B17	Contruction Environmental Management Plan	(i) hours of work;	Section 1.9
B17	Contruction Environmental Management Plan	(ii) 24-hour contact details of site manager;	Section 4.1
B17	Contruction Environmental Management Plan	(iii) management of dust and odour to protect the amenity of the neighbourhood;	Section 15.2
B17	Contruction Environmental Management Plan	(iv) stormwater control and discharge;	Section 15.3 and Appendix 6
B17	Contruction Environmental Management Plan	(v) measures to ensure that sediment and other materials are not tracked onto the roadway by vehicles leaving the site;	Appendix 6
B17	Contruction Environmental Management Plan	(vi) groundwater management plan including measures to prevent groundwater contamination;	Section 15.3

Condition No.	Condition Heading	Condition Description	Reference
B17	Contruction Environmental Management Plan	(vii) external lighting in compliance with AS 4282-2019 Control of the obtrusive effects of outdoor lighting;	Section 9
B17	Contruction Environmental Management Plan	(viii) community consultation and complaints handling as set out in the Community Communication Strategy required by condition B8;	Section 4
B17	Contruction Environmental Management Plan	(b) an unexpected finds protocol for contamination and associated communications procedure to ensure that potentially contaminated material is appropriately managed	Section 6.4.1
B17	Contruction Environmental Management Plan	(c) an unexpected finds protocol for Aboriginal and non-Aboriginal heritage and associated communications procedure;	Section 6.5
B17	Contruction Environmental Management Plan	(d) Construction Traffic and Pedestrian Management Sub-Plan (see condition B18);	Appendix 3
B17	Contruction Environmental Management Plan	(e) Construction Noise and Vibration Management Sub-Plan (see condition B19);	Appendix 4
B17	Contruction Environmental Management Plan	(f) Construction Waste Management Sub-Plan (see condition B20);	Appendix 5
B17	Contruction Environmental Management Plan	(g) Construction Soil and Water Management Sub-Plan (see condition B21).	Appendix 6
B22	Contruction Environmental Management Plan	A Driver Code of Conduct must be prepared and communicated by the Applicant to heavy vehicle drivers and must address the following: (a) minimise the impacts of earthworks and construction on the local and regional road network; (b) minimise conflicts with other road users; (c) minimise road traffic noise; and (d) ensure truck drivers use specified routes.	Appendix 3 CTMP, Attachment 6

Figure 6 *Development Conditions*

In addition to the above clauses by which Multiplex guarantees the compliance of, refer below plans that have been prepared by Multiplex's appointed consultants and Subcontractors. These plans will be followed upon the commencement of works on site, as well as in the preliminary stages of design and planning.

Plan	Consultant/Subcontractor	Appendix Reference
Construction Traffic Management Plan	PTC	Appendix 3
Construction Noise and Vibration Management	JHA	Appendix 4
Environment and Waste Management Plan	Moits	Appendix 5

Construction Soil and Water Management Plan	TTW	Appendix 6

Figure 7 *Plans prepared by Multiplex's appointed consultants*

1.9 Hours of Work

As outlined in the SSDA, the hours of work are strictly limited to:

Day	Time
Monday – Friday	7am – 6pm
Saturday	7:30am – 3:30pm
Sunday / Public Holidays	No Work

Figure 8 *Hours of Work*

Notwithstanding, provided noise levels do not exceed the existing background noise level plus 5dB, works may also be undertaken during the following hours:

(a) Between 6pm and 7pm, Mondays to Fridays inclusive; and

(b) Between 3.30pm and 4pm, Saturdays

Activities may be undertaken outside of these hours pursuant to the following SSDA conditions and if notification of such activities are provided to affected residents before these undertakings.

» If required by the Police or a public authority for the delivery of vehicles, plant or materials

» If required in an emergency to avoid the loss of life, damage to property or to prevent environmental harm

» If works are inaudible at the nearest sensitive receivers

» If a variation is approved in advance in writing by the Planning Secretary or her nominee.

Works including but not limited to rock breaking, rock hammering and sheet piling may only be conducted during the below times:

Day	Times
Monday – Friday	9am – 12pm ; 2pm – 5pm
Saturday	9am – 12pm

Figure 9 *Hours of Work (Works including but not limited to rock breaking, rock hammering and sheet piling)*

1.10 Document Control

This plan and relevant environmental sub-plans will be revised:

» Six monthly

» In response to future project approvals or modifications

» In response to changes in law, risks or accepted practices

» In response to major changes in site conditions or work methods, or due to incidents

» Commencement of new phases or stages of design and construction

» In response to the findings, recommendations or outcomes of a planned management review, audit or risk assessment

» Requests or requirements of EPA or any other Authority

» In support of planning approvals or licence variations as necessary.

Electronic distribution of this Plan will be made to those detailed on the distribution list on Aconex.

All changes will be identified as below, and communicated to all relevant personnel.

Revision	Date	Description	Page	Reviewed By	Approved By
1	15/09/2021	Initial Draft for MWO	All	Max Reginato	Jade Nicholson
1	15/10/2021	Initial Issue for MWO	All	Christina Travers-Jones	Jade Nicholson
2	11/11/2021	Updated Following MWO Review	All	Max Reginato	Jade Nicholson
3	01/12/2021	Update to Heritage Management Sub-Plan	Pg.56	Max Reginato	Jade Nicholson
4	02/12/2021	Inclusion of subplans for SSD update	Appendix	Christina Travers-Jones	Jade Nicholson
5	10/12/2021	Inclusion of SINSW comments	All	Christina Travers-Jones	Jade Nicholson

Figure 10 *Document Revisions Control*

2. Environmental Management System Framework

2.1 Approach to Environmental Management

Multiplex is continuously seeking to improve environmental culture and standards across its business and the broader industry.

Multiplex works with its clients to integrate environmental management controls at the earliest opportunity. Our aim is to eliminate critical risks which may have long-term consequences.

Multiplex's approach to environmental management is underpinned by a mature and disciplined environmental culture which is embraced by its people and driven by what its leaders do and say. Multiplex encourages its people to learn from each other's experiences and share best practice.

2.2 Management System Framework

Multiplex has a management framework which is applied throughout the business and on all projects it undertakes. The EMS documentation forms part of this System Framework and maintained in electronic format on Multiplex Operating System.

The structure of the overall Management System is explained below.

Element	Content	
Internal Control Framework	» Operating Environment » Risk Assessment » Control Activities	» Information and Communication » Monitoring Activities
Polices	» Work Health and Safety » Environmental » Quality » Risk	» Drugs and Alcohol » Injury and Rehabilitation » Indigenous Engagement » Diversity
Operational Procedures	» Risk Management » Integrated Management » Quality Management » Design Management » Construction Management » Health and Safety Management	» Environmental Management » Project Administration » Bid Management » Human Resources Management » Planning and Programming
Management Plans	» Project » Quality » Design » Work Health and Safety » Environmental » Emergency » Traffic	» Construction » Stakeholder » Risk » Commissioning and Testing » Aboriginal Participation » Workplace Injury
Sub Plans	» Construction Noise and Vibration » Dust and Air Quality » Water Quality » Erosion and Sediment » Chemicals » Land Contamination	» Waste » Heritage » Flora and Fauna » Site Office
Risk Management	» Project Risks	» Aspects and Impacts
Forms and Guides	» As per Appendix 2	

Figure 11 *Management Framework*

3. Responsibility and Accountability

3.1 Environmental Policy

Multiplex policies relating to environmental management are contained in **Appendix 1**.

This policy will be made publicly available through the Multiplex Intranet and distributed for display in prominent Project locations. In addition, all personnel attending Project inductions will be made aware of the policy and Multiplex's commitment to implement it.

3.2 Objectives, Targets and Programs

Environmental objectives and targets established in the table below and in each sub-plan will be monitored, reviewed and assessed by Senior Management, in accordance with Procedure BU AUS IMS P DIV 030 – *Planning and Performance Measurement*.

Objective	Target	Measure
Maximising opportunity to control risk by design, planning and re-planning.	Conduct an environmental risk workshop within 2 months of project commencement.	Environmental aspects and impacts register established within 2 months of project commencement.
Focusing priority on control of critical risks.	Continuously monitor and improve environmental performance through a program of inspections.	Inspections conducted on a fortnightly basis by the onsite Environmental Coordinator.
Closing the gap between paperwork and practice.	Conduct environmental training of all onsite Environmental Coordinators prior to assigned responsibility.	Training conducted prior to assigned responsibility.
Growing a mature culture: innovative, reporting, learning and collaborative.	No environmental regulatory infringements or major pollution incidents.	Number of environmental regulatory infringements and major pollution incidents.

Figure 12 *Environmental Project Objectives and Targets*

3.3 Management Review

Through the use of audit results, inspection reports, corrective and preventative actions and meetings, Multiplex will continually improve the effectiveness of the EMS in accordance with Procedure BU AUS IMS P DIV 140 – *Management Review*.

Changes to existing procedures will be recorded and communicated to the affected personnel.

3.4 EMS Organisational Chart

Environmental management during construction is the responsibility of each and every member of the Multiplex project team. Management and supervisory personnel lead environmental management by example, through provision of suitable resources to implement and monitor environmental measures, identify and correct any non-conforming conditions or behaviours, and actively promote environmental awareness and individual environmental responsibility.

The organisational chart following identifies the Multiplex personnel responsible for the implementation of the EMS.

3.5 Multiplex Roles and Responsibilities

Multiplex has identified appropriate levels of resources, individual responsibility, and accountability for managing environmental across all roles within the Project Team. These are contained in Procedure BU AUS IMS P DIV 010 – *Responsibility and Accountability*. The general responsibilities and accountabilities of key project personnel in relation to Environmental are outlined over.

Role and Responsibility	CEO	Group Sustainability Manager	Regional Managing Director	Regional Director	WHS&E Manager/Coordinator	Project Manager	Site Manager	Design Manager/Senior Project Engineer	Contracts Manager/Admin	Engineer/s	Supervisor/s	WHS&E Coordinator	Construction Workers
Provide **resources** including personnel, time and finances to ensure compliance with Environmental legislation and the Environmental Management System.	✓	✓	✓	✓									
Ensure MPX operations identify **monitors and complies with the current legislation** for Environmental Management.	✓	✓	✓	✓	✓								
Ensure that the **MPX Management System**, risk assessment and procedures reflect the requirements of current environmental, legislation, guidelines and standards.		✓		✓	✓								
Identify by way of subscription, all **environmental legislation**, standards, codes of practices and guidelines pertinent to our works.					✓								
Promote a positive workplace **environmental culture.**	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Engage in **risk workshops** to identify, assess and determine appropriate controls for all potential risk and opportunity where required.				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Establish realistic project specific measurable **targets.** Monitor and report.					✓	✓	✓						
Have a working **knowledge** of the MPX Environmental Management System.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Complete project specific **environmental documents** utilising templates.					✓	✓	✓					✓	
Establish the environmental requirements for the projects **site establishment and planning** requirements.					✓	✓	✓					✓	
Establish a schedule of **environmental legislation**, Communicate and monitor for change.					✓								
Establish records filing system and maintain **environmental records.**												✓	
Establish and maintain **environmental registers including legislation, training and quantifiable targets.**					✓							✓	
Establish and organise the environmental component of the **induction programme**.					✓		✓					✓	
Identify and assess **competency** of employee's including any unforeseen workforce requirements. Undertake training needs analysis and facilitate any **training** requirements.				✓	✓	✓	✓						
Determine and assess requirements for **environmental monitoring** (ie. noise, air and dust) and implement. Review results to determine compliance.					✓		✓					✓	
Assess subcontractor's ability to comply with the project environmental requirements and environmental contract requirements.					✓	✓	✓		✓			✓	
Provide SC's with relevant **environmental documents** templates, EMPS, EWMS relevant parts of the site specific MPX EMP.												✓	

Role and Responsibility	CEO	Group Sustainability Manager	Regional Managing Director	Regional Director	WHS&E Manager/Coordinator	Project Manager	Site Manager	Design Manager/Senior Project Engineer	Contracts Manager/Admin	Engineer/s	Supervisor/s	WHS&E Coordinator	Construction Workers
Obtain **Environmental documentation** from each subcontractor prior to commencing. Register and review adequacy and request changes prior to accessing the site.					✓		✓					✓	
Monitor subcontractors activities and report on performance against EWMS and EMP.					✓		✓				✓	✓	
Conduct **inductions** for all persons attending site and maintain records.												✓	✓
Complete an **environmental aspects, impacts and risk assessment** at commencement of the project and update as required to reflect current site conditions.					✓	✓	✓					✓	
Identify and maintain a register of all onsite **hazardous materials and dangerous goods.**												✓	
Obtain safety data sheets no greater than 5 years old and provide adequate hazardous substances and dangerous goods **storage facilities** onsite.							✓				✓	✓	✓
Conduct **Environmental inspections** distribute for action, obtain sign-offs from SC and close out.					✓							✓	
Attend projects to **monitor and discuss Environmental issues** with project management, supervisors and workers.		✓	✓	✓	✓								
Monitor, resolve and prevent significant **Environmental issues** and share lessons learnt.	✓	✓	✓	✓	✓								
Schedule and conduct environmental **audits** of Subcontractors. Distribute report and monitor status.					✓							✓	
Conduct Environmental **consultation and communication** on environmental matters where required.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Implement **emergency response procedures as outlined in the site Emergency Response Plan**						✓	✓				✓	✓	✓
Record, report and investigate environmental **incidents**. Monitor corrective actions and distribute any lessons learnt.				✓	✓	✓	✓					✓	
Report and distribute **non-conformances** and implement corrective and preventative actions. Review effectiveness of corrective actions.					✓	✓	✓			✓	✓	✓	✓
Implement **environmental sub-plans** and procedures.					✓	✓	✓	✓	✓	✓	✓	✓	✓
Prepare **monthly report** on the status of the environmental management system.						✓	✓					✓	
Review **Environmental performance** including adequacy of resources.	✓	✓	✓	✓	✓	✓	✓					✓	
Obtain feedback for both internal/external training conducted and evaluate the effectiveness of the **training programs.**		✓			✓								
R**eview** environmental objectives and targets annually and provide clear direction of the Environmental management system for the next 12 months.		✓	✓	✓	✓								
Acquire and disseminate **Environmental and related information** including alerts and lessons learnt.		✓			✓								
Review procedures and forms resulting from any changes in legislation, regulation, standards, codes of practices and incidents.					✓								

Role and Responsibility	CEO	Group Sustainability Manager	Regional Managing Director	Regional Director	WHS&E Manager/Coordinator	Project Manager	Site Manager	Design Manager/Senior Project Engineer	Contracts Manager/Admin	Engineer/s	Supervisor/s	WHS&E Coordinator	Construction Workers
Attend **collaborative post project review** meeting to assess environmental performance, identify and document lessons learnt.					✓	✓	✓	✓			✓	✓	✓

Figure 13 *Multiplex EMS Roles and Responsibilities Matrix*

3.6 Contractor Roles and Responsibilities

Contractors must ensure they have an EMP and comply with statutory requirements and instructions given by Multiplex representatives in the performance of work in which they are engaged. Contractors will be responsible for:

» Implementing their EMS

» Reporting incidents, near misses and issues of non-compliance with EMS procedures to their supervisor or Multiplex contact

» Ensuring construction work complies with environmental legislative requirements.

4. Communication and Consultation

4.1 Communication

Multiplex will ensure meaningful and effective communication processes are established and maintained in accordance with Procedure BU AUS IMS P DIV 040 – *Communication and Consultation*.

Communication on EMS matters will occur through the mechanisms outlined below.

Event	Frequency Requirement	Participants	Record/Evidence
Project specific induction	Prior to commencement of contracted work	All personnel	Project induction and declaration form
Work activity Induction (in EWMS or equivalent).	Prior to commencing any building/construction work	Personnel carrying out specific work activities	Record of training – listed on the EWMS or toolbox meeting record
Toolbox meetings	During the introduction of a new process (EWMS) or when discussing environmental issues / topics	MPX Supervisors and Subcontractors	Toolbox meeting record
Subcontractor meetings	Weekly or as required	Project team / Subcontractors, their employees and others as required	Minutes of meeting
Project team meetings.	Fortnightly or as required	Project team	Minutes of meeting
PCG meetings	Monthly	Client and Project Manager.	PCG report
Electronic media (i.e. Aconex)	As required	All personnel	Aconex
Project notice board and general signage	As required	All personnel	Project notice board
Environmental Site inspection actions	Fortnightly	Project team and subcontractors	Environmental Site inspection report
Enquiries and Complaints	As required	As per Stakeholder Management Plan	Complaints register
Other	As required	As per Stakeholder Management Plan	As per Stakeholder Management Plan

Figure 14 *Project EMS Communication Mechanisms*

The Mosman High School projects 24hr contact details of the Site Manager are as follows:

Category	Detail
Name	Matt Hogan
Phone	0438 570 309
Email	Matt.hogan@multiplex.global

Figure 15 *Site Manager 24hr Contact Details*

4.2 Consultation

To ensure effective consultation occurs at all levels throughout the life of the Project, Multiplex will operate in accordance with Procedure BU AUS IMS P DIV 040 – *Communication and Consultation*.

Employees and contractors will be consulted with regard to aspects and impacts that have the potential to impact on the environment.

Consultation on environmental matters will occur through the mechanisms outlined in the table below.

Event	Frequency	Participants	Record
Work activity induction (in EWMS or equivalent)	Prior to commencing work	Personnel carrying out specific work activities	Record of training – listed on the SWMS or Toolbox Talk Record
Aspects and Impacts Risk Workshops	6 monthly	Project team and subcontractors (where required)	Aspects and Impacts Register
Toolbox meetings	As required	Subcontractors	Toolbox meeting record
Subcontractor meetings	Weekly	Project team and subcontractors	Minutes of meeting
Project team meetings	Weekly	Project team	Minutes of meeting

Figure 16 *Project EMS Consultation Mechanisms*

5. Contractor Management

5.1 Evaluation and Selection of Contractors

All Multiplex Contractors (including subcontractors, suppliers and consultants) will be selected and appointed in accordance with Procedures BU AUS IMS P DIV 060 – *Contractor Management*, PAM P DIV 030 – *Tendering Subcontracts* and PAM P DIV 040 – *Letting of Agreements*.

Multiplex's procurement processes ensure that all contractors engaged must meet the environmental Management requirements. This is achieved by:

» Documenting and correctly completing subcontract agreements, supplier agreements and consultant deeds that include a scope of work and environmental requirements

» Examination and evaluation of subcontractor's demonstrated experience and capabilities

» Selecting appropriate subcontractors and suppliers for tender

» Conducting a tender interview to verify the environmental requirements related to the contract can be met

» Evaluation, recommendation and seeking approval from senior management for engagement of the preferred contractor.

5.2 Subcontractors Environmental Management Plans and EWMS

All subcontractors are required to operate with the requirements of the EMP and associated documents.

Based on the EMP and risks identified in the Project Risk Assessment, MPX will assess the subcontractor's environmental management strategies against the following:

» The potential environmental impacts of the subcontractor's activities

» The environmental sensitivity of the area(s) in which the subcontractors will be working

» The nature and scope of the subcontractor's activities

» The scale of the subcontractor's activities

» The subcontractor's capacity to manage its own environmental performance effectively

» The subcontractor's previous performance.

Where a subcontractor is determined to be working in an area identified as high risk for potential impact to the environment, additional management controls will be put in place. These may include the submission of a dedicated EMP / EWMS to address the specific work package(s) awarded and be submitted for review to MPX prior to commencement of work on site. Comments resulting from the review by Multiplex will be issued to the subcontractor for action and where required, re-submission. The EMP / EWMS must assess the level of environmental risk and implement appropriate management controls for the subcontractor's full scope of work.

EWMSs are aimed specifically for use by foremen and construction workers, and are reviewed by each member of the work team before they commence work. This review provides an opportunity for the work team to contribute to environmental controls, and ensure that the work team is trained in environmental methods. Changes to EWMSs are documented and communicated to workers prior to commencing changed methods.

5.3 Contractor EMS Submission Requirements

A summary of the subcontractors EMS submission requirements is outlined in the table below.

Item	Description	Time Frame / Frequency of Submission
1	Project Environmental Management Plan for selected trades determined by Multiplex	10 days before commencing on site.
2	Environmental Work Method Statement (EWMS) for all high activities	10 days before commencing on site.
3	Incident/Near Miss Report	Following an incident

Item	Description	Time Frame / Frequency of Submission
4	Incident Investigation Reports	Following an incident
5	MPX Inspections – completed and signed off	As per timeframe nominated in report
6	Inspection and Monitoring Records as detailed in each Environmental Sub-Plan	As per Environmental Sub-Plan

Figure 17 *Summary of Subcontractor Environmental Submission Requirements*

5.4 Subcontractor Environmental Management Monitoring

Multiplex will monitor work activities in accordance with Procedures BU AUS IMS P DIV 060 – *Contractor Management* – to ensure that subcontractors are carrying out work in accordance with SWMS documentation. Monitoring may be achieved by one or more of the following:

» Ongoing visual inspections by supervisors

» Environmental inspections

» External Inspections/Audits.

5.5 Purchasing of Goods and Services

Multiplex personnel responsible for the procurement of materials, plant and equipment will ensure that the requirements outlined in Procedures BU AUS IMS P DIV 060 – *Contractor Management* – are implemented to ensure compliance with the relevant Australian Standards and environmental legislation.

Where goods such as materials, plant and equipment are procured, procedures for complying with environmental specifications will be implemented and will cover all environmental standards, legislation or organisational compliance requirements.

Items and equipment that are used to execute the work potentially impacting on the health and safety of a worker of the public, will be subject to hazard identification and risk assessment prior to purchase or hire.

Workers or their WHS Representatives will be consulted regarding any purchasing decisions that could affect their health and safety.

6. Risk Management

6.1 Risk Workshops

Multiplex and its subcontractors will undertake risk workshops outlined in the table below. Further detail relating to risk management is detailed in Procedure BU AUS IMS P DIV 020 – *Risk and Opportunity Management*.

Type of Risk Programme	Purpose	Frequency	Participants	Record
Project Risk Workshops	Overarching risk workshop conducted to identify all significant risks/opportunities and develop control strategies relating to the project	As per schedule	Project Team	Project Risk Register
Project EMS Risk Workshops	To identify key EMS aspects, impacts and develop control strategies for all works associated with the project	Six monthly intervals	Project Team, WHS&E Manager / Coordinator	Project Risk Register
Trade/Element Risk Workshops	To identify key EMS aspects, impacts and develop control strategies for all works associated with the project	As per schedule	Project Team, WHS&E Manager / Coordinator	Project Risk Register

Figure 18 *Risk Workshops*

6.2 Aspects and Impacts

Key activities carried out by or on behalf of MPX in connection with the Project are identified in the Environmental Aspects and Impacts Risk Register outlined in the table below. This register is completed during the preliminary risk assessment process to help establish key project risks in accordance with Procedure BU AUS IMS P DIV 020 – *Risk and Opportunity Management*.

All risks identified are managed in Project Risk Register on Multiplex Operating System. For each activity the environmental aspects and associated actual and potential environmental impacts are identified for normal operations and uncommon events. All aspects are assessed for risk based on standard controls being in place. Any aspects with a risk rating of high or extreme will be considered a significant aspect and require additional controls / plans to minimise the risk. Additional controls or plans will be referenced in the Environmental Management Sub-plans.

Aspect	Impact	Consequence	Likelihood	Risk Rating
Water Quality	Pollution / contamination of atmospheric, ground or surface water bodies through degradation of water quality.			
Erosion & Sediment Control	Soil loss to environment potentially affecting water quality subsequently impacting ecological values.			
Site Contamination	Mobilisation of chemicals above the level normally found in nature, potentially having an adverse effect on the surrounding environment.			
Air Quality	Pollution/ contamination of atmosphere from dust, exhaust emissions, odour and air-born chemicals.			
Noise & Vibration	Disturbance/ nuisance caused from 'unreasonable' or excessive levels of noise to public/ environment.			
Hazardous Chemicals	An acute event where hazardous chemicals have the potential to be spilt and released to the environment causing adverse effects.			
Cultural Heritage	Damage or disturbance to archaeological/cultural artefacts including skeletal remains, shell middens or other artefacts.			
Flora and Fauna	Direct / indirect impact (stress-death) on an individual or species of flora/ fauna.			

Aspect	Impact	Consequence	Likelihood	Risk Rating
Waste Management	Degradation of aesthetic values due to ineffective waste management. Build-up of chemical and organic waste.			
Office Resources	Depletion of resources as a result of construction and office operations			

Figure 19 *Environmental Aspects and Impacts Register*

		Likelihood				
		Almost certain	Likely	Possible	Unlikely	Rare
Consequence	A. Extraordinary	1	2	4	7	11
	B. Major	3	5	8	12	16
	C. Moderate	6	9	13	17	20
	D. Minor	10	14	18	21	23
	E. Insignificant	15	19	22	24	25

Figure 20 *Consequence and Likelihood Matrix*

6.3 EIA Environmental Management Measures

Actions	Person responsible	Timing / frequency	Document Source & Compliance record
Flora and Fauna			
• All tree protection works shall be carried out before excavation, grading and site works commence • The tree protection measures are to be maintained in good and serviceable condition throughout the construction period	Site Manager	Prior to Commencement During Construction	**EIS** Appendix AJ
Bushfire			
N/A			
Non Aboriginal Heritage			
• The proposed upgrade works will be in accordance with the recommendations of the Heritage Impact Assessment prepared by Purcell, dated 30 March 2021 (Appendix J), i.e. "The Military Road Conservation Area, in the vicinity of the site, should be recorded by means of photographic archive prior to the commencement of works	Project Manager	Prior to Commencement	**EIS** section 8. and Appendix J B23 -Heritage Archival Recording Report by Purcell
Aboriginal Heritage			
• All contractors undertaking earthworks on site should be briefed on the protection of Aboriginal heritage objects under the National Parks and	Project Manager Site Manager	Prior to Demolition	**EIS** section 8. Appendix K and Appendix L

Wildlife Act 1974 and the penalties for damage to these items. • All contractors undertaking earthworks in the study area should undergo an induction on identifying Aboriginal heritage objects;	Contractor		**CEMP** Section 7.6
Visual and Aesthetics			
NA			
Traffic and Access			
• A detailed Construction Traffic and Pedestrian Management Plan will be required to be prepared as a condition of consent. This is to address cumulative impacts of other on-site and nearby developments and account for their truck movements.	Project Manager	Prior to Commencement	**EIS** section 8. and Appendix AG **CEMP** Appendix 3 - CTMP
Social and Economic			
• Communication strategy to be developed to inform staff, students, parents and carers of the construction process, and provide regular updates. • Preparation and implementation of a Construction Management Plan (CMP) to minimise disruptions to educational quality. • Complaints register managed by the novated constructor and School Infrastructure NSW during construction. • Preparation of a Construction Management Plan (CMP) to ensure an efficient and effective construction process that appropriately utilises workers and enhances the local economy. • Ensure appropriate school facilities are available for P&C and other school organisations use during the construction phase. • Promote community liaison officers through frequent and regular project newsletter updates for the school and local community during construction. • Development of safety management plan for staff to use and promote to students during the construction and operation. • Construction Management Plan (CMP) to be developed that ensures the school remains accessible and safe for staff and students during the construction phase.	Project Manager	During Construction	**EIS** Appendix O
Cumulative Impact			
• During Construction liaison with adjacent developments (if any) will be undertaken to mitigate the cumulative effect of the concurrent works.	Project Manager	During Construction as required	**EIS** section 6.23 **CEMP** Appendix 3 - CTMP

6.4 Environmental Controls Map

An Environmental Controls Map has been prepared for the Project to include key information from the sub-plans and other sources. A copy of the plan can be found in appendix 8. The plan will be displayed on site notice boards, and include:

» The worksite layout and boundary
» Location of the nearest noise sensitive receivers
» Sediment and erosion control measures
» Noise barriers
» Site offices
» Construction traffic routes within and adjacent to the worksite
» Dust control measures
» Monitoring equipment (e.g. dust and noise monitors)
» Location of environmentally sensitive areas (e.g. conservation areas, protected trees)
» Location of heritage (indigenous and non-indigenous) items (e.g. artefacts, registered sites)
» Location of spill containment and clean-up equipment
» Location of hazardous substance storage
» Stormwater drainage and watercourses
» Location of worksite waste management facilities
» Demolition works.

6.5 Hazardous Materials Risk Management

Should unexpected contamination or aesthetically unacceptable material be encountered during the demolition, excavation or the remediation activities, works will stop in the affected part of the site. This area will be isolated to minimise potential for disturbance to the affected soils. The sub-contractors on-site, Multiplex and SINSW will be notified of the unexpected find and a suitably qualified environmental consultant engaged to attend site to assess the find.

6.5.1 Unexpected Finds Procedure

Should an unexpected actual or suspected contamination be encountered during the remediation or site redevelopment works, the following procedure will apply:

1. Stop work in the potentially hazardous area as soon as it is safe to do so and move to the upwind side of the area, or away from the area.
2. Assess the potential immediate risk to human health posed by the unexpected find and assess if evacuation or emergency services need to be contacted.
3. Delineate an exclusion zone around the affected area using fencing and/or appropriate barriers and signage. Additional control measures may be required for odours and/or volatile compounds.
4. Contact the appointed environmental consultant for advice and request a site visit to undertake an assessment of the unexpected find.
5. The environmental consultant will assess the unexpected find and provide advice regarding:
    a. Preliminary assessment of the contamination and need for immediate management controls;
    b. What further assessment and/or remediation works are required and how such works are to be undertaken in accordance with contaminated site regulations and guidelines;

c. Preparation of an addendum to the remediation action plan (if necessary) or provide clean up advice;
d. Remediation works required (where applicable);
e. Validation works required following remediation works (if applicable).

6. Works are not to recommence in the affected area until appropriate advice has been obtained from the environmental consultant.
7. If it is deemed safe to do so, works may resume in the affected area.

6.6 Archaeological, Aboriginal and Heritage Materials Risk Management

6.6.1 Historical Archaeological Protection Measures

Austral Archaeology has advised that the proposed footprint of new building G will impact zones of potentially high archaeological significance. A detailed archaeological investigation will be undertaken in main works following the demolition of the existing building B and prior to any excavation works commencing in these areas. A number of test trenches will be excavated under the supervision of the excavation director to determine if any significant archaeological fabric remains. No excavation works will be permitted to take place until the area is cleared and approval given by the Excavation Director.

If unexpected historical archaeological or aboriginal relics are found during the works, all works in the immediate vicinity are to cease immediately to prevent any further impacts to the object(s). A suitably qualified archaeologist and the registered Aboriginal representatives must be contacted to determine the significance of the objects. The site is to be registered in the Aboriginal Heritage Information Management System (AHIMS) which is managed by Heritage NSW under Department of Premier and Cabinet and the management outcome for the site included in the information provided to AHIMS. The Applicant must consult with the Aboriginal community representatives, the archaeologists and Heritage NSW to develop and implement management strategies for all objects/sites. Works shall only recommence with the written approval of Heritage NSW.

7. Training and Competency

7.1 Training and Competencies

Multiplex is committed to achieving and maintaining high standards in training and development.

Multiplex will implement systems in accordance with Procedure BU AUS IMS P DIV 110 – *Training and Competency* – to ensure employees have the required skills and training to competently perform required tasks. Multiplex will maintain a training program that identifies:

» The training required to meet statutory and legislative obligations

» The training required for each role or position to meet the required competencies

» A schedule of required refresher training.

Training programs will remain current and be reviewed at least annually or:

» When new or unforeseen workplace requirements are identified

» Following significant changes to the division's business operation

» Following a significant incident

» Following changes in legislation

» Following feedback from employees.

Multiplex will review the training programs to ensure that the training has been effective.

7.2 Induction Training

The Project has developed induction programmes for Project personnel. The project induction outlines key environmental issues. All personnel directly or indirectly working on the Project, including sub-contractors, are required to complete the induction prior to starting work, and will be provided with identification to show they have been inducted. The environmental induction will be periodically reviewed for adequacy.

The project induction includes the following environmental aspects:

» Key issues relating to the project and existing environment, such as ecological and heritage conservation areas

» Relevant environmental requirements, relevant conditions of planning approvals and environmental licences, and the obligations of all staff in relation to compliance with approvals and licences

» Environmental policy

» Site specific issues, such as:

- Waste management and minimisation
- Washing, refuelling and maintenance of vehicles, plant and equipment
- Efficient use of plant, equipment and materials
- Minimising potential environmental impacts including noise, air and water quality
- Site-specific erosion and sedimentation controls, and use of spill kits to contain spills
- Environmental emergency plans, and incident reporting procedures for environmental harm/incidents.

7.3 Tool Box Meetings

Where deemed necessary toolbox meetings are used to highlight specific environmental and community issues relevant to site personnel. Toolbox meetings will be held as required.

A signoff sheet is completed by all personnel in attendance at toolbox meetings to acknowledge understanding of the information provided.

8. Traffic Management

Traffic management on the project will be done in accordance with a Construction Traffic Management Plan. Multiplex will engage an authorised traffic control and management consultant to provide the aforementioned plan and Multiplex will work in accordance with that plan. A copy of the plan can be found in appendix 3.

8.1 Driver Code of Conduct

A driver code of conduct has been prepared in accordance with the conditions of consent and the Construction Traffic Management Plan. The driver code of conduct can be found in the attachment 6 of the CTMP.

9. External Lighting

Any external lighting during construction will be installed in compliance with AS 4282-2019 Control of the obtrusive effects of outdoor lighting.

10. Incident and Emergency Management

10.1 Incident Management

Multiplex maintains a uniform system for the management and investigation of incidents which is outlined in Procedure BU AUS IMS P DIV 100 – *Incident Management*.

All incidents and near misses will be investigated by competent personnel, reported and recorded in the electronic database and conducted in line with the requirements set out in the internal investigation proforma and procedures. All incident investigations will identify the root causes of the incident so that appropriate remedial and preventative control measures can be identified and implemented.

Where required and where possible, incidents will be reported to EPA.

Corrective actions resulting from incident investigations will be prioritised and carried out in accordance with defined priorities. The corrective action will be evaluated for its effectiveness and whether the initially identified deficiency has been corrected and prevented from recurring.

10.2 Emergency Management

Emergency situations are to be managed through Procedure BU AUS IMS P DIV 100 – *Incident Management and include*:

» An Emergency Management Plan details a single set of emergency contacts and procedures, consistent with the Project activities that can be scaled as appropriate for any incident or emergency

» A Site Evacuation Diagram identifies the locations of emergency assembly points, fire exits, first aid kits and associated equipment, directional flow of pedestrian traffic and firefighting equipment

» A Crisis Management Plan which provides guidance, details, responsibilities and lines of communication for effective emergency management.

Relevant details of the Emergency Management Plan will be provided to all personnel during the site induction, and information posted on notice boards.

11. Inspections, Testing and Monitoring

11.1 Environmental Site Inspections

To ensure compliance with both regulatory requirements environmental inspections detailed in the table below will be implemented in accordance with Procedure BU AUS IMS P DIV 070 – *Inspection Testing and Monitoring*.

The outcomes and status of inspection activities will be recorded in inspection reports and issued to the persons delegated with responsibility for rectifying the impact. The onsite WHS&E Coordinator will be responsible for tracking actions resulting from all inspections.

Type of Inspection	Inspection By	Frequency	Record
General	All Supervisors	Daily	Visual
Environmental Impacts	Environmental graduate	Fortnightly and after a shower / rain event.	Environmental Site Inspection
Environmental Impacts	WHS&E Manager / Coordinator	Monthly	Environmental Site Inspection Report
Other	Project Team / Subcontractors	As per Environmental sub-plans	As per Environmental sub-plans

Figure 21 *EMS Inspection Programme*

11.2 Environmental Site Testing and Monitoring

To ensure compliance with regulatory, testing and monitoring requirements, all monitoring and testing will be conducted in accordance with the environmental sub-plans outlined in section 13 and Procedure BU AUS IMS P DIV 070 – *Inspection Testing and Monitoring*.

12. Audits and Non-Conformances

12.1 Audits

An EMS auditing programme outlined below will be established and implemented to assess compliance, identify trends, drive continual improvement and provide assurance that management processes are being effectively implemented and that performance objectives are being met.

Audit procedures including the scope, frequency and methodology to be used as well as the responsibilities and requirements for conducting audits and reporting results will be in accordance with Procedure BU AUS IMS P DIV 120 – *Internal / External Auditing*.

Type of Audit	Audit By	Frequency	Purpose	Record
Internal EMS audit	WHS&E Manager / Coordinator	3 monthly	To confirm compliance against the MPX EMS.	Audit Report
External surveillance audits	External certified organisation	As per schedule	To confirm compliance of the MPX EMS and AS/NZS 14001.	Audit Report

Figure 22 *EMS Audit Programme*

Audit results will be recorded and an action plan developed identifying the observations and corrective action required against each of the findings in the audit report. Details of any non-conformance reports will be issued in accordance with Procedure BU AUS IMS P DIV 080 – *Control of Non Conformances*.

A follow-up audit will be carried out, as deemed necessary by the auditor, in order to verify and record the implementation and effectiveness of the corrective action taken. Implementation and effectiveness of the corrective actions will be verified and recorded during follow-up. Audits will be closed out in a timely manner.

12.2 Non-Conformances, Corrective and Preventative Action

Deficiencies identified during audits, site inspections or observations of day-to-day operations will be generally recorded on the audit report or inspection report/checklist and actioned.

When non-compliance is identified, Multiplex will document the issue on the Non-Conformance Report in accordance with Procedure BU AUS IMS P DIV 080 – *Control of Non Conformances* – on Aconex identifying the non-conformance and corrective actions. Where appropriate, the recipient and/or Multiplex will also develop measures to prevent recurrence of the non-conformance. The instigator will carry out a follow up review and closeout of the Non-Conformance Report to verify completion of measures taken to rectify and to prevent recurrence of the Non-Conformance within the specified time frame.

13. Document and Records Management

13.1 Document Control

Multiplex's system of document management and record keeping is detailed at Procedure BU AUS IMS P DIV 050 – *Document and Records Management*. The EMS documentation is maintained in electronic format on Multiplex Operating System and describes and provides direction to the core documents that make up the system. The documentation consists of the following:

» Policy statements which summarise and detail Multiplex high level commitment to the implementation of the EMS

» Management System Operating Procedures to effectively and efficiently manage projects from feasibility and planning phase's right through to the design and construct phases of a project

» Supporting materials including Forms, Guides (as outlined in **Appendix 2**) and Management Plans provide the tools to ensure conformance with operational procedures.

Project documentation will be controlled in accordance with the Procedure BU AUS IMS P DIV 050 – *Document and Records Management* – which defines the controls to ensure that:

» The documentation is periodically reviewed, revised as necessary and approved for adequacy prior to issue

» The documentation is current, readily identifiable and available at all points of use

» The staff are immediately notified of any changes in the documentation such as, the development or receipt of new documentation and any amendments to the current documentation

» The documentation of external origin is registered and regularly reviewed for currency

» The obsolete documents are appropriately identified and archived.

13.2 Record Control

The Project will maintain records in Aconex (web-based document control system), Multiplex Share Drive and other applications as defined in the table below to demonstrate conformance to specified requirements and to ensure the effectiveness of the operation of the EMS. Pertinent EMS records from subcontractors will be an element of this data.

Record	MPX OP System	Aconex	Share Drive	CHEMALERT	SMARTEK
MPX Management Plans	☐	☒	☐	☐	☐
Subcontractor EMP	☐	☒	☐	☐	☐
Subcontractor EWMS	☐	☒	☐	☐	☐
Permits	☐	☐	☒	☐	☐
Incident and Investigation Reports	☐	☐	☐	☐	☐
Inspection and Test Reports	☐	☒	☒	☐	☐
Audit Reports	☐	☒	☐	☐	☐
Safety Data Sheets	☐	☐	☐	☒	☐
Meeting Minutes	☐	☒	☐	☐	☐
Toolbox Meetings	☐	☐	☒	☐	☐
Environmental Risk Workshops	☒	☐	☐	☐	☐
Induction Records	☐	☐	☐	☐	☒
Training Records	☒	☐	☐	☐	☐
Reports	☐	☒	☒	☐	☐
Monitoring Records	☐	☒	☒	☐	☐
Environmental Complaints	☒	☐	☐	☐	☐

Figure 23 *Records Management*

14. Reporting

The Project will establish and maintain a uniform system of record keeping to enable accurate reporting of EMS matters in accordance with Procedure BU AUS IMS P DIV 130 – *Reporting*. Reporting on environmental matters will include those outlined in the table below.

Type of Report	Report By	Frequency	Recipient/s
Monthly PCG Report	Project Manager/Site Manager	Monthly	Client, Client's Representative and Regional Director.
Environmental Incident Notification Report	Project Manager/Site Manager	As required	Directors, WHS&E Manager/Coordinator and DEC where required.
Environmental Incident Investigation Report	Project Manager/Site Manager or others nominated by Project Manager /Site Manager	As required	Directors, WHS&E Manage/Coordinator and DEC where required.
Environmental Internal Audit Report	Project Manager / Site Manager / Environmental Manager	As required	Project Team and WHS&E Manager/Coordinator
External Surveillance Audit	External Auditor	As required	WHS&E Manager/Coordinator, Systems Manager, Directors, Project Manager
Other	As per environmental sub-plan	As per environmental sub-plan	As per environmental sub-plan

Figure 24 *EMS Reporting Programme*

15. Environmental Management Sub Plans

15.1 Construction Noise and Vibration Management Sub-Plan

15.1.1 Objectives and Targets

Objective	Target	Key Performance Indicator
To ensure any works causing noise or vibration do not effect nearby structures or residents.	No complaints from the community regarding noise or vibration.	No. of complaints from residents / businesses related to noise.
Compliance with State and Local requirements as required.	Compliance with the Environmental Protection (Noise) Regulations 1997 - Section 6 of AS 2436-2010 (Standards Australia, 1981). Compliance with 10mm/s vibration limit or as otherwise specified.	Results from environmental inspections Noise and vibration monitoring records

15.1.2 Management Strategies

Parameter	Action	Timing	Responsibility
Construction Work	All construction work to take place during the hours as determined by either the Client or Environmental Protection (Noise) Regulations 1997, (i.e. 7:00am-7:00pm) and not on Sundays and Public Holidays (except for dust control operations which may be undertaken on Sundays).	Construction	All Subcontractors
Plant and Equipment	Plant and equipment noise control equipment to be maintained in accordance with manufacturer's specification to reduce noise levels.	Construction	All Subcontractors
Plant and Equipment Noise Control	All mobile machinery and stationary equipment to be fitted with noise control equipment as per the manufacturer's specifications.	Construction	All Subcontractors
Noise Monitoring	Noise monitoring to be undertaken if required by the Client and Council conditions or if complaints are received due to unreasonable levels of noise in a noise sensitive area. These levels are to be assessed against levels set in the Environmental Protection (Noise Control) Regulations 2017. Where applicable a Noise Management Plan will be prepared by an appropriately qualified external consultant and attached to this EMP for works outside the hours of 7am – 7pm, Monday to Saturday. This plan is to be approved by the Local Council. As an alternative, consideration is to be given to undertaking works at more suitable times to the complainant.	Establishment / Construction	MPX / Subcontractor
Vibration Monitoring	During operation, if equipment is likely to cause excessive vibration, sensitive structures or areas to be monitored for vibration levels. An appropriately qualified external consultant will develop a Vibration Management Plan which will be attached to this EMP. Vibration levels monitored at sensitive premises are not to exceed 10mm/s (as per German Standard DIN 4150-03 – *Structural Vibration Part 3 – Effects of Vibration on Structures)* or as otherwise specified in the Vibration Management Plan. Regardless of the criteria above, constant observation of vibration levels and any effects on adjoining structures to be monitored closely during construction, as this may alter vibration monitoring trigger levels. Dilapidation studies to be undertaken of surrounding structures and building prior to any construction.	Establishment / Construction	MPX / Subcontractor

Parameter	Action	Timing	Responsibility
Noise / Vibration – Control Measures	If noise and / or vibration complaints are received, the following techniques should be considered to reduce impact to adjoining owners: Undertake works outside of adjoining building operating hours / peak hours as per the approved Noise Management Plan Isolate work activity using noise barriers Ring saw instead of hammering column / beams Use smaller machinery or quieter alternative Use static rolling where possible.	Construction	MPX / Subcontractor
Communication and Notification	A contact list to be prepared to enable nearby residents and owners to be notified regarding works that may impact them as a result of noise and vibration. This will be managed in accordance with the Communication Management Plan and approved Noise Management Plan (where applicable).	Establishment / Construction	MPX
Complaints	Where a complaint is received regarding noise and vibration, the complaint will be investigated and where appropriate, additional control measures will be taken to address the nature of the complaint	Demolition/Civil/ Construction	MPX

15.1.3 Monitoring and Reporting

Type of Monitoring / Reporting	Timing	Responsibility	Record
Vibration monitoring if required by Client, local authority and in response to complaints	At commencement and during excessive vibration	MPX	Vibration monitoring records
Noise monitoring if required by Client, local authority and in response to complaints	At commencement and during excessive Noise	MPX	Noise monitoring records
Integrity of noise control equipment (if deemed applicable)	During construction	MPX / All Subcontractors	Environmental Site Inspection
Number of noise and/or vibration complaints	As required	MPX	Complaints Register

15.2 Dust and Air Quality Management Sub-Plan

15.2.1 Objectives and Targets

Objective	Target	Key Performance Indicator
Ensure that dust or odour emissions do not adversely affect the health or visual amenity of surrounding communities.	No complaints from adjoining owners in relation to dust emissions from the works.	No. of public complaints from the public related to dust.
Compliance with State and Local regulatory requirements in relation to dust management.	No visual evidence of deposited dust or suspended particulate matter. Compliance with National Environment Protection Measures (NEPM) standards (where required) and DEC standards during construction.	Visual monitoring of dust movement during environmental inspections. Dust monitoring results (where required).

15.2.2 Management Strategies

Parameter	Action	Timing	Responsibility
Stabilised Driveways	A stabilised driveway is to be installed to minimise the tracking of dirt on public roadways.	Establishment	MPX
Dust Control Method – Physical Barriers	A physical barrier can be erected perpendicular to prevailing winds prior to the commencement of works along the boundary or around uncontrolled dust sources. Fences can be standard hoarding panels / fence or a fence with a screening material with a porosity of 50% or less.	Establishment	All Subcontractors
Dust Control Method – Chemical Stabilisation	Where an exposed area or stockpile is located away from traffic and needs to sit for up to 3 months or where an area needs immediate stabilisation, a chemical soil stabiliser can be used such as Zerosion or the area hydromulched (seed free).	Construction	Bulk Earthworks / Civil / MPX
External Roads	If any sediment is deposited onto the roads adjoining the site, the roads are to be swept regularly and including prior to any rainfall. No hosing is to be undertaken external to the site.	Construction	MPX
Haul roads	Haul roads to be covered with gravel / road base to minimise dust production or at best concrete to be regularly swept.	Construction	MPX
Speed limits	The speed of all vehicles on-site to be restricted to 10 km/hr. This speed to be further reduced if large amounts of dust are still being generated.	Construction	All Subcontractors
Windy Conditions	Dust generating activities to be assessed during periods of excessively windy conditions (>40km/h). Where dust cannot be adequately controlled work is to be ceased and rescheduled to a time when adequate control of dust generation can be achieved.	Construction	All Subcontractors
Water Carts/ Sprays	Water carts or sprinklers are to be used for specific process activities that may cause dust, and can be used to assist in the dust control on access tracks. Consideration should be given to water efficiency and the possible use of a dust control method above.	Construction	Excavation / Demolition Subcontractor
Housekeeping	During construction the site to be kept clean to reduce dust lift off during windy days.	Construction	All Subcontractors
Plant and Equipment Maintenance	All construction plant and equipment with access to the site to be properly maintained and serviced in accordance with the manufacturer's specification. During the works maintenance logs are to be maintained and available during inspections and audits.	Construction	All Subcontractors
Exhaust Fumes	Operating machinery and vehicles to be visually checked to ensure exhaust fumes are not discharged into adjoining buildings air intakes.	Construction	All Subcontractors

Parameter	Action	Timing	Responsibility
Truck Transportation	Trucks transporting materials such as sand, soil, landscape materials and gravel to have loads covered and tailgates secured.	Construction	All Subcontractors
Paint-Spraying	Paint-spraying activities not be undertaken in adverse weather conditions or near building air intakes.	Construction	All Subcontractors
Exposed Areas	Measures including watering down exposed areas and access will be undertaken to reduce dust generation.	Construction	All Subcontractors
Hazmat	Any Hazmat discovered on the project to be left undisturbed and subsequently managed in accordance with the WHS Management Plan. Asbestos or other containment material found in ground will require assessment in accordance with State requirements. Additionally, air monitors will be utilised when handling asbestos impacted soils. Refer to WHS Handbook Rev 3. » Asbestos » Lead Dust/Paint	Construction	All Subcontractors
Sweeping	Where applicable, sealed roads to be swept to remove deposited material that could generate dust.	Demolition , Excavation and Construction	All Subcontractors
Complaints	Where a complaint is received regarding dust, the complaint will be investigated and where appropriate, additional dust control measures taken to address the nature of the complaint	Construction	MPX

15.2.3 Monitoring and Reporting

Type of Monitoring / Reporting	Timing	Responsibility	Record
Inspect dust control measures, to ensure they are in place and implemented.	Fortnightly	MPX	Environmental Site Inspection
Visually inspect emissions from plant to ensure they are not contributing to ill health effects.	Fortnightly	MPX	Environmental Site Inspection
Dust monitoring in response to community complaints or in accordance with regulatory requirements.	As required	MPX	Dust monitoring records

15.3 Water Quality Management Sub-Plan

15.3.1 Objectives and Targets

Objective	Target	Key Performance Indicator
Avoid the release of contaminants to waterways or drainage systems.	All water discharged complies with minimum water quality criteria.	Water quality records conforming to minimum water quality criteria (where applicable). No breaches of management strategies in applicable Management Plans. Results from environmental inspections.
Ensure that groundwater quality or height is not significantly affected by the construction.	No significant change in groundwater levels and quality during dewatering activities (if applicable).	Groundwater quality reports.

15.3.2 Management Strategies

Parameter	Action	Timing	Responsibility
Dewatering for construction purposes	Water to be discharged from sediment basins or similar must be tested and, if required, treated to ensure that it meets water quality criteria and that pollution of the receiving waters does not occur; Results of testing and details of any treatment undertaken must be documented i.e. MPX water Discharge Permit, photographic evidence (photograph of the PH strip and Turbidity tube) » Turbidity: <50 NTU » Suspended solids: <50 mg/L (Nata tested) » pH: 6.5-8.5 » Oil and Grease (visual only) The discharge must be monitored throughout to ensure that the water being pumped; » complies with the discharge criteria » Does not come into contact with any soil or exposed surfaces before discharging does not mix with any sediment laden/untested water at either the inlet or outlet. » Water must never be discharged or reused onsite in a manner that exceeds the capacity of sediment controls and/or generates runoff with the potential to discharge from site.	Establishment	MPX / Excavation Subcontractor
Abstraction of groundwater for construction purposes	A Licence to Take Water is to be obtained from Department of Water before abstraction of groundwater can commence for use in dust suppression and other construction activities. A Dewatering Management Plan may be required to be prepared by an appropriately qualified external consultant and attached to this EMP. A groundwater abstraction licence is to be obtained for all projects before dewatering can commence. Exemption from a dewatering licence is only available if: » Abstraction is from the water table aquifer » Abstraction is solely for the purpose of removing groundwater to facilitate construction » Abstraction pump rate does not exceed 10L/sec over a period of 30 consecutive days The volume of water taken over the 30 days period does not exceed 25,000kL.	Establishment	MPX / Excavation Subcontractor
Acid Sulfate Soil	All excavation with potential to expose Acid Sulfate Soils (ASS) to be determined prior to commencement and an ASS Management Plan is to be prepared to be prepared by an appropriately qualified external consultant and attached to this EMP.	Establishment / Construction	MPX / Excavation Subcontractor

Parameter	Action	Timing	Responsibility
Trade Waste	Installation of a 3 x 1m3 settlement system for wet-trade washout to be completed	Establishment	Hydraulic Subcontractor
Tool box meeting	All construction personnel undertaking discharge of water to on-site or off-site areas to undergo a tool box meeting to ensure the correct controls are in place.	Establishment	MPX / Subcontractor
Static Concrete Pumping	A designated washout area and purpose built bunded structure to be provided for concrete pumps and their attachments.	Establishment	Concrete Subcontractor
Mobile Concrete Pumping	An impervious catch tray to be placed below the pump's hopper to contain any possible spillage or droppings. Concrete washout to be undertaken in designated concrete washout area.	Construction	Concrete Subcontractor
Concrete Truck Washout	Concrete trucks are not allowed to wash out on site.	Construction	Concrete Subcontractor
Spills	All spills on site of hazardous chemicals to be cleaned up immediately to minimise pollution of stormwater/groundwater. If water contaminated by hazardous chemicals requires discharge it will need to be sampled and analysed before release to ensure it meets ANZECC water quality criteria for Aquatic Ecosystems. If contaminated, it will need to be removed and treated by an appropriately licence waste contractor.	Construction	MPX / Subcontractor
Chemical Storage	Paint, form oil, solvents and fuels to be stored correctly and bunded in accordance with Chemical Management Sub-plan.	Construction	All Subcontractors
Paint Washout	The painting subcontractor is required to wash out into purpose built tanks that are to be removed by the painting contractor through a licensed liquid waste facility with an arrangement to attain verifiable proof of disposal.	Construction	Painting Subcontractor

15.3.3 Monitoring and Reporting

Type of Monitoring / Reporting	Timing	Responsibility	Record
Dewatering process and water quality results	Daily (while dewatering) or as specified in the management plan	Supervisor / Onsite WHS&E Coordinator	Environmental site inspection Water Discharge permit
Monitor abstraction of ground water to ensure compliance with licence	Weekly or as per licence requirements	Supervisor / Onsite WHS&E Coordinator	Environmental site inspection Abstraction records
Trade waste and washouts	Weekly	Supervisor / Onsite WHS&E Coordinator	Environmental site inspection

15.4 Erosion and Sediment Control Management Sub-Plan

15.4.1 Objectives and Targets

Objective	Target	Key Performance Indicator
Prevent clay, silt or sand from entering stormwater drains and waterways.	All disturbed stormwater to pass through primary erosion and sediment controls listed below.	Environmental Inspection records of no uncontrolled release of disturbed stormwater to drains and waterways.

15.4.2 Management Strategies

Parameter	Action	Timing	Responsibility
Erosion and Sediment Control Plan	For sites with a soil disturbance less than 2,500m^2 and with slopes <10%, an Erosion and Sediment Control Plan is to be prepared in accordance with MPX minimum requirements. For sites with a soil disturbance greater than 2,500m^2 or on a site with a slope of >10%, an Erosion and Sediment Control Plan is to be prepared by a Certified Practitioner in erosion and sediment control. The plan is to be attached as an Appendix to the Construction Environmental Management Plan.	Establishment	Multiplex
Minimum Requirements for sites <2500m2 and less <10% slopes	» Evaluate site limitations: - Isolate retained vegetation from clearing with tape - Identify highly erodible soils with advice from geotech - Identify up-slope drainage catchments to be diverted around works - Identify work areas to allow for erosion and sediment controls. » Stabilise all site entry / exit points in accordance with MPX minimum requirements. Inspect all vehicles for residual mud and remove before leaving the site. Street sweeping (never hosing down) is to be carried out to reduce sediment on roads. » Install sediment fence(s) down-slope of the site. Treat sediment laden water with the use of sediment fencing installed in accordance with MPX minimum requirements to allow ponding. » The runoff from any slope catchment area exceeding 1,500m^2 is to be diverted around works. The diversion drain is to be appropriately lined to prevent erosion and discharged to lawful stormwater connection outlet. » Clear only those areas necessary for building works to occur. » Strip and stockpile any weed-free topsoil to be reused in re-vegetation works. Ensure the top soil stockpile is long and low to maintain aeration and microbiological properties and ensure it is stabilised to prevent erosion. » All stockpiles are to be located away from drainage areas and surrounded with sediment fence or covered with a product that will prevent erosion if in an area where it has the potential to enter the stormwater system. All stockpiles stored for longer than 2 weeks are to be covered to prevent erosion. » Prevent erosion by mulching areas that have achieved final levels but are not ready for landscape works immediately. For completed areas ensure appropriate top soil is available and establish grass cover within 10 days. » Commence building activities. » Ensure all runoff from concreted and roof areas is immediately connected to the stormwater. » Regularly inspect all drainage, erosion and sediment controls and maintain. » Progressively re-vegetate / stabilise the site.	Establishment / Construction / Completion	Multiplex

Parameter	Action	Timing	Responsibility
	» Remove any remaining temporary drainage, erosion and sediment control measures upon complete stabilisation of the site.		

15.4.3 Monitoring and Reporting

Type of Monitoring / Reporting	Timing	Responsibility	Record
Inspect erosion and sediment controls are effective and maintained	Fortnightly or after a shower / rain event.	Multiplex/Subcontractor	» Environmental Site Inspection » Erosion and Sediment Control Plan

15.5 Chemicals Management Sub-Plan

15.5.1 Objectives and Targets

Objective	Target	Key Performance Indicator
Avoid contamination of soil and water from chemicals.	No release of chemicals/pollutants as listed under the Environmental Protection (Unauthorised Discharges) Regulations 2004, into the environment during construction.	No instances of uncontrolled spills.

15.5.2 Management Strategies

Parameter	Action	Timing	Responsibility
Hazardous Chemicals	Safety data sheets which outline the procedures for handling, storage and emergency response for all hazardous chemicals stored or used on the Project, to be available in the first aid facility.	Establishment	MPX
Spill Kits	Spill kits are to be established at locations adjacent to where chemical spills have the potential to occur. The spill kits are to be maintained and readily available in the event of a spill.	Establishment	MPX / All Subcontractors
Toolbox Talks	Toolbox talks will be undertaken in the use of spill kits and the steps taken in the event a spill.	Construction	MPX / All subcontractors
Tank and Mobile Tankers	Tank and mobile tankers to be fitted with a screw fitting or overflow protection connected to prevent leaks.	Construction	All subcontractors
Bunds	Bunds capable of storing 110% of the largest container volume to be installed around areas where chemicals are stored. The bund is to be impervious, chemically resistant and fire resistant. Further, the bund is to be protected from weather to avoid the potential of rain reducing the bund capacity. Must be compliant with AS 1940 -2017- The Storage and handling of flammable and combustible liquid	Construction	All subcontractors
Labelling of Chemicals	All chemicals and dangerous goods used on site to be appropriately labelled.	Construction	All subcontractors
Fuel Tankers	Fuel tankers to be equipped with an appropriate device to prevent overfilling. An emergency shut off valve is also to be installed.	Construction	All subcontractors
Handling of Chemicals	Handling of chemicals is to take place in a designated area where there is no potential for spills or contaminated run-off that could to reach stormwater. Fuel stored on vehicles is to be stored in a spill tray or other approved container capable of handling a spill.	Construction	All subcontractors
Fuelling of Vehicles or Construction Plant	Refuelling is to take place in designated areas or where contaminated run-off could reach the stormwater. Fuel tankers will use a spill tray beneath the refuelling connection to prevent spills on ground.	Construction	All subcontractors
Fluid Leaks	Trucks that leak any sort of mechanical fluid will not be permitted on or adjacent to the site.	Construction	All subcontractors
Oil Contaminated Stormwater	Oil contaminated water is to be disposed of through a licensed waste facility by a licensed subcontractor.	Construction	All subcontractors
Minor Spills (<100L)	In the event of a spill, the spill kit is to be utilised and the cleaned up material taken to a licensed facility as trackable waste and reported.	Construction	All subcontractors

Parameter	Action	Timing	Responsibility
Major Spills (>100L)	In the event of a major spill, the procedures contained in the Emergency Management Plan are to be implemented and reported.	Construction	All subcontractors
Volume of Fuel and Chemicals	Volumes of fuels and chemicals kept on site are to include only those volumes necessary to complete the works within a reasonable delivery schedule.	Construction	All subcontractors
Solvent Based Paints	Containers of solvent based paints are to be disposed of at an appropriate recycling depot by the subcontractor and a verifiable receipt or docket retained on file by the subcontractor and produced upon request to Site Management.	Construction	All subcontractors

15.5.3 Monitoring and Reporting

Type of Monitoring / Reporting	Timing	Responsibility	Record
Check all bunds are the appropriate size and they are functioning.	Fortnightly	Subcontractors / MPX	Environmental site inspection
Check all chemicals are labelled, stored in a container in good condition and in a bunded area.	Fortnightly	Subcontractors / MPX	Environmental site inspection
Check equipment is free from leaks.	Fortnightly	Subcontractors / MPX	Environmental site inspection
Check the spill kit is available and adequately stocked.	Fortnightly	Subcontractors / MPX	Environmental site inspection

15.6 Land Contamination Management Sub-Plan

15.6.1 Objectives and Targets

Objective	Target	Key Performance Indicator
To manage contamination in accordance with regulatory requirements.	No spread of contaminants onsite	No Environmental Notices issued to MPX. Waste disposal receipts (where applicable)

15.6.2 Management Strategies

Parameter	Action	Timing	Responsibility
Induction	During inductions all personnel are to be made aware of individual responsibilities in regards to contamination management.	Establishment	All subcontractors
Contamination Investigation	Where a site is to have known contamination, and has not been remediated, a qualified environmental consultant/professional is to be engaged to determine whether a Contaminated Site Investigation is required. Where required, a Contaminated Site Investigation is to be carried out in accordance with State and Local Government requirements.	Establishment	MPX
Management of Contamination	Where contamination is found and requires additional management measures to that found in this EMP, a Remedial Action Plan is to be developed and attached to this EMP as an Appendix.	Establishment	MPX
Contaminated Water	Where contaminated water is proposed to be discharged a full site contamination analysis is to be undertaken on the water prior to works commencing and prior to discharge. Where water is found to be contaminant free in accordance with the ANZECC Water Quality Guidelines, water is to be discharged in accordance with the Water Quality Management Sub Plan. Where water is found to contain contaminates above the criteria in the ANZECC Water Quality Guidelines, water management is be undertaken with advice from a qualified environmental consultant/professional.	Establishment	MPX / Excavation Subcontractor
Acid Sulfate Soils (ASS)	Where a project is in a known ASS risk area and involves excavation, dewatering, or compacting saturated soils or sediments then an ASS Investigation is required. The ASS Investigation and further management are to be undertaken with State and Local Government requirements. Any ASS Management Plan to be prepared by a qualified environmental consultant/professional and is required to be attached to this EMP as an Appendix.	Establishment	MPX / Excavation Subcontractor

Parameter	Action	Timing	Responsibility
Commissioning and decommissioning and removal of UPSS	SAFEWORK NSW Requirements SafeWork NSW is responsible for the WHS issues relating to decommissioning and removal of tanks from a site. The following SafeWork NSW requirements must be met during decommissioning: the tank and contents made safe in line with Code of Practice: Storage and handling of dangerous goods & AS 1940: 2017 The storage and handling of flammable and combustible liquids SafeWork NSW to be notified of the abandonment within seven days, so the tank can be removed from their database. SafeWork licensed demolition contractors are authorised to carry out decommissioning, abandonment or removal of UPSS that have contained flammable or combustible liquids. Contractors with a restricted demolition licence are not authorised to do demolition of chemical installations unless they have made an application for an upgraded restricted demolition licence that authorises demolition of chemical installations PCBU's should ask for written confirmation that the work will be completed by a SafeWork NSW licensed demolition contractor who is not restricted for demolition of chemical installations. Installation/Commissioning of storage tanks; The tank must be installed and commissioned in line with POEO- UPSS Regs 2014 & AS 4897 The design, installation and operation of UPSS .	Excavation	Excavation Contractor /Demolition Contractor
Excavated Materials	All excavated materials removed from the site is to be removed in accordance with the approved plan for the management of contamination and disposed of at a facility licensed to take that level of contamination.	Excavation	Excavation Subcontractor
Waste Transport Certificate	A Waste Transport Certificate for all contaminated material is required from the responsible contractor.	Excavation	Excavation Subcontractor
Unexpected Contamination	If unexpected contaminants are identified, all associated activities are to be ceased and a reassessment of the area/contaminants undertaken by a qualified environmental consultant/professional. Contamination is to be managed as per State and Local Government requirements. Refer to WHS Handbook Rev 3 – Flow Chart Unexpected Find Protocol	Excavation	MPX / Subcontractor

15.6.3 Monitoring and Reporting

Type of Monitoring / Reporting	Timing	Responsibility	Record
Contamination Assessment	Commencement	MPX	Site contamination report / Acid Sulfate Soil Report
Management of Contaminated Material	Construction	MPX	Environmental site inspection Water quality records Remediation Report

15.7 Waste Minimisation and Management Sub Plan

15.7.1 Objectives and Targets

Objective	Target	Key Performance Indicator
Solid and liquid waste to be disposed of as per Regulatory requirements.	All waste to be disposed of by a licensed waste contractor	Onsite waste disposal facilities confirmed and documented.
MPX aim to maximise landfill diversion.	Recycle 80% of demolition and construction waste.	Waste reporting by waste contractors.
No waste to affect nearby premises.	No complaints related to construction waste affecting nearby premises during construction.	No. of complaints relating to waste.

15.7.2 Management Strategies

Parameter	Action	Timing	Responsibility
Induction	During inductions all personnel are to be made aware of individual responsibilities in regards to waste management, including the understanding that all personal rubbish and construction rubbish generated is to be properly disposed of in designated disposal facilities.	Establishment	All subcontractors
Waste Reduction	Design in waste minimisation during the design phases by standard sizing of materials, the use of modular and prefabricated construction techniques. Stockpile clean fill during the excavation phase by for use as backfill on-site Provide sub-contractors during the construction phase with clear guidance for reducing packaging on their own materials by both their suppliers and subcontractors, by accurate ordering and handling of materials. Specify reusable, stackable and returnable packaging.	Establishment / Construction	MPX, Consultants and Subcontractors
Waste Management Plan	Demolition and excavation subcontractors will be required to develop a Waste Management Plan for their Scope of Work detailing the type of waste generated, waste avoidance / reduction / reuse / recycling strategies.	Establishment	Demolition and Excavation Subcontractors
Waste disposal Storage area	Appropriate waste disposal facilities (e.g. bins) shall be provided in strategic locations onsite. Waste bins shall be located such that they do not affect the community and not close to surrounding premises. Separation of waste for recycling will be enforced and monitored.	Establishment / Construction	MPX
	Waste disposal facilities shall be regularly collected or emptied by a licensed waste collector in accordance with Local Council Health Laws.	Construction	MPX
	Where possible a storage area allocated for the separation, collection and recycling of wastes will be established.	Establishment	MPX
Waste contractors	Licensed contractors shall be engaged to remove construction waste. A minimum target of 80% landfill waste diversion will be achieved.	Establishment	MPX
Putrescibles waste (Organic waste)	All putrescibles waste to be placed in a lidded bin and removed separately.	Establishment	MPX
Recycling / waste reduction	Recycling initiatives will be investigated and where practicable implemented onsite. This may include dedicated bins for different waste streams and use of alternative products.	Establishment / Construction	MPX / All subcontractors

Parameter	Action	Timing	Responsibility
Site office	The site office shall implement the following office waste minimisation techniques: » Organising recycling paper bins in the office for waste paper » Recycle toner cartridges pick-ups » Using electronic storage to reduce use of paper » Purchasing products in bulk to reduce packaging	Establishment	MPX
Hazardous waste	Hazardous waste will be managed and disposed of as per the Safety Data Sheet requirements and Environmental Protection (Controlled Waste) Regulations 2004.	Construction	MPX / All subcontractors
Servicing	Where practicable plant will be serviced offsite to reduce the generation of hydrocarbon waste onsite and potential for spills.	Construction	All Subcontractors

15.7.3 Monitoring and Reporting

Type of Monitoring / Reporting	Timing	Responsibility	Record
Percentage of diversion from landfill	Monthly	MPX	Monthly Waste Report
Segregated waste and appropriate waste placement	Weekly	MPX	Environmental Site Inspection

15.7.4 Demolition and Excavation Phase Waste Management Plan

MATERIALS ONSITE	REUSE AND RECYCLING		DISPOSAL
ONSITE		OFF-SITE	
Type of Materials	**Specify methods**	**Specify contractor and recycling outlet**	**Disposal**
DEMOLITION			
Masonry, brick & tile	General waste bin	Transfer for reprocess or recycle - Demolition subcontractor	Divert from Landfill
Timber	General waste bin	Transfer for reprocess or recycle - Demolition subcontractor	Divert from Landfill
Metal	General waste bin / dedicated steel scrap bin	Transfer for reprocess or recycle - Demolition subcontractor	Divert from Landfill
Mixed waste	General waste bin	Transfer for reprocess or recycle - Demolition subcontractor	80% Recycling
Asbestos	As per standards	Transfer & disposal at hazardous landfill - Demolition subcontractor	Hazardous Landfill
Bitumen	General waste bin	Transfer for reprocess or recycle - Demolition subcontractor	Divert from Landfill
The demolition contractor prior to commencement shall develop a Waste Management Plan for the Project. Material shall be separated on site and removed in separate trucks for recycling, re-use and landfill.			
EXCAVATION			
Clean Fill	Assess, excavate & stockpile	Transport & fill	Nil
Any hazardous waste will be isolated and managed as per the legislation for hazardous waste. 100% of the clean excavation material will be diverted from landfill.			

15.7.5 Construction Phase Waste Management Plan

MATERIALS ONSITE	REUSE AND RECYCLING		DISPOSAL
ONSITE		OFF-SITE	
Type of Materials	**Specify methods**	**Specify contractor and recycling outlet**	**Disposal**
Concrete	General waste bin.	Transfer for reprocess or recycle - Waste contractor	Divert from Landfill
Masonry, Brick& Tile	General waste bin	Transfer for reprocess or recycle - Waste contractor	Divert from Landfill
Timber	General waste bin	Transfer for reprocess or recycle - Waste contractor	Divert from Landfill
Metal	General waste bin	Transfer for reprocess or recycle - Waste contractor	Divert from Landfill
Plasterboard	Separate in designated bin	Transfer for reprocess or recycle - Waste contractor & plasterboard recycler	Divert from Landfill
Cardboard	Separate in designated bin	Transfer for reprocess or recycle - Contractor to be confirmed	Divert from Landfill
Mixed waste	General waste bin	Transfer for reprocess or recycle - Waste contractor	80% Recycling
Paper	Separate in designated bin	Transfer for reprocess or recycle - Waste contractor	Divert from Landfill
Packaging	Separate in designated bin	Transfer for reprocess or recycle - Waste contractor	Divert from Landfill
Waste will be minimised through reduction of waste generated, reuse of products and recycling. The waste stream will be separated where possible to maximise landfill diversion. Subcontractors will be responsible for recycling and reuse of their waste material.			

15.8 Heritage Management Sub-Plan

15.8.1 Objectives and Targets

Objective	Target	Key Performance Indicator
Comply with the requirements of the Aboriginal Heritage Act 1972.	Protection of all sites of Aboriginal Heritage significance, both known and as yet unknown.	Immediate reporting of archaeological remains if discovered. Level of disturbance to significance sites recorded.
Minimise impacts on unknown Cultural and Aboriginal Heritage sites.	As above.	As above.

15.8.2 Management Strategies

Parameter	Action	Timing	Responsibility
Induction	Aboriginal Heritage protection related material will be included in workforce inductions.	Establishment	MPX / All subcontractors
General	Operations generating vibration and dust will be managed as per the relevant sections of this Plan.	Construction	MPX
Earthworks	Excavations are to be monitored as required by the ethnographic consultant.	Construction	The Client (as required, when applicable)
Object discovery	Objects found during excavation works will be salvaged and managed according to advice from archaeologists. Location and nature of objects will be reported to the local heritage office, local Department of Indigenous Affairs (DIA) etc.	Early Works	MPX
Skeletal remains	If suspected skeletal remains found – works will cease immediately until all clear is given by Police, DIA and archaeologists.	Construction	MPX
	Suspected skeletal remains will be immediately reported to Police Service, local DIA office. If remains are found to be of an Aboriginal Heritage matter and not a police matter, they will be left in situ until a decision is made at an on-site meeting about how to proceed in respect to the remains.	Construction	The Client

15.8.3 Monitoring and Reporting

Type of Monitoring / Reporting	Timing	Responsibility	Record
Report findings to Client and relevant authorities	As required	MPX	Environmental Incident Report
Presence of official monitors during earth works (as required)	As required	MPX	Environmental Incident Report Attendance Records

15.9 Flora and Fauna Management Sub-Plan

15.9.1 Objectives and Targets

Objective	Target	Key Performance Indicator
To reduce the impact of construction on native flora and fauna.	No damage / injury to preserved flora and fauna.	Weekly Environmental Inspection

15.9.2 Management Strategies

Parameter	Action	Timing	Responsibility
Induction	Undertake a site induction addressing the management of flora and fauna including: » No employee on the Project will intentionally injure native fauna including reptiles. » Construction personnel are not to handle fauna. » All rubbish and food scraps must be placed in lidded bins that will be serviced regularly. » Native fauna are not to be fed by project employees.	Establishment	MPX/ All subcontractors
Fencing and bunting	Fencing/bunting and signage is to be installed to protect vegetation identified for retention within the works area.	Establishment	MPX
Vegetation Clearing	A clearing permit must be obtained and approved from the relevant authority prior to any clearing works undertaken. Vegetation removal is to be minimised wherever possible by clearly defining designated work areas. Designated exclusion zones (i.e. retained vegetation) are to be made secure with fencing/bunting and signage.	Construction	MPX / clearing subcontractor
Arborist	All works carried out on either foliage or root systems will be carried out as per the Australian Standard 4970-2009 *Protection of Trees on Development Sites* and will be undertaken in consultation with a qualified Arborist.	Construction	MPX / Clearing subcontractor
Excavation	All trenches / excavations are to be inspected each morning by the excavation subcontractor. Where flora and fauna are discovered, personnel are to cease work in the subject area and notify the WHS&E Manager/Coordinator / MPX Supervisor / or appointed Catcher.	Construction	MPX / Excavation subcontractor
Unidentified Flora or Fauna	If any previously unidentified flora or fauna is discovered on-site, personnel are required to notify the Site Manager.	Construction	All subcontractors
Active Nests of Native Birds	Any trees or shrubs to be removed from the site are to be checked for the presence of active nests of native birds (i.e. those containing fertile eggs or nestlings) and arboreal mammals (e.g. possums) prior to removal or relocation by a Qualified Wildlife Spotter / Catcher.	Construction	All subcontractors
Rehabilitation	Monitor disturbed areas for weed invasion, and undertake control measures as necessary. Regularly water, weed and fertilise rehabilitated areas to ensure their success.	Construction	MPX / Landscape subcontractor

Parameter	Action	Timing	Responsibility
Weed Management	All declared weeds within the site are to be removed in accordance with the below procedures: » The use of pesticides and herbicides is to be restricted, have specific application, storage and clean up procedures, and meet requirements of relevant agencies. » Herbicides are to be administered by contractors licensed in accordance with the provisions of State Legislation. » Chemical products must always be used as per Safety Data Sheets. » Only qualified personnel should undertake chemical control of weeds. » Correct disposal of weeds is to be undertaken ensuring accidental spread of weeds does not occur. Weeds or material containing weed matter must be transported to a landfill under covered load. The cover must seal the top and sides of the load to prevent any weed material being transported by wind.	Construction	MPX / Landscape subcontractor

15.9.3 Monitoring and Reporting

Type of Monitoring / Reporting	Timing	Responsibility	Record
Protected tress	As per the DA	MPX	Environmental site inspection
Clearing Monitoring	Daily during clearing works	MPX / clearing subcontractor	Clearing permit
Rehabilitation Areas	As per the DA	MPX	Environmental site inspection

15.10 Site Office Environmental Management Sub-Plan

15.10.1 Objectives and Targets

Objective	Target	Key Performance Indicator
Maximise the efficient use of resources within the office environment.	Recycle 100% office paper	Monthly Recycling Reports
	Recycle 100% of materials where available	Monthly Recycling Reports

15.10.2 Management Strategies

Parameter	Action	Timing	Responsibility
Use of Resources	Recycle office paper and cardboard cans, bottles and printer cartridges.	Commencement to completion	MPX
Use of Energy	Turn off electrical equipment where practicable and use energy efficient products.	Establishment to completion	MPX
Use of Resources	Use office paper with recycled content.	Commencement to completion	MPX
Double Sided Printing	Use double sided printing on photocopiers where possible.	Commencement to completion	MPX

15.10.3 Monitoring and Reporting

Type of Monitoring / Reporting	Timing	Responsibility	Record
Percentage of diversion from landfill	Monthly	Waste Contractor	Monthly recycling report.

16. Appendices

16.1 Appendix 1: Environmental Policy

MULTIPLEX

HEALTH, SAFETY, ENVIRONMENTAL AND QUALITY POLICY STATEMENT

This Policy applies to all employees, contractors, and other people at workplaces managed by Multiplex.

OUR COMMITMENT

Multiplex and its senior management are committed to:

- Protecting the health, safety and wellbeing of everyone within our workplaces including employees, contractors, visitors, public, neighbours and the community.
- Ensuring that our activities place minimal impact on the environment including pollution.
- Delivering projects that add economic, social and environmental value to our clients, our community and those who invest in us.

OUR STRATEGIES

Multiplex works collaboratively with key stakeholders, including our clients, regulators, industry peers, suppliers and contractors, to exceed our legal, contractual and other compliance obligations through the following key strategies:

- Managing risks and opportunities through early intervention in planning and design.
- Monitoring constantly the changing landscape over the project lifecycle and develop rigorous controls in response.
- Creating an outlook and culture in which our commitments are front of mind and part of everyday business.
- Valuing the competency (skills, knowledge and experience) of all persons to perform and find better ways of doing the work.
- Providing employees and other stakeholders the opportunity and expectation to acquire the appropriate competency to enable them to carry out their work safely without risk to themselves, fellow workers and the public.
- Focusing on open conversations between our employees, our clients and the people we work with not just paperwork.
- Creating a culture that encourages the reporting of incidents and occurrences to enable knowledge sharing, learning and information to facilitate improvements in performance.
- Promoting strategies that are driven and embedded by senior management who encourage ownership and continuous improvement in behaviours, practices and outcomes by all persons.
- Aligning our behaviour to our values with an emphasis on teamwork and recognition for innovation and initiative.

John Flecker
CEO – Multiplex Australia & India
October 2019

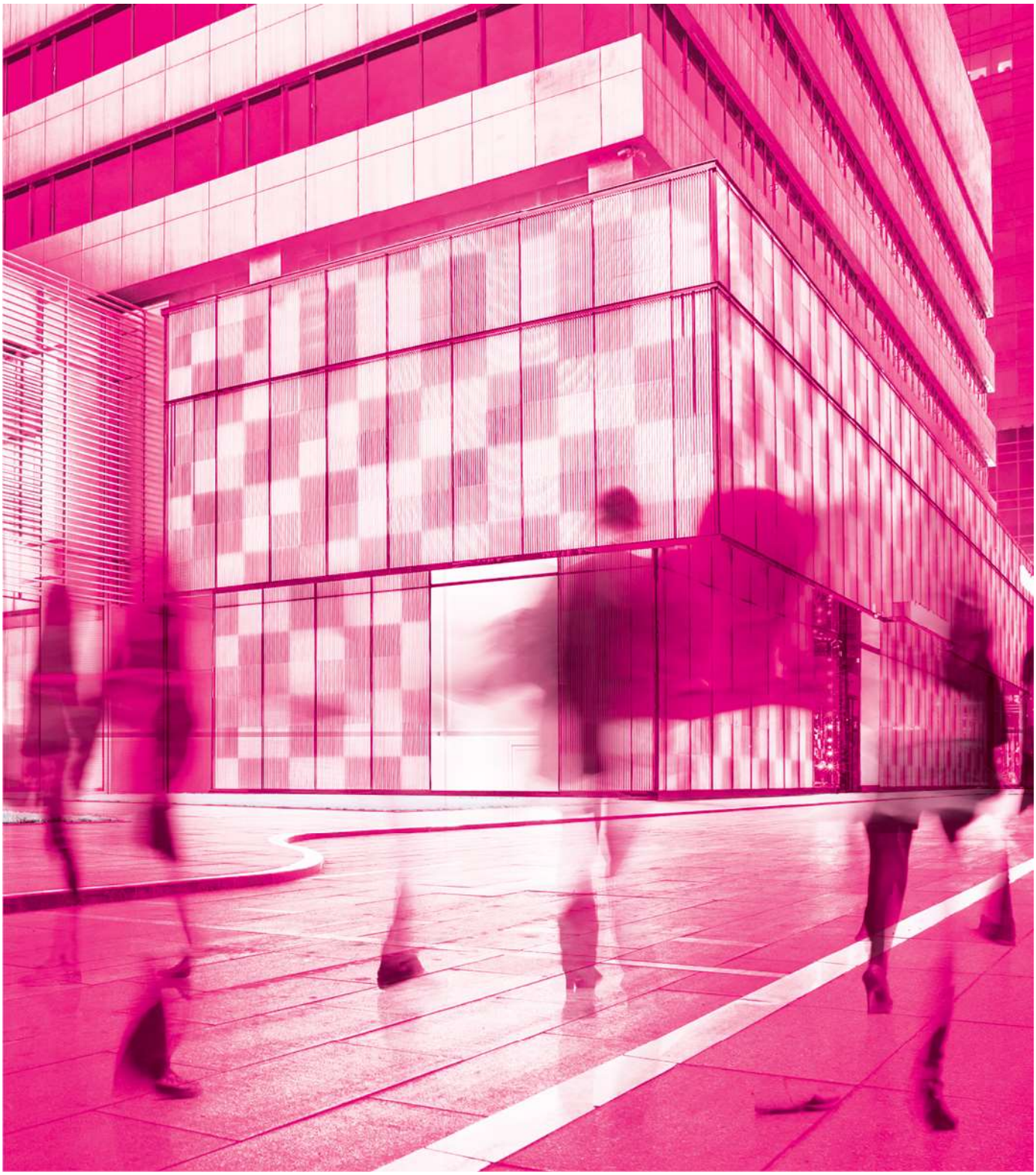
Built to outperform.

16.2 Appendix 2: EMS Forms and Guides

Category	Forms	Guides
Planning	» Environmental Subcontractor Documentation Status Chart	» Schedule of Environmental Legislation and Other Requirements NSW
Communication and Consultation		» Environmental Fact Sheets
Incident and Emergency Management	» Incident Investigation Report	
Induction and Training	» Induction Training Handout » Project Induction and Declaration	
Hazardous Chemicals **Wash Box**		» ChemAlert
Inspection and Monitoring	» Environmental Site Inspection	
Subcontractor Management	» Environmental Management Plan Review Checklist » Environmental Safe Work Method Statement Review Checklist	» Subcontractor Environmental Management Plan Template
Audits	» Environmental Internal Audit Checklist	

Note: Reference should be made to the Multiplex Operating System Document and Forms library to obtain the current versions of the documents above.

16.3 Appendix 3: Construction Traffic Management Plan



Construction Traffic Management Plan;

Mosman High School

For SINSW

3 December 2021

parking;
traffic;
civil design;
wayfinding;

ptc.

Document Control

Mosman High School, Construction Traffic Management Plan

Issue	Date	Issue Details	Author	Reviewed	For the attention of
1	03/09/2021	First Draft	AP	DB	Christina Travers-Jones
2	30/09/2021	Final	AP	DB	Christina Travers-Jones
3	14/10/2021	Final Rev 2	AP	DB	Christina Travers-Jones
4	01/12/2021	Final (Updated)	HL	KB	Christina Travers-Jones
5	02/12/2021	Final (Updated)	HL	KB	Christina Travers-Jones
6	03/12/2021	Final (Updated)	HL	KB	Christina Travers-Jones

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1. Introduction

1.1 Project description

School Infrastructure New South Wales (SINSW) is proposing an expansion of Mosman High School (MHS) which involves the uplift of the current capacity of 1,116 Year 7 – 12 students to 1,200 students by 2031. The increased capacity will be achieved through the construction of a new school building including associated core infrastructure, new outdoor play areas, roof top play areas and associated landscaping works.

Mosman High School is located at 745 Military Road, Mosman NSW 2088 (see Figure 1). The school lies within the Mosman Local Government Area (LGA) and is bounded by Belmont Road to the north, Military Road to the east, Avenue Road to the west and Gladstone Avenue to the west. There are several pedestrian access gates along each frontage and the existing car park access is located on Gladstone Avenue.

Figure 1 – Site location (Source: HERE WeGo Maps)

1.2 Purpose of this report

The Construction Traffic Management Plan (CTMP) addresses the construction activity associated with the construction of the development, including:

- Location of any proposed Work Zone, Site Boundary, and any site office, crane locations, material and waste storage area and other components as necessary;
- Haulage routes;
- Construction vehicle access arrangements;
- A heavy vehicle swept path assessment, demonstrating feasibility of any site access, in addition to haulage routes if required;
- Estimated construction hours;
- Estimated number of construction vehicle movements;
- Estimated construction program;
- Mitigation of any potential impacts to general traffic, cyclists, pedestrians and bus services within the vicinity of the site from construction vehicles during the construction of the proposed works;
- Development of a traffic management plan (TMP), outlining the construction access to the development and a description of likely traffic control measures required.

1.3 Structure of this Report

This report has been prepared to present the traffic and pedestrian management arrangements (including Traffic Guidance Schemes) associated with the redevelopment of the Mosman High School.

This report presents the following considerations in relation to the CTMP:

Section 2	Background;
Section 3	A description of the project;
Section 4	A description of the road network and transport facilities serving the development site;
Section 5	Management of construction vehicles and non-site traffic; and
Section 6	Summary

2. Background

Mosman high school is located within a SP2 Infrastructure Zone, as shown in Figure 2. Key features surrounding the site include:

- Mosman Public School situated to the north-west of MHS;
- A Local Centre (B2) Zone located along Military Road which comprises of a variety of local businesses, restaurants and cafes;
- A Public Recreation (RE1) Zone to the north-west comprising Mosman Park and Allan Border Oval; and
- The greater residential area of Mosman comprising of a mix of Low Density Residential (R2) and Medium Density Residential (R3) Zones.

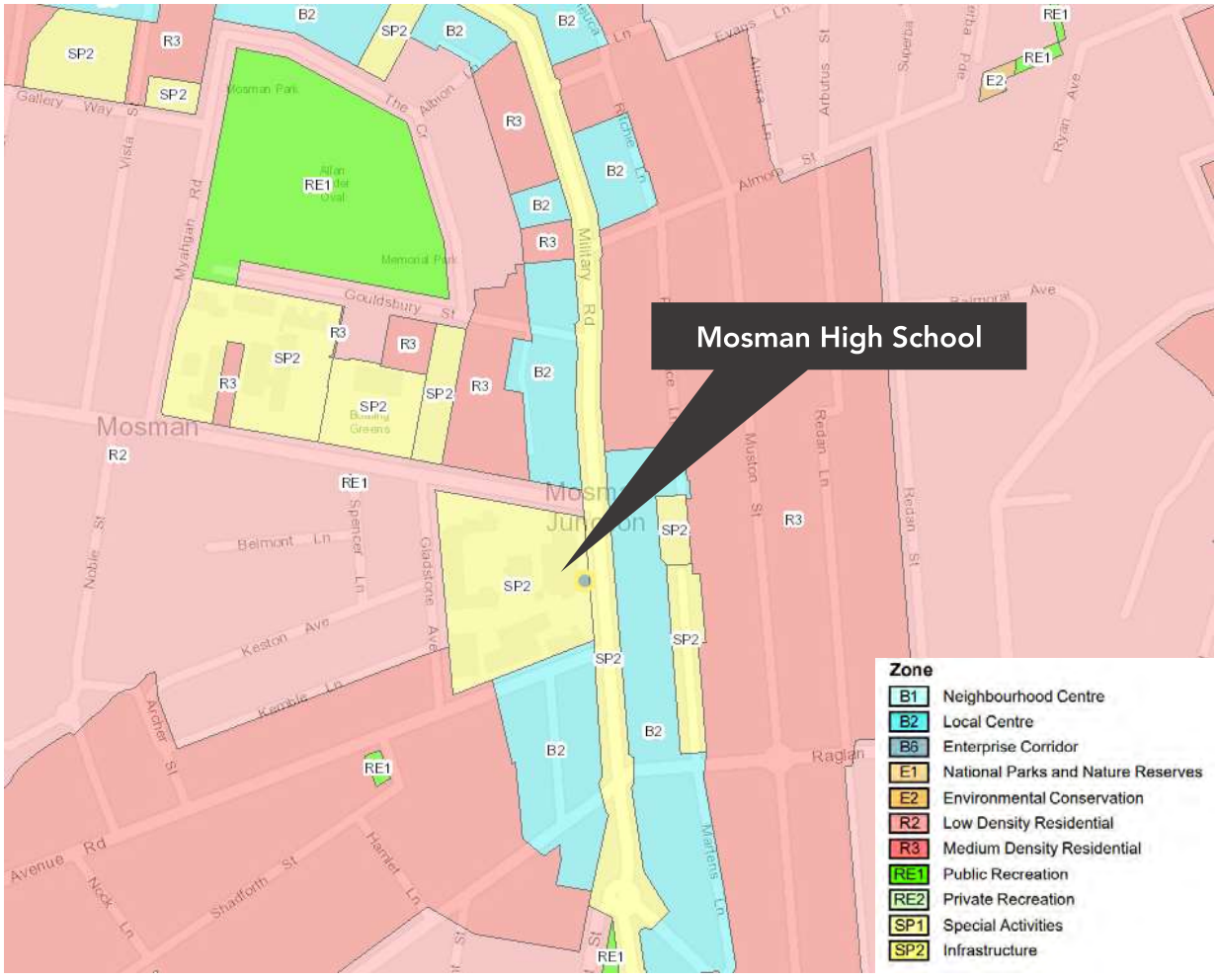


Figure 2 – Local land use map (Source: NSW Planning Viewer)

3. Development proposal

The development proposal for the Mosman High School involves the expansion of the School to accommodate an increased capacity of 84 students (from the current 1,116 student capacity to 1,200 students) by 2031.

It is also anticipated that the current catchment area for students will be more enforced in the future, meaning that students from outside the official area will not be accepted at MHS.

The following CTMP will cover the scope of the SSDA (Construction Stage 2 – Main Works), which includes:

- Demolition of Building B, Building C and part Building E;
- Removal of existing sports court and surrounding retaining walls and nominated trees;
- Construction of a new part 3/ part 4 storey building plus lift overrun and net enclosure to rooftop multi-court (Building G) on the corner of Military Road and Belmont Road providing:
    - administration and staff facilities;
    - multipurpose gym/hall;
    - library;
    - canteen facilities;
    - general and senior learning units;
    - science learning unit;
    - health / PE and performing arts unit; and
    - learning and admin support unit.
- Associated landscaping works including new outdoor play areas, a rooftop play space and rooftop multi-purpose court; and
- Relocation of the main pedestrian entrance from Military Road to Belmont Road.

The proposed site layout plan for the SSDA phase of MHS is illustrated in Figure 3.

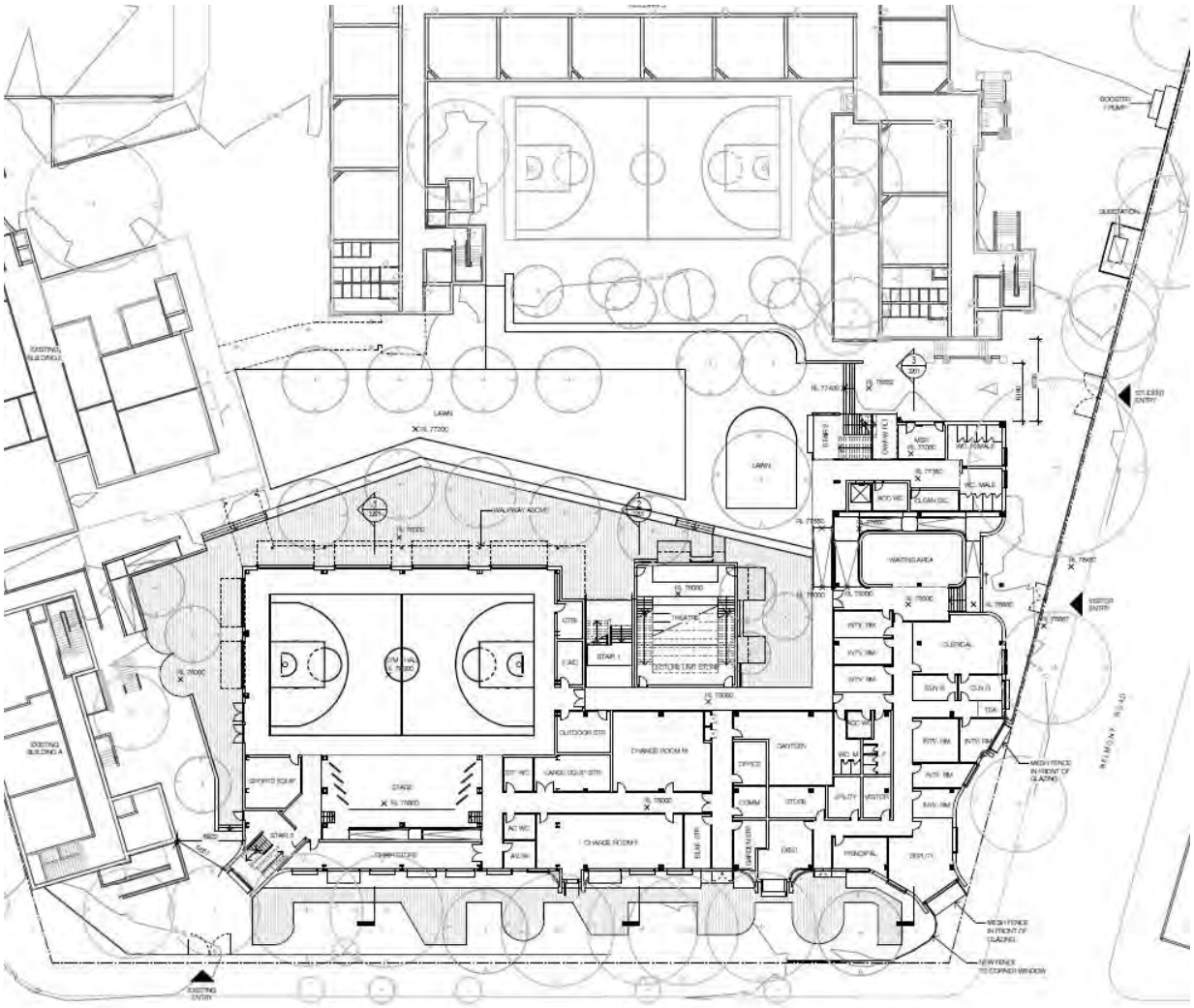


Figure 3 – Proposed SSDA site layout (Source: Multiplex)

4. Existing Transport Facilities

4.1 Road hierarchy

MHS is served primarily by Military Road on the eastern frontage which is a Regional Road between Spit Road and the Taronga Zoo Wharf, but transitions into a State Road at the intersection of Military Road/Spit Road. Military Road provides the main connection between Mosman and the Sydney CBD and the northern beaches. A network of Council-managed Local Roads provide access to the school and the greater suburb of Mosman. The surrounding road network is illustrated in Figure 4.

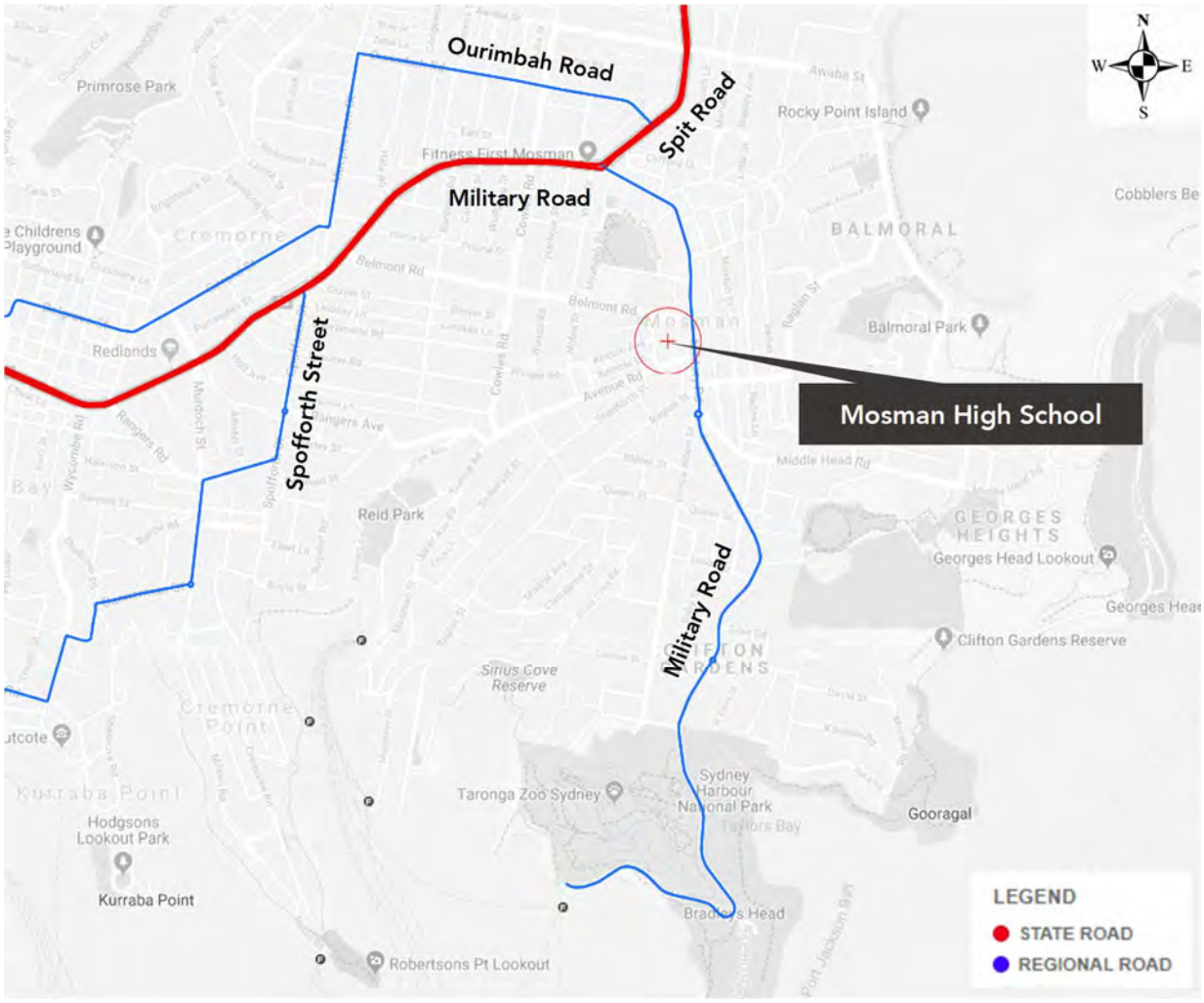


Figure 4 – Road Hierarchy (Source: TfNSW Road Hierarchy Review)

The NSW administrative road hierarchy comprises the following road classifications, which align with the generic road hierarchy as follows:

State Roads	- Freeways and Primary Arterials (TfNSW managed)
Regional Roads	- Secondary or Sub Arterials (Council managed, partly funded by the State)
Local Roads	- Collector and Local Access Roads (Council managed)

Military Road	
Road Classification	Regional Road (within vicinity of MHS); Military Road becomes a State Road at intersection of Spit Road/Military Road
Alignment	North - South (within the vicinity of MHS)
Number of Lanes	1 lane in each direction with parking lanes on either side of the carriageway
Carriageway Type	Undivided
Carriageway Width	13 metres
Speed Limit	50 km/h
School Zone	Yes
Parking Controls	Time-restricted parking on both sides of the carriageway
Forms Site Frontage	Yes

Figure 5 – Military Road (Southbound towards Raglan Street)

Belmont Road	
Road Classification	Local Road
Alignment	East - West
Number of Lanes	1 lane in each direction with parking lanes on either side of the carriageway
Carriageway Type	Undivided
Carriageway Width	12.5 metres
Speed Limit	50 km/h
School Zone	Yes
Parking Controls	Time-restricted parking on both sides of the carriageway
Forms Site Frontage	Yes

Figure 6 – Belmount Road (Westbound towards Gladstone Avenue)

Gladstone Avenue	
Road Classification	Local Road
Alignment	North - South
Number of Lanes	1 lane in each direction with parking lanes on either side of the carriageway
Carriageway Type	Undivided
Carriageway Width	12.5m
Speed Limit	50 km/h
School Zone	Yes
Parking Controls	'No Parking, 8:00am – 9:30am & 2:30pm-4:00pm School Days Only' and Bus Zone on the eastern side; unrestricted parking towards the northern end of Gladstone Avenue
Forms Site Frontage	Yes

Figure 7 – Gladstone Avenue (Northbound towards Belmont Road)

Avenue Road	
Road Classification	Local Road
Alignment	East - West
Number of Lanes	1 lane in each direction with parking lanes on either side of the carriageway
Carriageway Type	Undivided
Carriageway Width	12.5m
Speed Limit	50 km/h
School Zone	Yes
Parking Controls	Time-restricted parking on both sides of the carriageway
Forms Site Frontage	Yes

Figure 8 – Avenue Road (Eastbound towards Military Road)

4.2 Key intersections

The key intersections in the vicinity of the site and their characteristics are listed below and shown in Figure 9:

- Military Road / Belmont Road (East): signalised 3-arm intersection;
- Military Road / Belmont Road (West): signalised 3-arm intersection;
- Belmont Road / Gladstone Avenue: non-signalised T section intersection;
- Avenue Road / Gladstone Avenue: non-signalised T section intersection;
- Military Road / Avenue Road: non-signalised T section intersection;
- Military Road / Spit Road: signalised 3-arm intersection;
- Military Road / Middle Head Road / Bradleys Head Road / Prince Albert Street Roundabout Intersection.

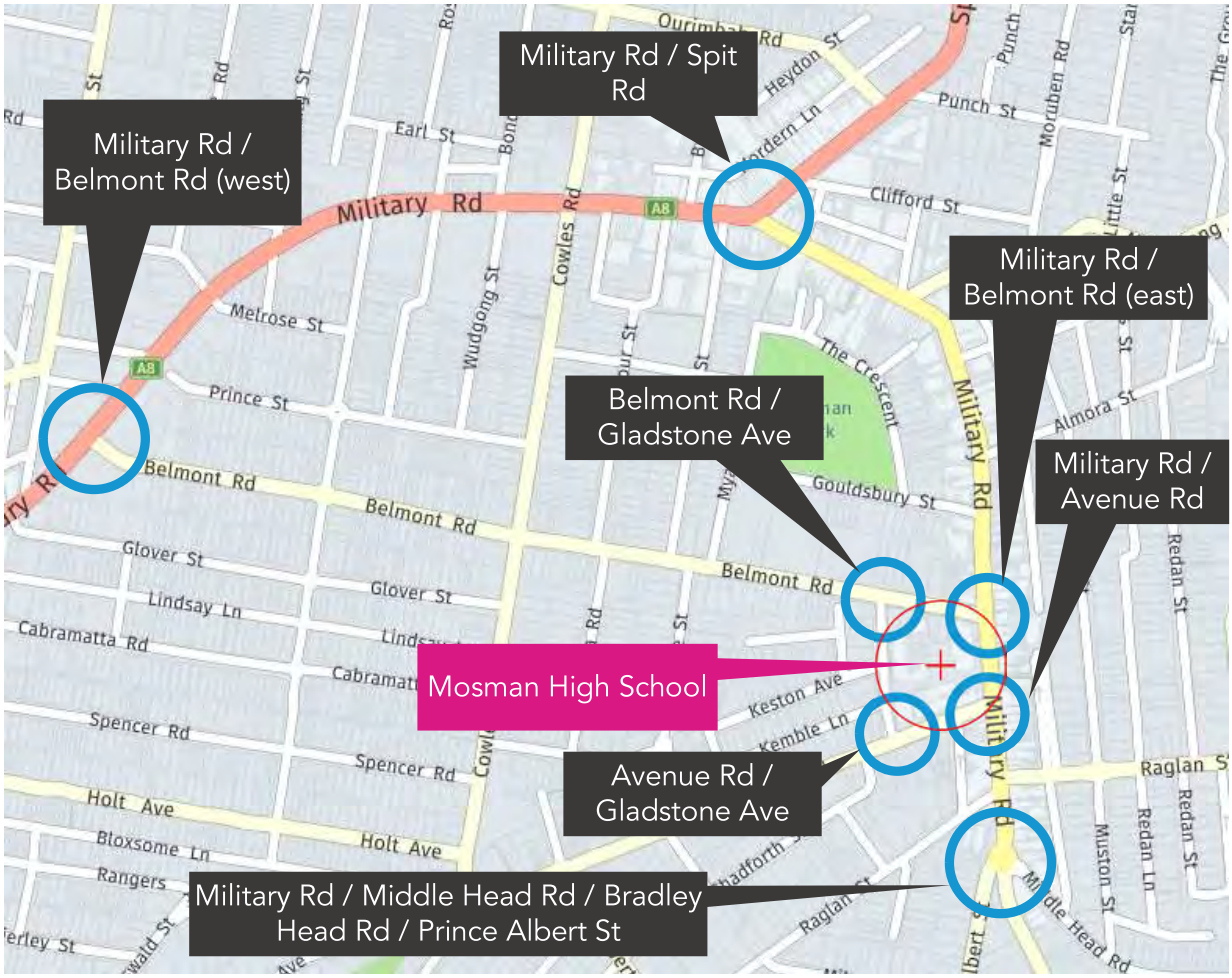


Figure 9 – Key Intersections

4.3 Public Transport

A review of the public transport network within the vicinity of MHS has been undertaken to determine accessibility via public transport modes.

Within the radius of 400m walking distance from the school, there are many local bus services operating along Military Road. They provide connectivity within the suburb of Mosman and to the Sydney CBD and the northern beaches.

The available public transport options such as buses and trains within comfortable walking distance are shown in Figure 10.

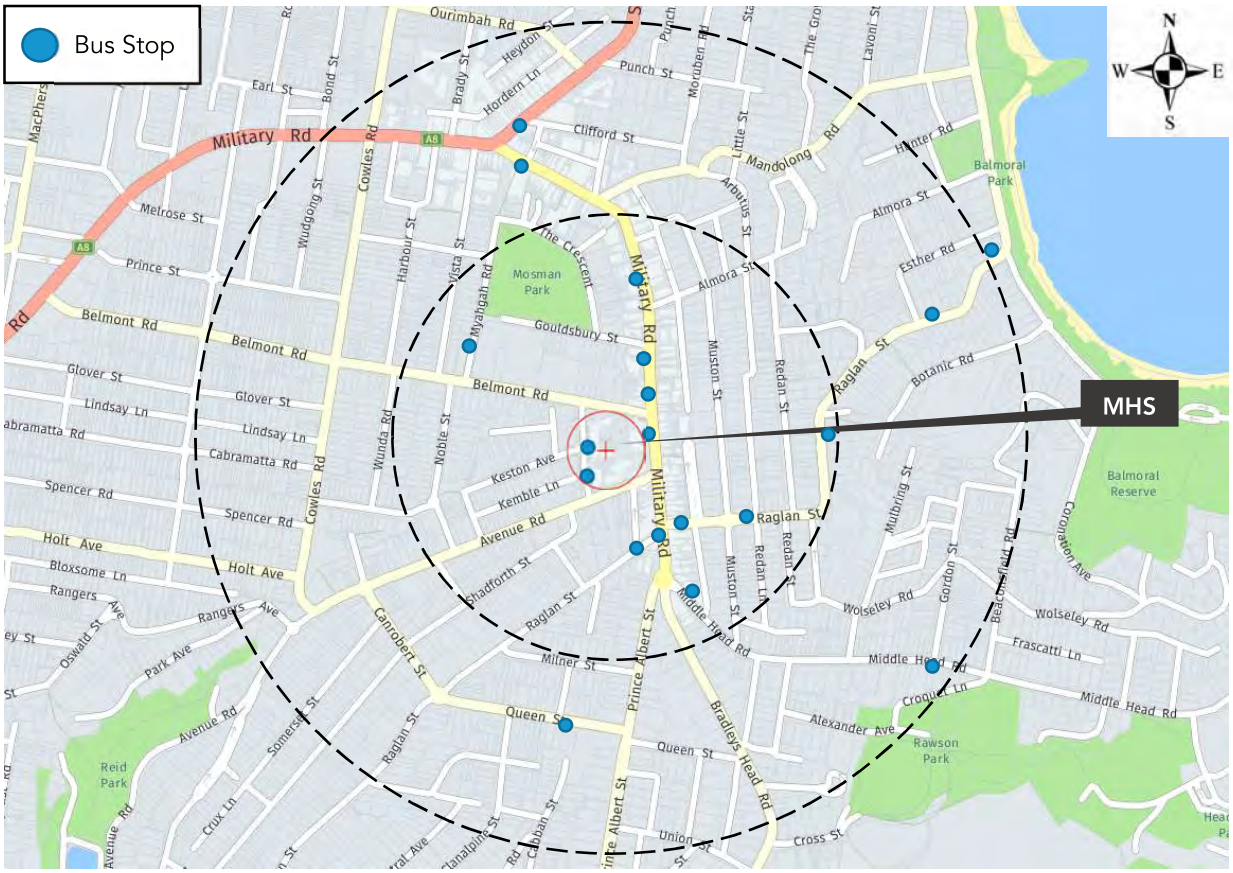


Figure 10 – Public Transport Accessibility Map

The review indicates that the public transport mode which is most easily accessible is via bus, with numerous services operating along Military Road providing connectivity to the Sydney CBD and the northern beaches. The closest public bus stop is located immediately adjacent to the school on Military Road.

4.3.1 STA Bus Services

The review indicates that the most easily available public transport mode is via bus, with numerous services operating along Military Road providing connectivity to the Sydney CBD and the northern beaches. The closest public bus stop is located immediately adjacent to the school on Military Road.

A map of the existing bus network is illustrated in Figure 11.

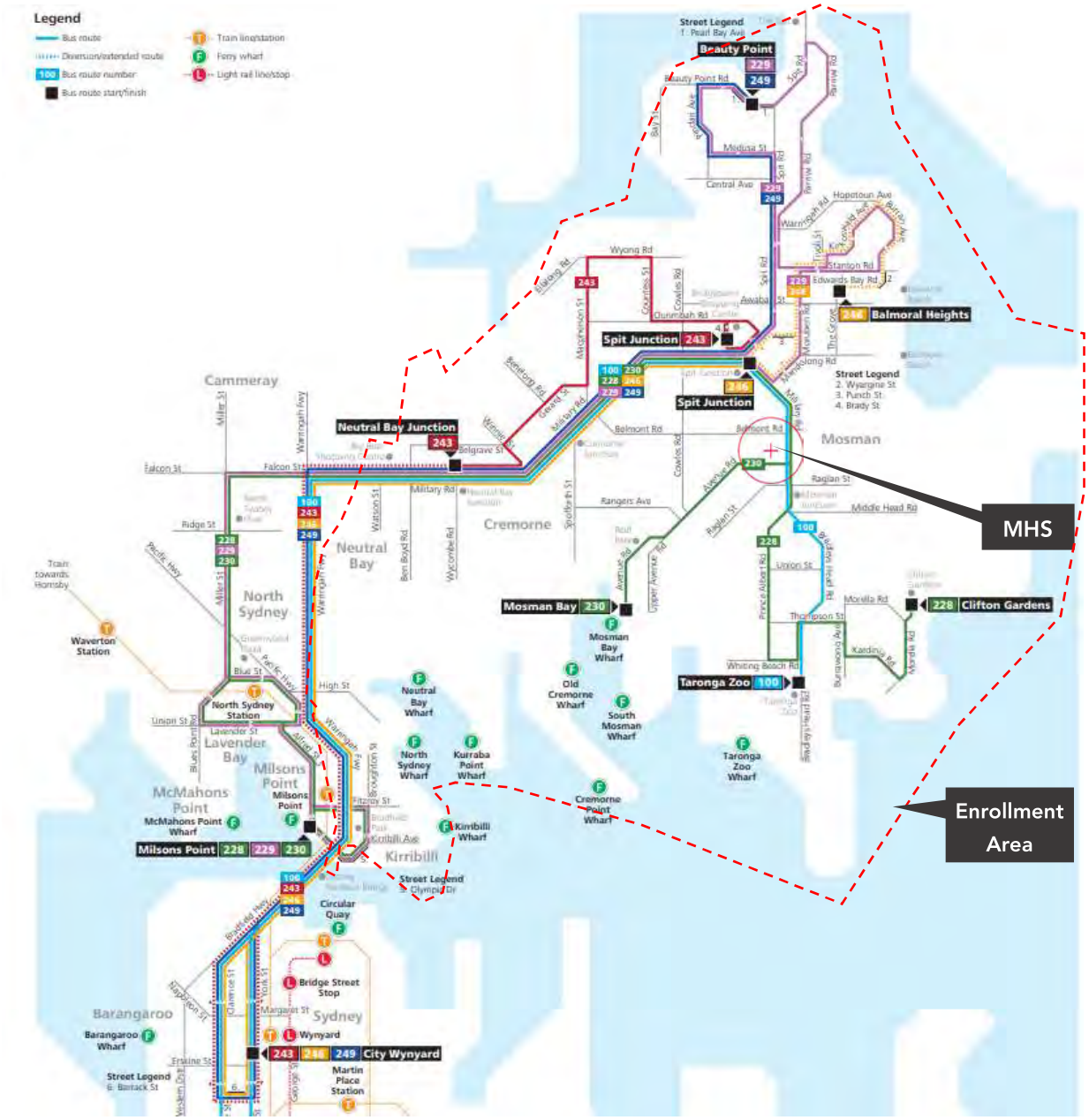


Figure 11 - Bus Network Map (Source: Transport for NSW, 2018)

A summary of the existing public bus frequencies and services operating from the bus stop adjacent to MHS offering the 1-seat trip is outlined in Table 1.

.

Table 1 - Summary of Public Bus Services

Route No.	Frequency (approximate)	Coverage	Bus Stop	Walking Distance to Bus Stop
114	Once a day	Balmoral to Royal North Shore Hospital	Stop ID: Gladstone Avenue near Mosman High, Mosman - 208867	25m
	Services every 2-30 min from 5:51am to 12:33am on weekdays	Royal North Shore Hospital to Balmoral	Stop ID: Mosman High School, Military Road - 208864	45m
		Balmoral to Royal North Shore Hospital	Stop ID: Military Road opposite Mosman High School - 208847	110m
230	Services every 2-30 min from 5:22am to 12:42am on weekdays	Mosman Wharf to Milsons Point via North Sydney	Stop ID: Mosman High School, Military Road - 208864	45m
		Milsons Point to Mosman Wharf via North Sydney	Stop ID: Avenue Road at Carney Lane - 2088162	60m
111	Once a day	Chowder Bay to South Mosman Wharf	Stop ID: Gladstone Avenue near Mosman High, Mosman - 208867	25m
	Services every 12-60 min from 5:22am to 8:27pm on weekdays	Chowder Bay to South Mosman Wharf	Stop ID: Military Road at Raglan Street - 208863	176m
		South Mosman Wharf to Chowder Bay	Stop ID: Military Road at Raglan Street -208863	176m
100	Services every 4-20 min from 5:06am to 12:54am on weekdays	Taronga Zoo to City QVB	Stop ID: Mosman High School, Military Road - 208864	45m
		City QVB to Taronga Zoo	Stop ID: Military Road opp Mosman High School -208848	110m
228	Limited to 5-7 services per day	Clifton Gardens to Milsons Point	Stop ID: Military Road at Raglan Street - 208863	45m
		Milsons Point to Clifton Gardens	Stop ID: Military Road near Belmont Rd (opposite Mosman High School – 208847)	110m

Based on the frequency of services and the number of routes operating within the vicinity of MHS, the school is considered to be well connected via bus.

4.3.2 Ferry Services

It is noted that ferry services also operate in the locality with the nearest ferry wharf being the Mosman Bay Wharf. The wharf is located approximately 1.6km walking distance from MHS. Although this is outside of the comfortable walking catchment of 800m, it is anticipated that some staff may utilise this as a method of

travel to and from the school, particularly in combination with a bicycle, or bus services connecting the wharf and the school.

Table 2 - Ferry Services

Route No.	Frequency (approximate)	Coverage
F6	Services every 30 min during weekdays and every 1 hour during weekends and public holidays	Circular Quay to Mosman Bay

4.4 Active Transport

The vicinity of the School has been assessed for the potential for attractive walking and cycling opportunities for students and staff. When defining accessibility, the NSW Planning Guidelines for Walking and Cycling (2004) suggests that a 400m – 800m catchment represents a comfortable walking distance to public transport or local amenity access.

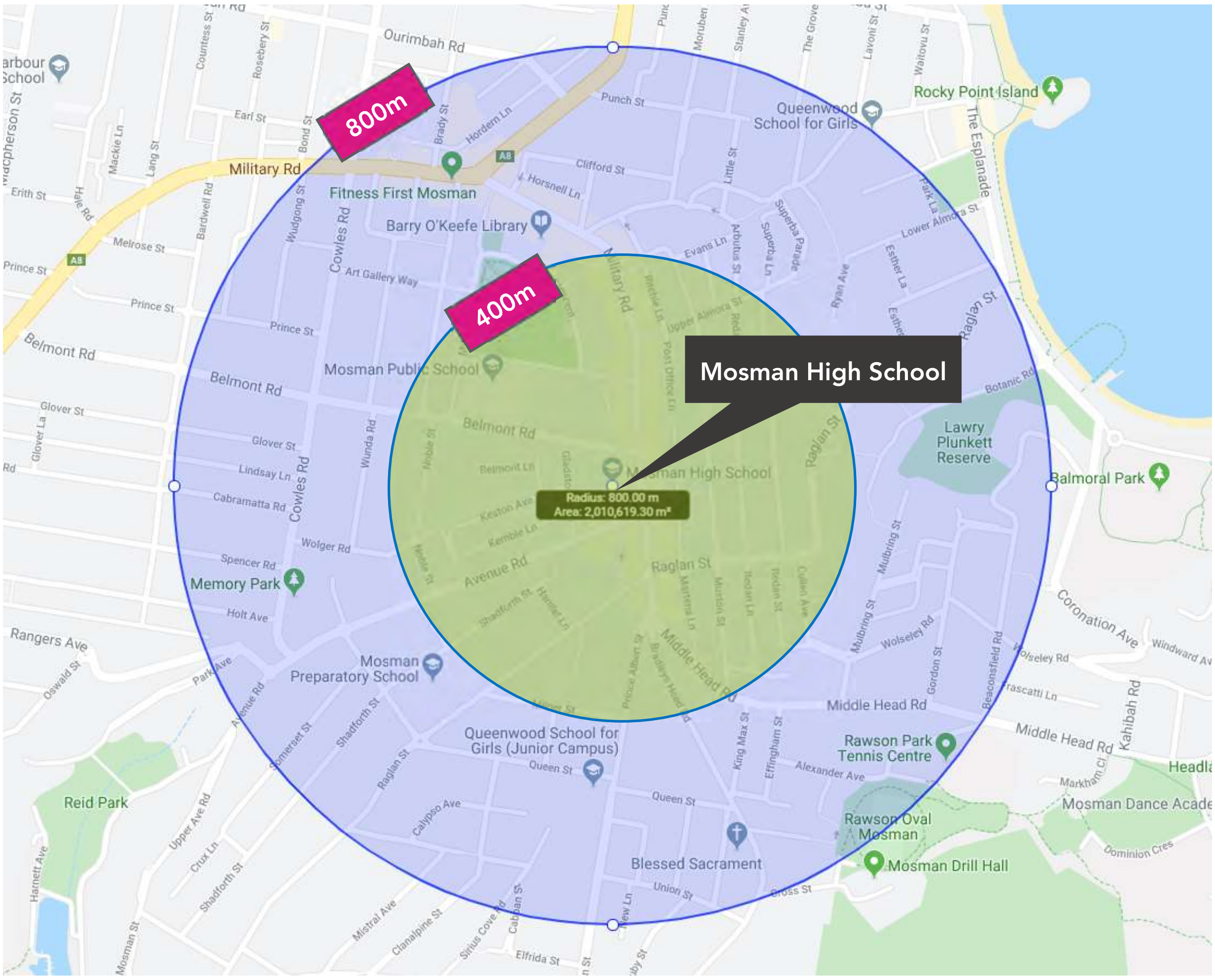


Figure 12 – Mosman High School walking catchment 400 m – 800 m

4.4.1 Walking

The pedestrian network in the locality of the School has been assessed to provide a reasonably high level of amenity within the vicinity of the school with raised pedestrian crossings adjacent to the intersections of Military Road/Avenue Road and Belmont Road/Gladstone Avenue. Signalised pedestrian crossings are provided on each of the approach arms of the Military Road/Belmont Road intersection, which facilitates pedestrian movement across Military Road.

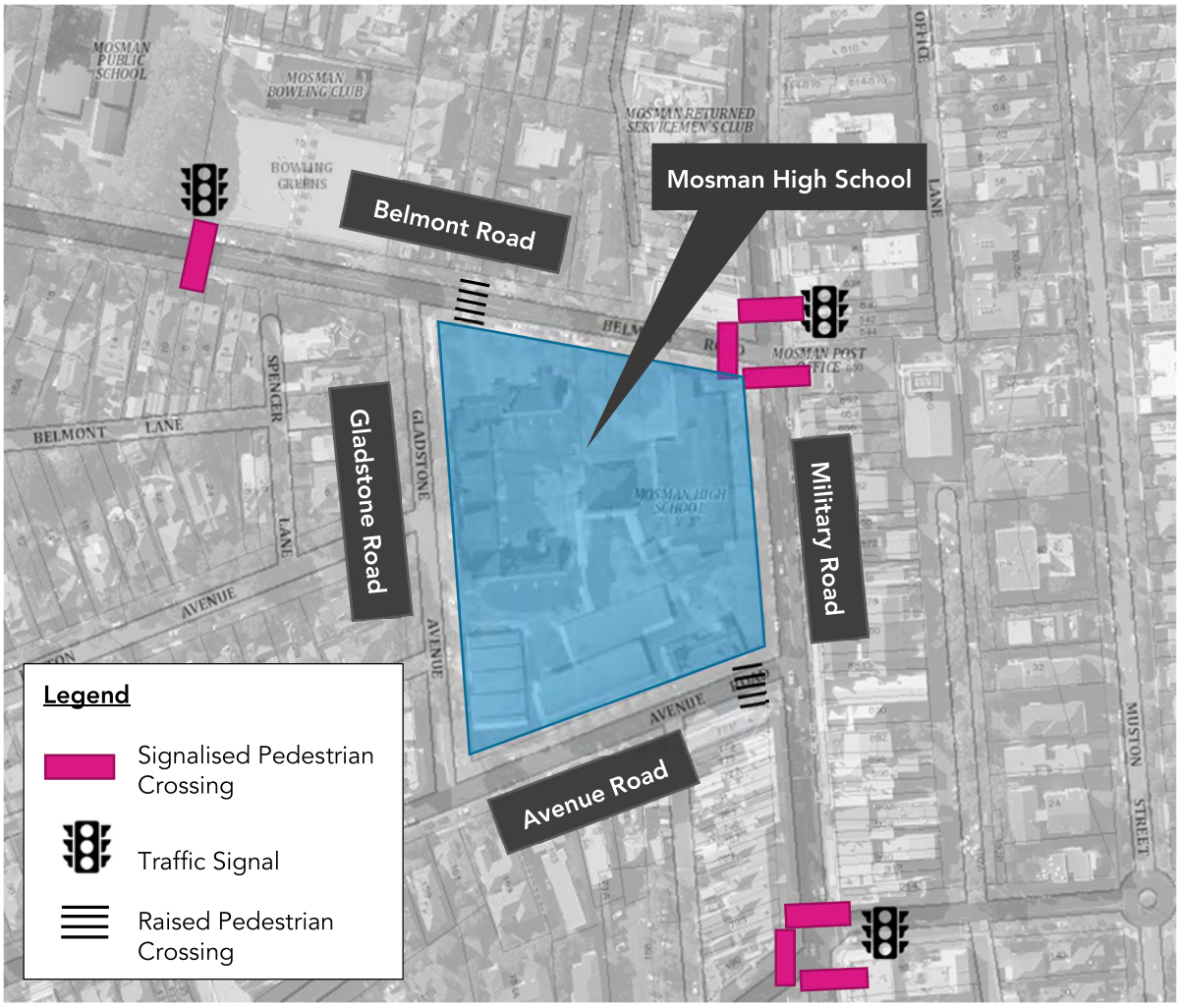


Figure 13 – Surrounding pedestrian infrastructure

4.4.2 Cycling

The surrounding locality within the vicinity of MHS comprises predominantly of on-road marked cycle routes as shown in Figure 14. The on-road cycle paths extend across the Mosman LGA, providing connection to Spit Junction, Clifton Gardens, Balmoral and Georges Heights.

It is acknowledged, however, that Military Road extends along a downward slope towards the Taronga Zoo Wharf, which may mean that cycling as a mode of transport would be influenced by the residential location of students and staff and their ability to ride across steep terrain in some areas. Nonetheless, the cycling connections provided makes this a feasible mode of transport to and from the school.

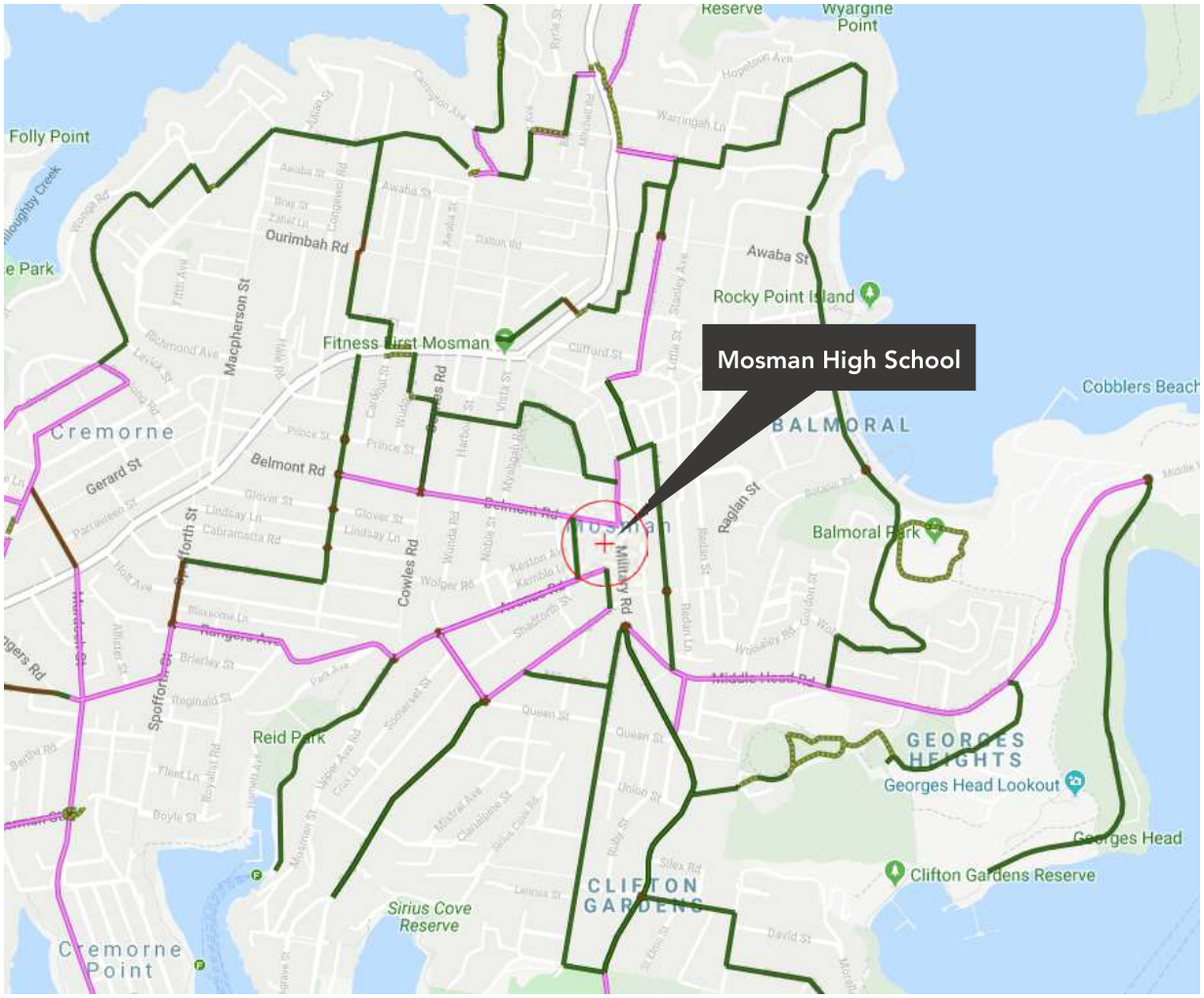


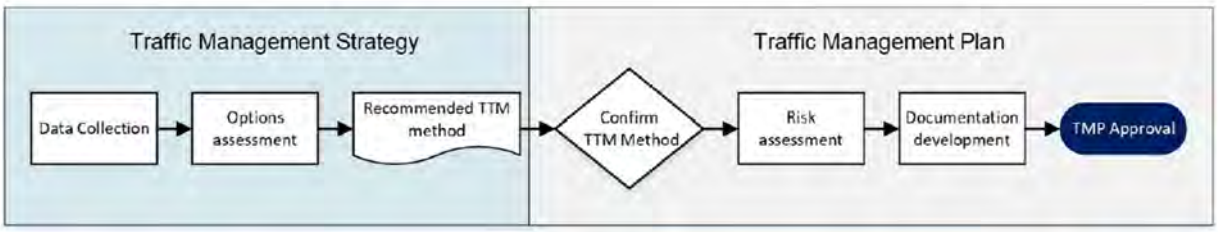
Figure 14 – Cycling Infrastructure within Mosman (Source: TfNSW Cycleway Finder, 2019)

5. Construction Traffic Management Plan (CTMP)

5.1 Traffic Management Planning Process

Temporary Traffic Management (TTM) for the project has been planned in accordance with Transport for NSW, *Traffic control at work sites – Technical Manual, Issue No.6.0,* 14 September 2020 (TCAWS). The process is shown in Figure 15.

Figure 15: Construction Vehicle Ingress Route



An iterative process is being adopted in collaboration with relevant stakeholders to adopt the most appropriate traffic management approach and develop the associated documents for the work.

5.2 Traffic Management Strategy

A traffic management strategy has been chosen to support the appropriate allocation of time, funds and resources for the project, and allow for consultation in determining the safest and most efficient way for road users to interact with the work site.

The traffic management strategy included consistent engagement with TfNSW through the development and submission of an initial Concept Construction Traffic Management Plan (CCTMP). The CCTMP process highlighted the initial data collection and options assessment to ensure the lowest net risk for all stakeholders were considered. The following have been considered in determining the TTM method:

Detour options

No detours are necessary or proposed by the client and therefore, disproportionate amount of disruption to the road users will NOT be introduced.

Site location

The site of the works is primarily flat between the Belmont Road and the worksite, however there are existing signage and infrastructure that may obstruct signs and devices needed for certain strategies.

Work area

The area needed to safely perform the work does not require any road closure, however it will require the relocation of street parking and taxi loading zones.

Vulnerable road users

Desire lines of pedestrians, cyclists, motorcyclists and users of scooters do not impact on works or create undesired interaction between these road users and traffic

Community facilities and needs

The presence of the surrounding bus stops on Military Road and Gladstone Avenue and the pedestrian crossings on Belmont Road and Avenue Road in the vicinity of the site does not create conflict with the work.

5.3 Decision of TTM Method

After considering the factors in Section 5.2 and the recommendation of the client, the TTM method chosen is "Around (elimination)" as traffic can and will be completely separated from the work area. This method will provide the lowest overall net risk option.

5.4 Objective

The traffic management plan associated with the construction activity aims to ensure the safety of all workers and road users within the vicinity of the construction site and following are the primary objectives:

- To minimise the impact of the construction vehicle traffic on the overall operation of the road network;
- To ensure continuous, safe and efficient movement of traffic for both the general public and construction workers;
- Installation of appropriate advance warning signs to inform users of the changed traffic conditions;
- To provide a description of the construction vehicles and the volume of these construction vehicles accessing the construction site;
- To provide information regarding the changed access arrangement and also a description of the proposed external routes for vehicles including the construction vehicles accessing the site; and
- Establishment of a safe pedestrian environment in the vicinity of the site.

5.5 Hours of work

All works associated with the project will be restricted to the time periods by the Conditions of Consent. At this stage these hours are not known and therefore we have assumed the following working hours associated with the construction activity:

• Monday to Friday	7:00am to 6:00pm; and
	6:00pm to 7:00pm, provided noise levels do not exceed the existing background noise level plus 5dB; and
• Saturday	7:30am to 3:30pm; and
	3:30pm to 4pm, provided noise levels do not exceed the existing background noise level plus 5dB; and
• Sunday, Public Holidays	No works to be undertaken without prior approval.

5.6 General requirements

In accordance with Transport for NSW (TfNSW) requirements, all vehicles transporting loose materials will have to be entirely load covered and / or secured to prevent any large items, excess dust or dirt particles depositing onto the roadway during the travel to and from the site. All subcontractors must be inducted by the lead contractor to ensure that the procedures are met for all vehicles entering and exiting the construction site. The lead contractors will monitor the roads leading to and from the site and take all necessary steps rectify any road deposits caused by site vehicles.

Vehicles operating to, from and within the site shall do so in a manner, which does not create unreasonable or unnecessary noise or vibration. No tracked vehicles will be permitted or required on any paved roads.

Public roads and access points will not be obstructed by any materials, refuse skips or the like, under any circumstances. No construction vehicles are permitted to double park, or park on the public road.

Spoil shall be exported from site as progressively as the works occur. Spoil shall not be stockpiled and exported from the site in bulk.

The applicant / contractor is required to follow and abide by the specific standard requirements for construction management as set out by Mosman Municipal Council.

5.7 Construction staging

The overall project is proposed to be split into two stages, Stage 1 – Early Works and Stage 2 – Main Works.

The Early Works are expected to take approximately 5 months and will consist of enabling works in order to maintain school operations upon the commencement of the Main Works. Early works were recently approved under Part 5 of the EP&A Act by School Infrastructure NSW as 'development without consent' under ISEPP. Other works are proposed as 'Exempt Development' under ISEPP.

This CTMP covers work of Stage 2 only.

An indicative construction program received from Multiplex sets a timeframe of 12.5 months for Stage 2 – Main Works, with the overall anticipated construction works being approximately 17.5 months. The construction works will begin on the 17th December 2021 and end on the 28th April 2023. An excerpt from the construction program is shown in Figure 16, whereas the entire construction program is presented in Attachment 2.

				DEC.		JANUARY				FEBRUARY				MARCH					APRIL				MAY			
Truck Type	Assumptions	Traes	No. Trucks Overall	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15	W16	W17	W18	W19	W20	W21	W22	W23
Semi		Plant Delivery (forklift, crane etc)	8	2						3										3						
Rigid	No dog	Demolition	64	16	16	16	16																			
Rigid	No dog 16m3 per truck 94 based on	Bulk Excavation Removal	94					24	24	24	24															
Rigid	No dog	Detailed Excavation Removal	12									6	6													
Semi		Reo	34									1	1	1	3	3	3	3	3	3	3	3	3	1		
Semi		PT	8													1	1	1	1	1	1	1	1			
Agi	7.5m3	Concrete	284									1	1	1		18	18	43	20	30	20	38	20	21	28	22
Semi		Scaffold	32	2	2					2	2	4	4	4	4	4	4									
Semi	2 per pour	Formwork	27									1	1				2	2	2	2	2	4	4	2		2
Rigid		Bracing	16													2	2	2	2	2	2	2	2			
Semi		Structural Steel	36													6	6	6	6	6	6					
Rigid		Bricks	39																				1	1	1	4
Rigid		Metal Cladding	16																							
Rigid		Gyprock	66																					6	6	6
Rigid		Façade	21																							
Rigid		Tennis Court Netting	6																							
Rigid		Balustrades	9																							
Rigid		FF&E	16																							
Rigid		Electrical	4	1	1					2																
Rigid		Hydraulic	13	1	1					2													1	1	1	2
Rigid		Mechanical	30																					6	6	6
Semi		VT	5																							
Rigid		Landscaping	96																							
Semi Total				4	2	0	0	0	0	5	2	6	6	5	7	14	16	12	12	15	12	8	8	3	0	2
Semi per day				**1**	**1**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**1**	**1**	**2**	**3**	**3**	**2**	**2**	**3**	**2**	**2**	**2**	**1**	**0**	**1**
Rigid Total				18	18	16	16	24	24	28	24	7	7	1	0	20	20	45	22	32	22	40	24	35	42	40
Rigid per day				**3**	**3**	**3**	**3**	**4**	**4**	**5**	**4**	**2**	**2**	**1**	**0**	**4**	**4**	**8**	**4**	**6**	**4**	**7**	**4**	**6**	**7**	**7**
		TOTAL	936	22	20	16	16	24	24	33	26	13	13	6	7	34	36	57	34	47	34	48	32	38	42	42
			per day	4	3	3	3	4	4	5	4	2	2	1	1	6	6	10	6	8	6	8	5	6	7	7

Figure 16 – Construction Program (Source: Multiplex)

The program shows that different vehicles are required during different construction phases, with white stages representing the requirement for rigid vehicles and orange stages representing the requirement for articulated vehicles (semies). The vehicle numbers have been summarised to determine the maximum truck movements per day differentiated by the types/size of vehicles required. A maximum of 3 semis and 8 rigid trucks (Heavy Rigid Vehicle or a smaller agitator truck) per day is anticipated. This represents one to two trucks per hour.

As discussed in Section 3, the SSDA phase (Stage 2 – Main Works) will include the following:

- Demolition of Building B, Building C and part Building E;
- Removal of existing sports court and surrounding retaining walls and nominated trees;
- Construction of a new part 3/ part 4 storey building plus lift overrun and net enclosure to rooftop multi-court (Building G) on the corner of Military Road and Belmont Road providing:
    - administration and staff facilities;
    - multipurpose gym/hall;
    - library;
    - canteen facilities;
    - general and senior learning units;
    - science learning unit;
    - health / PE and performing arts unit; and
    - learning and admin support unit.
- Associated landscaping works including new outdoor play areas, a rooftop play space and rooftop multi-purpose court; and
- Relocation of the main pedestrian entrance from Military Road to Belmont Road.

5.7.1 Phasing of Stage 2

The abovementioned construction works are to be completed within two phases.

Phase 1: Demolition (Week 1 – 8)

Phase 2: Structure (Week 9 – 28)

Phase 3: Façade, Fitout & Landscape (Week 29 - 50)

The plans for the proposed phases are shown in Figure 17 and Figure 18 respectively.

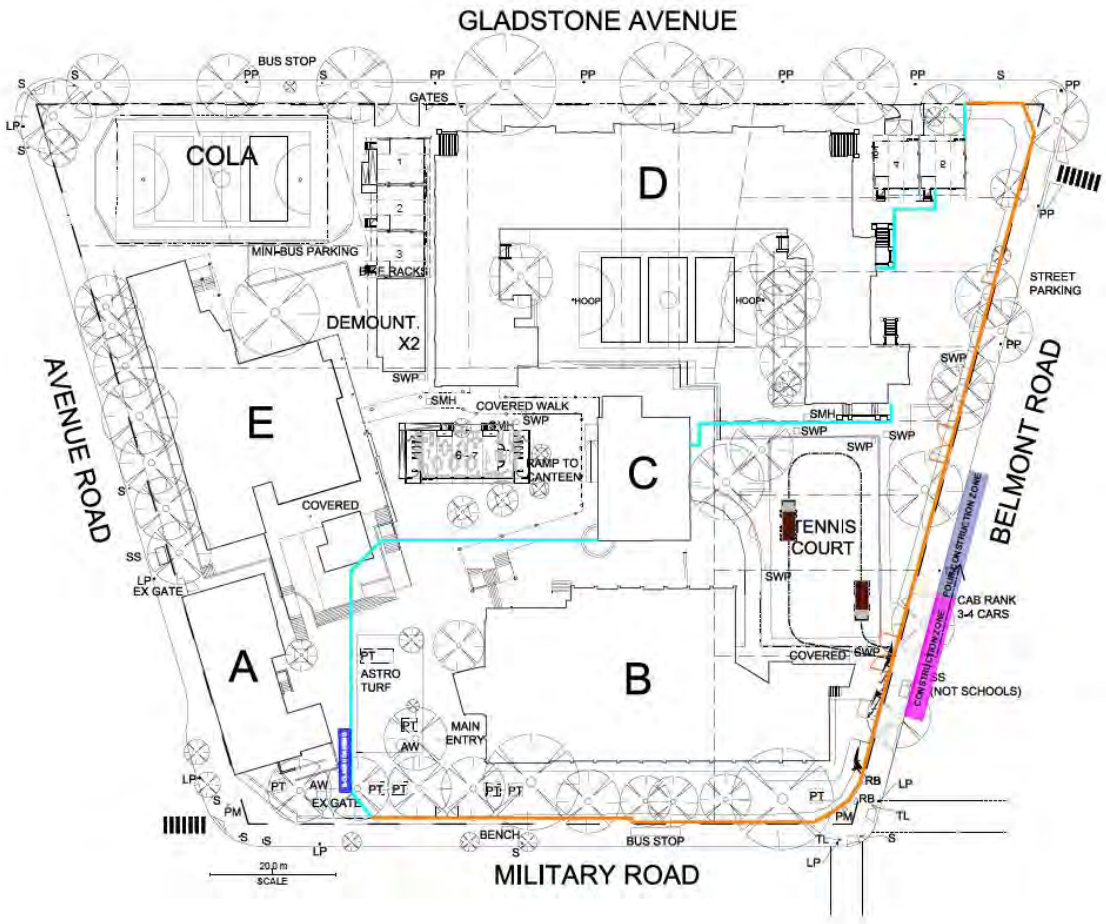


Figure 17 – Phase 1 Plan

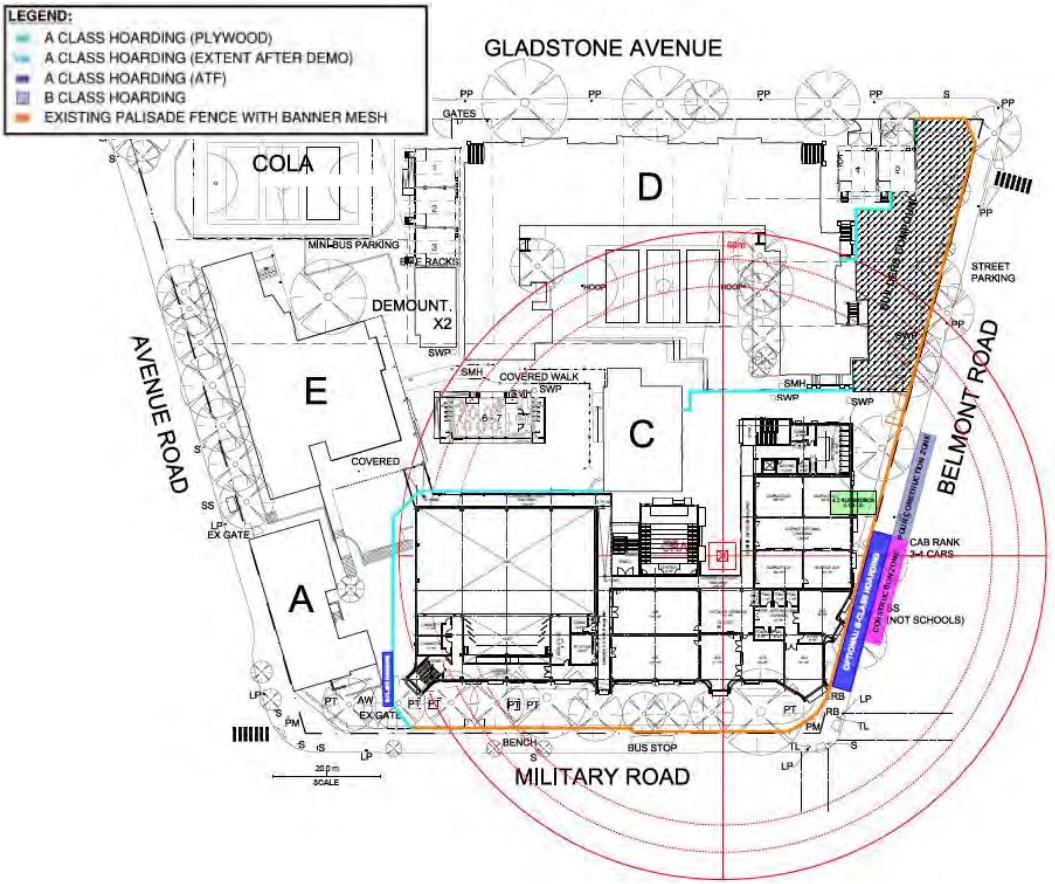


Figure 18 – Phase 2 & 3 Plan

5.8 Construction Vehicle Types

The construction during the SSDA stage will involve Articulated Vehicles (AV) and Heavy Rigid Vehicles (HRV) with the vehicles size limited up to a 19m AV for all phases. Larger vehicles will be dealt with separately, with the submission of required permits to and subsequent approval by Mosman Municipal Council.

5.9 Construction Vehicles Routes

The site is located in Mosman and the proposed construction vehicle routes have regard for the surrounding traffic arrangements in the vicinity of the site. No queuing or marshalling of trucks is permitted on any public road and all loading and unloading of materials will be undertaken within the site or a work zone.

The work zone for the construction is proposed to be located along Belmont Road, details of which are described in Section 5.9.4.

All vehicle routes to and from site are constrained to existing public roads that have the physical geometry to accommodate the turning movements. A swept path assessment has been undertaken using both a 12.5m Heavy Rigid Vehicle (HRV) and 19.0m Articulated Vehicle (AV). The assessment indicates that the turning manoeuvres from Belmont Road into Military Road require the use of multi-lanes. However, as per the *Road Rules 2014 – NSW Legislation Regulation 28* such manoeuvring is permissible. Therefore, the

assessment indicates that the existing public roadways are able to accommodate the turning manoeuvres of the construction vehicles.

It is noted that a 3t weight limit is posted along Belmont Road; However, this limit exists as part of the Local Area Traffic Management to stop trucks from cutting through the local area instead of using the Spit Junction. Belmont Road and all intersection treatments along this road have been designed to accommodate large vehicles, as shown later by swept paths. It is also noted that Belmont Road is utilised by regular public buses.

5.9.1 Road Rules 2014 – NSW Legislation Regulation 28

The following has been extracted from the road rules which allows for the use of multi-lanes to perform a left turn manoeuvre for the proposed heavy vehicles.

A driver may approach and enter the intersection from the marked lane next to the left lane as well, or instead of, the left lane if:

(a) the driver's vehicle, together with any load or projection, is 7.5 metres long, or longer, and

(b) the vehicle displays a do not overtake turning vehicle sign, and

(c) any part of the vehicle is within 50 metres of the nearest point of the intersection, and

(d) it is not practicable for the driver to turn left from within the left lane, and

(e) the driver can safely occupy the next marked lane and can safely turn left at the intersection by occupying the next marked lane, or both lanes.

The construction vehicles that require the use of multi-lanes all exceed 7.5m in length and also meet all other requirements stipulated in the regulation. Therefore, the swept path assessment has been undertaken utilising multi-lanes to perform turning manoeuvres when necessary.

In order to reach the proposed work zone, different routes are proposed for AVs and HRVs as ae described in the following sub-sections.

5.9.2 AV

All AVs will arrive via Military Road, turn right at Spit Junction and turn right at Belmont Road. While exiting the site, the AVs will leave via Belmont Road, Gladstone Avenue, Avenue Road and back onto Military Road.

The AV route is shown in Figure 19.

When entering and exiting the site, the vehicles need to use the surrounding road network and intersections. For this reason, a swept path assessment has been undertaken to confirm that all required vehicle movements are possible and what management measures may be required.

Swept paths showing a 19m long AV entry and exit routes are shown in Attachment 1.

The taxi rank on Belmont Road will need to be relocated so that an AV can access the work zone, refer to Section 5.11.1 for details.

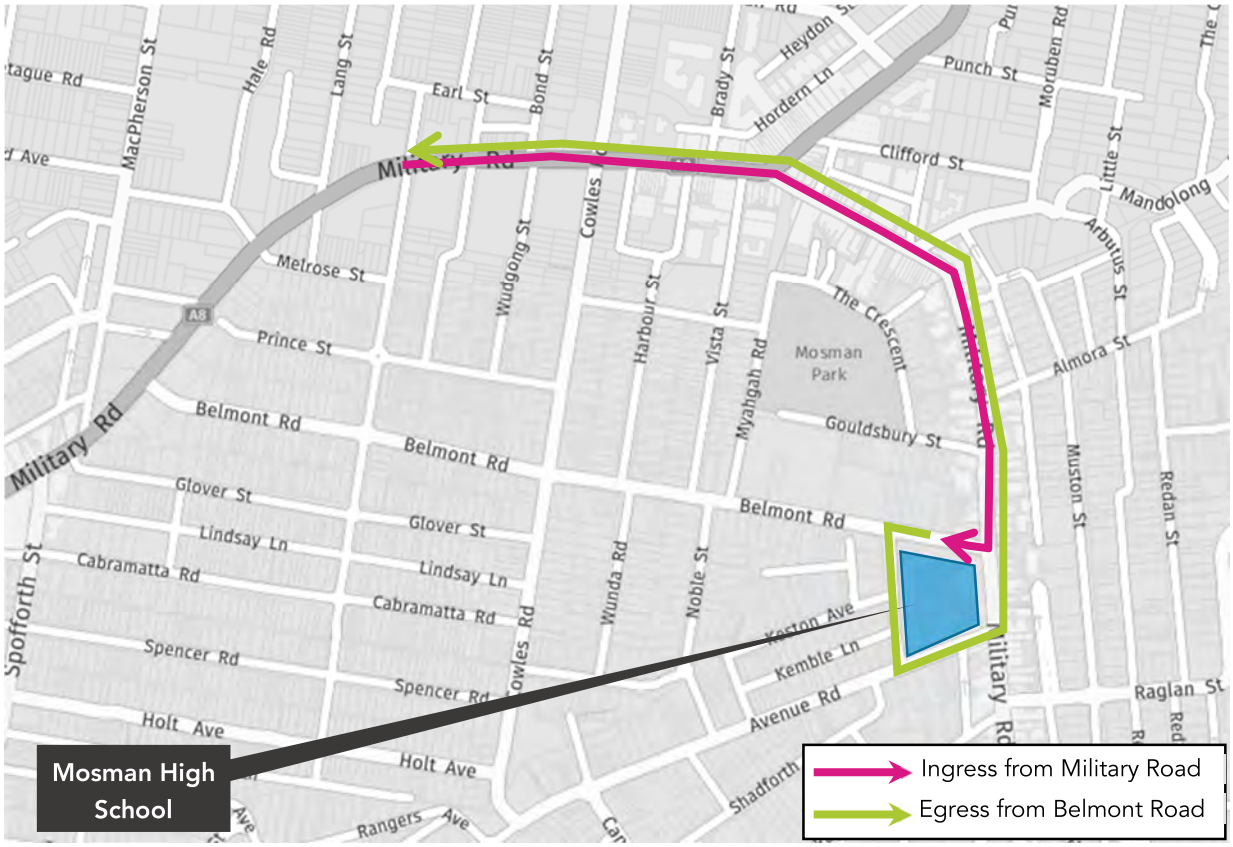


Figure 19 – AV Routes

5.9.3 HRV

Two different entry and exit routes are proposed for an HRV. The HRV movements will be distributed evenly along both routes.

- Entry Route 1: arrive via Belmont Road, loop around the school before reaching the work zone in Belmont Road.
- Entry Route 2: arrive via Military Road, turn right at the Spit Junction towards Military Road, turn right at Belmont Road and access the work zone.
- Exit Route 1: leave via Belmont Road.
- Exit Route 2: loop around the school before leaving via Military Road.

The HRV ingress and egress routes are shown in Figure 20 and Figure 21 respectively.

A swept path assessment has been undertaken to confirm that the HRV movements are possible in the nearby intersections and what management measures may be required.

The swept paths for a 12.5m long HRV for all entry and exit routes are shown in **Attachment 1**.

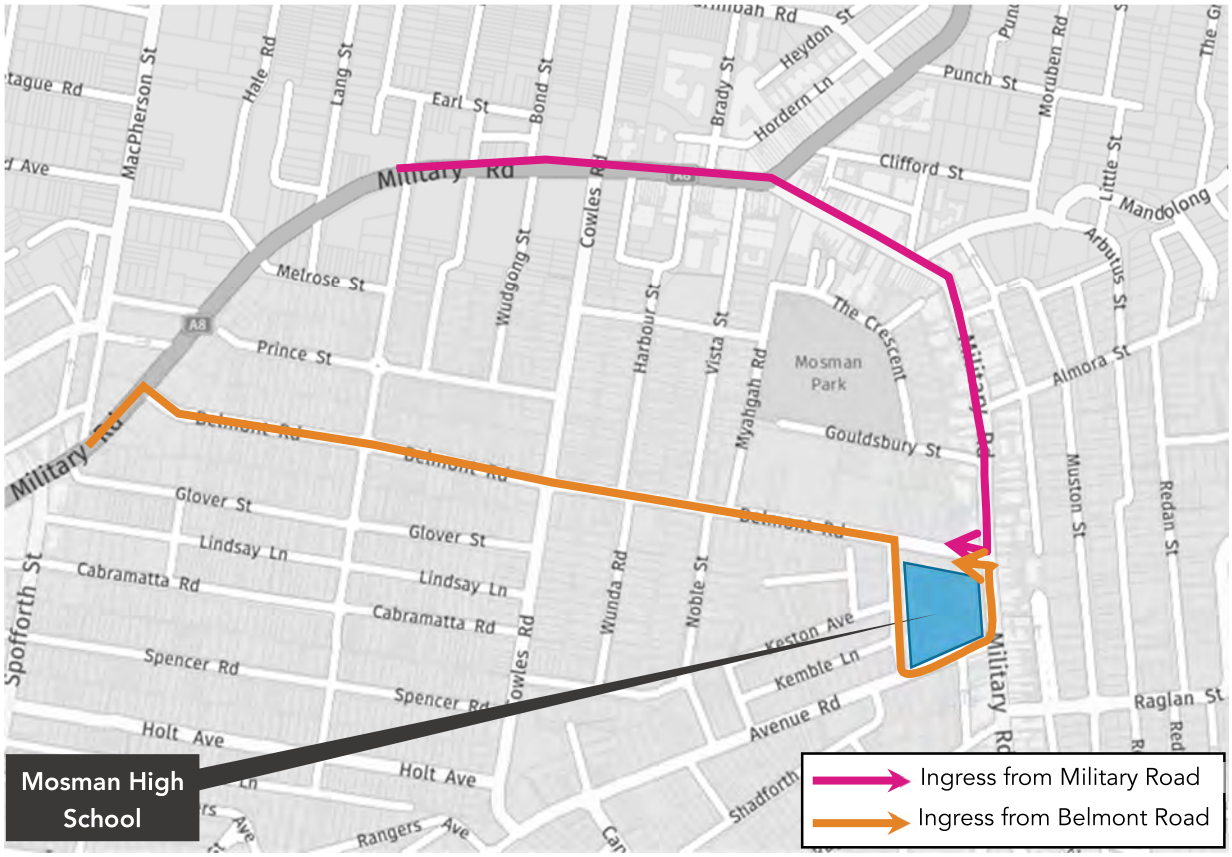


Figure 20 – HRV Ingress Routes

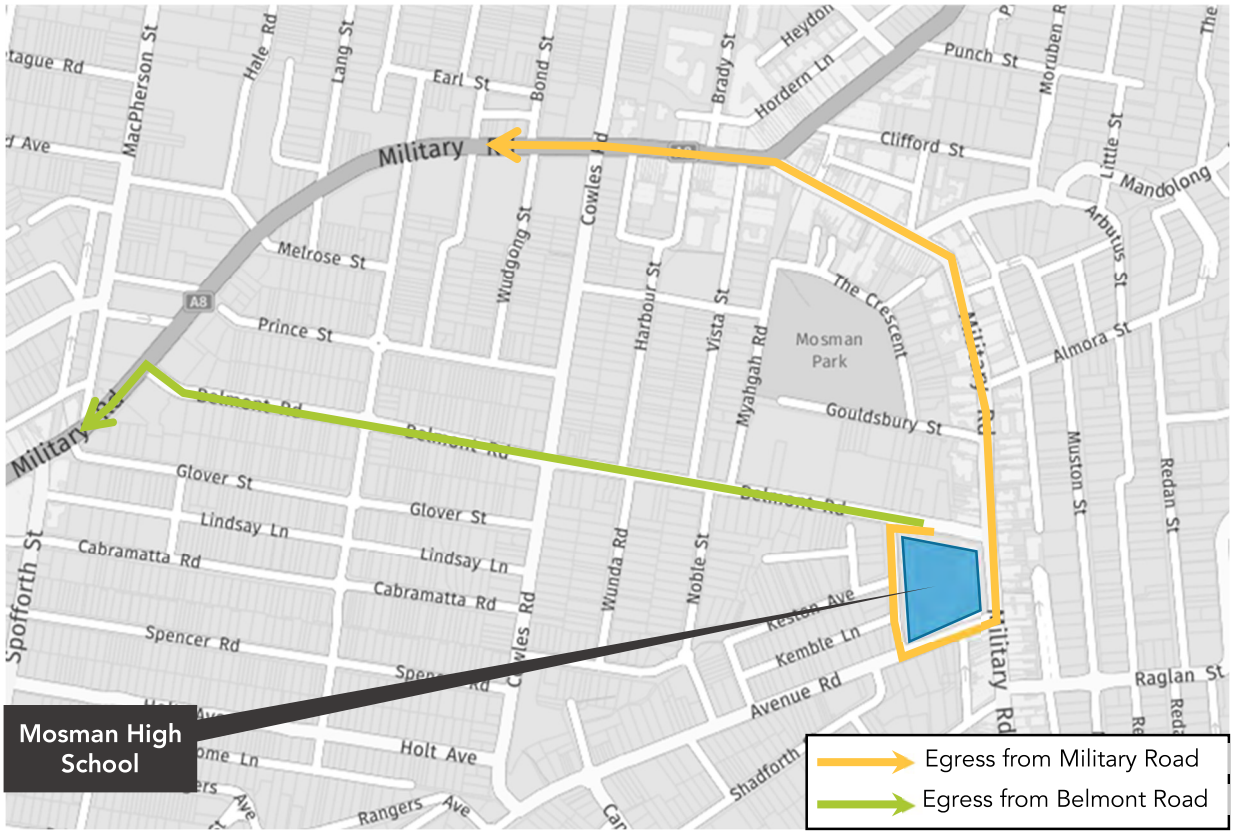


Figure 21 – HRV Egress Routes

5.9.4 Additional Movements during Demolition Phase

During the Phase 1 (Demolition), a vehicular access gate will allow for 12.5m Heavy Rigid Vehicles (HRV) to enter the site to pick up materials and earthworks. The gate will only allow one truck to enter and exit at a time due as the driveway will only allow one-way flow. The proximity of the gate to the adjacent trees, results in a HRV crossing onto the opposing traffic lane. A TfNSW certified Traffic Controller and relevant Traffic Guidance measures (further described in Section 6) will be used to ensure that the vehicle does not impact local traffic.

To ensure pedestrians are protected around the site, dynamic pedestrian barriers will be used to prevent pedestrians from walking past the driveway as a truck is entering or leaving. The barriers will only be used when there is a suitable gap in pedestrians walking along the footpath.

Figure 22 shows the gate location and an HRV performing a three-point turn manoeuvre within the existing tennis court.

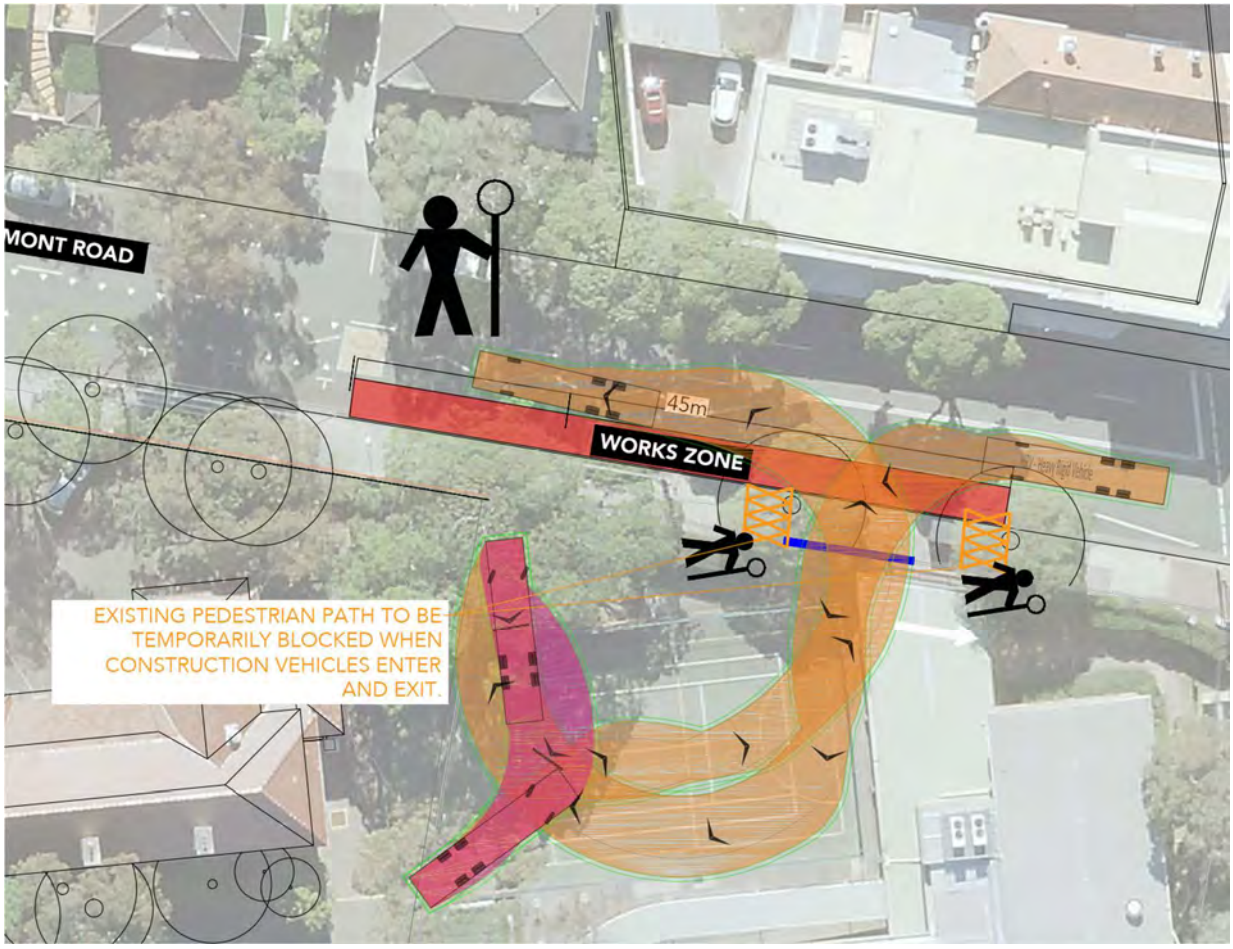


Figure 22 – Demolition Gate Access during Phase 1

5.9.5 Additional Movements during Construction Phase

During the Phase 2 and 3, the gate will be moved west to allow a maximum 12.5m HRV to enter forward in. Due to site restrictions this will require the HRV to perform a reverse manoeuvre out of the site onto Belmont Road. A TfNSW certified Traffic Controller and relevant Traffic Guidance measures (further

described in Section 6) will be used to ensure that the vehicle reverses during the gaps in traffic from the adjacent intersection at Military Road. This will prevent any unnecessary queuing on public roads.

Similar to the Phase 1, to ensure pedestrians are protected around the site, dynamic pedestrian barriers will be used to prevent pedestrians from walking passed the driveway as the truck is entering or leaving. The barriers will only be used when there is a suitable gap in pedestrians walking along the footpath.

Figure 23 shows the location of the new gate and the HRV manoeuvring into and out of the site.

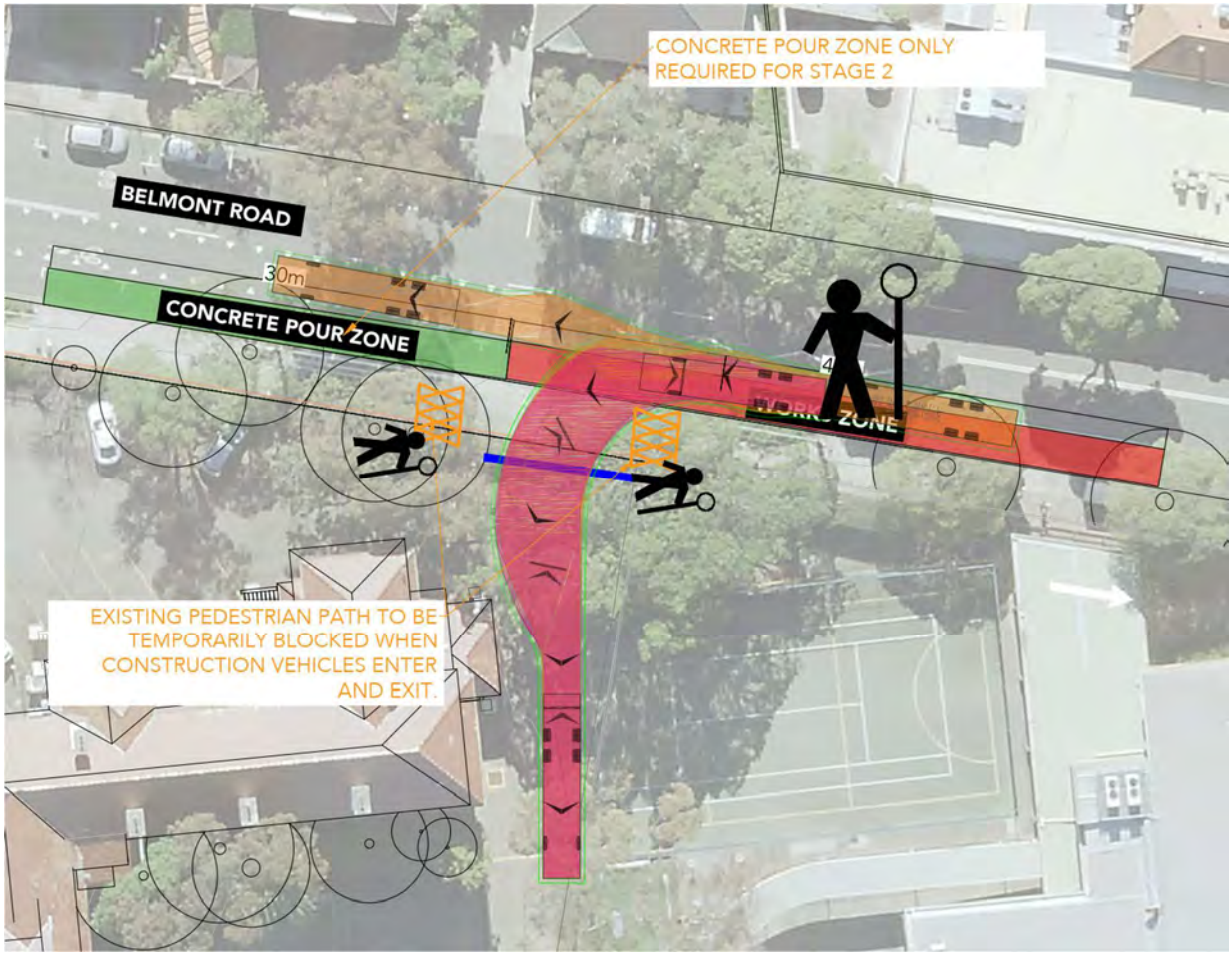


Figure 23 – Construction Gate Access during Phase 2 and 3

5.10 Work Zone

Throughout the entire SSDA stage, a work zone will be required on Belmont Road which will be approximately 45m long to allow 19m AV access. This will be accompanied with an additional 30m concrete pour work zone which will only be used during Phase 2 (Structure). The concrete pours will only occur for approximately 19 weeks from February to July 2022.

During Phase 2 of the project, approximately nine existing 2P car spaces need to be temporarily removed to accommodate the work zone. It is also proposed to temporarily relocate the existing taxi zone located at the northern side of Avenue Road, just west of the intersection of Military Road/Avenue Road (refer to Section 5.11.1). A contractor's entrance will be added to allow access into the site from the work zone.

During Phase 3, the concrete pour work zone will be converted back to the existing 2-hour parking from 8:30am to 6:00pm.

Traffic controllers will be present at both ends of the work zone to guide construction vehicles in and out of the work zone.

A concept traffic guidance scheme (TGS) has been prepared to inform drivers of turning vehicles (refer to Section 6).

Appropriate signage shall be provided to inform road users of the restrictions which is detailed in the Signage Plan in Section 5.11.3. The work zone will be restricted to times of construction work hours.

Figure 24 shows the location of the SSDA work zone.

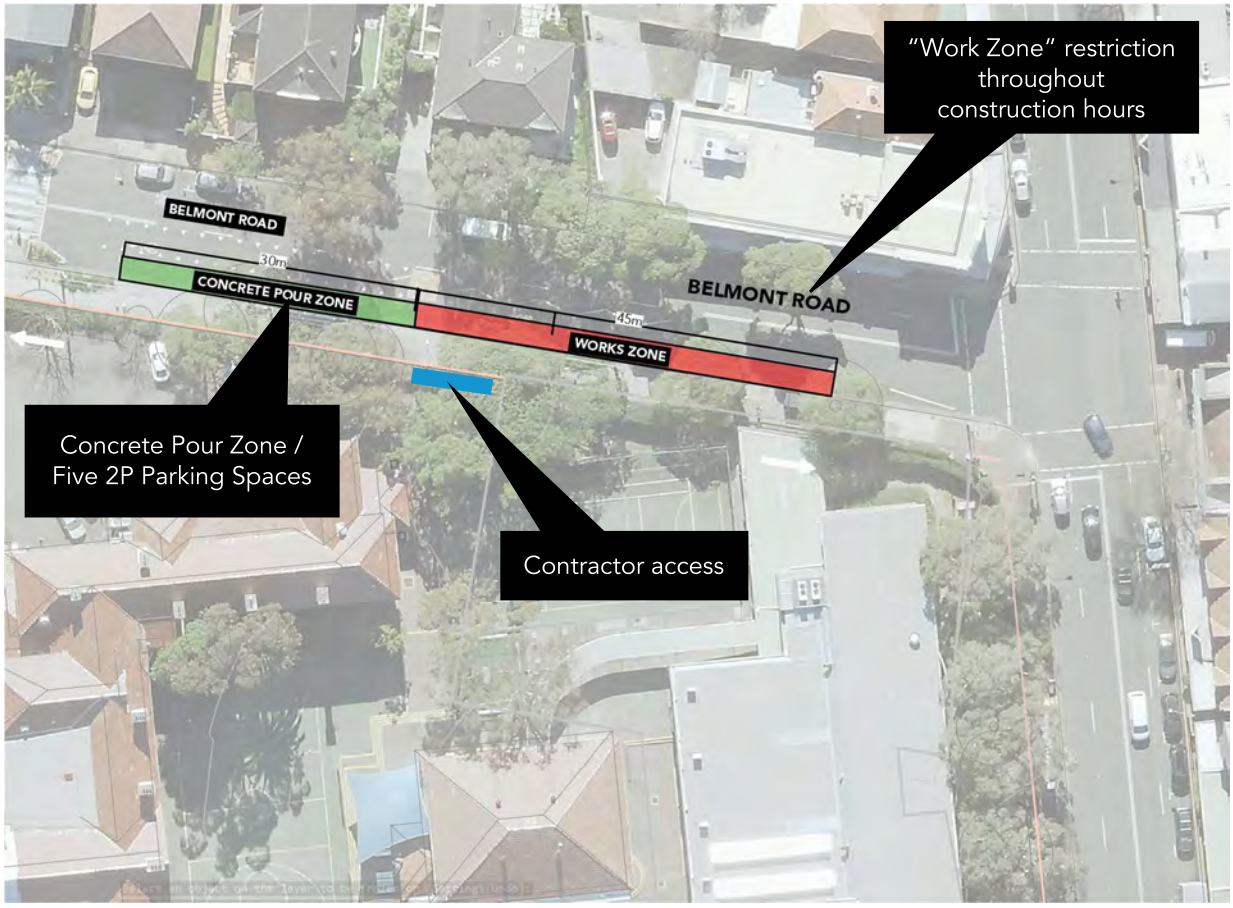


Figure 24 – Work zone

5.11 Parking Controls

5.11.1 Taxi Zone Relocation

As discussed in Section 5.10, a total of approximately nine car spaces will be temporarily removed due to the work zone and it is proposed to relocate the taxi zone on Belmont Road to Avenue Road. The "Work Zone" restriction needs to be in place throughout the construction hours, even if construction vehicles are not arriving or leaving.

Currently, there is a total of nine 2P parking spaces and a taxi zone that can accommodate three taxis along the southern edge of Belmont Road.

The three existing Taxi Zone spaces will be relocated to the northern side of Avenue Road, adjacent to the Military Road/Avenue Road intersection. This will involve the temporary removal of three 2P parking spaces to accommodate the relocated Taxi Zone.

Figure 25 shows the proposed parking controls on Avenue Road.

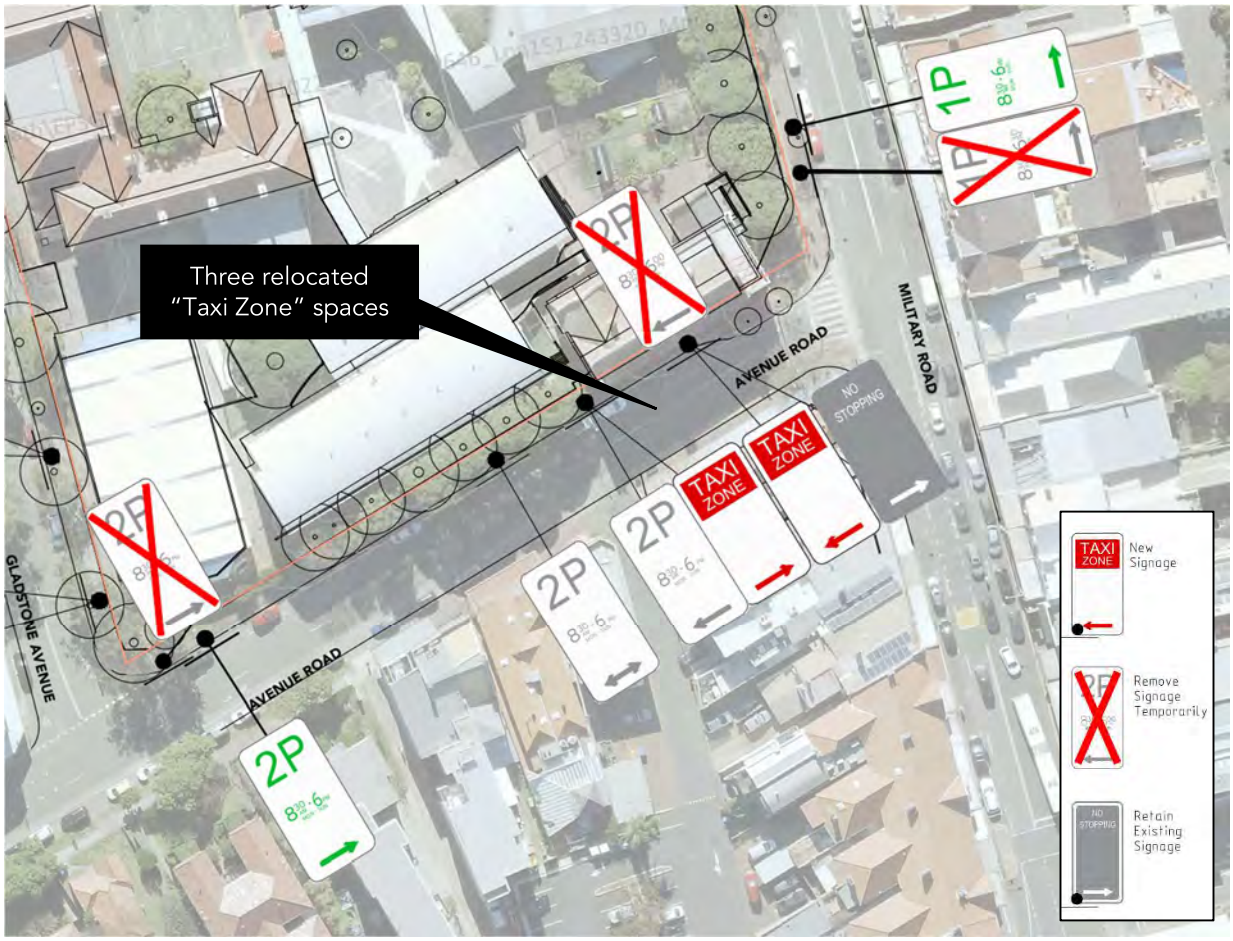


Figure 25 – Proposed Parking controls on Avenue Road

5.11.2 Proposed Parking Changes to accommodate AV Swept Paths

To facilitate the access and egress manoeuvres for a 19m AV, three existing on-street parking spaces will need to be temporarily removed for the duration of the project being:

- Northern end of Gladstone Avenue (1 space along eastern kerbline);
- Western end of Avenue Road (1 space along northern kerbline); and
- Southern end of Military Road (1 space along western kerbline). The existing motorcycle parking located here will need to be shifted north to occupy the removed parking bay.

5.11.3 Signage Plan

As mentioned above, two signage plans have been prepared to clearly indicate the parking controls along Belmont Road during Phase 2 (Structure) and all other stages (Phase 1 and 3). To illustrate the new parking controls more clearly, a larger version of the signage plan has been included in Attachment 5. A diagram of the signage plan for the Phases 1 and 3 is shown in Figure 26 and for Phase 2 in Figure 27.

The signage plan incorporates the following proposed parking changes:

- Relocation of Taxi Zone from Belmont Road to Avenue Road;
- Works Zone on Belmont Road; and
- Changes to parking to accommodate AV swept paths.

Figure 26 – Signage Plan (Phase 1 and 3)

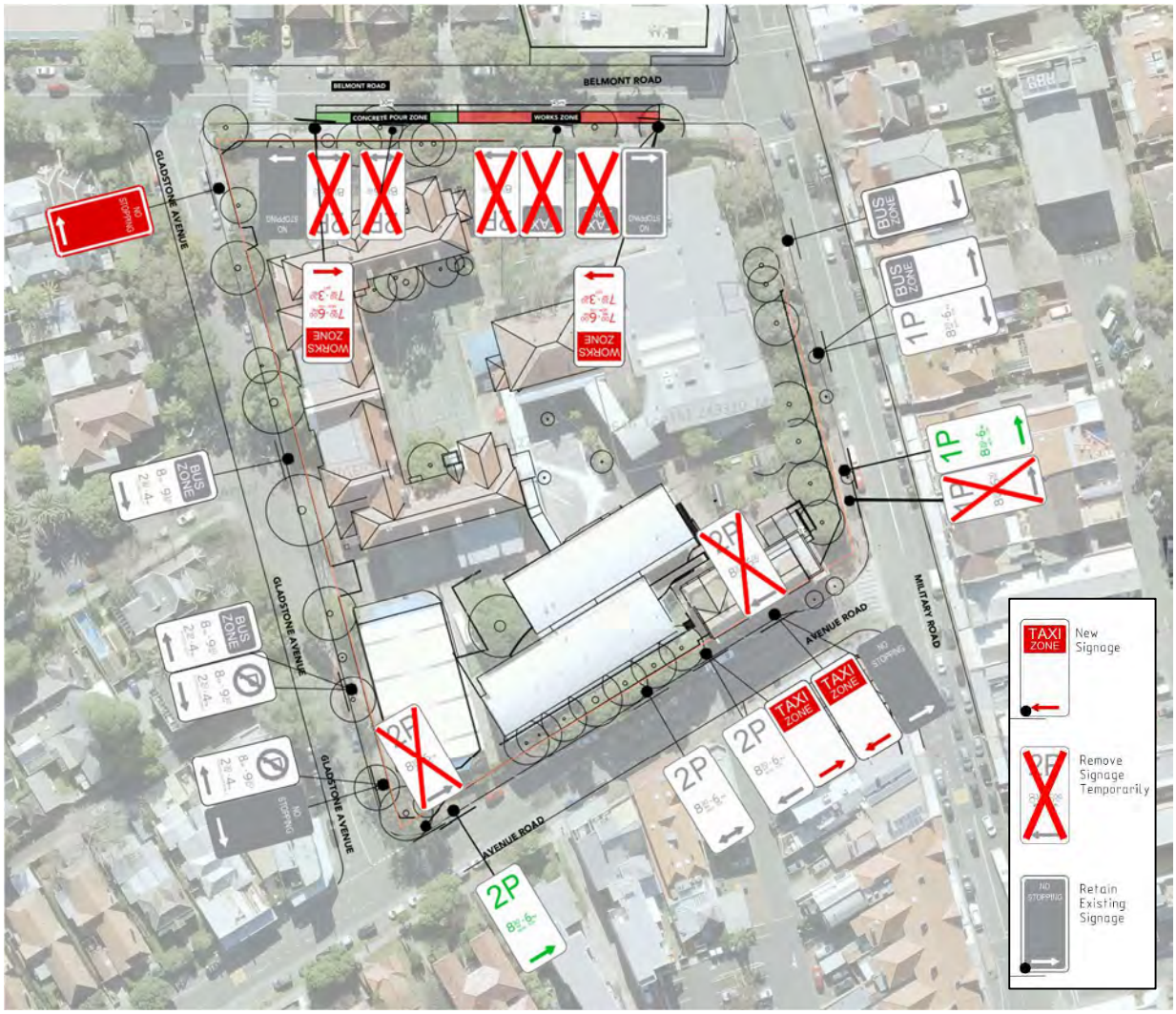


Figure 27 – Signage Plan (All Other Stages – Phase 1 and 3)

5.12 Pedestrian Management

Access for students, staff and visitors will be maintained at all times, and the locations are shown in Figure 28.

Access off Belmont Road will be closed for public and instead used as a contractor access. The existing car park will be utilised as temporary classrooms during the construction, and access to those demountables will be provided via the existing gate. The gate off Gladstone Avenue will remain in use as it currently is, with the addition of public entry exit. The northern and currently main access off Military Road will be closed, but instead the southern gate will be opened and temporarily used for students and staff to enter the school.

Cyclists can enter through the gates off Military Road and Gladstone Avenue. It is proposed that bicycle facilities are temporarily located within the existing bus bay (refer to the magenta circle in Figure 28).

The entire site (and any remote work areas when applicable) and during all phases will be physically separated from the School via A-Class or ATF type fencing. The extents of fencing will be modified during the works as required to suit the works occurring at each project phase. The access points to the site will be securely locked even when the construction / demolition activities are not occurring.

There will also be a B class overhead hoarding, which will be provided along the work zone on Belmont Avenue to allow safe pedestrian through movements without the requirement to block off the footpath.

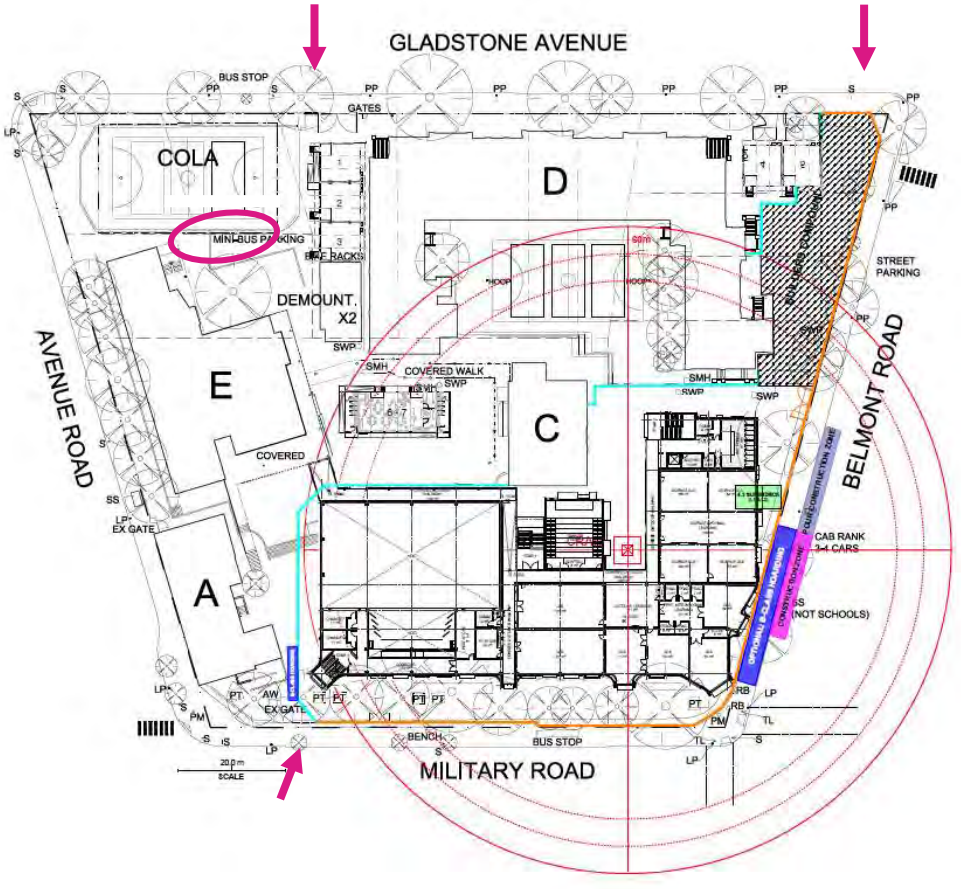


Figure 28 – Pedestrian Access

Additional to the B-Class Hoarding, dynamic pedestrian barriers will be used for the two gates during the different stages. The dynamic pedestrian barriers will be used to prevent pedestrians from walking passed the driveway as the truck is entering or leaving. The barriers will only be used when there is a suitable gap in pedestrians walking.

Details of the barrier layout can be found in Section 5.9.4 and 5.9.5 and within the TGS plan in Attachment 3.

5.13 Cumulative Effect of Adjacent Developments

During the construction stage, liaison with adjacent developments (if any) will be undertaken to mitigate the cumulative effect of the concurrent works. This will include the coordination of truck movements to prevent the combined impact of construction activities.

5.14 Special Deliveries

Whilst not anticipated, any oversized vehicle that is required to travel to the site will be dealt with separately, with the submission of required permits to and subsequent approval by Mosman Municipal Council prior to any delivery.

5.15 Staff Parking

School staff parking will be temporarily unavailable during the redevelopment of the site. School staff will be advised to shift to alternative transport modes for the duration of the construction including carpooling and public transport utilisation, as discussed in Section 4.3. The School has negotiated with the local RSL club that 30 parking spaces will be allocated to School staff during the construction of the development.

The contractor will put their usual processes in place to reduce car usage among construction staff. These measures include delivering all tools and equipment required to the site in the morning and removing it in the afternoon so that construction workers are not reliant on a car. The site personnel will be advised to carpool and use the public transport options available in the vicinity of the site (refer to Section 4.3.).

5.16 Work Site Security

To provide security to the works site and protection to the general public, it is proposed that the entire site (and any remote work areas when applicable) will be physically separated from the School via A-Class or ATF type temporary fencing. The extents of fencing will be modified during the works as required to suit the works occurring at each project stage.

The work zone along Belmont Road will be secured by B-Class hoarding, so that the footpath can remain open throughout the construction.

Prior to commencement of works the contractor will facilitate a Safety Workshop where the school and their stakeholders shall be invited to identify site specific safety and security initiatives.

All access points are to be securely locked when construction activities are not in progress. The exact location of this fence is to be agreed on site, prior to commencement of the works.

The location of the hoarding and fencing is shown in Figure 29.

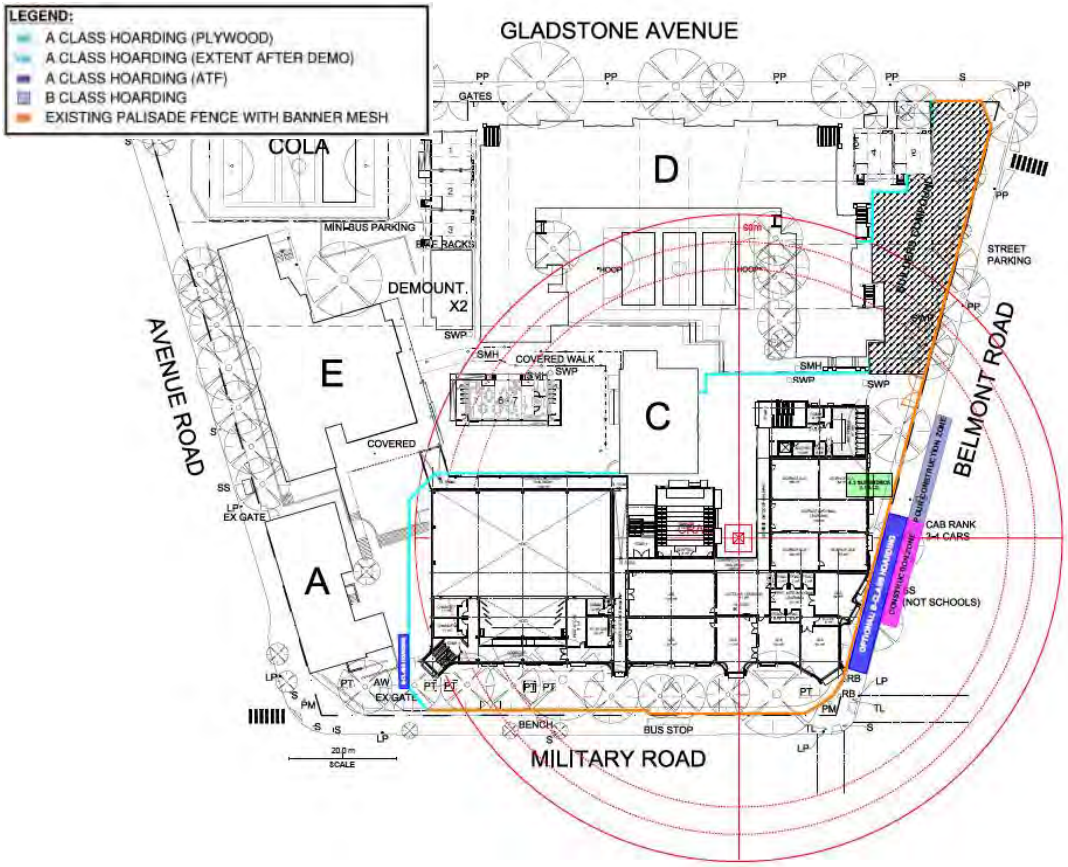


Figure 29 – Site fencing and hoarding locations

5.17 Plant/Equipment Management

At the commencement of construction, plant and equipment, including construction hoarding/scaffolding material, site sheds, mobile cranes and machinery will be required to be delivered to the site. The delivery and removal of plant and equipment to and from the site will be undertaken from the on-site materials handling/loading area, via the use of machine floats.

The delivery and removal of plant and equipment that requires a wide or long load vehicle will be subject to a separate application/permit and separate prior approval from City of Parramatta and other relevant authorities. In order to minimise traffic disruption during the delivery of the plant and equipment, it is proposed to undertake this work during the evening/early morning period. All plant and equipment deliveries will be carried out in accordance with Council's requirements and the NSW Police regulations.

5.18 Spoil Management

Contaminated material will be checked, sorted and treated prior to the removal from the site. Contaminated material will be classified in accordance with the provisions of the Protection of the 'Environment Operations Act 1997 and the NSW DECC Waste Classification Guidelines, Part 1: Classifying Waste (April 2008)'.

All construction work involving the removal and disposal of asbestos cement will be undertaken by appropriately qualified contractors duly licensed with SafeWork NSW, holding either a Friable (Class A) or a Non-Friable (Class B) Asbestos Removal License whichever applies.

During the removal of asbestos material from the site, signs containing the words 'DANGER ASBESTOS REMOVAL IN PROGRESS' will be erected in prominent visible positions on the site. The signs will be in accordance with AS1319-1994 Safety signs for the occupational environment for size, illumination, location and maintenance.

All trucks removing spoil from the site will be loaded to prescribed weight limits and loose material will be covered during transport from the site. Loose material will be removed from all vehicles and/or machinery before leaving the site and entering the road system.

All vehicles leaving the site will be cleaned. The construction contractor will be responsible for locating a truck wash facility or other appropriate cleaning mechanism adjacent to the construction access driveways. Any run-off from the washing down of vehicles will be directed to the sediment control system to be located within the site.

The loading of spoil onto trucks will be carried out on-site in an approved and controlled manner. The management of the on-site materials handling/loading area and the movement of trucks on and off the site will be the responsibility of the contractor.

5.19 Staff Induction

All staff and subcontractors engaged on site will be required to undergo a site induction. The induction will include permitted access routes to and from the construction site for all vehicles, as well as standard environmental, OH&S, driver protocols and emergency procedures. Additionally, the lead contractor will discuss TMP requirements regularly as a part of toolbox talks and advise workers of public transport and car-pooling opportunities.

5.20 Emergency Vehicle Access

The proposed traffic control arrangements do not propose the closure of any local roads. Any emergency vehicles requiring access to the project site will do so via the site access along Belmont Road or Military Road.

A detailed Emergency Management Plan will be further developed by the contractor prior to site establishment works.

5.21 Access to Adjoining Properties

Access to all adjoining properties will be maintained throughout the works. The adjacent landowners will be notified of works via letter box distribution and road signage to advised of anticipated truck movements in operation with access to adjoining properties being maintained at all times.

5.22 Occupational Health and Safety

Any workers required to undertake works or traffic control within the public domain shall be suitably trained and will be covered by adequate and appropriate insurances. All traffic control personnel will be required to hold an appropriate accreditation in accordance with Section 8 of Traffic Control at Worksites.

The comprehensive Work Health & Safety Management Plan will be provided by the contractor and shall be constantly reviewed as the design and construction methodology progress.

5.23 Hazard and Risk Identification

All construction projects entail a set of risks—from a transport perspective—that may need to be mitigated. Some of these hazards and risks are related to:

- moving traffic
- queued traffic
- site vehicle access and egress points
- topographical constraints

This is appropriate for the construction of the expansion to Mosman Highschool because of the following:

- High pedestrian activity is expected as the site is located adjacent to the Mosman Town Centre. The Construction activity will be most prominent from the Work Zone located on Belmont Road and may have potential conflicts with pedestrians.
  Risk Matrix Reference: R1
- Whilst TGSs have been designed and attached as part of this report, this is in combination with other constraints associated with the site location e.g. street sign clutter, parked vehicles and high pedestrians volumes may reduce visibility.
  Risk Matrix Reference: R2

As there is no guarantee that the contractor responsible for implementing the TGSs are fully aligned with the intention of this traffic report, this remains a risk to be assessed. As such, a risk matrix has been prepared as shown in Table 3 using the following definitions:

Risk Rating

- Very High (VH)
- High (H)
- Medium (M)
- Low (L)

Consequence

- Insignificant: Illness, first aid or injury not requiring medical treatment. No lost time.
- Minor: Minor injury or illness requiring medical treatment. No lost time post medical treatment.
- Moderate: Minor injuries or illnesses resulting in lost time.
- Major: 1 to 10 serious injuries or illnesses resulting in lost time or potential permanent impairment\
- Severe: single fatality and/or 11 to 20 serious injuries or illnesses* resulting in lost time or potential permanent impairment.
- Catastrophic: multiple fatalities and/or more than 20 serious injuries or illnesses* resulting in lost time or potential permanent impairment.

Likelihood

- Almost certain: expected to occur multiple times (10 or more times) during any given year

- Very likely: expected to occur occasionally (1 to 10 times) during any given year.
- Likely: expected to occur once during any given year.
- Unlikely: expected to occur once every 1 to 10 years.
- Very unlikely: expected to occur once every 10 to 100 years.
- Almost unprecedented: not expected to occur in the next 100 years.

Table 3: Risk Matrix

Likelihood	Consequence						
		Insignificant C6	Minor C5	Moderate C4	Major C3	Severe C2	Catastrophic C1
	Almost certain L1	R1					
	Very likely L2			R2			
	Likely L3						
	Unlikely L4						
	Very unlikely L5						
	Almost unprecedented L6						

Some recommended risk mitigation measures include:

- Council to monitor the implementation of the Traffic Guidance Schemes (TGSs). As necessary, the appropriate officer visiting the site shall have the authority to enforce compliance with illegal parking. This will also allow documentation of any form of illegal parking or parking contrary to this CTMP.
- Variable speed limit signs can be implemented to reduce the speed limit of Perry Street and Barclay Road to 40km/h or less. This in combination with variable message signs (VMS) can be utilised to control the speed of the vehicles utilising Belmont Road and Military Road. The RMS Special Event Management Plan (SEMP) Guidelines can be utilised in this case to convert this construction project into a special event, allowing greater control of the risks of the construction project through the involvement of TfNSW, the Police, Council, and any other relevant state authority. However, all application and licence fees arising as part of this conversion will have to be borne by the builder.
- The use of traffic controllers around the Work Zone to ensure pedestrian and traffic movements are not affected by the vehicles entering and exiting the Work Zone. Traffic Controllers are NOT to stop traffic on the public street(s) to allow trucks to enter or leave the site. They MUST wait until a suitable gap in traffic allows them to assist trucks to enter or exit the site. The Roads Act does not give any special treatment to trucks leaving a construction site - the vehicles already on the road have right-of-way.

5.24 Method of Communicating Traffic Changes

TGSs in accordance with Australian Standards (AS 1742.3 – Traffic Control Devices for Works on Roads) and TCAWS manual will advise motorist of upcoming changes in the road network.

The contractor shall each morning, prior to work commencing, ensure all signage is erected in accordance with the TGS and clearly visible. Each evening, upon completion of work, the contractor is to ensure signage is either covered or removed as required. Sign size is to be size "A".

No deviation from the approved TGS shall be permitted, unless otherwise approved by Council and certified by an RMS accredited personnel.

The associated TGS road signage will inform drivers of works activities in the area including truck movements in operation.

Prior to commencement of works on site the contractor is to inform neighbouring properties of proposed works and provide site contact information by means of a letter box distribution. Additionally, a minimum fourteen (14) days notification must be provided to adjoining property owners prior to the implementation of any temporary traffic control measures.

5.25 Maintenance of Roads and Footpaths

The roads and footpaths along the route of travel will be kept in a serviceable state at all times. Any damage arising as a result of the proposed truck movements will be treated / repaired by the principal contractor at no cost to Council.

5.26 Driver Code of Conduct

All heavy vehicle drivers are required to follow the ingress and egress routes in a "forward in, forward out" manner as specified in Section 5.8, whilst adhering to all road rules and regulations. This is essential to minimise the impacts of earthworks and construction on the local and regional road network. Should there be a Traffic Guidance Scheme (TGS) required to manage construction activity, all construction vehicles entering or exiting from the site shall operate under the direction of an TfNSW accredited traffic controller at all times; this will also minimise conflicts with other road users. Furthermore, construction traffic activity shall only occur within the permitted hours of work (see Section 5.5) to minimise road traffic noise.

This code of conduct will be advised to all drivers engaged on site at the staff induction, where all demolition and construction vehicles (excluding worker vehicles) are to be contained wholly within the site and must enter the site completely before stopping.

A Driver Code of Conduct leaflet has been prepared as part of this CTMP for distribution to truck drivers and operators. The Driver Code of Conduct is part of this document as Attachment 6.

5.27 Contact Details for On-Site Enquiries and Site Access

Jade Nicholson	Matthew Hogan
Project Manager	Site Manager
0439 767 858	0438 570 309

5.28 CTMP Approval, Monitoring and Review

This CTMP has been reviewed and endorsed by the designer's one-up manager who holds a current Prepare Works Zone Traffic Management Plan qualification. This approved CTMP has been used to inform the development of all TGSs for the work.

Regular monitoring and review are to be conducted throughout the life of the project to ensure that the CTMP remains current and addresses all risks at the work site for the duration of the project or activity.

To ensure that this CTMP is kept up to date, the activities identified in Table 4 will be undertaken to facilitate review and continuous improvement

Table 4: Monitoring Activities

Stage	Activity	Purpose	Qualification	Tools and checklists
Planning	TGS verification	To ensure that the TGS selected or designed is suitable for the works and location.	ITCP or PWZTMP	TCAWS Appendix E.2 TGS verification checklist
During TTM	Weekly TTM inspections (includes preopening inspection)	To ensure that the CTMP and relevant TGS are appropriate and operating safely, effectively and efficiently	PWZTMP	TCAWS Appendix E.3 Weekly TTM inspection checklist
	Shift TTM inspections	To ensure that the TGS is implemented as designed. This includes at a minimum, twice per shift and when: • A TGS is installed, changed or updated. • At regular frequency afterwork commences, recommended every 2hours; and • Once after care arrangements have been installed if required	ITCP or PWZTMP	TCAWS Appendix E.4 Shift / Daily TTM inspection checklist
	CTMP review	To ensure that CTMP controls are achieving the required outcomes.	PWZTMP	Not provided
	Client inspections	Verification of TTM through the Transport Traffic Engineering Services, Work Health and Safety Branch, Surveillance Officers or other client representatives.	Divisionally determined	Not provided
Post Completion	Post-completion inspection	To ensure that the site has been demobilised as planned and is safe for opening to traffic	ITCP or PWZTMP	Appendix E.5 Post completion inspection checklist

All relevant changes must be considered and recorded in the CTMP with any changes made by an appropriately qualified person. A copy of all documentation relating to the endorsement of the changes must be available to be accessed, either electronically or in hard copy, by the person responsible for the works.

6. TGS Confirmation and Approval

Traffic Guidance Scheme (TGS) shown in Attachment 3 outlines the proposed traffic management to inform road users of the changed traffic conditions in the vicinity of the works site. The TGS must be set out in accordance with Issue 6.0 of the Traffic control at work sites Technical Manual, November 2020 (TCAWS).

A TGS is to be implemented on Military Road, Belmont Road and Gladstone Avenue throughout the project to warn road users that trucks will be turning into and out of the site, in accordance with TCAWS TGS D.4.7.

It is noted that any changes to the existing parking restrictions will require a minimum fourteen (14) days notification to adjoining property owners prior to the implementation of any temporary traffic control measures.

Any revisions or additional TGSs ones must be prepared by a PWZTMP qualified person upon engagement of the traffic management contractor and prior to commence of works on site.

6.1 TGS Verification

TCAWS TGS D.4.7 has been approved as being appropriate for use at the work site. Site confirmation must be undertaken via the completion of the TGS verification.

A TGS verification must be undertaken to confirm the selected or designed TGS is fit for purpose. A TGS verification must be completed in accordance with Section 8.1.2 TGS verification by an ITCP or PWZTMP qualified person. TGS verification must include an inspection of the work site where the TGS will be implemented.

6.2 TGS Approval

The PWZTMP qualified person who has designed or modified the relevant TGS has approved the TGS for use. Approval of the TGS includes:

- Review of the relevant TMP, risk assessment and associated TTM specific documentation;
- Design, redesign or modification of the TGS must be in accordance with the requirements of TCAWS;
- Confirmation that the TGS provides the relevant information for the ITCP person to safely implement on-site.

The one up manager of the PWZTMP qualified person has approved the TGS, including:

- Any non-standard or unaccepted signs or devices;
- Any departures from the requirements of TCAWS;
- If a manual traffic controller is proposed for use.

7. Summary

This CTMP has been prepared to outline the construction traffic measures to improve site safety to the public and workers during the construction process.

With the measures described in the CTMP in place, the construction activity is anticipated to have minimal disruption to the daily activities within the vicinity of the site.

It is envisaged that this document will be reviewed during the construction stage and amended if required, due to changes in design, TfNSW, Councils or any other authority requirements.

Attachment 1 Swept Path Assessment

AV IMPINGES ONTO OPPOSING TRAFFIC LANE - TRAFFIC CONTROL MEASURES REQUIRED. CHANGES TO PARKING RESTRICTIONS REQUIRED (SUBJECT TO COUNCIL APPROVAL).

BELMONT ROAD

CONCRETE POUR ZONE

WORKS ZONE

BELMONT ROAD

GLADSTONE AVENUE

AV LEFT TURN ONTO MILITARY ROAD REQUIRES CHANGES TO PARKING RESTRICTIONS (SUBJECT TO COUNCIL APPROVAL).

EXISTING MOTORCYCLE PARKING TO BE SHIFTED NORTH

GLADSTONE AVENUE

AVENUE ROAD

MILITARY ROAD

AVENUE ROAD

AV REQUIRES PARKING CHANGES TO ACCOMMODATE LEFT TURN (SUBJECT TO COUNCIL APPROVAL)

comments

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VEHICLE SPECIFICATIONS

IN

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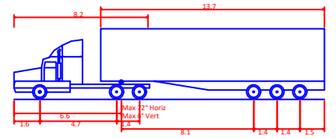

AV - Articulated Vehicle	
Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

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rev	date	comment / description	drawn	reviewed
7	03/12/21	For information	HL	KB
6	02/12/21	For information	HL	KB
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3	27.09.21	For information	JM	KB
2	15/06/20	For Information	JM/HL	KB
1	08/01/20	For Review	JJ	KB

project
Mosman High School

drawing title
Swept Path Analysis
19M AV Access/Egress Route

client	SINSW
drawing #	AV-001
project #	2725
scale	1 : 1000

rev 7

comments | A3

VEHICLE SPECIFICATIONS

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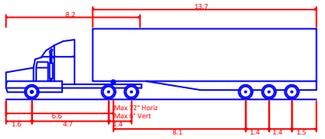

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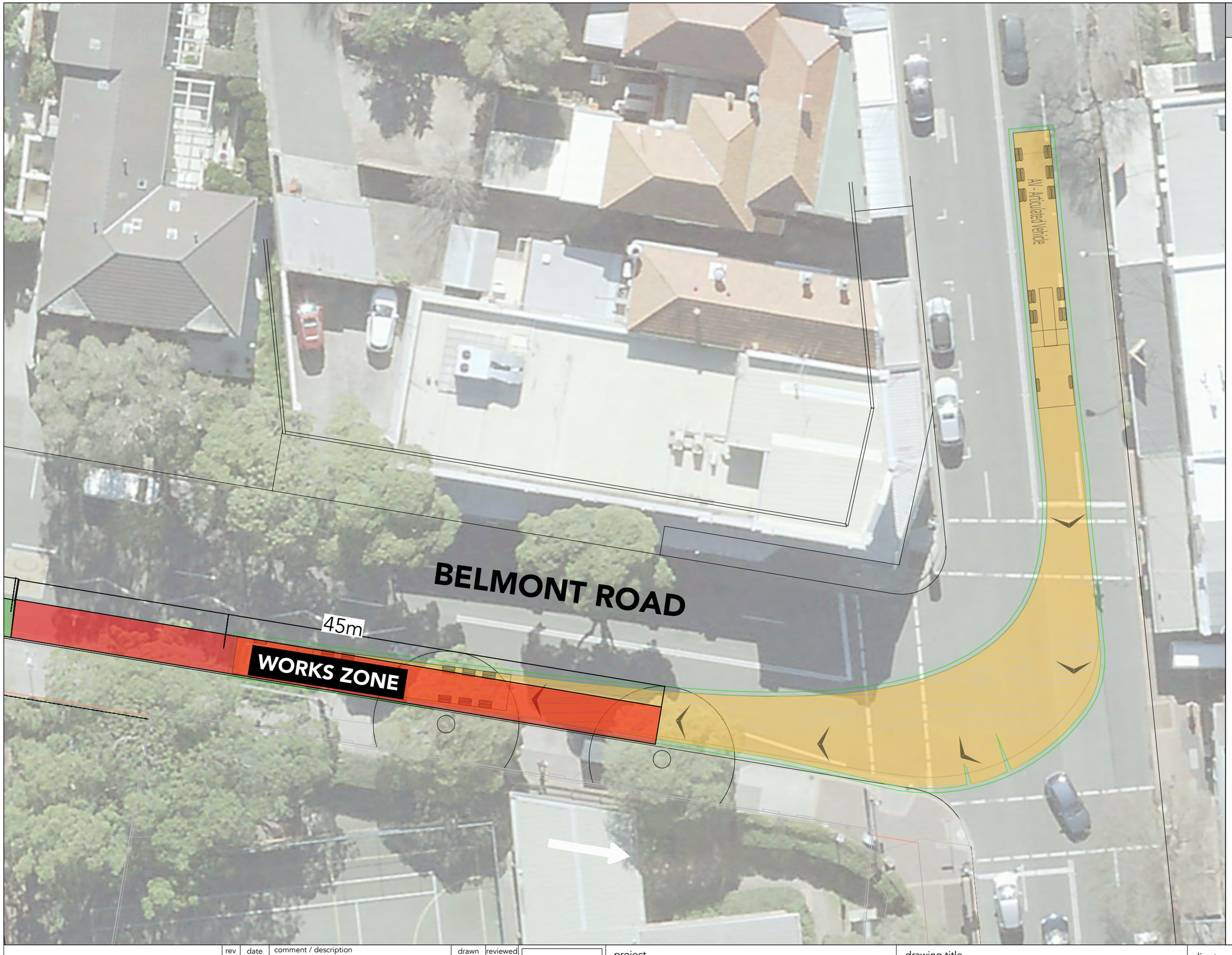

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project
Mosman High School

drawing title
Swept Path Analysis

19M AV Access/Egress Route
Military Rd / Belmont Rd

client	SINSW
drawing #	AV-002
project #	2725
scale	1 : 250

rev 7

BELMONT ROAD

CONCRETE POUR ZONE

GLADSTONE AVENUE

AV - Articulated Vehicle

30m

AV IMPINGES ONTO OPPOSING TRAFFIC LANE - TRAFFIC CONTROL MEASURES REQUIRED. CHANGES TO PARKING RESTRICTIONS REQUIRED (SUBJECT TO COUNCIL APPROVAL).

comments

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VEHICLE SPECIFICATIONS

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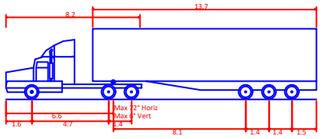

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1	08/01/20	For Review	JJ	KB

project

Mosman High School

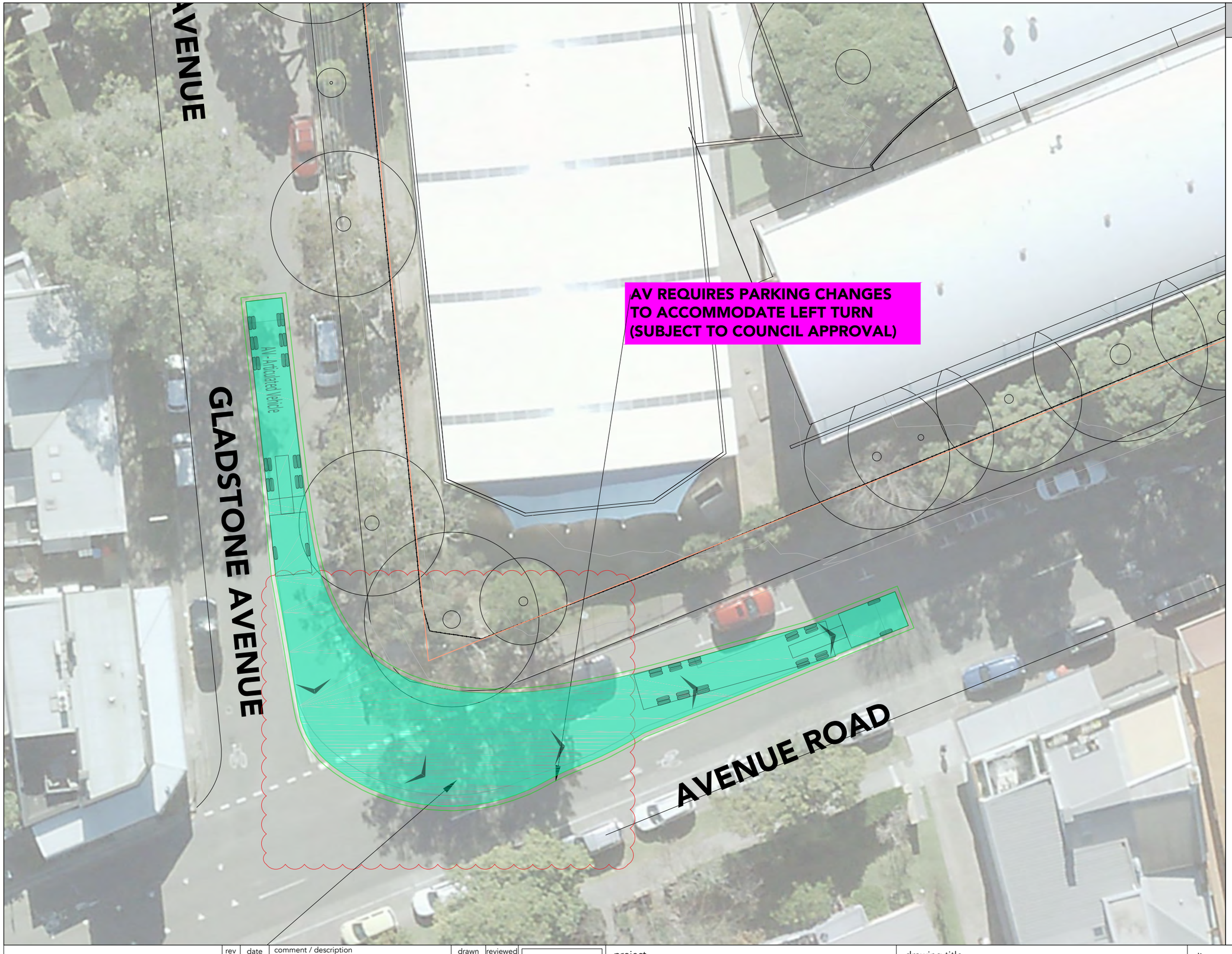
drawing title

Swept Path Analysis

19M AV Access/Egress Route
Belmont Rd / Gladstone Ave

client	SINSW
drawing #	AV-003
project #	2725
scale	1 : 250

rev 7



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VEHICLE SPECIFICATIONS

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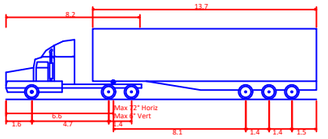

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1	08/01/20	For Review	JJ	KB

project
Mosman High School

drawing title
Swept Path Analysis
19M AV Access/Egress Route
Gladstone Ave / Avenue Rd

client	SINSW
drawing #	AV-004
project #	2725
scale	1 : 250

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VEHICLE SPECIFICATIONS

IN

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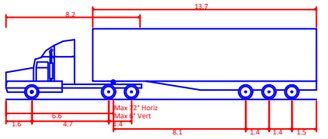

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project
Mosman High School

drawing title
Swept Path Analysis

19M AV Access/Egress Route
Military Rd / Avenue Rd

client	SINSW
drawing #	AV-005
project #	2725
scale	1 : 250

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VEHICLE SPECIFICATIONS

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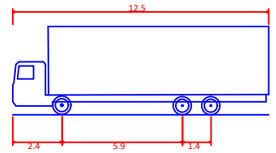

HRV - Heavy Rigid Vehicle	
Overall Length	12.500m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

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1	08/01/20	For Review	JJ	KB

project
Mosman High School

drawing title
Swept Path Analysis

12.5M HRV Access/Egress Route
Military Rd / Belmont Rd

client	SINSW
drawing #	HRV-001
project #	2725
scale	1 : 250

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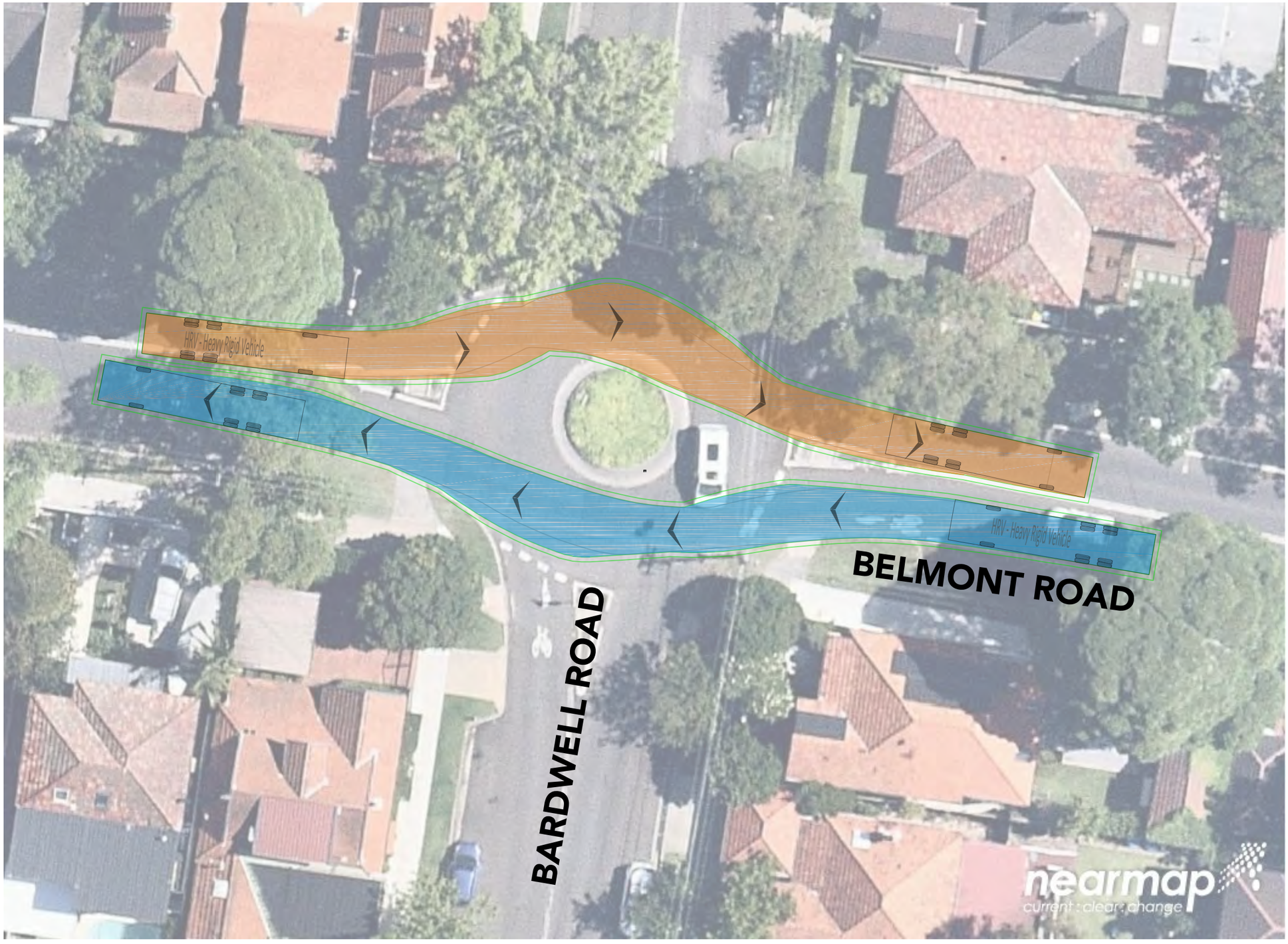

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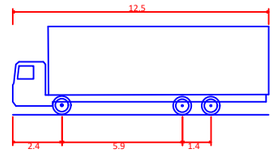

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project
Mosman High School

drawing title
Swept Path Analysis

12.5M HRV Access/Egress Route
Belmont Rd / Bradwell Rd

client	SINSW
drawing #	HRV-002
project #	2725
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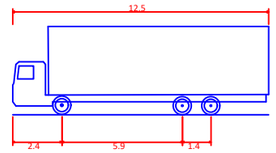

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project
Mosman High School

drawing title
Swept Path Analysis

12.5M HRV Access/Egress Route
Belmont Rd / Cowles Rd

client	SINSW
drawing #	HRV-003
project #	2725
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rev 7

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VEHICLE SPECIFICATIONS

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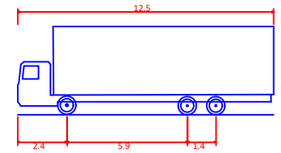

HRV - Heavy Rigid Vehicle	
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project
Mosman High School

drawing title
Swept Path Analysis
12.5M HRV Access/Egress Route
Belmont Rd / Gladstone Ave

client	SINSW
drawing #	HRV-004
project #	2725
scale	1 : 250

rev 7

comments | A3

VEHICLE SPECIFICATIONS

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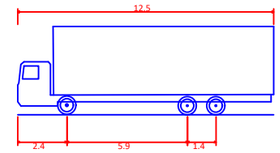

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GLADSTONE AVENUE

AVENUE ROAD

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project
Mosman High School

drawing title
Swept Path Analysis

12.5M HRV Acess Route
Avenue Rd / Gladstone Ave

client	SINSW
drawing #	HRV-005
project #	2725
scale	1 : 250

rev 7

comments | A3

VEHICLE SPECIFICATIONS

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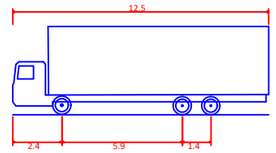

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AVENUE ROAD

MILITARY ROAD

DN

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project
Mosman High School

drawing title
Swept Path Analysis

12.5M HRV Access Route
Military Rd / Avenue Rd

client	SINSW
drawing #	HRV-006
project #	2725
scale	1 : 250

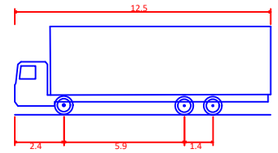
rev 7

comments | A3

VEHICLE SPECIFICATIONS

IN

OUT



HRV - Heavy Rigid Vehicle	
Overall Length	12.500m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

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ptcconsultants.co

rev	date	comment / description	drawn	reviewed
7	03/12/21	For information	HL	KB
6	02/12/21	For information	HL	KB
5	01/12/21	For information	HL	KB
4	12.10.21	for information	JM	KB/SW
3	27.09.21	For information	JM	KB
2	15/06/20	For Information	JM/HL	KB
1	08/01/20	For Review	JJ	KB

project
Mosman High School

drawing title
Swept Path Analysis

12.5M HRV Access Route
Military Rd / Belmont Rd

client	SINSW
drawing #	HRV-007
project #	2725
scale	1 : 250

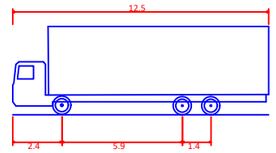
rev 7

comments | A3

VEHICLE SPECIFICATIONS

IN

OUT



HRV - Heavy Rigid Vehicle	
Overall Length	12.500m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

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rev	date	comment / description	drawn	reviewed
7	03/12/21	For information	HL	KB
6	02/12/21	For information	HL	KB
5	01/12/21	For information	HL	KB
4	12.10.21	for information	JM	KB/SW
3	27.09.21	For information	JM	KB
2	15/06/20	For Information	JM/HL	KB
1	08/01/20	For Review	JJ	KB

project
Mosman High School

drawing title
Swept Path Analysis

12.5M HRV Access/Egress Route
Belmont Rd / Gladstone Ave

client	SINSW
drawing #	HRV-008
project #	2725
scale	1 : 250

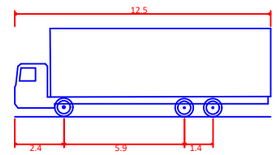
rev 7

comments | A3

VEHICLE SPECIFICATIONS

IN

OUT



HRV - Heavy Rigid Vehicle	
Overall Length	12.500m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

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rev	date	comment / description	drawn	reviewed
7	03/12/21	For information	HL	KB
6	02/12/21	For information	HL	KB
5	01/12/21	For information	HL	KB
4	12.10.21	for information	JM	KB/SW
3	27.09.21	For information	JM	KB
2	15/06/20	For Information	JM/HL	KB
1	08/01/20	For Review	JJ	KB

project
Mosman High School

drawing title
Swept Path Analysis
Additional HRV Movements during Stage 1
12.5M HRV Access/Egress Route

client	SINSW
drawing #	HRV-009
project #	2725
scale	1 : 250

rev 7

CONCRETE POUR ZONE ONLY
REQUIRED FOR STAGE 2

BELMONT ROAD

30m

CONCRETE POUR ZONE

WORKS ZONE

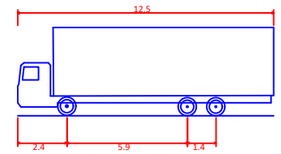
EXISTING PEDESTRIAN PATH TO BE TEMPORARILY BLOCKED WHEN CONSTRUCTION VEHICLES ENTER AND EXIT.

comments | A3

VEHICLE SPECIFICATIONS

IN

OUT



HRV - Heavy Rigid Vehicle	
Overall Length	12.500m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

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rev	date	comment / description	drawn	reviewed
7	03/12/21	For information	HL	KB
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5	01/12/21	For information	HL	KB
4	12.10.21	for information	JM	KB/SW
3	27.09.21	For information	JM	KB
2	15/06/20	For Information	JM/HL	KB
1	08/01/20	For Review	JJ	KB

project
Mosman High School

drawing title
Swept Path Analysis
Additional HRV Movements during Stage 2 & 3
12.5M HRV Access/Egress Forward In / Reverse Out

client	SINSW
drawing #	HRV-010
project #	2725
scale	1 : 250

rev 7

Attachment 2 Construction Program

INDICATIVE PROGRAMME

SERVICES

DEMO E + B

DEMO C

STRUCTURE

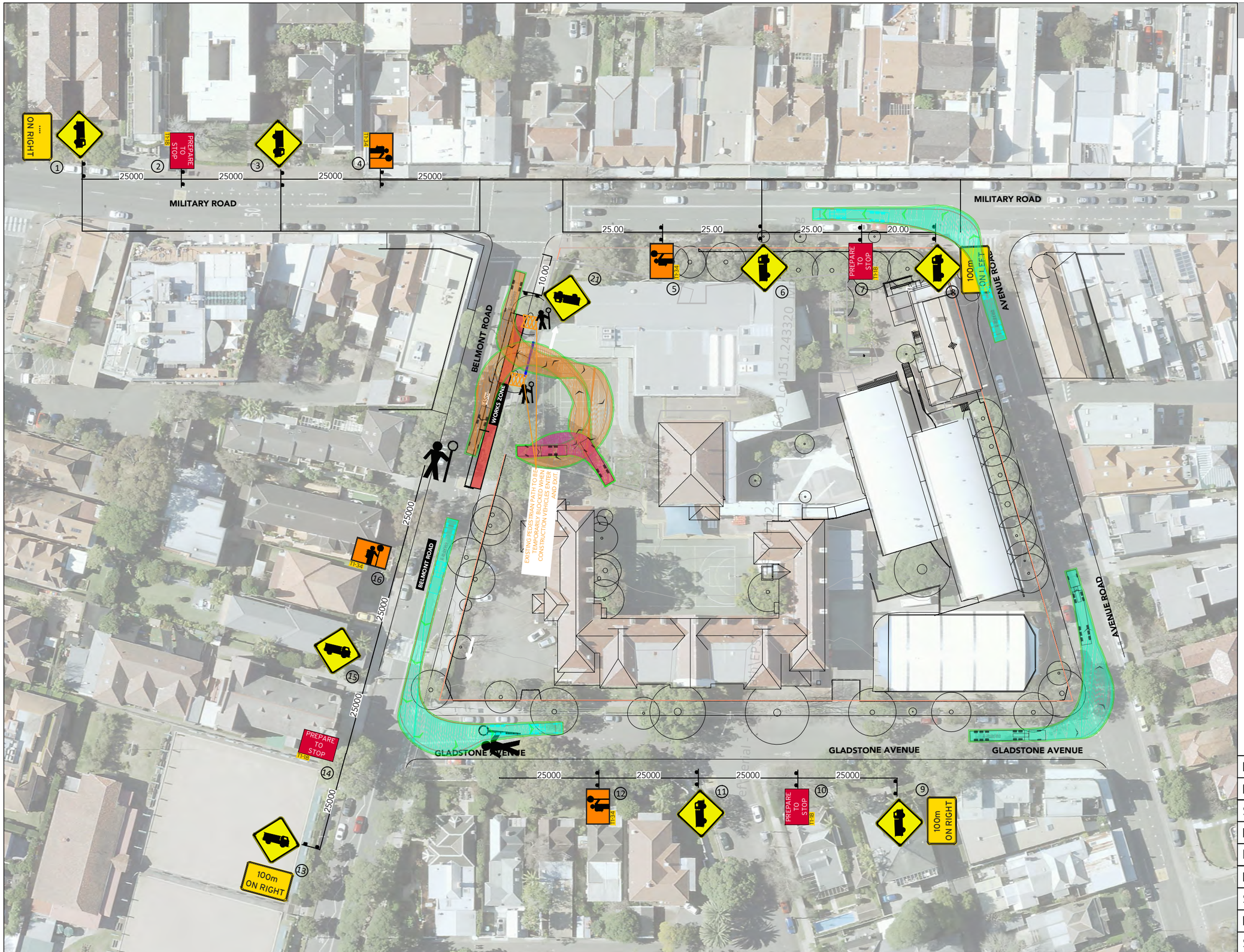
FAÇADE

FIT-OUT

LANDSCAPE

Truck Type	Assumptions	Traes	No. Trucks Overall	DEC. W1	DEC. W2	JANUARY W3	JANUARY W4	JANUARY W5	JANUARY W6	FEBRUARY W7	FEBRUARY W8	FEBRUARY W9	FEBRUARY W10	MARCH W11	MARCH W12	MARCH W13	MARCH W14	MARCH W15	APRIL W16	APRIL W17	APRIL W18	APRIL W19	MAY W20	MAY W21	MAY W22	MAY W23	JUNE W24	JUNE W25	JUNE W26	JUNE W27	JUNE W28	JULY W29	JULY W30	JULY W31	JULY W32	AUGUST W33	AUGUST W34	AUGUST W35	AUGUST W36	SEPTEMBER W37	SEPTEMBER W38	SEPTEMBER W39	SEPTEMBER W40	OCTOBER W41	OCTOBER W42	OCTOBER W43	OCTOBER W44	NOVEMBER W45	NOVEMBER W46	NOVEMBER W47	NOVEMBER W48	NOVEMBER W49	DECEMBER W50	DECEMBER W51	DECEMBER W52	DECEMBER W53	DECEMBER W54
Semi		**Plant Delivery (forklift, crane etc)**	8	2						3										3																																							
Rigid	No dog	**Demolition**	64	16	16	16	16																																																		
Rigid	No dog 16m3 per truck 94 based on cut/fill	**Bulk Excavation Removal**	94					24	24	24	24																																															
Rigid	No dog	**Detailed Excavation Removal**	12									6	6																																												
Semi		**Reo**	34									1	1	1	3	3	3	3	3	3	3	3	1			1	1		1																														
Semi		**PT**	8													1	1	1	1	1	1	1																																			
Agi	7.5m3	**Concrete**	284									1	1	1		18	18	43	20	30	20	38	20	21	28	22		2		1																													
Semi		**Scaffold**	32	2	2					2	2	4	4	4	4	4	4																																									
Semi	2 per pour	**Formwork**	27									1	1				2	2	2	2	2	4	4	2		2	2			1																													
Rigid		**Bracing**	16													2	2	2	2	2	2	2	2																																			
Semi		**Structural Steel**	36													6	6	6	6	6	6																																				
Rigid		**Bricks**	39																				1	1	1	4	4	4	4	4	4	4	4	4																							
Rigid		**Metal Cladding**	16																												4	4	4	4																							
Rigid		**Gyprock**	66																				6	6	6						4	4	4	4	4	4	4	4	4	4	4	4												
Rigid		**Façade**	21																								3	3	3	3	3	3	3																							
Rigid		**Tennis Court Netting**	6																												2	2	2																							
Rigid		**Balustrades**	9																													2	2	2	3																			
Rigid		**FF&E**	16																																											4	4	4	4							
Rigid		**Electrical**	4	1	1					2																																													
Rigid		**Hydraulic**	13	1	1					2													1	1	1	2	2				1	1																							
Rigid		**Mechanical**	30																					6	6	6	6	6																											
Semi		**VT**	5																								1	1	1																										
Rigid		**Landscaping**	96																																		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Semi Total				4	2	0	0	0	0	5	2	6	6	5	7	14	16	12	12	15	12	8	8	3	0	2	4	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Semi per day				**1**	**1**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**1**	**1**	**2**	**3**	**3**	**2**	**2**	**3**	**2**	**2**	**2**	**1**	**0**	**1**	**1**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Rigid Total				18	18	16	16	24	24	28	24	7	7	1	0	20	20	45	22	32	22	40	24	35	42	40	15	15	7	8	15	18	20	16	6	7	4	10	10	10	10	10	6	10	10	10	10	6	6	6	6	6	6	0	0	0	0
Rigid per day				**3**	**3**	**3**	**3**	**4**	**4**	**5**	**4**	**2**	**2**	**1**	**0**	**4**	**4**	**8**	**4**	**6**	**4**	**7**	**4**	**6**	**7**	**7**	**3**	**3**	**2**	**2**	**3**	**3**	**4**	**3**	**1**	**2**	**1**	**2**	**2**	**2**	**2**	**2**	**1**	**2**	**2**	**2**	**2**	**1**	**1**	**1**	**1**	**1**	**1**	**0**	**0**	**0**	**0**
		TOTAL	936	22	20	16	16	24	24	33	26	13	13	6	7	34	36	57	34	47	34	48	32	38	42	42	19	17	9	9	15	18	20	16	6	7	4	10	10	10	10	10	6	10	10	10	10	7	7	6	6	6	6	0	0	0	0
		per day		4	3	3	3	4	4	5	4	2	2	1	1	6	6	10	6	8	6	8	5	6	7	7	3	3	2	2	3	3	3	3	1	1	1	2	2	2	2	2	1	2	2	2	2	1	1	1	1	1	1	0	0	0	0

Attachment 3 Traffic Guidance Scheme



comments

A3

Military Road: D = 50

Belmont Road: D = 50

Gladstone Avenue: D = 50

Avenue Road: D = 50

SITE NOTES:

S1 . Maintain pedestrian access along formed pathway around the site.
S2. Work site to be fenced to prevent unauthorised access.
S3. The order in which the signage is installed should correspond to the relevant number on the plan. Signage should be removed in the reverse order.

GENERAL NOTES:

G1. All signed to be clearly visible throughout the works and monitored. Signs can be mounted if required on posts to be visible above parked cars. Signs to be coordinated on site to ensure they are clearly visible.
G2. All signs to be size A.
G3. All signs to be visible when workers are in the area and covered when workers are not present.
G4. Signs to be in accordance with RMS Traffic Control at Worksites (TCAWS) Manual and AS1742.3 Traffic Control for Works on roads.
G5. TfNSW/Council approvals to be obtained prior to implementation.
G6. This TGS is based on TCAWS Manual and is to be set up by qualified traffic controllers (Yellow card). Any alterations on site to this TGS is to be documented and rerecorded by qualified personnel with a Red/Orange card.

Road Name:	Military Road / Belmont Road
Location of Work:	Belmont Road
Suburb:	Mosman
Map Reference:	Metromap
Duration:	17/12/21 - 28/04/23
Road Configuration:	1 Lane 2 Way
Speed Limit:	50 km/h
ROL Approved:	No
SZA Approved:	No

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Suite 502, 1 James Place
North Sydney NSW 2060
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ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
7	03/12/21	FOR INFORMATION	HL	KB
6	02/12/21	FOR INFORMATION	HL	KB
5	01/12/21	FOR INFORMATION	HL	KB
4	12.10.21	FOR INFORMATION	JM	KB/SW
3	27.09.21	FOR INFORMATION	JM	KB
2	15/06/20	FOR INFORMATION	JM/HL	KB
1	08/01/20	FOR REVIEW	JJ	KB

PROJECT
MOSMAN HIGH SCHOOL

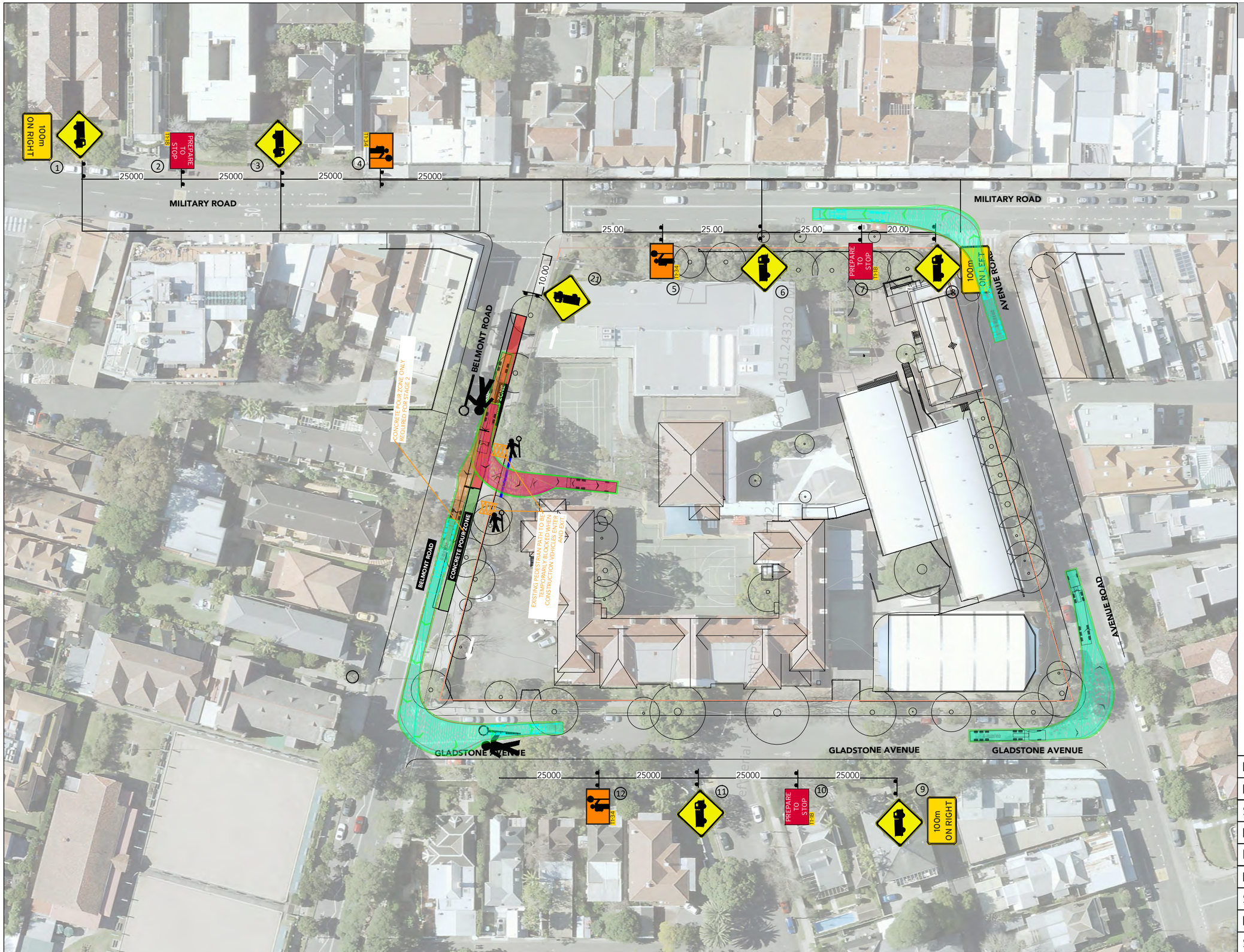
DRAWING TITLE
Traffic Guidance Scheme - Stage 1 Works

Designed by:	Aaron Pau
Requested by:	Jade Nicholson
Approved by:	Dan Budai
Delegation:	Work Manager

CLIENT	SINSW
DRAWING #	TGS-001
PROJECT #	2725
SCALE	NTS

############

REV 7



comments

A3

Military Road: D = 50

Belmont Road: D = 50

Gladstone Avenue: D = 50

Avenue Road: D = 50

SITE NOTES:

S1 . Maintain pedestrian access along formed pathway around the site.
S2. Work site to be fenced to prevent unauthorised access.
S3. The order in which the signage is installed should correspond to the relevant number on the plan. Signage should be removed in the reverse order.

GENERAL NOTES:

G1. All signed to be clearly visible throughout the works and monitored. Signs can be mounted if required on posts to be visible above parked cars. Signs to be coordinated on site to ensure they are clearly visible.
G2. All signs to be size A.
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G5. TfNSW/Council approvals to be obtained prior to implementation.
G6. This TGS is based on TCAWS Manual and is to be set up by qualified traffic controllers (Yellow card). Any alterations on site to this TGS is to be documented and rerecorded by qualified personnel with a Red/Orange card.

Road Name:	Military Road / Belmont Road
Location of Work:	Belmont Road
Suburb:	Mosman
Map Reference:	Metromap
Duration:	17/12/21 - 28/04/23
Road Configuration:	1 Lane 2 Way
Speed Limit:	50 km/h
ROL Approved:	No
SZA Approved:	No

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REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
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5	01/12/21	FOR INFORMATION	HL	KB
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3	27.09.21	FOR INFORMATION	JM	KB
2	15/06/20	FOR INFORMATION	JM/HL	KB
1	08/01/20	FOR REVIEW	JJ	KB

PROJECT
MOSMAN HIGH SCHOOL

DRAWING TITLE
Traffic Guidance Scheme - Stage 2 & 3 Works

Designed by:	Aaron Pau
Requested by:	Jade Nicholson
Approved by:	Dan Budai
Delegation:	Work Manager

CLIENT	SINSW
DRAWING #	TGS-002
PROJECT #	2725
SCALE	NTS

############

REV 7

Attachment 4 Traffic management strategy - data collection (mandatory)

Wednesday, September 1, 2021

Traffic management strategy - data collection (mandatory)

Project information and data collection

For the risk associated with Temporary Traffic Management to be effectively managed, it is important that the conditions and constraints associated with the works are understood. For this to be achieved, the client must collect the relevant data and information and transfer this to the delivery partner to ensure an informed TMP is developed.

Use this form to complete the Site information component of your traffic management strategy. Once you have entered all the necessary information to the form you will be able to download as pdf.

Please note - Data collected via this form will not be saved for future retrieval and cannot be edited at a later date. You will need to ensure you keep a copy for your own records.

Work related information

Project	Mosman Highschool Expansion
Current project phase	Construction Certificate
Activity/works	Expansion
Location	745 Military Road, Mosman NSW 2088
Start of works	Friday, December 17, 2021
End of works	Friday, April 28, 2023
Hours of operation	Day
Day - From: / To:	7:00 AM - 6:00 PM

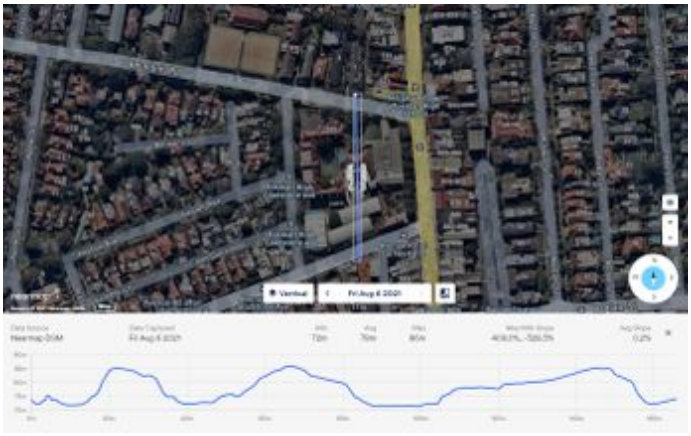
Site related information

Setting of works	Urban

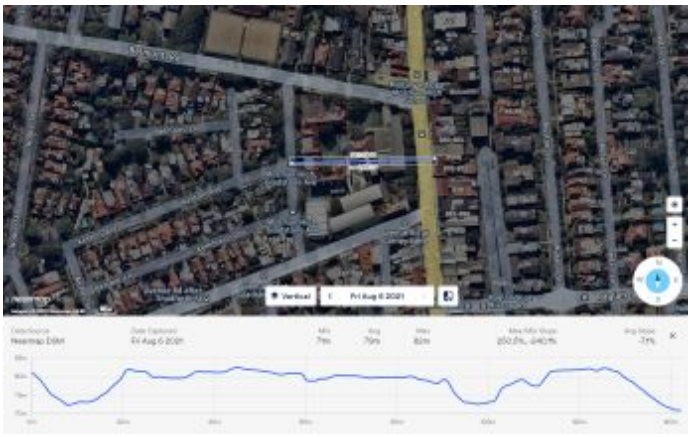
Describe the unique cross-sectional features

The cross section of the site is relatively flat as the site is at the same level as the adjacent roadways. This can be seen in the cross section diagrams attached.

Attach a cross section of location of works



Attach a photo of location of works



Posted speed limit/s

Road name	Military Road	**Limit**	50
Road name	Belmont Road	**Limit**	50
Road name	Gladstone Avenue	**Limit**	50
Road name	Avenue Road	**Limit**	50

Are intersections impacted by the project length? No

Traffic data

Traffic volumes - Average Daily Traffic (ADT): 7990

Traffic peak times AM 7:45 AM - 8:45 AM

Traffic peak times PM 2:45 PM - 2:45 PM

Traffic composition Heavy vehicles

% of Heavy vehicles: 6.5

Provide details:

The ADT and traffic composition are based on traffic survey volumes taken from the original Development Application. The ADT was calculated based on the assumption that the peak hour traffic flow accounts for 10% of the average daily traffic.

Vulnerable road users and other facilities

On-street parking | Transport facilities (bus stops) | Footways

Provide further details:

The site is a highschool which will continue to be operational during the expansion of the school. The footways and parking around the school will continue to be in use by students, parents and local residents. There are also bus stops located at the frontage of the site on Military Road and Gladstone Avenue which are used by students and local residents.

Crash history at location

There have been a 10 crash's in the last 5 years outside the site's frontages. The majority of crash's include rear ends. This may be due to driver behaviour and high vehicle volumes around schools and town centres. The large number of high turnover parking spaces and pedestrians may cause vehicles to stop suddenly causing drivers who are not paying attention to cause a crash.

Include any supporting documentation

Constraints

Significant traffic generators

Community facilities | Schools

Community facilities

Specify location:

Military Road, Mosman

Duration / time restrictions

Operational hours of the town centre begin from as early at 6:00am to 6:00pm.

Impacts

Large amount of high turnover parking spaces in use and pedestrians crossing the road throughout the

day. This can cause impacts to the road network, such as congestion due to vehicles parking and pedestrians crossing the roads. Drivers must be cautious and aware of their surroundings as they travel through the town centre.

Events

Schools

Specify location

Military Road, Mosman

Duration / time restrictions

8:00am-4:00pm

Impacts

Large amount of high turnover parking spaces in use and pedestrians (including students) crossing the road throughout the day. This can cause impacts to the road network, such as congestion due to vehicles parking and pedestrians crossing the roads. Drivers must be cautious and aware of their surroundings as they travel through the town centre.

Other

Road environment constraints

All construction activities to be conducted on site, not within the road reserve, except for public domain work associated with driveways and landscaping.

Other

Completed by

Please enter your details below

First name	Dan
Last name	Budai
Email address	dan.budai@ptcconsultants.co
Role	Senior Traffic Engineer
Organisation	ptc
Division	Traffic Engineer
Date	Wednesday, September 1, 2021

Persons consulted

First name	Shivani
Last name	Karan
Role	Traffic Engineer
Organisation	TfNSW
Division	Network and Safety Services
Date	Wednesday, September 1, 2021
2. Add the details of another person who was consulted?	Yes
First name	Jacqui
Last name	Hicks
Role	Project Manager
Organisation	TfNSW
Division	Travel Domain Management
Date	Wednesday, September 1, 2021
3. Add the details of another person who was consulted?	Yes
First name	Craig
Last name	Covich
Organisation	Mosman Council
Division	Director Environment and Planning
Date	Wednesday, September 1, 2021
4. Add the details of another person who was consulted?	No

Delivery partner - provided to

Please enter their details below

First name	Jade

Last name	Nicholson
Email address	Jade.Nicholson@multiplex.global
Role	Project Manager
Organisation	Multiplex
Date	Wednesday, September 1, 2021
Send a copy of this form to the nominated delivery partner?	Yes

Please note - Data collected via this form will not be saved for future retrieval.
You must keep a copy for your records.

Personal Information Collection Notice

Our Privacy Statement explains why we are collecting your Personal Information and how we will use and manage it in accordance with the Privacy and Personal Information Act 1998, and, where relevant, the Health Records and Information Privacy Act 2002. You can obtain a copy of our Privacy Statement or call us on 13 22 13 to request a copy.

Attachment 5 Signage Plan

comments

A3

TAXI ZONE — New Signage

2P 8:30 AM - 6:00 PM — Remove Signage Temporarily

2P 8:30 AM - 6:00 PM MON - SUN — Retain Existing Signage

Military Road / Belmont Road

Location of Work:	Belmont Road
Suburb:	Mosman
Map Reference:	Metromap
Duration:	17/12/21 - 28/04/23
Road Configuration:	1 Lane 2 Way
Speed Limit:	50 km/h
ROL Approved:	No
SZA Approved:	No

ptc.
Suite 502, 1 James Place
North Sydney NSW 2060
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ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
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6	02/12/21	FOR INFORMATION	HL	KB
5	01/12/21	FOR INFORMATION	HL	KB
4	12.10.21	FOR INFORMATION	JM	KB/SW
3	27.09.21	FOR INFORMATION	JM	KB
2	15/06/20	FOR INFORMATION	JM/HL	KB
1	08/01/20	FOR REVIEW	JJ	KB

PROJECT
MOSMAN HIGH SCHOOL

DRAWING TITLE
SIGNAGE PLAN - STAGE 1 & 3 WORKS

Designed by:	Aaron Pau
Requested by:	Jade Nicholson
Approved by:	Dan Budai
Delegation:	Work Manager

CLIENT	SINSW
DRAWING #	SIGN-001
PROJECT #	2725
SCALE	1:1000

############

REV 7

comments

A3

TAXI ZONE — New Signage

2P 8:30 AM - 6:00 PM — Remove Signage Temporarily

2P 8:30 AM - 6:00 PM MON - SUN — Retain Existing Signage

Military Road / Belmont Road

Location of Work:	Belmont Road
Suburb:	Mosman
Map Reference:	Metromap
Duration:	17/12/21 - 28/04/23
Road Configuration:	1 Lane 2 Way
Speed Limit:	50 km/h
ROL Approved:	No
SZA Approved:	No

ptc.
Suite 502, 1 James Place
North Sydney NSW 2060
t +61 2 8920 0800
ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
7	03/12/21	FOR INFORMATION	HL	KB
6	02/12/21	FOR INFORMATION	HL	KB
5	01/12/21	FOR INFORMATION	HL	KB
4	12.10.21	FOR INFORMATION	JM	KB/SW
3	27.09.21	FOR INFORMATION	JM	KB
2	15/06/20	FOR INFORMATION	JM/HL	KB
1	08/01/20	FOR REVIEW	JJ	KB

PROJECT
MOSMAN HIGH SCHOOL

DRAWING TITLE
SIGNAGE PLAN - STAGE 2 WORKS

Designed by:	Aaron Pau
Requested by:	Jade Nicholson
Approved by:	Dan Budai
Delegation:	Work Manager

CLIENT	SINSW
DRAWING #	SIGN-001
PROJECT #	2725
SCALE	1:1000

############

REV 7

Attachment 6 Driver Code Of Conduct

Hours of Work

Monday to Friday
7:00am to 6:00pm; and
6:00pm to 7:00pm, provided noise levels do not exceed the existing background noise level plus 5dB

Saturday
7:30am to 3:30pm; and
3:30pm to 4pm, provided noise levels do not exceed the existing background noise level plus 5dB

Sunday, Public Holidays
No works to be undertaken without prior approval.

Emergency Contact Numbers

Service NSW Transport Management Centre
131 700

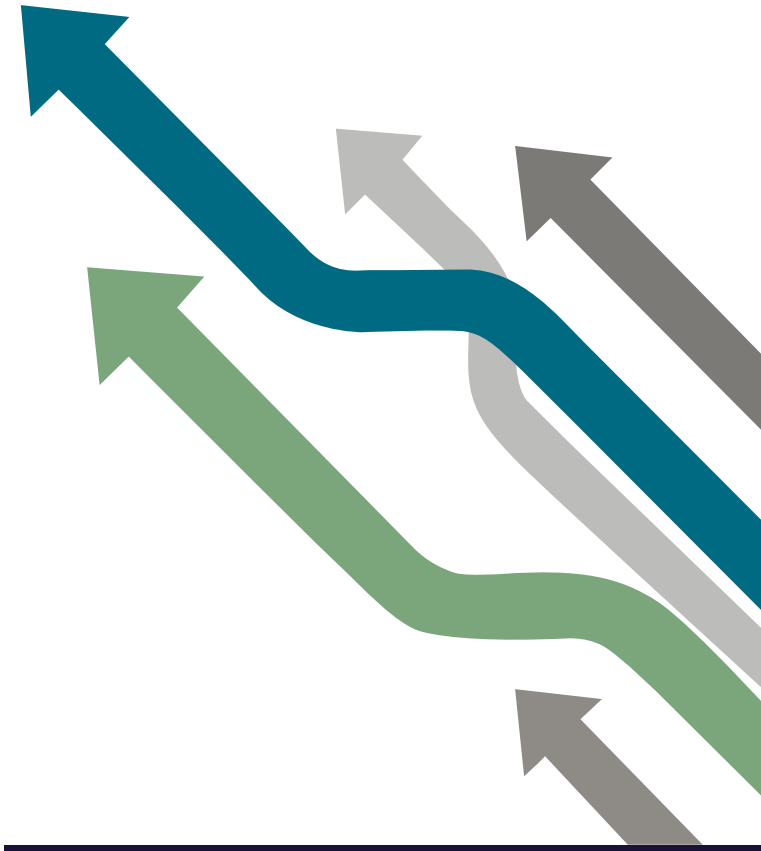
Mosman Council
(02) 9978 4000

Multiplex (Project Manager)
Jade Nicholson
0439 767 858

Multiplex (Site Manager)
Matthew Hogan
0438 570 309

All other Emergencies
000

NSW Department of Education
Mosman High School



Driver Code of Conduct

This Driver Code of Conduct applies to all personnel and any other person conducting business for NSW Department of Education whether a direct employee of Multiplex or employed by another organisation providing service or working with Multiplex.

General Requirements

• As a driver you are required to know and comply with all the road rules pertaining to your vehicle;

• You are expected to hold a valid driver's licence for the class of the vehicle you are operating;

• Undertake a site induction carried out by an approved member of the construction staff or suitably qualified person;

• Participate in regular toolbox meetings with appropriate and qualified person; and

• You are to operate the vehicle in a safe manner within and outside the construction site and comply with the direction of authorised site personnel while inside the site.

Truck Routes

Heavy vehicle drivers are to carefully plan their routes so that state and regional roads are given priority for route selection, keeping in mind the certain restrictions during particular times of the day (i.e. approved Temporary Road Occupancy and/or Works Zone permit conditions).

Other Considerations

• Speed Limits – All heavy vehicle drivers are to observe the posted speed limits, within or outside of the construction site. Keep in mind that there are changes in traffic conditions and altered speed limits are posted on approach to the site;

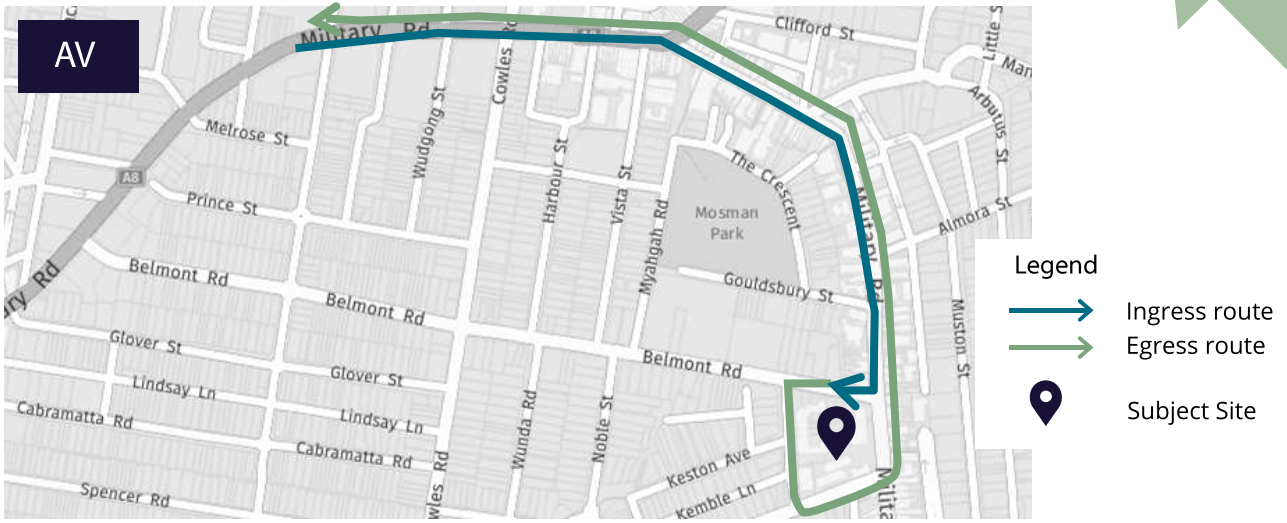
Other Considerations

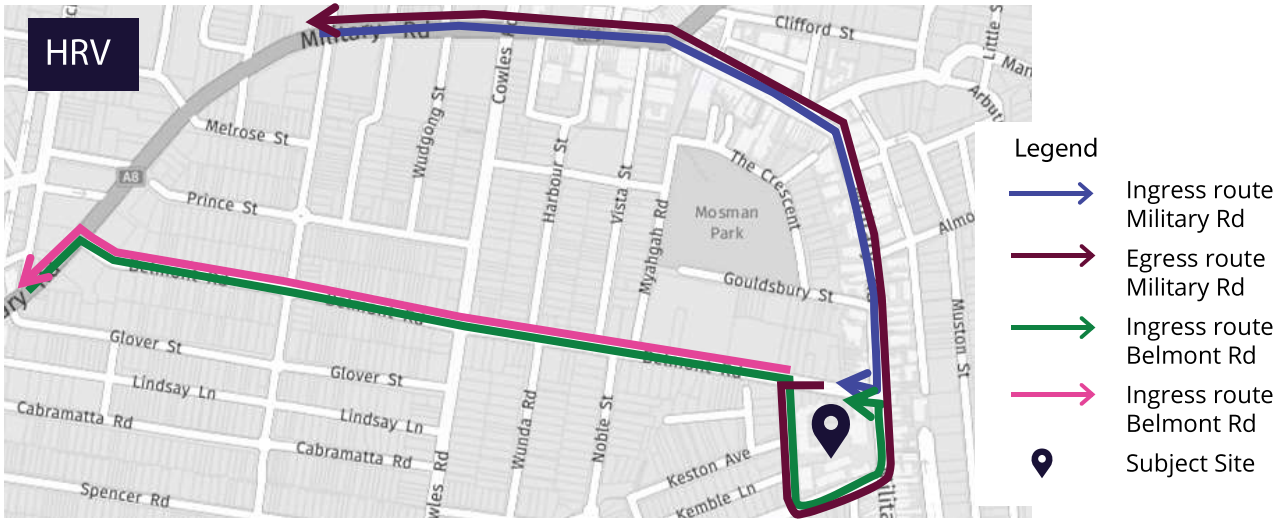
• Driver Fatigue – Driver fatigue is a road safety hazard and one of the biggest causes of accidents especially for heavy vehicle drivers. All drivers have a duty to not drive a vehicle while impaired by fatigue.

• Covering Loads – TfNSW requires all load covers to secure and contain all materials within the vehicle and trailer;

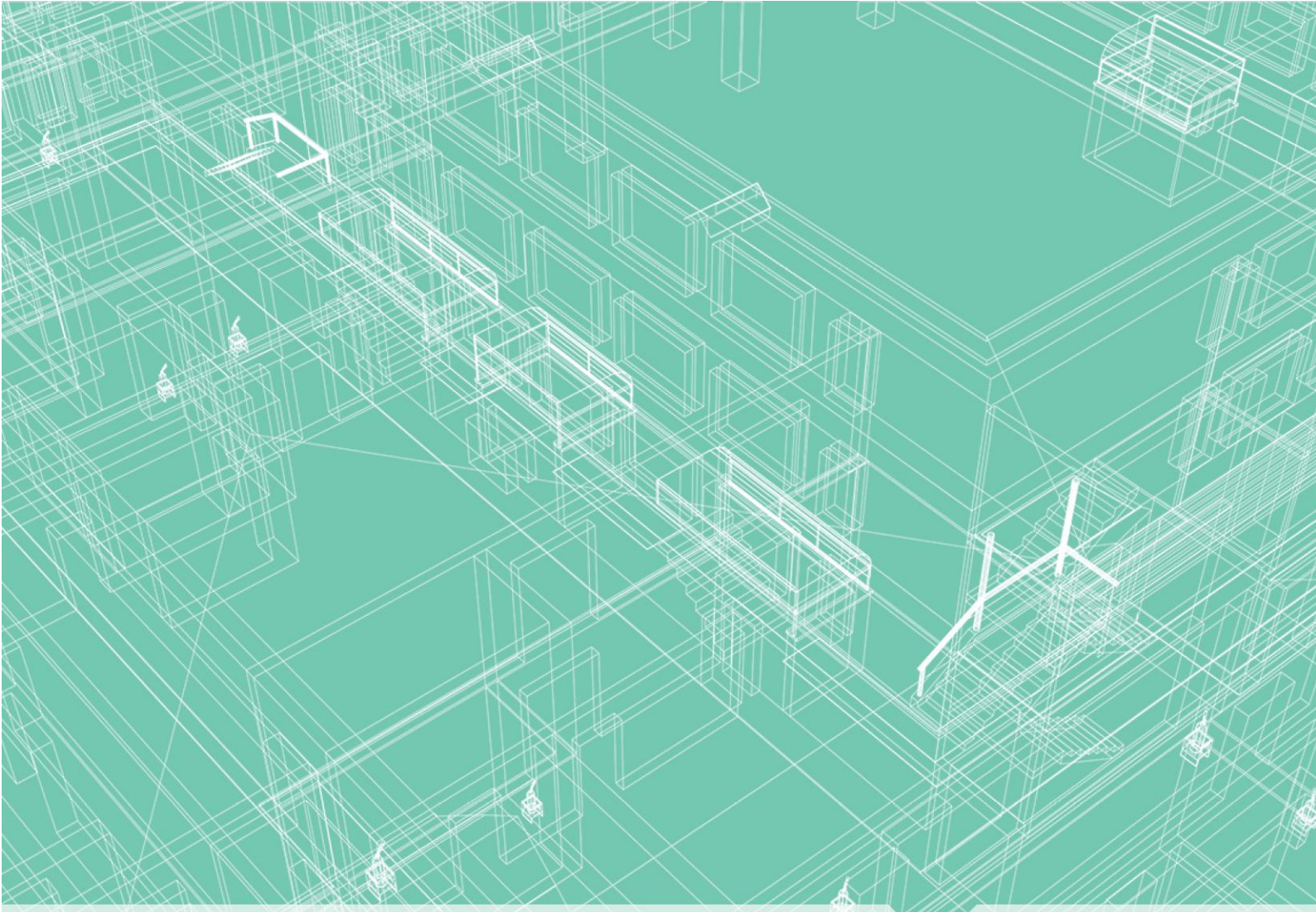
• Heavy Vehicle Interval – To increase road safety, heavy vehicles leaving the construction site should be separated, as far as practicable, a minimum of a 10-minute interval;

• Vehicle Breakdowns – In the case of a breakdown, the vehicle must be towed to the nearest breakdown point as soon as possible and reported to the Service NSW Transport Management Centre (131 700)





16.4 Appendix 4: Construction Noise and Vibration Management Plan



CONSTRUCTION NOISE AND VIBRATION MANAGEMENT PLAN

MOSMAN HIGH SCHOOL UPGRADE

ACOUSTIC SERVICES

JHA

JHASERVICES.COM

This report is prepared for the nominated recipient only and relates to the specific scope of work and agreement between JHA and the client (the recipient). It is not to be used or relied upon by any third party for any purpose.

DOCUMENT CONTROL SHEET

Project Number	200453
Project Name	Mosman High School Upgrade
Description	Construction Noise and Vibration Management Plan
Main Contractor	Multiplex Constructions
Key Contact	Project Manager: Jade Nicholson. Senior Project Engineer: Christina Travers-Jones

Prepared By

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Revision History

Issued To	Revision and Date						
Multiplex Constructions	REV	A	B	C			
	DATE	29/10/2021	18/11/2021	26/11/2021			
	REV						
	DATE						

CONTENTS

1 INTRODUCTION

1.1 OVERVIEW

This Construction Noise and Vibration Management Plan (CNVMP) has been prepared by JHA Consulting Engineers on behalf of Multiplex Constructions for School Infrastructure NSW (SINSW) to address the Condition of Consent B19 of the State Significant Development Application (SSD-10456) for the proposed upgrade of the Mosman High School (the Proposal) located at 745 Military Road, Mosman.

Mosman High School has consent for a new building on the corner of Military and Belmont Roads with capacity for up to 1,200 students. The proposal will include demolition of existing buildings, new building works, associated core infrastructure, new outdoor play areas including roof top play space and associated landscaping works.

This document and related work have been prepared following JHA Consulting Engineers Quality and Environmental Management Systems, which are based on AS/NZS ISO 9001:2015 and ISO 14001:2015.

1.2 PURPOSE OF THE CNVMP

The purpose of this CNVMP is to ensure that noise and vibration impacts due to Construction activities are appropriately managed in accordance with relevant legislation and standards, plus protection of the nearby sensitive receivers. The objectives of this acoustic assessment are:

- Comply with the relevant Conditions of Consent as per SSD-10456.
- Identify noise sensitive receivers that will potentially be affected by the works.
- Determine existing ambient and background noise levels on site.
- Establish the appropriate noise level and vibration criteria in accordance with the relevant standards, guidelines and legislation.
- Determine whether the relevant criteria can be achieved based on assumed construction works and plant for the noise assessments. Where applicable, provide recommendations for any necessary acoustic control measures that will need to be incorporated into the development or use in order to ensure with the assessment criteria.
- Provide recommendations for Construction Noise and Vibration Planning.

This CNVMP identifies the Contractor's obligations and the requirements to manage noise and vibration during construction such that the necessary allowances within the construction costs, programmes and work methodologies can be made. Relevant legislation, guidelines and standards are identified in this CNVMP.

1.3 NOISE AND VIBRATION ISSUES

This CNVMP addresses all works from construction works associated with the proposed development. The construction works will contribute noise and vibration emissions to the surrounding environment. Typically, this will comprise of continuous and intermittent noise and vibration from on-site construction equipment and plant equipment.

Construction noise associated with the project may include airborne and ground-borne noise impacts as follows:

- Airborne Noise: Proposed construction works will generate noise that will propagate through the air. Airborne noise generated by external construction activities is likely to impact on surrounding sensitive receivers.
- Ground-borne noise and vibration impacts: Construction and piling works have the potential to generate noise and vibration that propagates through the ground and building structural elements which is then radiated by vibrating wall and floor surfaces of nearby sensitive receivers.

1.4 RESPONSIBILITIES

The Main Contractor must be responsible for ensuring that the noise and vibration from activities carried out on site are minimised as far as practical.

The Main Contractor is responsible for:

- Ensuring that any site noise and vibration plus any complaints, are monitored, investigated, managed and controlled in accordance with the recommendations provided in this plan.
- Ensuring procurement documents specify any particular requirements in relation to the management of noise and vibration.
- Ensuring all works are undertaken in accordance with the requirements of the contract documents and this plan.
- Ensuring all project personnel and sub-contractors employed are aware of their responsibilities in regard to the management of noise and vibration during construction and assume the responsibilities assigned to them within the plan.
- Monitoring and managing noise and vibration impacts on sensitive receivers, in accordance with the requirements of the relevant guidelines and standards.
- Consulting with the occupants of surrounding buildings to inform them of the nature of the construction works, to determine any specific noise and vibration sensitivity they may have and to negotiate respite times during noisier works.

2 DESCRIPTION OF THE PROPOSAL

2.1 SITE DETAILS

Mosman is a suburb of Sydney, in the Local Government Area of Mosman. The existing Mosman High School site is located at 745 Military Road, NSW 2088.

The site contains the existing Mosman High School and is currently surrounded by a mix of commercial, and residential receivers. The surrounding land uses are as follows:

- *North*: Immediately North of the site is currently a mix of residential, commercial, place of worship and active recreational noise receivers along Belmont and Military Roads.
- *East:* Land to the East is occupied by Military Road with a mix of commercial and residential properties.
- *South*: Land immediately to the South is occupied by commercial and residential receivers.
- *West*: Land to the West is occupied by largely residential development with a small commercial property.

Figure 1 shows the proposed development site (golden shadow) and surrounding noise sensitive receivers.

Figure 1: Proposed development and surrounding sensitive receivers.

2.2 NOISE SENSITIVE RECEIVER DETAILS

A summary of the nearest noise sensitive receivers, grouped into Noise Catchment Areas (NCA's), surrounding the site is shown in Table 1, including approximate distances from the site to the NCA's boundaries, noting also the type of receiver within the NCA's.

ID	*Sensitive Receiver*	*Receiver Type*	*Address*	*Approx. closest distance, m*
R1	Residential noise catchment	Residential	1 Belmont Rd	30
R2	Residential noise catchment	Residential	161 Avenue Rd	40
R3	Residential noise catchment	Residential	6 Gladstone Ave	35
C1	Commercial noise catchment	Commercial	15 Belmont Rd	60
C2	Commercial noise catchment	Commercial	743 Military Rd	20
C3	Commercial noise catchment	Commercial	771 Military Rd	15
C4	Commercial noise catchment	Commercial	130 Avenue Rd	20
M1	Residential noise catchment	Mixed-use	862 Military Rd	25
W1	Scots Kirk	Place of Worship	9 Belmont Rd	50

Table 1: Receivers surrounding the site and the approximate distances from boundaries.

It is noted that if noise and vibration impacts associated with the proposed development are controlled at the nearest sensitive receivers, then compliance with the recommended criteria at all noise sensitive receivers should be achieved.

3 SITE MEASUREMENTS

Attended and unattended noise surveys were conducted as per the WSP report[1] at the locations shown in Figure 2 in accordance with Australian Standard AS1055:2018. The noise survey locations were selected as they are representative of the noise levels at the nearby affected noise sensitive receivers described within this report. The noise surveys have been used to establish the noise assessment level criteria for the proposed development.

Figure 2: Noise surveys locations and boundary of the site.

On Thursday 5th December 2019, short-term noise measurements were undertaken during the day-time period. A summary of the results of the short-term noise monitoring are shown in Table 2.

ID	*Location*	*Date and Time*	*Parameter*	*Overall dB(A)*
M1	19 Keaston Avenue, Mosman	05/12/2019 2.24pm – 2.39pm	$L_{90,15min}$	39
			$L_{eq,15min}$	43
M2	Mosman High School Gladstone Avenue Boundary	05/12/2019 2.44pm – 2.59pm	$L_{90,15min}$	46
			$L_{eq,15min}$	54
M3	Mosman High School, Military Road Boundary	05/12/2019 3.03pm – 3.18pm	$L_{90,15min}$	61
			$L_{eq,15min}$	67
M4	40 Muston Street, Mosman	05/12/2019 3:36pm – 3:41pm	$L_{90,15min}$	41
			$L_{eq,15min}$	60

Table 2: Results of the short-term noise monitoring.

[1] WSP Mosman High School, Noise And Vibration Impact Assessment for SSDA, Rev 1, August 2020.

Long-term noise monitoring was carried out by from Friday 29th November to Thursday 5th December 2019.

The Rating Background Levels (RBLs) have been established in general accordance with the methodology described in the NSW NPI – i.e. 10th percentile background noise level (L_{A90}) for each period of each day of the ambient noise level. The median of these levels is then presented as the RBL for each assessment period.

These RBLs are shown in Table 3 together with the ambient noise levels (L_{Aeq}) measured for each period.

Location	*Rating Background Levels, dB(A)*			*L_{Aeq} Ambient Noise Levels, dB(A)*		
	Day 7am-6pm	*Evening 6pm-10pm*	*Night 10pm-7am*	*Day 7am-6pm*	*Evening 6pm-10pm*	*Night 10pm-7am*
L1	44	40	35	58	54	50
L2	58	51	36	66	64	61

Table 3: Results of the long-term noise monitoring.

4 NOISE AND VIBRATION CRITERIA

4.1 RELEVANT CODES AND STANDARDS

In preparing this CNVMP, the following documentation including legislation, codes, standards and guidelines have been considered:

- Regulatory Framework:
  - Environmental Planning and Assessment (EP&A) Act 1979.
  - Protection of the Environmental Operations (POEO) Act 1997.
- Construction Noise and Vibration:
  - Development Conditions of Consent (SSD-10465).
  - NSW Department of Environment and Climate Change (DECC) *'Interim Construction Noise Guideline'* (ICNG) 2009.
  - NSW DECC Assessing Vibration: A Technical Guideline 2006.
  - NSW Transport Roads & Maritime Services (RMS) *'Construction Noise and Vibration Guideline'* 2016.
  - Australian Standard AS 2436:2010 *'Acoustics – Guide to Noise Control on Construction, Maintenance & Demolition Sites'*.
  - British Standards Institution BS 6472:2008 *'Evaluation of human exposure to vibration in buildings (1 to 80 Hz)'*.
  - British Standards Institution BS 7385.2:1993 *'Evaluation and Measurement for Vibration in Buildings. Guide to Damage Levels from Ground-borne Vibration'*.

4.2 REGULATORY FRAMEWORK

4.2.1 ENVIRONMENTAL PLANNING AND ASSESSMENT (EP&A) ACT 1979

The Environmental Planning and Assessment Act 1979 (EP&A Act) provides the regulatory framework for the protection of the environment in NSW. The EP&A Act is relevantly about planning matters and ensuring that "environmental impact" associated with the proposed development is properly considered and reasonable before granting development consent to develop.

The assessment of "environmental impact" relies upon the identification of acceptable noise criteria which may be defined in a Development Control Plan, or derived from principles using guidelines like NSW EPA Noise Policy for Industry (NPI 2017) or Noise Guide for Local Government (NGLG 2013).

4.2.2 PROTECTION OF THE ENVIRONMENTAL OPERATIONS (POEO) ACT 1997

The Protection of the Environment Operations (POEO) Act 1997 has the objective to protect, restore and enhance the quality of the NSW environment. Abatement of noise pollution is underpinned by the definition of *"offensive noise"* as follows:

"...

(a) that, by reason of its level, nature, character or quality, or the time at which it is made, or any other circumstances:

> *(i) is harmful to (or is likely to be harmful to) a person who is outside the premises from which it is emitted, or*

(ii) interferes unreasonably with (or is likely to interfere unreasonably with) the comfort or repose of a person who is outside the premises from which it is emitted, or

(b) that is of a level, nature, character or quality prescribed by the regulations or that is made at a time, or in other circumstances, prescribed by the regulations.

..."

Noise Guide for Local Government (NGLG) 2013, provides a consideration checklist to determine an *"offensive noise"*.

4.3 DEVELOPMENT CONDITIONS OF CONSENT (SSD-10465)

Clause B19 of the Development consent (SSD-10465) states the following:

"... The Construction Noise and Vibration Management Sub-Plan must address, but not be limited to, the following:

(a) be prepared by a suitably qualified and experienced noise expert;

(b) describe procedures for achieving the noise management levels in EPA's Interim Construction Noise Guideline (DECC, 2009);

(c) describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers;

(d) describe details of respite periods for noise generating works that exceed the 'highly noise affected' threshold and/or generate noise with annoying of intrusive characteristics as identified within the Interim Construction Noise Guideline (DECC, 2009).

(e) include strategies that have been developed with the community for managing high noise generating works;

(f) describe the community consultation undertaken to develop the strategies in condition B19(e);

(g) include a complaints management system that would be implemented for the duration of the construction; and

(h) include a program to monitor and report on the impacts and environmental performance of the development and the effectiveness of the implemented management measures in accordance with the requirements of condition B16. ..."

The development consent also defines construction hours (Clause C4, C5, C6, C7 and C8) and construction noise limits (Clause C13, C14, C15, C16, C17 and C18) for the project.

"... Construction Hours

C4. Construction, including the delivery of materials to and from the site, may only be carried out between the following hours:

(a) between 7am and 6pm, Mondays to Fridays inclusive; and

(b) between 7:30am and 3:30pm, Saturdays.

No work may be carried out on Sundays or public holidays.

C5. Notwithstanding condition C4, provided noise levels do not exceed the existing background noise level plus 5dB, works may also be undertaken during the following hours:

(a) between 6pm and 7pm, Mondays to Fridays inclusive; and

(b) between 3:30pm and 4pm, Saturdays.

C6. Construction activities may be undertaken outside of the hours in condition C4 and C5 if required:

(a) by the Police or a public authority for the delivery of vehicles, plant or materials; or

(b) in an emergency to avoid the loss of life, damage to property or to prevent environmental harm; or

(c) where the works are inaudible at the nearest sensitive receivers; or

(d) where a variation is approved in advance in writing by the Planning Secretary or his nominee if appropriate justification is provided for the works.

C7. Notification of such construction activities as referenced in condition C6 must be given to affected residents before undertaking the activities or as soon as is practical afterwards.

C8. Rock breaking, rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours:

(a) 9am to 12pm, Monday to Friday;

(b) 2pm to 5pm Monday to Friday; and

(c) 9am to 12pm, Saturday. ..."

"... Construction Noise Limits

C13. The development must be constructed to achieve the construction noise management levels detailed in the Interim Construction Noise Guideline (DECC, 2009). All feasible and reasonable noise mitigation measures must be implemented and any activities that could exceed the construction noise management levels must be identified and managed in accordance with the management and mitigation measures identified in the approved Construction Noise and Vibration Management Plan.

C14. The Applicant must ensure construction vehicles (including concrete agitator trucks) do not arrive at the site or surrounding residential or commercial precincts outside of the construction hours of work outlined under condition C4.

C15. The Applicant must implement, where practicable and without compromising the safety of construction staff or members of the public, the use of 'quackers' to ensure noise impacts on surrounding noise sensitive receivers are minimised.

Vibration Criteria

C16. Vibration caused by construction at any residence or structure outside the site must be limited to:

(a) for structural damage, the latest version of DIN 4150-3 (1992-02) Structural vibration - Effects of vibration on structures (German Institute for Standardisation, 1999); and

(b) for human exposure, the acceptable vibration values set out in the Environmental Noise Management Assessing Vibration: a technical guideline (DEC, 2006) (as may be updated or replaced from time to time).

C17. Vibratory compactors must not be used closer than 30 metres from residential buildings unless vibration monitoring confirms compliance with the vibration criteria specified in condition C16.

C18. The limits in conditions C16 and C17 apply unless otherwise outlined in a Construction Noise and Vibration Management Plan, approved as part of the CEMP required by condition B19 of this consent. ..."

4.4 NSW INTERIM CONSTRUCTION NOISE GUIDELINE

The noise criteria in this section are for guidance only and do not form part of any legal obligation on the part of the project proponent. However, compliance with these criteria is considered best practice.

The ICNG suggest construction noise management levels that may minimise the likelihood of annoyance being caused to noise sensitive residential receivers depending on the duration of works. The Noise Management Levels (NMLs) for long-term duration works are as follows for residential receivers:

Time of Day	*NML $L_{Aeq,15min}$*	*How to Apply*
ICNG Criteria for Recommended Standard Hours: Mon-Fri 7am-6pm Sat 8am-1pm No work on Sundays or public holidays	Noise affected: RBL + 10dB	The noise affected level represents the point above which there may be some community reaction to noise. ▪ Where predicted or measured $L_{Aeq,15min}$ is greater that the noise affected level, the proponent should apply all feasible and reasonable work practices to meet the noise affected level. ▪ The proponent should also inform all potentially impacted residents of the nature of works to be carried out, the expected noise levels and duration, as well as contact details.
	Highly noise affected: 75dB(A)	The highly noise affected level represents the point above which there may be strong community reaction to noise. ▪ Where noise is above this level, the relevant authority may require respite periods by restricting the hours that the very noisy activities can occur, taking into account: 1. Times identified by the community when they are less sensitive to noise. 2. If the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.
ICNG Criteria for Outside Recommended Standard Hours *Refer to approved hours from the Consent Conditions*	Noise affected: RBL + 5dB	▪ A strong justification would typically be required for work outside the recommended standard hours. ▪ The proponent should apply all feasible and reasonable work practices to meet the noise affected level. ▪ Where all feasible and reasonable practices have been applied and noise is more than 5dB(A) above the noise affected level, the proponent should negotiate with the community.

Table 4: ICNG construction airborne noise criteria for residential receivers surrounding the construction site.

In order to establish the airborne construction noise criteria, noise levels from the unattended noise monitoring have been used for the noise sensitive receivers – refer to Section 3. Table 5 below summarises the airborne construction noise criteria for most affected noise sensitive receivers surrounding the development site.

Sensitive Receiver		*Airborne Construction Noise Criteria, L_{Aeq} dB(A)*	
		Within Standard Hours	*Outside Standard Hours*
Residential suburban (R3) *Mixed use (B4)*	Noise affected / External	68	63
	Highly noise affected / External	75	NA
Commercial		70 (when in use)	
Place of Worship		70[2] (when in use)	

Table 5: ICNG construction airborne noise criteria for noise sensitive receivers surrounding the site. Note 2: External noise criterion for Place of Worship has been estimated considering a minimum sound transmission loss of 25dB for fixed windows and a target internal noise level of 45dB(A).

The ICNG recommends internal ground-borne noise maximum levels at residences affected by nearby construction activities. Ground-borne noise is noise generated by vibration transmitted through the ground into a structure and can be more noticeable than airborne noise for some sensitive receivers. The ground-borne noise levels presented below from the ICNG are for residential receivers during evening and night-time periods only, as the objective is to protect the amenity and sleep of people when they are at home.

- Evening: $L_{Aeq,15min}$ 40dB(A) (internal)
- Night: $L_{Aeq,15min}$ 35dB(A) (internal)

The internal noise levels are assessed at the centre of the most affected habitable room. No assessments of ground borne noise are has been conducted as no out of hours work is proposed to occur during evening time and night time.

4.5 VIBRATION CRITERIA

There are two items that shall be considered in the assessment of vibration impacts from construction works. These include vibration impacts in terms of human comfort and building damage.

4.5.1 HUMAN COMFORT

The Department of Environment and Climate Change (DECC) developed the document *'Assessing Vibration: A Technical Guideline'* in February 2006 to assist in preventing people from exposure to excessive vibration levels within buildings. It is based on the guidelines contained in BS 6472.1:2008 *'Guide to evaluation of human exposure to vibration in buildings – Vibration sources other than blasting'*. The guideline does not however address vibration induced damage to structures or structure-borne noise effects.

Vibration and its associated effects are usually classified as follows:

- *Continuous vibration*. An uninterrupted vibration for a defined period. This type of vibration is assessed on the basis of weighted root-mean-squared (rms) acceleration values.
- *Impulsive vibration*. A vibration which has a rapid build up to a peak followed by a damped decay that may or may not involve several cycles of vibration (depending on the frequency and damping).
- *Intermittent vibration*. An interrupted periodic vibration of continuous or repeated periods of impulsive vibration, or continuous vibration that varies significantly in amplitude. This type of vibration is assessed on the basis of Vibration Dose Values (VDV).

Vibration criteria for continuous and impulsive vibration are presented in Table 6, in terms of vibration velocity levels. The values are assessed for the most critical frequency range (higher than 8 Hz assuming sinusoidal

motion). When assessing intermittent vibration comprising a number of events, it is recommended that the Vibration Dose Value (VDV) is used Table 7 shows the acceptable VDV values for intermittent vibration.

Receiver Type	*Time*	*RMS velocity, mm/s [dB ref 10^{-6}mm/s]*			
		Continuous Vibration		*Impulsive Vibration*	
		Preferred	*Maximum*	*Preferred*	*Maximum*
Residences	Day-time	0.20 [106 dB]	0.40 [112 dB]	6.00 [136 dB]	12.00 [142 dB]
	Night-time	0.14 [103 dB]	0.28 [109 dB]	2.00 [126 dB]	4.00 [132 dB]

Table 6: Continuous and impulsive vibration criteria applicable to the site. Note: Day-time is 07:00am to 10:00pm and night-time is 10:00pm to 07:00am.

Place	*Time*	*Vibration Dose Values, $m/s^{1.75}$*	
		Preferred	*Maximum*
Residences	Day-time	0.20	0.40
	Night-time	0.13	0.26

Table 7: Intermittent vibration criteria applicable to the site.

4.5.2 STRUCTURAL BUILDING DAMAGE

4.5.2.1 Structural Building Damage

Ground vibration from construction activities can damage surrounding buildings or structures. For unoccupied buildings, or during periods where the buildings are unoccupied, the vibration criteria for building damage suggested by German Standard DIN 4150.3:2016 *'Structural Vibration – Effects of Vibration on Structures'* and British Standard BS 7385.2:1993 *'Evaluation and Measurement for Vibration in Buildings'* are to be adopted. Guideline values from DIN 4150.3:2016 and BS 7385.2:1993 are presented in Table 8 and Table 9 respectively.

Structural type	*RMS velocity, mm/s*			
	Foundation			*Plane of floor uppermost full storey*
	Less than 10Hz	*10 to 50Hz*	*50 to 100Hz*	*Frequency mixture*
Dwellings and buildings of similar design and/or use	5	5 to 15	15 to 20	15

Table 8: DIN 4150.3:2016 Guideline values of vibration velocity for evaluating the effects of short-term vibration.

Structural type	*Peak particle velocity, mm/s*	
	4 to 15Hz	*15Hz and above*
Unreinforced or light framed structures Residential or light commercial type buildings	15mm/s @ 4Hz increasing to 20mm/s @ 15Hz	20mm/s @ 15Hz increasing to 50mm/s @ 40Hz and above

Table 9: BS 7385.2:1993 Guideline values of vibration velocity for evaluating cosmetic damage.

5 CONSTRUCTION ACTIVITIES

Multiplex has been engaged as the main Contractor for the proposed works. A construction noise and vibration assessment has been carried out based on information supplied by the Contractor which includes construction phases and construction plant associated. The Contractor will be responsible for preparing a Construction Works Plan and Schedule which include all relevant noise and vibration information.

5.1 DESCRIPTION OF WORKS

The stages of work as provided by the Contractor that have been assessed, and which construction activities will occur during those stages are as follows:

- Phase 1: Demolition.
- Phase 1A: Excavation and piling.
- Phase 2: Structure.
- Phase 3: Façade.
- Phase 3A: Fitout.
- Phase 4: Landscaping.

5.2 PROPOSED CONSTRUCTION WORKING HOURS

Section 4.3 of this report contains the constructions hours defines in the development conditions of consent.

5.3 TYPICAL EQUIPMENT AND NOISE LEVELS

In accordance with the information provided and to assess the potential noise and vibration impacts during works from a quantitative point of view, the construction noise sources for the works occurring during the project and the associated equipment noise levels are listed in Table 10.

Sound power levels are based on the databases published by Australian Standard 2436:2010 *'Guide to Noise Control on Construction, Maintenance & Demolition Sites'*, Roads and Maritime Services '*Construction Noise and Vibration Guideline*' and the UK Department for Environmental, Food and Rural Affairs (DEFRA).

Stage of works	*Item*	*Typical Sound Power Level L_{WAeq} (dB ref 1pW)*	*Typical Sound Pressure Level L_{Aeq} at 10m (dB ref 20μPa)*
Demolition	Excavator	107	79
	Concrete Saw	117	89
	Excavator with hammer	122	94
	Truck (Dump)	117	89
Excavation and piling	Bored Piling Rig	111	83
	Excavator	107	79
	Truck (Dump)	117	89
Structure	Tower Crane	105	77
	Truck	107	79
	Concrete Pump	108	80
	Concrete Agitator	109	76
	Hand tools (Electric)	102	74
Façade and Fit-out	Tower Crane	105	77
	Materials hoist	107	79
	Truck	107	79
	Hand tools (Electric)	102	74
Landscaping and Make-good	Excavator	107	79
	Concrete Saw	117	89
	Excavator with hammer	122	94
	Concrete Pump	108	80
	Concrete Agitator	109	76
	Truck	107	79

Table 10: Anticipated maximum airborne noise levels for construction plant used during the different stages of the works.

6 CONSTRUCTION NOISE AND VIBRATION ASSESSMENT

A construction noise and vibration assessment has been carried out based on the proposed plant and machinery throughout the works associated with the stages as per Section 5.

6.1 ASSESSMENT METHODOLOGY

An assessment of the likely noise and vibration impacts of the assumed stage of works on the most affected NCA's surrounding the site has been carried out. The assessment has considered the following:

- Construction activities considered in the noise impact are detailed in Section 5.1.
- Proposed construction hours as per Section 5.2.
- Typical noise source levels considered in the noise impact are detailed in Section 5.3.
- Project specific noise and vibration criteria at sensitive receivers as outlined in Section 4.
- A 2.4m high solid hoarding shall be installed on the eastern boundary along Military Rd and 2m high solid hoarding on the other boundaries – refer to Figure 3.
- The predictions consider continuous operation of the construction plant over the 15-minute assessment period plus a range of distances from the site boundaries.

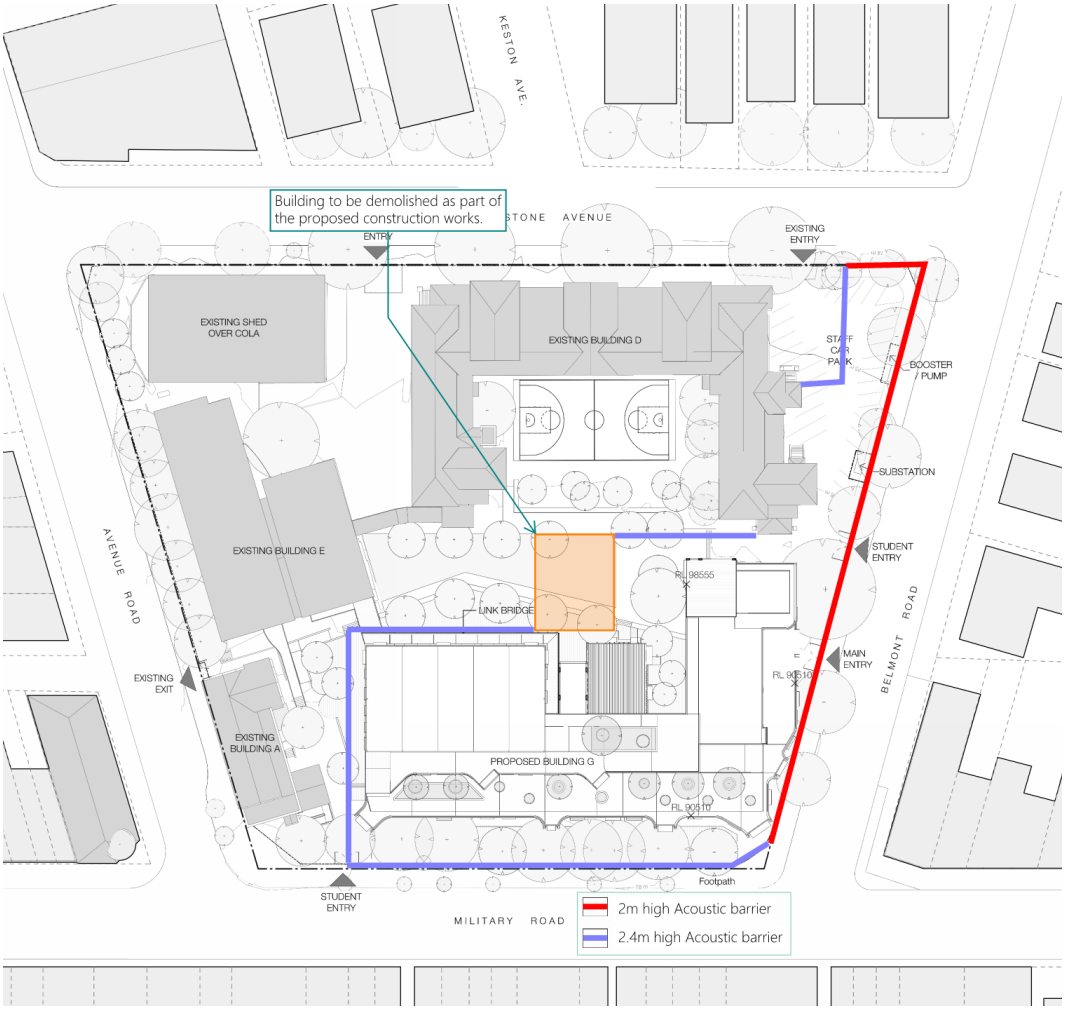


Figure 3: Site with proposed location and extent of acoustic barrier (red and purple outline).

In order to assess noise impact from the site during construction, a noise model was prepared to represent 'reasonable' worst periods of construction activities. Noise emissions from the construction of the proposed development have been modelled in SoundPLAN v8 software. The assumptions that were made within the assessment include the following:

- Hoarding.
- Ground topography.
- Noise modelling has been conducted using an implementation of the ISO 9613.2:1996 *'Acoustics - Attenuation of sound during propagation outdoors'*.
- Height of the noise receiver at 1.5m above ground level.
- Ground absorption (0.10 paved surfaces and 0.60 vegetation).
- Atmospheric propagation conditions were modelled with neutral conditions.
- Construction noise sources (listed in Table 10) spread around the construction site.

The predicted noise levels at the surrounding sensitive receivers have been based on the assumptions and aforementioned sound power levels of the equipment. The results of the predicted noise levels are presented in the following Sections and Appendix A. Figure 4 shows a render of the 3D noise model used for the noise level predictions.

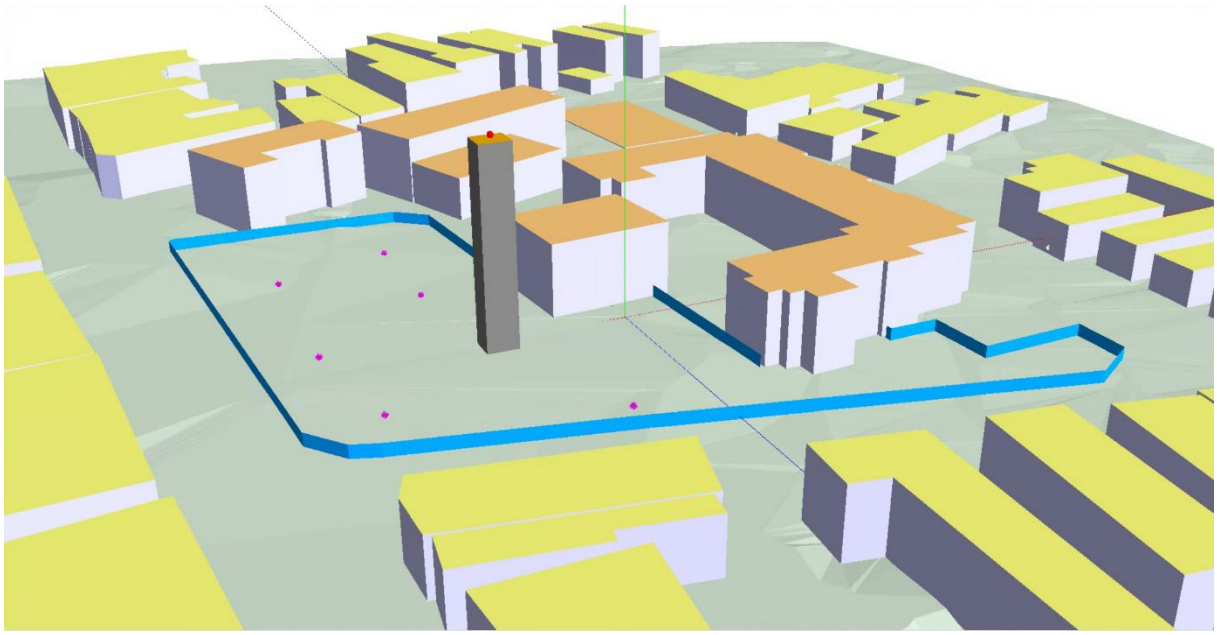


Figure 4: 3D noise model of the construction site and surrounding receivers.

It should be noted that the predicted noise levels generated during the construction works may vary depending on many factors including:

- Final selection of plant and equipment which could differ from the plant presented in Table 10.
- Exact location of equipment and plant on site – relative to the noise sensitive receivers.
- Shielding of noise provided by hoardings on site.
- Reflections provided by existing structures on and around the site.

6.2 NOISE ASSESSMENT

The predicted noise levels for the stages of work detailed in Table 10 are presented in the following Sections. These predicted noise levels are typically representative of the worst case 15 minutes that it would be expected. The predicted noise levels at receiver locations are calculated to 1.5m above ground level, at the most affected point externally to each receiver that has been identified as the most affected.

The ICNG requires, and it is usual practice, to predict the reasonable worst-case noise level. For construction-type activities this will typically be when plant is operating close to an assessment location. However, it shall be considered that on larger construction sites (such as this one) where plant moves around, noise will not be at the reasonable worst-case noise level throughout the entire duration of the activity: it will be lower when the plant is further away. Therefore, it can be stated that noise levels will be lower at times throughout the construction activity.

6.2.1 PHASE 1: DEMOLITION

Table 11 shows the predicted sound pressure levels at the boundary of the nearest NCA's due to the construction plant for the proposed demolition works. Allowances have been made for distance attenuation, shielding and reflections.

Item	*Typical Noise Level L_{WA} dB*	*Predicted Noise Levels $L_{Aeq,15min}$, dB(A) (re. 20µPa)*							
		Residential Receivers			*Other Receivers*				
		R1	*R2*	*R3*	*C1/W1*	*C2*	*C3*	*C4*	*M1*
Excavator	107	41	38	52	31	44	48	39	40
Excavator with hammer	122	64	50	56	49	50	70	50	65
Truck (Dump)	117	67	40	52	60	66	49	43	52
Concrete Saw	117	46	51	68	44	52	64	49	49
Total		71	54	68	62	68	71	54	66

Table 11: Predicted airborne noise levels for the proposed demolition at the nearest noise receivers.

Results show that predicted construction noise levels are expected to exceed the NMLs (orange font) for NCA's R1 and C3 when works will be carried out in proximity of the boundaries close to the receivers. The predicted exceedance of the NMLs in the surrounding receivers will trigger the contractor to apply reasonable and feasible work practices to minimise the noise as much as possible, as per the requirements of the ICNG. Refer to Section 7 for details.

6.2.2 PHASE 1A: EXCAVATION AND PILING

Table 12 shows the predicted sound pressure levels at the boundary of the nearest NCA's due to the construction plant for the proposed excavation and piling works. Allowances have been made for distance attenuation, shielding and reflections.

Item	Typical Noise Level L_{WA} dB	Predicted Noise Levels $L_{Aeq,15min}$, dB(A) (re. 20µPa)							
		Residential Receivers			Other Receivers				
		R1	R2	R3	C1/W1	C2	C3	C4	M1
Truck (Dump)	117	66	47	55	58	67	55	43	63
Excavator	107	50	33	49	40	52	42	33	52
Bored Piling Rig	111	55	41	49	45	59	49	39	60
Total		69	49	56	v	70	58	46	67

Table 12: Predicted airborne noise levels for the proposed excavation and piling works at the nearest noise receivers.

Results show that predicted construction noise levels are expected to meet the NMLs for all receivers; however, exceedances are expected when noisy construction activities will take place close to the residential receivers. These expected exceedances of the NMLs in the surrounding receivers will trigger the Contractor to apply reasonable and feasible work practices to minimise the noise as much as possible, as per the requirements of the ICNG. Refer to Section 7 for details.

6.2.3 PHASE 2: STRUCTURE

Table 13 shows the predicted sound pressure levels at the boundary of the nearest NCA's due to the construction plant for the proposed structure works. Allowances have been made for distance attenuation, shielding and reflections.

Item	Typical Noise Level L_{WA} dB	Predicted Noise Levels $L_{Aeq,15min}$, dB(A) (re. 20µPa)							
		Residential Receivers			Other Receivers				
		R1	R2	R3	C1/W1	C2	C3	C4	M1
Truck	107	58	31	42	49	57	47	33	53
Concrete Pump	108	55	34	37	48	61	49	31	56
Concrete Agitator	109	55	39	49	50	59	51	34	60
Hand tools (Electric)	102	45	33	41	34	49	42	29	49
Tower Crane	105	49	41	39	44	49	42	42	48
Total		61	44	51	54	65	55	44	63

Table 13: Predicted airborne noise levels for the proposed structure works at the nearest noise receivers.

Results show that predicted structure construction noise levels are expected to meet the NMLs for all receivers.

6.2.4 PHASE 3: FAÇADE

Table 14 shows the predicted sound pressure levels at the boundary of the nearest NCA's due to the construction plant for the proposed façade works. Allowances have been made for distance attenuation, shielding and reflections.

Item	Typical Noise Level L_{WA} dB	Predicted Noise Levels $L_{Aeq,15min}$, dB(A) (re. 20µPa)							
		Residential Receivers			Other Receivers				
		R1	R2	R3	C1/W1	C2	C3	C4	M1
Truck	107	57	34	42	49	57	47	35	53
Hand tools (Electric)	102	45	33	41	34	49	41	29	49
Materials hoist	107	56	40	49	51	61	51	33	60
Tower Crane	105	49	41	39	44	49	42	42	48
Total		60	44	51	53	63	54	44	62

Table 14: Predicted airborne noise levels for the proposed façade works at the nearest noise receivers.

Results show that predicted façade construction noise levels are expected to meet the NMLs for all receivers.

6.2.5 PHASE 3A: FITOUT

Table 15 shows the predicted sound pressure levels at the boundary of the nearest NCA's due to the construction plant for the proposed fitout works. Allowances have been made for distance attenuation, shielding and reflections.

Item	Typical Noise Level L_{WA} dB	Predicted Noise Levels $L_{Aeq,15min}$, dB(A) (re. 20µPa)							
		Residential Receivers			Other Receivers				
		R1	R2	R3	C1/W1	C2	C3	C4	M1
Truck	107	57	36	42	49	57	47	35	53
Hand tools (Electric)	102	45	33	44	34	49	42	30	49
Materials hoist	107	56	40	49	51	61	51	33	60
Tower Crane	105	49	41	39	44	49	42	42	48
Total		60	45	52	53	63	53	44	62

Table 15: Predicted airborne noise levels for the proposed fitout works at the nearest noise receivers.

Results show that predicted fitout construction noise levels are expected to meet the NMLs for all receivers.

6.2.6 PHASE 4: LANDSCAPING AND MAKE-GOOD

Table 16 shows the predicted sound pressure levels at the boundary of the nearest NCA's due to the construction plant for the proposed landscaping works. Allowances have been made for distance attenuation, shielding and reflections.

Item	Typical Noise Level L_{WA} dB	Predicted Noise Levels $L_{Aeq,15min}$, dB(A) (re. 20µPa)							
		Residential Receivers			Other Receivers				
		R1	R2	R3	C1/W1	C2	C3	C4	M1
Truck	107	66	39	66	66	60	37	58	40
Hand tools (Electric)	102	52	34	52	52	46	31	39	34
Concrete Pump	108	45	48	44	37	35	38	40	35
Concrete Agitator	109	38	50	50	36	36	38	39	36
Excavator with hammer	122	49	50	68	47	47	51	51	49
Concrete Saw	117	48	50	63	50	47	51	51	48
Total		66	56	70	67	61	54	59	52

Table 16: Predicted airborne noise levels for the proposed landscaping works at the nearest noise receivers.

Results show that predicted construction noise levels are expected to exceed the NMLs (orange font) for NCA's R2 and R3 when works will be carried out in proximity of the boundaries close to the receivers. The predicted exceedance of the NMLs in the surrounding receivers will trigger the contractor to apply reasonable and feasible work practices to minimise the noise as much as possible, as per the requirements of the ICNG. Refer to Section 7 for details.

6.3 VIBRATION ASSESSMENT

The vibration intensive plant used during the construction works may impact in adjacent sensitive receivers. In order to assess the construction vibration impact due to heavy construction plant, the NSW RMS *'Construction Noise and Vibration Guideline'* provides safe working distances for vibration intensive plant and are quoted for both 'cosmetic' damage (in accordance with BS 7385.2:1993) and human comfort (in accordance with DEC's *'Assessing Vibration: A Technical Guideline'*). The recommended safe working distances are provided in Table 17.

Plant Item	*Description*	*Cosmetic Damage*	*Human Response*
Vibratory Roller	200 kN (Typically 4-6 tonnes)	12m	40m
	300 kN (Typically 7-13 tonnes)	15m	100m
Medium Hydraulic Hammer	12–18 t excavator	7m	23m
Large Hydraulic Hammer	18-34 t excavator	22m	73m

Table 17: Recommended minimum working distances for vibration intensive plant from sensitive receivers.

The minimum working distances are indicative and will vary depending on the particular item of plant and local geotechnical conditions. They apply to cosmetic damage of typical buildings under typical geotechnical conditions. The construction methods are to be reviewed to ensure the safe working distances are achieved.

All work, particularly piling, is to be conducted in accordance with the safe working distances. Where sheet piling is within 20m of a building, vibratory piling should be considered, and attended vibration measurements conducted in order to verify levels.

In relation to human comfort (response), the minimum working distances in Table 17 relate to intermittent vibration (VDV parameter) as for most construction activities, vibration emissions are intermittent in nature. Where the predicted vibration levels will exceed the human comfort objectives, the procedures in Section 7.3.2 are to be followed in order to mitigate the potential impacts at sensitive receivers.

If the contractor has concerns for the disruptions at the nearest sensitive receivers due to vibration intensive plant use, it is recommended that prior to the commencement of the works, to undertake a preliminary vibration survey on each key vibration generating activity / equipment.

7 NOISE AND VIBRATION CONTROL RECOMMENDATIONS

This section of the Construction Noise and Vibration Planning provides general recommendations only and provides applicable criteria together with best noise and vibration control practices to be observed during the proposed works.

Any noise from construction activities to be carried out on site must not result in *'offensive noise'* to any noise sensitive receiver. To this end, the Contractor employed to undertake the construction works is responsible for ensuring that any site noise and, in particular, any complaints shall be monitored, investigated, managed and controlled.

7.1 ACOUSTIC SCREENING

Acoustic screening is recommended during all phases of the construction work at the locations shown in Figure 3, except for the internal works. The acoustic screening should be 2m high along the Belmont Rd and 2.4m high along the Military Rd. The acoustic screen shall be Class A hoarding or equivalent and constructed from minimum 19mm thick plywood.

7.2 RESPITE PERIODS

Respite periods are defined by the development conditions of consent – refer to Section 4.3. They should generally be implemented into the work methodology in order to reduce the impact onto the surrounding NCA's, as detailed in Section 7.7. High noise generating activities such as rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours:

- 9:00am to 12:00pm, Monday to Friday;
- 2:00pm to 5:00pm Monday to Friday; and
- 9:00am to 12:00pm, Saturday.
- Rock breaking, excavation and piling should not occur for more than 3 hours continuously, with at least a 1 hour respite period in between.

7.3 GENERAL CONTROLS FOR NOISE AND VIBRATION

According to ICNG and AS2436:2010 *'Guide to Noise Control on Construction, Maintenance & Demolition Sites'*, the following techniques could be applied to minimize the spread of noise and vibration to the nearest sensitive receivers.

7.3.1 NOISE

If a process that generates significant noise levels cannot be avoided, the amount of noise reaching the receiver should be minimised. Two ways of achieving this are to either increase the distance between the noise source and the receiver or to introduce noise reduction measures such as screens.

Physical methods to reduce the transmission of noise between the site works and residences, or other sensitive land uses, are generally suited to works where there is longer-term exposure to the noise. Generic practices that will reduce noise from the site include:

- Increasing the distance between noise sources and sensitive receivers.
- Reducing the line-of-sight noise transmission to residences or other sensitive land uses.
- Constructing barriers that are part of the project design early in the project to introduce the mitigation of site noise.

- Installing purpose built noise barriers and enclosures.

7.3.2 VIBRATION

Vibration can be more difficult to control than noise, and there are few generalizations that can be made about its control. It should be kept in mind that vibration may cause disturbance by causing structures to vibrate and radiate noise in addition to perceptible movement. Impulsive vibration can, in some cases, provide a trigger mechanism that could result in the failure of building components that had previously been in a stable state.

During the erection of the new structure, some vibrations (transmitted through the existing structures nearby the demolition sites) are expected, being more of a concern for the surrounding sensitive receivers.

It can also trigger annoyance being elevated into action by occupants of exposed buildings, and should therefore be included in the planning of communication with impacted communities. It should be remembered that failures, sometimes catastrophic, can occur as a result of conditions not directly connected with the transmission of vibrations, e.g. the removal of supports from retaining structures to facilitate site access.

Where site activities may affect existing structures, a thorough engineering appraisal should be made at the planning stage.

General principles of seeking minimal vibration at receiving structures should be followed in the first instance. Predictions of vibration levels likely to occur at sensitive receivers are recommended when they are relatively close, depending on the magnitude of the source of the vibration or the distance associated. Relatively simple prediction methods are available in texts, codes of practice or other standards, however it is preferable to measure and assess site transmission and propagation characteristics between source and receiver locations.

Guidance for measures available for the mitigation of vibration transmitted can be sought in more detailed standards, such as BS5228.2:2009+A1:2014 *'Code of practice for noise and vibration control on construction and open sites. Vibration'* or policy documents, such as the NSW DEC *'Assessing Vibration: A technical guideline'*.

Identifying the strategy best suited to the control of vibration follows a similar approach to that of noise avoidance, control at the source, control along the propagation path, control at the receiver, or a combination of these. It is noted that vibration sources can include stationary plants (pumps and compressors), portable plants (jackhammers and pavement vibrators), mobile plants, pile-drivers, tunneling machines and activities, and blasting, amongst others. Unusual ground conditions, such as a high water-table, can also cause a difference to expected or predicted results, especially when considering the noise propagated from piling.

7.4 UNIVERSAL WORK PRACTICES

To minimise construction noise complaints due to preventable activities at any time of the day, the following work practices shall be considered:

- Regularly train workers and contractors (such as a toolbox talks) to use equipment in ways to minimise noise.
- Ensure site managers periodically check the site and nearby residences and other sensitive land use for noise problems so that solutions can be quickly applied.

- Include in tenders, employment contracts, subcontractor agreements and work method statements clauses that require minimisation of noise and compliance with directions from management to minimise noise.
- Avoid the use of radios or stereos outdoors where neighbours can be affected.
- Avoid shouting, and minimise talking loudly and slamming vehicle doors.
- Keep truck drivers informed of designated vehicle routes, parking locations, acceptable delivery hours or other relevant practices.
- Develop a one-page summary of approval or consent conditions that relate to relevant work practices, and pin it to a noticeboard so that all site operators can quickly reference noise information.
- Workers may at times need to discuss or negotiate practices with their managers.

For work practices during night-time, the following shall be considered:

- Avoid the use of equipment which generates impulsive noise.
- Minimise the need for reversing or movement alarms.
- Avoid dropping materials from a height.
- Avoid metal-to-metal contact on equipment.
- Schedule truck movements to avoid residential streets if possible.
- Avoid mobile plant clustering near residences and other sensitive land uses.
- Ensure periods of respite are provided in the case of unavoidable maximum noise level events.

7.5 CONSULTATION AND NOTIFICATION

The community is more likely to be understanding and accepting of noise if the information provided is frank, does not attempt to understate the likely noise level, and if commitments are firmly adhered to. Community Consultation shall be as per EIS requirements and this has been addressed before the preparation of this CNVMP.

Recommended actions before and during construction are as per the endorsed Community Consultation Document – refer to Appendix B.

7.6 MANAGING NOISE LEVELS AND MAINTENANCE PROGRAM FOR PLANT AND EQUIPMENT

In terms of both cost and results, controlling noise at the source is one of the most effective methods of minimising the noise impacts from any construction activities. Recommendations for managing noise levels from plant and equipment are as follows:

- Use quieter methods:
  - Examine and implement, where feasible and reasonable, alternatives to rock-breaking work methods, such as hydraulic splitters for rock and concrete, hydraulic jaw crushers, chemical rock and concrete splitting, and controlled blasting such as penetrating cone fracture. The suitability of alternative methods should be considered on a case-by-case basis.
  - Use alternatives to diesel and petrol engines and pneumatic units, such as hydraulic or electric controlled units where feasible and reasonable. Where there is no electricity supply, use an electrical generator located away from residences.

- Use quieter equipment:
  - Examine different types of machines that perform the same function and compare the noise level data to select the least noisy machine. For example, rubber wheeled tractors can be less noisy than steel tracked tractors.
  - Noise labels are required by NSW legislation for pavement breakers, mobile compressors, chainsaws and mobile garbage compactors. These noise labels can be used to assist in selecting less noisy plant.
  - Pneumatic equipment is traditionally a problem – select super silenced compressors, silenced jackhammers and damped bits where possible.
  - When renting, select quieter items of plant and equipment where feasible and reasonable.
  - When purchasing, select, where feasible and reasonable, the most effective mufflers, enclosures and low-noise tool bits and blades. Always seek the manufacturer's advice before making modifications to plant to reduce noise.
- Operate plant in a quiet and efficient manner:
  - Reduce throttle setting and turn off equipment when not being used.
  - Examine and implement, where feasible and reasonable, the option of reducing noise from metal chutes and bins by placing damping material in the bin.

The Contractor shall prepare and implement a regular plant and equipment use and maintenance program. This is to ensure that 'noisy' equipment or tools are not used. This program should ensure that the contractor will:

- Regularly inspect and maintain equipment to ensure it is in good working order. Also check the condition of mufflers.
- Equipment must not be operated until it is maintained or repaired, where maintenance or repair would address the annoying character of noise identified.
- For machines with enclosures, check that doors and door seals are in good working order and that the doors close properly against the seals.
- Return any hired equipment that is causing noise that is not typical for the equipment – the increased noise may indicate the need for repair.
- Ensure air lines on pneumatic equipment do not leak.

7.7 WORKS TIMING RESTRICTIONS AND SCHEDULING

Works should be carried out during periods specified by the approved Construction Hours. Scheduling noisy work during periods when people are least affected reduces noise impact on those. Recommendations for work scheduling are as follows:

- Provide respite periods.
- Schedule activities to minimise noise impacts:
  - Organise work to be undertaken during the recommended standard hours where possible.
  - When works outside the recommended standard hours are planned, avoid scheduling on Sundays or public holidays.
  - Schedule work when neighbours are not present (for example, commercial neighbours).

- Schedule noisy activities around times of high background noise (local road traffic or when other local noise sources are active) where possible to provide masking or to reduce the amount that the construction noise intrudes above the background.
- Consult with affected neighbours about scheduling activities to minimise noise impacts.

- Organise deliveries and access:
  - Nominate an off-site truck parking area, away from residences, for trucks arriving prior to gates opening.
  - Amalgamated loads can lead to less noise and congestion in nearby streets.
  - Optimise the number of vehicle trips to and from the site – movements can be organised to amalgamate loads rather than using a number of vehicles with smaller loads.
  - Inform, and consult where possible, the potentially noise-affected residences or other sensitive land uses of designated access routes to and from site, and make drivers aware of nominated vehicle routes.
  - Schedule deliveries to nominated hours only.

7.8 ADDITIONAL NOISE AND VIBRATION CONTROLS

There will likely be times or situations when construction works exceed the stated criteria at the nearest receivers, particularly when works occur in the areas closer to the receiver(s). Therefore, all feasible and reasonable noise control measures should be considered.

If, during construction, an item of equipment exceeds either the noise criteria at any location or the equipment noise level limits, the following noise control measures, together with construction best practices presented in this Section shall be considered to minimise the noise and vibration impacts of the project on the surrounding noise sensitive receivers:

- Schedule noisy activities to occur outside of the most sensitive times of the day for each nominated receiver. For example, the residential receivers are likely to be more sensitive to noise before 8am and after 6pm.
- Consider implementing equipment specific temporary screening for noisy equipment, or other noise control measures recommended in Appendix C of AS2436:2010. This will most likely apply to noisier hand-held items such as jack-hammers and circular saws.
- Locate specific activities such as carpentry areas (use of circular saws, etc.) to internal spaces or where shielding is provided by existing structures or temporary screening.
- Limit the number of trucks and heavy vehicles on site at any given time through scheduling deliveries at differing times.
- Traffic rules should be prepared to minimise the noise impact on the community.
- When loading and unloading trucks, adopt best practice noise management strategies to avoid materials being dropped from height.
- Avoid unnecessary idling of trucks and equipment. Vehicles and equipment to be turned off when not in use.
- Ensure that any miscellaneous equipment (extraction fans, hand tools, etc.) not specifically identified in this plan incorporates silencing/shielding equipment as required to meet the noise criteria.

If the measured construction vibration levels exceed the appropriate criteria during the works, one or more of the following measures should be taken:

- Modifications to construction equipment used.
- Modifications to methods of construction.
- Rescheduling of activities to less sensitive times.

If the measures given cannot be implemented or have no effect on noise or vibration levels or impact generated, a review of the criteria should be undertaken and the noise and vibration strategy amended.

7.9 MONITORING PROGRAM

Where noise and vibration criteria are being exceeded or in response to valid complaints, noise and/or vibration monitoring should be undertaken. This would be performed inside the premises of the affected property and on site adjacent to the affected receivers.

Monitoring is to be undertaken by an experienced noise and vibration monitoring professional or an acoustic consultant. The results of any noise or vibration monitoring are to be provided to the relevant party or person in a timely manner allowing the builder to address the issue and respond to the complaints.

Noise and vibration monitoring can take two forms:

- Short-term monitoring: Short-term monitoring consists of attended monitoring when critical stages of the construction are occurring. This normally provides real-time assistance and guidance to the sub-contractor on site letting them know when the noise and vibration criteria are exceeded allowing the selection of alternative method on construction or equipment selection in order to minimise noise and vibration impacts.
- Long-term monitoring: Similarly long-term monitoring uses noise and vibration loggers providing real-time alerts to the builder / site manager when the noise and vibration criteria are exceeded. Typically, the noise and vibration loggers stay on site for a period of several months for the critical construction stages of the project. Sometimes the period of construction noise and vibration monitoring is dictated by the local authorities through the Conditions of Consent if applicable.

Both methodology are complementary and normally used simultaneously providing a significant of amount of data via the long-term monitoring but also providing information on the sources of noise and vibration generating exceedances via the short-term or attended monitoring.

The following may be included in a noise monitoring report:

- The type of monitoring conducted (for example, at a particular project stage or following complaints) and a brief statement of the measurement method.
- The noise / vibration conditions on the consent / licence, or the relevant noise management objectives.
- Descriptions of the nearest affected residences and other sensitive land uses or, in the case of complaints, description of the complainant location and complaint.
- Plan or diagram showing the location of the monitoring and the noise generating works.
- Description of the instrumentation used.
- Name and relevant qualifications or professional memberships of monitoring personnel.
- The weather conditions during monitoring.
- The time(s) and duration(s) of monitoring, including dates – in the case of complaints.
- A clear description of the construction activities taking place during the monitoring.

- The results of monitoring at each monitoring location, including a comparison with the consent conditions or relevant noise management objectives.
- A clear statement outlining the project's compliance or non-compliance with the conditions or objectives.
- Where the monitored level is higher than the conditions or objectives, the reasons for non-compliance should be stated, strategies for minimising noise identified and stated, and the appropriate actions to implement the strategies.

7.10 WORKERS' TRAINING AND AWARENESS

The Contractor shall provide all project personnel and subcontractors with training on the environmental obligations through project inductions, toolbox talks, and through Safety Works Methods (SWMs).

All Project work personnel and subcontractors shall undergo a general project induction prior to commencing work. This should include a noise component to reinforce the importance of noise issues and the measures that will be implemented to protect the environment.

All inductions shall be carried out by the site manager, or his designate in the site office as appropriate. During the induction, each contractor / worker shall be taken around the site to ensure they are fully aware of the exclusion zones and site specific environment.

Site inductions and daily SWMs and toolbox talks will highlight the specific environmental requirements and activities being undertaken at each work area which will include relevant noise management matters.

7.11 OCCUPATIONAL HEALTH AND SAFETY

In addition to potential noise and vibration impacts on the community and structures, construction noise and vibration can also have an adverse impact upon the health of workers. It is important that Contractors adopt noise management strategies to prevent or minimise worker exposure to excessive noise and vibration. Such measures will also assist in reducing noise and vibration impacts on the surrounding community.

The National Occupational Health and Safety Commission (NOHSC) recommends a maximum acceptable workplace noise exposure level of 85dB(A) ($L_{Aeq,8h}$) for an eight-hour time period.

Personnel involved in operations should be issued with ear plugs or ear muffs which must be used whenever noise levels interfere with normal speech when individuals are standing at a distance of 1m from each other, or when the $L_{Aeq,8hr}$ exceeds 85dB(A).

Signs should be erected and made visible at the entry to all areas where noise levels will exceed 85dB(A).

7.12 CONSTRUCTION TRAFFIC ROUTES

The Contractor shall establish and implement traffic routes for deliveries to the site, which minimise the noise impact on surrounding noise sensitive receivers as best possible. Refer to Construction Traffic Management Plan prepared by ptc, dated 14/10/2021.

8 CONCLUSIONS

A construction noise and vibration assessment has been carried out for the proposed works for the upgrade of Mosman High School project. This report addresses the Condition of Consent B19 of the State Significant Development Application SSD-10456.

In particular, this report identifies the Contractor's obligations and the requirements to manage noise and vibration during construction such that Contractor can make the necessary allowances within the construction costs, programmes and work methodologies.

The responsibilities of all stakeholders are identified and a framework for the management of noise and vibration during construction works is provided.

This report establishes relevant noise level criteria, details the acoustic assessment and provides comments and recommendations for the proposed development.

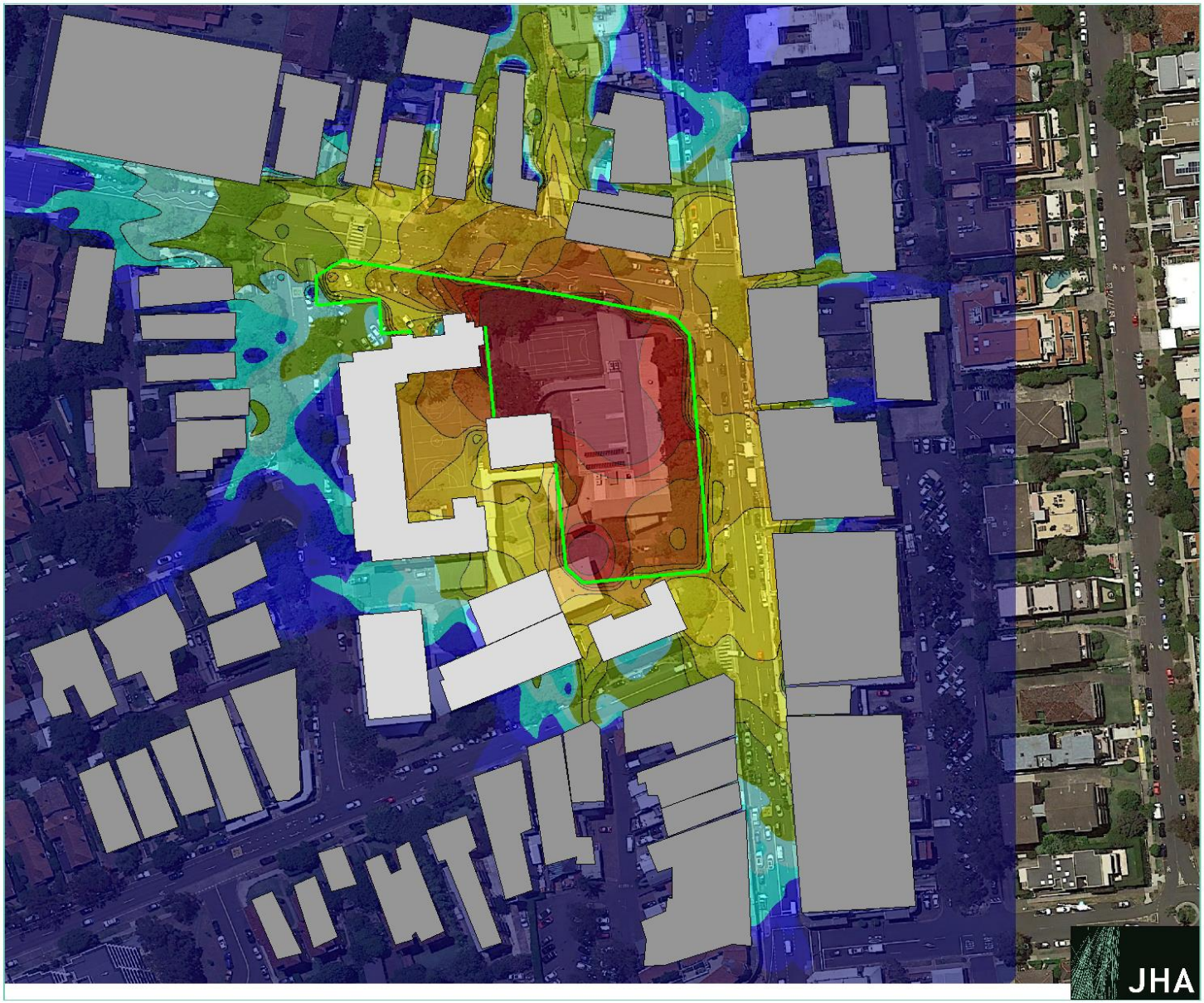
Potential construction noise and vibration impacts on the surroundings have been presented in this report and recommendations based on the relevant guidelines are provided. It is expected that the predicted exceedance of the NMLs in the surrounding receivers triggers the proponent to apply all reasonable and feasible work practices to minimise the noise as much as possible, and community consultation, as per the requirements of the ICNG. Refer to Section 6 for details.

For each of the work stages and associated plant, assuming that they are exceeding the noise level criteria, the noise control measures presented in Section 7 shall be considered and implemented wherever reasonable and feasible in order to minimise any potential noise impact. Operation time restrictions shall be applied to 'noisy' construction plant to minimise noise impact to the nearest sensitive receivers.

The information presented in this report shall be reviewed if any modifications to selection of equipment / machinery, construction methodologies and modifications to the works construction program.

Based on the information presented in this report, relevant objectives will be satisfied and therefore approval is recommended to be granted.

APPENDIX A: PREDICTED CONSTRUCTION GRID NOISE MAPS



Project:
Mosman High School,
Mosman NSW 2088

Phase / Stage:
Phase 1 / 1A - Demolition and Excavation

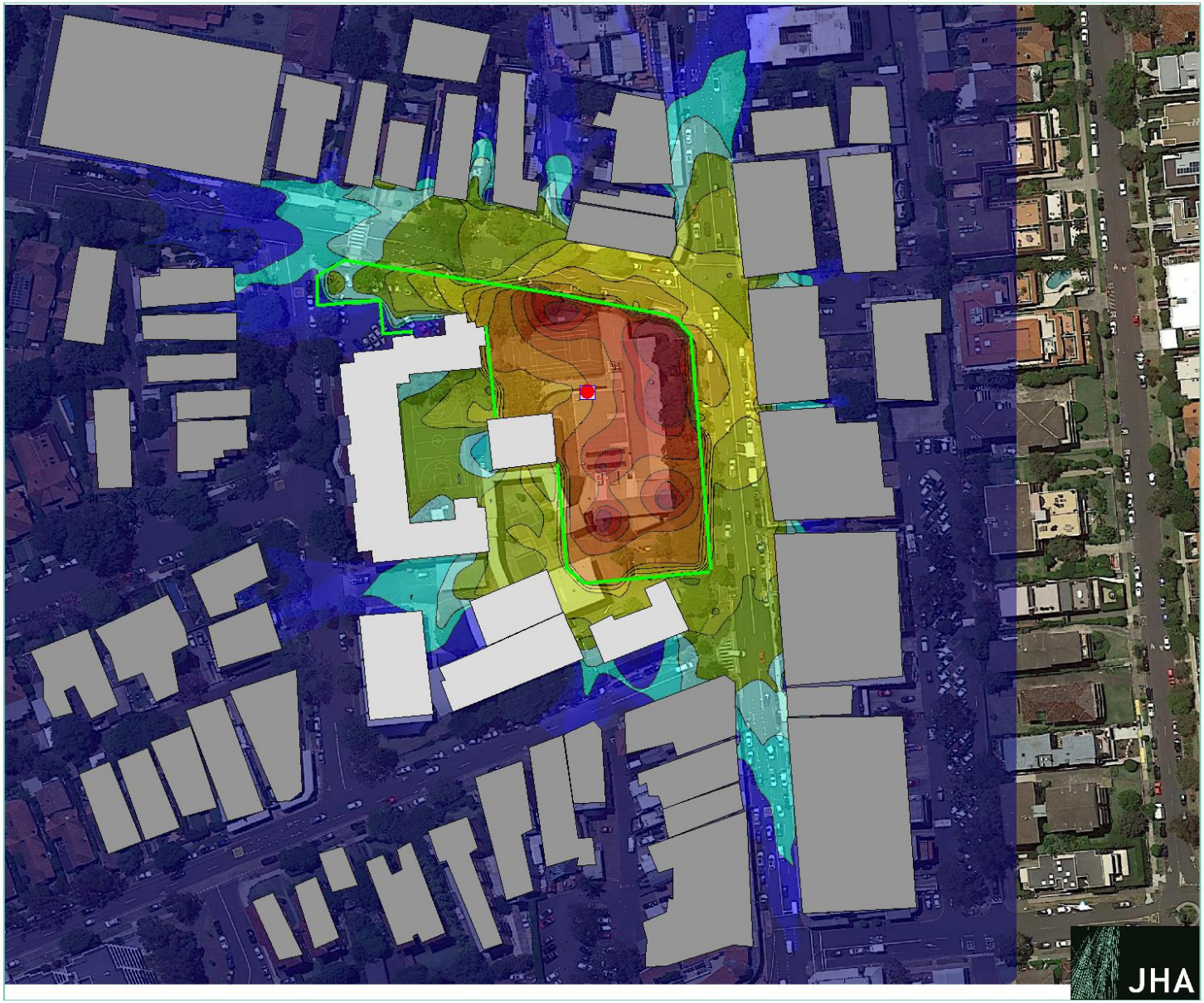
Assessment Type:
Grid Noise Map

Noise levels dB(A)
$L_{aeq\ (15min)}$

		<=	52
52	<	<=	54
54	<	<=	56
56	<	<=	58
58	<	<=	60
60	<	<=	62
62	<	<=	64
64	<	<=	66
66	<	<=	68
68	<	<=	70
70	<	<=	72
72	<	<=	74
74	<	<=	76
76	<	<=	78
78	<	<=	80
80	<		

N

Scale 1:1500
0 4.5 9 18 27 36 m



Project:
Mosman High School,
Mosman NSW 2088

Phase / Stage:
Phase 2 - Structure

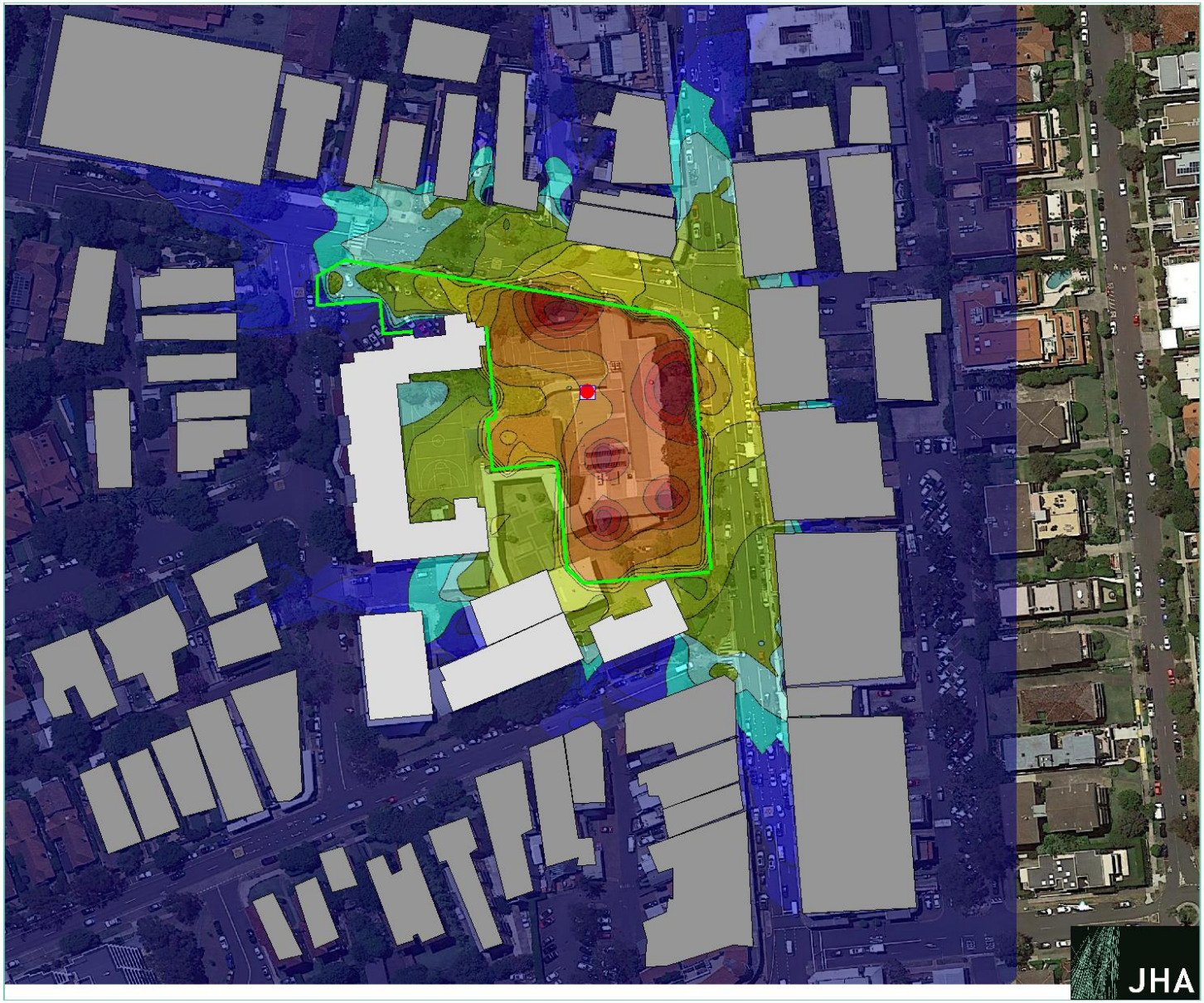
Assessment Type:
Grid Noise Map

Noise levels dB(A)
$L_{aeq\ (15min)}$

		<=	52
52	<	<=	54
54	<	<=	56
56	<	<=	58
58	<	<=	60
60	<	<=	62
62	<	<=	64
64	<	<=	66
66	<	<=	68
68	<	<=	70
70	<	<=	72
72	<	<=	74
74	<	<=	76
76	<	<=	78
78	<	<=	80
80	<		

N

Scale 1:1500
0 4.5 9 18 27 36 m



Project:
Mosman High School,
Mosman NSW 2088

Phase / Stage:
Phase 3 - Facade & Fitout

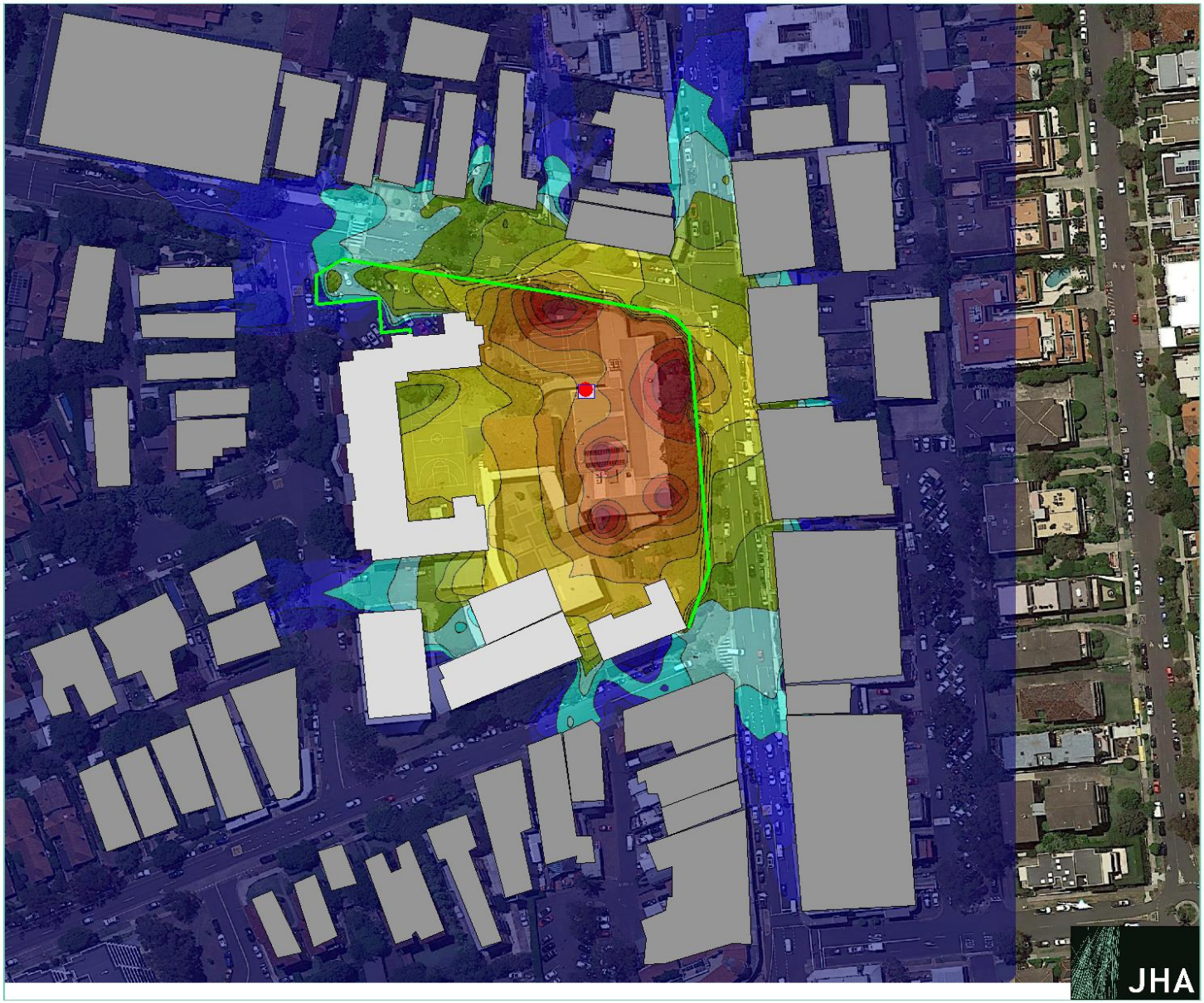
Assessment Type:
Grid Noise Map

Noise levels dB(A)
$L_{aeq\ (15min)}$

		<=	52
52	<	<=	54
54	<	<=	56
56	<	<=	58
58	<	<=	60
60	<	<=	62
62	<	<=	64
64	<	<=	66
66	<	<=	68
68	<	<=	70
70	<	<=	72
72	<	<=	74
74	<	<=	76
76	<	<=	78
78	<	<=	80
80	<		

N

Scale 1:1500
0 4.5 9 18 27 36 m



Project:
Mosman High School,
Mosman NSW 2088

Phase / Stage:
Phase 3A - Demolition and Facade & Fitout

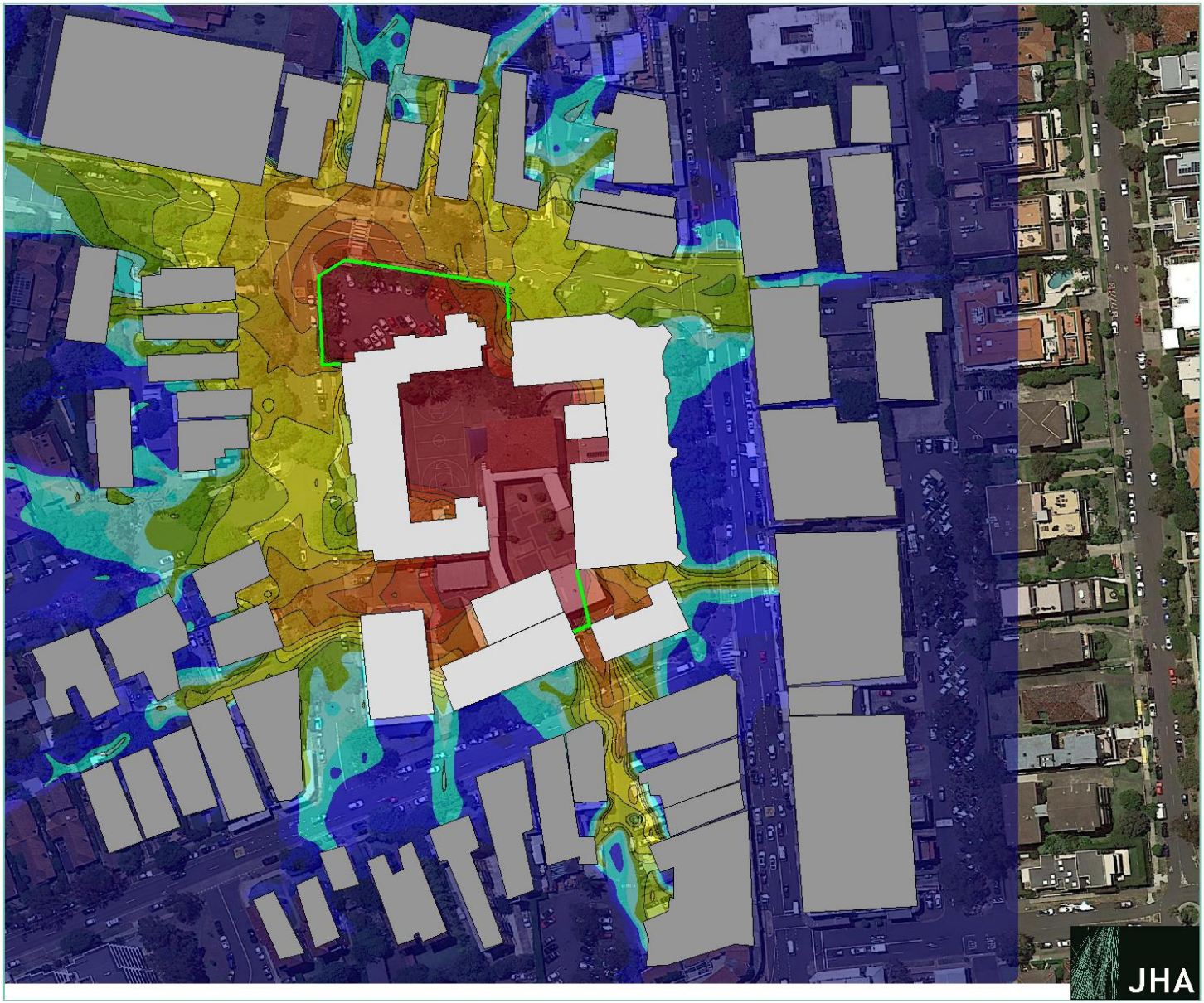
Assessment Type:
Grid Noise Map

Noise levels dB(A)
$L_{aeq\ (15min)}$

		<=	52
52	<	<=	54
54	<	<=	56
56	<	<=	58
58	<	<=	60
60	<	<=	62
62	<	<=	64
64	<	<=	66
66	<	<=	68
68	<	<=	70
70	<	<=	72
72	<	<=	74
74	<	<=	76
76	<	<=	78
78	<	<=	80
80	<		

N

Scale 1:1500
0 4.5 9 18 27 36 m



Project:
Mosman High School,
Mosman NSW 2088

Phase / Stage:
Phase 4 - Landscaping and make-good

Assessment Type:
Grid Noise Map

Noise levels dB(A)
$L_{aeq\ (15min)}$

		<=	52
52	<	<=	54
54	<	<=	56
56	<	<=	58
58	<	<=	60
60	<	<=	62
62	<	<=	64
64	<	<=	66
66	<	<=	68
68	<	<=	70
70	<	<=	72
72	<	<=	74
74	<	<=	76
76	<	<=	78
78	<	<=	80
80	<		

N

Scale 1:1500
0 4.5 9 18 27 36 m

APPENDIX B: COMMUNITY COMMUNICATION STRATEGY

NSW GOVERNMENT Education

October 2021

School Infrastructure NSW

Community Communication Strategy

Mosman High School Upgrade

Contents

Document Purpose

This Community Communication Strategy (CCS) has been developed by School Infrastructure NSW (SINSW) to:

- Successfully consider and manage stakeholder and community expectations as integral to the successful delivery of the project.
- Outline interfaces with other disciplines, including safety, construction, design and environment, to ensure all activities are co-ordinated and drive best practice project outcomes.
- Inform affected stakeholders, such as the local community or road users about construction activities.
- Provide a delivery strategy which enables the open and proactive management of issues and communications.
- Highlight supporting procedures and tools to enable the team to deliver this plan effectively.
- Provide support for the broader communications objectives of SINSW, including the promotion of the project and its benefits.

This Community Consultation Strategy (CCS) will be implemented through the design and construction phase of the project and for 12 months following construction completion.

Plan review

The CCS will be revised regularly to address any changes in the project management process, comments and feedback by relevant stakeholders, and any changes identified as a result of continuous improvement undertakings. This will be done in close consultation with the SINSW Senior Project Director, appointed Project Management Company and/or Contractor and SINSW Community Engagement Manager.

Approval

The CCS is reviewed and approved by the SINSW Senior Project Director, in close consultation with Schools Operations and Performance, with final endorsement from the SINSW Community Engagement Senior Manager before being submitted to the Planning Secretary for approval.

Table 1: List of SSD application consent conditions for communication and engagement and where they are addressed in this strategy

State Significant Developments B8	The community communications strategy addresses this in section
Identify people to be consulted during the design and construction phase	Section 4 Section 5
Set out procedures and mechanisms for the regular distribution of accessible information about or relevant to the development	Section 6 Section 7 Section 8.4
Provide for the formation of community-based forums, if required, that focus on key environmental management issues for the development	Section 4
Set out procedures and mechanisms:	
• Through which the community can discuss or provide feedback to the Applicant	Section 4 Section 6 Section 8.5
• Through which the Applicant will respond to enquiries or feedback from the community; and	Section 8.5

State Significant Developments B8	The community communications strategy addresses this in section
• To resolve any issues and mediate any disputes that may arise in relation to construction and operation of the development, including disputes regarding rectification or compensation	Section 8.5

1. Context

The NSW Government is investing $7.9 billion over the next four years, continuing its program to deliver 215 new and upgraded schools to support communities across NSW. This is the largest investment in public education infrastructure in the history of NSW.

The NSW Department of Education is committed to delivering new and upgraded schools for communities across NSW. The delivery of these important projects is essential to the future learning needs of our students and supports growth in the local economy.

The upgrade of Mosman High School will provide students the latest educational facilities.

The project will deliver:

- 16 new home base classrooms
- One additional administration office and staff room
- New library
- Multipurpose space for use as a hall and gym
- New outdoor areas and a rooftop play space
- New canteen facilities.

The Mosman High School Upgrade is classified as a state significant development, and has been assessed by the Department of Planning, Industry and Environment (DPIE). Consent was provided on 6 August, 2021.

The project is available the DPIE planning portal at www.planningportal.nsw.gov.au/major-projects/project/34286.

2. Community Engagement Objectives

SINSW's mission is to provide school infrastructure solutions by working collaboratively with all our stakeholders to create learning environments across NSW that serve our future needs and make us all proud.

This CCS has been developed to achieve the following community engagement objectives:

- Promote the benefits of the project
- Build key school community stakeholder relationships and maintain goodwill with impacted communities
- Manage community expectations and build trust by delivering on our commitments
- Provide timely information to impacted stakeholders, schools and broader communities
- Address and correct misinformation in the public domain
- Reduce the risk of project delays caused by negative third party intervention
- Leave a positive legacy in each community.

3. Key Messages

Through each phase of the project, the key messages and means of engagement will be regularly reviewed, refined and updated. Information that is currently in the public domain is outlined below.

3.1. High level messaging

The NSW Government is investing $7.9 billion over the next four years, continuing its program to deliver 215 new and upgraded schools to support communities across NSW. This is the largest investment in public education infrastructure in the history of NSW.

The NSW Department of Education is committed to delivering new and upgraded schools for communities across NSW. The delivery of these important projects is essential to the future learning needs of our students and supports growth in the local economy.

3.2. Project messaging

The upgrade of Mosman High School will provide students the latest educational facilities.

The Mosman High School upgrade project is classified as a State Significant Development.

3.2.1. Project status

The projects' State Significant Development application has been assessed by DPIE and consent to proceed was granted on 6 August, 2021.

3.2.2. Project benefits

The upgrade project will deliver the following benefits:

- 16 new home base classrooms
- One additional administration office and staff room
- New library
- Multipurpose space for use as a hall and gym
- New outdoor areas and a rooftop play space
- New canteen facilities.

3.2.3. High-quality learning environment

The project will provide flexible learning spaces which make use of the latest technology to enhance the learning experience for the next generation of students. Furthermore, the contemporary and sustainable facilities provide an outstanding working environment for school staff.

Flexible learning spaces are adaptable to accommodate small or large groups and facilitate students use of modern technology, while working independently and collaboratively.

3.2.4. Environmental benefits

The new facilities will be built in accordance with current sustainability principles. SINSW is committed to environmentally conscious construction and maintenance practices.

3.3. Construction phase

3.3.1. Traffic management

The construction contractor has developed a Construction Traffic and Pedestrian Management Plan (CTPMP) to ensure that vehicle movements are managed with minimal disruption to the local community.

3.3.2. Noise, vibration and dust

Any activity that could exceed approved construction noise management levels will be managed in strict accordance with the Protection of the Environment Operations Act 1997. All works will be conducted in accordance with the Contractor's approved Construction Noise Management Plan. Vibration from works will be minimal and kept within acceptable levels as stated in the document 'Assessing Vibration: a technical guideline' which outlines vibration criteria for day time periods.

Mitigation measures will be in place to manage noise and dust levels, including hoarding to minimise the effects of noise and dust and hosing down as required to ensure the safety of the school and local community.

Construction works, including the delivery of materials to and from the site, will take place between 7:00am and 6:00pm Monday to Friday and between 7:00am and 3:30pm on Saturdays. In line with the NSWs Environmental Planning and

Assessment (COVID-19 Development – Construction Work Days) Order 2020, SINSW construction sites may now operate on weekend and public holidays during the COVID-19 pandemic. Alignment to Order and any changes to it, will be monitored on an ongoing basis.

Notwithstanding the specified hours, provided noise levels do not exceed the existing background noise level plus 5dB, works may also be undertaken during the following hours:

(a) between 6pm and 7pm, Mondays to Fridays inclusive; and

(b) between 3:30pm and 4pm, Saturdays.

High noise generating activities such as rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours:

(a) 9:00am to 12:00pm, Monday to Friday;

(b) 2:00pm to 5:00pm Monday to Friday; and

(c) 9:00am to 12:00pm, Saturday.

Activities may be undertaken outside of these hours if required:

(a) by the Police or a public authority for the delivery of vehicles, plant or materials; or

(b) in an emergency to avoid the loss of life, damage to property or to prevent environmental harm; or

(c) where the works are inaudible at the nearest sensitive receivers; or

(d) where a variation is approved in advance in writing by the Planning Secretary or his nominee if appropriate justification is provided for the works.

Notification of such construction activities must be given to affected residents before undertaking the activities or as soon as possible afterwards.

3.3.3. Disruptive works

Construction work for the Mosman High School Upgrade is underway. The following activities are planned for the upcoming weeks (*works will be outlined*). You can contact us directly using the details below to discuss any aspect of this work.

3.3.4. Get involved

We are committed to working together with our school communities and other stakeholders to deliver the best possible learning facilities for students. Your feedback is important to us. For more information contact us via the details below.

- Email: schoolinfrastructure@det.nsw.edu.au
- Website: schoolinfrastructure.nsw.gov.au
- Phone: 1300 482 651

3.3.5. Fauna and vegetation

SINSW is committed to ensuring construction work has a minimal impact upon fauna and vegetation on site.

SINSW will comply with all Development Consent Conditions relating to the protection of fauna and vegetation, and will comply with all relevant mitigation measures listed in the Environmental Impact Statement (EIS).

Prior to construction, a Construction Environmental Management Plan (CEMP) will be prepared to govern the completion of all construction works. The CEMP will detail measures to be taken for the protection and management of fauna and vegetation, will be prepared in accordance with relevant guidelines and performance indicators, and will be submitted to the Certifier and DPIE.

3.3.6. Soil and water

SINSW is committed to the appropriate management of soil and water on the construction site.

SINSW will comply with all Development Consent Conditions relating to soil and water management and will comply with all relevant mitigation measures listed in the EIS.

Prior to construction, a CEMP will be prepared to govern the completion of all construction works. The CEMP will detail measures for the management of soil and water, will be prepared in accordance with relevant guidelines and performance indicators, and will be submitted to the Certifier and DPIE.

A suitably qualified and experienced consultant will prepare a Construction Soil and Water Management Sub-Plan (CSWMSP), which will form part of the CEMP. The CSWMSP will:

- describe erosion and sediment control measures to be implemented during construction
- provide a plan of how construction works will be managed in wet-weather events
- detail flows from the site to surrounding area
- describe the measures to be taken to manage stormwater and flood flows for small and large sized events

Erosion and sediment controls will be installed and maintained in accordance with the "Blue Book" – *Managing Urban Stormwater: Soils and Construction (4th edition)*. These controls will be implemented prior to the commencement of any other site disturbance works.

Only approved soil and fill types will be used onsite. Accurate records will be kept on the volume and type of fill used onsite.

3.3.7. Visual amenity

Prior to construction, a CEMP will be prepared to govern the completion of all construction works. The plan will detail measures to maintain visual amenity, will be prepared in accordance with relevant guidelines and performance indicators, and will be prepared to the satisfaction of the DPIE.

The CEMP will include provisions for the management of outdoor lighting. The installation and operation of outdoor lighting will comply with both AS 4282-2019 – Control of the Obtrusive Effects of Outdoor Lighting and AS 1158.3.1-2005 – Lighting for Roads and Public Spaces – Part 3.1: Pedestrian Area (Category P) Lighting.

Visual amenity impacts will be limited during construction via the installation of appropriate site fencing and adherence to site housekeeping procedures.

3.3.8. Contamination

Prior to construction, a CEMP will be prepared to govern the completion of all construction works. The CEMP will detail contamination management measures, will be prepared in accordance with relevant guidelines and performance indicators, and will be submitted to DPIE.

The project site has been tested for contamination and is considered to be safe and suitable for the school upgrade.

The CEMP will include protocols for the management of unexpected contamination discovered during the course of construction works.

3.3.9. Heritage

Prior to construction, a CEMP will be prepared to govern the completion of all construction works. The plan will detail measures to protect heritage matters, will be prepared in accordance with relevant guidelines and performance indicators, and will be submitted to DPIE.

The CEMP will include unexpected finds protocols for objects of Aboriginal or Historic heritage.

In the event that relics of Aboriginal heritage are discovered, all works in the immediate area will cease immediately, and consultation will occur with a suitably qualified archaeologist, registered Aboriginal representatives and the relevant authorities to determine an appropriate management strategy.

In the event that relics of historic heritage are discovered, all works in the immediate area will cease immediately, and consultation will occur with the relevant authorities to determine an appropriate management strategy.

4. Project Governance

4.1. Project Reference Group

The Department's engagement process strives to engage with key stakeholders from the school community. As part of this process, a Project Reference Group (PRG) is established early in the project with nominated representatives from the school community to ensure input from, and consult with, impacted stakeholders.

The PRG provides key information from an operational, educational, change and logistics perspective into the planning, through the design and construction phases of the project.

The PRG will receive project briefings and key progress updates on project progress to support its responsibilities in assisting to communicate updates to school staff, parents and stakeholders in the wider local community.

The Project Reference Group will be conducted as two separate groups during the development and delivery of all projects:

(a) Project Reference Group – Planning

A nominated group (limited to 10) participates in workshops to develop the Educational Principles and Education Rationale which will inform the Functional Design Brief. These workshops are chaired by the SINSW Senior Project Director (or delegate) and may be facilitated by an Education Consultant. This activity will inform the development of the building design.

(b) Project Reference Group – Delivery

The purpose of the group is to seek input and inform design processes and provide operational requirements and information to help minimise the impact of the project on school operations. These workshops are chaired by the Senior Project Director (or a delegate) and may be facilitated by the appointed architectural consultant, as required. The PRG will provide key information from an operational and logistics perspective to assist project delivery.

Specifically, for communication and engagement related matters, the PRG will:

- Provide a forum for discussion and exchange of information relating to the planning and delivery of the project
- Identify local issues and concerns to assist the project team with the development of mitigation strategies – to manage and minimise construction and environmental impacts to the school community and local residents
- Provide feedback to the communications and community engagement team on key messages and communications and engagement strategies
- Provide advice on school engagement activities
- Assist to disseminate communications to the school community and other stakeholders.

As per all department led delivery projects, the PRG acts as a consultative forum and not a decision-making forum for the planning and delivery of this school infrastructure project.

Figure 1: Project Reference Group (PRG)

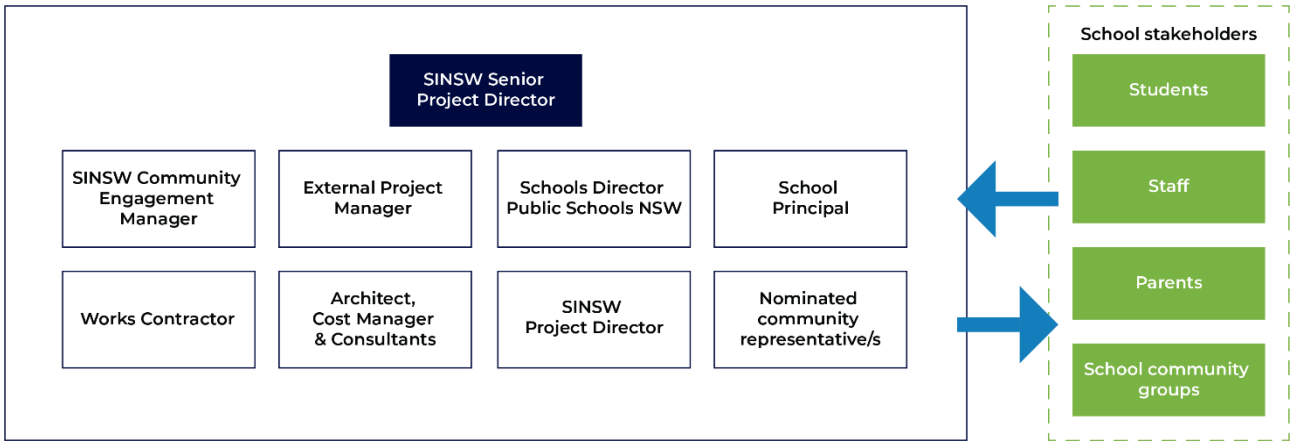
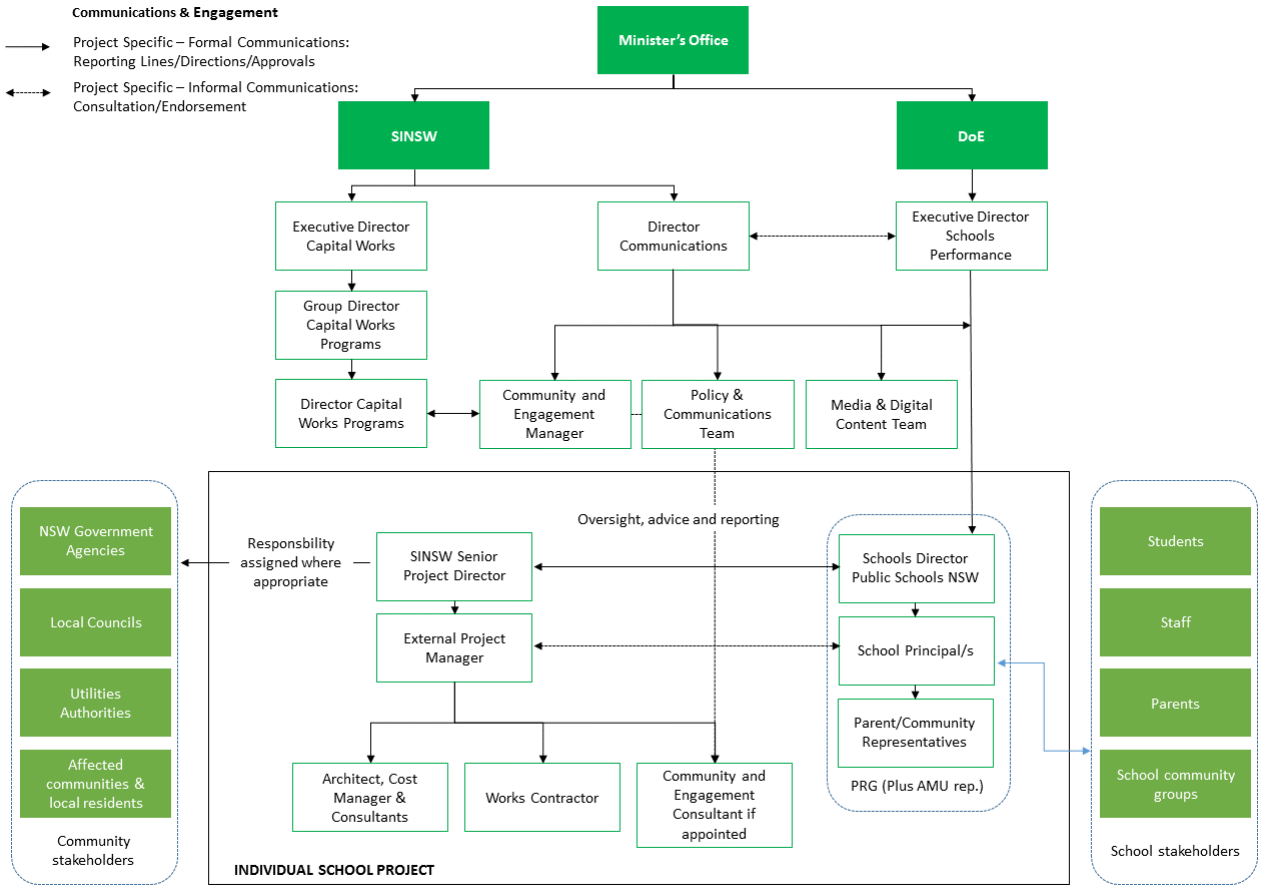


Figure 2: SINSW Project Governance

Figure 2 below maps how the department and SINSW will communicate both internally and externally.



5. Stakeholders

The stakeholder list below summarises who will be consulted during the design and construction phase via ongoing face-to-face meetings, communication collateral and digital engagement methods.

Table 2: Stakeholders

Stakeholders	Interest and involvement
Local Members of Parliament: ▪ State Government Member for North Shore – Felicity Wilson MP ▪ Federal Government Member for Warringah – Zali Steggall MP	▪ Meeting the economic, social and environmental objectives of state and federal governments ▪ Delivering increased public education capacity on time ▪ Delivering infrastructure which meets expectations ▪ Addressing local issues such as traffic, congestion and public transport solutions
Government agencies and peak bodies: ▪ Transport for NSW ▪ Roads and Maritime Services NSW ▪ Fire and Rescue NSW ▪ NSW Department of Education ▪ NSW Department of Planning, Industry and Environment ▪ NSW Environmental Protection Authority ▪ NSW Rural Fire Service ▪ Sydney Water ▪ NSW Heritage Council ▪ NSW Office of Environment and Heritage ▪ NSW Department of Premier and Cabinet	▪ Traffic and congestion on the local road system ▪ Adequate public transport options and access ▪ Ensuring new infrastructure meets standard requirements for safety and fire evacuation ▪ Ensuring the development is compliant ▪ Ensuring the development does not impact heritage items ▪ Easing overcrowding in local schools
Local Council – Mosman Council ▪ Mayor ▪ General Manager ▪ Councillors ▪ Bureaucrats	▪ Schedule for construction and opening of school ▪ Plans for enrolled students during the operation of the temporary school ▪ Impacts to the local community including noise, congestion and traffic ▪ Shared use of community spaces ▪ Providing amenities to meet increase population density
School community ▪ Principal ▪ Teachers ▪ Staff ▪ Parents and carers ▪ Students	▪ Safe pedestrian and traffic access to the temporary school during construction ▪ Construction impacts and how these will be minimised ▪ Quality of infrastructure and resources upon project completion ▪ How to access the new school once completed

Stakeholders	Interest and involvement
Local community ▪ All residents and businesses to surrounding the school including Military Road (between Gouldsbury Street and Raglan Street), Belmont Road and Avenue Road adjacent to the school and all of Gladstone Avenue	▪ Noise and truck movements during construction ▪ Increased traffic and congestion on nearby streets ▪ Local traffic and pedestrian safety ▪ Changed traffic conditions during pick-up and drop-off ▪ Shared use of school facilities and amenities
Nearby public schools ▪ Mosman PS ▪ Beauty Point PS ▪ Middle Harbour PS ▪ Neutral Bay PS ▪ Cammeraygal HS	▪ Impact on school resources ▪ Impact on current students ▪ Implications for teaching staff ▪ Possible impacts on enrolments ▪ Opportunities to view the new facilities
Adjoining affected landowners and businesses ▪ Shopkeepers along Military Road and Avenue Road ▪ Occupants of detached/attached dwellings on Gladstone Road, Belmont Road and Avenue Road ▪ Scots Kirk Presbyterian Church, Belmont Road ▪ Mosman Bowling Club, Belmont Road	▪ Noise and truck movements during construction ▪ Increased traffic and congestion on nearby streets ▪ Local traffic and pedestrian safety ▪ Changed traffic conditions during pick-up and drop-off ▪ Shared use of school facilities and amenities ▪ Environmental impacts during construction
Community groups ▪ Mosman Village Community ▪ Mosman Square Seniors Centre ▪ Mosman Combined Probus Club ▪ The Rotary Club of Mosman ▪ Mosman Historical Society ▪ Mosman RSL sub-branch ▪ Mosman Chamber of Commerce ▪ Mosman Village Community Group ▪ Mosman Youth ▪ Mosman Collective ▪ Mosman Community Gardeners ▪ Mosman Lions Club ▪ Mosman Public Speaking Club	▪ Noise and truck movements during construction ▪ Increased traffic and congestion on nearby streets ▪ Local traffic and pedestrian safety ▪ Changed traffic conditions during pick-up and drop-off ▪ Shared use of school facilities and amenities

6. Engagement Approach

From 30 March 2020, the way we communicate has temporarily changed due to social distancing requirements. Appendix A provides a detailed list of changed communication methods and tools. This particularly refers to face-to-face communication channels such as door knocks, information booths/sessions, face-to-face meetings and briefings.

The key consideration in delivering successful outcomes for this project is to make it as easy as possible for anyone with an interest to find out what is going on. In practice, the communication approach across all levels of engagement will involve:

- Using uncomplicated language
- Taking an energetic approach to engagement
- Encouraging and educating whenever necessary
- Engaging broadly including with individuals and groups that fall into harder to reach categories
- Providing a range of opportunities and methods for engagement
- Being transparent
- Explaining the objectives and outcomes of planning and engagement processes.

In addition to engagement with government departments, agencies and councils, two distinct streams of engagement will continue for the project:

- School community for existing schools being upgraded, or surrounding schools for new schools, and
- Broader local community.

This allows:

- School-centric involvement from school communities (including students, parents/caregivers, teachers, administration staff) unencumbered by broader community issues, and
- Broad community involvement unencumbered by school community wants and needs. Broad community stakeholders include local residents, neighbours and local community/action groups.

6.1. General community input

Members of the general public impacted by the construction phase are able to enquire and complain about environmental impacts via the following channels:

- Information booths and information sessions held at the school or local community meeting place, and advertised at least seven days before in local newspapers, on our website and via letterbox drops
- 1300 number that is published on all communication material
- School Infrastructure NSW email address that is published on all communication material
- Refer to Section 8.5 of this document for detail on our enquiries and complaints process.

A number of tools and techniques will be used to keep stakeholders and the local community involved as summarised in table three below.

For reference, project high level milestones during the delivery phase include:

- Site establishment/early works
- Commencement of main works construction
- Term prior to project completion
- Project completion
- First day of school following project completion
- Official opening

Table 3: School Infrastructure NSW Communications Tools

Communications Tool	Description of Activity	Frequency
1300 community information line	The free call 1300 482 651 number is published on all communication materials and is manned by staff from SINSW. All enquiries that are received are referred to the appointed C&E Manager and/or Senior Project Director as required and logged in our CRM. Once resolved, a summary of the conversation is updated in the CRM.	Throughout the life of the project and accessible for 12 months post completion
Advertising (print)	Advertising in local newspapers is placed with at least seven days' notice of significant construction activities, major disruptions and opportunities to meet the project team or attend a face-to-face event.	At project milestones or periods of disruption
Call centre scripts	High level, project overview information provided to external organisations who may receive telephone calls enquiring about the project, most namely stakeholder councils.	Throughout the project when specific events occur or issues are raised by stakeholders
Community contact cards	These are business card size with all the SINSW contact information. The project team/ contractors are instructed to hand out contact cards to stakeholders and community members enquiring about the project. Cards are offered to school administration offices as appropriate. The card directs all enquiries, comments and complaints through to our 1300 number and SINSW email address.	Throughout the life of the project and available 12 months post completion
CRM database	All projects are created in SINSW's Customer Relationship Management system Darzin at project inception. Interactions, decisions and feedback from stakeholders are captured, and monthly reports generated. Any enquiries and complaints are to be raised in the CRM and immediately notified to the Senior Project Director, Project Director and Community Engagement Manager.	Throughout the life of the project and updated for 12 months post completion
Display boards	A0 size full colour information boards are displayed at information sessions or can be permanently displayed in appropriate places (a school administration office for example).	As required
Door knocks	Provide timely notification to nearby residents of upcoming construction works, changes to pedestrian movements, temporary bus stops, expected impacts and proposed mitigation. Provide written information of construction activity and contact details.	As required prior to periods of construction impacts
Face-to-face meetings/briefings	Activities include meeting, briefings and "walking the site" to engage directly with key stakeholders, directly impacted residents and business owners and the wider community.	As required
FAQs	Set of internally approved answers provided in response to frequently asked questions. Used as part of relevant stakeholder and community communication tools. These are updated as required, and included on the website if appropriate.	Throughout the life of the project

Communications Tool	Description of Activity	Frequency
Information booths	Information booths are held locally and staffed by a project team member to answer any questions, concerns or complaints on the project. Info booths are scheduled from the early stages of project delivery through to project completion. Information booths are to be held both at the school/neighbouring school, as well for the broad community: ▪ School information booths are held at school locations at times that suit parents and caregivers, with frequency to be aligned with project milestones and as required. ▪ Community information booths are usually held at local shopping centres, community centres and places that are easily accessed by the community. They are held at convenient times, such as out of work hours on weekdays and Saturday's. Collateral to be provided include community contact cards, latest project notification or update, with internal FAQs prepared. All liaison to be summarised and loaded in the CRM. Notice of at least 7 days to be provided.	At project milestones and as required
Information sessions (drop in)	Information sessions are a bigger event than an information booth and are held at a key milestone or contentious period. These events feature detailed information on the project on display boards/ screens and an information pack handout which includes a project scope, planning approvals, any impacts on the school community or residents, a project timeline and a frequently asked questions section. Members from the project and communications team are available to answer questions about the project. These events occur after school hours on a week day (from 3pm – 7pm to cover working parents). All liaison summarised and loaded on the CRM.	As required
Information pack	This is a four page A4 colour, fold out flyer which includes: ▪ Project scope ▪ Project update ▪ FAQs ▪ Contact information ▪ Project timeline Information packs are distributed at information sessions or at other bigger events/milestones in hard copy and also made available on the SINSW website.	As required
Media releases/events	Media releases are distributed at announce media milestones. They promote major project milestones and activities and generate broader community awareness.	Media milestones: ▪ Project announcement ▪ Concept design

Communications Tool	Description of Activity	Frequency
		completed ▪ Planning approval lodged ▪ Planning approval granted ▪ Construction contract tendered ▪ Construction contract awarded ▪ SOD turning opportunity ▪ Handover ▪ Official opening
Newsletters	A monthly or quarterly newsletter providing updated information on project scope, benefits, construction progress, achievement of project milestones and other project related issues of interest. Similar to an information pack in content, but used as a regular high-level update for the community. They are available in hard copy and electronic format.	As required, related to high level project milestones
Notifications	A4, single or double sided, printed in colour that can include frequently asked questions, if required. Notifications are distributed under varying templates with different headings to suit different purposes: ▪ **Works notification** are used to communicate specific information/ impacts about a project to a more targeted section of the community. This template doesn't have an image, so it can be more appropriately targeted for matters like hazardous material. ▪ **Project update** is used when communicating milestones and higher-level information to the wider community i.e. project announcement, concept design/DA lodgement, construction award or project completion. A project update always includes a project summary, information booths/sessions if scheduled, a progress summary and contact information.	As required according to the construction program. Distributed via letterbox drop to local residents and via the school community at least 5-7 days prior to construction activities or other milestones throughout the life of the project. Specific timings indicated in table 5 – Section 8.
Photography, time-lapse photography and videography	Captures progress of construction works and chronicles particular construction activities. The images are used in notifications, newsletters, reports, the SINSW website, social media channels, at information sessions and in presentations. Once the project is complete, SINSW will organise photography of external and internal spaces to be used for a range of communications purposes.	Project completion (actual photography and video of completed project) Prior to project completion - artist impressions, flythrough, site plans and construction progress images are used

Communications Tool	Description of Activity	Frequency
Presentations	Details project information for presentations to stakeholder and community groups.	As required
Priority correspondence	Ministerial (and other) correspondence that is subject to strict response timeframes. Includes correspondence to the Premier, Minister, SINSW and other key stakeholders. SINSW is responsible for drafting responses as requested within the required timeframes.	As required
Project Reference Group	SINSW facilitated Project Reference Group sessions providing information on the design solution, construction activities, project timeframes, key issues and communication and engagement strategies.	Meets every month or as required More information on the PRG is detailed in Section 4
Project signage	A0 sized, durable aluminium signage has been installed at the Mosman High School Upgrade. Provides high level information including project scope, project image and SINSW contact information. Fixed to external fencing/entrances that are visible and are updated if any damage occurs.	Throughout the life of the project and installed for 12 months post completion
Site visits	Demonstrate project works and progress and facilitate a maintained level of interest in the project. Includes media visits to promote the reporting of construction progress.	As required
School Infrastructure NSW email address	Provide stakeholders and the community a direct communication channel to the Community Engagement team. Email address (schoolinfrastructure@det.nsw.edu.au) is published on all communication materials.	Throughout the life of the project
School Infrastructure NSW website	A dedicated project page for the Mosman High School Upgrade is located on the SINSW website: www.schoolinfrastructure.nsw.gov.au/projects/m/mosman-high-school-upgrade.html	Updated at least monthly and is live for at least 12 months post completion of the project
Welcome pack/ thank you pack	At project completion the following flyers are utilised: ▪ **Welcome pack** – A two to four page A4 flyer which is provided to the school community on the first day/week they return to school when new facilities are opening, or attending a new school. Includes project overview, map outlining access to the school and key locations, frequently asked questions and contact information. ▪ **Thank you pack** – A two to four page A4 flyer tailored to local residents to thank them for their patience and support of the project.	Project completion only

7. Engagement Delivery Timeline

From 30 March 2020, the way SINSW communicates has temporarily changed due to social distancing requirements. Please refer to Appendix A for more details on changed methods and tools. The table below outlines both traditional and alternative methods to be used in line with the changes.

The following engagement delivery timeline maps tailored communications tools and activities by key milestone.

Table 4: Engagement timeline

Project Phase / milestone	Target Audiences	Proposed communication tools / activities / purpose as per Table 3	Timing / implementation
Prior to main works (services work and installation of temporary buildings)	Near neighbours Local community	▪ Early works notification distributed to surrounding residents and businesses ▪ No doorknock – letterbox drop to adjacent landowners ▪ Website update ▪ SINSW email address and hotline	August and September 2021
Main construction works, including but not limited to: ▪ Works commenced ▪ Demolition work ▪ Key impacts – noise, dust, traffic, vibration ▪ Construction milestone	Local community Adjacent landowners Local Council State agencies Local teachers Prospective parents and students	**Planned** ▪ Main works notification distributed to surrounding residents and businesses ▪ No doorknock – letterbox drop to adjacent landowners ▪ Website update ▪ SINSW email address and hotline ▪ Media release **Alternative methods where applicable:** ▪ Digital information booth with information boards and pack with frequently asked questions	November 2021 (at key construction events as required, as per our notification process in Table 5)
Term prior to project completion	School community Local community Adjacent landowners Local Council Prospective parents and students	**Planned** ▪ Project update: letterbox drop ▪ Information booth and presentation ▪ Information packs ▪ Information boards ▪ Website update ▪ SINSW email address and	Mid 2023

Project Phase / milestone	Target Audiences	Proposed communication tools / activities / purpose as per Table 3	Timing / implementation
		hotline ▪ Site visits **Alternative methods where applicable:** ▪ Digital information booth (if required) with information boards and pack with frequently asked questions	
Handover and welcome to new school	School community Local community	**Planned** ▪ Project update ▪ Thank you pack ▪ Welcome pack ▪ Media release ▪ Website update ▪ SINSW email address and hotline ▪ Site visits	Mid 2023
Opening	All	**Planned** ▪ Media release ▪ Official opening ceremony	Mid 2023
Post-opening	All	**Planned** ▪ Website remains live ▪ Project signage remains installed ▪ 1300 phone and email still active, and CRM still maintained for complaints and enquiries.	Late 2023

8. Protocols

8.1. Media engagement

SINSW manages all media relations activities, and is responsible for:

- Responding to all media enquiries and instigating all proactive media contact.
- Media interviews and delegation to SINSW media spokespeople who are authorised to speak to the media on behalf of the project
- Informing the Minister's Office and SINSW project team members and communications representatives of all media relations activities in advance and providing the opportunity to participate in events where possible.

8.2. Site visits

SINSW in partnership with Schools Operations and Performance organises and hosts guided project site tours and media briefings as required by the Minister's Office. The Project Team will ensure the required visitor site inductions are undertaken and that all required Personal Protective Equipment (PPE) is worn.

For media site visits and events, SINSW creates, or contributes to, the production of an event pack. This will include an event brief, media release, speaking notes and Q&As.

8.3. Social, online and digital media

SINSW initiates and maintains all social and online media channels. These channels can include Facebook, Twitter, LinkedIn and the website. The SINSW Online Content Team upload to the SINSW website.

8.4. Notification process

Notifications (titled works notifications or project updates as per Table 3) are SINSW's prescribed notification requirement and are the primary mechanism to inform the community and key stakeholders about the impact of school construction on the local area. Notifications provide advance warning of activities and planned disruptions, as per the notice periods in Table 5 below, allowing stakeholders and community members to plan for the impacts and make alternative arrangements where required. Notifications are distributed in person via door knocks, via letterbox drop, via the school and electronically via email.

The C&E Manager advises the project team of the relevant notification requirements and timeframes to be met. The team obtains the information necessary to meet these timeframes by:

- Having oversight of the project delivery program
- Visiting site as required
- Attending and participating in construction meetings, planning meetings, and Risk and Opportunity workshops.

Table 5: Notifications periods

Works activity	Minimum community notification period
Notification to communities following major incident	Same day
Emergency works/unforeseen events	Same day
Contamination management and notification	Within 48 hours
Upcoming works notification (minimum disruption)	5 – 7 days
Invitation/notification of community event (e.g. info booth)	5 – 7 days
Notifications regarding traffic changes, parking impacts, road closures, major detours	10 – 14 days
Pedestrian route changes and other impacts	10 – 14 days

Works activity	Minimum community notification period
Notifications regarding operational changes for the school community (school drop-off points, entry and exit points)	10 –14 days
Major construction impacts (out of hours/ significant noise/ demolition)	10 – 14 days
Major impacts to school community e.g. relocation to temporary school	6 months

8.5. Enquiries and complaints management

SINSW manages enquiries (*called interactions in our CRM, Darzin*), and complaints in a timely and responsive manner.

Prior to project delivery, a complaint could be related to lack of community consultation, design of the project, lack of project progress, etc.

During project delivery, a complaint is defined as in regards to construction impacts such as safety, dust, noise, traffic, congestion, loss of parking, contamination, loss of amenity, hours of work, property damage, property access, service disruption, conduct or behaviour of construction workers, other environmental impacts, unplanned or uncommunicated disruption to the school.

If a phone call, email or face-to-face complaint is received during construction, they must be logged in our CRM, actively managed, closed out and resolved by SINSW within 24-48 hours.

As per our planning approval conditions, a complaints register is updated monthly and is publicly available on the project's website page on the SINSW website.

If the complainant is not satisfied with SINSW response, and they approach SINSW for rectification, the process will involve a secondary review of their complaint as per the outlined process.

Complaints will be escalated when:

- An activity generates three complaints within a 24-hour period (separate complainants)
- Any construction site receives three different complaints within a 24-hour period
- A single complainant reports three or more complaints within a three-day period
- A complainant threatens to escalate their issue to the media or government representative
- The complaint was avoidable
- The complaint relates to a compliance matter.

Complaints will be first escalated to the Senior Manager, Community and Engagement or Director of Communications for SINSW as the designated complaints handling management representatives for our projects. Further escalation will be made to the Executive Director, Office of the Chief Executive to mediate if required.

If a complaint still cannot be resolved by SINSW to the satisfaction of the complainant, we will advise them to contact the NSW Ombudsman: www.ombo.nsw.gov.au/complaints.

The below table summarises timeframes for responding to enquiries and complaints, through each correspondence method:

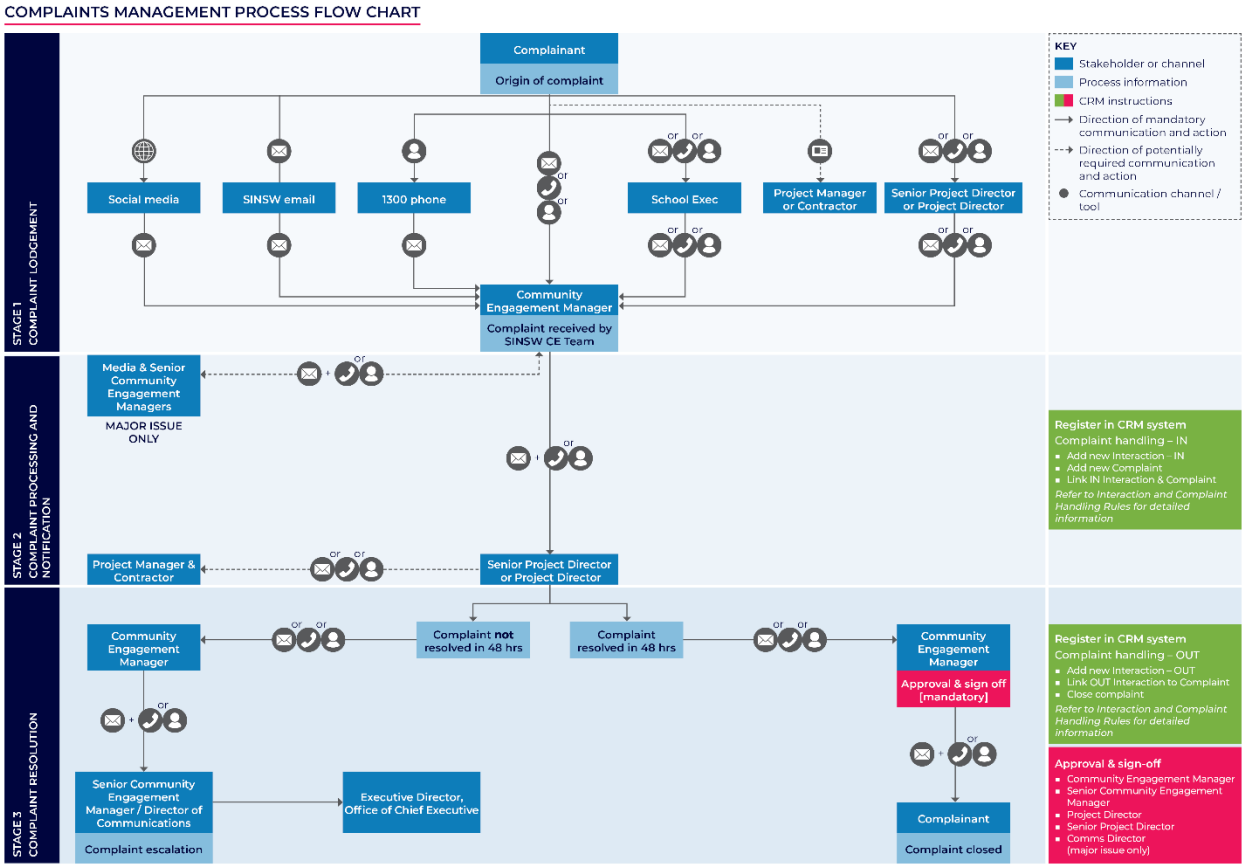
Table 6: Complaint and enquiry response time

Complaint	Acknowledgement times	Response times
Phone call during business hours	At time of call and agree with caller estimated timeframe for resolution.	Complaint to be closed out within 48 hours. If not possible, continue contact, escalate as required and resolve within seven business days.
Phone call after hours*	Within two hours of receiving message upon returning to office.	Following acknowledgement, complaint to be closed out within 48 hours. If not possible, continue contact,

Complaint	Acknowledgement times	Response times
		escalate as required and resolve within seven business days.
Email during business hours	At time of email (automatic response)	Complaint to be closed out within 48 hours. If not possible, continue contact, escalate internally as required and resolve within seven business days.
Email outside of business hours	At time of email (automatic response)	Complaint to be closed out within 48 hours (once return to business hours). If not possible, continue contact, escalate internally as required and resolve within seven business days.
Interaction/ Enquiry		
Phone call during business hours	At time of call and agree with caller estimated timeframe for response.	Interaction to be logged and closed out within seven business days.
Phone call after hours	Within two hours of receiving message upon returning to office.	Interaction to be logged and closed out within seven business days.
Email during business hours	At time of email (automatic response)	Interaction to be logged and closed out within seven business days.
Email outside of business hours	At time of email (automatic response)	Interaction to be logged and closed out within seven business days.
Letter	N/A	Interaction to be logged and closed out within 10 business days following receipt.

The below diagram outlines our internal process for managing complaints.

Figure 3 - Internal Complaints Process



8.5.1. Disputes involving compensation and rectification

SINSW is committed to working with the school and broader community to address concerns as they arise. Where disputes arise that involve compensation or rectification, the process for resolving community enquiries and complaints will be followed to investigate the dispute. Depending upon the results of the investigation, SINSW may seek legal advice before proceeding.

8.6. Incident management

An incident is an occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance. Material harm is harm that:

(a) involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial; *or*

(b) results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment).

8.6.1. Roles and responsibilities following an incident

In the event of an incident, once emergency services are contacted, the incident must be immediately reported to the SINSW Senior Project Director who will inform:

- SINSW Executive Director
- SINSW C&E Manager
- SINSW Senior Manager, C&E
- SINSW Communications Director

SINSW Communications Director will:

- Lead and manage all communications with the Minister's office in the event of an incident, with assistance as required

- Direct all communications with media to the SINSW Media Manager in the first instance for management
- Notify all other key project stakeholders of an incident.

The school and local community will be notified within 24 hours in the event of an incident, as per our notification timelines in Table 5.

The SINSW Senior Project Director will issue a written incident notification to Department of Planning, Industry & Environment (compliance@planning.nsw.gov.au) and local council immediately following the incident to set out the location and nature of the incident.

This must be followed within seven days following the incident of a written notification to the Department of Planning, Industry and Environment (compliance@planning.nsw.gov.au) that:

(a) identifies the development and application number;

(b) provides details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident);

(c) identifies how the incident was detected;

(d) identifies when SINSW became aware of the incident;

(e) identify any actual or potential non-compliance with conditions of consent;

(f) describes what immediate steps were taken in relation to the incident;

(g) identifies further action(s) that will be taken in relation to the incident; and

(h) provides the contact information for further communication regarding the incident (the Senior Project Director).

Within 30 days of the date on which the incident occurred or as otherwise agreed to by the Planning Secretary, SINSW will provide the Planning Secretary and any relevant public authorities (as determined by the Planning Secretary) with a detailed report on the incident addressing all requirements below:

(a) a summary of the incident;

(b) outcomes of an incident investigation, including identification of the cause of the incident;

(c) details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and

(d) details of any communication with other stakeholders regarding the incident.

8.7. Reporting process

Throughout the project, data will be recorded on participation levels both face-to-face and online, a record of engagement tools and activities carried out in addition to queries received and feedback against emerging themes.

Stakeholder and community sentiment will be evaluated throughout to ensure effectiveness of the engagement strategy and to inform future activities.

Reporting will include, but not be limited to:

- Stakeholder engagement reporting – numbers of forums, participation levels and a summary of the outcomes Community sentiment reporting – outputs of all community engagement activities, including numbers in attendance at events, participation levels and feedback received against broad themes
- Online activity – through the project website and via social media
- Media monitoring – as part of the proactive media campaign
- Engagement risk register – to be updated regularly.

Appendix A – Changing the way we communicate – community engagement alternative methods

Below are proposed alternatives to our standard mandatory requirements for community engagement effective as of 30 March 2020. These alternatives are proposed to ensure we continue to comply with SSD and DA conditions and that our communities can remain informed about our projects while adhering to social distancing requirements and NSW Health advice.

Our engagement principles for this period should continue to ensure our communications are:

- Simple
- Streamlined
- Accessible

Summary of mandatory requirements and alternatives:

Items in **bold** have alternate delivery options.

SSD CONDITION	ALTERNATIVE
1300 community information line	No change
Advertising (print)	Promote online information session / generic single advert
Call centre scripts	No change
Community contact cards	Contractors to hand out as required
CRM database	No change
Display boards	Digital version
Door knocks	Door knocks are replaced by letterbox drops
Face-to-face meetings/briefings	Phone call or teleconferencing
FAQs	No change
Information booths	Information booths are replaced by project updates Virtual information sessions
Information sessions (drop in)	Drop in information sessions are replaced by virtual information sessions
Information pack	Digital version
Media releases/events	No change to media releases, no events to be held
Notifications	Distributed to school community via email from Principal Distributed to near neighbours via letterbox drop*

SSD CONDITION	ALTERNATIVE
Photography, time-lapse photography and videography	Source photography if health advice permits Use images and time-lapse from similar projects if unable to photograph site
Presentations	Digital version for PRGs/stakeholder meetings
Priority correspondence (RML)	No change
Project Reference Group	Skype meetings / teleconferencing
Project signage	No change if production and installation still possible; A4 print out delivered
Site visits	Site visits via phone/video/photography
School Infrastructure NSW email	No change
School Infrastructure NSW website	No change (may publish updates more frequently)
Welcome pack/ thank you pack	Welcome pack: Do not issue until school resumes Thank you pack: Issued when project is entirely complete

**Alternative may change depending on distributor operations*

16.5 Appendix 5: Environment and Waste Management Plan

ENVIRONMENTAL AND WASTE MANAGEMENT PLAN

Multiplex
769 Military Rd, Mosman NSW 2088
21-015

MOITS
ABN: 76 074 571 510

Address: 142 Wicks Road Macquarie Park NSW 2113
Correspondence: PO Box 4037, Macquarie Centre, North Ryde NSW 2113

Table of Contents

1.0 Document Control

Amendments to this Environmental Management Plan are approved by the HSEQ Manager and distributed to all holders of controlled copies.

Date	Name of Recipient	Organisation
	Jade Nicholson	Multiplex
	Matthew Hogan	Multiplex
	Kassim Youssef	Multiplex
	Christina Travers-Jones	Multiplex
	Vanessa Lesicnik	Multiplex
	Nick Chong Sun	Moits

Uncontrolled copies of this plan may be distributed to Moits personnel. However, these copies are not subject to automatic amendment and the receiver should verify currency of the document. Revisions to this Management Plan shall be made as required to reflect the current system requirements or the requirements of the Principal Contractor.

Revision	Date	Description	Page	Reviewed By	Approved By
1.0	Feb 18	New env and waste mgmt plan	All	Darren O'Dea	Darren O'Dea
2.0	Feb 21	Update to include additional client requirements	All	Darren O'Dea	Darren O'Dea

2.0 Company Contact Details

Company Details	
Company Name	Moits
ABN	76 074 571 510
Address	142 Wicks Road Macquarie Park NSW 2113
Phone	02 8026 1700
Email	Dawood.Dawood@moits.com.au

2.1 Site Contact Details

Name	Position/Role	Contact Number	Contact Email
Nick Chong Sun	Construction Director	0477 262 555	Nick.ChongSun@moits.com.au
Dawood Dawood	Project Manager	0477 400 606	Dawood.Dawood@moits.com.au
Andrew Heath	Supervisor	0447 275 720	Andrew.Heath@moits.com.au

3.0 Environmental Policy

N Moit & Sons (NSW) Pty Ltd strongly believes that protecting our environment is not just a moral and legal responsibility but also an investment for our future and a prerequisite for us to achieve our primary mission of conducting demolition, excavation and civil construction to the highest standards. Moits will take all reasonable and practical steps to minimise the ecological footprint our activities place on the environment by:

- Ensuring compliance with all applicable environmental laws, regulations, standards and other requirements applicable to our operations and maintaining our Environmental Management System in accordance with
  ISO 14001.
- Ensuring all employees and contractors are fully aware of their environmental responsibilities and that they take reasonable care to avoid adversely impacting on the environment through any act or omissions at work.
- Implementing risk identification and hazard management systems which are relevant and suitable for Moits operational and business exposures.
- Maintaining relevant procedures, systems, information, training, recognition programs and organisational structures to support and communicate effective environmental management practices in line with company environmental objectives and targets
- Establishing and implementing procedures to ensure continued improvement in environmental compliance
- Encourage the reduction of waste and consumption of natural resources in our operations by purchasing environmentally friendly products and recycling waste wherever possible.
- Reduce energy consumption by using energy efficient products and encouraging our employees and contractors to turn off equipment from the principle power supply when not required and economically viable.
- Substituting, where practicable, environmentally harmful substances with less harmful products and providing adequate waste disposal facilities and practices for those substances that cannot be re-used or recycled.
- Effectively managing and investigating all environmental incident occurrences and ensuring that practical management and rehabilitation practices are adopted.

This policy is applicable to all Moits personnel and contractors conducting business at a Moits worksite.

MICHAEL MOIT
7 May 2019

DOCUMENT CONTROL

DOCUMENT ID:	*PO-006*
LAST REVIEW:	*14 May 2021*
REVISION NO.:	*4*
NEXT REVIEW:	*14May 2023*

4.0 Objectives and Targets

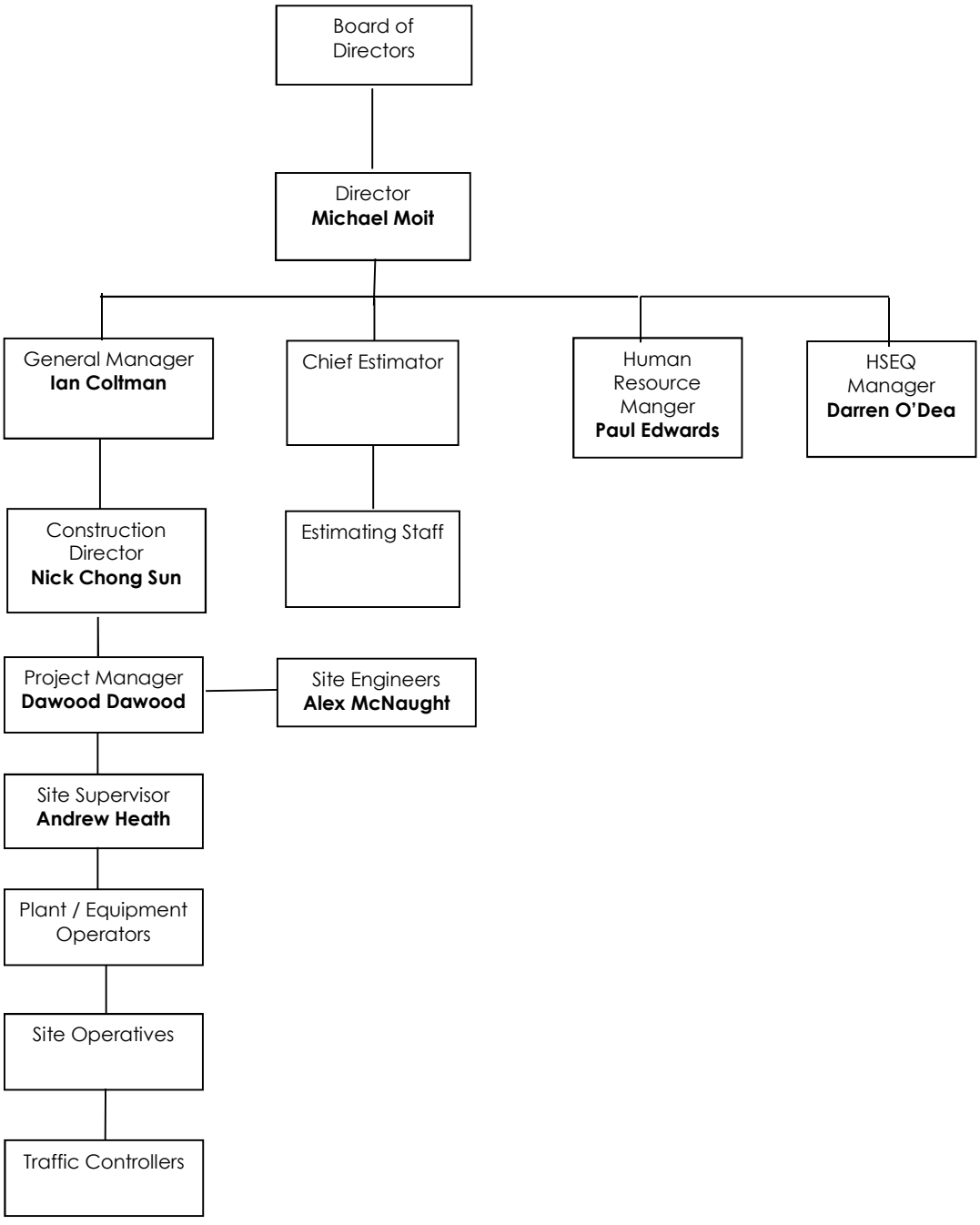
The Objective of this EMP is to provide a documented plan for management and minimisation of potential environmental impacts that the works may have on the environment through the identification of risks and control measures.

The Target is to have no environmental incidents whilst conducting work for the Principal Contractor on the Project.

5.0 Scope of Works

The project will be conducted across December and January, involving the demolition and partial demolition of two Mosman high school buildings. Building B will be completely demolished to the ground floor slab, while Building E will be partially demolished involving a roof disconnection and a walkway demolition between buildings B and C. All three buildings will require make good works after the demolition works.

6.0 Project Organisation Chart



7.0 Roles and Responsibilities

The responsibilities of the key staff associated with this project will be as follows:

7.1 General Manager

Ian Coltman

- Approved project environmental policy.
- Overall responsibility for environmental management
- Provision of adequate resources
- Ensure understanding and compliance with environmental legislation/regulations
- Demonstrate a commitment to environmental management

7.2 Project Manager

Dawood Dawod – 0477 400 606

- Prepare and implement Project Environmental Management Plan and EWMS
- Ensure non-conformances are rectified
- Monitor overall environmental management performance including EWMS
- Report compliance with regulatory and contractual requirements for client and authorities
- Ensure sub-contractors and employees comply with Moits Project Environmental Management Systems.
- Provide relevant training and conduct documented toolbox meetings where works have the potential to cause environmental harm
- Notify Principal Contractor of any environmental incidents and conduct incident investigations as required
- Ensure corrective actions resulting from incident investigations are completed
- Participate in any incident investigation as required
- Communication of environmental performance to WHS Manager

7.3 Site Supervisor

Andrew Heath – 0447 275 720

- Implement project Environmental Management Plan
- Monitor site works and use environmental checklist/s where appropriate
- Ensure sub-contractors and employees comply with Environmental Management Plan requirements.
- Report any environmental issues to the Site Manager
- Assist in the development of EWMS for the project
- Implementation of controls required by EWMS
- Make sure that work activities are carried out in an environmentally sound manner
- Actioning environmental inspection reports received from the Principal Contractor
- Communicate performance to the Site Manager

7.4 Employees/subcontractors

- Ensure compliance with directions given regarding environmental management and in accordance with the Principal Contractor's Project Induction.
- Participate in toolbox talk on Environmental Work Method Statement and sign-on
- Assist in the development of EWMS for the Project as required
- Reporting any Environmental impacts and incident to the site Manager/Foreman
- Seeking assistance if unsure of Environmental site rules
- Comply with emergency and evacuation procedures

8.0 Communication

Moits will consult with the Principal Contractor through regular meetings on environmental matters. Information will be promulgated to employees concerning environmental management issues and regulatory requirements via toolbox meetings and pre-start meetings. All formal correspondence will be issued via Aconex.

EVENT	FREQUENCY	PARTICIPANTS	RECORD
Work activity induction (in EWMS or equivalent)	Prior to commencing work	Personnel carrying out specific work activities	Record of training – listed on the EWMS or Toolbox Talk Record
Prestart/Toolbox meetings	Daily & Weekly	Personnel carrying out specific work activities	Prestart/Toolbox meeting record
Subcontractor meetings	Weekly	Site Supervisor/ Project Manager	Minutes of meeting

9.0 Subcontractors Environmental Management Plans and EWMS

All subcontractors are required to operate within the requirements of their EMP and associated documents. Where a subcontractor is determined to be working in an area identified as high risk for potential impact to the environment, additional management controls will be put in place. These may include the submission of a dedicated EMP / EWMS to address the specific work area and it must be submitted for review prior to commencement of work on site. Comments resulting from the review will be issued to the subcontractor for action and where required, re-submission. The EMP / EWMS must assess the level of environmental risk and implement appropriate management controls for the subcontractor's scope of work

Moits DOES intend to subcontract all or part of the works.
If engaged, the sub-subcontractors intended to be used on this site are:

Business	Contact Details
Kontro Group	Dennis Generoso dennisg@kontrogroup.com 0404 113 775

Plateau Trees	Anthony Plummer tony@plateautrees.com.au 02 9939 5350
Metal Corp	Jason Nour Jason@metalcorp.net.au 0423 385 987

Moits will ensure that the above mentioned subcontractors provide an EMP or EWMS for their specialised work, and that Moits shall review the EMP or EWMS.

10.0 Environmental Aspects, Impact s and Control Measures

An Environmental Work Method Statement (EWMS) detailing procedures addressing the identified aspects in the table below will be submitted with this EMP.

Note: The below aspects provide an indication of the different types of environmental aspects that may be encountered for particular stages of construction and scopes of work. The Moits EMP will reflect this in the EWMS and be kept on the project records. Additional aspects may be added at the discretion of Moits

ENVIRONMENTAL ASPECT		ENVIRONMENTAL IMPACT				
		Land/ Machines	**Air/Hazmat removal**	**Noise/ Vibration**	**Chemical**	**Water**
	Water quality	✅	✅	✅	✅	✅
	Washout System					
	Erosion and sediment control	✅	✅	✅	✅	✅
	Site contamination	✅	✅	✅	✅	✅
	Air quality including emissions i.e. dust	✅	✅	✅	✅	✅
	Noise and vibration	✅	✅	✅	✅	✅
	Hazardous chemicals and storage	✅	✅	✅	✅	✅
	Cultural heritage					
	Flora and fauna	✅	✅	✅	✅	✅
	Waste management	✅	✅	✅	✅	✅

11.0 Environmental Inspections

Moits will conduct environmental inspections weekly. Inspections will be filed and available for audit purposes. The Environmental Inspection Checklist is located in the SEQ management Plan on site.

11.1 Audits

Internal audits will be conducted throughout the course of the project to gauge the environmental performance of the project and the team working with the EMP

12.0 Storing and Handling Chemicals

Moits provides a current (within 5 years of the date of issue) SDS to the principal Contractor for all products and substances to be used for the work activity. All employees involved in the use of products classified as hazardous, are provided with information and training to allow safe completion of the required task
All storage and handling of chemicals is to be in accordance with the SDS and legislative requirements for each product being used on the Project.

13.0 Training and Induction Programs

All personnel working on the Project will complete the Principal Contractor's Project Induction which includes advice on environmental management and compliance requirements detailed for the site. All personnel will participate in the Environmental Work Method Statement 'toolbox meetings' and Project Risk Workshops as required. All participants will sign the attendance sheet as proof of training.

Training programs will remain current and be reviewed at least annually or:

- When new or unforeseen workplace requirements are identified
- Following a significant incident
- Following changes in legislation
-

14.0 Non- Conformance, Corrective Action

A non-conformance is defined as a failure to comply with MPX documented procedures, management plans and/or a breach of conditions imposed on the Project. This includes a breach of statutory requirements or licence condition.

Non-conformances identified during audits and site inspections shall be recorded on the Audit Report or Aconex field and actioned. In the event of a non-conformance being raised, MPX shall document this on the Non-Conformance Report on Aconex.

When a non-conformance is identified, the recipient and/or MPX shall identify strategies in order to rectify the non-conformance. Where appropriate, the recipient and/or MPX shall also develop measures to prevent recurrence of the non-conformance. The measures to rectify and to prevent recurrence of the non-conformance shall be documented on the Non-Conformance Report and a time frame established. The instigator shall carry out a follow-up review and close out of the Non-Conformance Report to verify completion of measures taken to rectify and to prevent recurrence

15.0 Emergency Procedures

All emergencies will be in accordance with the Principal Contractor's Emergency Management Plan which is covered in the Project induction. Any evacuations will be handled in accordance with the Emergency Evacuation Plan and under direction of the Principal Contractor's Emergency Management Team**.**

16.0 Environmental Incidents and Investigations

Upon the potential for or an actual environmental incident occurring, the incident form will be completed and submitted to the Principal Contractor as soon as possible.

It should be noted that the Principal Contractor is to be contacted immediately in the event of an environmental incident.

An environmental incident is identified as an activity that has the potential to or is causing material environmental harm which includes costs exceeding or in aggregate of $10,000 in accordance with the Protection of the Environment and Operations Act 1997 (NSW).

17.0 Waste Management

17.1 Waste Minimisation Plan

N Moit & Sons Pty Ltd will ensure that all waste material produced as a result of the demolition works carried out will be recycled or disposed of in accordance with the Waste Minimisation and Management Act 1995 and Local Councils Waste Minimisation Policies
N Moit & Sons is committed to recycling and the minimisation of waste materials created through its demolition process and has adopted the waste minimisation hierarchy as it basis for reducing waste:

Avoid waste at the source
Reuse materials and components
Recycle materials into new products
Dispose of in a responsible manner as a last resort

All employees and subcontractors shall be made aware of Moits commitment to recycling and the importance of separating materials during the demolition / excavation process, not after.

All waste materials created by the demolition / excavation process will be sorted into the following categories and disposed of at authorised salvage, recycling or waste management centres.

- Brick, Concrete & Masonry
- Scrap Metals
- Timber
- Glass
- Cardboard & Plastics
- Non-recyclable items
- Oils, gases
- General Solid Waste (GSW)
- Virgin Excavated Natural Material (VENM)

- Excavated Natural Material (ENM)
- Contaminated Soils (acid sulphate, asbestos etc.)
- Asbestos Containing Material (ACM)

17.2 Waste Transportation

The waste materials created by the works will be removed from site by Moits vehicles and hired bins. Any subcontractors used will be made aware of all requirements including the covering of loads, work hours and specific traffic routes to be taken

18. Unexpected finds Protocol

If an unexpected find is identified during earthworks, the following procedure will be followed:

1. Cease disturbance of the affected portion of the site.

2. Immediately implement controls if it is considered that the unexpected find may pose an immediate risk of harm to human health or the environment, and it is safe to do so.

3. Notify the relevant authorities if required (i.e. NSW EPA, SafeWork NSW).

4. Contact the site supervisor and the Environmental Consultant/ Occupational Hygienist to inspect the area.

5. Conduct an assessment of the location and extent of the unexpected find, if safe to do so.

6. Work Health and Safety (WHS) and environmental controls shall be established based on initial observations, if required. These may include but not be limited to:
    a. Controlling access by establishment of barricades and warning signs.
    b. Encapsulating with clean soil, plastic or geofabric.
    c. Establishing erosion and sediment controls
    d. Employing dust mitigation measures.
    e. Air monitoring.

7. Notify the client of the unexpected find and immediate controls established, if required.

8. Further visual assessment, sample collection and analysis may be required by a qualified environmental consultant or occupational hygienist, where further information is needed to assess the extent and/or inform the controls required. If necessary, samples shall be collected and analysed at a laboratory for contaminants of potential concern using National Association of Testing Authorities (NATA) accredited methods. The scope of work may be required to be reviewed by the client.

9. Depending on the outcome of the assessment by the environmental consultant/ occupational Hygienist, the unexpected find may need to be further assessed, managed, remediated or disposed of offsite in accordance with regulatory requirements.

10. Agree the scope with the client and implement works to mitigate identified risks associated with the unexpected find and collect evidence to demonstrate such works have been effective.

11. Affected areas shall be reopened for earthworks following a clearance of the location and issuing of a report by the environmental consultant / occupational hygienist and/or instruction from the client.

Any unexpected finds encountered should be listed on a UFP register via Moits Central, which should include the action taken and the status of the unexpected find. Prior to closing out an unexpected find it is required that all appropriate documentation has been obtained and uploaded to Moits Central.

16.6 Appendix 6: Construction Soil and Water Management Plan

Structural
Civil
Traffic
Façade

Construction Soil and Water Management Plan

Mosman High School

Prepared for Multiplex Australasia / 29 November 2021

201635

TTW (NSW) PTY LTD (ACN 649 974 112)
(ABN 74 649 974 112) I Consulting Engineers
Level 6, 73 Miller Street, North Sydney NSW 2060

Your Partner in Engineering

Contents

1.0 The Development Site

The site is located at 745 Military Road, Mosman NSW 2088 (Lot 1 DP1268793) and is within Mosman Municipal Council (LGA). The site is bordered by Military Road to the east, Gladstone Avenue to the west, Belmont Road to the north and Avenue Road to the south. The site locality is shown in Figure 1.
The area of the site is 14488 m^2 based on survey data provided by LTS Lockley (Shown in Attachment B) and generally grades from southeast to northwest (3% average), with highest level of 79.20 mAHD at south eastern boundary falling to 74.30 mAHD at north western boundary.

Figure 1: Site Locality Plan (Six Map)

The site falls within Infrastructure (SP2) land use based on Mosman Local Environmental Plan (LEP, 2012) and is currently used as educational facility. The site in existing conditions incorporates multiple buildings, sport fields, an open carpark and several other paved areas. The site incorporates two pedestrian entry egresses via Military Road and Belmont Road and two access driveways via Gladstone Avenue.

2.0 Construction Methodology

It is anticipated that there will be three types of construction work occurring within the site which are:

1. Demolition / Clearing
2. Excavation
3. Construction

3.0 Access Locations

As the proposed construction methodology by Multiplex is a staged construction the access to the worksite varies through the various stages/phases. For most of the duration of the works the site will be accessed via a temporary vehicular crossing on Belmont Road adjacent to existing site tennis courts. Towards the end of the works the site access will be moved further west on Belmont Road for access to existing car park on corner of Belmont Road and Gladstone Avenue, and also an additional site access will be provided Gladstone Avenue.

4.0 Traffic Movements within the Worksite

During demolition/clearing, excavation vehicles are to move through the site in a clockwise direction, entering from the temporary vehicle crossover on Belmont Road adjacent to the existing tennis courts and exiting from the same driveway. Vehicle loads are to be covered at all times when leaving the site and any loose debris be washed off vehicles prior to exiting the site.

5.0 Builders Compound Location

The builders compound will be located within the existing car park within the site at the corner of Belmont Road and Gladstone Avenue.

6.0 Site Storage

It is anticipated that all site storage is to be incorporated into the builders compound.

7.0 Crane Locations

The tower crane will be located between the corner of the existing Building B and the existing tennis court.

8.0 Erosion and Sediment Control Measures

During the construction stage of the project, an erosion and sediment control plan is to be implemented to prevent sediment laden stormwater from flowing into adjoining properties, bushland, roadways or receiving water bodies. Stormwater controls onsite are detailed in an erosion and sediment control plan and also the staged construction environmental management plans attached in Appendix A which is in accordance with relevant regulatory authority guidelines including Mosman Council's DCP and Landcom NSW's Managing Urban Stormwater, Soils and Construction ("Blue Book"). The measures implemented include:

- Siltation fencing around the perimeter of the extent of works.
- Temporary construction entry/exits located at the contractor access points.
- Geotextile pit filters on all existing stormwater pits within the site and proposed stormwater pits as they are constructed.
- Sandbag kerb sediment traps along the kerb on Belmont Road and Gladstone Avenue.

9.0 Management of Stormwater Flows During Construction

During construction in order to manage stormwater flows for small and large sized storm events, including, but not limited to 1 in 5 year ARI, all existing overland flow paths are to be maintained so as to not impact on any downstream properties by altering catchments during construction. The overland flow from the extent of works will have the erosion and sediment managed by the measures stated in the previous section.

Once the roof of the proposed building has been erected, all downpipes and roof drainage are to be connected into the stormwater pit and pipe system as soon as possible in order to have as much of the stormwater flow during storm events within the pipes minor stormwater system as possible.

Prepared by
TTW (NSW) PTY LTD

ALEXANDER IVANOVSKI
Civil Engineer

Authorised By
TTW (NSW) PTY LTD

Adrian Hall
Associate

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Post Approval Consultation Record

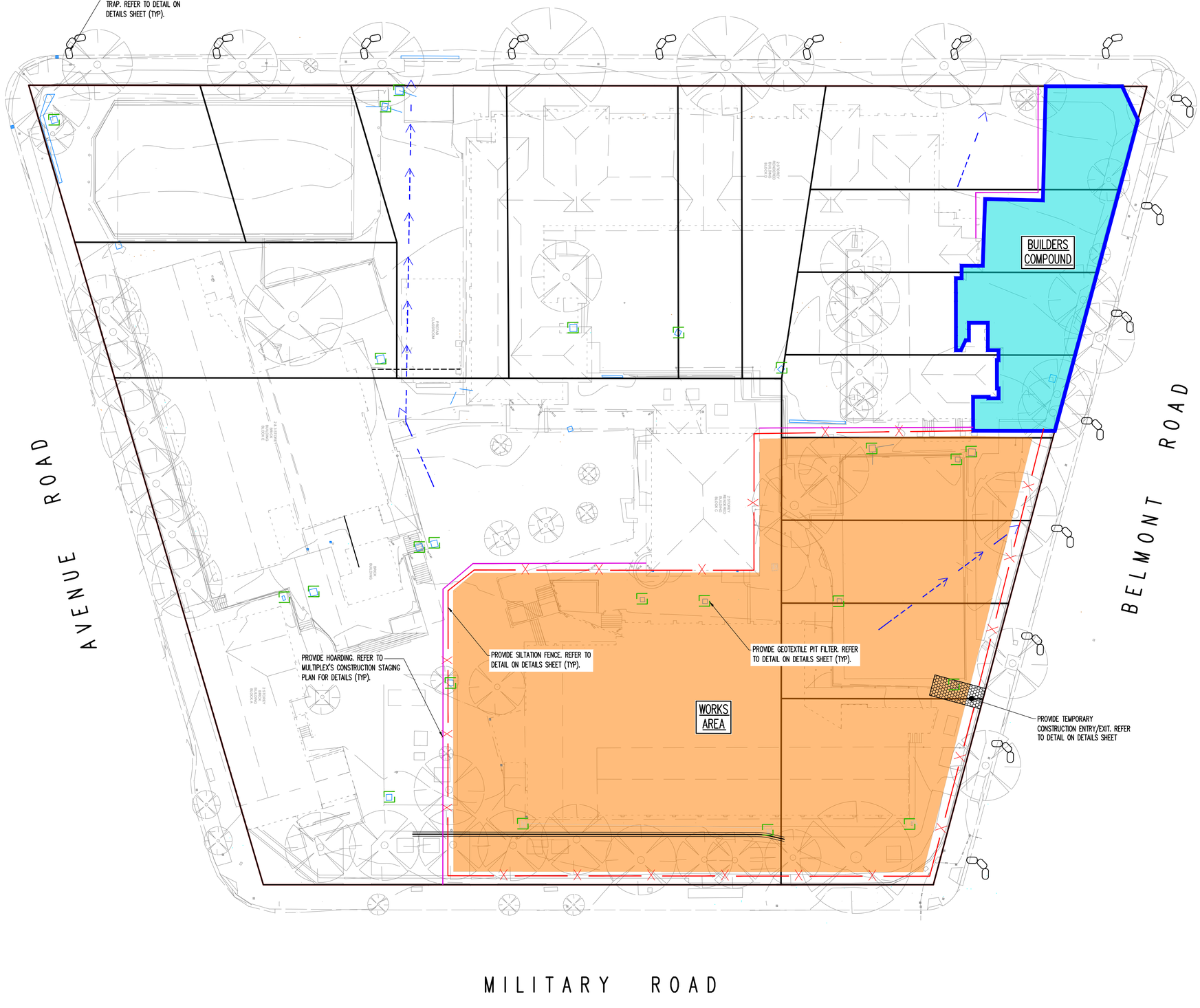
Identified Party to Consult:	Mosman Municipal Council
Consultation type:	Email
When is consultation required?	Prior to the commencement of construction
Why	To discuss any relevant input from Council as required by Consent Conditions SSD 10465 B21
When was consultation scheduled/held	6 December 2021
When was consultation held	6 December 2021
Identify persons and positions who were involved	Alex Ivanovski, Civil Engineer, TTW. Adrian Hall, Associate, TTW. Mosman Council
Provide the details of the consultation	**6 December 2021** Council was invited to comment on the Construction Soil and Waste Management Plan .
What specific matters were discussed?	The proposed Construction Soil and Waste Management Plan for Mosman High School Project.
What matters were resolved?	No response received yet
What matters are unresolved?	No response received yet

Any remaining points of disagreement?	N/A
How will SINSW address matters not resolved?	N/A

Appendix A

Construction Environmental Management Plans

THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT NOTES ON DRAWING CV-82-A-001



EROSION AND SEDIMENT CONTROL NOTES

1. All work shall be generally carried out in accordance with
   (A) Local authority requirements,
   (B) EPA – Pollution control manual for urban stormwater,
   (C) LANDCOM NSW – Managing Urban Stormwater: Soils and Construction ("Blue Book").
2. Erosion and sediment control **drawings and notes are** provided for the whole of the works. Should the Contractor stage these works then the design may be required to be modified. Variation to these details may require approval by the relevant authorities.
   The erosion and sediment control **plan** shall be implemented and adapted to meet the varying situations as work on site progresses.
3. Maintain all erosion and sediment control devices to the satisfaction of the superintendent and the local authority.
4. When stormwater pits are constructed prevent site runoff entering the pits unless silt fences are erected around pits.
5. Minimise the area of site being disturbed at any one time.
6. Protect all stockpiles of materials from scour and erosion. Do not stockpile loose material in roadways, near drainage pits or in watercourses.
7. All soil and water control measures are to be put back in place at the end of each working day, and modified to best suit site conditions.
8. Control water from upstream of the site such that it does not enter the disturbed site.
9. All construction vehicles shall enter and exit the site via the temporary construction entry/exit.
10. All vehicles leaving the site shall be cleaned and inspected before leaving.
11. Maintain all stormwater pipes and pits clear of debris and sediment. Inspect stormwater system and clean out after each storm event.
12. Clean out all erosion and sediment control devices after each storm event.

Sequence Of Works

1. Prior to commencement of excavation the following soil management devices must be installed.
1.1. Construct silt fences below the site and across all potential runoff sites.
1.2. Construct temporary construction entry/exit and divert runoff to suitable control systems.
1.3. Construct measures to divert upstream flows into existing stormwater system.
1.4. Construct sedimentation traps/basin including outlet control and overflow.
1.5. Construct turf lined swales.
1.6. Provide sandbag sediment traps upstream of existing pits.
2. Construct geotextile filter pit surround around all proposed pits as they are constructed.
3. On completion of pavement provide sand bag kerb inlet sediment traps around pits.
4. Provide and maintain a strip of turf on both sides of all roads after the construction of kerbs.

WATER QUALITY TESTING REQUIREMENTS

Prior to discharge of site stormwater, groundwater and seepage water into council's stormwater system, contractors must undertake water quality tests in conjunction with a suitably qualified environment consultant outlining the following:

- Compliance with the criteria of the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000)
- If required subject to the environmental consultants advice, provide remedial measures to improve the quality of water that is to be discharged into Councils storm water drainage system.This should include comments from a suitably qualified environmental consultant confirming the suitability of these remedial measures to manage the water discharged from the site into Councils storm water drainage system. Outlining the proposed, ongoing monitoring, contingency plans and validation program that will be in place to continually monitor the quality of water discharged from this site. This should outline the frequency of water quality testing that will be undertaken by a suitably qualified environmental consultant.

EROSION AND SEDIMENT CONTROL LEGEND

- Siltation fence
- Stormwater pit with Geotextile filter surround
- Sandbag sediment trap
- Overland flow path
- Site Hoarding
- Works Zone
- Builders Compound

NOTE: EXISTING OVERLAND FLOW PATHS WILL BE MAINTAINED DURING THE WORKS AS SHOWN

FileName: Stage 1.dwg - USER: dwu - Plot File Created: Nov 08, 2021 - 3:59pm

A1

Rev	Description	Eng	Draft	Date
P1	ISSUE FOR APPROVAL	AH	AI	08.11.21

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Project
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745 MILITARY ROAD, MOSMAN , NSW 2088

Sheet Subject
CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN - STAGE 1&1A

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Job No	Drawing No	Revision
201635	STAGE 1	P1

Plot File Created: Nov 08, 2021 - 3:59pm

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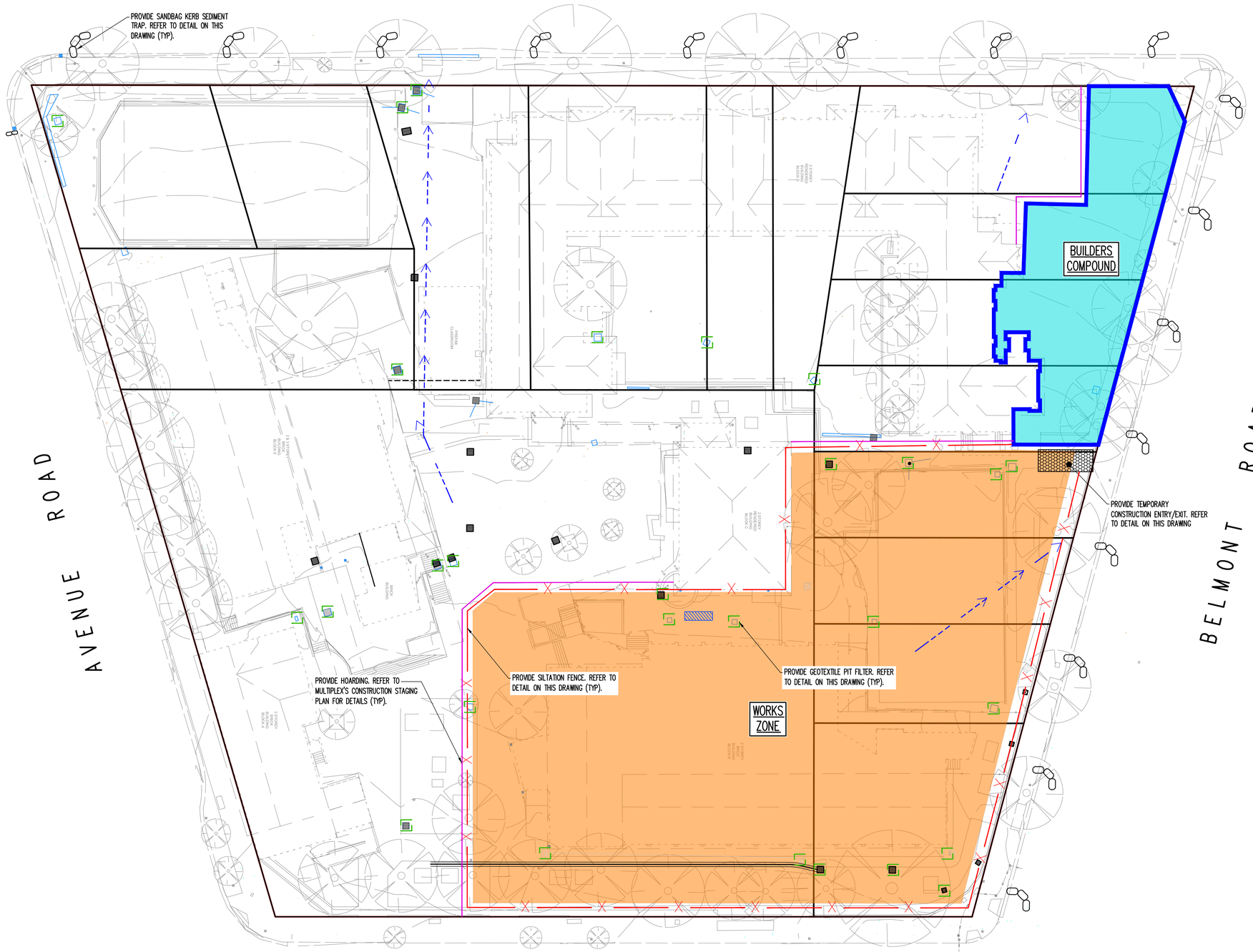

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EROSION AND SEDIMENT CONTROL LEGEND

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- Overland flow path
- Site Hoarding
- Works Zone
- Builders Compound

NOTE: EXISTING OVERLAND FLOW PATHS WILL BE MAINTAINED DURING THE WORKS AS SHOWN

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P1	ISSUE FOR APPROVAL	AH	AI	08.11.21

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Sheet Subject
CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN - STAGE 2

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Job No	Drawing No	Revision
201635	STAGE 2	P1

Plot File Created: Nov 08, 2021 - 3:56pm

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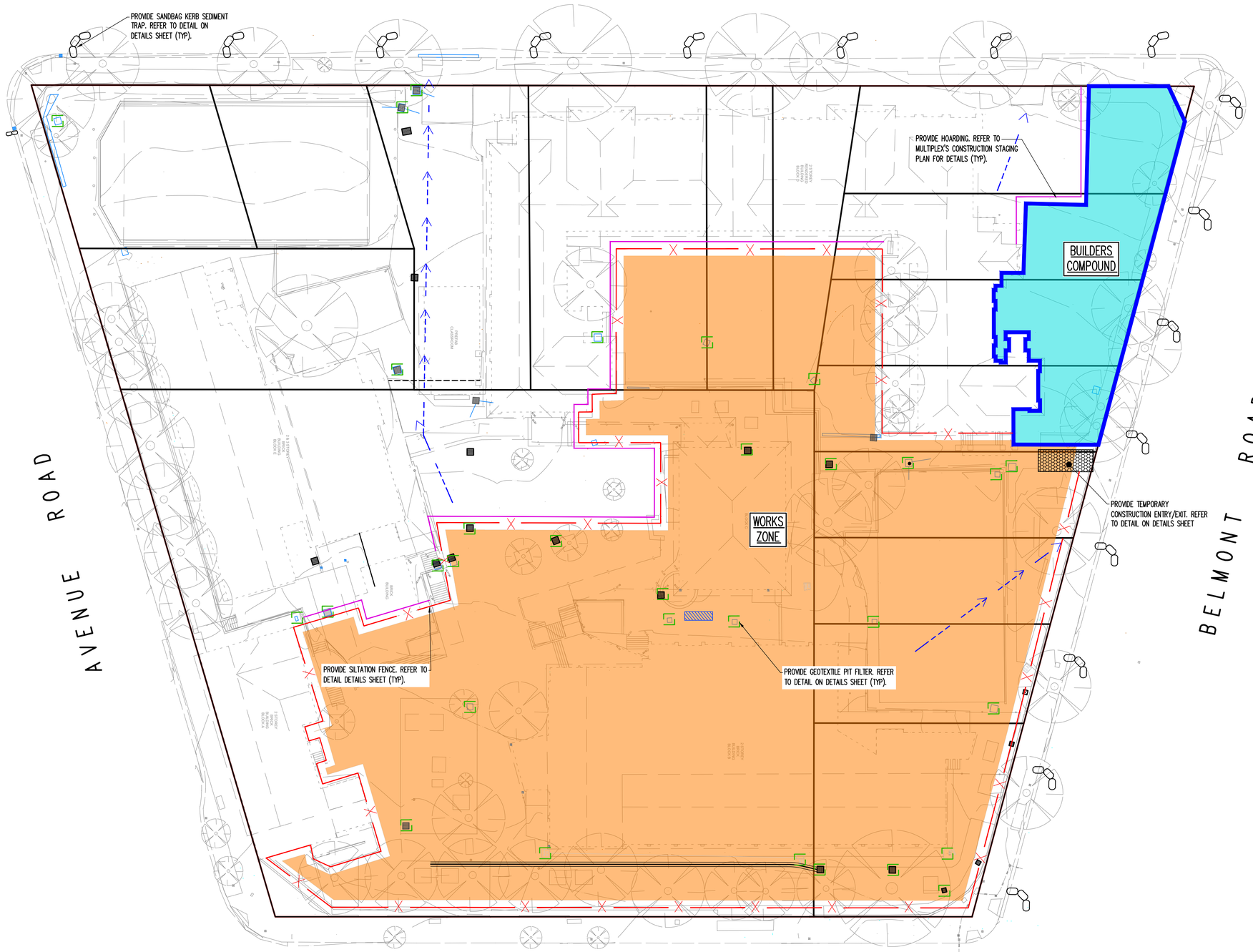

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EROSION AND SEDIMENT CONTROL LEGEND

- Siltation fence
- Stormwater pit with Geotextile filter surround
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NOTE: NEW BUILDING DOWNPIPES ARE TO CONNECTED INTO STORMWATER NETWORK AS SOON AS POSSIBLE

NOTE: EXISTING OVERLAND FLOW PATHS WILL BE MAINTAINED DURING THE WORKS AS SHOWN

FileName: Stage 1.dwg - USER: dasi - Plot File Created: Nov 08, 2021 - 3:55pm

A1

Rev	Description	Eng	Draft	Date
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Architect
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Sheet Subject
CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN - STAGE 3

Scale : A1: 1:300
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Authorised:
Job No: 201635
Drawing No: STAGE 3
Revision: P1
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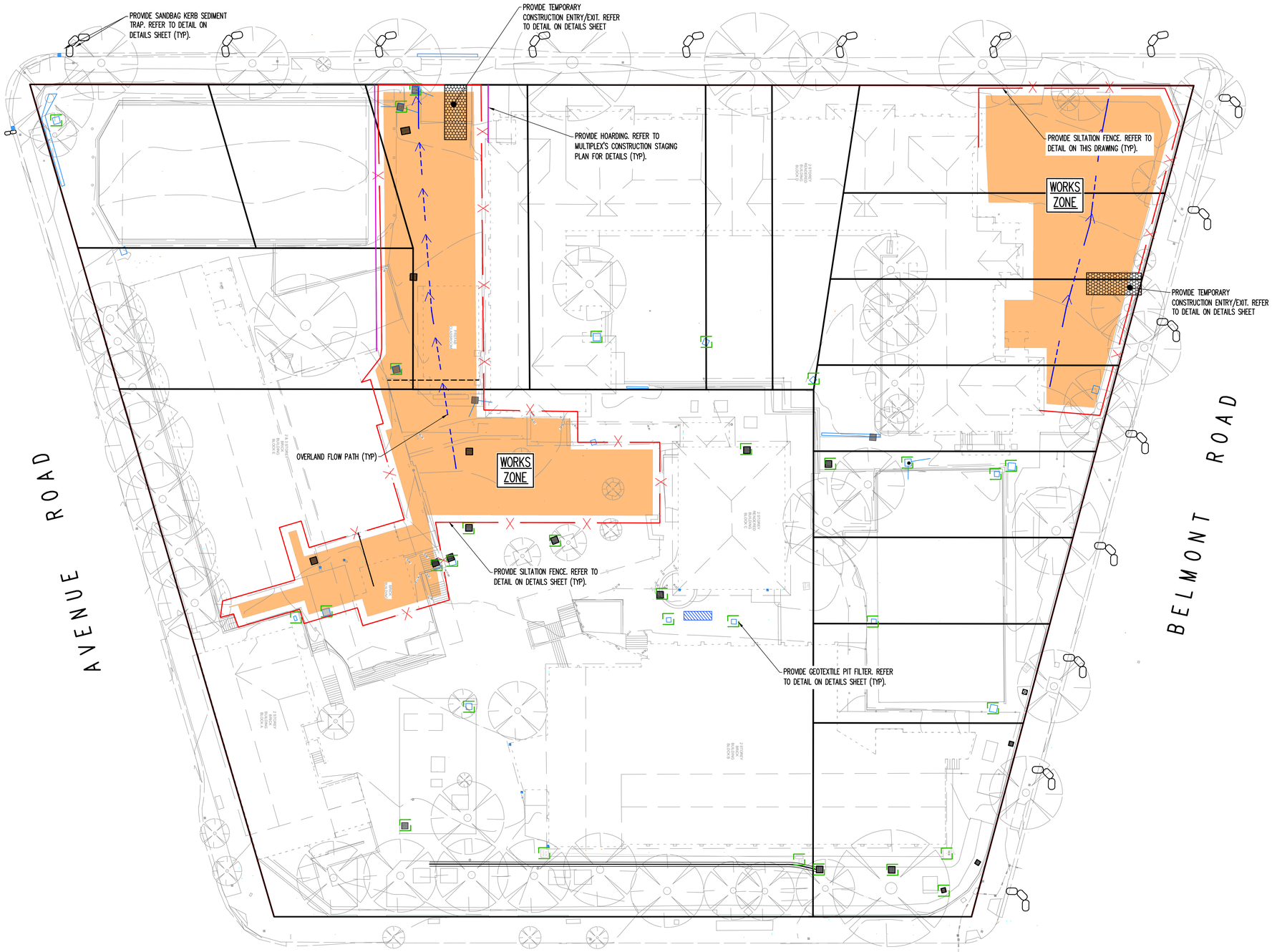

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WATER QUALITY TESTING REQUIREMENTS

Prior to discharge of site stormwater, groundwater and seepage water into council's stormwater system, contractors must undertake water quality tests in conjunction with a suitably qualified environment consultant outlining the following:

- Compliance with the criteria of the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000)
- If required subject to the environmental consultants advice, provide remedial measures to improve the quality of water that is to be discharged into Councils storm water drainage system.This should include comments from a suitably qualified environmental consultant confirming the suitability of these remedial measures to manage the water discharged from the site into Councils storm water drainage system. Outlining the proposed, ongoing monitoring, contingency plans and validation program that will be in place to continually monitor the quality of water discharged from this site. This should outline the frequency of water quality testing that will be undertaken by a suitably qualified environmental consultant.

EROSION AND SEDIMENT CONTROL LEGEND

- Siltation fence
- Stormwater pit with Geotextile filter surround
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- Overland flow path
- Site Hoarding
- Works Zone
- Builders Compound

NOTE: EXISTING OVERLAND FLOW PATHS WILL BE MAINTAINED DURING THE WORKS AS SHOWN

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Architect
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Sheet Subject
CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN - STAGE 4

Scale : A1	Drawn	Authorised
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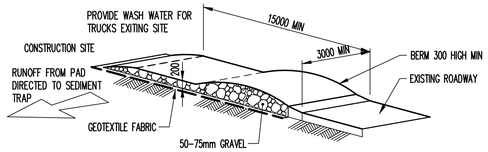
Job No	Drawing No	Revision
201635	STAGE 4	P1

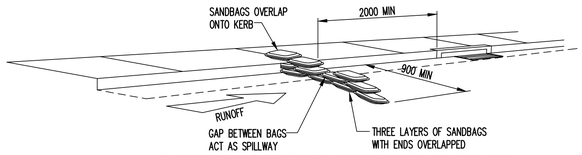
Plot File Created: Nov 08, 2021 - 3:49pm

THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT NOTES ON DRAWING CV-82-A-001



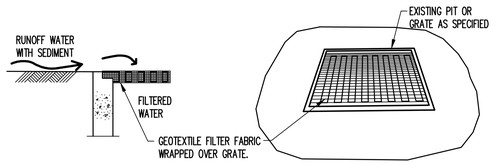
TEMPORARY CONSTRUCTION EXIT

NTS



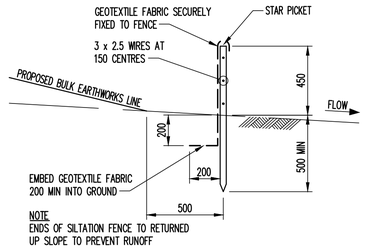
SANDBAG KERB SEDIMENT TRAP

NTS



GEOTEXTILE PIT FILTER

NTS



SILTATION FENCE DETAIL

SCALE 1: 20

FileName: DETAILS SHEET.dwg - USER: dtsi - Plot File Created: Nov 08, 2021 - 4:04pm

A1

Rev	Description	Eng	Draft	Date
P1	ISSUE FOR APPROVAL	AH	AI	08.11.21

Architect
WOODS BAGOT
2/60 CARRINGTON STREET, NSW 200

Client
MULTIPLEX AUSTRALASIA
22/135 KINGS STREET, NSW 200

Engineer
TTW Structural Civil Traffic Façade
612 9439 7288 | Level 6, 73 Miller Street, North Sydney, NSW 2060

Project
MOSMAN HIGH SCHOOL UPGRADE
745 MILITARY ROAD, MOSMAN , NSW 2088

Sheet Subject
CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN - DETAILS SHEET

Scale : A1	Drawn	Authorised
AS SHOWN	JW	

Job No	Drawing No	Revision
201635	DETAILS SHEET	P1

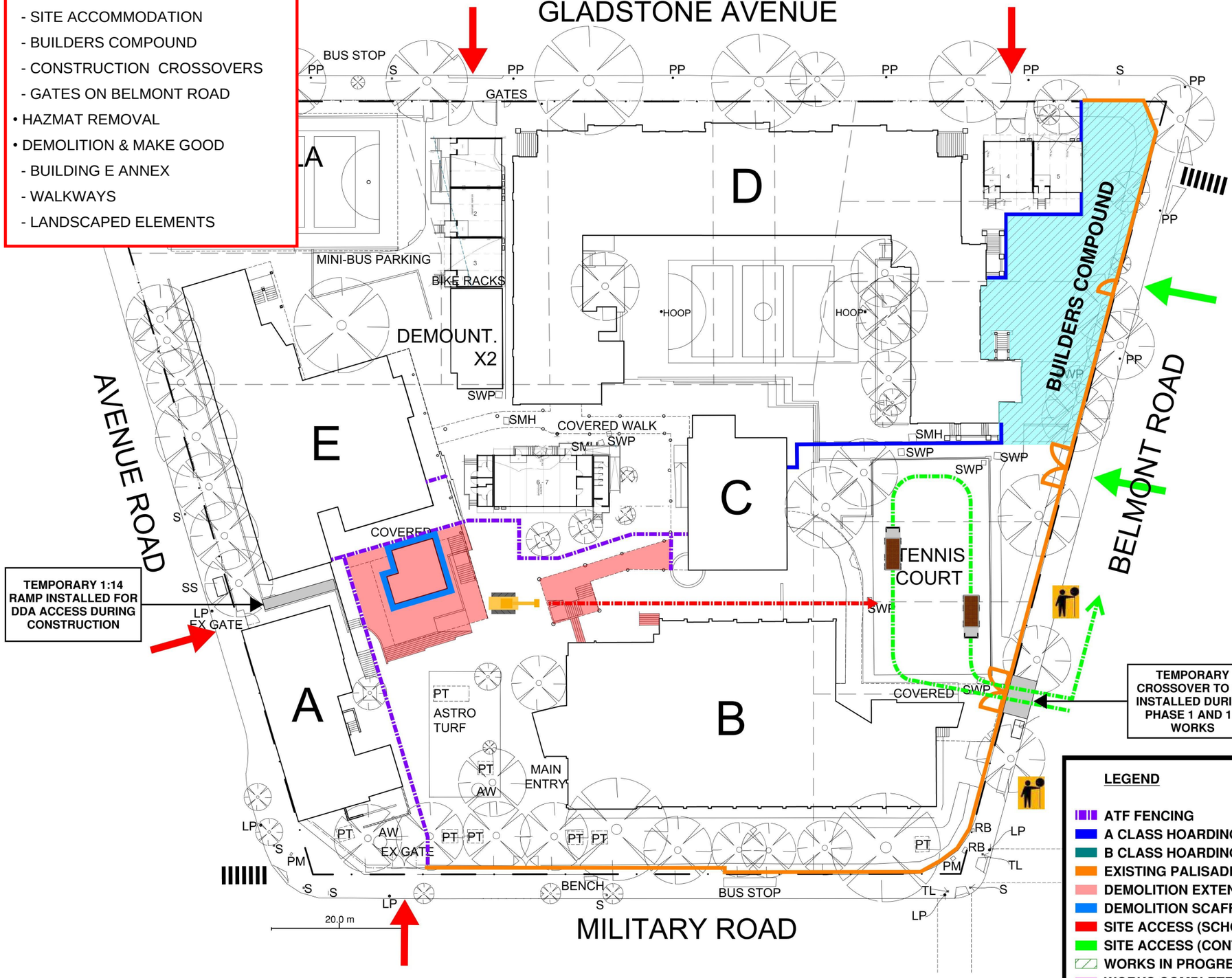
Plot File Created: Nov 08, 2021 - 4:04pm

Appendix B

Multiplex Construction Staging Plans / Methodology

MAIN WORKS - PHASE 1

- SITE ESTABLISHMENT
  - HOARDINGS
  - SITE ACCOMMODATION
  - BUILDERS COMPOUND
  - CONSTRUCTION CROSSOVERS
  - GATES ON BELMONT ROAD
- HAZMAT REMOVAL
- DEMOLITION & MAKE GOOD
  - BUILDING E ANNEX
  - WALKWAYS
  - LANDSCAPED ELEMENTS



LEGEND

- ATF FENCING
- A CLASS HOARDING
- B CLASS HOARDING
- EXISTING PALISADE FENCE WITH BANNER MESH
- DEMOLITION EXTENT
- DEMOLITION SCAFFOLD
- SITE ACCESS (SCHOOL)
- SITE ACCESS (CONTRACTOR)
- WORKS IN PROGRESS
- WORKS COMPLETED

MULTIPLEX

NSW GOVERNMENT Education School Infrastructure

STAGING PLAN - PHASE 1

Drawing ID
MPX-MHS-MW-100

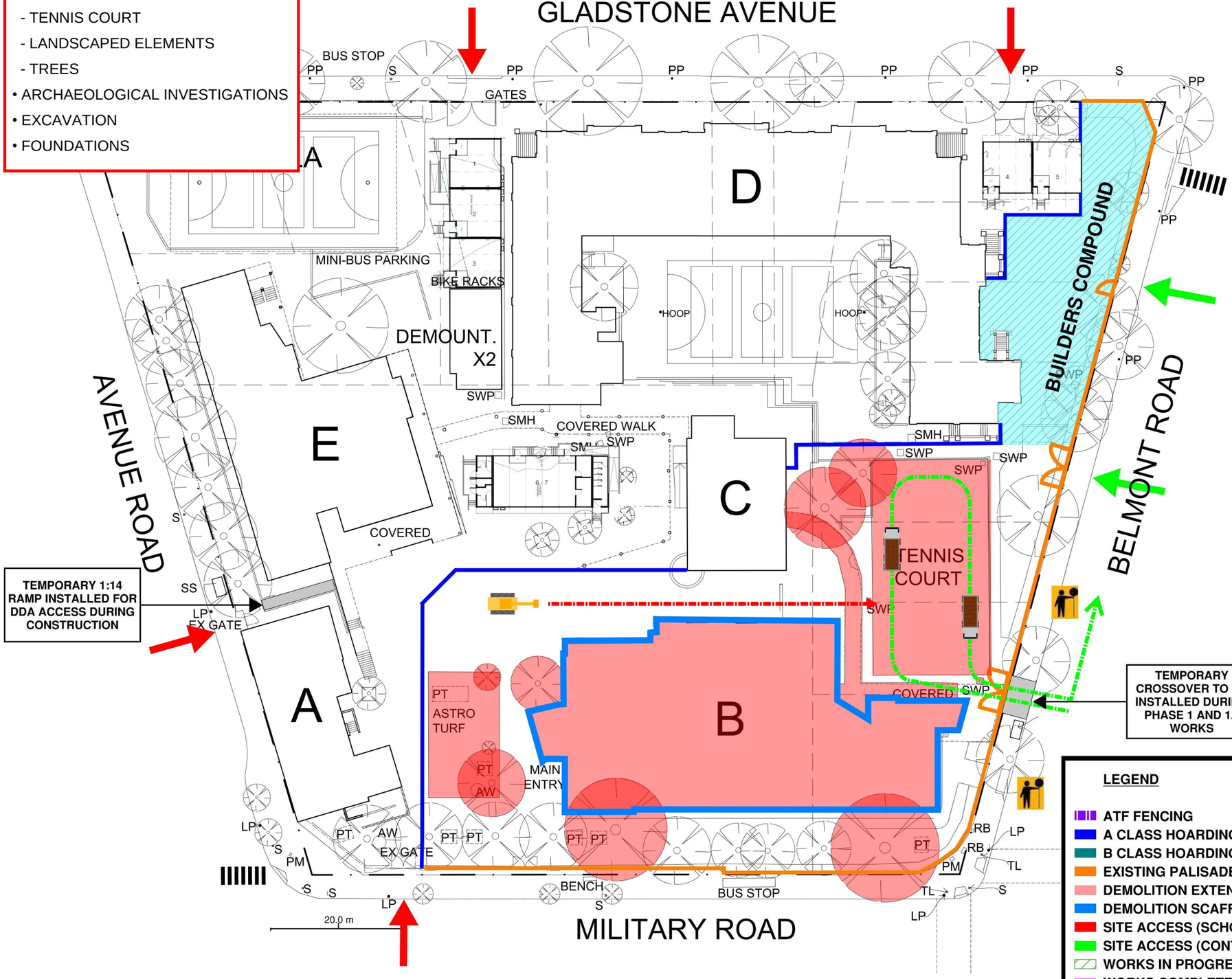
Project
MOSMAN HIGH SCHOOL

Date
07.10.2021

Drawn By
VL

MAIN WORKS - PHASE 1A

- DEMOLITION
  - BUILDING B
  - TENNIS COURT
  - LANDSCAPED ELEMENTS
  - TREES
- ARCHAEOLOGICAL INVESTIGATIONS
- EXCAVATION
- FOUNDATIONS



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- EXISTING PALISADE FENCE WITH BANNER MESH
- DEMOLITION EXTENT
- DEMOLITION SCAFFOLD
- SITE ACCESS (SCHOOL)
- SITE ACCESS (CONTRACTOR)
- WORKS IN PROGRESS
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MULTIPLEX

NSW GOVERNMENT Education School Infrastructure

STAGING PLAN - PHASE 1A

Drawing ID
MPX-MHS-MW-101

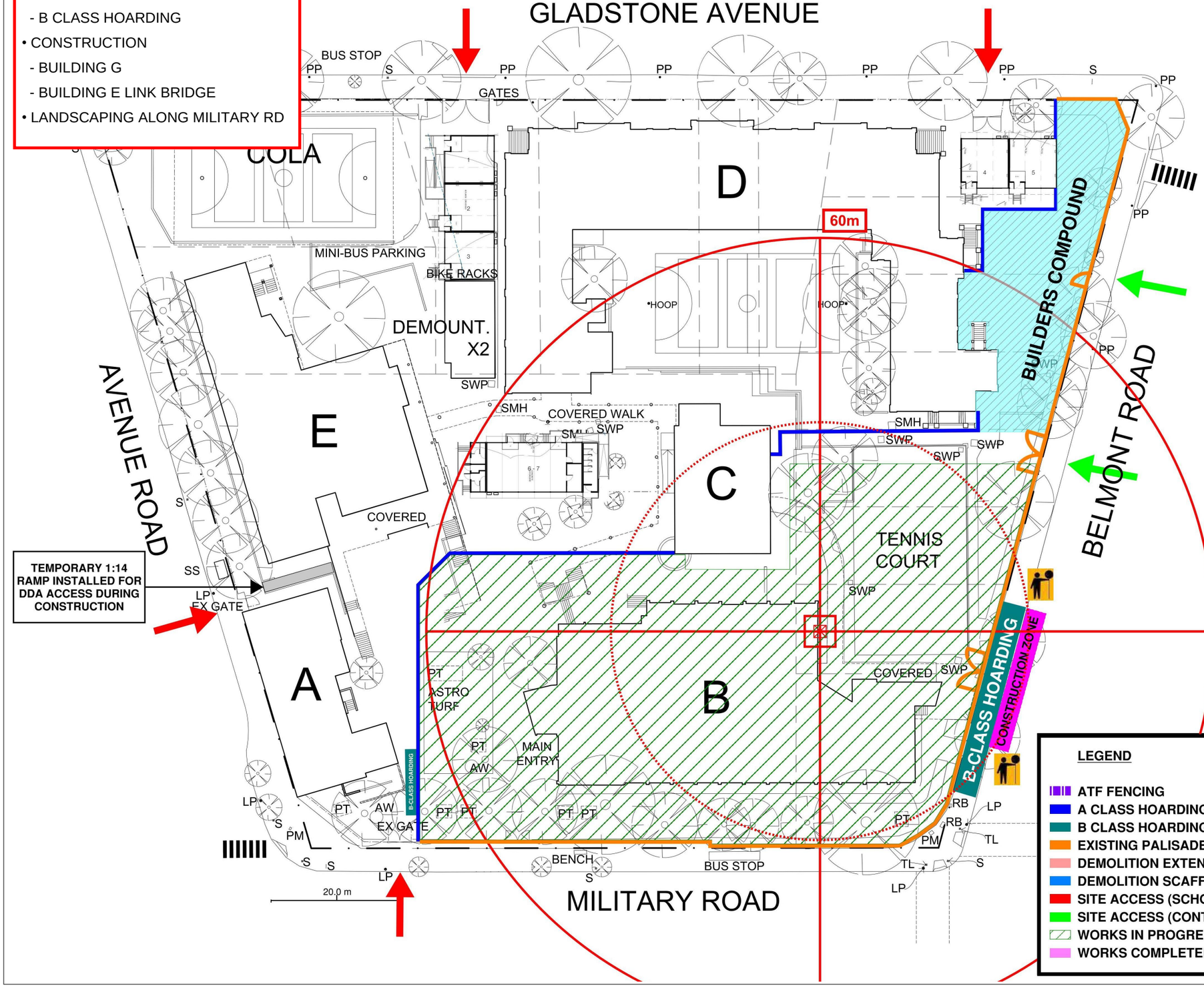
Project
MOSMAN HIGH SCHOOL

Date
07.10.2021

Drawn By
VL

MAIN WORKS - PHASE 2

- ERECTION
  - TOWER CRANE
  - B CLASS HOARDING
- CONSTRUCTION
  - BUILDING G
  - BUILDING E LINK BRIDGE
- LANDSCAPING ALONG MILITARY RD



LEGEND

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- EXISTING PALISADE FENCE WITH BANNER MESH
- DEMOLITION EXTENT
- DEMOLITION SCAFFOLD
- SITE ACCESS (SCHOOL)
- SITE ACCESS (CONTRACTOR)
- WORKS IN PROGRESS
- WORKS COMPLETED

MULTIPLEX

NSW GOVERNMENT Education School Infrastructure

STAGING PLAN - PHASE 2

Drawing ID
MPX-MHS-MW-102

Project
MOSMAN HIGH SCHOOL

Date
07.10.2021

Drawn By
VL

MAIN WORKS - PHASE 3

- DECANT BUILDING C
- DEMOLISH BUILDING C
- SITE WIDE LANDSCAPING (WITHIN HOARDING)
- COMMISSION BUILDING G

GLADSTONE AVENUE

BUS STOP

GATES

COLA

MPX TOWER CRANE TO ASSIST IN INSTALLATION OF DEMOUNTABLES FOR BUILDING C DECANTING

60m

D

MINI-BUS PARKING

BIKE RACKS

DEMOUNT. X2

HOOP

BUILDERS COMPOUND

SWP

SMH

COVERED WALK

E

C

COVERED

AVENUE ROAD

BELMONT ROAD

TEMPORARY 1:14 RAMP INSTALLED FOR DDA ACCESS DURING CONSTRUCTION

EX GATE

A

B-CLASS HOARDING

CONSTRUCTION ZONE

BENCH

BUS STOP

MILITARY ROAD

20.0 m

TC1 - MR295 POTAIN
60M REACH
10T @ 32M (1 FALL)

LEGEND

- ATF FENCING
- A CLASS HOARDING
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- EXISTING PALISADE FENCE WITH BANNER MESH
- DEMOLITION EXTENT
- DEMOLITION SCAFFOLD
- SITE ACCESS (SCHOOL)
- SITE ACCESS (CONTRACTOR)
- WORKS IN PROGRESS
- WORKS COMPLETED

MULTIPLEX

NSW GOVERNMENT Education School Infrastructure

STAGING PLAN - PHASE 3

Drawing ID
MPX-MHS-MW-103

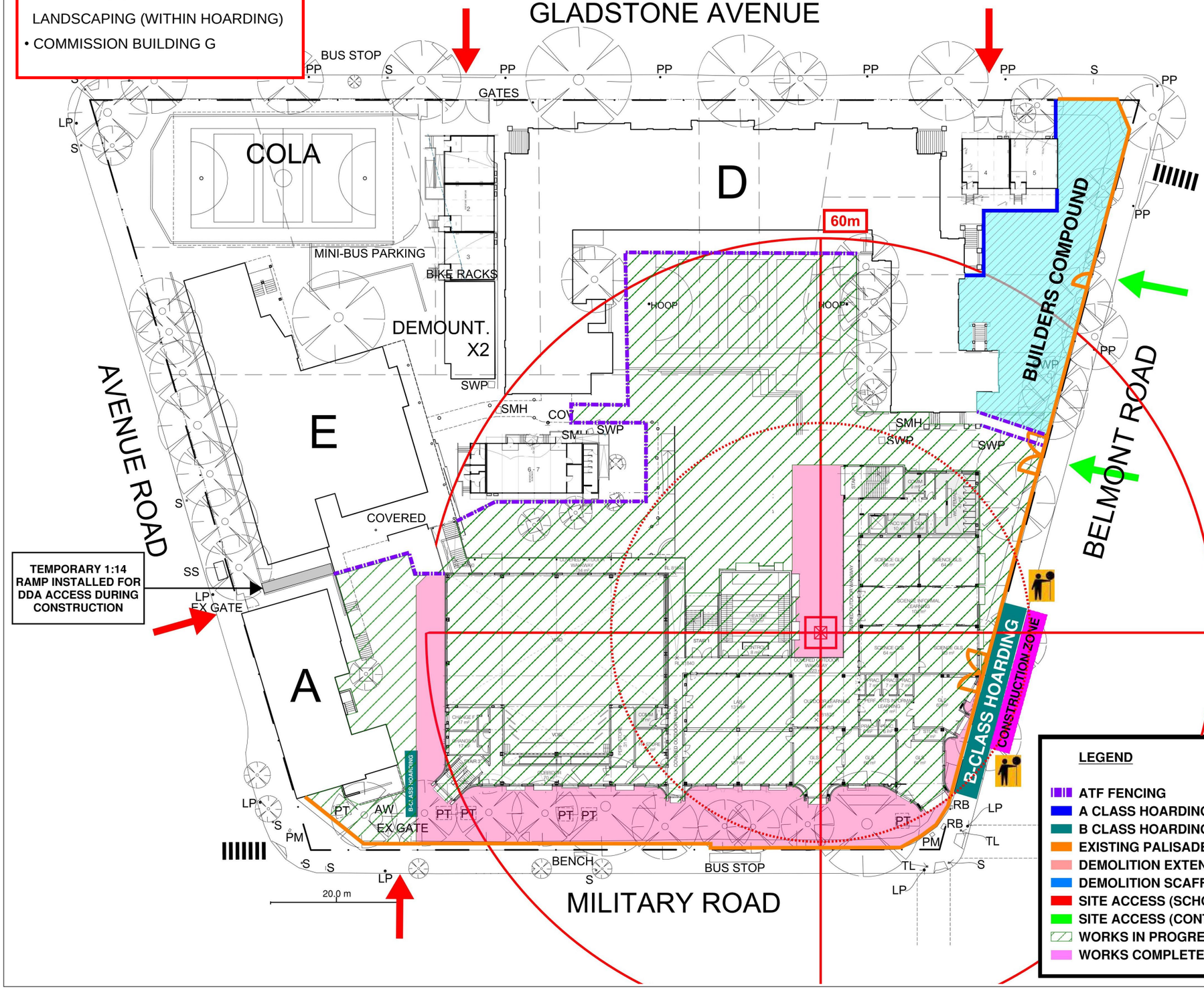
Project
MOSMAN HIGH SCHOOL

Date
07.10.2021

Drawn By
VL

MAIN WORKS - PHASE 3A

- REMOVE TOWER CRANE
- REMAINING SITE WIDE LANDSCAPING (WITHIN HOARDING)
- COMMISSION BUILDING G



LEGEND

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- DEMOLITION SCAFFOLD
- SITE ACCESS (SCHOOL)
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MULTIPLEX

NSW GOVERNMENT Education School Infrastructure

STAGING PLAN - PHASE 3A

Drawing ID
MPX-MHS-MW-104

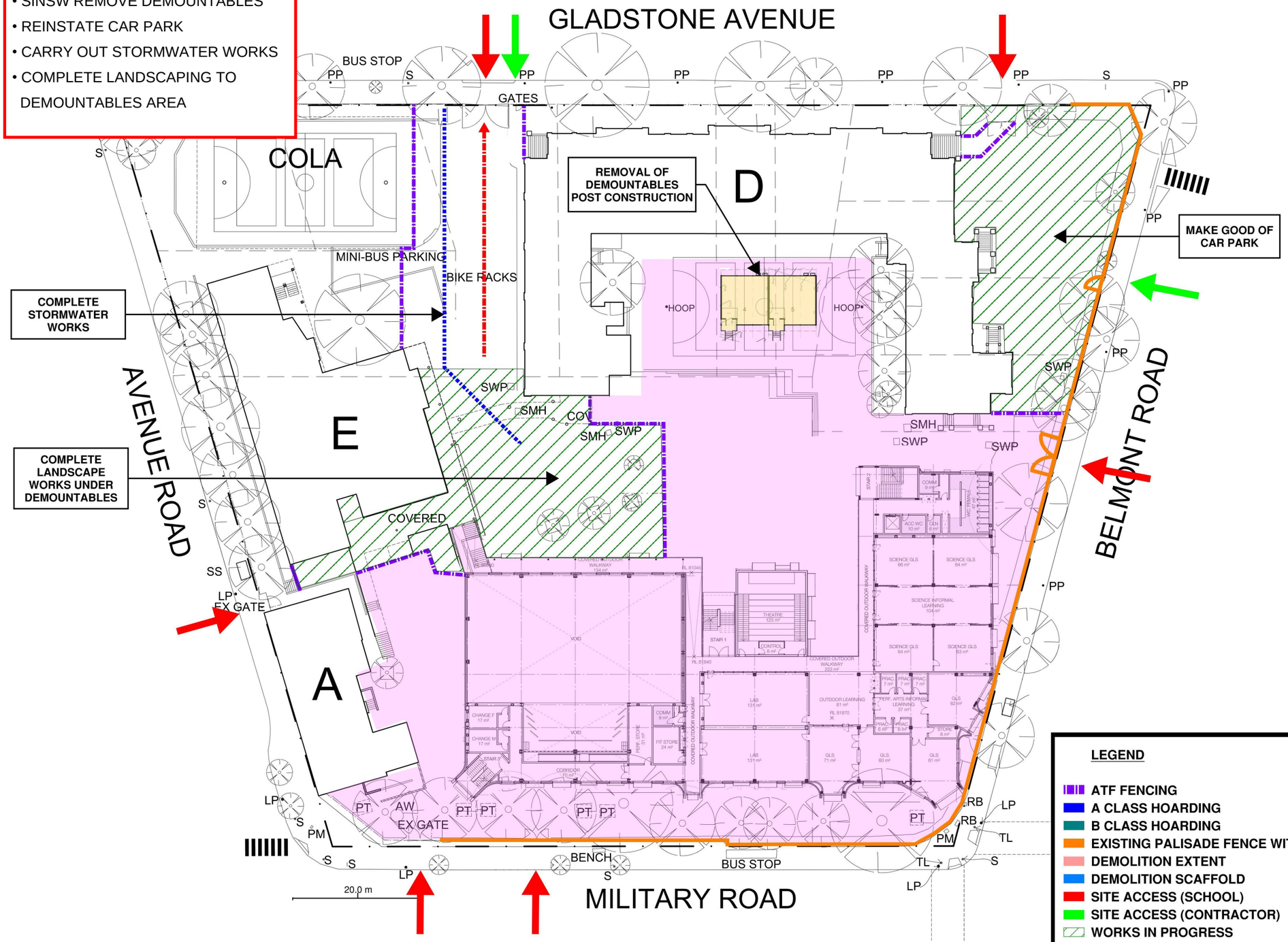
Project
MOSMAN HIGH SCHOOL

Date
07.10.2021

Drawn By
VL

MAIN WORKS - PHASE 4

- SINSW DECANT DEMOUNTABLES TO BUILDING G
- SINSW REMOVE DEMOUNTABLES
- REINSTATE CAR PARK
- CARRY OUT STORMWATER WORKS
- COMPLETE LANDSCAPING TO DEMOUNTABLES AREA



LEGEND

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MULTIPLEX

NSW GOVERNMENT Education School Infrastructure

STAGING PLAN - PHASE 4

Drawing ID
MPX-MHS-MW-105

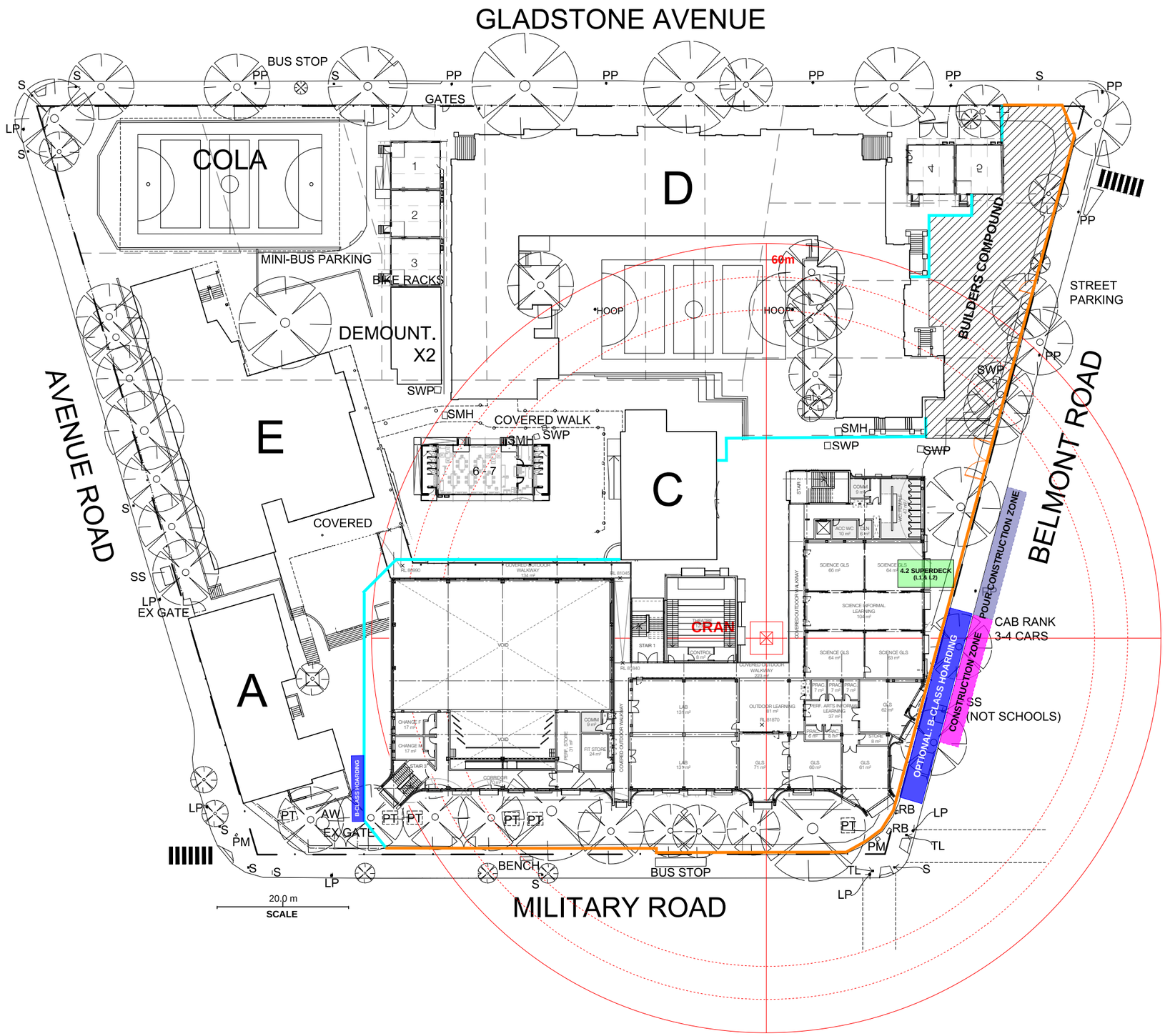
Project
MOSMAN HIGH SCHOOL

Date
07.10.2021

Drawn By
VL

MULTIPLEX

NSW GOVERNMENT Education School Infrastructure



Drawing ID

Project

Date

Drawn By

16.7 Appendix 7: Consent Conditions

Development Consent

Section 4.38 of the Environmental Planning and Assessment Act 1979

As delegate of the Minister for Planning and Public Spaces under delegation executed on 26 April 2021, I approve the Development Application referred to in Schedule 1, subject to the conditions specified in Schedule 2.

These conditions are required to:

- prevent, minimise, or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the development.

Karen Harragon
Director
Social and Infrastructure Assessments

Sydney 6 August 2021

SCHEDULE 1

Application Number:	SSD-10465
Applicant:	Department of Education
Consent Authority:	Minister for Planning and Public Spaces
Site:	Lot 1 DP 1268793, 745 Military Road, Mosman
Development:	Upgrades to the existing Mosman High School, including: • demolition of selected buildings and structures; • construction of a new part three / part four storey building, including rooftop play area; • relocation of the main pedestrian entrance; and • ancillary works including tree removal and landscaping.

DEFINITIONS

Aboriginal object	Has the same meaning as the definition of the term in section 5 of the *National Parks and Wildlife Act 1974*
Aboriginal place	Has the same meaning as the definition of the term in section 5 of the *National Parks and Wildlife Act 1974*
Accredited Certifier	Means the holder of accreditation as an accredited certifier under the *Building Professionals Act 2005* acting in relation to matters to which the accreditation applies
Advisory Notes	Advisory information relating to the consent but do not form a part of this consent
Applicant	Department of Education or any other person carrying out any development to which this consent applies
Approved disturbance area	The area identified as such on the development layout
BCA	Building Code of Australia
CEMP	Construction Environmental Management Plan
Certification of Crown building work	Certification under section 6.28(2) of the EP&A Act
Certified Contaminated Land Consultant	A person certified in accordance with the requirements of the Contaminated Land Consultant Certification Policy Version 2 (EPA November 2017) or any subsequent policies as in force from time to time
Certifier	Means a council or accredited certifier or in the case of Crown development, a person qualified to conduct a Certification of Crown Building work
Compliance Reporting Post Approval Requirements	Compliance Reporting Post Approval Requirements as available on the Department's website
Conditions of this consent	The conditions contained in Schedule 2 of this document
Construction	All physical work to enable operation including (unless specifically excluded by a condition) but not limited to the demolition and removal of buildings, the carrying out of works for the purposes of the development, including bulk earthworks, and erection of buildings and other infrastructure permitted by this consent, but excluding the following: • building and road dilapidation surveys; • investigative drilling or investigative excavation; • Archaeological Salvage; • establishing temporary site offices (in locations identified by the conditions of this consent); • installation of environmental impact mitigation measures, fencing, enabling works; and • minor adjustments to services or utilities. However, where heritage items, or threatened species or threatened ecological communities (within the meaning of the *Biodiversity Conservation Act 2016*) are affected or potentially affected by any physical work, that work is construction, unless otherwise determined by the Planning Secretary in consultation with EES Group or DPIE Fisheries (in the case of impact upon fish, aquatic invertebrates or marine vegetation)
Councils	Mosman Council
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays

Demolition	The deconstruction and removal of buildings, sheds and other structures on the site
Department	NSW Department of Planning, Industry and Environment
Development	The development described in the EIS and Response to Submissions, including the works and activities comprising as specified in Schedule 1 and as modified by the conditions of this consent
Earthworks	Bulk earthworks, site levelling, import and compaction of fill material, excavation for installation of drainage and services
EES Group	Environment, Energy and Science Group of the Department of Planning, Industry and Environment (Former Office of Environment and Heritage)
EIS	The Environmental Impact Statement titled *Mosman High School Upgrade*, prepared by architectus dated 31 March 2021 submitted with the application for consent for the development, including any additional information provided by the Applicant in support of the application
ENM	Excavated Natural Material
Environment	Includes all aspects of the surroundings of humans, whether affecting any human as an individual or in his or her social groupings
EPA	NSW Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	Environmental Planning and Assessment Regulation 2000
Evening	The period from 6pm to 10pm
Feasible	Means what is possible and practical in the circumstances
Heritage	Encompasses both Aboriginal and historic heritage including sites that predate European settlement, and a shared history since European settlement
Heritage NSW	Heritage, Community Engagement of the Department of Premier and Cabinet
Heritage Item	An item as defined under the *Heritage Act 1977,* and assessed as being of local, State and/ or National heritage significance*,* and/or an Aboriginal Object or Aboriginal Place as defined under the *National Parks and Wildlife Act 1974'*, the World Heritage List, or the National Heritage List or Commonwealth Heritage List under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth), or anything identified as a heritage item under the conditions of this consent
Incident	An occurrence or set of circumstances that causes, or threatens to cause, material harm and which may or may not be, or cause, a non-compliance *Note: "material harm" is defined in this consent*
Independent Audit Post Approval Requirements	Independent Audit Post Approval Requirements as available on the Department's website
Land	Has the same meaning as the definition of the term in section 1.4 of the EP&A Act
EMP	Environmental Management Plan
Management and mitigation measures	The management and mitigation measures set out in Section 8 of the EIS
Material harm	Is harm that: a) involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial; or b) results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all

	reasonable and practicable measures to prevent, mitigate or make good harm to the environment)
Minister	NSW Minister for Planning and Public Spaces (or delegate)
Mitigation	Activities associated with reducing the impacts of the development prior to or during those impacts occurring
Monitoring	Any monitoring required under this consent must be undertaken in accordance with section 9.39 of the EP&A Act
Night	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
Non-compliance	An occurrence, set of circumstances or development that is a breach of this consent
OEMP	Operational Environmental Management Plan
Operation	The carrying out of the approved purpose of the development upon completion of construction
Planning Secretary	Planning Secretary under the EP&A Act, or nominee
POEO Act	*Protection of the Environment Operations Act 1997*
Reasonable	Means applying judgement in arriving at a decision, taking into account: mitigation, benefits, costs of mitigation versus benefits provided, community views, and the nature and extent of potential improvements
Registered Aboriginal Parties	Means the Aboriginal persons identified in accordance with the document entitled "*Aboriginal cultural heritage consultation requirements for proponents 2010*" (DECCW)
Rehabilitation	The restoration of land disturbed by the development to a good condition, to ensure it is safe, stable and non-polluting
Response to submissions	The Applicant's response to issues raised in submissions received in relation to the application for consent for the development under the EP&A Act
Sensitive receivers	A location where people are likely to work, occupy or reside, including a dwelling, school, hospital, office or public recreational area
Site	The land defined in Schedule 1
Site Auditor	As defined in section 4 of the *Contaminated Land Management Act 1997*
Site Audit Report	As defined in section 4 of the *Contaminated Land Management Act 1997*
Site Audit Statement	As defined in section 4 of the *Contaminated Land Management Act 1997*
TfNSW	Transport for New South Wales
Upgrading	The carrying out of works (including replacing plant, equipment, or machinery or updating relevant technology) to improve the efficiency of the development or to enable or enhance its continued operation
VENM	Virgin Excavated Natural Material
Waste	Has the same meaning as the definition of the term in the Dictionary to the POEO Act
Year	A period of 12 consecutive months

SCHEDULE 2

PART A ADMINISTRATIVE CONDITIONS

Obligation to Minimise Harm to the Environment

A1. In addition to meeting the specific performance measures and criteria in this consent, all reasonable and feasible measures must be implemented to prevent, and, if prevention is not reasonable and feasible, minimise any material harm to the environment that may result from the construction and operation of the development.

Terms of Consent

A2. The development may only be carried out:

(a) in compliance with the conditions of this consent;

(b) in accordance with all written directions of the Planning Secretary;

(c) generally in accordance with the EIS and Response to Submissions;

(d) in accordance with the approved plans in the table below:

Architectural Plans prepared by *Woods Bagot*			
Dwg No.	**Rev**	**Name of Plan**	**Date**
SSD-1101	3	Existing Site Plan	27/05/2021
SSD-1102	3	Demolition Plan	27/05/2021
SSD-1103	3	Proposed Site Plan	09/06/2021
SSD-2201	3	Ground Floor Plan	27/05/2021
SSD-2202	3	Level 1 Floor Plan	27/05/2021
SSD-2203	3	Level 2 Floor Plan	27/05/2021
SSD-2204	3	Level 3 Floor Plan	27/05/2021
SSD-2205	3	Level 4 Floor Plan	27/05/2021
SSD-2206	4	Roof Plan	04/06/2021
SSD-3201	4	Sections	04/06/2021
SSD-3202	3	Elevations – East/North	27/05/2021
SSD-3203	3	Elevations – South/West	27/05/2021
SSD-5201	3	Façade Detail 1	27/05/2021
SSD-5202	3	Façade Detail 2	27/05/2021
SSD-9101	3	GFA Plans	27/05/2021
SSD-9102	1	Ex. GFA Plans	23/03/2021
SSD-9103	3	Outdoor Play Area Plans	27/05/2021
Landscape Plans prepared by *Black Beetle Pty Ltd*			
Dwg No.	**Rev**	**Name of Plan**	**Date**
LA-03-L0-101	4	General Arrangement Plan Sheet 01	16/03/2021
LA-03-L0-102	3	General Arrangement Plan Sheet 02	15/03/2021
LA-03-L0-103	4	General Arrangement Plan Sheet 03	16/03/2021
LA-03-L0-104	3	General Arrangement Plan Sheet 04	15/03/2021
LA-03-L0-105	3	Level 3 General Arrangement Plan Sheet 01	15/03/2021
LA-03-L0-106	3	Level 04 General Arrangement Plan Sheet 01	15/03/2021
Civil Stormwater Plans prepared by *TTW*			
Dwg No.	**Rev**	**Name of Plan**	**Date**
CV-82-A-004	P4	Siteworks Plan	12/03/2021
CV-82-A-006	P3	Detail Sheet 1	25/02/2021
CV-82-A-008	P2	Catchment Plan – Pre Development	16/02/2021

CV-82-A-009	P2	Catchment Plan – Post Development	16/02/2021

A3. Consistent with the requirements in this consent, the Planning Secretary may make written directions to the Applicant in relation to:

(a) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this consent, including those that are required to be, and have been, approved by the Planning Secretary;

(b) any reports, reviews or audits commissioned by the Planning Secretary regarding compliance with this approval; and

(c) the implementation of any actions or measures contained in any such document referred to in (a) above.

A4. The conditions of this consent and directions of the Planning Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document listed in condition A2(c). In the event of an inconsistency, ambiguity or conflict between any of the documents listed in condition A2(c), the most recent document prevails to the extent of the inconsistency, ambiguity or conflict.

Limits of Consent

A5. This consent lapses five years after the date of consent unless work is physically commenced.

Prescribed Conditions

A6. The Applicant must comply with all relevant prescribed conditions of development consent under Part 6, Division 8A of the EP&A Regulation.

Planning Secretary as Moderator

A7. In the event of a dispute between the Applicant and a public authority, in relation to an applicable requirement in this approval or relevant matter relating to the Development, either party may refer the matter to the Planning Secretary for resolution. The Planning Secretary's resolution of the matter must be binding on the parties.

Evidence of Consultation

A8. Where conditions of this consent require consultation with an identified party, the Applicant must:

(a) consult with the relevant party prior to submitting the subject document for information or approval; and

(b) provide details of the consultation undertaken including:

(i) the outcome of that consultation, matters resolved and unresolved; and

(ii) details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.

Staging

A9. The project may be constructed and operated in stages. Where compliance with conditions is required to be staged due to staged construction or operation, a Staging Report (for either or both construction and operation as the case may be) must be prepared and submitted to the satisfaction of the Planning Secretary. The Staging Report must be submitted to the Planning Secretary no later than one month before the commencement of construction of the first of the proposed stages of construction (or if only staged operation is proposed, one month before the commencement of operation of the first of the proposed stages of operation).

A10. A Staging Report prepared in accordance with condition A9 must:

(a) if staged construction is proposed, set out how the construction of the whole of the project will be staged, including details of work and other activities to be carried out in each stage and the general timing of when construction of each stage will commence and finish;

(b) if staged operation is proposed, set out how the operation of the whole of the project will be staged, including details of work and other activities to be carried out in each stage

and the general timing of when operation of each stage will commence and finish (if relevant);

(c) specify how compliance with conditions will be achieved across and between each of the stages of the project; and

(d) set out mechanisms for managing any cumulative impacts arising from the proposed staging.

A11. Where a Staging Report is required, the project must be staged in accordance with the Staging Report, as approved by the Planning Secretary.

A12. Where construction or operation is being staged in accordance with an approved Staging Report, the terms of this consent that apply or are relevant to the works or activities to be carried out in a specific stage must be complied with at the relevant time for that stage as identified in the Staging Report.

Staging, Combining and Updating Strategies, Plans or Programs

A13. The Applicant may:

(a) prepare and submit any strategy, plan (including management plan, architectural or design plan) or program required by this consent on a staged basis (if a clear description is provided as to the specific stage and scope of the development to which the strategy, plan (including management plan, architectural or design plan) or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan (including management plan, architectural or design plan) or program);

(b) combine any strategy, plan (including management plan, architectural or design plan), or program required by this consent (if a clear relationship is demonstrated between the strategies, plans (including management plan, architectural or design plan) or programs that are proposed to be combined); and

(c) update any strategy, plan (including management plan, architectural or design plan), or program required by this consent (to ensure the strategies, plans (including management plan, architectural or design plan), or programs required under this consent are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the development).

A14. Any strategy, plan or program prepared in accordance with condition A13, where previously approved by the Planning Secretary under this consent, must be submitted to the satisfaction of the Planning Secretary.

A15. If the Planning Secretary agrees, a strategy, plan (including management plan, architectural or design plan), or program may be staged or updated without consultation being undertaken with all parties required to be consulted in the relevant condition in this consent.

A16. Updated strategies, plans (including management plan, architectural or design plan), or programs supersede the previous versions of them and must be implemented in accordance with the condition that requires the strategy, plan, program or drawing.

Structural Adequacy

A17. All new buildings and structures, and any alterations or additions to existing buildings and structures, that are part of the development, must be constructed in accordance with the relevant requirements of the BCA.

Notes:

- *Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.*
- *Under section 21 of the Coal Mine Subsidence Compensation Act 2017, the Applicant is required to obtain the Chief Executive of Subsidence Advisory NSW's approval before carrying out certain development in a Mine Subsidence District.*

External Walls and Cladding

A18. The external walls of all buildings including additions to existing buildings must comply with the relevant requirements of the BCA.

External Materials

A19. The external colours, materials and finishes of the buildings must be consistent with the approved plans referenced in Condition A2. Any minor changes to the colour and finish of approved external materials may be approved by the Certifier provided:

(a) the alternative colour/material is of a similar tone/shade and finish to the approved external colours/building materials;

(b) the quality and durability of any alternative material is the same standard as the approved external building materials; and

(c) a copy of any approved changes to the external colours and/or building materials is provided to the Planning Secretary for information.

Applicability of Guidelines

A20. References in the conditions of this consent to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in as at the date of this consent.

A21. Consistent with the conditions of this consent and without altering any limits or criteria in this consent, the Planning Secretary may, when issuing directions under this consent in respect of ongoing monitoring and management obligations, require compliance with an updated or revised version of such a guideline, protocol, Standard or policy, or a replacement of them.

Monitoring and Environmental Audits

A22. Any condition of this consent that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&A Act. This includes conditions in respect of incident notification, reporting and response, non-compliance notification, Site audit report and independent auditing.

Note: For the purposes of this condition, as set out in the EP&A Act, "monitoring" is monitoring of the development to provide data on compliance with the consent or on the environmental impact of the development, and an "environmental audit" is a periodic or particular documented evaluation of the development to provide information on compliance with the consent or the environmental management or impact of the development.

Access to Information

A23. At least 48 hours before the commencement of construction until the completion of all works under this consent, or such other time as agreed by the Planning Secretary, the Applicant must:

(a) make the following information and documents (as they are obtained or approved) publicly available on its website:

(i) the documents referred to in condition A2 of this consent;

(ii) all current statutory approvals for the development;

(iii) all approved strategies, plans and programs required under the conditions of this consent;

(iv) regular reporting on the environmental performance of the development in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent;

(v) a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;

(vi) a summary of the current stage and progress of the development;

(vii) contact details to enquire about the development or to make a complaint;

(viii) a complaints register, updated monthly;

(ix) audit reports prepared as part of any independent audit of the development and the Applicant's response to the recommendations in any audit report;

(x) any other matter required by the Planning Secretary; and

(b) keep such information up to date, to the satisfaction of the Planning Secretary and publicly available for 12 months after the commencement of operations.

Compliance

A24. The Applicant must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development.

Incident Notification, Reporting and Response

A25. The Planning Secretary must be notified through the major projects portal immediately after the Applicant becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one), and set out the location and nature of the incident.

A26. Subsequent notification must be given and reports submitted in accordance with the requirements set out in **Appendix 2**.

Non-Compliance Notification

A27. The Planning Secretary must be notified through the major projects portal within seven days after the Applicant becomes aware of any non-compliance. The Certifier must also notify the Planning Secretary through the major projects portal within seven days after they identify any non-compliance.

A28. The notification must identify the development and the application number for it, set out the condition of consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

A29. A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

Revision of Strategies, Plans and Programs

A30. Within three months of:

(a) the submission of a compliance report under condition A33;

(b) the submission of an incident report under condition A26;

(c) the submission of an Independent Audit under condition C43 or C44;

(d) the approval of any modification of the conditions of this consent; or

(e) the issue of a direction of the Planning Secretary under condition A2 which requires a review,

the strategies, plans and programs required under this consent must be reviewed, and the Planning Secretary and the Certifier must be notified in writing that a review is being carried out.

A31. If necessary, to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans, programs or drawings required under this consent must be revised, to the satisfaction of the Planning Secretary or Certifier (where previously approved by the Certifier). Where revisions are required, the revised document must be submitted to the Planning Secretary and / or Certifier for approval and / or information (where relevant) within six weeks of the review.

Note: This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.

Compliance Reporting

A32. Compliance Reports of the project must be carried out in accordance with the Compliance Reporting Post Approval Requirements.

A33. Compliance Reports must be submitted to the Department in accordance with the timeframes set out in the Compliance Reporting Post Approval Requirements, unless otherwise agreed by the Planning Secretary.

A34. The Applicant must make each Compliance Report publicly available within 60 days after submitting it to the Planning Secretary, unless otherwise agreed by the Planning Secretary.

A35. Notwithstanding the requirements of the Compliance Reporting Post Approval Requirements, the Planning Secretary may approve a request for ongoing annual operational compliance

reports to be ceased, where it has been demonstrated to the Planning Secretary's satisfaction that an operational compliance report has demonstrated operational compliance.

PART B PRIOR TO COMMENCEMENT OF CONSTRUCTION

Rooftop design and enclosure

B1. Prior to the commencement of construction of the rooftop area, including all structures (lift overrun and stair wells, surrounding walls and netting/mesh used to form the enclosure), the Applicant is required to consult with Council on the detailed design of the rooftop area and selection of materials for enclosing the area. The materials selected must demonstrate they have selected to minimise the visual impact of the rooftop enclosure upon the surrounding Military Road Heritage Conservation Area. Evidence of consultation, including the Applicant's response to issues raised by Council, is to be provided to the Planning Secretary and all final details submitted to the Certifier.

Notification of Commencement

B2. The Applicant must notify the Planning Secretary in writing of the dates of the intended commencement of construction and operation at least 48 hours before those dates.

B3. If the construction or operation of the development is to be staged, the Planning Secretary must be notified in writing at least 48 hours before the commencement of each stage, of the date of commencement and the development to be carried out in that stage.

Certified Drawings

B4. Prior to the commencement of construction, the Applicant must submit to the satisfaction of the Certifier structural drawings prepared and signed by a suitably qualified practising Structural Engineer that demonstrates compliance with this development consent.

External Walls and Cladding

B5. Prior to the commencement of construction, the Applicant must provide the Certifier with documented evidence that the products and systems proposed for use or used in the construction of external walls, including finishes and claddings such as synthetic or aluminium composite panels, comply with the requirements of the BCA. The Applicant must provide a copy of the documentation given to the Certifier to the Planning Secretary within seven days after the Certifier accepts it.

Protection of Public Infrastructure

B6. Prior to the commencement of construction, the Applicant must:

(a) consult with the relevant owner and provider of services that are likely to be affected by the development to make suitable arrangements for access to, diversion, protection and support of the affected infrastructure;

(b) prepare a dilapidation report identifying the condition of all public infrastructure in the vicinity of the site (including roads, gutters and footpaths); and

(c) submit a copy of the dilapidation report to the Planning Secretary, Certifier and Council.

Pre-Construction Dilapidation Report

B7. Prior to the commencement of construction, the Applicant must submit a pre-commencement dilapidation report to Council, and the Certifier. The report must provide an accurate record of the existing condition of adjoining private properties, heritage items and Council assets that are likely to be impacted by the proposed works.

Community Communication Strategy

B8. No later than 48 hours before the commencement of construction, a Community Communication Strategy must be submitted to the Planning Secretary for information. The Community Communication Strategy must provide mechanisms to facilitate communication between the Applicant, the relevant Council and the community (including adjoining affected landowners and businesses, and others directly impacted by the development), during the design and construction of the development and for a minimum of 12 months following the completion of construction.

The Community Communication Strategy must:

(a) identify people to be consulted during the design and construction phases;

(b) set out procedures and mechanisms for the regular distribution of accessible information about or relevant to the development;

(c) provide for the formation of community-based forums, if required, that focus on key environmental management issues for the development;

(d) set out procedures and mechanisms:

(i) through which the community can discuss or provide feedback to the Applicant;

(ii) through which the Applicant will respond to enquiries or feedback from the community; and

(iii) to resolve any issues and mediate any disputes that may arise in relation to construction and operation of the development, including disputes regarding rectification or compensation.

Ecologically Sustainable Development

B9. Prior to the commencement of construction, unless otherwise agreed by the Planning Secretary, the Applicant must demonstrate that ESD is being achieved by either:

(a) registering for a minimum 4 star Green Star rating with the Green Building Council Australia and submit evidence of registration to the Certifier; or

(b) seeking approval from the Planning Secretary for an alternative certification process.

Heritage Photographic Archival Recording

B10. Prior to the commencement of demolition of Buildings B and C, a photographic archival record of the external and internal areas of Buildings B and C and all other items of heritage significance on the site identified in the *Heritage Impact Statement* prepared by Purcell and dated 30 March 2021 must be prepared in accordance with the NSW Heritage Branch guidelines titled Photographic Recording of Heritage Items using Film or Digital Capture. A digital copy must be submitted to Council and any relevant local studies collection in the locality and the Planning Secretary prior to the commencement of demolition works.

Outdoor Lighting

B11. Prior to commencement of lighting installation, evidence must be submitted to the satisfaction of the Certifier that all outdoor lighting within the site has been designed to comply with AS 1158.3.1:2005 Lighting for roads and public spaces – Pedestrian area (Category P) lighting – Performance and design requirements and AS 4282-2019 Control of the obtrusive effects of outdoor lighting.

Demolition

B12. Prior to the commencement of construction, demolition work plans required by *AS 2601-2001 The demolition of structures* (Standards Australia, 2001) must be accompanied by a written statement from a suitably qualified person that the proposals contained in the work plan comply with the safety requirements of the Standard. The work plans and the statement of compliance must be submitted to the Certifier and Planning Secretary.

B13. Prior to the commencement of demolition, the Applicant must prepare a register of hazardous materials (including asbestos and polychlorinated biphenyl capacitors (PCBs)) and ensure that asbestos and any other hazardous materials contained in buildings to be demolished (including PCB capacitors) are removed and validated by an appropriately qualified occupational hygienist prior to demolition works. Details demonstrating compliance with these requirements are to be submitted to the Certifier prior to the commencement of demolition.

B14. The Applicant must comply with all recommendations for hazardous materials on the site as presented within *Limited Asbestos and Hazardous Materials Pre-Demolition Survey RO2* prepared by Coffey and dated 13 May 2020 as well as recommendations of subsequent detailed surveys, as required by this report, prior to the commencement of demolition.

B15. The Applicant must undertake works in accordance with the *Protection of the Environment Operations (Waste) Regulation 2014* and consult with SafeWork NSW if any asbestos waste is to be handled and/or disposed of.

Environmental Management Plan Requirements

B16. Management plans required under this consent must be prepared having regard to the relevant guidelines, including but not limited to the *Environmental Management Plan Guideline: Guideline for Infrastructure Projects* (DPIE April 2020).

Note:

- *The Environmental Management Plan Guideline is available on the Planning Portal at: https://www.planningportal.nsw.gov.au/major-projects/assessment/post-approval*
- *The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.*

Construction Environmental Management Plan

B17. Prior to the commencement of construction, the Applicant must submit a Construction Environmental Management Plan (CEMP) to the Certifier and provide a copy to the Planning Secretary for information. The CEMP must include, but not be limited to, the following:

(a) Details of:

(i) hours of work;

(ii) 24-hour contact details of site manager;

(iii) management of dust and odour to protect the amenity of the neighbourhood;

(iv) stormwater control and discharge;

(v) measures to ensure that sediment and other materials are not tracked onto the roadway by vehicles leaving the site;

(vi) groundwater management plan including measures to prevent groundwater contamination;

(vii) external lighting in compliance with AS 4282-2019 Control of the obtrusive effects of outdoor lighting;

(viii) community consultation and complaints handling as set out in the Community Communication Strategy required by condition B8;

(b) an unexpected finds protocol for contamination and associated communications procedure to ensure that potentially contaminated material is appropriately managed;

(c) an unexpected finds protocol for Aboriginal and non-Aboriginal heritage and associated communications procedure;

(d) Construction Traffic and Pedestrian Management Sub-Plan (see condition B18);

(e) Construction Noise and Vibration Management Sub-Plan (see condition B19);

(f) Construction Waste Management Sub-Plan (see condition B20);

(g) Construction Soil and Water Management Sub-Plan (see condition B21).

B18. The Construction Traffic and Pedestrian Management Sub-Plan (CTPMSP) must be prepared to achieve the objective of ensuring safety and efficiency of the road network and address, but not be limited to, the following:

(a) be prepared by a suitably qualified and experienced person(s);

(b) be prepared in consultation with Council (through the Local Traffic Committee) and TfNSW;

(c) detail the measures that are to be implemented to ensure road safety and network efficiency during construction in consideration of potential impacts on general traffic, cyclists and pedestrians and bus services; and

(d) detail heavy vehicle routes, number of trucks, hours of operation, access and parking arrangements and traffic control.

B19. The Construction Noise and Vibration Management Sub-Plan must address, but not be limited to, the following:

(a) be prepared by a suitably qualified and experienced noise expert;

(b) describe procedures for achieving the noise management levels in EPA's *Interim Construction Noise Guideline* (DECC, 2009);

(c) describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers;

(d) describe details of respite periods for noise generating works that exceed the 'highly noise affected' threshold and/or generate noise with annoying of intrusive characteristics as identified within the *Interim Construction Noise Guideline* (DECC, 2009).

(e) include strategies that have been developed with the community for managing high noise generating works;

(f) describe the community consultation undertaken to develop the strategies in condition B19(e);

(g) include a complaints management system that would be implemented for the duration of the construction; and

(h) include a program to monitor and report on the impacts and environmental performance of the development and the effectiveness of the implemented management measures in accordance with the requirements of condition B16.

B20. The Construction Waste Management Sub-Plan (CWMSP) must address, but not be limited to, the procedures for the management of waste including the following:

(a) the recording of quantities, classification (for materials to be removed) and validation (for materials to remain) of each type of waste generated during construction and the proposed reuse, recycling and disposal locations; and

(b) removal of hazardous materials, particularly the method of containment and control of emission of fibres to the air, and disposal at an approved waste disposal facility in accordance with the requirements of the relevant legislation, codes, standards and guidelines, prior to the commencement of demolition as identified by the requirements of Condition B13.

B21. The Applicant must prepare a Construction Soil and Water Management Sub-Plan (CSWMSP) and the plan must address, but not be limited to the following:

(a) be prepared by a suitably qualified expert, in consultation with Council;

(b) measures to ensure that sediment and other materials are not tracked onto the roadway by vehicles leaving the site;

(c) describe all erosion and sediment controls to be implemented during construction, including as a minimum, measures in accordance with the publication Managing Urban Stormwater: Soils & Construction (4th edition, Landcom 2004) commonly referred to as the 'Blue Book';

(d) provide a plan of how all construction works will be managed in a wet-weather events (i.e. storage of equipment, stabilisation of the Site);

(e) detail all off-site flows from the site; and

(f) describe the measures that must be implemented to manage stormwater and flood flows for small and large sized events, including, but not limited to 1 in 5-year ARI.

B22. A Driver Code of Conduct must be prepared and communicated by the Applicant to heavy vehicle drivers and must address the following:

(a) minimise the impacts of earthworks and construction on the local and regional road network;

(b) minimise conflicts with other road users;

(c) minimise road traffic noise; and

(d) ensure truck drivers use specified routes.

Construction Parking

B23. Prior to the commencement of construction, the Applicant must submit a Construction Transportation Strategy to the Certifier. The Strategy must detail the provision of sufficient parking facilities or other travel arrangements for construction workers and operational staff in

order to minimise demand for parking in nearby public and residential streets or public parking facilities. A copy of the strategy must be provided to the Planning Secretary for information.

Operational Noise – Design of Mechanical Plant and Equipment

B24. Prior to installation of mechanical plant and equipment:

(a) a detailed assessment of mechanical plant and equipment with compliance with the relevant project noise levels as recommended in the *Noise and Vibration Impact Assessment for SSDA (SSD-10465) - Mosman High School Upgrade* prepared by JHA Acoustic Services dated 30 March 2021 must be undertaken by a suitably qualified person; and

(b) evidence must be submitted to the Certifier that any noise mitigation recommendations identified in the assessment carried out under (a) have been incorporated into the design to ensure the development will not exceed the operational noise levels identified in the *Noise and Vibration Impact Assessment for SSDA (SSD-10465) - Mosman High School Upgrade* prepared by JHA Acoustic Services dated 30 March 2021.

Archaeological Salvage – Historic Archaeology

B25. Prior to any excavation works that may disturb archaeological 'relics', the Applicant must nominate a suitably qualified Excavation Director who complies with the Heritage Council of NSW's Criteria for Assessment of Excavation Directors (2019) to oversee and advise on matters associated with historic archaeology and advise the Department and Heritage NSW.

B26. The Excavation Director appointed in accordance with condition B25 must be present to oversee the excavation and advise on archaeological issues. The Excavation Director must be given the authority to advise on the duration and extent of oversight required to ensure that archaeological 'relics' are recorded to an adequate standard.

Landscaping

B27. Prior to the commencement of implementation of landscaping, the Applicant must prepare and submit to the Certifier, a revised Landscape Plan to deliver and manage the revegetation and landscaping works on-site. The plan must:

(a) provide for the planting of 34 trees and in conjunction with remaining trees, demonstrate at least 24.6% tree canopy cover at the site;

(b) detail the location, species, maturity and height at maturity of plants to be planted on-site;

(c) include species (trees, shrubs and groundcovers) indigenous to the local area; and

(d) include the planting of trees with a pot container of 100 litres or greater.

Operational Waste Storage and Processing

B28. Prior to the commencement of construction of waste storage and processing areas, the Applicant must obtain agreement from Council for the design of the operational waste storage area (where waste removal will be undertaken by Council). Where waste removal will be undertaken by a third party, evidence must be provided to the Certifier that the design of the operational waste storage area:

(a) is constructed using solid non-combustible materials;

(b) is designed to ensure the door/gate to the waste storage area is vermin proof and can be openable from both inside and outside the storage area at all times;

(c) includes a hot and cold water supply with a hose through a centralised mixing valve;

(d) is naturally ventilated or an air handling exhaust system must be in place; and

(e) includes signage to clearly describe the types of materials that can be deposited into recycling bins and general garbage bins.

Construction Access arrangements

B29. Prior to the commencement of construction, evidence of compliance of construction parking and access arrangements with the following requirements must be submitted to the Certifier:

(a) all vehicles must enter and leave the site in a forward direction;

(b) the swept path of the longest construction vehicle entering and exiting the site in association with the new work, as well as manoeuvrability through the site, is in accordance with the latest version of AS 2890.2; and

(c) the safety of vehicles and pedestrians accessing adjoining properties, where shared vehicle and pedestrian access occurs, has been addressed.

Operational Access, Car Parking and Service Vehicle Arrangements

B30. Prior to the commencement of construction of operational parking and access facilities, evidence of compliance of the design of operational parking and access arrangements with the following requirements must be submitted to the Certifier:

(a) a minimum of 33 on-site car parking spaces, including one disabled car parking space, for use during operation of the development and designed in accordance with the latest versions of AS 2890.1 and AS 2890.6; and

(b) the swept path of the largest service vehicle entering and exiting the site in association with the new work, as well as manoeuvrability through the site, must be in accordance with the latest version of AS 2890.2.

Site Contamination

B31. Prior to the commencement of construction, the Applicant must engage a NSW EPA-accredited Site Auditor to provide advice throughout the duration of works to ensure that any work required in relation to soil or groundwater contamination is appropriately managed.

PART C DURING CONSTRUCTION

Site Notice

C1. A site notice(s) must be prominently displayed at the boundaries of the site during construction for the purpose of informing the public of project details and must satisfy the following requirements:

(a) minimum dimensions of the site notice(s) must measure 841 mm x 594 mm (A1) with any text on the site notice(s) to be a minimum of 30-point type size;

(b) the site notice(s) must be durable and weatherproof and must be displayed throughout the works period;

(c) the approved hours of work, the name of the builder, Certifier, structural engineer, site/ project manager, the responsible managing company (if any), its address and 24-hour contact phone number for any inquiries, including construction/ noise complaint must be displayed on the site notice(s); and

(d) the site notice(s) must be mounted at eye level on the perimeter hoardings/fencing and must state that unauthorised entry to the site is not permitted.

Operation of Plant and Equipment

C2. All construction plant and equipment used on site must be maintained in a proper and efficient condition and operated in a proper and efficient manner.

Demolition

C3. Demolition work must comply with the demolition work plans required by *Australian Standard AS 2601-2001 The demolition of structures* (Standards Australia, 2001) and endorsed by a suitably qualified person as required by condition B12.

Construction Hours

C4. Construction, including the delivery of materials to and from the site, may only be carried out between the following hours:

(a) between 7am and 6pm, Mondays to Fridays inclusive; and

(b) between 7:30am and 3:30pm, Saturdays.

No work may be carried out on Sundays or public holidays.

C5. Notwithstanding condition C4, provided noise levels do not exceed the existing background noise level plus 5dB, works may also be undertaken during the following hours:

(a) between 6pm and 7pm, Mondays to Fridays inclusive; and

(b) between 3:30pm and 4pm, Saturdays.

C6. Construction activities may be undertaken outside of the hours in condition C4 and C5 if required:

(a) by the Police or a public authority for the delivery of vehicles, plant or materials; or

(b) in an emergency to avoid the loss of life, damage to property or to prevent environmental harm; or

(c) where the works are inaudible at the nearest sensitive receivers; or

(d) where a variation is approved in advance in writing by the Planning Secretary or his nominee if appropriate justification is provided for the works.

C7. Notification of such construction activities as referenced in condition C6 must be given to affected residents before undertaking the activities or as soon as is practical afterwards.

C8. Rock breaking, rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours:

(a) 9am to 12pm, Monday to Friday;

(b) 2pm to 5pm Monday to Friday; and

(c) 9am to 12pm, Saturday.

Implementation of Management Plans

C9. The Applicant must carry out the construction of the development in accordance with the most recent version of the CEMP (including Sub-Plans).

Construction Traffic

C10. All construction vehicles (excluding site personnel vehicles) are to be contained wholly within the site, except if located in an approved on-street work zone, and vehicles must enter the site or an approved on-street work zone before stopping.

Hoarding Requirements

C11. The following hoarding requirements must be complied with:

(a) no third-party advertising is permitted to be displayed on the subject hoarding/ fencing; and

(b) the construction site manager must be responsible for the removal of all graffiti from any construction hoardings or the like within the construction area within 48 hours of its application.

No Obstruction of Public Way

C12. The public way (outside of any approved construction works zone) must not be obstructed by any materials, vehicles, refuse, skips or the like, under any circumstances.

Construction Noise Limits

C13. The development must be constructed to achieve the construction noise management levels detailed in *the Interim Construction Noise Guideline* (DECC, 2009). All feasible and reasonable noise mitigation measures must be implemented and any activities that could exceed the construction noise management levels must be identified and managed in accordance with the management and mitigation measures identified in the approved Construction Noise and Vibration Management Plan.

C14. The Applicant must ensure construction vehicles (including concrete agitator trucks) do not arrive at the site or surrounding residential or commercial precincts outside of the construction hours of work outlined under condition C4.

C15. The Applicant must implement, where practicable and without compromising the safety of construction staff or members of the public, the use of 'quackers' to ensure noise impacts on surrounding noise sensitive receivers are minimised.

Vibration Criteria

C16. Vibration caused by construction at any residence or structure outside the site must be limited to:

(a) for structural damage, the latest version of *DIN 4150-3 (1992-02) Structural vibration - Effects of vibration on structures* (German Institute for Standardisation, 1999); and

(b) for human exposure, the acceptable vibration values set out in the *Environmental Noise Management Assessing Vibration: a technical guideline* (DEC, 2006) (as may be updated or replaced from time to time).

C17. Vibratory compactors must not be used closer than 30 metres from residential buildings unless vibration monitoring confirms compliance with the vibration criteria specified in condition C16.

C18. The limits in conditions C16 and C17 apply unless otherwise outlined in a Construction Noise and Vibration Management Plan, approved as part of the CEMP required by condition B19 of this consent.

Tree Protection

C19. For the duration of the construction works:

(a) street trees must not be trimmed or removed unless it forms a part of this development consent or prior written approval from Council is obtained or is required in an emergency to avoid the loss of life or damage to property;

(b) all street trees immediately adjacent to the approved disturbance area / property boundary/ies must be protected at all times during construction in accordance with Council's tree protection requirements. Any street tree, which is damaged or removed during construction due to an emergency, must be replaced, to the satisfaction of Council;

(c) all trees on the site that are not approved for removal must be suitably protected during construction as per the recommendations of the *Arboricultural Impact Assessment Report* prepared by Birds Tree Consultancy and dated 30 March 2021; and

(d) if access to the area within any protective barrier is required during the works, it must be carried out under the supervision of a qualified arborist. Alternative tree protection measures must be installed, as required. The removal of tree protection measures, following completion of the works, must be carried out under the supervision of a qualified arborist and must avoid both direct mechanical injury to the structure of the tree and soil compaction within the canopy or the limit of the former protective fencing, whichever is the greater.

Air Quality

C20. The Applicant must take all reasonable steps to minimise dust generated during all works authorised by this consent.

C21. During construction, the Applicant must ensure that:

(a) activities are carried out in a manner that minimises dust including emission of windblown or traffic generated dust;

(b) all trucks entering or leaving the site with loads have their loads covered;

(c) trucks associated with the development do not track dirt onto the public road network;

(d) public roads used by these trucks are kept clean; and

(e) land stabilisation works are carried out progressively on site to minimise exposed surfaces.

Imported Fill

C22. The Applicant must:

(a) Ensure that only VENM, ENM, or other material that meets the requirements of a relevant resource recovery order and exemption issued by the EPA, is brought onto the site;

(b) keep accurate records of the volume and type of fill to be used; and

(c) make these records available to the Certifier upon request.

Disposal of Seepage and Stormwater

C23. Adequate provisions must be made to collect and discharge stormwater drainage during construction to the Certifier. The prior written approval of Council must be obtained to connect or discharge site stormwater to Council's stormwater drainage system or street gutter.

Emergency Management

C24. The Applicant must prepare and implement awareness training for employees and contractors, including locations of the assembly points and evacuation routes, for the duration of construction

Stormwater Management System

C25. Within three months of the commencement of construction, the Applicant must design an operational stormwater management system for the development and submit it to the satisfaction of the Certifier. The system must:

(a) be designed by a suitably qualified and experienced person(s);

(b) be generally in accordance with the conceptual design in the EIS and within plans specified at Condition A2;

(c) be in accordance with applicable Australian Standards; and

(d) ensure that the system capacity has been designed in accordance with *Australian Rainfall and Runoff* (Engineers Australia, 2016) and *Managing Urban Stormwater: Council Handbook* (EPA, 1997) guidelines;

Unexpected Finds Protocol – Aboriginal Heritage

C26. In the event that surface disturbance identifies a new Aboriginal object, all works must halt in the immediate area to prevent any further impacts to the object(s). A suitably qualified archaeologist and the registered Aboriginal representatives must be contacted to determine the significance of the objects. The site is to be registered in the Aboriginal Heritage Information Management System (AHIMS) which is managed by Heritage NSW under Department of Premier and Cabinet and the management outcome for the site included in the information provided to AHIMS. The Applicant must consult with the Aboriginal community representatives, the archaeologists and Heritage NSW to develop and implement management strategies for all objects/sites. Works shall only recommence with the written approval of Heritage NSW.

Unexpected Finds Protocol – Historic Heritage

C27. If any unexpected archaeological relics are uncovered during the work, then all works must cease immediately in that area and the Heritage NSW contacted. Depending on the possible significance of the relics, an archaeological assessment and management strategy may be required before further works can continue in that area. Works may only recommence with the written approval of the Heritage NSW.

Archaeological Salvage – Historic Archaeology

C28. Archaeological excavation must be undertaken in accordance with the Historical Archaeological Assessment & Archaeological Research Design prepared by Austral Archaeology dated 30 March 2021 and any direction of the Excavation Director appointed in accordance with condition B25.

C29. A final excavation report must be prepared within 12 months of the completion of the archaeological works on site. It should include details of any artefacts recovered, where they are located and details for their ongoing conservation and protection in perpetuity by the land owner. Copies must be provided to the Planning Secretary and Heritage NSW.

C30. The Applicant must ensure that if substantial intact archaeological deposits and/or State significant relics not identified in the Archaeological Assessment prepared for the project are discovered, work must cease in the affected area(s) and the Heritage Council of NSW must be notified in accordance with s.146 of the Heritage Act 1977. Additional assessment and approval may be required prior to works continuing in the affected area(s) based on the nature of the discovery.

Waste Storage and Processing

C31. All waste generated during construction must be secured and maintained within designated waste storage areas at all times and must not leave the site onto neighbouring public or private properties.

C32. All waste generated during construction must be assess, classified and managed in accordance with the Waste Classification Guidelines Part 1: Classifying Waste (EPA, 2014).

C33. The Applicant must ensure that concrete waste and rinse water are not disposed of on the site and are prevented from entering any natural or artificial watercourse.

C34. The Applicant must record the quantities of each waste type generated during construction and the proposed reuse, recycling and disposal locations for the duration of construction.

C35. The Applicant must ensure that the removal of hazardous materials, particularly the method of containment and control of emission of fibres to the air, and disposal at an approved waste disposal facility is in accordance with the requirements of the relevant legislation, codes, standards and guidelines.

Outdoor Lighting

C36. The Applicant must ensure that all external lighting is constructed and maintained in in accordance with AS 4282-2019 Control of the obtrusive effects of outdoor lighting.

Site Contamination

C37. The Applicant must conduct further site investigations to confirm the full nature and extent of the contamination at the site and comply with the following requirements:

(a) the site investigations must be undertaken, and the subsequent report(s), must be prepared in accordance with relevant guidelines made or approved by the EPA under section 105 of the *Contaminated Land Management Act 1997*;

(b) the reports must be prepared, or reviewed and approved, by consultants certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme; and

(c) the recommendations of the *Remedial Action Plan – Mosman High School* prepared by Coffey and dated 30 March 2021.

C38. The unexpected finds procedure within the *Remedial Action Plan – Mosman High School* must be updated following results of further site investigations undertaken in accordance with condition C37 and implemented throughout duration of project work.

C39. Remediation of the site must be carried out in accordance with the *Remedial Action Plan – Mosman High School* prepared by Coffey and dated 30 March 2021 and any variations to that plan approved by an NSW EPA-accredited Site Auditor.

C40. Where remediation is carried out / completed in stages, a NSW EPA-accredited Site Auditor must confirm satisfactory completion of each stage by the issuance of Interim Audit Advice(s).

C41. The Applicant must ensure the proposed development does not result in a change of risk in relation to any pre-existing contamination on the site that would result in significant contamination.

Independent Environmental Audit

C42. Proposed independent auditors must be agreed to in writing by the Planning Secretary prior to the commencement of an Independent Audit.

C43. Independent Audits of the development must be conducted and carried out in accordance with the Independent Audit Post Approval Requirements.

C44. The Planning Secretary may require the initial and subsequent Independent Audits to be undertaken at different times to those agreed to above, upon giving at least 4 weeks' notice to the Applicant of the date or timing upon which the audit must be commenced.

C45. In accordance with the specific requirements in the Independent Audit Post Approval Requirements, the Applicant must:

(a) review and respond to each Independent Audit Report prepared under condition C43 of this consent, or condition C44 where notice is given;

(b) submit the response to the Planning Secretary; and

(c) make each Independent Audit Report and response to it publicly available within 60 days after submission to the Planning Secretary.

C46. Independent Audit Reports and the applicant/proponent's response to audit findings must be submitted to the Planning Secretary within 2 months of undertaking the independent audit site inspection as outlined in the Independent Audit Post Approval Requirements unless otherwise agreed by the Planning Secretary.

C47. Notwithstanding the requirements of the Independent Audit Post Approval Requirements, the Planning Secretary may approve a request for ongoing independent operational audits to be ceased, where it has been demonstrated to the Planning Secretary's satisfaction that an audit has demonstrated operational compliance.

(a)

PART D PRIOR TO COMMENCEMENT OF OPERATION

Notification of Occupation

D1. At least one month before commencement of operation, the date of commencement of the operation of the development must be notified to the Planning Secretary in writing. If the operation of the development is to be staged, the Planning Secretary must be notified in writing at least one month before the commencement of each stage, of the date of commencement and the development to be carried out in that stage.

External Walls and Cladding

D2. Prior to commencement of operation, the Applicant must provide the Certifier with documented evidence that the products and systems used in the construction of external walls including finishes and claddings such as synthetic or aluminium composite panels comply with the requirements of the BCA.

D3. The Applicant must provide a copy of the documentation given to the Certifier to the Planning Secretary within seven days after the Certifier accepts it.

Works as Executed Plans

D4. Prior to the commencement of operation, works-as-executed drawings signed by a registered surveyor demonstrating that the stormwater drainage and finished ground levels have been constructed as approved, must be submitted to the Certifier.

Warm Water Systems and Cooling Systems

D5. The installation of warm water systems and water cooling systems (as defined under the *Public Health Act 2010*) must comply with the *Public Health Act 2010*, Public Health Regulation 2012 and Part 1 (or Part 3 if a Performance-based water cooling system) of *AS/NZS 3666.2:2011 Air handling and water systems of buildings – Microbial control – Operation and maintenance* and the NSW Health Code of Practice for the Control of Legionnaires' Disease.

Outdoor Lighting

D6. Prior to the commencement of operation, the Applicant must submit evidence from a suitably qualified practitioner to the Certifier that demonstrates that installed lighting associated with the development achieves the objective of minimising light spillage to any adjoining or adjacent sensitive receivers and:

(a) complies with the latest version of AS 4282-2019 - *Control of the obtrusive effects of outdoor lighting* (Standards Australia, 1997); and

(b) has been mounted, screened and directed in such a manner that it does not create a nuisance to surrounding properties or the public road network.

Mechanical Ventilation

D7. Prior to commencement of operation, the Applicant must provide evidence to the satisfaction of the Certifier that the installation and performance of the mechanical ventilation systems complies with:

(a) AS 1668.2-2012 The use of air-conditioning in buildings – Mechanical ventilation in buildings and other relevant codes; and

(b) any dispensation granted by Fire and Rescue NSW.

Operational Noise – Design of Mechanical Plant and Equipment

D8. Prior to the commencement of operation, the Applicant must submit evidence to the Certifier that the noise mitigation recommendations in the assessment undertaken under condition B24 have been incorporated into the design of mechanical plant and equipment to ensure the development will not exceed the operational noise levels identified in the *Noise and Vibration Impact Assessment for SSDA (SSD-10465) - Mosman High School Upgrade* prepared by JHA Acoustic Services dated 30 March 2021.

Fire Safety Certification

D9. Prior to commencement of occupation, a Fire Safety Certificate must be obtained for all the Essential Fire or Other Safety Measures forming part of this consent. A copy of the Fire Safety

Certificate must be submitted to the relevant authority and Council. The Fire Safety Certificate must be prominently displayed in the building.

Structural Inspection Certificate

D10. Prior to the commencement of occupation of the relevant parts of any new or refurbished buildings, a Structural Inspection Certificate or a Compliance Certificate must be submitted to the Certifier. A copy of the Certificate with an electronic set of final drawings (contact approval authority for specific electronic format) must be submitted to the approval authority and the Council after:

(a) the site has been periodically inspected and the Certifier is satisfied that the structural works is deemed to comply with the final design drawings; and

(b) the drawings listed on the Inspection Certificate have been checked with those listed on the final Design Certificate/s.

Compliance with Food Code

D11. Prior to the commencement of operation, the Applicant is to obtain a certificate from a suitably qualified tradesperson, certifying that food storage and food preparation areas (where proposed) have been fitted in accordance with the AS 4674 *Design, construction and fit-out of food premises* and provide evidence of receipt of the certificate to the satisfaction of the Certifier.

Post-construction Dilapidation Report

D12. Prior to commencement of operation, the Applicant must engage a suitably qualified person to prepare a post-construction dilapidation report at the completion of construction. This report is:

(a) to ascertain whether the construction created any structural damage to adjoining buildings or infrastructure;

(b) to be submitted to the Certifier. In ascertaining whether adverse structural damage has occurred to adjoining buildings or infrastructure, the Certifier must:

(i) compare the post-construction dilapidation report with the pre-construction dilapidation report required by these conditions; and

(ii) have written confirmation from the relevant authority that there is no adverse structural damage to their infrastructure and roads;

(c) to be forwarded to Council for information.

Protection of Public Infrastructure

D13. Unless the Applicant and the applicable authority agree otherwise, the Applicant must:

(a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by carrying out the development; and

(b) relocate, or pay the full costs associated with relocating any infrastructure that needs to be relocated as a result of the development.

Note: This condition does not apply to any damage to roads caused as a result of general road usage.

Road Damage

D14. Prior to the commencement of operation, the cost of repairing any damage caused to Council or other Public Authority's assets in the vicinity of the Site as a result of construction works associated with the approved development must be met in full by the Applicant.

Protection of Property

D15. Unless the Applicant and the applicable owner agree otherwise, the Applicant must repair, or pay the full costs associated with repairing any property that is damaged by carrying out the development.

Car Parking Arrangements

D16. Prior to the commencement of operation or other timeframe agreed in writing by the Planning Secretary, evidence must be submitted to the Certifier that demonstrates that works associated

with the reconfiguration of the 33 car parking spaces to include one disabled parking space have been completed.

Bicycle Parking and End-of-Trip Facilities

D17. Prior to occupation, compliance with the following requirements for secure bicycle parking and end-of-trip facilities must be submitted to the Certifier:

(a) the provision of a minimum 6 staff and 60 visitor/student bicycle parking spaces;

(b) the layout, design and security of bicycle facilities must comply with the minimum requirements of the latest version of AS 2890.3:2015 *Parking facilities - Bicycle parking*, and be located in easy to access, well-lit areas that incorporate passive surveillance;

(c) the provision of end-of-trip facilities for staff, including 4 showers/change-rooms; and

(d) appropriate pedestrian and cyclist advisory signs are to be provided.

Note: All works/regulatory signposting associated with the proposed development shall be at no cost to the relevant roads authority.

School/Pedestrian Crossing Facilities

D18. Prior to the commencement of operation, the Applicant must consult with both Council regarding the need for the installation of a pedestrian crossing at Gladstone Avenue. If it is determined that the pedestrian crossing is required, it is to be installed in accordance with the relevant design standards set down by TfNSW to the satisfaction of the relevant road authority and be installed prior to the commencement of operation.

School Zones

D19. Prior to the commencement of operation, all required School Zone signage, speed management signage and associated pavement markings must be installed, inspected by TfNSW and handed over to TfNSW.

Note: Any required approvals for altering public road speed limits, design and signage are required to be obtained from the relevant consent authority.

D20. The Applicant must maintain records of all dates in relation to installing, altering and removing traffic control devices related to speed.

School Transport Plan

D21. Prior to the commencement of operation, a School Transport Plan (GTP), must be submitted to the satisfaction of the Planning Secretary. The plan must:

(a) be prepared by a suitably qualified consultant in consultation with Council and TfNSW;

(b) include arrangements to promote the use of active and sustainable transport modes, including:

(i) objectives and modes share targets (i.e. Site and land use specific, measurable and achievable and timeframes for implementation);

(ii) specific tools and actions to help achieve the objectives and mode share targets;

(iii) details regarding the methodology and monitoring/review program to measure the effectiveness of the objectives and mode share targets, including the frequency of monitoring and the requirement for travel surveys to identify travel behaviours of users of the development.

(c) include operational transport access management arrangements, including:

(i) detailed pedestrian analysis including the identification of safe route options to identify the need for management measures such as staggered school start and finish times to ensure students and staff are able to access and leave the Site in a safe and efficient manner during school start and finish;

(ii) the location of all car parking spaces on the school campus and their allocation (i.e. staff, visitor, accessible, emergency, etc.);

(iii) the location and operational management procedures of the drop-off and pick-up parking, including staff management/traffic controller arrangements;

(iv) the location and operational management procedures for the drop-off and pick-up of students by buses and coaches including staff management/traffic controller arrangements;

(v) delivery and services vehicle and bus access and management arrangements;

(vi) management of approved access arrangements;

(vii) potential traffic impacts on surrounding road networks and mitigation measures to minimise impacts, including measures to mitigate queuing impacts associated with vehicles accessing drop-off and pick-up zones;

(viii) car parking arrangements and management associated with the proposed use of school facilities by community members; and

(d) measures to promote and support the implementation of the plan, including financial and human resource requirements, roles and responsibilities for relevant employees involved in the implementation of the plan; and

(e) a monitoring and review program, including annual reviews for the first five years.

Utilities and Services

D22. Prior to commencement of operation, the Applicant must obtain a Compliance Certificate for water and sewerage infrastructure servicing of the site under section 73 of the *Sydney Water Act 1994*.

Stormwater Operation and Maintenance Plan

D23. Prior to the commencement of operation, a Stormwater Operation and Maintenance Plan (SOMP) is to be submitted to the Certifier. The SOMP must ensure the proposed stormwater quality measures remain effective and contain the following:

(a) maintenance schedule of all stormwater quality treatment devices;

(b) record and reporting details;

(c) relevant contact information; and

(d) Work Health and Safety requirements.

Signage

D24. Prior to the commencement of operation, way-finding signage and signage identifying the location of staff car parking must be installed.

D25. Prior to the commencement of operation, bicycle way-finding signage must be installed within the site to direct cyclists from footpaths to designated bicycle parking areas.

Operational Waste Management Plan

D26. Prior to the commencement of operation, the Applicant must prepare a Waste Management Plan for the development and submit it to the Certifier. The Waste Management Plan must:

(a) detail the type and quantity of waste to be generated during operation of the development;

(b) describe the handling, storage and disposal of all waste streams generated on site, consistent with the Protection of the Environment Operations Act 1997, Protection of the Environment Operations (Waste) Regulation 2014 and the Waste Classification Guideline (Department of Environment, Climate Change and Water, 2009);

(c) detail the materials to be reused or recycled, either on or off site.

Site Contamination

D27. If, based on further site investigations undertaken in accordance with condition C37, it is determined that remediation works or ongoing on-site management of soil or groundwater contamination is required, then the following requirements must be satisfied:

(a) the Applicant must engage a NSW EPA-accredited Site Auditor to confirm the appropriateness of the site for the proposed use. The Applicant must obtain from a NSW EPA-accredited Site Auditor a Section A2 Site Audit Statement accompanied by an Environmental Management Plan prepared by a certified consultant and submit it to the

Planning Secretary and relevant Council for information no later than one month before the commencement of operation.

(b) the development must not be used for the purpose approved under the terms of this consent until a Site Audit Statement determines the land is suitable for that purpose and any conditions on the Site Audit Statement have been complied with.

Landscaping

D28. Prior to the commencement of operation or another timeframe approved in writing by the Planning Secretary, landscaping of the site must be completed in accordance with landscape plan(s) prepared in accordance with condition B27.

D29. Prior to the commencement of operation, the Applicant must prepare and submit to the Certifier, a Landscape Management Plan to manage the ongoing revegetation and landscaping on-site. The plan must:

(a) describe the ongoing monitoring and maintenance measures to manage existing vegetation, revegetation and landscaping;

(b) be consistent with the *Landscape Design Report* prepared by Black Beetle and dated March 2021; and

(c) be consistent with the landscape plan(s) prepared in accordance with condition B27.

PART E POST OCCUPATION

Out of Hours Event Management Plan

E1. Prior to the commencement of the first out of hours events (School Use) run by the school that involve 100 or more people, the Applicant is to prepare an Out of Hours Event Management Plan (School Use) in consultation with Council and submit it to the Council and Planning Secretary for information. The plan must include the following:

(a) the number of attendees, time and duration;

(b) arrival and departure times and modes of transport;

(c) where relevant, a schedule of all annual events;

(d) measures to encourage non-vehicular travel to the school and promote and support the use of alternate travel modes (i.e. public transport);

(e) details of the use of the school buildings and rooftop sports facilities, where applicable, restricting use of buildings before 8am and after 10pm and rooftop sports facilities before 8am and after 6pm;

(f) measures to minimise localised traffic and parking impacts; and

(g) include measures to minimise noise impacts on any sensitive residential receivers, including the preparation of acoustic management plan.

E2. The Out of Hours Event Management Plan (School Use) must be implemented by the Applicant for the duration of the identified events or use.

E3. Prior to the commencement of out of hours events (Community Use) run by the external parties that involve 100 or more people, the Applicant is to prepare an Out of Hours Event Management Plan (Community Use) in consultation with Council and submit it to the Council and Planning Secretary for information. The plan must include the following:

(a) the number of attendees, time and duration;

(b) arrival and departure times and modes of transport;

(c) where relevant, a schedule of all annual events;

(d) measures to encourage non-vehicular travel to the school and promote and support the use of alternate travel modes (i.e. public transport);

(e) details of the use of the school buildings and rooftop sports facilities, where applicable, restricting use of buildings before 8am and after 10pm and rooftop sports facilities before 8am and after 6pm;

(f) measures to minimise localised traffic and parking impacts; and

(g) measures to minimise noise impacts on any sensitive residential receivers, including the preparation of acoustic management plan.

E4. The Out of Hours Event Management Plan (Community Use) must be implemented by the Applicant for the duration of the identified community event or use.

Operation of Plant and Equipment

E5. All plant and equipment used on site must be maintained in a proper and efficient condition operated in a proper and efficient manner.

Warm Water Systems and Cooling Systems

E6. The operation and maintenance of warm water systems and water cooling systems (as defined under the Public Health Act 2010) must comply with the Public Health Act 2010, Public Health Regulation 2012 and Part 2 (or Part 3 if a Performance-based water cooling system) of AS/NZS 3666.2:2011 Air handling and water systems of buildings – Microbial control – Operation and maintenance and the NSW Health Code of Practice for the Control of Legionnaires' Disease.

Community Communication Strategy

E7. The Community Communication Strategy, as submitted to the Certifier, must be implemented for a minimum of 12 months following the completion of construction.

Environmental Management Plan

E8. Upon completion of remediation works, the Applicant must manage the site in accordance with the Environmental Management Plan approved by the Site Auditor (if any) under condition D27 and any on-going maintenance of remediation notice issued by EPA under *the Contaminated Land Management Act 1997*.

Operational Noise Limits

E9. The Applicant must ensure that noise generated by operation of the development does not exceed the noise limits in *Noise and Vibration Impact Assessment for SSDA (SSD-10465) - Mosman High School Upgrade* prepared by JHA Acoustic Services dated 30 March 2021.

E10. The Applicant must undertake short term noise monitoring in accordance with the *Noise Policy for Industry* where valid data is collected following the commencement of use of the development. The monitoring program must be carried out by an appropriately qualified person and a monitoring report must be submitted to the Planning Secretary within two months of commencement use of each stage of the development or other timeframe agreed to by the Planning Secretary to verify that operational noise levels do not exceed the recommended noise levels for mechanical plant identified in *Noise and Vibration Impact Assessment for SSDA (SSD-10465) - Mosman High School Upgrade* prepared by JHA Acoustic Services dated 30 March 2021. Should the noise monitoring program identify any exceedance of the recommended noise levels referred to above, the Applicant is required to implement appropriate noise attenuation measures so that operational noise levels do not exceed the recommended noise levels or provide attenuation measures at the affected noise sensitive receivers.

Unobstructed Driveways and Parking Areas

E11. All driveways, footways and parking areas must be unobstructed at all times. Driveways, footways and car spaces must not be used for the manufacture, storage or display of goods, materials, refuse, skips or any other equipment and must be used solely for vehicular and/or pedestrian access and for the parking of vehicles associated with the use of the premises.

School Transport Plan

E12. The School Transport Plan required by condition D21 must be updated annually and implemented unless otherwise agreed by the Planning Secretary.

Ecologically Sustainable Development

E13. Unless otherwise agreed by the Planning Secretary, within six months of commencement of operation, Green Star certification must be obtained demonstrating the development achieves a minimum 4 star Green Star Design & As Built rating. If required to be obtained, evidence of the certification must be provided to the Certifier and the Planning Secretary. If an alternative certification process has been agreed to by the Planning Secretary under condition B9, evidence of compliance of implementation must be provided to the Planning Secretary and Certifier.

Outdoor Lighting

E14. Notwithstanding condition D6, should outdoor lighting result in any residual impacts on the amenity of surrounding sensitive receivers, the Applicant must provide mitigation measures in consultation with affected landowners to reduce the impacts to an acceptable level.

Landscaping

E15. The Applicant must maintain the landscaping and vegetation on the site in accordance with the approved Landscape Management Plan required by condition D28 for the duration of occupation of the development.

APPENDIX 1 ADVISORY NOTES

General

AN1. All licences, permits, approvals and consents as required by law must be obtained and maintained as required for the development. No condition of this consent removes any obligation to obtain, renew or comply with such licences, permits, approvals and consents.

Long Service Levy

AN2. For work costing $25,000 or more, a Long Service Levy must be paid. For further information please contact the Long Service Payments Corporation Helpline on 131 441.

Legal Notices

AN3. Any advice or notice to the consent authority must be served on the Planning Secretary.

Access for People with Disabilities

AN4. The works that are the subject of this application must be designed and constructed to provide access and facilities for people with a disability in accordance with the BCA. Prior to the commencement of construction, the Certifier must ensure that evidence of compliance with this condition from an appropriately qualified person is provided and that the requirements are referenced on any certified plans.

Utilities and Services

AN5. Prior to the construction of any utility works associated with the development, the Applicant must obtain relevant approvals from service providers.

AN6. Prior to the commencement of above ground works written advice must be obtained from the electricity supply authority, an approved telecommunications carrier and an approved gas carrier (where relevant) stating that satisfactory arrangements have been made to ensure provisions of adequate services.

Road Design and Traffic Facilities

AN7. All roads and traffic facilities must be designed to meet the requirements of Council or TfNSW (whichever is applicable). The necessary permits and approvals from the relevant road authority must be obtained prior to the commencement of road or pavement construction works.

Road Occupancy Licence

AN8. A Road Occupancy Licence must be obtained from the relevant road authority for any works that impact on traffic flows during construction activities.

SafeWork Requirements

AN9. To protect the safety of work personnel and the public, the work site must be adequately secured to prevent access by unauthorised personnel, and work must be conducted at all times in accordance with relevant SafeWork requirements.

Hoarding Requirements

AN10. The Applicant must submit a hoarding application to Council for the installation of any hoardings over Council footways or road reserve.

Handling of Asbestos

AN11. The Applicant must consult with SafeWork NSW concerning the handling of any asbestos waste that may be encountered during construction. The requirements of the Protection of the Environment Operations (Waste) Regulation 2014 with particular reference to Part 7 – 'Transportation and management of asbestos waste' must also be complied with.

Speed limit authorisation

AN12. At least eight weeks prior to the commencement of operation, the Applicant must submit the following details to TfNSW and obtain authorisation to install School Zone signs and associated pavement markings, and / or removal / relocation of any existing Speed Limit signs:

(a) a copy of the conditions of consent;

(b) the proposed school commencement/opening date;

(c) two sets of detailed design plans showing the following:
   (i) accurate Site boundaries;
   (ii) details of all road reserves, adjacent to the Site boundaries;
   (iii) all proposed access points from the Site to the public road network and any additional conditions imposed/proposed on their use;
   (iv) all existing and proposed pedestrian crossing facilities on the adjacent road network;
   (v) all existing and proposed traffic control devices and pavement markings on the adjacent road network (including School Zone signs and pavement markings); and
   (vi) all existing and proposed street furniture and street trees.

Fire Safety Certificate

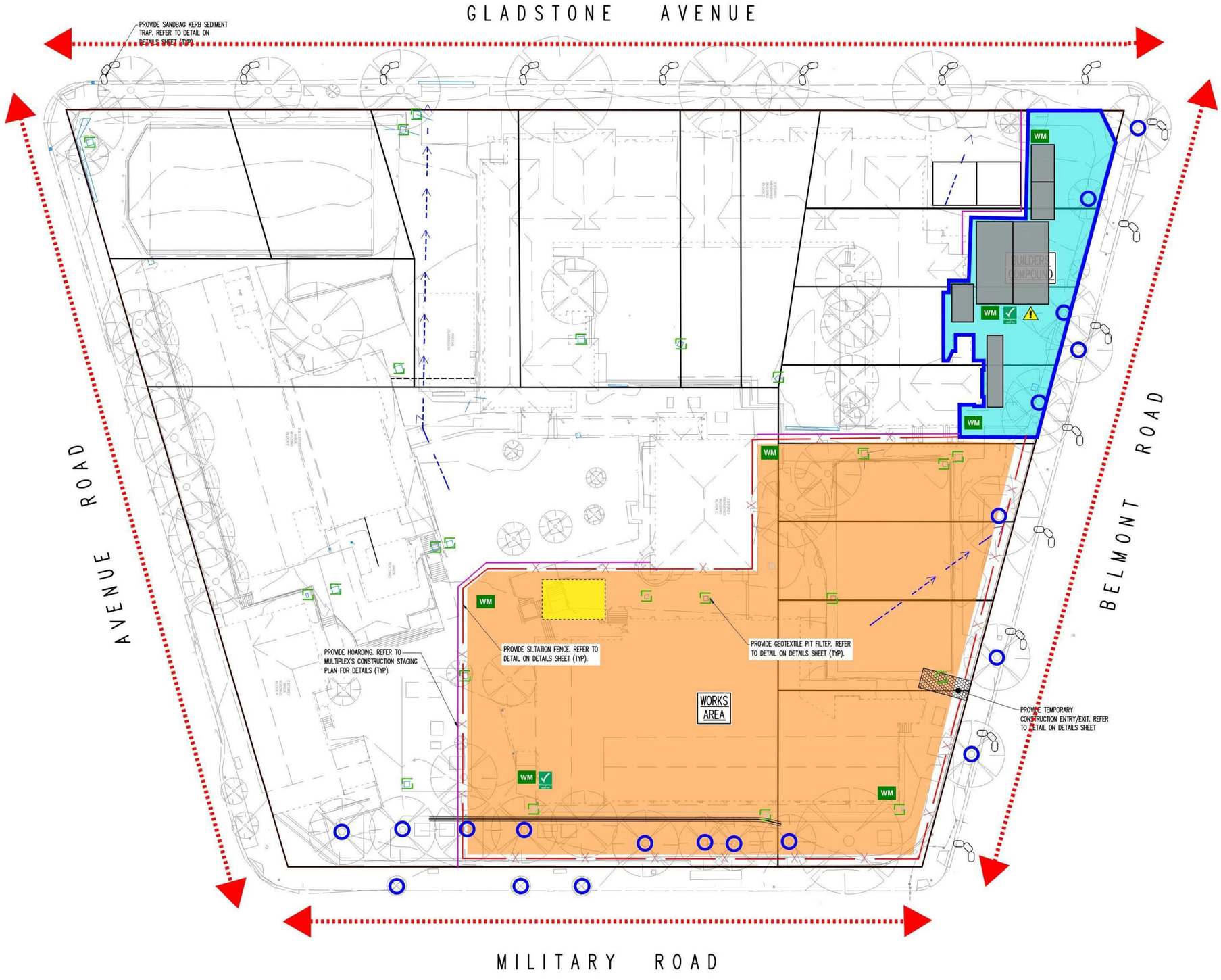
AN13. The owner must submit to Council an Annual Fire Safety Statement, each 12 months after the final Safety Certificate is issued. The certificate must be on, or to the effect of, Council's Fire Safety Statement.

APPENDIX 2 WRITTEN INCIDENT NOTIFICATION AND REPORTING REQUIREMENTS

Written Incident Notification Requirements

1. A written incident notification addressing the requirements set out below must be emailed to the Planning Secretary through the major projects portal within seven days after the Applicant becomes aware of an incident. Notification is required to be given under this condition even if the Applicant fails to give the notification required under condition A25 or, having given such notification, subsequently forms the view that an incident has not occurred.
2. Written notification of an incident must:
    - identify the development and application number;
    - provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident);
    - identify how the incident was detected;
    - identify when the applicant became aware of the incident;
    - identify any actual or potential non-compliance with conditions of consent;
    - describe what immediate steps were taken in relation to the incident;
    - identify further action(s) that will be taken in relation to the incident; and
    - identify a project contact for further communication regarding the incident.
3. Within 30 days of the date on which the incident occurred or as otherwise agreed to by the Planning Secretary, the Applicant must provide the Planning Secretary and any relevant public authorities (as determined by the Planning Secretary) with a detailed report on the incident addressing all requirements below, and such further reports as may be requested.
4. The Incident Report must include:
    - a summary of the incident;
    - outcomes of an incident investigation, including identification of the cause of the incident;
    - details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and
    - details of any communication with other stakeholders regarding the incident.

16.8 Appendix 8: Environmental Control Plan



MULTIPLEX

NSW GOVERNMENT Education School Infrastructure

LEGEND

- TREES TO BE PROTECTED
- WM GENERAL WASTE
- SPILL KIT
- CHEMICAL STORAGE
- STOCKPILE LOCATION
- SILTATION FENCE
- STORMWATER PIT WITH GEOTEXTILE FILTER SURROUND
- SANDBAG SEDIMENT TRAP
- OVERLAND FLOW PATH
- SITE HOARDING
- TRAFFIC DIRECTION
- WORKS ZONE
- BUILDERS COMPOUND

Drawing ID

ENVIRONMENTAL CONTROL PLAN

Project

MOSMAN HIGH SCHOOL UPGRADE

Date

9/12/2021

Drawn By