Zauner Construction Pty Ltd

Construction Environment Management Plan (CEMP)

Project Name	**Budawang SSP**
Project Number	**409**
Project Address	**17 Croobyar Road, Milton, NSW, 2538**
Client	**Schools' infrastructure NSW**
Client's Authorised Person	**Chris Tudor**
Principal Contractor	**Zauner Construction**

EMP Preparation Checklist (Condition B12)

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.

HSEMSM - Health, Safety and Environment Management System Manual

HSEPMP - Health, Safety and Environment Project Management Plan

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)	**5.1** Scope and Application **42.4** Construction Noise & Vibration Management Plan **42.5** Construction Soil and Water Management Plan **42.6** Construction Waste Management Plan **42.7** Construction Traffic and Pedestrian Management Plan	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)	**5.1** Scope and Application **42.4** Construction Noise & Vibration Management Plan **42.5** Construction Soil and Water Management Plan **42.6** Construction Waste Management Plan **42.7** Construction Traffic and Pedestrian Management Plan	Yes
Has the EMP been internally approved by an authorised representative of the proponent or contractor? (Section 4.2)	**S1.1** Review and Approval 42.4 CNVMSP – Document Control **42.5** CSWMSP – Document Control **42.6** CWMSP – Document Control **42.7** CPTMSP – Document Control	Yes
Version and content		

Requirement	Plan Reference	Yes/No/Not applicable
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)	**9** CEMP Interrelationship with other Documents	Yes
Does the EMP include the required general content and version control information? (Section 3.1)	**1.1** Revision History **42.4 CNVMSP** – Document Control **42.5 CSWMSP** – Document Control **42.6 CWMSP** – Document Control **42.7 CPTMSP** – Document Control	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)	**6** Project Description **7** Hours of Work **42.4 CNVMSP** – 1.0 Introduction, 2.0 Site and Project Description, 5.0 Proposed Construction Works **42.5 CSWMSP** – 1. Purpose, 4.1 Sediment Plan **42.6 CWMSP** – 1. Purpose, 4. Waste Management, 5. Proposal **42.7 CPTMSP** – 1. Purpose, 4, Transport, 6. Traffic Management Plan, 6.3 Site Establishment Plans	Yes
Does the EMP reference the project description? (Section 3.3)	**6** Project Description	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)	**16** Consultation, Communication and Reporting **42.4 CNVMSP** – 7.5 Community Engagement	Yes

Requirement	Plan Reference	Yes/No/Not applicable
Have all other relevant approvals been identified? Has appropriate information been provided regarding how each approval is relevant? (Section 4)	**4** Compliance with Development Application **42.4 CNVMSP** – Consultation with Community **42.5CSWMSP** - SCC Consultation and Approval **42.7 CPTMSP** – TfNSW Approval	Yes
Has the environmental management structure and responsibilities been included? (Section 3.5.2)	**13** Roles and Responsibilities	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)	**15** – Induction and Environmental Awareness/Training	Yes
Does the EMP clearly identify the relevant legal and compliance requirements that relate to the EMP? (Section 3.5.3)	**11.4 & 11.5** HSE Legislation, Codes of practice & Australian Standards **10** Project Goals and Objectives **42.4 CNVMSP** – 6.2 Construction Noise and Vibration Criteria **42.5 CSWMSP** – 4 Environmental Protocol and Compliance	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)	**4** Compliance with Development Application **42.4 CNVMSP** – 6.1 Condition B14 Requirements **42.5 CSWMSP** – 1. Purpose **42.6 CWMSP** – 1. Purpose **42.7 CPTMSP** – 1. Purpose	Yes
Have all relevant guidelines, policies and standards been identified, including details of how they are relevant?	**11.4** HSE Legislation, Codes of Practice & Australian Standards	Yes

Requirement	Plan Reference	Yes/No/Not applicable
Is the process that will be adopted to identify and analyse the environmental risks included? (Section 3.5.5)	**12** Environmental Planning **42.4 CNVMSP** – 6.0 Noise & Vibration Assessment **42.5 CSWMSP** – 4 Environmental Protocol and Compliance **42.6 CWMSP** – 4. Waste Management **42.7 CPTMSP** – 4. Transport	Yes
Have all the environmental management measures in the EIA been directly reproduced into the EMP? (Section 3.5.7)	Refer to attached Management Sub-Plans	Yes
Have any additional environmental management measures been included in the EMP? (Section 3.5.7)	**42** Sub-Plans Environmental Aspects and Impacts Register **42.4 CNVMSP** – 7.0 Noise and Vibration Management Plan **42.5 CSWMSP** – Sediment and Erosion Control Plan **42.6 CWMSP** – 5. Proposal **42.7 CPTMSP** – 5. Traffic Control Measures Checklist	Yes
Have environmental management measures been written in committed language? (Section 3.5.7)	**5** Commitment and Policy	Yes
Have project environmental management measures, including hold points, been identified and included? (Section 3.5.6)	**15** Environmental Hold Point **42** Sub-Plans Environmental Aspects and Impacts Register	Yes
Are relevant details of environmental monitoring that will be carried out included? (Section 3.5.8)	**41** Audits, Inspections, Monitoring and Emergency Preparedness and Response Schedules **42.4 CNVMSP** – 7.4 General Measures **42.5 CSWMSP** – 4. Environmental Protocol and Compliance **42.6 CWMSP** – 7. Recording Framework **42.7 CPTMSP** – 5. Traffic Control Measures Checklist	Yes

Requirement	Plan Reference	Yes/No/Not applicable
Have the components of any environmental monitoring programs been incorporated? (Section 3.5.8)	**41** Audits, Inspections, Monitoring and Emergency Preparedness and Response Schedules	Yes
Are environmental inspections included? (Section 3.5.9)	**41** Audits, Inspections, Monitoring and Emergency Preparedness and Response Schedules	Yes
Does the EMP document all relevant compliance monitoring and reporting requirements for the project? (Section 3.5.12 and 3.5.13)	**41** – Audits, Inspections, Monitoring and Emergency Preparedness and Response Schedules	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)	**9** CEMP Interrelationship with other documents	Yes
Does the EMP list environmental management documents? (Section 3.5.11)	**42** Sub-Plans	Yes
Is an auditing program referenced? (Section 3.5.13)	**41** Audits, Inspections, Monitoring and Emergency Preparedness and Response Schedules	Yes
Does the EMP include the incident notification and reporting protocols that comply with the relevant conditions of consent? (Section 3.5.15)	**19.2** Written Incident Notification and Reporting Requirements	Yes
Does the EMP identify the project role/position that is responsible for deciding whether an occurrence is an incident? (Section 3.5.15)	**19** Incident Reporting, Investigation and Corrective Actions	Yes
Does the EMP describe a corrective and preventative action process that addresses the requirements? (Section 3.5.16)	**19** Incident reporting, investigation, and corrective actions	Yes
Does the EMP include details of a review and revision process that complies with the requirements? (Section 3.6)	**6.2** Document Review	Yes

TABLE OF CONTENTS

1 CEMP REVIEW AND APPROVAL

Job Title	Name	Signature	Date
Chief Executive Officer	Garry Zauner		25/5/22
Zauner HSE Manager	Peter Hertzog		24/5/22
Zauner Chief Operating Officer	Ronan Pringle		24/5/22
Zauner Project Manager	Adrien Clements		24/5/22

CEMP Sign off (Signature indicates personnel have read and understood this plan)

Zauner Authorised Person	Adrien Clements		25/5/22
Contracts Administrator	Ed Goh		24/5/22
Zauner Site Manager	Jake Saurine		24/5/22
Site HSE Officer	Ross Humble		24/5/22

1.1 Revision History

Author	Rev	Revision Description/Amendment Details	Date
Sarah Jones	01	Original	18/02/2021
Adrien Clements	02	Condition Satisfaction Tables for Sub-Plans	02/03/2022
Adrien Clements	03	Amended for Consideration of Existing Childcare	19/04/2022
Adrien Clements	04	Amended to satisfy DPIE Comments	25/05/2022

1.2 Document Review

It is envisaged that this document will be continually reviewed and amended as required.

2 DEFINITIONS - REFER TO BUDAWANG HSEPMP

3 ACRONYMS

ACM - Asbestos Containing Materials

CAPA – Corrective Action / Preventive Action

CEMP – Construction Environment Management Plan (this document)

COO – Chief Operating Officer

CTPMSP- Construction Traffic and Pedestrian Management Sub-Plan (CTPMSP)

CWMSP - Construction Waste Management Sub-Plan

DA – Development Application (#SSD - 8845345)

DBYD - Dial Before You Dig

EES - Environment, Energy and Science Group of the Department of Planning, Industry and Environment (Former Office of Environment and Heritage)

ERMP - Environmental Risk Management Plan

EPA - Environmental Protection Authority

HIRAC – Hazard Identification Risk Assessment and Control

HOC - Hierarchy of Control

HRCW – High Risk Construction Work

HSE – Health Safety and Environment

HSELT - Health Safety and Environment Leadership Team

HSEMSM - Health Safety and Environment Management System Manual

HSEPMP - Health, Safety and Environment Project Management Plan

MLALC - Metropolitan Local Aboriginal Land Council

N/A – Not Applicable

NOA - Naturally Occurring Asbestos

NCN – Non-Conformance Notices

OEH – Office of Environment and Heritage

PTW – Permit to Work

RAP – Reconciliation Action Plan

RMS – Roads and Maritime Services

RTO – Registered Training Organisation

S/C – Subcontractor

SDS – Safety Data Sheet

SINSW – Schools Infrastructure New South Wales

SME – Subject Matter Expert

SWMS - Safe Work Method Statements

TfNSW – Transport for New South Wales

TMP – Traffic Management Plan

UST - Underground Storage Tank

ZC - Zauner Construction

4 COMPLIANCE WITH DEVELOPMENT APPLICATION

Condition ID	Development Application Condition	Reference
B12	Construction Environmental Management Plan (CEMP)	N/A
	(a) Details of:	N/A
	(i) hours of work;	Section 7
	(ii) 24-hour contact details of site manager;	Section 8
	(iii) external lighting in compliance with AS 4282-2019 Control of the obtrusive effects of outdoor lighting;	Section 22
	(iv) community consultation and complaints handling as set out in the Community Communication Strategy required by condition B7;	Appendix 42.10
	(b) an unexpected finds protocol for Aboriginal and non-Aboriginal heritage and associated communications procedure;	Section 27
	(c) Construction Traffic and Pedestrian Management Sub-Plan (see condition B13);	Appendix 42.7
	(d) Construction Noise and Vibration Management Sub-Plan (see condition B14);	Appendix 42.4
	(e) Construction Waste Management Sub-Plan (see condition B15);	Appendix 42.6
	(f) Construction Soil and Water Management Sub-Plan (see condition B15)	Appendix 42.5

5 COMMITMENT AND POLICY

5.1 Scope & Application

Zauner Construction Management is committed to operating this site in an environmentally responsible and friendly manner that prevents damage to the environment and considers the effective handling of waste as a result of site works.

This CEMP in conjunction with the HSEPMP and HSEMSM has been generated to satisfy the requirements of "ISO 14001:2015, Environmental Management Systems and Requirements with Guidance for Use" and the "NSW Government Environmental Management System Guidelines – 3rd edition" and the Development Application.

The Construction Environmental Management Plan (CEMP) has been developed to detail how the proposed works will be executed in accordance with legislated safety and environmental requirements with minimal inconvenience to stakeholders including neighbours and the general public. This plan has been prepared in accordance with DA Condition B26 of SSD-8845345.

This CEMP establishes guidelines and controls for all Zauner activities that may impact the surrounding environment for the duration of the works, including but not limited to; air, water, land, natural resource use & waste, flora & fauna, and their respective interrelationship.

Development of this document has involved consultation with various stakeholders. Following consultation with stakeholders, any amendments to this document should be listed in the revision history.

All personnel must comply and take all reasonable precautions to prevent dust, dirt, water, waste and noise becoming objectionable to any member of the public or other persons on site.

Refer to the Zauner HSEPMP, for the company HSE Policy.

5.2 CEMP Objectives

The objectives of the Construction Environmental Management Plan is to:

- Satisfy client requirements related to environmental performance, set out in the specification for the Works.

- Provide mitigation strategies for environmental issues arising from site activities
- Identify the potential for, and respond to, environmental incidents and emergency situations and take corrective actions
- Identify and control possible environmental hazards
- Define roles and responsibilities and allocate the necessary resources
- Ensure environmental training and awareness programmes are provided to employees and subcontractors;
- Encourage best practice environmental management through planning, commitment and continuous improvement;
- Audit, monitor and ensure compliance with environmental legislative and regulatory obligations and other environmental commitments;
- Identify and protect any special environmental characteristics of the site including cultural heritage significance;

6 PROJECT DESCRIPTION

Construction of Budawang School for Specific Purposes including the:

- demolition of three buildings, structures and driveway surfaces;
- removal of trees;
- bulk earthworks;
- construction of five one-storey buildings including a library and administration building, multi-purpose hall
  building, hydrotherapy pool building and two homebase buildings (designed for up to 56 students);
- construction of internal drop-off and pick up facilities and a car park with 29 spaces;
- landscaping and construction of fences; and
- installation of signage.

7 HOURS OF WORK

The hours of construction, including the delivery of materials to and from the site, shall be restricted as follows: -

a) between 7am and 6pm, Monday to Friday inclusive;
b) between 8am and 1pm, Saturdays

No work may be carried out on Sundays or public holidays. Works outside of these hours shall be in accordance with contract documents and upon approval from the Client's Authorised Person.

7.1 Restricted Hours of Work

In accordance with item C8 of the Development Application (DA) 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.

8 24-HOUR CONTACT DETAILS

The 24-hour contact(s) details for the project are as follows: -

- Site Manager: Jake Saurine - 0415 759 182
  Jake.Saurine@zauner.com.au
- Project Manager: Adrien Clements - 0415 618 760
  adrien.clements@zauner.com.au

9 CEMP INTERRELATIONSHIP WITH OTHER DOCUMENTS

This CEMP (including sub plans) is supplementary to the Zauner Budawang HSEPMP and interfaces with the company's HSE Management System Manual. It has been developed to elaborate on the environmental management procedures and requirements for the Budawang SSP project including:

Project Site Induction – Ensures all workers onsite are aware of the CEMP, HSEPMP and Development Application conditions and requirements in controlling dust, windblown debris, dirt & debris on public roads, protection of stormwater drains, tool & equipment washout, chemical spills, noise disturbance, waste collection & disposal, rubbish and excess concrete.

Project Risk Assessment - Identifies health and safety risks applicable to the works and the controls required to manage them, including some key environmental aspects.

Environmental Aspects and Impacts Register - Identifies environmental aspects applicable to the works and the controls required to manage the impacts.

Noise & Vibration Management Plan - Identifies mitigation methods to minimise the risk of noise & vibration to the workers onsite and the surrounding properties.

Traffic & Pedestrian Management Plan – Summarises how construction and pedestrian traffic will be managed on the project to minimise the impact on the existing facility and the neighbours surrounding to the project.

Construction Soil and Water Management Plan – Identifies mitigation methods

Construction Waste Management Sub-Plan – Identifies mitigation methods

Site Management Plan - Identifies access routes, truck washout, location of site bins, spill kits, concrete washout.

Emergency Response Plan - Outlines the processes to manage environmental emergencies.

Audit/Inspection Schedule - Describes the frequency of internal and external environmental inspections/audits and the process for closing out any non-conformances raised.

10 PROJECT GOALS AND OBJECTIVES

Description	Target		Responsibility
Objective: Comply with all Environmental Legislation			
• Number of identified environmental breaches of state or Commonwealth legislation.	• To have no incidents occur during the project for which the relevant State or Commonwealth Environmental authority would issue a specific notice	• Zero notices issued	• ZC and S/C
Objective: Minimise Impacts on the Environment			
• Number of significant environmental incidents causing serious harm to the environment	• To have no serious or notifiable incidents environmental incidents	• Zero notices for the duration of the project	• ZC and S/C
Objectives: Conduct environmental site inspections to validate environmental conformance			
• Schedule and undertake regular environmental inspections	• 90% of scheduled inspections completed	Refer HSEPMP Appendix 5, for inspection schedule	• ZC

Refer to the HSEPMP for additional Project Goals and Objectives.

11 ENVIRONMENTAL PLANNING

11.1 Environmental Aspects and Impacts

Specific undertakings arising from any formal environmental impact assessment shall be recorded on the Impacts and Aspects Register and include:

- Zauner Environmental Aspects and Impacts (EAI) arising from the Project Start-up Meeting
- Relevant development consent conditions
- Pollution control approvals/licences/permits and any conditions attached to these
- Other statutory and contract obligations
- Environmental risks and opportunities with significant impacts with the activities involved

The following environmental aspects have been identified at the Project Start Meeting: -

- Noise & Vibration
- Traffic and Access
- Air Quality
- Soils, Erosion and Water Quality
- Terrestrial Flora and Fauna
- Cultural Heritage
- Hazardous Materials
- Site Contamination; and
- Waste Management

11.2 Environmental Impacts of Subcontractor Activities

The environmental impacts of subcontractor activities shall be assessed at the Project Start-up meeting prior to S/C pre-award meetings and in accordance with the S/C engagement processes.

Key environmental impacts are detailed in the "Project Risk Assessment" and assessed for significance using the Risk Matrix. Each identified potential impact is rated (Risk rating) in relation to its predicted likelihood and consequence.

IMPACT	IMPACT CLASSIFICATIONS & REQUIRED CONTROL MEASURES	
HIGH (H)	IMPACT MUST BE REDUCED. ELIMINATION, ISOLATION OR ENGINEERING SOLUTIONS REQUIRED.	UNACCEPTABLE
MEDIUM (M)	DETERMINE ACTION PLAN TO REDUCE IMPACT, ELIMINATION, ISOLATION OR ENGINEERING SOLUTIONS PREFERRED	ACCEPTABLE
LOW (L)	LIMITED IMPACT - REVIEW TO ENSURE CONTROLS MEET THE AS LOW AS REASONABLY PRACTICABLE PRINCIPALS (ALARP)	

11.3 Work Method Statements

Activities identified as high risk will require additional environmental controls to be included in the SWMS.

11.4 HSE Legislation, Codes of Practice & Australian Standards

Works will be executed in accordance with legislated safety and environmental requirements with minimal inconvenience to stakeholders including neighbours and the general public. For further information refer to this section in the HSEPMP.

11.5 Legislative Requirements & Obligations

Zauner Construction subscribe to Workplace Safety Australia P/L to provide up to date HSE legislation and information on safety and environmental obligations for Commonwealth/State/Territories of Australia. Access to this information is available to all Zauner staff via the links section on the Isolution homepage. Click on *Workplace Safety Australia's Safety and Environmental law updates* to access.

11.6 Contract Documents

For access to contract documents such as preliminaries, Development Consent etc. contact the Project Manager.

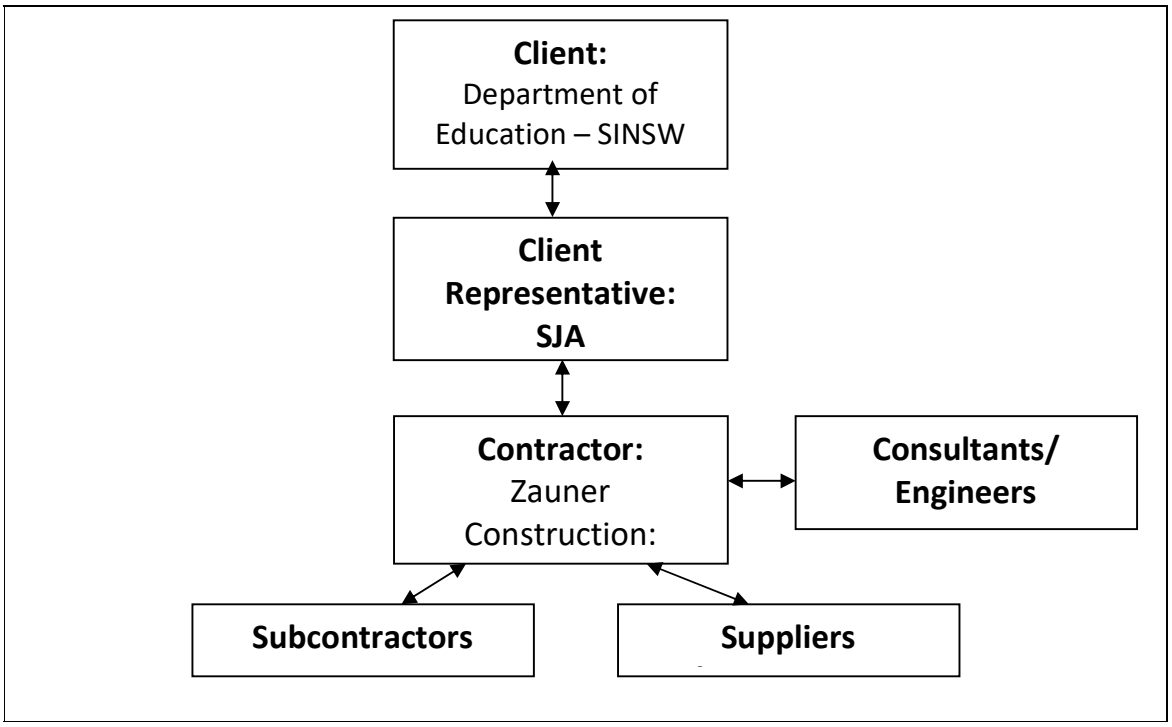
11.7 HammerTech

HammerTech is a secure online platform used by Zauner Construction for storing, distributing and managing HSE obligations such as subcontractor management of pre-construction information, worker registration and inductions, permits, inspections, audits, SWMS, SDS, Toolbox Talk Communication.

Refer to HSEPMP for further information.

12 COMMUNICATIONNG STRUCTURE

The below flow chart summarises the organisations structure for communication between Zauner Construction and its suppliers /subcontractors and the principal.



Zauner Construction will engage and collaborate with the project team and stakeholders (e.g. client, consultants) throughout the duration of the project.

This includes: -

- Engagement with project stakeholders including consultants and contractors
- Notifications and communications with adjacent property occupants and owners advising of the Works;
- Formal notices of road closures and related matters;
- Conveying enquiries and complaints regarding the works (including but not limited to traffic, dust and noise) to the client;
- Liaising with key stakeholders and local authorities regarding the works and environmental issues related to the works.

13 ROLES AND RESPONSIBILITIES

In addition to meeting the specific performance measures and criteria of the Development Application 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.

A summary of the roles and responsibility of each stakeholder with regards to environmental management for the project is summarised below:

- Client Representative – provides a medium of communication between the client and the contractor and is responsible for all community consultation and communication
- Contractor – responsible for delivering the project in accordance with the relevant legislation, including the enforcement of the CEMP for its subcontractors and suppliers.
- Consultants/Engineers – provide expert knowledge into the generation of aspects of the CEMP in line with industry standards and the relevant legislations.
- Subcontractor/Suppliers – responsible for abiding by the requirements of the HSEPMP and CEMP when carrying out their contract works.

Further key roles and responsibilities are set out in Appendix 10 – Roles and Responsibilities Matrix of the HSEPMP.

14 ENVIRONMENTAL HOLD POINTS

DA	Environmental Hold Points include but are not limited to:
B1	**Notification of Commencement -** 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.
B6	**Pre-Construction Dilapidation Report** - Prior to the commencement of demolition, removal of buildings or construction (whichever occurs first), 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.
B7	**Community Communication Strategy -** No later than 48 hours before the commencement of construction, a Community Communication Strategy must be submitted to the Planning Secretary for information.
B8	**Ecologically Sustainable Development -** 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.
B10	**Demolition -** Prior to the commencement of demolition and removal of buildings, 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.
B21	**Construction and Demolition Waste Management -** Prior to the commencement of the removal of any waste material from the site, the Applicant must notify the TfNSW Traffic Management Centre of the truck route(s) to be followed by trucks transporting waste material from the site.
B22	**Operational Waste Storage and Processing -** 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 of a size suitable for the predicted waste generation; (c) contains a bunded area for the storage of pool chemicals; (d) 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; (e) includes a hot and cold water supply with a hose through a centralised mixing valve; (f) is naturally ventilated or an air handling exhaust system must be in place; and (g) includes signage to clearly describe the types of materials that can be deposited into recycling bin and general garbage bins. (h) The floor to be constructed of concrete at least 75mm thick and adequately graded to drain to a Shoalhaven Water approved drainage fitting. (i) The floor to be finished so that it is non-slip and has a smooth and even surface covered at all intersections.
B29	**Shoalhaven Water -** Prior to the commencement of demolition, removal of buildings or construction (whichever occurs first), all conditions listed on the Shoalhaven Water Notice of Requirements under the heading "Prior to the Commencement of Any Works" must be complied with. Written notification must be issued by Shoalhaven Water and provided to the Certifier.
C20(a)	**Tree Protection** - 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.
C21	**Landscaping -** Prior to the installation of landscaping where appropriate, the Applicant must prepare a revised Landscape Plan to manage the revegetation and landscaping works on-site to the satisfaction of the Planning Secretary.
C25	**Disposal of Seepage and Stormwater -** The prior written approval of Council must be obtained to connect or discharge site stormwater to Council's stormwater drainage system or street gutter.
C26	**Hazardous Materials and Asbestos Management Plan -** Prior to the commencement of demolition, removal of buildings or construction (whichever occurs first), a Hazardous Materials and Asbestos Management Plan prepared by a suitably qualified and experienced consultant must be submitted to the satisfaction of the Certifier for the proposed buildings to be demolished.
C28(c)	**Aboriginal Cultural Heritage -** An Aboriginal Site Monitor must be present during works that impact subsurface within the location of the artefact scatter, and associated PAD. This will require the boundaries of the site, and associated PAD to be defined and mapped prior to works commencing.
C28(d)	**Aboriginal Cultural Heritage -** If suspected human remains are located during any stage of the proposed works, work must stop immediately, and the NSW Police notified. An archaeologist or physical anthropologist must be contacted in the first instance where there is uncertainty whether the remains re human.
C29	**Unexpected Finds Protocol – Aboriginal Heritage -** 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. Works shall only recommence with the written approval of EES Group.
	Unexpected Finds Protocol – Historic Heritage - If any unexpected archaeological relics are uncovered during the work, then works must cease immediately. Works may only recommence following consultation with the Heritage Council (or delegate) and with the written approval of the Planning Secretary.

D24	**Site Contamination** - Prior to the commencement of operation, the Applicant must submit a Section A1 Site Audit Statement or a Section A2 Site Audit Statement accompanied by an Environmental Management Plan prepared by a NSW EPA accredited Site Auditor. The Section A1 or A2 Site Audit Statement must verify the relevant part of the site is suitable for the intended land use and be provided, along with any Environmental Management Plan to the Planning Secretary and the Certifier.

Further hold points are contained within Work Permits.

15 INDUCTION AND ENVIRONMENTAL AWARENESS/TRAINING

15.1 General HSE Induction

All workers who intend to work on any Zauner Construction site must successfully complete the Zauner Construction General HSE Induction on HammerTech. This induction remains valid for 3 years.

15.2 Zauner Site Specific Induction

All workers are required to undertake a Site Specific Induction on HammerTech prior to undertaking works on site. This induction shall include environmental awareness and the locations of assembly points and evacuation routes.

15.3 Environmental Awareness

Environmental awareness and compliance are the responsibility of every person on and associated with the project.

15.4 Training

The Zauner Construction Training Management Plan will be used to identify and facilitate effective environmental training for Zauner Construction personnel for the duration of a project.

Ongoing consultation with subcontractors such as in Toolbox Meetings shall be used to identify and arrange the delivery of environmental training, including refresher training, for all workers during the project life.

16 CONSULTATION, COMMUNICATION AND REPORTING

16.1 Project Consultation Requirements

In accordance with the State Significant Development Application (Condition B7) a Community Communication Strategy (CCS) and Complaints Handling Plan has been developed for the project. This Community Communication Strategy has been submitted to the Department for Information on 28 April 2022, also in accordance with SSD Condition B7. Refer to CCS within the Sub-Plans.

16.2 Community Communication Strategy - Budawang School for Specific Purposes (SSP)

Zauner Construction shall follow the community consultation and complaints handling protocols as set out in the SINSW Community Communication Strategy as per condition B7 of the Development Application.

Client HSE Consultation

The Zauner Construction Project Manager will normally be the Zauner Authorised Person who will liaise and consult with the client. Any subcontractor request must without exception go through the Zauner Authorised Person.

16.3 Workforce Communication and Consultation

Consultation Meetings and Toolbox Meetings shall be used to ensure workers and affected parties are advised of HSE related issues and that resolutions to issues raised are communicated back to the workers.

16.4 Consultation Meetings

Consultation meetings are high level consultations that generally involve the client, Site Supervisors, Health Safety Representatives and Zauner Management.

Consultation Meeting frequency shall be decided by the Project Management team or held when requested.

Any HSE issues are to be tabled at the project level HSE meeting. Any unresolved issues are to be discussed and action plans determined by the Project Manager.

16.5 Toolbox Meetings – Refer HSEPMP
16.6 Consultation Arrangement Options - Refer HSEPMP
16.7 Dispute and Issue Resolution- Refer HSEPMP
16.8 Zauner HSE Alert Program - Refer HSEPMP
16.9 Access to HSE Information – Refer HSEPMP

17 EXTERNAL/PUBLIC COMPLAINTS

In accordance with the Development Application (Condition # B7) a Zauner Construction Community Consultation and Complaints Handling Plan has been developed for the project. Refer Sub-Plans.

All complaints should be referred to the Zauner Representative. At no time should a complaint from the general public or the client be responded to by a subcontractor or worker.

On receiving a complaint, works shall be reviewed to determine whether issues relating to the complaint can be avoided or minimised. Feedback shall be provided to the complainant via the Project Manager explaining what remedial actions were taken.

Complaints received will be recorded on the Issue Register in HammerTech and actioned promptly. The Client's Authorised Person shall be notified by Zauner's Authorised Person. Hazard Identification, Risk Assessment and Control (HIRAC) – Refer HSEPMP

17.1 Risk Assessment Matrix

		Likelihood				
	Zauner Risk Matrix	**Extremely Unlikely** Could only occur with concurrent incidence of unlikely or rare events	**Very Unlikely** Could occur only in exceptional circumstances	**Unlikely** Could occur at sometime	**Possible** Should occur at some time	**Likely** Will occur in most circumstances
Consequence	**Insignificant** Insignificant injuries Insignificant environmental impact Low financial loss	L	L	L	L	L
	Minor First aid cases Minor spill contained Financial loss $1k - $10k	L	L	L	M	M
	Serious Severe injuries, temp. impairment, non-reversible, non-debilitating Limited environmental nuisance Financial loss $10k - $100k	L	L	M	M	M
	Major Severe injuries, permanent impairment Major environmental nuisance Financial loss $100k - $1M	L	M	M	M	H
	Catastrophic 1 fatality, terminal illness Significant pollution off site Financial loss $1M-$10M	M	M	M	H	H
	Extreme Catastrophe Multiple Fatalities Severe pollution with significant effects on ecosystem Financial loss >$10M	M	M	H	H	H

RISK CLASS	RISK CLASSIFICATIONS & REQUIRED CONTROL MEASURES	
HIGH (H)	**RISK MUST BE REDUCED. ELIMINATION, ISOLATION OR ENGINEERING SOLUTIONS REQUIRED.**	**UNACCEPTABLE**
MEDIUM (M)	**DETERMINE ACTION PLAN TO REDUCE RISK, ELIMINATION, ISOLATION OR ENGINEERING SOLUTIONS PREFERRED**	**ACCEPTABLE**

LOW (L)	**LIMITED RISK - REVIEW TO ENSURE CONTROLS MEET THE AS LOW AS REASONABLY PRACTICABLE PRINCIPALS (ALARP)**	

17.2 Risk Acceptance Level

The levels of risk acceptance are taken as that shown on the Zauner Risk Assessment Matrix. If risks cannot be reduced to the acceptable level then work shall not commence and the Zauner Representative must be informed. If further evaluation involving the Zauner Representative cannot reduce risk adequately, the Zauner HSE Manager must be informed who, if needed, shall communicate the issue to the Zauner HSELT.

18 INCIDENT REPORTING, INVESTIGATION AND CORRECTIVE ACTIONS

18.1 Incident and Hazard Reporting

All HSE incidents including those resulting in injuries or environmental impacts, critical/dangerous/serious incidents, and occupational illnesses must be reported to the Zauner Representative who are to notify the Zauner HSE Manager immediately. The Zauner HSE Manager shall report all critical incidents to the HSELT and the Zauner Focus Executive Management Team as soon as possible. The Zauner Authorised Person shall notify the client.

Incidents and hazards shall be documented on the Issues Register on HammerTech.

18.2 Incident Notification, Reporting and Response

The Planning Secretary must be notified through the major projects portal immediately after the Applicant (Department of Education or any other person carrying out any development to which this consent applies) becomes aware of an incident as per condition A27 of the DA. 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.

In accordance with the DA, condition A28, subsequent notification must be given, and reports submitted in accordance with the requirements set out in Appendix 2 of the Development Application.

18.3 Investigation

Incidents and hazards shall be in the Incident form in HammerTech.

18.4 Corrective Actions

Short term and long-term corrective actions are an expected outcome of the incident investigation process. Actions shall be included on the site Issues Register in HammerTech. A Toolbox Meeting should be completed prior to work recommencing following the incident.

Any company whose worker was involved in a notifiable incident must provide to the Zauner Representative written advice as to how they intend to amend their procedures to prevent a reoccurrence.

19 PERMIT TO WORK

The following permits are required prior to commencing related works on site:

Dig Permit (Including Driving Stakes and Posts)	1 Month
Hot Work Permit	1 month, but must be reviewed daily
Working at Height Permit (for works 2 metres and above or where a risk of a fall from one level to another is reasonable likely to cause injury	1 Month
Asbestos Removal Permit	1 Month
Confined Space Entry Permit	1 Day
Electrical Works Permit	1 Month
Demolition Permit (Includes Refurbishment Works)	1 Month
Ceiling Space Works Permit	1 Month
Cutting and Coring Permit	1 Week

Figure 1 above, table shows Zauner Permits to Work and permit period durations

19.1 Hazardous Materials – Refer HSEPMP

19.2 Lead/Lead Paint Management – Refer HSEPMP

20 ASBESTOS

Handling of Asbestos - In accordance with DA, Appendix 1 (Advisory Note – 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.

Refer HSEPMP and Zauner Asbestos Management Plan for further information on asbestos.

21 DEMOLITION

The demolition work shall comply with the provisions of Australian Standard AS2601: The Demolition of Structures, legislative requirements and contract documentation, including the Development Application. For further information, refer to the HSEPMP.

21.1 DA Requirement (B10)

Prior to the commencement of demolition and removal of buildings, 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.

22 OUTDOOR LIGHTING

Where structures or temporary structures impede light into public places, temporary lighting system established. This shall be done in a way that ensures no obtrusive light is cast in accordance with AS 4282-2019 *Control of the obtrusive effects of outdoor lighting.*

23 EXCAVATION

23.1 Spoil Placement

Spoil placement shall be such that it does not add risk of wall collapse of any excavation. The safe placement of spoil, materials and equipment must be considered prior to the issuance of a dig permit.

23.2 Water Ingress Management

The ingress of subterranean water, together with rainfall into the area of the excavation, shall be removed from the excavation by a system of de-watering pumps placed around the perimeter of the excavation.

Water removed from the excavation is to be filtered to remove any sediment, and if necessary, shall be tested or treated before discharge.

23.3 Excavated Soil Control

Excavated soil should be stockpiled in not higher than 2m high mounds. Dust minimisation controls shall be implemented as required.

Stockpiles will be located away from hazards such as areas of concentrated water flow and soil must not be placed where it is likely to fall or wash into roads, gutters or drains.

Topsoil shall be stockpiled separately from general excavated material so that it may be used when rehabilitating the site.

23.4 Excavation Inspections

Excavations shall be regularly monitored by competent persons to ensure the effectiveness of controls installed and to confirm no changes in the conditions of the excavation or its surrounds have occurred.

24 HAZARDOUS CHEMICALS

24.1 Storage and Handling of Dangerous Goods

The labeling, storage and handling of dangerous goods shall be in accordance with the Australian Dangerous Goods Code and Globally Harmonised System requirements.

A register of hazardous chemicals held on the site shall be maintained on HammerTech.

Hazardous chemicals shall be stored in bunded containment to minimise the risk of spill or leak to the environment. Storage conditions shall be so that containers are not impacted by prevailing weather conditions including rainfall and sunlight. Adequate spill control kits shall be available wherever there is the risk of chemical spill occurring.

25 EQUIPMENT EMISSIONS

Construction equipment must be properly maintained to ensure exhaust emissions are minimised. Combustion engines must not to be used in enclosed areas or where exhaust fumes can concentrate.

26 TREES APPROVED FOR REMOVAL

Only trees approved for removal by the Development Application (C19) can be removed.

27 PROTECTION OF FLORA

Subcontractors/PCBU's shall ensure measures for protecting flora include:

- Conditions of the Development Application are complied with
- Prior to project works, Zauner shall confirm with the Client's Authorised Person all vegetation to be protected for the duration of the works.
- Care shall be taken when operating cranes, drilling rigs and similar equipment near trees to avoid damage to tree canopies (foliage and branches).
- Where there is a potential conflict between tree canopy and construction activities, advise Zauner Representative who will seek advice from an arborist.

27.1 Tree Protection – Development Application (C20)

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 and residual lot that are not approved for removal must be suitably protected during construction as per the recommendations of the Arboricultural Impact Assessment Report, prepared by Allied tree Consultancy, dated 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.

27.2 Establishment of Tree Protection Zone/s

The TPZ must be a physical barrier of protective fencing that is a minimum of 1.5 metres high. Tree protection fencing should be erected around the retained specimens (at the edge of the TPZ) before site works commence, to enhance tree protection and prevent any pedestrian access into the protection area. As a guide, the fencing associated with the

TPZ should be erected at or beyond the drip line (canopy trees) of the tree to be retained (refer to Figure 1), or around the outer canopy line where trees are grouped. Alternatively, a qualified arborist may require a larger tree protection zone. For further guidance refer AS 4970 Protection of Trees on Development Sites

27.3 Tree Protection Zones (TPZ)

The following activities should **not** occur within any Tree Protection Zone (TPZ):

- Any erection of structures or hard landscape features
- Any staging or storage of materials including equipment, fuel and building waste or rubble
- Any soil disturbance, primarily stripping and grade changes
- Any excavation works, specifically surface-dug trenches for underground utilities
- Nothing attached to any tree (including service wires, nails, screws or other device)

28 PROTECTION OF FAUNA

Subcontractors/PCBU's shall ensure measures for protecting fauna include:

- No pets or other animals unless authorised (i.e. service dog) permitted on the project site
- Construction works shall not harm fauna during the course of construction works
- Be carried out in accordance with contract document requirements

The Zauner Representative must be notified in the event that:

- Fauna relocation is required
- Injured fauna is observed
- Feral animals are sighted within the site
- Environmentally significant fauna is observed

If the above controls are not adequate, then a SWMS and/or an ERMP must reduce the potential impact on fauna to an acceptable level.

29 HERITAGE (ABORIGINAL AND NON-ABORIGINAL)

29.1 Aboriginal Cultural Heritage

Construction must be undertaken in accordance with the recommendations of the Aboriginal Cultural Heritage Assessment Report prepared by Tocomwall dated February 2021 and the following requirements as outlined in the Development Application:

(a) Further consultation with RAPs must be undertaken to determine where artifacts recovered during construction and test excavations (undertaken in preparation of the ACHAR) are to be stored or reburied.

(b) Requirement 26 "Stone artefacts deposition and storage" in the Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (24 September 2010), available online at: https://www.heritage.nsw.gov.au/assets/Code-ofPractice-for-Archaeological-Investigation-in-NSW.pdf must be complied with.

(c) An Aboriginal Site Monitor must be present during works that impact subsurface within the location of the artefact scatter, and associated PAD. This will require the boundaries of the site, and associated PAD to be defined and mapped prior to works commencing.

(d) If suspected human remains are located during any stage of the proposed works, work must stop immediately, and the NSW Police notified. An archaeologist or physical anthropologist must be contacted in the first instance where there is uncertainty whether the remains are human. If identified as Aboriginal, culturally appropriate management solutions should be co-developed in cooperation with Aboriginal community and RAPs.

29.2 Archaeological or Cultural Heritage Materials Discovered Unexpectedly on Site

If an archeological find is discovered unexpectedly, the works must be immediately suspended, and the find reported to the Zauner Site Representative who shall notify the Zauner Project Manager.

In accordance with SSD Condition C29, in the event that surface disturbance identifies a new Aboriginal object, all works will 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 EES Group.

In accordance with the SSD Condition C30, the Project Manager will contact Heritage NSW. 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 following consultation with the Heritage Council (or delegate) and with the written approval of the Planning Secretary

30 SEDIMENT, EROSION AND RUNOFF CONTROL

Prior to discharge from the site, sediment must be filtered or settled from any discharge stream.

Any seepage or rainwater collected on site during construction shall either be re-used or disposed of, so as not to cause pollution. Seepage or rainwater shall not be pumped to the street stormwater system unless separate prior approval is given in writing from the council.

All erosion and sediment control measures are to be effectively implemented and maintained for the duration of the construction works and until such time as all ground disturbed by the works has been stabilised and rehabilitated so that it no longer acts as a source of sediment.

Training, Inductions, Daily Site Inspections, Daily Hazard, Awareness & Consultation Register and Tool Box meetings shall form part of how erosion and sediment control issues are communicated to workers and PCBU's.

Refer to Sediment and Erosion Control Sub Plan.

31 UNEXPECTED DISCOVERIES: SITE CONTAMINATION AND HAZMAT

If you see or smell anything suspicious, or any new information comes to light which has the potential to alter previous conclusions about site contamination or HAZMAT, immediately **STOP WORKS** and report to the Zauner Representative.

The Zauner Representative shall immediately notify the Zauner Project Manager who will ensure that all required parties are immediately notified, including the Client's Authorised Person.

Zauner Site Representative is to ensure area is left undisturbed, appropriately signposted and communicated to workers (eg. toolbox meeting).

The Project Manager shall seek expert advice from a qualified HAZMAT subject matter expert (SME) to provide advice to prevent exposure and adverse environmental impact. Works must not recommence until consultation and approval has been given by the Client's Authorised Person and appropriate clearances issued by appropriately qualified persons.

The Zauner Asbestos Containing Material (ACM) Register, can be used to record unexpected discoveries of ACM.

Refer Sections on Contaminated Waste Management and Asbestos.

32 CONTAMINATED WASTE MANAGEMENT

Should contaminated wastes be evident (e.g. asbestos, lead paint, PCB's) arrangements shall be made for the engagement of appropriately qualified specialists in hazardous materials handling and disposal.

No contaminated materials can be taken from the site without approval from the Zauner Representative.

Evidence must be provided of the lawful disposal of contaminated waste materials to the Zauner Representative.

33 WASTE CHEMICALS

The safe disposal of used or leftover hazardous chemicals should be done in accordance the relevant Safety Data Sheet (SDS) for that product and legislative requirements.

34 CONCRETE AGITATOR WASH DOWN

Concrete agitator chutes and mixers shall be sent off site for cleaning or will only be washed down in a designated wash down area. Sediment will be contained and disposed of with excavated or waste materials in the designated waste bins.

35 WASTE MINIMISATION AND MATERIAL RECYCLING

Where appropriate items shall be reused on site, for example, rock or topsoil for landscaping purposes. Alternatively, all waste materials on-site will be stored in designated waste areas and appropriate materials sent for recycling (like cardboard, timber, green waste, plastics).

Materials sent for recycling are to have waste reports/certificates received by percentage weight or volume. In all cases evidence of lawful disposal of waste must be provided to the Zauner representative. Onsite waste receptacles shall be appropriately protected from weather conditions for example the provision of lids or covers.

All waste shall be managed and disposed of in accordance with legislative requirements and EPA NSW Waste Classification Guidelines.

36 SANITARY WASTE

Where needed septic tanks shall be provided for all toilet facilities and these are to be monitored regularly. The removal of sanitary waste shall comply with local legislative requirements.

37 NOISE AND VIBRATION

Refer to the Noise and Vibration Sub Plan that has been developed for this project.

Where possible, noise and vibration shall be limited by careful selection of the type of equipment required to undertake the task.

Subcontractors/PCBU's shall ensure measures for managing noise and vibration include:

- Meeting the EPA's guidelines noise levels and other relevant noise and vibration standards
- Limiting noise and vibration causing activities to standard construction hours (where possible)
- Approval from applicable stakeholders (i.e. client) and other regulatory bodies (i.e. Council, EPA) for construction work proposed to take place outside of standard construction.
- Use of noise and vibration monitoring (if guideline targets or acceptable levels may be exceeded)
- Hearing protection zones identified and signed appropriately
- Suitable hearing protection provided and worn in noisy areas
- Approved Disruption Notices (where required) in place

If the above controls are not adequate, then a SWMS and/or an ERMP must reduce the risks of potential noise and vibration implications to an acceptable level.

If the noise is likely to cause undue effect on local communities a detailed evaluation must be made and stakeholders duly engaged. It may be a requirement that noise producing activity is limited to certain times of the workday and in accordance with contracted conditions

In addition to managing environmental noise, PCBU's must ensure compliance with WHS legislation. This includes contractors taking appropriate control measures to manage workers' exposure to noise.

38 AIR QUALITY

All reasonable steps to minimise dust generated during all works must be taken. All activities shall be carried out in a manner that minimises dust including emission of windblown or traffic generated dust;

- all trucks entering or leaving the site with loads have their loads covered;
- trucks associated with the development do not track dirt onto the public road network;
- public roads used by these trucks are kept clean; and
- land stabilisation works are carried out progressively on site to minimise exposed surfaces.

39 IMPORTED SOIL

In accordance with the Development Application (C24) only VENM, ENM, or other material approved in writing by EPA is to be brought onto the site. Accurate records of the volume and type of fill to be used shall be kept and made available to the Certifier upon request.

40 SITE RESPONSE TO AN EMERGENCY, INCLUDING A CRITICAL INCIDENT

- For all emergencies, immediately alert a Zauner Representative who will phone 000.
- If a Zauner Representatives is unable to be immediately contacted, phone 000, and then contact the Zauner Representative.
- Until emergency services arrive, all emergencies shall be attended and controlled by Zauner personnel who hold First Aid Qualifications, formal warden training or in-house emergency management training.
- For all emergencies the Client's Authorised Person and the HSE Manager shall be immediately contacted by Zauner's Authorised Contact Person
- Ensure at all times that the principle of saving and not endangering lives is upheld
- Take actions to make the people and scene safe without endangering others
- Do not disturb evidence at the scene.

Pollution Incident

All pollution incidents must be immediately reported to the Zauner Representative on site who will notify the Project Manager and HSE Manager. In the case of environmental release take necessary steps to contain any release if safe to do so.

1. CONTACTS

Zauner Site Warden

- The nominated site warden for this project is: Ross Humble
- Site Warden contact phone number: 0400 108 004

Client's Authorised Person

- Chris Tudor - 0436 697 934

2. 24 Hour Emergency Zauner Contact

- Site Manager: Jake Saurine – 0415 759 182
- Project Manager: Adrien Clements - 0415 618 760

3. Other Contacts

Emergency	Contact Number
Ambulance/Fire/Police (Emergency)	000

Nearest Police Station: Ulladulla Police Station – 73 Princes HWY, Ulladulla, NSW 2539	(02) 4454 8599
State Emergency Service: SES Ulladulla, NSW, 2539	132 500
WIRES Australian Wildlife Rescue Organisation - Call Centre & Admin Office	1300 094 737
Poisons Information Centre	131 126
EPA: Pollution Incidents	131 555
Client's Authorised Person: Chris Tudor	0436 697 934
Office of Environment and Heritage: Enviroline	131 555 / (02) 9995 5000
Heritage Council of NSW	02 9873 8500
Local Council: Shoalhaven City Council	02 4429 3111

4. COMMUNICATION METHOD AND INFORMATION

Site Communications

The method of emergency communications on site shall be either mobile phone or two-way radios.

External Incident Controller Information

Information that must be provided to the Emergency Controller when arriving on site is:

- Site plan
- Safety Data Sheet (SDS) Register

Evacuation

The evacuation signal is indicated by three blasts of the air horn and/or megaphone.

On receiving the signal to evacuate all personnel are to relocate by the safest route possible to the designated emergency evacuation area.

A roll call of evacuees shall be conducted using the Site Attendance Record.

All Clear Signal

The all clear instruction shall be given by the site warden and after this is received, personnel are able to return to work areas.

Notifiable Incidents/Preserving an Incident Scene

For any incident that is, or could be, notifiable to a regulatory body, preserve the site and exclude people from access.

The Zauner Representative must be notified who will in turn advise:

- Zauner HSE Manager or delegate who shall notify the regulatory authority
- The Zauner Project Manager will advise the Client Authorised Person

5. HAZARDOUS CHEMICALS/POLLUTION INCIDENT

Hazardous Chemical Incidents

- Zauner Representative to immediately report the incident to the HSE Manager.

Follow advice of specific SDS and generally:

- Control the source of release or contain the spill and prevent contamination entering soil and water bodies - if safe and if trained to do so
- Evacuate and secure the immediate area
- Assess whether the incident can be managed internally or whether external assistance is required

If the incident can be managed internally and if safe to do so:

- Ensure that two trained staff are allocated to manage the clean up
- Use appropriate PPE
- Control the source of the release
- Absorb any free liquids, collect any solids, and/or ventilate the area
- Package and dispose of spill residues as hazardous waste

If external assistance is required:

- Report to HSE Manager
- The HSE Manager will determine in the EPA is required to be notified
- Ensure those involved in the incident are available to assist the Fire Brigade
- Liaise with the Fire Brigade to determine if other external parties such as the EPA need to be involved.

6. WATER AND SEWER INCIDENTS

- Cease work, make the site safe and contact the asset owner
- If contaminated, shower or wash down with copious amounts of water.
- Remove any contaminated clothing as soon as practical
- If eyes are contaminated, flush with copious amounts of fresh potable water.
- Take steps to prevent sewage migrating into the soil, watercourses or public areas

7. FIRE

- On sounding of an emergency signal, proceed to emergency evacuation point
- Follow the instructions of the Warden and directions from Emergency Services
- For small fires, confine/control fire (if appropriately trained and safe to do so) and fire-fighting equipment available

8. INCLEMENT WEATHER

- Monitor weather daily Bureau of Meteorology (BOM) and modify work practices accordingly
- Record conditions on the Daily Awareness and Consultation Register
- Prepare in advance – secure site early and evacuate to a safe area
- Follow emergency services advice

9. NATURAL DISASTER

- Keep informed via the (BOM) and Resilience NSW Website. Listen to emergency radio
- Prepare well in advance - Secure site early to evacuate to a safe area
- Follow emergency services advice

10. EARTHQUAKE

- Drop to the ground, find cover and hold on.
- If you're indoors, stay there and shelter under a sturdy table, bench or door frame.
- Stay clear of windows, chimneys and items hanging overhead (fans and other heavy items).
- If you're in a crowded area, don't rush towards the doors as there's a risk of injury. Find shelter and avoid overhead fittings and shelves.
- If you're in a high-rise building, stay clear of windows and outer walls. Shelter under a desk. Don't use lifts as there's a risk you'll become trapped.
- If you're outside, be aware of falling debris and stay clear of buildings, overhead structures, walls, bridges, powerlines and trees.
- After the earthquake beware of hazards, check for injuries, apply first aid.
- Be aware of aftershocks
- Assess site for damage to walls, chimneys, and roof and evacuate if necessary.
- Engage engineer as necessary, to assess for structural damage.

- The State Emergency Service is the lead agency during times of earthquake.
- For assistance call 132 500 or 000 in a life-threatening emergency.

41 AUDITS, INSPECTION, MONITORING AND EMERGENCY PREPAREDNESS & RESPONSE SCHEDULES

Audit / Inspection /Drill	Frequency	Responsible
41.1 **Independent Environmental Audit**	Shall be undertaken in accordance with Development Application conditions	
Project Start Up Checklist	Prior to Project Commencement	Project Manager
SWMS Review Checklist	Prior to works	Project Manager
Weekly Daily Site HSE Inspections	Weekly	HSE Officer
HSEQ Site Audits	Monthly	Project Manager
Safety/Environment Walks	3 Monthly	Project Manager
Senior Management Site Walks	2 per year (inclusive of all projects)	HSE Manager
Issuing of Permits	Prior to each PTW job	HSE Officer
Emergency Drill	6 Monthly	HSE Officer/Site Manager

42 SUB-PLANS

In accordance with Development Application conditions, the following sub plans have been developed

42.1 Project Risk Assessment

42.2 Environmental Aspect and Impacts Register

42.3 Site Management Plan

42.4 Construction Noise and Vibration Management Plan

42.5 Construction Soil and Water Management Plan

42.6 Construction Waste Management Plan

42.7 Construction Traffic and Pedestrian Management Plan

42.8 Hazardous Materials and Asbestos Management Plan(s)

42.9 External Lighting Compliance

42.10 Community Consultation and Complaints Handling Plan

42.11 SSDA Compliance Conditions

42.1 Project Risk Assessment

HSE PROJECT RISK ASSESSMENT: *Budawang SSP 409*

Hazards/Risks	Risk Rating	Controls shall be in accordance with the Hierarchy of Controls (HOC) and reduce the risk rating to an acceptable level
Access to Site/Site Establishment		
Unauthorised access to site/hazardous areas	H	Site Establishment Checklist completed at project commencement. Site Inspection Record completed daily. Adhere to controls detailed in HSEPMP - Appendix 1 - Site Security Considerations. Construction signage and site contact emergency information displayed requirement for PPE to be clearly provided on signage at all entry points to the site. Pedestrian paths in place to segregate people from traffic/plant and other hazards. Site Management Plan prominently displayed. Site and visitor inductions completed prior to entering work areas. Site secured at close of business. Holiday Shutdown Checklist completed prior to holiday shutdown period/s. No go zones suitably signposted, protected and communicated to personnel to prevent inadvertent access to area.
Acid Sulphate Soil (ASS)		
Damage to building footings and underground infrastructure	H	Works in accordance with an Acid Sulphate Management Plan prepared by a suitably qualified ASS expert. Competent and experienced contractors engaged. SWMS. Inductions to include awareness of ASS on site. HSEPMP.
Adjoining/Neighbouring Properties		
Adverse impact on neighbouring properties	M	Compliance with Development Application (DA) and contract conditions. Induction. Consultation with neighbouring properties by Zauner Management. Consultation with site personnel such as toolbox meetings, Daily Hazard and Awareness Register. HSEPMP.
Amenities		
Failure to provide adequate amenities	M	Site Establishment Checklist completed at project commencement. Housekeeping maintained to a high standard. Adequate facilities provided in accordance with the HSEPMP - Site *Amenities.* Amenities shown on Site Management Plan. First Aid Risk Assessment.
Asbestos		
Exposure to Asbestos	H	Completion of a Destructive (Division 6) Asbestos and Hazmat Registers and Management Plan/s. Site toolbox meeting prior to works. Works under a valid Zauner Asbestos Removal Permit. Engagement of licenced asbestos removalists. SWMS and asbestos control plan in place. Waste disposed of at a facility licenced to accept asbestos. Air monitoring in accordance with WHS legislation by an independent licenced asbestos assessor. No entry into asbestos removal area until clearance certificate obtained from an independent licenced asbestos assessor. HSEPMP - *Asbestos and Unexpected Finds Procedure.* Asbestos that is not going to removed shall be clearly identified/labelled in accordance with safety legislation and applicable codes of practice.
Childcare Operation		
Crushing from Hoarding Construction	H	SWMS. Powered Mobile Plant registered on HammerTech. Working at Height Permit where required. Works carried out in accordance the project's HSEPMP. Comply with HSEPMP. Erection sequence plans and lift plans in place. Structural support systems designed by qualified designer and detailed on up to date drawings and plans.
Prevention of children entering worksite	H	Coordination with Childcare operator to relocate children to alternate outdoor play areas during construction. Multiple fence lines to eliminate children from entering site. 1200mm palisade fence as initial boundary, prior to 2400mm ply faced hoarding. Safety in Design review to be undertaken on design prior to construction. Temporary fencing to be located 2m from permanent hoarding in order to minimise falling objects during erection of fence. Ensure gaps under temporary fencing are closed off.
Workplace Delineation from Carpark to Childcare	H	Adhere to controls detailed in HSEPMP - Appendix 1 - Site Security Considerations. Construction signage and site contact emergency information displayed. Pedestrian paths in place to segregate people from traffic/plant and other hazards. Site Management Plan prominently displayed. No go zones suitably signposted, protected and communicated to personnel to prevent inadvertent access to area.
Interaction of workers with children	H	Construct Temporary Fencing with shade cloth to inhibit interactions with children. Undertake 1200mm palisade fencing outside of childcare operation hours. Toolbox talk prior to works commencing to highlight importance of inhibiting interactions. Site Management to conduct daily reviews of temporary fencing to ensure sufficient coverage is maintained.
Personnel non-compliance with Zauner processes	M	Consultation arrangements established at project commencement. Induction. Toolbox meetings. Daily Hazard, Awareness and Consultation Register. Safety Alerts. Communication of HSEPMP.
Adverse impact on neighbouring properties	M	Acceptance of hoarding delineation with Childcare Operator. Consultation with neighbouring properties by Zauner Management. Consultation with site personnel such as toolbox meetings, Daily Hazard and Awareness Register. HSEPMP.

HSE PROJECT RISK ASSESSMENT: *Budawang SSP 409*

Hazards/Risks	Risk Rating	Controls shall be in accordance with the Hierarchy of Controls (HOC) and reduce the risk rating to an acceptable level
Contaminated Soil		
Exposure to contaminated soil	H	Completion of contamination investigations and preparation of management plans (by appropriately qualified/licenced persons) as required prior to ground disturbance works. Works carried out in accordance with contamination management plan by suitably qualified persons. Contaminated material disposed of at a facility licenced to accept the waste in accordance with WHS and EPA legislation. SWMS. HSEPMP - *Unexpected Finds Procedure: Aspects and Impacts Register (Appendix 12).* Works under a valid Zauner Dig Permit and Asbestos Removal Permit where applicable.
Coronavirus (COVID-19)		
Coronavirus outbreak on site - illness, death.	H	Comply with Zauner HSEPMP Covid-19 Management Plan (Appendix 13) and COVID Safe Plan (Appendix 14). Covid-19 screening questionnaire included in site induction. Toolbox box meetings. Safety Alerts. Covid safe signage displayed on site. Provision of hand sanitiser, masks/PPE and cleaning products. Cleaning program.
Concrete - Cutting and Coring		
Interference with in-slab services. Structural collapse.	H	Cutting and Coring Permit. SWMS. HSEPMP. Scanning of slab.
Consultation		
Personnel non-compliance with Zauner processes	M	Consultation arrangements established at project commencement. Induction. Toolbox meetings. Daily Hazard, Awareness and Consultation Register. Safety Alerts. Communication of HSEPMP.
Crane Works		
Failure to assess risks and implement controls - injury, death	H	Powered mobile plant registered on HammerTech. SWMS. HSEPMP - *Crane and Lifting Operations.* Applicable high risk work licences.
Failure to advise Airport and adhere to Airport height restrictions	H	Works in accordance with an approved Airport Crane Permit and/or notification requirements. SWMS. HSEPMP - *Crane and Lifting Operations.*
Demolition Works		
Exposure to hazardous materials, structural collapse, contact with live services	H	Hazardous Material investigations and Reports/Registers completed. Asbestos and other hazmat removed prior to demolition works by appropriately licenced contractors. Use of licenced demolition contractor/s where required by safety legislation. Works under a valid Demolition Work Permit. SWMS. HSEPMP - *Demolition, Asbestos, Hazardous Materials and Unexpected Finds Protocol.* Toolbox meeting. Structural engineering consultation as required. isolation of services. Disruption notices as required.
Disruption Work Notification		
Inadvertent disconnection of critical services. Excessive noise	H	Controls in accordance with contract requirements and HSEPMP - *Disruption Work Notices.* Approved disruption work notices (from the Zauner Project Manager) prior to the disruption work.
Design		
Unsafe design	H	Design Risk Assessment/s obtained and reviewed by Zauner Project Management team. Design meetings with stakeholders to discuss and rectify safety in design issues. Toolbox meetings to capture any design issues raised on site.
Dust		
Reduced air quality	H	Dust generating activities to be ceased during unfavourable weather condition. Water down to prevent dust emissions where possible. Cover stockpiles and materials that generate dust. Vehicles carrying loose or potentially dusty material to and from the site are to be covered. Covered waste bins provided. High standard of housekeeping. HSEPMP - *Aspects and Impacts Register and Public Safety Plan (Appendix 7).*
Electricity		
Contact with powerlines (overhead)	H	Warning signage displayed where applicable. Working Near Overhead Powerlines Risk Assessment. Consultation as required by the asset owner. Adhere to asset owner requirements.

HSE PROJECT RISK ASSESSMENT: *Budawang SSP 409*

Hazards/Risks	Risk Rating	Controls shall be in accordance with the Hierarchy of Controls (HOC) and reduce the risk rating to an acceptable level
Underground/in slab electrical services	H	Current DBYD records and as built drawings. Services identified by an accredited plant locator where ground penetration works to take place. Site services drawing maintained. Underground services clearly identified, marked and/or isolated. Valid Permit to Dig in place for ground penetration works. Works in accordance with asset owner requirements.
Work on or near energised equipment	H	Work not permitted on energised electrical equipment without written authorisation from the Zauner Health, Safety and Environmental (HSE) Manager. Valid HSE Electrical Works Permit where required.
Electrocution from faulty/damaged distribution boards	H	Installation by licenced electrician. Zauner DB Checklist to be completed for all DB boards. All temporary distribution boards inspected, tested and tagged 3 monthly. Monthly fixed RCD push button testing.
Electrocution from faulty/damaged electrical equipment	H	All power tools/leads must be visually checked daily and tested and tagged at intervals no greater than every 3 months. Where applicable, RCD push button test before use. Damaged power tools and leads are not to be used. Record faulty equipment details on HSE Leads are to be elevated off the ground to minimise risk of electrical leads being damaged
Electrocution from temporary construction wiring (including switchboard) and transportable structures	H	Installation by Licenced Electrician. Testing and inspection in accordance with requirements of AS/NZS 3012 - Electrical Installations - Construction and Demolition Sites. All construction wiring labelled with 'iridescent yellow temporary construction wiring tape' spaced at intervals not exceeding 5 metres.
Failure to manage existing Switchboards (non construction/demolition installations)	H	No Unauthorised access to switchboards allowed. Advisory signage in place.
Traffic and mobile plant working in the vicinity of energised services	H	Consultation with asset owner. Adherence with Asset Owner requirements, including safe working distances to be maintained. Danger/warning signage in place. Working Near Overhead Powerlines completed as required. SWMS.
Workers tripping on leads	M	All power leads must be elevated off the ground. Use insulated lead stands/hooks. A maximum of 5 meters may be on the ground for general movements in the area whilst using a power tool.
Piggy backing of electrical leads	H	No piggy backing of leads permitted. Portable generators used if electrical leads can't reach from the distribution board (DB) to the work area or additional DB installed as required.
Failure to electrical equipment	M	Inspection and testing of portable electrical equipment in accordance with AS , results entered onto the Electrical Testing /Inspection Register.
Failure to identify Level 1 or 2 electrical works	L	Only accredited Level 1 or 2 contractors used for level 1 or 2 electrical works.
Emergency Preparedness and Response		
Ineffective response	H	HSEPMP/Health, Safety and Environment Management System Manual (HSEMSM). Site Emergency Risk Assessment completed at project commencement. Equipment requiring inspection or recertification shall be entered on a Safety Equipment Register. Emergency Evacuation Drill every 6 months. Trained site first aiders and warden/s.
Environmental Considerations		
Waterway Contamination	H	Ensure any contaminated wastewater is captured as per Local and State Environmental Laws. Do not wash trucks, mobile plant where residue can enter sensitive areas such as stormwater drains and waterways. Undertake all works in accordance with B16 Construction Soil and Water Management Sub-Plan and B15 Construction Waste Management Sub-Plan. Disposal of Seepage and Stormwater to be in accordance with SSD Condition of Consent C25.
Erosion	M	Comply with the Sediment and Erosion Management Plan prepared for the site. Stage works to minimise time soil is exposed. Maintain restricted access/egress points on site. Follow controls in the Aspects and Impacts Register. Undertake all works in accordance with B16 Construction Soil and Water Management Sub-Plan
Accidental or unintended vegetation clearing	M	Review site-specific information on any protected vegetation on site. No disturbance of vegetation communities outside the defined clearing area. Clearing of native vegetation only occurs within the limits of an approved vegetation clearing permit and contract documents. Clearly defined work areas to ensure no vegetation occurs outside of the work area. No burning of vegetation. Promptly notify a Zauner Representative if any accidental or unintended vegetation clearing occurs. Cease immediately any work that causes the unintended vegetation clearing to occur. Environmental Aspects and Impacts register. Ensure Contractor parking is aligned with B13 Traffic and Pedestrian Management Sub-Plan. Trees to be removed are limited to those referenced under SSD Condition of Consent C19. Tree protection must be carried out under SSD Condition of Consent C20.

HSE PROJECT RISK ASSESSMENT: *Budawang SSP 409*

Hazards/Risks	Risk Rating	Controls shall be in accordance with the Hierarchy of Controls (HOC) and reduce the risk rating to an acceptable level
B14 Noise and Vibration	M	Comply with contract conditions, including approvals and permits. Undertake all works in accordance with Marshall Day Noise and Vibration Report. Limit the times of operation of noisy equipment vehicles and operations where there are residents nearby. Schedule, as practical, deliveries of materials and large equipment outside peak traffic times. Advise local residents when unavoidable out-of-hours work will occur. Vehicles and power machinery and equipment on-site should be regularly serviced. Install suitable noise suppression or abatement measures as required, i.e. the provision of earthen embankments or other noise screens. Conduct an impact study of ground vibration from construction activities, where these operations occur within 50 metres of a building and take appropriate action. Ensure truck movements are in accordance with B17 Driver Code of Conduct and construction noise limits must be in accordance with C13-C18 of the SSD Conditions of Consent.
Cultural Heritage Breach	M	Review site-specific information on any cultural heritage protected areas on site. Training and instruction is provided concerning the heritage values, historical significance, cultural relevance or sensitivity of the area. Comply with contract requirements and conditions of any licence, approval or permit issued by the relevant planning authorities. Induction. Ensure unexpected finds protocol is adhered to under B12 Construction Environment Management Plan and SSD Condition of Consent C28, C29 & C30.
Failure to adhere to A24 Monitoring & Environmental Audits	M	Comply and assist with all aspects required to facilitate independent environmental auditing, including incident notification, reporting and response, noncompliance notification, Site audit report and independent auditing. Update plans, strategies and programs as necessary to accommodate SSD Condition A32 and C36-C42.
Failure to adhere to B12 Construction Environmental Management Plan	M	Comply with all controls, working hours, external light levels, community consultation, unexpected finds and necessary sub-plans.
Reduced air quality	H	All works to be undertaken in accordance with Condition of Consent items C22 & C23. Dust generating activities to be ceased during unfavourable weather condition. Water down to prevent dust emissions where possible. Cover stockpiles and materials that generate dust. Vehicles carrying loose or potentially dusty material to and from the site are to be covered. Covered waste bins provided. High standard of housekeeping. HSEPMP - *Aspects and Impacts Register and Public Safety Plan (Appendix 7).*
Essential Services (e.g. Gas, Water, Electricity, Fuel, etc)		
Failure to identify services Inadvertent contact with essential services	H	HSEPMP - *Essential Services* . Current DYYD records maintained for project duration. Accredited services locator used to investigate and locate services on site. Site Services Plan displayed and kept up to date. Induction. SWMS.
Failure to advise asset owner of damage	H	Immediate notification to the asset owner should any damage to asset and or network.
Excavation Works		
Unsafe excavation work practices - structural collapse, ground collapse, contaminated soil	H	Works under a valid Zauner Dig Permit. SWMS. *HSEPMP - Excavation* .
Failure to identify underground services resulting in contact with services - *death, injury*	H	See above section Electricity
Failure to manage stockpiles and prevent foreign object debris (FOD)	H	See above section dust
Failure to protect public - collision with plant: *injury, death*	H	Traffic Management Plan. HSEPMP - Public Safety Plan. Dig Permit. SWMS. Site Management Plan.
Falling Objects		
Object falling on person or thing	H	Falling object protection in place as appropriate, e.g. Perimeter containment screen, catch platforms, infill panel or mesh, toe board, exclusion zones, brick guards etc. SWMS. HSEPMP - *Falling Objects.*
First Aid		
Inadequate first aid equipment and personnel available	H	First Aid Risk Assessment completed at project commencement. Signage indicating Site First Aiders displayed. Provision of first aid equipment. First Aid Equipment Check/Maintenance completed at project commencement and every 3 months thereafter.
Fitness for Work		
Unfit for work	M	Random drug and alcohol testing on site to be conducted by Zauner Construction. Refer HSEPMP - See *Alcohol and Drug Testing, Fitness for Work, Prescribed Medication*

HSE PROJECT RISK ASSESSMENT: *Budawang SSP 409*

Hazards/Risks	Risk Rating	Controls shall be in accordance with the Hierarchy of Controls (HOC) and reduce the risk rating to an acceptable level
Formwork		
Unsafe formwork: structural collapse, fall from height, plant incident -injury, death.	H	SWMS. Complete Formwork Erection and Stripping Checklist. Other Zauner Permits in place as required such as a Working at Height Permit, Powered Mobile Plant etc. HSEPMP - *Formwork.*
Fire		
Smoking on site	M	No smoking is permitted on any Zauner sites/ workplaces.
Inadequate fire fighting equipment on site	M	Emergency Site Risk Assessment completed at project commencement. Site Establishment Checklist completed. Fire fighting equipment strategically placed around the site for fast easy access. Locations of fire extinguishers located on Site Management Plan. HSEPMP - Emergency Response Plan
Sparks from hot works e.g. welding, grinding may cause a fire	H	See section - *Hot Works.*
Poor maintenance of fire equipment/ extinguisher	M	Fire extinguisher are to be tested and tagged by a competent person every 6 months. Record of testing to be entered on the Safety Equipment Register.
Incorrect storage of flammable materials	H	Flammable materials stored and used in accordance with SDS. Use of storage cage in a well ventilated area.
Hazardous Chemicals		
Exposure to hazardous chemicals	H	Hazardous Chemicals entered onto the site Hazardous Substance/Chemical Register. Safety Data Sheets (SDS) available. Hazardous chemicals shall be used and stored in accordance with SDS and manufactures directions. Chemicals stored off site where possible. Chemical storage cage used if required.
Unsafe storage of oxy acetylene equipment	H	Oxygen and acetylene bottles are to be stored in separate ventilated cages 3m apart at the end of each day with appropriate warning signage erected.
Hot Works		
Fire	H	Hot works must be under a Valid -Hot Works Permit and in accordance with the project's HSEPMP and contract requirements.
Housekeeping		
Slips/trips/falls	M	Maintain high standard of housekeeping. Designated pathways installed and kept clear of trip hazards. Materials stored appropriately.
Incident Response and Notification		
Inadequate incident response and notification	H	Follow HSEPMP - *Emergency Response Plan (Appendix 4) and Emergency Preparedness and Response, including Critical Incidents.* Compliance with HSEMSM. Incidents/hazards entered on HammerTech.
Lighting		
Poor lighting - slips, trips	M	Adequate construction lighting provided in accordance with Code of Practice - *Construction.*
Loading and Unloading of Plant & Materials		
Unloading and Loading of Plant/Materials - Collison with other plant/workers/pedestrians	H	SWMS. Where possible loading and unloading to take place within the site. Where unloading/loading of plant on the roadside is unavoidable comply with local laws, traffic management plans and permits. Unloading/loading of materials shall take place within the site. Implement exclusion zones to protect public and other workers as required. Use spotters as necessary. Only competent and where required licenced personnel to perform loading and unloading activities.
Plant rollover Persons struck by mobile plant/materials	H	SWMS. Load/unload plant on stable, level ground as per manufacturer's instructions. Ensure area is clear of obstructions, tree branches, structures/overhead electric lines. Ensure the plant and materials is appropriately restrained by trained/competent person to prevent movement during transit.
Manual Handling		

HSE PROJECT RISK ASSESSMENT: *Budawang SSP 409*

Hazards/Risks	**Risk Rating**	**Controls shall be in accordance with the Hierarchy of Controls (HOC) and reduce the risk rating to an acceptable level**
Poor manual handling practices/techniques	**M**	Controls in accordance with HSEPMP and *Code of Practice - Manual Handling.* Use mechanical aids wherever possible. Team lifting for heavy lifts. Correct lifting technique.

HSE PROJECT RISK ASSESSMENT: *Budawang SSP 409*

Hazards/Risks	Risk Rating	Controls shall be in accordance with the Hierarchy of Controls (HOC) and reduce the risk rating to an acceptable level
Noise		
Nuisance noise - *hearing loss*	M	Permissible work hours adhered to. Communication plan with neighbouring properties. Hearing Protection. HSEPMP.
Plant and Equipment		
Unsafe use of plant and equipment	H	Equipment must be 'fit for purpose,' and operated by competent, trained and appropriately licenced personnel. Plant and equipment used and maintained in accordance with manufacturer's instructions. Works in accordance with project's HSEPMP - See section on *Plant, including Mobile Plant*
Powered Mobile Plant		
Use of poorly maintained equipment. Use of equipment not fit for purpose. Operators not licenced (where required) or competent.	H	All powered mobile plant registered on HammerTech. SWMS. HSEPMP. Equipment must be 'fit for purpose,' and only operated by competent, trained and licenced (where required) personnel. Plant and equipment used and maintained in accordance with manufacturer's instructions.
Failure to protect public and other workers	H	SWMS. All powered mobile plant registered on HammerTech.
Re-fuelling Plant and Equipment		
Fire, explosion, environmental damage, injury	H	Where possible plant and equipment ae to be re-fuelled off site. SWMS. Refuelling only in a designated contained and well ventilated area where fire hazard provisions are in place. Engines must be turned off. Spill kit are to be situated in the vicinity of refuelling areas for clean up should any spills occur. Refer Appendix 4 for spill response procedure. HSEPMP - *Aspects and Impacts Register.*
Scaffolding		
Scaffold collapse, fall from height, falling objects	H	Working at Height Permit. SWMS. Controls in accordance with HSEPMP - *Scaffolding Requirements* . See Falling Object section above.
Screw Piles		
Works carried out in an unsafe manner, struck by object	H	Powered Mobile Plant registered on HammerTech. SWMS. HSEPMP.
Structural Support		
Masonry Walls	H	Must be adequately braced.
Formwork Collapse	H	Completion the Formwork Erection and Stripping Checklist. Structural engineer inspection and certification of formwork's structural integrity prior to pouring of concrete.
Traffic Management		
Poor traffic management - Collison with other plant/workers/pedestrians	H	External construction traffic management plans developed by a licenced traffic consultant. Licensed traffic management personnel to implement traffic management plans. Site Management Plan to show traffic movement within the site.
Tree Removal		
Falling on person or object	H	All subject trees inspected prior to removal for fauna. Qualified arborists engaged to lop/prune trees approved for removal. SWMS to detail controls measures for safe removal of trees. Follow Arborist report recommendations.
Waste Management		
Poor waste management practices	H	Development of a Waste Management Plan by suitably qualified person(s). Waste management areas established. Bins provided. Regular waste removal. High standard of housekeeping. Waste classified in accordance with waste classification guidelines and disposed of a facilities licenced to accept the waste. Refer HSEPMP - Aspects and Impacts Register.

HSE PROJECT RISK ASSESSMENT: *Budawang SSP 409*

Hazards/Risks	Risk Rating	Controls shall be in accordance with the Hierarchy of Controls (HOC) and reduce the risk rating to an acceptable level
Working at Height		
Fall from height risk	H	SWMS. Works under a valid Working at Height permit. Safe access and egress in place.
Failure to rescue person/s from height	H	SWMS. Stair or scaffold access in place, emergency access/egress or rescue bays installed.
Persons/materials falling through open penetrations	H	Working at Height Permit. Controls in accordance with HSEPMP: See *Working at Heights Section.*
Falling objects	H	SWMS. Implement controls as detailed in Appendix 7 - Public Safety Plan - Falling Objects. Working at Height Permit.
Site Emergencies		
Failure to assess potential site emergencies	H	Site Emergency Risk Assessment prior to works on site. Potential emergencies developed and responses details in HSEPMP - Emergency Response Plan (Appendix 4).
Tilt-up Precast Concrete Works		
Crushing	H	SWMS. Powered Mobile Plant registered on HammerTech. Working at Height Permit where required. Works carried out in accordance the project's HSEPMP. Comply with HSEPMP section on *Tilt-up/Precast Concrete.* Erection sequence plans and lift plans in place. Structural support systems designed by qualified designer and detailed on up to date drawings and plans.
Weather		
Inclement weather - injury, damage	H	Monitor weather conditions regularly via the Bureau of Meteorology (BOM) . Adjust works accordingly. Record on the Daily Site Consultation and Awareness Register. Refer to HSEPMP - Emergency Response Plan (Appendix 4).
Other (list below)		

Notes:

SWMS are required for all high risk construction work (HRCW) activities and must be reviewed and approved by Zauner using HammerTech prior to undertaking works on site.

Prior to undertaking job task/work activity, Zauner and Subcontractor/PCBU Representative shall review the Project Risk Assessment and hand amend where necessary.
Any amendments to the Project Risk Assessment must be made on the hardcopy Risk Assessment (available on site) and be signed and dated in the relevant section.

SWMS shall be cross-referenced against this Project Risk Assessment to ensure uniformity.

RISK CLASS	RISK CLASSIFICATIONS & REQUIRED CONTROL MEASURES	
HIGH (H)	RISK MUST BE REDUCED. ELIMINATION, ISOLATION OR ENGINEERING SOLUTIONS REQUIRED.	UNACCEPTABLE
MEDIUM (M)	DETERMINE ACTION PLAN TO REDUCE RISK, ELIMINATION, ISOLATION OR ENGINEERING SOLUTIONS PREFERRED	ACCEPTABLE
LOW (L)	LIMITED RISK REVIEW TO ENSURE CONTROLS MEET THE AS LOW AS REASONABLY PRACTICABLE PRINCIPALS (ALARP)	

Project Risk Assessment carried out by:	**Name:**	**Peter Hertzog**		**Signature:**	*Peter Hertzog*		**Date:**	5/04/2022	
Project Risk Assessment carried out by:	**Name:**	**Adrien Clements**		**Signature:**	A. Plut		**Date:**	5/04/2022	

42.2 Environmental Aspect and Impacts Register

ENVIRONMENTAL ASPECTS AND IMPACTS REGISTER AND ACTION PLAN

IMPACT	IMPACT CLASSIFICATIONS & REQUIRED CONTROL MEASURES	
HIGH (H)	IMPACT MUST BE REDUCED. ELIMINATION, ISOLATION OR ENGINEERING SOLUTIONS REQUIRED.	UNACCEPTABLE
MEDIUM (M)	DETERMINE ACTION PLAN TO REDUCE IMPACT, ELIMINATION, ISOLATION OR ENGINEERING SOLUTIONS PREFERRED	ACCEPTABLE
LOW (L)	LIMITED IMPACT REVIEW TO ENSURE CONTROLS MEET THE AS LOW AS REASONABLY PRACTICABLE PRINCIPALS (ALARP)	

ZAUNER PROJECT NAME:	Budawang SSP					PROJECT NO.:	409
Register No.	Issue ID (Report or Form No) DC=Development Consent AI=Aspects and Impacts Project Review HS=Hazmat Survey	Environmental Aspect	Risk Level H=High M=Medium L=Low	Impact Item	Corrective Action Description (Controls Risk to Acceptable)	Residual Risk	Person Responsible E.g. CM, PM, etc
Corporate Issues							
1.	DC (C37-C42)	• Environmental Legal Compliance	H	• Possible breach of environmental legislation & associated prosecution	• Company subscription to workplace health safety and environment legal service. • Environmental Auditing • DA Compliance	L	HSE Manager HSE Manager CM/PM
2.		• Utilising a high portion of sub-contractors on construction sites	H	• Sub-contractors not operating as the Zauner Construction culture operate which could lead to higher risk of environmental damage both deliberate & un-deliberate.	• Site induction process • Tool box meetings • Site Management supervision on a day-to-day basis. • Instruction to trades via subcontract documentation.	L	HSEO SM
3.	DC (B12)	• Operating a business in a where the community & clients are becoming more environmentally focused	H	• Poor performance in regard to environmental performance will affect how Zauner Construction is viewed within the community & within business. • Poor performance in regard to environmental performance could lead to contractual issues between Zauner's & Clients	• Site supervision • Maintain quality communications with client • Ensuring subcontractors stay within defined construction zones and are appropriately supervised/instructed when necessarily entering areas outside defined construction zones.	L	PM/SM PM/SM
Conservation of Species/Heritage/Culture							
4.	DC (B16 & C20)	• Trees and Plants	M	• Removal of protected vegetation against regulatory/stakeholder requirements • Damage to existing trees & plants	• Appropriate communications with client regarding site establishment plans to ensure vegetation needing protection is defined. • Implementation of protection zones to required areas so defined.	L	PM SM
5.		• Threatened Species	~~M~~	• Destruction of threatened/protected species & habitat. • Possible breach of contract conditions &/or environmental legislation	• Nil Known	~~L~~	
6.	DC (C28, C29 & C30)	• Protection of artefacts of cultural significance	M	• Removal/Damage of protected cultural artefacts against regulatory/stakeholder requirements • Possible breach of contract conditions &/or legislation	• In the event, Aboriginal objects are unearthed, procedure for the management of 'Archaeological or Cultural Heritage Materials Discovered Unexpectantly on Site' procedure shall apply	L	CM/PM/SM

ENVIRONMENTAL ASPECTS AND IMPACTS REGISTER AND ACTION PLAN

ZAUNER PROJECT NAME:	Budawang SSP					PROJECT NO.:	409
Register No.	**Issue ID (Report or Form No)** DC=Development Consent AI=Aspects and Impacts Project Review HS=Hazmat Survey	**Environmental Aspect**	**Risk Level** H=High M=Medium L=Low	**Impact Item**	**Corrective Action Description (Controls Risk to Acceptable)**	**Residual Risk**	**Person Responsible E.g. CM, PM, etc**
7.	DC (B6 & B14)	• Protection of heritage listed buildings/structures	M	• Damage of protected heritage listed buildings/structures against regulatory/stakeholder requirements • Possible breach of contract conditions &/or heritage legislation • Undesired Community reaction • Zauner reputation affected	• Dilapidation Report of nearby Heritage Bakery • Undertake works in accordance with Marshall Day Noise and Vibration Report	L	PM SM
				Conservation of Resources			
8.	Greenstar Pathway	• Non-use of sustainable materials	M	• Resource depleting materials • Ozone depleting effects • Detrimental effects on air & water quality • Toxic gas or vapour release	• Checking of final design to ensure unsuitable materials/practices are avoided. • Safety in Design Report	L	PM and Design Manager
9.		• Top-soil	M	• Depletion of top soil on-site	• All disturbed top soils to be reinstated before project completion where applicable.	L	SM
10.	DC (B10)	• Green Waste • Impact on landfill volume	M	• Non-utilisation of green waste on-site • Spontaneous combustion of stored mulched green wastes	• Utilize generated mulch for landscaping purposes and weed suppression on site or offsite where possible • Undertake removal of landscaping in accordance with Demolition Work Plan prepared by Attcall	L	PM/SM
				Pollution Control			
11.	Greenstar Pathway	• Quantity of waste materials	M	• Resource depletion • Higher costs in disposal & materials purchasing	• Record materials to be removed and define approved point of disposal. • Maximize recycling as a standard preference and objective.	L	SM/HSEO
12.	DC (B26)	• Dangerous goods & leachate	M	• Spills could result in soil, water & ground water contamination • Incorrect storage could result in fires &/or vapour release.	• Spill kits in place. • Erosion and sediment control plan in place. • Dangerous good cage to be provided upon demand. • Undertake all works in accordance with Hazardous Materials and Asbestos Management Plan	L	HSEO SM PM/SM
13.	DC (B26)	• Bulk Liquid storage	M	• Spills could result in soil, water & ground water contamination • Incorrect storage could result in fires, explosions &/or vapour release.	• If bulk liquid storage required contact HSE Manager • Undertake all works in accordance with Hazardous Materials and Asbestos Management Plan		
14.	DC (B16 & C31-C35)	• Contaminated Soil	M	• Possible breach of Major Project Approval, council regulations &/or environmental legislation • Contamination of storm water systems, creeks & rivers & marine environments. • Impact on both natural flora & fauna in water ecosystems. • Incorrect waste management	• Soil tested for potential contaminants of concern (PCOC) by appropriately qualified person prior to works. • Hazardous Management plans established for any identified contamination by appropriately qualified person. • Contamination removal by appropriately licenced hazmat removalists. • Waste disposal at a waste facility licenced to accept that waste. • Management in accordance with WHS and Environmental Legislation. • Undertake all works in accordance with Hazardous Materials and Asbestos Management Plan • Undertake all works in accordance with Construction Soil and Water Management Sub-Plan (CSWMSP)	L	PM

ENVIRONMENTAL ASPECTS AND IMPACTS REGISTER AND ACTION PLAN

ZAUNER PROJECT NAME:	Budawang SSP				PROJECT NO.:	409
Register No.	**Issue ID (Report or Form No)** DC=Development Consent AI=Aspects and Impacts Project Review HS=Hazmat Survey	**Environmental Aspect**	**Risk Level** H=High M=Medium L=Low	**Impact Item**	**Corrective Action Description (Controls Risk to Acceptable)**	**Residual Risk**	**Person Responsible E.g. CM, PM, etc**
15.	DC (B17)	• Vehicles & plant	M	• Exhaust emissions to the atmosphere • Fuel &/or hydraulic leaks could result in soil, water contamination • Fuel refuelling – mobile **refuellers** entering site &/or bulk fuel storage, possible spills could result in soil, water & ground water contamination.	• No combustion engines (generators or pumps) to be used in enclosed or partially enclosed spaces. • Utilize electric submersible pumps and electrically operated equipment as far as possible • Refuelling to take place in bunded area. • Undertake all works in accordance with Hazardous Materials and Asbestos Management Plan • Ensure Sub-Contractors are aware of the Drivers Code of Conduct	L	SM/HSEO
16.	DC (B16)	• Wash down of vehicles, plant & structures	M	• Potential for both soil contamination & runoff into storm water system.	• Where it is not possible to wash down offsite, establish a dedicated concrete tuck wash down area. • Undertake all works in accordance with Construction Soil and Water Management Sub-Plan (CSWMSP)	L	PM/SM
17.	DC (B16)	• Soil disturbance, site preparation, earthworks	M	• Soil erosion & sedimentation issues on-site • Contamination of storm water systems, creeks & rivers & marine environments. • Impact on both natural flora & fauna in water ecosystems. • Possible breach of DA approvals, council regulations &/or environmental legislation	• Erosion and sediment control plan in place and control measures implemented. • Reinstate disturbed area prior to project completion. • Undertake all works in accordance with Construction Soil and Water Management Sub-Plan (CSWMSP)	L	PM/SM
18.	DC (B12)	• Cleaning & washing of paint brushes & rollers. • Wash down/disposal of waste cement from delivery trucks	M	• Visual contamination of site • Potential for cleaning water/solvents to enter water ways causing water pollution. • Potential for cleaning water/solvents to enter soil causing soil contamination. • Possible breach of Contract approvals, &/or environmental legislation	• Establish a dedicated painter's wash area with adequate containment of liquid waste streams • Site supervision to define cleaning location and waste disposal method. • Undertake all works in accordance with Construction Environmental Management Plan	L	SM
19.		• Refrigerant gas	M	• Release of ozone depleting or greenhouse gases to atmosphere	• Utilise appropriately licensed contractors to degas &/or handle existing mechanical equipment.	L	PM/SM
20.	DC (B26)	• Hazardous Materials, including Asbestos	H	• Disturbance and release of hazardous materials • Breach of environmental	• Asbestos and Hazmat Registers/Reports and clearance certificates obtained. • Engagement of hazmat expert to review previous conclusions made on Hazardous Material Surveys/Reports/Removal Works/ Clearances (prior to works). • Engagement of Hazmat expert to provide Hazmat management plans where required. • Use of licenced hazmat removalists (if required). • Disposal in accordance WHS and Environmental legislation. • Undertake all works in accordance with Construction Soil and Water Management Sub-Plan (CSWMSP)	M	PM

ENVIRONMENTAL ASPECTS AND IMPACTS REGISTER AND ACTION PLAN

ZAUNER PROJECT NAME:	Budawang SSP				PROJECT NO.:	409
Register No.	**Issue ID (Report or Form No)** DC=Development Consent AI=Aspects and Impacts Project Review HS=Hazmat Survey	**Environmental Aspect**	**Risk Level** H=High M=Medium L=Low	**Impact Item**	**Corrective Action Description (Controls Risk to Acceptable)**	**Residual Risk**	**Person Responsible E.g. CM, PM, etc**
21.	DC (B14)	• Emission of noise pollution by construction plant/activities	M	• Disturbance of local community by noise • Breach of contract approvals, council regulations &/or environmental legislation	• Work within nominated hours of operation as defined within the contract or local council guidelines. • Seek approval to perform construction activities outside of approved hours. • Adopt alternate measure for sensitive areas. • Undertake all works in accordance with Construction Noise and Vibration Management Sub-Plan (CNVMP)	L	SM PM SM
22.	DC (B16)	• Trade Waste discharges to sewer	H	• Possible breach of TWA conditions • Possible overload or contamination of sewer facilities	• Undertake all works in accordance with Construction Soil and Water Management Sub-Plan (CSWMSP)	L	PM
23.	DC (C22 & C23)	• Air pollution (Dust) by construction & transportation plant	M	• Possible dust issues affecting the local community from vehicle movements, excavation activities, solid waste load outs, and green waste & concrete processing/recycling on-site. • Possible dust issues affecting the local community from exposed disturbed soil & stockpiles during dry/windy conditions. • Possible breach of contract conditions, council regulations &/or environmental legislation	• Subcontractor direction via induction, tool box and subcontract issue procedures. • Site supervision to monitor compliance. • During construction, the Applicant must ensure that: o (a) activities are carried out in a manner that minimises dust including emission of windblown or traffic generated dust; o (b) all trucks entering or leaving the site with loads have their loads covered; o (c) trucks associated with the development do not track dirt onto the public road network; o (d) public roads used by these trucks are kept clean; and o (e) land stabilisation works are carried out progressively on site to minimise exposed surfaces	L	PM/HSEO SM/HSEO
24.	DC (B15)	• Waste disposal of construction waste to landfill	M	• Potential waste of valuable resources • Resource depletion by use of materials & landfill • Incorrect disposal of materials could lead to land/water contamination • Potential breach of council regulations &/or environmental legislation if materials not properly disposed of at licensed landfills • Possible contractual (Stakeholder) contractual breach for incorrect waste disposal &/or auditing.	• Wherever possible waste materials shall be reused on site or sent for recycling • Maximise recycling by separation of waste materials • Undertake all works in accordance with the approved Construction Waste Management Sub-Plan (CWMSP)	L	SM/HSEO
25.		• General site cleanliness	M	• Unclean, poorly managed sites could result in storm water contamination • Possible Client contractual breach. • Poor community/stakeholder/business view of Zauner Construction	• Subcontractor direction via induction, tool box and subcontract issue procedures. • Site supervision to monitor compliance.	L	SM/HSEO

ENVIRONMENTAL ASPECTS AND IMPACTS REGISTER AND ACTION PLAN

ZAUNER PROJECT NAME:	Budawang SSP				PROJECT NO.:	409
Register No.	**Issue ID (Report or Form No)** DC=Development Consent AI=Aspects and Impacts Project Review HS=Hazmat Survey	**Environmental Aspect**	**Risk Level** H=High M=Medium L=Low	**Impact Item**	**Corrective Action Description (Controls Risk to Acceptable)**	**Residual Risk**	**Person Responsible E.g. CM, PM, etc**
26.		• Potential for encountering hazardous waste	M	• Incorrect handling and disposal of hazardous materials could lead to land/water contamination	Address as per the HSEPMP - *Hazardous Substances Discovered Unexpectedly on Site.* Waste classified in accordance with EPA waste classification guidelines and environmental legislation. Hazardous waste removed by appropriately licenced hazmat removalists. All waste disposed of at a waste facility licenced to accept that waste. Evidence of lawful disposal provided to Zauner Construction	L	PM/SM/HSEO

Environmental Aspects and Impacts Register Carried out by Name: Adrien Clements (Project Manager) **Signature:** A. Clements **Date:** 14/09/2021

Environmental Aspects and Impacts Register Carried out by Name: Peter Hertzog (HSE Manager) **Signature** Peter Hertzog **Date:** 14/09/2021

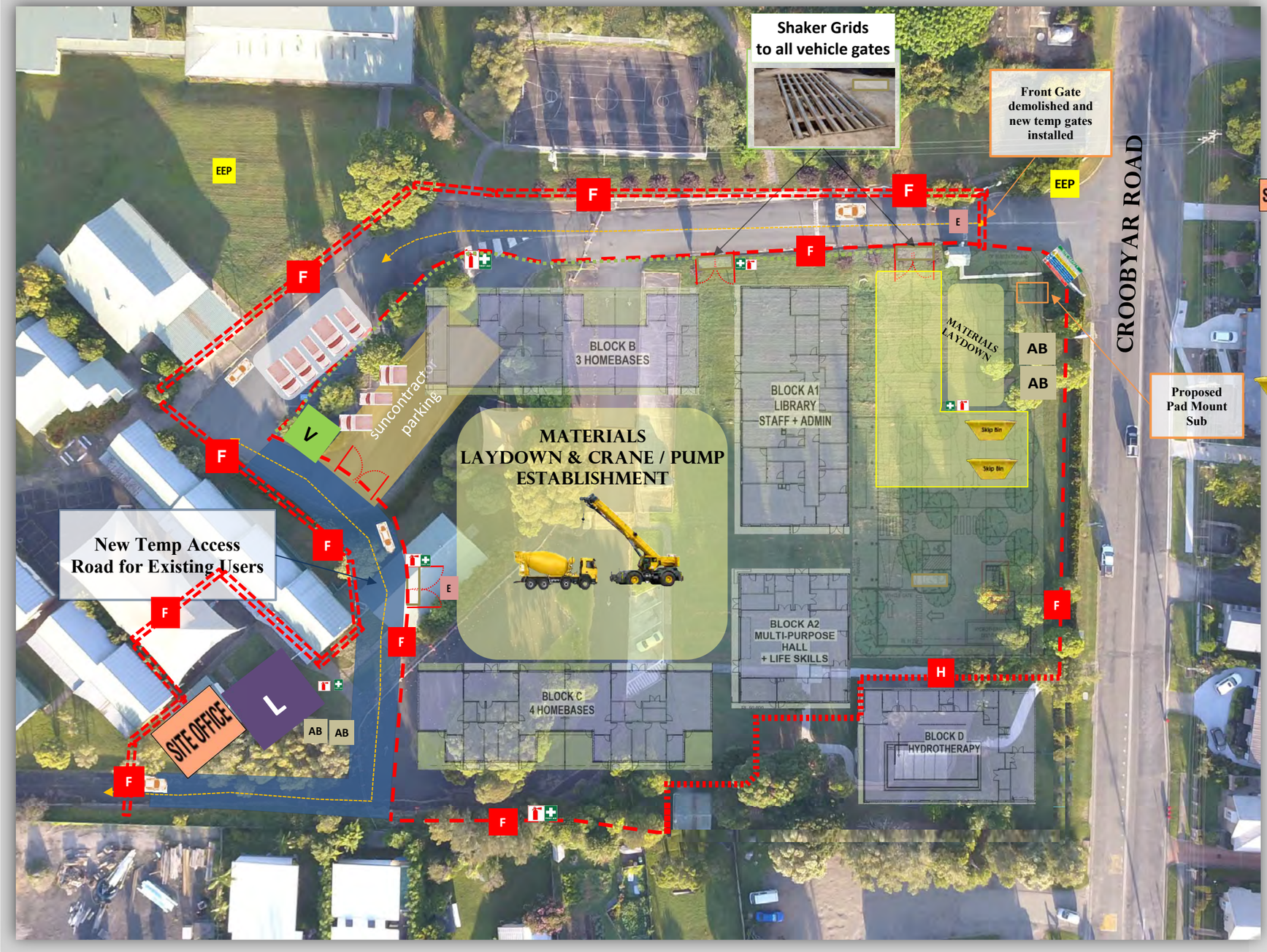
42.3 Site Management Plan

School Appreciation

Zauner risk and impact minimisation strategies recognise the need to ensure the greater School site and Community are not impacted by the works

Work Health and Safety (WHS)

Zauner full-time Site Safety Officer to remain vigilant with public interface to ensure safe working environment for everyone involved

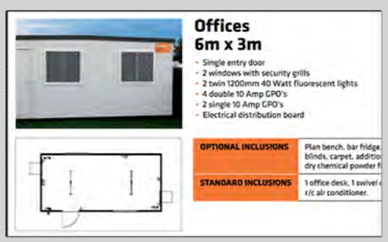


Legend

- Construction Works
- F — Temporary Fencing
- Public Shared Access Path
- E — Main Entry to Site
- SITE OFFICE — Site Office
- Materials Laydown Area / Crane Establishment
- L — Lunch Room/ Site Meeting Room
- EEP — Emergency Evacuation Point North/ South
- AB — Ablution Block / Portable Toilet
- Skip Bin — Waste Processing and Disposal
- Location of Main Site Sign Board
- First Aid and MSDS Location
- Temp Contractor Parking
- Fire Extinguisher
- V — Material Stockpile Zone
- Shipping Container Material Storage
- Sediment Control
- H — Acoustic Hoarding

Notes-

1) Traffic Management Plan to be provided by an accredited traffic management consultant
2) Stormwater and sediment control to be in conjunction with local council requirements
3) Traffic and road signage (including directional at main entrance) to be provided as per traffic consultant
4) All items indicated on this plan may not be to scale



Budawang School

Site Establishment Plan

Stage 1

[Revision 02 - 01.04.2022]

42.4 Construction Noise and Vibration Management Plan

Condition ID	Development Application Condition	Reference
B14	**Construction Noise and Vibration Management Plan**	
	(a) be prepared by a suitably qualified and experienced noise expert;	CNVMP – Pg 142 CV
	(b) a vibration assessment for the adjacent heritage listed bakery at 197-201 Princess Highway Milton.	CNVMP – Pg 70 & 76 Section 6.5.3 & 7.6.3
	(c) describe procedures for achieving the noise management levels in EPA's Interim Construction Noise Guideline (DECC, 2009);	CNVMP – Pg 60 Section 6.2.1
	(d) describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers;	CNVMP – Pg 71 Section 7
	(e) include strategies that have been developed with the community for managing high noise generating works;	CNVMP – Pg 73 Section 7.5
	(f) describe the community consultation undertaken to develop the strategies in condition B144(e); and	CNVMP – Pg 97 Project Update
	(g) include a complaints management system that would be implemented for the duration of the construction.	CNVMP – Pg 96 Appendix F & Pg 74 Section 7.5.2

MARSHALL DAY Acoustics

BUDAWANG SCHOOL
CNVMP FOR CONDITION B14

Rp 001 r04 20210994| 26 May 2022

Marshall Day Acoustics Pty Ltd
ABN: 53 470 077 191
4/46 Balfour St
Chippendale NSW 2008
Australia
T: +612 9282 9422
www.marshallday.com

Project: **BUDAWANG SCHOOL**

Prepared for: **Zauner Construction**
366 Griffith Rd
Lavington NSW 2131

Attention: **David Clarke**

Report No.: **Rp 002 r04 20210994**

Document Control

Status:	Rev:	Comments	Date:	Author:	Reviewer:
Superseded	---	---	07/01/2022	A Ahmadi	M Ottley
Superseded	r01	Added clarifications on mitigation measures and vibration monitoring	18/01/2022	A Ahmadi	M Ottley
Superseded	r02	Updated stages of works	08/04/2022	A Ahmadi	M Ottley
Superseded	r03	Minor amendments	11/04/2022	A Ahmadi	M Ottley
Complete	r04	Community consultation references added	26/05/2022	A Ahmadi	A Stoker

Cover Photo: Creative Commons.

EXECUTIVE SUMMARY

Marshall Day Acoustics (MDA) have been commissioned by Zauner Construction to conduct an assessment of noise and vibration relating to the construction of the proposed Budawang School located in Milton. The Budawang School for Specific Purposes, development application SSD – 884535, was approved (26 April 2021) by the NSW DPIE subject to a number of specific conditions. This assessment is to satisfy the requirements of Condition B14 - Construction Noise and Vibration Assessment. Noise criteria applicable to the project site with respect to the proposed construction activities have been derived considering the Department of Environment and Climate Change NSW's 'Interim Construction Noise Guideline'.

The Interim Construction Noise Guideline aims to provide a clear understanding of ways to identify and minimise noise from construction and demolition works through applying all 'feasible' and 'reasonable' work practices to control noise impacts. The guideline provides airborne noise criteria, identifies sensitive land uses and recommends and construction hours, provides quantitative and qualitative assessment methods and subsequently advises on appropriate work practices.

In this report, noise and vibration from the proposed works are predicted based on the plant and equipment likely to be used during the five main stages of the construction works, as advised by Zauner Construction. The construction assessment in this report, includes proposed construction works excluding the demolition of the childcare and construction of the Hydrotherapy Pool building. Therefore the construction works will occur concurrently with the operation of the childcare centre. The initial proposed construction plans, works, stages and equipment were reviewed by MDA and Zauner Construction prior to carrying out the assessment presented in this report. Alternative reasonable and feasible construction methodologies, and noise mitigation measures to reduce the potential noise impacts and improve the results, were reviewed and considered in the final proposed construction methodology and equipment selection assessed in this report. Calculated noise levels presented in this assessment include the effects of the noise control recommendations specific to each proposed construction stage detailed in this report.

For residential receivers, the predictions indicate that noise levels during the proposed construction stages are expected to be up to 18 dB above the "Noise Affected" Noise Management Level but within 1 dB of the "Highly Noise Affected" Noise Management Level during the longer-term average noise emissions, during longer-term construction works at the nearest identified residential receivers.

For the commercial receiver, the predictions indicate that noise levels during the proposed construction stages are expected to be below the "Noise Affected" Noise Management during all the construction stages.

For the childcare receiver, after the implementation of all the reasonable and feasible physical and management mitigation measures, the predictions indicate that noise levels during the proposed construction stages are expected to be up to 15 dB above the "Noise Affected" Noise Management Level during the longer-term average noise emissions, referred to as the "Average" assessment scenario.

For residential receivers, the "Worst-Case" assessment scenario, representing the loudest noise levels likely to be exhibited during the proposed works, are predicted to be up to 28 dB above the "Noise Affected" Noise Management Level and up to 4 dB above the "Highly Noise Affected" Noise Management Level for the residential receivers. For the childcare receiver, the "Worst-Case" assessment scenario, representing the loudest noise levels likely to be exhibited during the proposed works, are predicted to be up to 23 dB above the "Noise Affected" Noise Management Level. "Worst Case" assessment scenario comprises several noisiest pieces of equipment (e.g. hydraulic hammer or impact drivers) operating at the closest point of the work site to the subject receiver. In practice such concurrent works may not actually occur and if they did would only occur for brief periods (hours or days) during the wider 13 month works period.

Exceedances of "Noise Affected" NMLs are typical of demolition and construction sites near residential receivers. Further, since all works are restricted to take place only during the daytime, noise impacts will not be experienced during the most sensitive time period i.e. night-time. The ICNG recommends that for situations in which the "Noise Affected" NMLs are exceeded, all feasible and reasonable work practices should be adopted.

A Construction Noise and Vibration Management Plan has been developed based on the assumptions detailed in this report. The management plan is designed to assist in mitigating and managing noise impacts from the proposed construction stages, for the assumed equipment and work processes.

Construction traffic on the Croobyar Road has been investigated and has been determined to be unlikely to give rise to adverse impacts.

Indicative safe working distances from the vibration intensive plant items applicable for human comfort are provided in this report. Safe working distances have been developed to establish a trigger point at which further detailed evaluation e.g. vibration monitoring should be implemented. On this basis, assuming that there is no sensitive structure (e.g. heritage listed item) within 15 m of any works, only preparation of pre/post dilapidation report for the Bakery (where listed as heritage item) is recommended.

For the consideration of cosmetic structural damage from vibration generating equipment criterion boundaries have been developed equating to the distance from a vibration source within which the cosmetic structural criteria is likely to be exceeded. The nearest residential receivers are sufficiently distant from the proposed vibration intensive work areas.

The adjacent bakery at 197-201 Princess Highway Milton, is identified as a heritage listed item. We understand from Zauner Constructions that the identified heritage items on the site are more than 15m from any proposed vibration intensive activities (e.g. excavating). Given there is no sensitive structure (e.g. heritage listed item) within 15 m of any works, only preparation of pre/post dilapidation report for the Bakery (where listed as heritage item) is recommended.

TABLE OF CONTENTS

1.0 INTRODUCTION

Marshall Day Acoustics (MDA) have been commissioned by Zauner Construction to conduct an assessment of noise and vibration relating to the construction of the proposed Budawang School located in Milton.

The Budawang School for Specific Purposes, development application SSD – 884535, was approved (26 April 2021) by the NSW DPIE subject to a number of specific conditions. This assessment is to satisfy the requirements of Condition B14 - Construction Noise and Vibration Assessment.

MDA has previously issued a construction noise and vibration management plan (CNVMP), dated 7 January 2022, to satisfy Condition B14 of SSD – 8845345, applicable to the Budawang SSP project. Following issue of the CNVMP, Zauner has advised that the proposed stages of works have been changed by the end client, Schools Infrastructure NSW (SINSW). Changes include delaying the demolition of the existing childcare facility on the site and postponement of construction of the proposed Hydrotherapy Pool building. Such changes mean that construction works will occur concurrently with the operation of the childcare centre.

In this report, noise and vibration from the proposed works are predicted based on the plant and equipment likely to be used during the five (5) stages of the construction works, as advised by Zauner Construction. The construction assessment in this report, include proposed construction works excluding the demolition of the childcare and construction of the Hydrotherapy Pool building. MDA has been requested to revise the previous construction noise and vibration assessment with particular attention paid to potential construction noise and vibration impact on the operation of the childcare centre.

The initial proposed construction plans, works, stages and equipment were reviewed by MDA and Zauner Construction prior to carrying out the assessment presented in this report. Alternative reasonable and feasible construction methodologies, and noise mitigation measures to reduce the potential noise impacts and improve the results, were reviewed and considered in the final proposed construction methodology and equipment selection assessed in this report.

Technical terms used throughout this report are described in Appendix A.

2.0 SITE AND PROJECT DESCRIPTION

2.1 Site Location

The purpose-built facilities for Budawang School will be located on the Shoalhaven Anglican School site. The site of the former Shoalhaven Anglican School is located on Croobyar Road in Milton, near the junction with the Princes Highway.

The site is bounded by Croobyar Road to the north, low-density residential properties along the Princes Highway to the east, a residential property to the west and existing school buildings to the south.

The nearest noise sensitive receivers surrounding the proposed site are clustered into Noise Catchment Areas (NCA) listed in Table 1. Receivers within a particular NCA, are expected to receive similar noise levels during the proposed construction works. An aerial photo showing the construction site and the established NCAs are provided in Figure 1.

Table 1: Noise sensitive receivers identified for assessment

NCA ID	Location	Receiver Type	Description
R1	East of the proposed site	Residential	Single-storey residential buildings with a common boundary with the proposed development. This group of residential receivers represents the closest sensitive residential receivers located east of the subject site.
C1	East of the proposed site	Commercial	A heritage-listed double-storey commercial building (a bakery) with a common boundary with the proposed development (Budawang School). This receiver is identified as the closest commercial receiver to the subject site.
C2	East of the proposed site	Childcare	A single storey childcare with a common boundary with the proposed construction site.
R2	North of the proposed site	Residential	Single-storey residential buildings located approximately 20 m north of the proposed site. This group of residential receivers represents the closest sensitive residential receivers located north of the subject site.
R3	West of the proposed site	Residential	A single-storey residential building located approximately 70 m west of the proposed site. This location represents the closest sensitive residential receiver west of the subject site.

Figure 1: Subject site, surrounds, NCAs and logger locations

3.0 CONSTRUCTION HOURS

This assessment considers work occurring during standard daytime construction hours:

- Monday to Friday from 0700 hrs to 1800 hrs;
- Saturday 0800 hrs to 1300 hrs; and
- No works on Sundays or public holidays.

4.0 EXISTING NOISE LEVELS

In order to assess construction noise impacts associated with a project, the existing noise levels at the site were determined prior to the commencement of works.

A survey of background noise levels was conducted at a location close to the site boundary from 19 July 2020 to 25 July 2020. Average L_{A90} and L_{Aeq} noise levels measured during the long-term noise survey are shown in Table 2. Details of background noise measurements and graphs of the measured noise levels during the measurement period are provided in Rp 002 r02 20200658 - *Budawang School - SEAR's Assessment*, date 23 June 2021. As the construction works are not proposed to extend outside of the recommended standard hours described in Section 3.0, other periods are not required for assessment and have not been considered further.

Table 2: Measured average background and ambient noise levels

Period	Time of day	RBL L_{A90} dB	L_{Aeq} dB
Day	0700-1800 hrs	41	59

5.0 PROPOSED CONSTRUCTION WORKS

The following major stages are proposed during the construction works. These stages of works are provided by the client via email, dated 20 December 2021, and assessed in this report. Indicative location of construction works is provided in Appendix B.

Table 3: Measured average background and ambient noise levels

Stage	Duration
Stage 1 – Demolition works phase-1	6 weeks
Stage 2 – Demolition works phase-2	1 week
Stage 3 – Demolition works phase-3	1 day
Stage 4 – Civil works	3 months
Stage 5 – Structure works	6 months

6.0 CONSTRUCTION NOISE AND VIBRATION ASSESSMENT

6.1 Condition B14 Requirements

Condition B14 requires that the Noise and Vibration Management Sub-Plan (CNVMP) must address, but not be limited to, the following:

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

(b) a vibration assessment for the adjacent heritage listed bakery at 197-201 Princess Highway Milton.

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

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

(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 B14(e); and

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

Relevant Policies and Guidelines:

- *Interim Construction Noise Guideline, Department of Environment and Climate Change (ICNG)*
- *Assessing Vibration: A Technical Guideline 2006 (Department of Environment and Conservation, 2006)*
- *Road Noise Policy, NSW Department of Environment, Climate Change and Water 2011 (RNP)*

6.2 Construction Noise and Vibration Criteria

6.2.1 Interim Construction Noise Guideline

Noise criteria applicable to the subject site are derived in accordance with the ICNG and are detailed in Appendix C and summarised in Table 4. These criteria apply to airborne noise emissions related to construction activity during the recommended standard hours only.

Table 4: Interim Construction Noise Guideline – External airborne noise criteria

Receiver Type	Management Level, $L_{Aeq\ (15\ min)}$	
	Noise Affected	Highly Noise Affected
Residential	51	75
Commercial	70[1]	
Childcare	55[1]	

1- The Noise Management Level for these receivers are not distinguished as either "Noise Affected" or "Highly Noise Affected" but is set as a single Noise Management Level. See Appendix C.

The "Noise Affected" level is the noise level above which there may be some community reaction to noise. The "Highly Noise Affected" level represents the noise level above which there may be a strong community reaction to noise. Where the "Noise Affected" management level is predicted to be exceeded, the ICNG requires that all feasible and reasonable work practices be employed. Where it is predicted that the "Highly Noise Affected" management level will be exceeded, respite periods may need to be considered.

6.2.2 Construction traffic noise criteria

In accordance with the ICNG, potential noise impact from construction traffic on public roads to and from the subject site should be assessed under the NSW EPA's *Environmental Criteria for Road Traffic Noise*. This policy, however, has been superseded by the NSW EPA's *NSW Road Noise Policy* (RNP).

The current RNP provides noise level criteria for increased traffic flow as a result of land-use development with the potential to create additional traffic. Table 5 presents the traffic noise criteria applicable to this project.

Table 5: Road traffic noise criteria

Type of Development	Criteria	
	Day 0700-2200 hrs	Night 2200-0700 hrs
Existing residences affected by additional traffic on existing freeways/arterial/sub-arterial roads generated by land use developments	$L_{eq(1hr)}$ 60 dBA (external)	$L_{eq(1hr)}$ 55 dBA (external)
Existing residences affected by additional traffic on existing local roads generated by land use developments	$L_{eq(1hr)}$ 55 dBA (external)	$L_{eq(1hr)}$ 50 dBA (external)
Commercial[1] (bakery) (when in use)	$L_{(Aeq1hr)}$ 60 dBA (external)	
Childcare[1] – indoor play areas (when in use)*	$L_{(Aeq1hr)}$ 50 dBA (external) [2]	
Childcare[1] – outdoor play areas (when in use)*	$L_{(Aeq1hr)}$ 55 dBA (external) [2]	

1- In accordance with the RNP recommendations for commercial and industrial premises, the desirable internal noise levels are determined based on the 'Maximum' recommended design sound levels contained in *Australian Standard 2107:2000* for restaurants. The 'Maximum' recommended design sound level is selected due to the temporary nature of construction noise. A typical outside to inside level difference of 10 dB is applied.

2- The ICNG criterion for childcare receivers is applicable within internal spaces. For simplicity of assessment an equivalent external criterion has been developed based on a typical outside to inside level difference of 10 dB.

Additionally, the RNP states that:

> *"for existing residences and other sensitive land uses affected by additional traffic on existing roads generated by land use developments, any increase in the total traffic noise level as a result of the Development should be limited to 2 dB above that of the noise level without the Development"*

noting that:

> *"an increase of up to 2 dB represents a minor impact that is considered barely perceptible to the average person."*

This limit applies wherever the noise level without the Development is within 2 dB of, or exceeds, the relevant day or night noise assessment criterion.

6.2.3 Human comfort vibration targets

Humans can detect vibration levels which are well below those causing any risk of damage to a building or its contents. Human comfort due to vibration from construction works is assessed under the NSW EPA document *Assessing Vibration – a technical guideline* (AVTG).

The AVTG provides guidance with respect to intermittent, impulsive and continuous vibration sources, which can be generated by construction activities. The vibration characteristics of many construction activities (e.g. excavation, rock breaking and pilling) are generally considered to be intermittent. Continuous vibration sources may include tunnel boring and impulsive vibration sources may include drop piling or blasting.

Intermittent vibration

The vibration characteristics of most construction activities (e.g. excavation and pilling) are considered to be intermittent. Intermittent vibration can be defined as interrupted periods of continuous vibration (e.g. heavy truck pass bys or rock breaking) or continuous periods of impulsive vibration (e.g. impact pile driving). Higher vibration levels are allowed for intermittent vibration compared with continuous vibration on the basis that the higher levels occur over a shorter time period. Hence, for intermittent vibration, human disturbance vibration levels are assessed on the

basis of the Vibration Dose Value (VDV), based on the level and the duration of the vibration events. Vibration criteria applicable to the site for intermittent vibration sources, are summarised in Table 6. Only Day time criterion is provided as no out of hours construction activities are expected.

Table 6: Preferred and maximum vibration levels for human disturbance limits

Location	Daytime (0600-2200 hrs)[1]	
	Preferred Value, VDV	Maximum Value, VDV
Residences	0.2	0.4

Note: 1 - Daytime is 7.00 am to 10.00 pm and Night-time is 10.00 pm to 7.00 am.
2 - These criteria are only indicative, and there may be a need to assess to other sensitive areas against the relevant criteria.

Continuous and impulsive vibration

Vibration criteria applicable to the site for continuous vibration sources, are summarised in Table 7. Only Daytime criteria are provided as no out of hours construction activities are expected.

Table 7: Preferred and maximum vibration levels for human disturbance limits - Continues and Impulsive vibration

Vibration type	Location	Assessment period	Preferred values (m / s^2)		Maximum values (m / s^2)	
			z axis	x and y axes	z axis	x and y axes
Continuous vibration	Residences	Daytime	0.010	0.0071	0.020	0.014

Note: 1- the preferred and maximum values are weighted RMS acceleration values in accordance with NSW EPA document *Assessing Vibration – a technical guideline.*
2- These criteria are only indicative, and there may be a need to assess to other sensitive areas against the relevant criteria.

6.2.4 Cosmetic structural vibration targets for non-sensitive structures

The EPA does not provide direct guidance for the assessment of vibration-induced damage to structures or buildings. The recommended vibration targets (guide values) to minimise the risk of cosmetic damage to non-sensitive structures (i.e. residential and industrial buildings) are to be assessed using BS 7385 Part 2-1993 *'Evaluation and measurement for vibration in buildings Part 2'*.

Table 8: Transient vibration guide values for cosmetic damage for non-sensitive structures, (PPV) mm/s

Type of Building	Peak Component Particle Velocity in Frequency Range of Predominant Pulse	
	4 Hz to 15 Hz	15 Hz and Above
Reinforced or framed structures Industrial and heavy commercial buildings	50 mm / s at 4 Hz and above	
Unreinforced or light framed structures Residential or light commercial type buildings	15 mm / s at 4 Hz increasing to 20 mm / s at 15 Hz	20 mm / s at 15 Hz increasing to 50 mm / s at 40 Hz and above

BS 7385 Part 2-1993 recognises adjustments to the guide values in Table 8 depending on the type of activity and the vibration receiver. For construction activities involving intermittent vibration sources (i.e. rock breakers, piling rigs, vibratory rollers, excavators), conservative vibration damage screening levels per receiver type are provided:

- Reinforced or framed structures: 25.0 mm / s

- Unreinforced or light framed structures: 7.5 mm / s

MDA understand that the adjacent bakery at 197-201 Princess Highway Milton is a heritage listed item. It should be noted that for structurally unsound buildings or sensitive buildings (e.g. heritage buildings) a more conservative vibration targe must be considered. The German DIN 4150.3 – *Effects of Vibration on Structures* recommends more stringent vibration levels for heritage buildings. DIN 4150-3 is to be used to assess potential vibration impacts at the identified heritage building (the bakery), or other sensitive heritage structures for the project.

6.3 Construction Airborne Noise Prediction

6.3.1 Assessment scenarios

Based on the proposed construction works provided in Section 5, the following proposed construction stages for the project are assessed in this report.

- Stage 1 – Demolition works phase-1: this work involves peeling up bitumen and relocated to crushing area. It is expected that the works will be completed in 6 weeks with crusher working intermittently. Excavator with hammer is proposed to be used for some portions of the work period (approximately a total of 2 day) with most likely intermittent use for an hour or so.
- Stage 2 – Demolition works phase-2: this work involves peeling up bitumen. It is expected that the works will be completed in 1 week. Excavator with hammer is proposed to be used intermittently for several hours.
- Stage 3 – Demolition works phase-3: this work involves peeling up bitumen and relocated to crushing area. It is expected that the works will be completed in 1 day with crusher working intermittently. Excavator with bucket is proposed to be used intermittent for an hour or so. During this stage it is proposed to complete the works outside the operation hours of the childcare.
- Stage 4 – Civil works: during these works, the majority of time will be machines working with buckets and the dozer moving dirt on the green and dark green areas. the pad foot roller will be used for the lower part of the site clouded green to compact the fill in layers. This would be used intermittently possibly twice a day for two weeks to compact the layers of fill. Smooth drum will be used to compact and grade the carpark area in yellow this would be intermittent a few hours per day for a week.
- Stage 5 – Structure works: during this longer work period the four block buildings will be constructed.

The general demolition stage is purposefully separated into three demolition stages to sperate the demolition zones and avoid concurrent noise emissions during the demolition works in order to manage and lower the potential impacts to the nearest sensitive receivers.

For each of the above stages, two scenarios were developed to represent the works potentially having the greatest noise impact on the surrounding receivers. Noise levels for these works have been calculated for the following scenarios:

"Average" (Av.): it is assumed that most proposed plant items nominated by the client will be working concurrently towards the centre of the construction site between 10 % to 100 % of the time over a 15-minute period.

"Worst Case" (WC): it is assumed that the noisiest proposed plant items nominated by the client, where possible, will be working between 10 % to 100 % of the time over a 15-minute period near the boundary of the subject site.

Due to relatively small proposed work area during the Stage 2, noise emissions both "Average" and "Worst Case" scenarios are expected to be practically the same. Therefore, only one scenario is

assessed for this stage. Similarly, due to relatively short period of proposed works during the Stage 2 (one day), only one scenario is assessed for this stage.

Situations where noise sources would be located towards the centre of the site i.e. the “Average” is likely to be representative of the longer-term average noise emissions.

6.3.2 Assumed construction plant items and sound power

The final proposed schedule of works and associated equipment have been reviewed and provided by the client following the workshop, date 29 March 2022. A summary of the proposed equipment items and assumed operating duty (percentage of time operating per 15-minute period) for each stage of construction work, is provided in Table 9.

Table 9: Assumed duration (% of 15-minute) of equipment to be operating simultaneously in a 15-minute period at the subject site

Plant and Equipment	Demolition 1		Demolition 2*	Demolition 3		Civil		Structure	
	WC	Av.	WC/ Av.	WC	Av.	WC	Av.	WC	Av.
1 x Mobile Crane	-	-	-	-	-	-	-	50%	25%
1 x Tracked 8t Screw Piling Rig	-	-	-	-	-	75%	25%	-	-
1 x Tracked 5t excavator (Bucket) Services	-	-	-	-	-	25%	25%	-	-
1 x Tracked 14 t excavator (Hammer)[2]	10%	25%	25%	-	-	-	-	-	-
1 x Tracked 25 t excavator (Bucket)			-	50%	50%				
2 x Tracked 25 t excavator (Bucket)	25%	50%	-	-	-	-	-	-	-
1x Tracked 6t Dozer	-	-	-	-	-	-	25%	-	-
1x Padfoot Roller	-	-	-	-	-	-	25%	-	-
1x Smooth Drum Roller	-	-	-	-	-	50%	25%	-	-
1 x Dump truck	10%	10%	-	-	-	10%	-	-	-
1x Crusher	10%	-	-	10%	-	-	-	-	-
1x Water Cart	-	10%	10%	-	-	-	10%	-	-
1 x Wheeled loader Bobcat	-	-	-	-	-	-	10%	-	-
2 x Bogie truck & trailer	-	-	-	-	-	10%	10%	-	-
1x Telehandler	-	-	-	-	-	-	-	10%	25%
1 x Concrete pump truck	-	-	-	-	-	-	-	-	50%
1 x Concrete agitator truck	-	-	-	-	-	-	-	-	75%
1x EWP	-	-	-	-	-	-	-	10%	25%
1 x Hand tools (electric)	75%	50%	-	-	-	-	-	50%	50%

Plant and Equipment	Demolition 1		Demolition 2*	Demolition 3		Civil		Structure	
	WC	Av.	WC/ Av.	WC	Av.	WC	Av.	WC	Av.
2x Impact Drivers (Hand Held)	-	-	-	-	-	-	-		30%
2x Impact Drivers (Hand Held)	-	-	-	-	-	-	-	50%	30%
1 x Concrete saw	10%	-	-	-	-	-	-	-	-
1 x Welder	-	-	-	-	-	-	-	10%	-
1 x Brick Saw	-	-	-	-	-	-	-	50%	25%
1x Cement Mixer (electric)	-	-	-	-	-	-	-	0%	15%
1x Brick Clean Pressure Wash	-	-	-	-	-	-	-	25%	5%

Note: 1 - Assessment Scenarios are described in Section 6.3.1. **Av.** = "Average", **WC** = "Worst Case"

2- A 14 t excavator with hammer attachment is expected to be mainly used with a possibility of limited use of a handheld jack hammer. Where possible a pulveriser will be used instead of a hydraulic hammer to reduce the noise impacts.

The relevant sound power data for these plant items are provided in Appendix D.

6.3.3 Modelling assumptions

Noise levels have been calculated at 1.5 m above ground level in accordance with the requirements of the ICNG and at various distances from the boundary of the receivers. Calculated noise levels include the effects of the noise control recommendations specific to each construction stage detailed in Section 6.3.4.

6.3.4 Physical noise control recommendations

Based on the proposed construction plant items, MDA recommend that the noise control measures detailed in Table 10 are implemented on-site. Predicted construction noise levels in this assessment, include the effect of these recommendations.

Table 10: Noise control recommendations for site

Stage	Equipment/Location	Recommendation
Stage 1 – Demolition works phase-1	Site boundary	- Northern boundary: Solid hoarding of minimum 2 m height along the Croobyar Rd - Eastern boundary: where solid boundary fencing is not available, solid hoarding of minimum 2 m height along the eastern boundary of the proposed site is required* - Common boundary with the Childcare: a 2.4m high 18mm plywood with temporary noise barriers (e.g. ECHO Barrier, Flexshield or Soundex) attached. To the eastern and southern boundaries of the childcare.
	Concrete saw	- Localised noise barriers should be utilised when this equipment is in use. - Temporary noise barriers (e.g. ECHO Barrier, Flexshield or Soundex) should be mobile and extend to a height 1 m above noise source. - Barrier should envelop the work location to ensure no direct line of sight to nearby receivers. - Practical and feasible measures should be taken to allow the noise barrier to be located within 4 m of the noise source.
Stage 2 – Demolition works phase-2	Site boundary	- Northern boundary: Solid hoarding of minimum 2 m height along the Croobyar Rd - Eastern boundary: where solid boundary fencing is not available, solid hoarding of minimum 2 m height along the eastern boundary of the proposed site is required* - Common boundary with the Childcare: a 2.4m high 18mm plywood with temporary noise barriers (e.g. ECHO Barrier, Flexshield or Soundex) attached. To the eastern and southern boundaries of the childcare.

Stage	Equipment/Location	Recommendation
Stage 3 – Demolition works phase-3	Site boundary	- Northern boundary: Solid hoarding of minimum 2 m height along the Croobyar Rd - Eastern boundary: where solid boundary fencing is not available, solid hoarding of minimum 2 m height along the eastern boundary of the proposed site is required* - Common boundary with the Childcare: a 2.4m high 18mm plywood with temporary noise barriers (e.g. ECHO Barrier, Flexshield or Soundex) attached. To the eastern and southern boundaries of the childcare.
Stage 4 – Civil works	Site boundary	- Northern boundary: Solid hoarding of minimum 2 m height along the Croobyar Rd - Eastern boundary: where solid boundary fencing is not available, solid hoarding of minimum 2 m height along the eastern boundary of the proposed site is required* - Common boundary with the Childcare: a 2.4m high 18mm plywood with temporary noise barriers (e.g. ECHO Barrier, Flexshield or Soundex) attached. To the eastern and southern boundaries of the childcare.
Stage 5 – Structure works	Brick saw	- Localised noise barriers should be utilised when this equipment is in use. - Temporary noise barriers (e.g. ECHO Barrier, Flexshield or Soundex) should be mobile and extend to a height 1 m above noise source. - Barrier should envelop the work location to ensure no direct line of sight to nearby receivers. - Practical and feasible measures should be taken to allow the noise barrier to be located within 4 m of the noise source.
	Site boundary	- Northern boundary: Solid hoarding of minimum 2 m height along the Croobyar Rd - Eastern boundary: where solid boundary fencing is not available, solid hoarding of minimum 2 m height along the eastern boundary of the proposed site is required* - Common boundary with the Childcare: a 2.4m high 18mm plywood with temporary noise barriers (e.g. ECHO Barrier, Flexshield or Soundex) attached. To the eastern and southern boundaries of the childcare.

Notes: 1- Hoarding or barriers of greater height may offer more noise control performance but are frequently undesirable for non-acoustic reasons such as visual amenity, security and buildability.
2- Alternatively, solid hoarding can be only erected around construction works where there is a direct line of sight (from works to residential receivers).

The above noise control recommendations are provided to control noise from the noisiest plant and equipment items.

6.3.5 Summary of construction noise assessment

Predicted noise levels from construction activities have been calculated based on the construction assumptions provided by Zauner Construction. Detailed noise prediction results and discussion of numerical compliance are provided in Appendix E.

For residential receivers, the predictions indicate that noise levels during the proposed construction stages are expected to be up to 18 dB above the "Noise Affected" Noise Management Level but within 1 dB of the "Highly Noise Affected" Noise Management Level during the longer-term average noise emissions, referred to as the "Average" assessment scenario; and during longer term construction works (i.e. Stage 4 and Stage 5) at the nearest identified residential receivers.

For the commercial receiver, the predictions indicate that noise levels during the proposed construction stages are expected to be below the "Noise Affected" Noise Management during all the construction stages.

For the childcare receiver, after implementation of all the reasonable and feasible physical and management mitigation measures, the predictions indicate that noise levels during the proposed construction stages are expected to be up to 15 dB above the "Noise Affected" Noise Management Level during the longer-term average noise emissions, referred to as the "Average" assessment scenario.

For residential receivers, the "Worst-Case" assessment scenario, representing the loudest noise levels likely to be exhibited during the proposed works, are predicted to be up to 28 dB above the "Noise Affected" Noise Management Level and up to 4 dB above the "Highly Noise Affected" Noise Management Level for the residential receivers. For the childcare receiver, the "Worst-Case" assessment scenario, representing the loudest noise levels likely to be exhibited during the proposed works, are predicted to be up to 23 dB above the "Noise Affected" Noise Management Level. "Worst Case" assessment scenario comprises of several noisiest pieces of equipment (e.g. hydraulic hammer or impact drivers) operating at the closest point of the work site to the subject receiver. In practice such concurrent works may not actually occur and if they did would only occur for brief periods (hours or days) during the wider 13 month works period.

Exceedances of "Noise Affected" NMLs are typical of demolition and construction sites in close proximity to residential receivers. Further, since all works are restricted to take place only during the daytime, noise impacts will not be experienced during the most sensitive time period i.e. night-time. The ICNG recommends that for situations in which the "Noise Affected" NMLs are exceeded, all feasible and reasonable work practices should be adopted.

Based on the above, proposed construction works have the potential to give rise to adverse noise impacts at residential and childcare receivers. As such, in addition to the feasible and reasonable physical noise controls detailed in this report, noise management techniques to limit the severity of noise impacts are developed in this document and detailed in Section 7.

6.4 Construction Traffic Noise Assessment

The RNP notes that in assessing feasible and reasonable mitigation measures, an increase of up to 2 dB represents a minor impact that is considered barely perceptible to the average person.

The increase in traffic volume due to the construction works are not expected to significantly increase the current traffic noise on Croobyar Road. Information is not available as to existing and construction traffic movements on the sounding road network. We note, however, that movements of 4 trucks per hour is unlikely to increase the existing traffic noise by more than 2 dB. On this basis, construction traffic noise is unlikely to be significant and not assessed further in this report.

6.5 Construction Vibration Assessment and Recommendations

The following vibration intensive plant are proposed to be used during construction:

- Excavator;
- Hydraulic hammer;
- Vibratory roller

6.5.1 Human comfort

The AVTG provides guidance with respect to the assessment of human comfort due to vibration from construction works. This guideline provides distinguishes intermittent, impulsive and continuous vibration sources, which can be generated by construction activities.

Intermittent vibration

The AVTG indicates that intermittent vibration should be assessed in terms of the Vibration Dose Value (VDV). These values for intermittent construction activities are highly specific to site conditions, equipment selections and operational durations. As such, calculation of VDV levels is not typical or practical at the planning stage but will need to be considered as part of a later detailed vibration assessment.

The AVTG recommends that best management practices in all cases should be to reduce values as far as practicable, and a comprehensive community consultation program should be developed.

Continuous vibration

Vibration due to some construction operations can be considered continuous depending on the duration and nature of the works. Since the guide values for continuous vibration are independent of exposure duration, indicative safe working distances can be developed and are provided in Table 11.

Table 11: Safe working distances for human comfort (continuous vibration sources), m

Plant Items	Safe Working Distance[1], (m)
Hydraulic hammer [1]	Avoid contact with a structure
Vibratory Roller (2-4t)[1]	20m
Vibratory Roller (4-6t)[1]	40m

Notes: 1. Based on information published by TfNSW Construction Noise and Vibration Strategy.

Indicative safe working distances from the vibration intensive plant items applicable for cosmetic damage, structural damage and human comfort are provided in this report. Safe working distances have been developed to establish a trigger point at which further detailed evaluation e.g. vibration monitoring should be implemented. It should be noted that being located within the safe working distance does not necessarily mean that vibration criteria at a subject receiver is exceeded.

6.5.2 Cosmetic structural damage

Indicative criterion boundaries from the above vibration intensive plant items applicable for cosmetic structural damage are provided in Table 12.

Table 12: Criterion boundary – effects of vibration on structures, m

Plant Items	Criterion boundary, (m)	
	Non-sensitive structures	Heritage buildings
Excavator[2]	2	15
Handheld jack hammer[1]	1 (nominal)	4
Vibratory Roller (2-4t)[1]	6	30
Vibratory Roller (4-6t)[1]	12	30

Notes: 1. Based on information published by TfNSW Construction Noise and Vibration Strategy and published by RTA Environmental Noise Management Manual
2. Based on measured data by MDA

The criterion boundary represents the distance from a vibration source within which the cosmetic structural criteria is likely to be exceeded.

6.5.3 Construction vibration recommendations

Where vibration intensive activities are proposed to be conducted close to sensitive receivers, and the criterion boundary or safe working distance may be broken, site measurements and alternative equipment or methodologies should be considered.

It is noted that Zauner Construction have proposed to utilize the vibratory roller selectively and use the vibration mode outside the exclusion zone established for the potential risk of cosmetic damage. Moreover, the roller with vibration turned mode must be only utilised outside of the childcare working hours to protect the human comfort levels of childcare centre.

Where vibration intensive activities are proposed to be used within 2 m of any structurally sound building, site measurements and alternative equipment or methodologies should be employed. The nearest residential receivers are located approximately 40 m to the north and east of the Project site (R1 and R2). These receivers are sufficiently distant from the proposed vibration intensive work areas.

The adjacent bakery at 197-201 Princess Highway Milton, is identified as a heritage listed item. We understand from Zauner Construction that the identified heritage items on the site are more than 15 m from any proposed vibration intensive activities (e.g. excavating). Given there is no sensitive structure (e.g. heritage listed item) within 15 m of any works, only preparation of pre/post dilapidation report for the Bakery (where listed as heritage item) is recommended. Zauner Construction have advised that a pre-construction dilapidation report has been completed.

If any additional vibration intensive activity (beyond that assessed in this report) was to be undertaken, or vibration activity was to occur within 15 m of a sensitive heritage building, or a previously unidentified heritage structure was identified that was within 15 m of the already proposed vibration intensive works then a vibration assessment of impacts would need to be carried out against the criteria set out in DIN 4150-3. The frequency dependant vibration criteria in Peak Particle Velocity (PPV) are set out in Table 13 for reference.

Table 13: DIN 4150-3 Vibration guidelines for Heritage Buildings PPV (mm/s)

Vibration at the foundation at a frequency of			Vibration at the horizontal plane of the highest floor at all frequencies
1 Hz to 10 Hz	**10 Hz to 50 Hz**	**50 Hz to 100 Hz**	
3	3 – 8	8 – 10	8

7.0 CONSTRUCTION NOISE AND VIBRATION MANAGEMENT PLAN

Based on the conceptual assumptions provided by the client, a CNVMP is developed in this section. The CNVMP is a documented plan that should assist the construction team in managing and mitigating noise impacts as well as communicating effectively with impacted stakeholders.

7.1 Training

All staff will participate in an induction training session before starting work on the construction, with attention given to the following matters:

- Activities with the potential to generate high levels of noise and/or vibration;
- Mitigation and management measures;
- Sensitive receivers and any agreements made through engagement (if any); and

- Monitoring requirements (if any).

As the construction progresses, any updates of noise and vibration matters will be addressed during regular site meetings and/or 'toolbox' training sessions.

7.2 Equipment Selection

When selecting construction equipment:

- Use quieter construction methodologies where practicable
- Use electric motors rather than diesel engines where practicable
- Use rubber-tracked equipment rather than steel tracked equipment where practicable
- Use equipment that is suitably sized for the task
- Maintain equipment well to minimise rattles, squeaks etc
- Fit engines with exhaust silencers and engine covers where practicable
- Avoid tonal reversing or warning alarms (beepers). Alternatives include broadband alarms (squawkers/quackers), flashing lights, proximity sensors, reversing cameras and spotters

7.3 Scheduling of Activities and Providing Respite Periods

Works during the proposed "Worst Case" works are predicted to be above the "Highly Noise Affected" NMLs at some of the identified nearby receivers. This is likely to occur during the use of concrete saw and jackhammer at the closest point of the work site to the subject receiver which is identified as "Worst Case" assessment scenario in this document. Based on the ICNG, this would trigger consideration of respite periods and scheduling of works. Where noise is above "Highly Noise Affected", respite periods should be considered to restrict the hours that the very noisy activities can occur, taking into account:

- Times identified by the community when they are less sensitive to noise, such as before and after school, or during school holidays for works near schools, or mid-morning or mid-afternoon for works near residences.
- Times outside the operation hours of the childcare.
- If the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.

7.4 General Measures

Complaints can arise even if the noise and vibration levels comply with the Project limits. To minimise complaints, the following common mitigation measures are recommended:

- Avoid unnecessary noise. This means managing the site to ensure:
  - No shouting
  - No unnecessary use of horns
  - No loud site radios
  - No rough handling of material and equipment
  - No banging or shaking excavator buckets
  - No unnecessary steel on steel contact (e.g. during the loading of scaffolding on trucks)
  - No high engine revs. This includes choosing the right sized equipment and turning engines off when idle.

  - Scheduling vehicle deliveries so that there are no trucks waiting in side streets and ensuring that all delivery vehicles are switched off during loading and unloading activities.
- Avoid unnecessary vibration. This means managing the site to ensure:
  - No unnecessary dropping of heavy objects
  - No potholes, bumps or corrugations in site accessways
  - Excavator operators are skilled and use their machines considerately
- Mitigate track squeal from tracked equipment, such as excavators. This may include tensioning and watering or lubricating the tracks regularly
- Locate stationary equipment (e.g. generators) away from noise sensitive receivers and/or screen them behind site buildings and material stores
- Orient mobile machinery to maximise the distance between the engine exhaust and the nearest sensitive building façade (e.g. excavators)
- Utilise specific measures for the following activities:
  - Excavators
  - Jack hammer & breaker
  - Hand tools
  - Piling

7.4.1 Excavators

All excavators can generate high noise and vibration levels. The actual level they generate depends very much on the experience and temperament of the operator. The following approach must be adopted for all excavator use:

- Use the right sized excavator for the job
- Operate the bucket and armature with smooth movements (avoid jerking)
- Tip material from the bucket rather than shaking it clean where practicable
- Avoid hitting the bucket on the ground or dropping heavy objects
- Control the weight shift of the excavator to avoid the tracks lifting and thudding on the ground

7.4.2 Jack hammer & breaker

The following approach must be adopted for all jack hammer and breaking works:

- Avoid quiet periods of the day
- Minimise the amount of breaking needed (e.g. use a crushing shear or pulveriser attachment in place of a breaker, or use a cut and lift approach to enable breaking offsite)
- Match the size of breaker to the scale of the works. It should be large enough to carry out the work efficiently, but not over-sized (avoiding unnecessary noise and vibration)
- For concrete breaking, make an initial perimeter saw cut at the perimeter to reduce vibration transfer to nearby buildings
- Ensure effective noise mitigation is in place using noise barriers and enclosers (Section 6.3.4) and/or a breaker blanket

- Minimise the breaking period (e.g. remove larger boulders for breaking offsite), and/or the number of breaking periods (e.g. complete all breaking in one extended period rather than two shorter periods with the same overall duration)
- Match the chisel/tip type to the material and use a dampened bit to avoid ringing
- Avoid 'blank' firing by placing the chisel on the rock or concrete before starting, and minimise firing after it breaks through
- Where possible a pulveriser should be used instead of a hydraulic hammer to reduce the noise impacts

7.4.3 Hand tools

- Prioritise use of a tension control bolt, hydraulic wrench or manual torque wrench to minimise rattle gun slippage on a tightened nut

7.4.4 Piling

Piling can be one of the most significant sources of noise and vibration during construction. Impact piling is a traditional and often cost effective form of piling. Impact piling however generated significant noise and vibration and has been identified by the NSW EPA as an activity which has "proven to be particularly annoying to nearby residents".

Alternate forms of piling can have significantly lower impacts in terms of noise and vibration, with screw / auger piling being one of the least impactful methods. Zauner Construction have committed to the use of screw piling on the subject site, which will minimise noise and vibration impacts to residents.

Operators of the screw piling rig should avoid hitting the auger on the ground to clear soil from the bit, instead clearing the bit with a hand held tool where it is safe to do so.

7.5 Community Engagement

Community engagement for the project is already underway, with a recent SINSW Project Update included in Appendix G. A Consultation Report developed for the project is provided for reference in Appendix H. The specific consultation strategies implemented for the project were developed as providing the most effective method of providing information to the community. Also refer to Annexure 10 of the CEMP, Community Consultation Strategy, notably 6.2 Construction works notification distribution methodology

Generally it is recommended that the following practices relating to community consultation be adopted:

7.5.1 Communication

Before construction

The proponent should consult with the occupants of the childcare prior to lodging an application where required.

Written communication (e.g. newsletter) will be provided to building occupants identified in this report prior to starting construction. It will include:

- All potentially impacted receivers should be informed, reasonably ahead of time, of the nature of works to be carried out, the expected noise levels from noisier activities and their duration, and the measures being taken to minimise noise from the construction.
- Effective channels of communication must be established between the contractor/developer, Local Authority and affected receivers.
- A site representative responsible for all matters relating to noise should be appointed and contact details of this representative be readily available. A site information board should be

installed in front of the construction site with the name and contact details for the site representative.

- Acknowledge that some activities (listed in this document) are predicted to generate high noise and/or vibration levels and may result in disturbance for short periods

During construction

Once construction has begun, ongoing communication is important. Regular communication during the works will include:

- Public site signage that includes contact details
- Details of upcoming activities that may result in disturbance
- Any changes to scheduled timing and duration of activities
- Occupants of buildings identified in this report will be advised at least three days prior to the excavation works commencing.

High noise strategy

Specific consultation with the community is being carried out by Zauner Construction/SINSW. This includes:

- Notification to the existing childcare, with high-noise works scheduled (where possible) around times suitable to the childcare operator.
- SINSW endorsed Letter Drop to the surrounding community, distributed to recipients as shown in Appendix G
- Notification of Heritage Bakery
- Notification to SINSW in the unlikely event other works are occurring within the existing school

7.5.2 Complaint response

All construction noise and/or vibration complaints will be recorded in a complaints file that is available to affected parties and Council on request (see Appendix F). For each complaint, an investigation will be undertaken as soon as practicable using the following steps:

- Acknowledge receipt of the concern or complaint and record:
  - The name, address and contact details of the complainant (unless they elect not to provide)
  - Time and date the complaint was received and who received it
  - Time and date of the activity that caused the complaint (estimated where not known)
  - The complainant's description of the activity and its effects
  - Any relief sought by the complainant (e.g. scheduling of the activity)
- Identify the relevant activity and review the activity log to verify the complaint (or otherwise)
- If a complaint relates to building damage, inform the on-duty site manager as soon as practicable and stop the relevant works pending an investigation. In most cases, stopping the activity will provide immediate relief. But in some cases, this may not be practicable for safety or other reasons, in which case the complainant will be kept updated regularly during the time it takes to stop the activity.
- Review data from monitoring (if available) to identify the time in question and, if possible, verify exceedance

- Review the predicted noise and/or vibration levels to determine if the activity was identified. Consider attended monitoring to verify the underlying reference level assumptions
- Review the mitigation and management measures in place to ensure they have been applied. Review the relief sought by the complainant. Adopt further mitigation and management measures as appropriate.
- Review the potential residual effects if predicted to continue to exceed the relevant performance standards
- Report the findings and recommendations to the Project Manager, implement changes and update this CNVMP as appropriate
- Report the outcomes of the investigation to the complainant, identifying where the relief sought by the complainant has been adopted or the reason(s) otherwise.

7.6 Monitoring

7.6.1 Overview

Attended monitoring

This is where a suitably qualified acoustic engineer visits the site and measures levels in real time. This enables:

- Review the implementation of this CNVMP, including the mitigation and management measures in this report
- Verify the predicted levels are representative and the response protocols are appropriate for the resulting effects
- Determine compliance

Long-term monitoring

This is where vibration monitors are installed in suitable locations and measure continuously for a long period of time. They are set up to send a message to the Project Manager (or nominated person) when levels exceed a pre-set alert threshold. An alert triggers a review of the construction methodology and attended monitoring to inform compliance.

7.6.2 Noise

Where required, construction noise will be monitored:

- In response to a reasonable noise complaint. Noise monitoring is recommended on an as-required basis in response to receipt of any complaints. Typically, investigations and monitoring should occur following receipt of 2 or more complaints.
- At 1 m from the building façade facing the construction site, or a proxy position adjusted for distance.
- By a suitably qualified and experienced specialist (e.g. Member of the Australian Acoustical Society).
- For an appropriate duration, reported with the measured level (e.g. 65 dB $L_{Aeq\,(15min)}$)

7.6.3 Vibration

Construction vibration will be monitored at:

- Where vibration intensive activities (e.g. excavating) are proposed to be used within 2 m of any non-sensitive building identified in this report. We note that this is unlikely to occur due to the setback of adjacent buildings observed in the area; and/ or

- Where vibration intensive activities (e.g. excavating) are proposed to be used within 15 m of any sensitive building identified in this report. We note that this is unlikely to occur due to the setback of the main building of the identified heritage item at 197-201 Princess Highway Milton.

Where monitoring is triggered due to one of the above two items then the following approach to manage potential vibration impacts on structures shall be conducted prior to the commencement of those works:

  - Prior to the use of vibration generating equipment i.e. excavators etc, test works should be conducted with vibration levels measured at representative locations;
  - Engage a vibration expert to determine appropriate safe working distances based on attended vibration measurements on site;
  - If there is any risk of exceedance of the cosmetic damage objective, a permanent vibration monitoring system should be installed, to warn plant operators (via flashing light, audible alarm, SMS, etc) when vibration levels are approaching the cosmetic damage objective;
  - If any exceedance of the cosmetic building damage standard is measured, that vibration activity will cease as soon as safe and practicable to do so and engage a structural engineer and undertake a building condition survey.

- It is recommended to prepare a dilapidation report for both exterior and interior of the identified heritage listed building at 197-201 Princess Highway Milton, prior to the commencement of construction works. The purpose of the dilapidation report is to capture the pre-existing condition of a property.
- In response to a reasonable vibration complaint. If complaints are received from residents regarding vibration levels, a monitoring system to measure vibration and assess the levels against the criteria for human comfort should be implemented.
- Measurement locations:
  - In consideration of the structural cosmetic damage: on the foundations of the most affected building as appropriate
  - In consideration of the human comfort: on the occupied floor of the closest building as appropriate
- All vibration monitoring data should be recorded, and the results should be maintained to assess compliance with the criteria.

APPENDIX A GLOSSARY OF TERMINOLOGY

SPL or L_P	Sound Pressure Level A logarithmic ratio of a sound pressure measured at distance, relative to the threshold of hearing (20 μPa RMS) and expressed in decibels.
SWL or L_W	Sound Power Level A logarithmic ratio of the acoustic power output of a source relative to 10^{-12} watts and expressed in decibels. Sound power level is calculated from measured sound pressure levels and represents the level of total sound power radiated by a sound source.
dB	Decibel The unit of sound level. Expressed as a logarithmic ratio of sound pressure P relative to a reference pressure of Pr=20 μPa i.e. dB = 20 x log(P/Pr)
dBA	The unit of sound level which has its frequency characteristics modified by a filter (A-weighted) so as to more closely approximate the frequency bias of the human ear.
A-weighting	The process by which noise levels are corrected to account for the non-linear frequency response of the human ear.
$L_{Aeq\,(t)}$	The equivalent continuous (time-averaged) A-weighted sound level. This is commonly referred to as the average noise level. The suffix "t" represents the time period to which the noise level relates, e.g. (8 h) would represent a period of 8 hours, (15 min) would represent a period of 15 minutes and (2200-0700) would represent a measurement time between 10 pm and 7 am.
$L_{A90\,(t)}$	The A-weighted noise level equalled or exceeded for 90% of the measurement period. This is commonly referred to as the background noise level. The suffix "t" represents the time period to which the noise level relates, e.g. (8 h) would represent a period of 8 hours, (15 min) would represent a period of 15 minutes and (2200-0700) would represent a measurement time between 10 pm and 7 am.
L_{Amax}	The A-weighted maximum noise level. The highest noise level which occurs during the measurement period.
SEL or L_{AE}	Sound Exposure Level The sound level of one second duration which has the same amount of energy as the actual noise event measured. Usually used to measure the sound energy of a particular event, such as a train pass-by or an aircraft flyover
R_w	Weighted Sound Reduction Index A single number rating of the sound insulation performance of a specific building element. Rw is measured in a laboratory. Rw is commonly used by manufacturers to describe the sound insulation performance of building elements such as plasterboard and concrete.
Vibration	When an object vibrates, it moves rapidly up and down or from side to side. The magnitude of the sensation when feeling a vibrating object is related to the vibration velocity.

Vibration can occur in any direction. When vibration velocities are described, it can be either the total vibration velocity, which includes all directions, or it can be separated into the vertical direction (up and down vibration), the horizontal transverse direction (side to side) and the horizontal longitudinal direction (front to back).

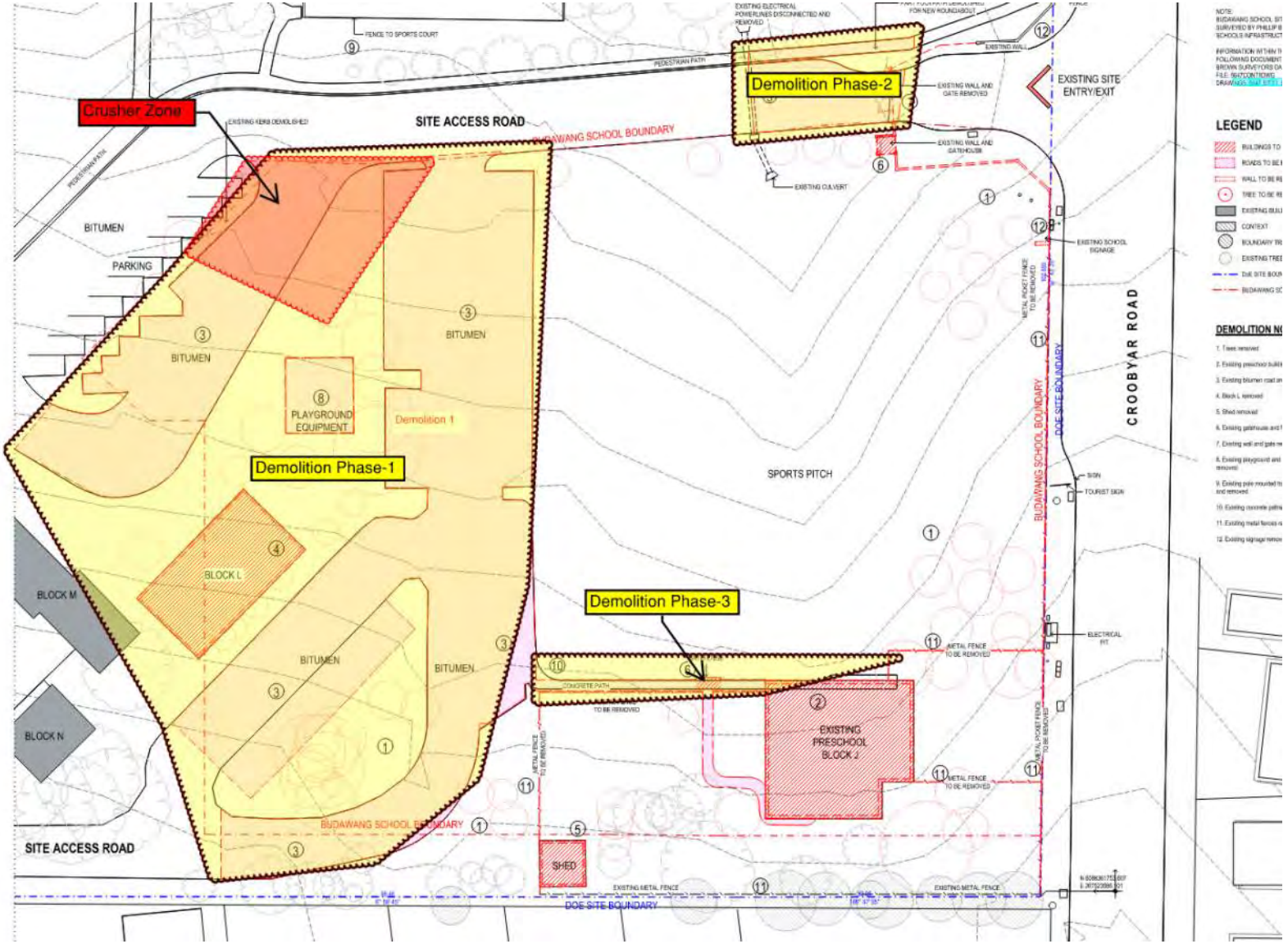
VDV

Vibration Dose Value

Vibration Dose Value is based on British Standard BS 6472:1992 Guide to Evaluation of Human Exposure to Vibration in Buildings (1Hz to 80Hz) and provides guidelines for the evaluation of whole body exposure to intermittent vibration.

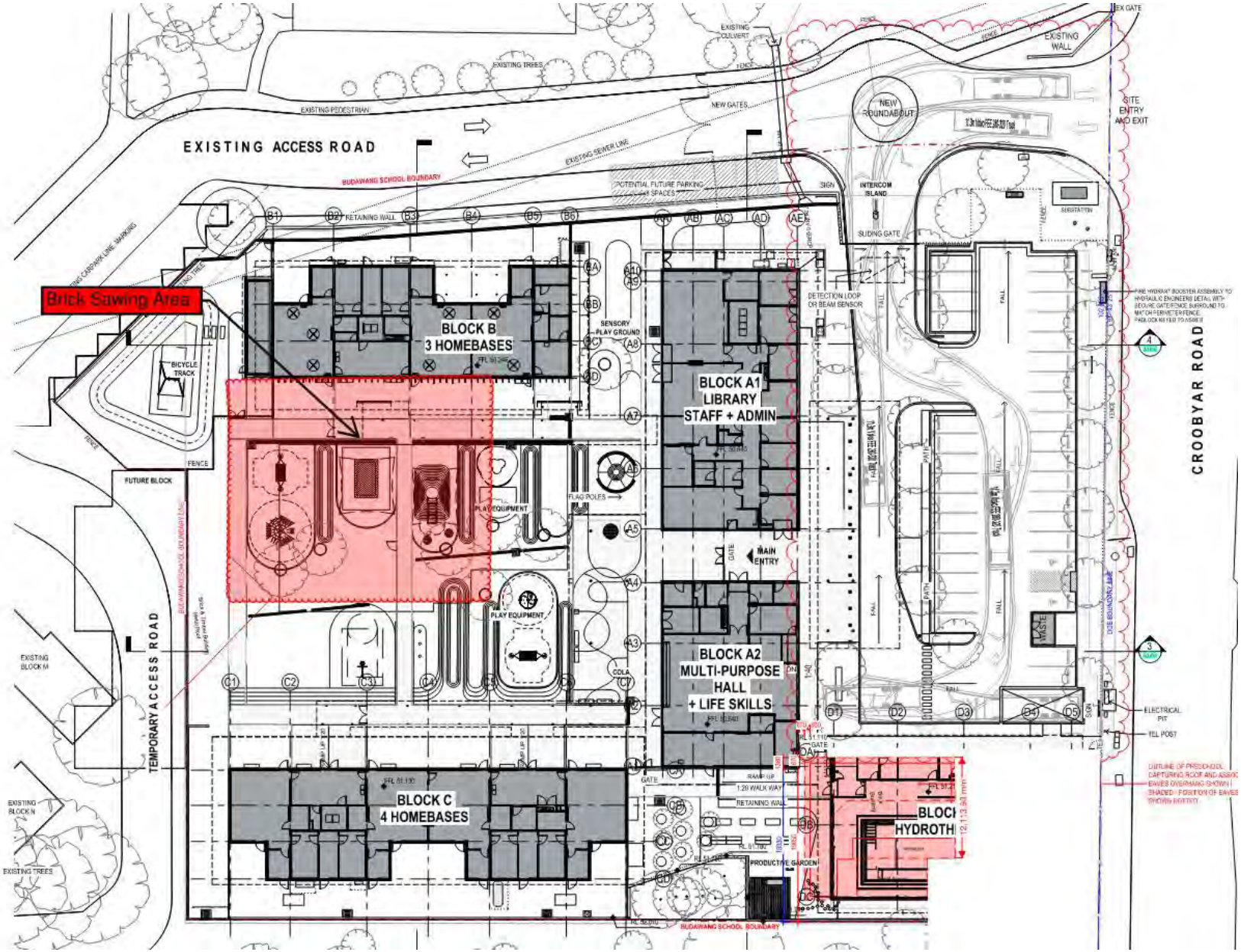
VDV can be used to take into account the weighted measured RMS vibration from many vibration sources including rail vehicles, construction equipment such as jackhammers and industry. VDV takes into account the duration of each event and the number of events per day, either at present or in the foreseeable future and calculates a single value index.

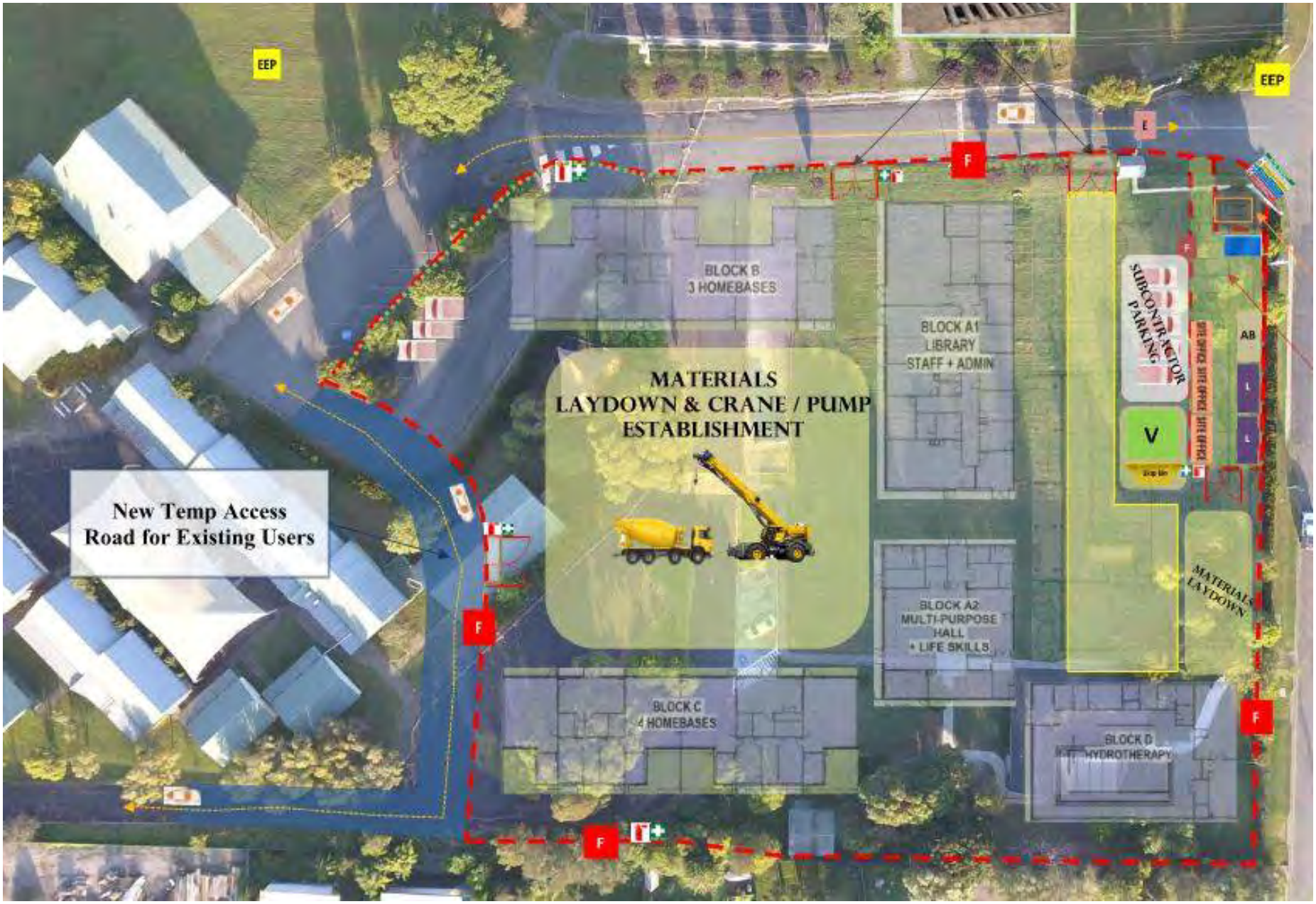
APPENDIX B LOCATION OF CONSTRUCTION WORKS




CIVILWORKS
CROOBYAR ROAD
BULK EARTHWORKS CUT AND FILL PLAN
SCALE 1:250
zauner


EXISTING ACCESS ROAD
SCREW PILING LOCATION
3 HOMEBASES
BLOCK A1
LIBRARY
STAFF + ADMIN
BLOCK A2
MULTI-PURPOSE
HALL
+ LIFE SKILLS
BLOCK C
4 HOMEBASES
TEMPORARY ACCESS ROAD
CROOBYAR ROAD
SITE ENTRY AND EXIT
NEW ROUNDABOUT
INTERCOM ISLAND
SLIDING GATE
MAIN ENTRY
BICYCLE TRACK
FUTURE BLOCK
PLAY EQUIPMENT
PRODUCTIVE GARDEN
RETAINING WALL
ELECTRICAL PIT
TEL POST
BUDAWANG SCHOOL BOUNDARY
DOE BOUNDARY LINE


EXISTING ACCESS ROAD
Brick Sawing Area
BLOCK B
3 HOMEBASES
BLOCK A1
LIBRARY
STAFF + ADMIN
BLOCK A2
MULTI-PURPOSE
HALL
+ LIFE SKILLS
BLOCK C
4 HOMEBASES
BLOCK
HYDROTH
CROOBYAR ROAD
TEMPORARY ACCESS ROAD
FUTURE BLOCK
BICYCLE TRACK
FENCE
SENSORY PLAY GROUND
PLAY EQUIPMENT
FLAG POLES
MAIN ENTRY
GATE
RAMP UP
1:20 WALK WAY
RETAINING WALL
PRODUCTIVE GARDEN
BUDAWANG SCHOOL BOUNDARY
EXISTING TREES
EXISTING PEDESTRIAN
EXISTING SEWER LINE
NEW GATES
NEW ROUNDABOUT
SITE ENTRY AND EXIT
EXISTING WALL
EXISTING CULVERT
POTENTIAL FUTURE PARKING 48 SPACES
INTERCOM ISLAND
SUBSTATION
SLIDING GATE
DETECTION LOOP OR BEAM SENSOR
RETAINING WALL
EXISTING BLOCK M
EXISTING BLOCK N
ELECTRICAL PIT
TEL POST
WASTE
PATH
FALL


EEP
EEP
E
F
BLOCK B
3 HOMEBASES
BLOCK A1
LIBRARY
STAFF + ADMIN
SUBCONTRACTOR
PARKING
SITE OFFICE
SITE OFFICE
SITE OFFICE
AB
V
MATERIALS
LAYDOWN & CRANE / PUMP
ESTABLISHMENT
New Temp Access
Road for Existing Users
BLOCK A2
MULTI-PURPOSE
HALL
+ LIFE SKILLS
MATERIALS
LAYDOWN
BLOCK C
4 HOMEBASES
BLOCK D
HYDROTHERAPY

APPENDIX C PROJECT SPECIFIC CRITERIA

The ICNG aims to provide a clear understanding of ways to identify and minimise noise from construction and construction works through applying all 'feasible' and 'reasonable' work practices to control noise impacts. The guideline identifies sensitive land uses and recommends construction hours, provides quantitative and qualitative assessment methods and subsequently advises on appropriate work practices.

For the project site, sensitive receivers and land uses have been identified. It is understood that construction activities on-site will not extend outside of the recommended standard hours detailed in Table C1.

Table C1: ICNG recommended standard ours of work

Work Type	Recommended standard hours of work
Normal Construction	Monday to Friday 0700 to 1800 hrs Saturdays 0800 to 1300 hrs No work on Sundays or public holidays

Based on the recommended standard hours, the guideline provides airborne noise criteria for residential receivers and how they are applied as detailed in Table C2.

Table C2: Noise Management levels for residential receivers, dB $L_{Aeq(15minute)}$

Noise Management Level, $L_{Aeq\ (15\ min)}$	How to apply
Noise affected: 51 (RBL + 10dB)	The noise affected level represents the point above which there may be some community reaction to noise. Where the predicted or measured $L_{Aeq,15\ minute}$ is greater than 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 (consent, determining or regulatory) may require respite periods by restricting the hours that the very noisy activities can occur, taking into account: - times identified by the community when they are less sensitive to noise (such as before and after school for works near schools, or mid-morning or mid-afternoon for works near residences - if the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.

Based on the recommended standard hours of work, airborne noise criteria for residential receivers identified in this report are detailed in Table C4.

Table C4: Noise Management levels for residential receivers, dB $L_{Aeq(15minute)}$

NCA ID	Receiver Type	Noise Management Level, $L_{Aeq\ (15\ min)}$	
		Noise Affected	Highly Noise Affected
R1 – R3	Residential	51	75

In addition to residential type receivers, ICNG provide noise management levels for other industrial, commercial premises and other noise-sensitive businesses. However, for other business (e.g. childcare), the guideline recommends the 'maximum' internal noise levels recommended in *Australian/New Zealand*

Standard AS/NZS 2107:2000 Acoustics—Recommended design sound levels and reverberation times for building interiors (AS2107:2000), in determining relevant noise levels. On this basis, an external management level of $L_{(Aeq1hr)}$ 45 dBA is determined for the childcare receiver. Based on the recommended standard hours of work, airborne noise criteria for non-residential receivers identified in this report are detailed in Table C3.

Table C3: Noise Management Levels at other noise sensitive land uses

Receiver Type	Noise Management Level[1], $L_{Aeq\ (15\ min)}$	Where NML Applies
Commercial	70	External noise level
Childcare	55	External noise level

The ICNG criterion for childcare receivers is applicable within internal spaces. For simplicity of assessment an equivalent external criterion has been developed based on a typical outside to inside level difference of 10 dB.

In accordance with ICNG, NMLs apply when properties are being used and noise levels are to be assessed at the most affected occupied point of the premises. The Noise Management Level for non-residential receivers are not distinguished as either “Noise Affected” or “Highly Noise Affected” but is set as a single Noise Management Level

Where noise from construction works is above the “Noise Affected” level, all feasible and reasonable work practises should be applied. Where the noise from construction works is above “Highly Affected management level, restrictions to the hours of construction may be required.

APPENDIX D CONSTRUCTION NOISE SOURCES

A variety of excavation and construction equipment will be used for this project. At this early stage, a comprehensive plan of staging and equipment selection is not known. Table E1 provides a schedule of construction equipment that is anticipated to be used on this site and their noise levels as taken from:

- AS2436-2010: *Guide to noise and vibration control on construction, demolition and maintenance sit*
- AS2436-1981*: Guide to noise and vibration control on construction, demolition and maintenance sites*
- BS5228-1-2009: *Code of practice for noise and vibration control on construction and open sites – Part 1: Noise*

Table E1: Demolition noise source sound power levels, dB L_{Aeq}

Noise source	A-weighted sound power level, L_{Aeq} dB SWL	Source
1 x Mobile Crane	104	AS2436
1 x Tracked 8t Screw Piling Rig	111	AS2436-2010
1 x Tracked 5t excavator (Bucket) Services	89	BS5228-1-2009
1 x Tracked 14 t excavator (Hammer)	118	BS5228-1-2009
2 x Tracked 25 t excavator (Bucket)	98	BS5228-1-2009
1x Tracked 6t Dozer	108	AS2436-2010
1x Padfoot Roller	101	BS5228-1-2009
1x Smooth Drum Roller	101	BS5228-1-2009
1 x Dump truck	103	BS5228-1-2009
1x Crusher	114	BS5228-1-2009
1x Water Cart	107	AS2436-2010
1 x Wheeled loader Bobcat	115	AS2436 - 1981
2 x Bogie truck & trailer	107	AS2436 - 1981
1x Telehandler	97	BS5228-1-2009
1 x Concrete pump truck	108	AS2436-2010
1 x Concrete agitator truck	109	AS2436-2010
1x EWP	85	BS5228-1-2009
1 x Hand tools (electric)	102	AS2436-2010
2x Impact Drivers (Hand Held)	111	AS2436-2010
2x Impact Drivers (Hand Held)	111	AS2436-2010
1 x Handheld jack hammer	126	AS2436-2010
1 x Concrete saw	122	AS2436-2010
1 x Welder	105	AS2436-2010
1 x Generator	99	AS2436- 1981
1 x Brick Saw	118	AS2436- 1981

Noise source	A-weighted sound power level, L_{Aeq} dB SWL	Source
1x Cement Mixer (electric)	93	AS2436- 1981
1x Brick Clean Pressure Wash	105	AS2436- 1981

* Includes a +5 dB factor in accordance with recommendations given in Section 4.5 of the ICNG.

APPENDIX E CONSTRUCTION NOISE IMPACT ASSESSMENT

Noise levels during the following stages have been calculated at the nominated receivers:

- Stage 1 – Demolition works phase-1
- Stage 2 – Demolition works phase-2
- Stage 3 – Demolition works phase-3
- Stage 4 – Civil works
- Stage 5 – Structure works

Noise levels have been predicted under guidance from *AS2436-2010 Guide to noise control on construction, maintenance and demolition sites* and utilising the information provided in *BS 5228-1-2009 Code of practice for noise and vibration control on construction and open sites*.

Levels have been calculated for "Worst-Case" situations where noise sources will either be closest to the noise-sensitive receiver. Noise levels have also been calculated for the "Average" situation, with noise sources located towards the centre of the site. The latter is likely to be representative of the longer-term noise emissions.

E1 Stage 1 – Demolition works phase-1

Table E1 details the predicted noise levels at the nominated receivers' occupancies during Stage 1. Noise levels have been calculated at a position within the NCA that is most exposed to noise from associated activities.

Noise levels from the proposed activities during this stage are expected to exceed the "Highly Noise Affected" NMLs for only the "Worst-Case" assessment scenario at only one residential receiver by up to 4 dB.

Predicted noise levels for residential receivers are expected to be up to 14 dB above the "Noise Affected" NMLs for the "Average" assessment scenario, and up to 28 dB above the "Noise Affected" NMLs for the "Worst-Case" assessment scenario.

Predicted noise levels for the bakery receiver are expected to be below "Noise Affected" NMLs for both the "Average" and the "Worst-Case" assessment scenarios.

Predicted noise levels for the childcare receiver are expected to be up to 11 dB above the "Noise Affected" NMLs for the "Average" assessment scenario, and up to 14 dB above the "Noise Affected" NMLs for the "Worst-Case" assessment scenario.

During this stage, the use of the Excavator with hammer and concreate saw have the highest potential to impact on the noise receivers.

E2 Stage 2 - Demolition works phase-2

Table E2 details the predicted noise levels at the nominated receivers' occupancies during Stage 2. Noise levels have been calculated at a position within the NCA that is most exposed to noise from associated activities.

The calculated levels indicate that noise levels from the proposed activities during this stage are expected to be below the "Highly Noise Affected" Noise Management Level" (NML) for all the identified nearby receivers.

Predicted noise levels for residential receivers are expected to be up to 16 dB above the "Noise Affected" NMLs.

Predicted noise levels for the bakery receiver are expected to be below "Noise Affected" NMLs.

Predicted noise levels for the childcare receiver are expected to be up to 2 dB above the "Noise Affected" NMLs during this stage of works.

During this stage, the use of the Excavator with hammer has the highest potential to impact on the noise receivers.

E3 Stage 3 - Demolition works phase-3

Table E3 details the predicted noise levels at the nominated receivers' occupancies during Stage 3. Noise levels have been calculated at a position within the NCA that is most exposed to noise from associated activities.

The calculated levels indicate that noise levels from the proposed activities during this stage are expected to be below the "Highly Noise Affected" Noise Management Level" (NML) for all the identified nearby receivers.

Predicted noise levels for residential receivers are expected to exceed the "Noise Affected" NMLs by up to 7 dB.

Predicted noise levels for the bakery receiver are expected to be below "Noise Affected" NMLs.

Predicted noise levels for the childcare receiver are expected to be up to 7 dB above the "Noise Affected" NMLs during this stage of works.

During this stage, the use of the Excavator, due to close proximity of works, has the highest potential to impact on the noise receivers.

E4 Stage 4 – Civil works

Table E4 details the predicted noise levels at the nominated receivers' occupancies during Stage 5. Noise levels have been calculated at a position within the NCA that is most exposed to noise from associated activities.

Noise levels from the proposed activities during this stage are expected to be below the "Highly Noise Affected" NMLs for both the "Average" and the "Worst-Case" assessment scenarios.

Predicted noise levels for residential receivers are expected to be up to 11 dB above the "Noise Affected" NMLs for the "Average" assessment scenario, and up to 14 dB above the "Noise Affected" NMLs for the "Worst-Case" assessment scenario.

Predicted noise levels for the bakery receiver are expected to be below "Noise Affected" NMLs for both the "Average" and the "Worst-Case" assessment scenarios.

Predicted noise levels for the childcare receiver are expected to be up to 10 dB above the "Noise Affected" NMLs for the "Average" assessment scenario, and up to 22 dB above the "Noise Affected" NMLs for the "Worst-Case" assessment scenario.

During this stage, piling have the highest potential to impact on the noise receivers.

E5 Stage 5 – Structure works

Table E5 details the predicted noise levels at the nominated receivers' occupancies during Stage 5. Noise levels have been calculated at a position within the NCA that is most exposed to noise from associated activities.

Noise levels from the proposed activities during this stage are expected to exceed the "Highly Noise Affected" NMLs for only the "Worst-Case" assessment scenario at only one residential receiver by up to 1 dB.

Predicted noise levels for residential receivers are expected to be up to 18 dB above the "Noise Affected" NMLs for the "Average" assessment scenario, and up to 25 dB above the "Noise Affected" NMLs for the "Worst-Case" assessment scenario.

Predicted noise levels for the bakery receiver are expected to be below "Noise Affected" NMLs for both the "Average" and the "Worst-Case" assessment scenarios

Predicted noise levels for the childcare receiver are expected to be up to 15 dB above the “Noise Affected” NMLs for the “Average” assessment scenario, and up to 23 dB above the “Noise Affected” NMLs for the “Worst-Case” assessment scenario.

During this stage, the use of the hand-held impact drivers has the highest potential to impact on the noise receivers.

Table F1: Predicted noise levels during Demolition works phase-1

Receiver	Period	Assessment	Calculated noise level[2], dB $L_{Aeq, 15min}$[3]	"Noise Affected"		"Highly Noise Affected"	
				Management level, dB $L_{Aeq, 15min}$	Exceedance, dB	Management level, dB $L_{Aeq,15mins}$	Exceedance, dB
R 1	Within guideline hours[2]	Worst-case	79	51	28	75	4
		Average	65		14		--
C 1	Within guideline hours[2]	Worst-case	64	70	--	N/A	N/A
		Average	62		--		N/A
C 2	Within guideline hours[2]	Worst-case	69	55	14	N/A	N/A
		Average	66		11		N/A
R 2	Within guideline hours[2]	Worst-case	61	51	10	75	--
		Average	60		9		--
R 3	Within guideline hours[2]	Worst-case	65	51	14	75	--
		Average	62		11		--

[1] Monday – Friday: 0700-1700hrs, Saturday 0800-1300hrs

[2] Calculations included the recommended noise controls detailed in Section 6.3

[3] Unless noted otherwise, noise level calculated at 1.5m above ground level at the property boundary most exposed to construction noise in accordance with the requirements of the ICNG.

Table F2: Predicted noise levels during Stage 2 - Demolition works phase-2

Receiver	Period	Assessment	Calculated noise level[2], dB $L_{Aeq, 15min}$[3]	"Noise Affected"		"Highly Noise Affected"	
				Management level, dB $L_{Aeq, 15min}$	Exceedance, dB	Management level, dB $L_{Aeq,15mins}$	Exceedance, dB
R 1	Within guideline hours[2]	Average/ Worst-case	59	51	8	75	--
C 1	Within guideline hours[2]	Average/ Worst-case	59	70	--	N/A	N/A
C 2	Within guideline hours[2]	Average/ Worst-case	62	55	7	N/A	N/A
R 2	Within guideline hours[2]	Average/ Worst-case	67	51	16	75	--
R 3	Within guideline hours[2]	Average/ Worst-case	66	51	15	75	--

[1] Monday – Friday: 0700-1700hrs, Saturday 0800-1300hrs

[2] Calculations included the recommended noise controls detailed in Section 6.3

[3] Unless noted otherwise, noise level calculated at 1.5m above ground level at the property boundary most exposed to construction noise in accordance with the requirements of the ICNG.

Table F3: Predicted noise levels during Stage 3 - Demolition works phase-3

Receiver	Period	Assessment	Calculated noise level[2], dB $L_{Aeq, 15min}$[3]	"Noise Affected"		"Highly Noise Affected"	
				Management level, dB $L_{Aeq, 15min}$	Exceedance, dB	Management level, dB $L_{Aeq,15mins}$	Exceedance, dB
R 1	Within guideline hours[2]	Average/ Worst-case	58	51	7	75	--
C 1	Within guideline hours[2]	Average/ Worst-case	56	70	--	N/A	N/A N/A
C 2	Within guideline hours[2]	Average/ Worst-case	N/A[4]	N/A[4]	N/A[4]	N/A	N/A N/A
R 2	Within guideline hours[2]	Average/ Worst-case	55	51	4	75	--
R 3	Within guideline hours[2]	Average/ Worst-case	57	51	6	75	--

[1] Monday – Friday: 0700-1700hrs, Saturday 0800-1300hrs
[2] Calculations included the recommended noise controls detailed in Section 6.3
[3] Unless noted otherwise, noise level calculated at 1.5m above ground level at the property boundary most exposed to construction noise in accordance with the requirements of the ICNG.
[4] During this stage it is proposed to complete the works outside the operation hours of the childcare.

Table F4: Predicted noise levels during Stage 4 – Civil works

Receiver	Period	Assessment	Calculated noise level[2], dB $L_{Aeq, 15min}$[3]	"Noise Affected"		"Highly Noise Affected"	
				Management level, dB $L_{Aeq, 15min}$	Exceedance, dB	Management level, dB $L_{Aeq,15mins}$	Exceedance, dB
R 1	Within guideline hours[2]	Worst-case	65	51	14	75	--
		Average	62		11		--
C 1	Within guideline hours[2]	Worst-case	66	70	--	N/A	N/A
		Average	62		--		N/A
C 2	Within guideline hours[2]	Worst-case	77	55	22	N/A	N/A
		Average	65		10		N/A
R 2	Within guideline hours[2]	Worst-case	64	51	13	75	--
		Average	60		9		--
R 3	Within guideline hours[2]	Worst-case	64	51	13	75	--
		Average	60		9		--

[1] Monday – Friday: 0700-1700hrs, Saturday 0800-1300hrs

[2] Calculations included the recommended noise controls detailed in Section 6.3

[3] Unless noted otherwise, noise level calculated at 1.5m above ground level at the property boundary most exposed to construction noise in accordance with the requirements of the ICNG.

Table F5: Predicted noise levels during Stage 5 – Structure works

Receiver	Period	Assessment	Calculated noise level[2], dB $L_{Aeq, 15min}$[3]	"Noise Affected"		"Highly Noise Affected"	
				Management level, dB $L_{Aeq, 15min}$	Exceedance, dB	Management level, dB $L_{Aeq,15mins}$	Exceedance, dB
R 1	Within guideline hours[2]	Worst-case	76	51	25	75	1
		Average	69		18		--
C 1	Within guideline hours[2]	Worst-case	70	70	--	N/A	N/A
		Average	66		--		N/A
C 2	Within guideline hours[2]	Worst-case	78	55	23	N/A	N/A
		Average	70		15		N/A
R 2	Within guideline hours[2]	Worst-case	63	51	12	75	--
		Average	62		11		--
R 3	Within guideline hours[2]	Worst-case	63	51	12	75	--
		Average	63		12		--

[1] Monday – Friday: 0700-1700hrs, Saturday 0800-1300hrs

[2] Calculations included the recommended noise controls detailed in Section 6.3

[3] Unless noted otherwise, noise level calculated at 1.5m above ground level at the property boundary most exposed to construction noise in accordance with the requirements of the ICNG.

APPENDIX F COMPLAINTS RESPONSE PROCEDURE

In the interest of maintaining good relationships and in being compliant with Council requirements, the appointed contractor/developer must adopt the following complaint response procedure:

1. Zauner Construction will have two main points of contact, (XXXXXX) and (XXXXXX). They will be the responsible people and will be contactable by a dedicated customer service mobile number once the site is live.
2. Zauner Construction representative who receives the call via the service line, will record the details and the nature of the complaint on the site-specific Customer Service Line Log.
3. Zauner Construction representative will assess if the problem can be simply resolved by reducing noise levels through implementation of the various work practises detailed in the Construction Noise Management Plan
4. Zauner Construction representative who receives the call will advise the complainant of the action taken and record all details of the conversation, including the complainants' name, number and nature of complaint.
5. A copy of the Customer Service Line Log will be filed internally with the site's daily reports and will be issued to the Council or relevant authority.

Table H1: Customer Service Line Log

ITEM	Comments
Date and Time of Call:	
Name and location of caller:	
Phone number:	
Nature of Call: (If noise complaint, note on-site activities at the time)	
Action taken:	
Council notified: (Y/N)	

APPENDIX G LETTER DROP RECIPIENTS AND PROJECT UPDATE

Figure 2: Letter drop recipients as advised by Zauner Construction

NSW Department of Education – School Infrastructure

Artist impression of the courtyard at the new Budawang school

Budawang School relocation

Project update

November 2021

Investing in our schools

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.

Project overview

Planning is continuing on a project to relocate the existing Budawang School for Specific Purposes (SSP) in Ulladulla to a new facility in Milton.

The project will deliver additional purpose-built learning spaces and a hydrotherapy aquatic facility to cater to students with disability from years K-12.

There will be seven new learning spaces to accommodate student growth and new core facilities.

Progress Summary

The State Significant Development (SSD) application has been approved by the NSW Department of Planning, Industry and Environment (DPIE). The construction contract has been awarded to Zauner Construction.

Construction

Site establishment works to prepare the site for construction are likely to start in the coming months. The community will be notified of the planned works in advance. Construction works have been approved to occur between 7:00am and 6:00pm, Monday to Friday and 8:00am to 1:00pm, Saturday. No work will take place on Sundays unless otherwise advised.

For more information contact:

School Infrastructure NSW
Email: schoolinfrastructure@det.nsw.edu.au
Phone: 1300 482 651
www.schoolinfrastructure.nsw.gov.au

NSW GOVERNMENT

NSW Department of Education – School Infrastructure

Managing construction impacts

Works are anticipated to start in the coming months, starting with site establishment and followed by earthworks and construction of the new learning facilities.

As part of the consent to carry out the work, the main contractor, Zauner Construction, is required to develop a Construction Environmental Management Plan (CEMP) to outline how it will manage construction impacts to nearby residents. These impacts include noise, vibration and vehicle movements.

You can view the consent conditions, including those required for managing construction impacts on the Planning Portal webpage at www.planningportal.nsw.gov.au/major-projects/project/39516.

You can also take a look at the construction impacts consent conditions and proposed action below.

Consent conditions and proposed action

Below are some key consent conditions from DPIE for the Budawang School relocation project. Please let us know if you have any feedback or questions about these consent conditions and the associated management actions listed.

Activity	Consent conditions and proposed action
General	• Noise levels generated by the operations at site shall not exceed the noise control guidelines outlined in the EPA Environmental Noise Control Manual for construction/demolition works. • The local community will be provided with advance notice of work, particularly outlining any anticipated high-noise works. • Trucks will be maintained with low-noise mufflers and only use approved truck routes to and from the site. • Construction works, including the delivery of materials to and from the site, are proposed to take place between 7:00am and 6:00pm Mondays to Fridays and between 8:00am and 1:00pm on Saturdays. No work is currently proposed for Sundays or Public Holidays.
Construction	**Consent condition: Construction hours** Proposed actions: • Overall construction hours will be strictly limited to approved hours: 7:00am to 6:00pm, Monday to Friday; 8:00am to 1:00pm Saturdays. • If rock breaking activities are required, impacts will be managed through equipment selection, and respite periods. Rock breaking hours will be strictly limited to approved hours: 9:00am to 12:00pm, Monday to Friday; 2:00pm to 5:00pm Monday to Friday; 9:00am to 12:00pm Saturday.
Construction	**Consent condition: Noise and Vibration** Proposed actions: • A Construction Noise and Vibration Management Sub-Plan (CNVMP) will be prepared by a suitably qualified and experienced noise expert. • The CNVMP will include a vibration assessment for the adjacent heritage listed bakery at 197-201 Princess Highway Milton. • Plant and equipment will be set up/orientated to direct noise away from the closest receivers/residents. • The quietest suitable machinery will be selected to perform works. • In close proximity to sensitive receivers/residents, machines will not be used/run simultaneously. • If rock breaking activities are required, impacts will be managed through equipment selection, and respite periods.

For more information contact:

School Infrastructure NSW
Email: schoolinfrastructure@det.nsw.edu.au
Phone: 1300 482 651
www.schoolinfrastructure.nsw.gov.au

NSW GOVERNMENT

NSW Department of Education – School Infrastructure

Activity	Consent conditions and proposed action
Construction	**Consent condition: Soil and Water Management** Proposed actions • A Construction Soil and Water Management Sub-Plan (CSWMSP) will be prepared by a suitably qualified expert, in consultation with Council. • Sediment and Erosion Management Plans are to be enforced prior to any works commencing on site. • A Flood Study has been completed and an on-site detention tank is to be installed as part of the works.
Construction	**Consent condition: Traffic and Pedestrian Management** Proposed actions • A Construction Traffic and Pedestrian Management Sub-Plan (CTPMSP) will be prepared by a suitably qualified expert to ensure road and pedestrian safety. • Traffic control personnel will be on-site on an as need basis to ensure minimal interruption to traffic and pedestrians.

For more information contact:

School Infrastructure NSW
Email: schoolinfrastructure@det.nsw.edu.au
Phone: 1300 482 651
www.schoolinfrastructure.nsw.gov.au

NSW GOVERNMENT

APPENDIX H CONSULTATION REPORT

BUDAWANG SCHOOL

17 CROOBYAR ROAD, MILTON NSW 2538

CONSULTATION REPORT

APRIL 2021

Version Control			
Version	**Date**	**Document Owner**	**Approved By**
Rev5 - FINAL	21/04/2021	Samanta Piatek	Ben Marshall

1 TABLE OF CONTENTS

2 OVERVIEW

2.1 PROJECT SUMMARY

The existing Budawang School is currently located on Camden Street in Ulladulla. This project relocates the existing school to occupy a part of the 7.6Ha site of the former Shoalhaven Anglican School on Croobyar Road in Milton. Budawang's new facilities will provide 7 homebases, new administration block, new library, new hall facilities and a hydrotherapy pool in the first phase, with scope within the masterplan and core facilities to increase provision to 10 homebases in the future if required. The remainder of the site may be used for a potential future educational facility.

Budawang School caters for students with specific needs from Kindergarten to year 12; students are typically taught in classes of 6 to 8 students with two staff members. These high staff to student ratios are typical for specific needs schools; the current Budawang School has only 35 students. The entry criteria for the school is a diagnosis of a moderate to severe intellectual disability. Typically, this intellectual disability is coupled with other disabilities, conditions, or requirements, such as a sensory condition, autism, behavioural and/or emotional disorders, and/or severe physical disabilities. This results in high levels of care being required by students, who often have very conflicting needs.

The new school will accommodate roughly 56 students within the first phase of 7 homebases, with a maximum population of 80 students when the future block of additional 3 homebases is constructed.

There is no catchment area for the school. Due to this factor, combined with the inadequate supply of specific needs school placements available within the Shoalhaven region, many students commute a long distance to attend the school. Students who are currently enrolled at Budawang travel from as far as Saint Georges Basin to the North, and Batemans Bay to the South, which entails up to a 50-minute drive. These distances coupled with the nature of specific needs schools means that very few students are expected to arrive on foot.

2.2 DOCUMENT PURPOSE

This document is prepared to provide a record of consultation that has been undertaken in the development to date for the Project. This document highlights the key consultation initiatives, issues raised and the project response as a result of this consultation.

Consultation requirements under the SEARs that this document responds to is outlined below:

During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups, relevant special interest groups, including local Aboriginal land councils and registered Aboriginal stakeholders and affected landowners. In particular, you must consult with:

- *the relevant Council*
- *Government Architect NSW*
- *Transport for NSW*

The EIS must describe and evidence the consultation process and the issues raised and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided. Consultation should commence as soon as practicable to inform the scope of investigation and progression of the proposed development.

2.3 SUMMARY OF CONSULTATION

The following Stakeholders have been consulted in the preparation of the development proposal:

- Shoalhaven Council
- Local Members
- National Resources Assets Regulator
- PCG/PRG Meetings
- NSW Office of Environmental and Heritage
- Government Architect NSW (GANSW)
- Transport for NSW (TfNSW)
- Department of Planning, Industry and Environment (DPIE)
- Local Aboriginal Community - Registered Aboriginal Parties
- Local Community
- Local Disability Network
- School Principal of Budawang
- Service Providers
- Local Hospital

The project has undertaken a consultation process of Project Control Group (PCG) meetings and Project Reference Group (PRG) meetings. These meetings have been taken from project inception, design development and through to SSDA lodgement. These forums encouraged an open dialogue with a high level of transparency around the project's design brief, education principals and design guidelines (Educational Facility Standards & Guideline) used.

These meetings were held monthly throughout the project development.

3 CONSULTATION RESULTS

3.1 SHOALHAVEN COUNCIL

The Traffic Engineer (PTC) consulted Shoalhaven Council whilst compiling their Traffic Impact Assessment for the Development, with the main area for discussion being the impact the development may have on Major Future Projects and vice versa.

The Town Planner also had two meeting with Council in relation to Budawang. The main agenda for the meetings was to update the Council on local environment, hydrotherapy pool and program/lodgement of SSDA.

Shoalhaven Water, part of Shoalhaven Council, is addressed below.

3.2 LOCAL MEMBERS

The project has been in communication with the local member of parliament Shelley Hancock regarding design development and project updates. Shelly Hancock visited site on 26 February 2019 to provide a statement about the existing Budawang School relocating to 17 Crooybar Rd, Milton. The following is from the Milton Ulladalla Times newspaper.
https://www.ulladullatimes.com.au/story/5928237/budawang-school-will-relocate-to-shoalhaven-anglican-site/

Shelley Hancock also attended the briefing of the project status on 23 February 2021 along with the NSW Premier Gladys Berejiklian. The event was reported in the South Coast Register newspaper. https://www.southcoastregister.com.au/story/7138792/plan-for-budawang-school-revealed-by-premier-and-shelley-hancock/

3.3 NATURAL RESOURCES ASSETS REGULATOR

The Planning Secretary's Environmental Assessment Requirements (SEARs) for the proposed State Significant Development require consideration of the 2018 Guidelines for Controlled Activities on Waterfront Land and consultation with the Natural Resource Access Regulator (NRAR). The Environmental Consultant contacted NRAR in November and December 2020 regarding the proposed Budawang School. NRAR advised that a Vegetation Management Plan (VMP) would be required to demonstrate how unavoidable impacts to the riparian corridor would be offset.

3.4 PCG/PRG MEETINGS

Regular PCG and PRG meeting where held throughout all stages of the project to inform the key stakeholders of the progress and key issues. See APPENDIX 2.

3.5 NSW OFFICE OF ENVIRONMENTAL AND HERITAGE

In consultation with Heritage NSW and in line with the NSW Heritage Office guidelines, Tocomwall undertook a Heritage Assessment of the site and found:

"The archaeological survey and historical research undertaken for the study area has determined that there are no items or features of historical significance within Lot 200 and DP1192140, and there is very low potential for historical archaeological deposits within the proposed development footprint. The location is considered to have low archaeological sensitivity".

"An assessment of the impacts of the development on the nearby local heritage items, the Victorian Rendered Masonry Store (Heritage Bakery) and Church of England Cemetery has concluded that the impacts from the proposed development will be minor and will not diminish the heritage values of either of the items, nor will it diminish the community appreciation of these items".

3.6 GOVERNMENT ARCHITECT NSW

The development is a State Significant Development, hence it requires the Government Architects input. Two State Design Review Panel (SDRP) presentations were undertaken on 2 December 2020 and 17 February 2021. Refer to APPENDIX 1 for Advice Letters from the SDRP.

Key design issues raised relate to:

- The provision of masterplan options.
- The provision of alternative traffic and parking options.
- Landscaping plan clearly defined
- Retention of natural vegetation
- Sensory gardens aligning with the library
- Community integration
- Aboriginal considerations
- The provision of a clear pedagogical approach for the school.

The Architect has incorporated feedback to the Government Architect comments on the design into their Design Report. An extract of this can be found within APPENDIX 1.

3.7 TRANSPORT FOR NSW (TFNSW)

The Traffic Engineer (PTC) sought advice and consultation has taken place with TfNSW in regard to the impact of the proposed Milton / Ulladulla bypass and the design for the proposed development. As the development is causing no changes to the existing state road or driveways the items discussed during consultation include:

- Existing travel behaviour along the existing Princes Highway.
- The impact of additional traffic generated by other developments upon completion of the proposed development.
- The potential additional impact of traffic in the Milton/Ulladulla area, and specifically along the Princess Highway and at the Croobyar Road / Princess Highway intersection upon completion of the Milton-Ulladulla bypass in order to determine future traffic volumes for the 10-year horizon SIDRA modelling. TfNSW advised that they are unable to provide this advice, as the bypass is still the subject of investigation and planning.

3.8 DEPARTMENT OF PLANNING, INDUSTRY AND ENVIRONMENT (DPIE)

DPIE was consulted with regards to the proposed development via a request for State Environmental Assessment Requirements (SEAR's) issued via Mecone in July 2020. An initial set of SEAR's were then issued from DPIE dated 7 September 2020 and these were then revised dated 10 December 2020 to include a requirement for Aviation consultation.

3.9 LOCAL ABORIGINAL COMMUNITY

Tocomwall undertook a formal registration process for the Registered Aboriginal Parties (RAPs). 10 Aboriginal Parties registered for the project. A site visit then took place between Tocomwall and a number of the RAP's and an area for test pits was identified. Test pits have since been carried out and some items of minor significance found.

Further consultation with the RAP's is taking place to arrange for the burial of the findings in an area close to the site. The site visit and test pits assisted Tocomwall in their preparation of the Aboriginal Cultural Heritage Assessment Report which has been reviewed by the RAPs.

Moving forward, an Aboriginal Heritage Impact Permit (AHIP) is going to be obtained prior to any works commencing on site and consultation with the local aboriginal community is to take place in order to seek guidance on the incorporation of aboriginal consideration into the design of the project.

3.10 LOCAL COMMUNITY

3.10.1 Web Updates

The project has its own project webpage on the SINSW website, which has been regularly updated with Project Status updates.

https://www.schoolinfrastructure.nsw.gov.au/projects/b/budawang-school-relocation.html#library-tab

The webpage also includes contact channels for the community to ask questions about the project or provide feedback.

There have been six enquiries from community members regarding the project. One person made contact regarding the state of the signage on the fence, which has since been replaced, three people were queried the use for the site other than just the School, one person enquired about being on the reference group and one person asked when the school was due to open.

3.10.2 Letterbox Drop

Project updates provided information to the local community on how planning has progressed and an overview of the next steps. Two project updates were shared via letterbox drop on the following dates;

- December update was delivered on 13 January 2021
- February update was delivered on 23 February 2021

The first included a link to a survey where the community was encouraged to provide feedback on the proposal. The second provided a summary of results.

3.10.3 Survey

In order to receive community feedback on the development an advertisement with a link to the survey was placed in the Milton Ulladulla Times (included in APPENDIX 3). This Survey was placed in the paper on 23/12/2020, 13/01/2021, 20/01/2021 and 27/01/2021.

The main findings from the survey showed that;

- Locals feel very good about the development
- Easy accessibility was the most important aspect of the school
- Effective use of space and time frame were considered most important aspects of construction
- Future proofing was considered most important in terms of design
- Accessible playground was considered most important in the outside school spaces
- Aboriginal and cultural acknowledgements would be welcomed
- Flexible learning spaces were the preferred style of classroom design
- Most people that took the survey live in Shoalhaven region

3.11 LOCAL DISABILITY NETWORK

The local disability network has been provided communication of the project via the PCG and PRG meetings. The existing Budawang School and the Parent & Community representatives are members of the local disability network. The project has had consultation with the existing school to understand the school operational needs. See APPENDIX 2.

3.12 SCHOOL PRINCIPAL OF BUDAWANG

As part of or Project Reference Group (PRG), the principal of the current Budwang School has regularly attended PRG meetings. As well as the Principal, several Parents & Citizens (P&C) group members have been present. The purpose of the engagement with the principal and P&C members in the design stage is to ensure that the design is fit for purpose to suit the teaching needs of the users.

3.13 SERVICE PROVIDERS

3.13.1 Shoalhaven Water

The Services Engineer had regular consultation with Shoalhaven Water throughout the project which included consultation to discuss:

- The design of the services and the impact these have on the existing water, fire and sewer connections to site.
- The need to make an application for a Certificate of Compliance in relation to water supply.
- Sewerage matters and that if the new school is to be on its own separate parcel of land (ie, a Torrens Subdivision takes place) then it must have separate services (water supply, fire support and sewer connection).

The Hydraulic Engineer consulted Shoalhaven Water Hydraulic Engineers and received feedback with regards to some queries around the flood levels.

Shoalhaven Water were also contacted by SJA Project Management to coordinate a survey of the existing sewer that installed across part of the site.

3.13.2 Endeavour Energy

The Services Engineer has been in consultation with Endeavour Energy with regards to the location of the proposed substation and the power requirements for the project.

3.13.3 Gas

There is no current gas provision to the site nor is there a requirement for a gas provision to the new project. Therefore, no consultation for this service has been carried out.

3.14 LOCAL HOSPITAL

The local hospital was contacted by the Aviation Consultant with regards to the helipad that is located in a site along Croobyar Road. The local hospital confirmed they do not operate the helipad and could not offer further information. It has since transpired that the operator of the helipad is Toll – Bankstown (Air Ambulance). The current feedback from Toll- Bankstown is with regards size and lighting requirements to temporary cranes that is likely to be used for construction.

APPENDIX 1 – GANSW SDRP FEEDBACK

GOVERNMENT ARCHITECT NEW SOUTH WALES

11 December 2020

Mark Reynolds

Via Email –
Mark.reynolds38@det.nsw.edu.au

PROJECT: **Budawang School**
RE: SDRP SESSION 67 – 02.12.20 (First Review)

Dear Mark,

Thank you for the opportunity to review the Budawang School project at an early stage. Please find a summary of advice and recommendations arising from the first design review session held on 02.12.20.

The team's presentation requires more information to clearly explain the opportunities, constraints and design approaches for the school. The current proposal is diagrammatic and lacks the detail required for a thorough review.

Please provide more information and clarity regarding:

- Provide considered masterplan options that do not preference vehicular movement over other site and design considerations;
- The masterplan should include more of the site context (including topography) to illustrate the relationship to the proposed school and traffic requirements;
- Present a clear pedagogical approach for the school. This should be a clear driving principle informing the design of the homebases and the outdoor spaces;
- Provide plans showing alternative traffic and parking options. Consider there may be two carparks provided; one for staff and one for drop-off to better integrate carparking requirements with topography and context;
- Orientate all plans so north arrows are shown going up the page and include roof lines to illustrate location of covered walkways and outdoor spaces;
- Provide a current Landscape Plan incorporating an Arborist report to define which trees are being retained, which are being removed and if there is a proposed plan to replace removed trees;
- Plans showing levels and gradients are required due to the nature of the site and the requirements of the students;
- Clarify the gradient of and accessibility to the courtyard and other outdoor spaces;

- Clarify the staging of the school and how the future block to the south of the site is to be used by the students;
- Provide detail as to the type of fencing to be used noting the opportunity to reference the rural context of the site. Use built form as an alternative barrier where possible;

The following advice and recommendations should be addressed in the ongoing design development of the school.

- The design should better integrate with the existing topography of the site and the existing trees;
- Community access to the hydrotherapy pool is supported. Provide a management plan indicating which facilities are accessible by the broader community and how these are accessed. Consider the public address of this building and how it can have a more generous relationship to the street;
- The proposed scale of the car park and its proximity to the street do not deliver good urban design outcomes. Consider alternative options for carparking and access that allow the school and the hydrotherapy pool to have a public address to the street;
- Explore the sequencing of spaces including the progression from the inside to the outside as well as public to private;
- Explore opportunities to incorporate views out to the landscape and open space;
- The proposed pedestrian access to the future school is not supported as there is no surveillance and lacks amenity. Consider other design solutions that allow for the separation of pedestrian and vehicular movement;
- There is an opportunity to engage with Indigenous Landscapes that could enhance the design and provide sensory experiences for students with moderate to severe intellectual learning impairments;
- The importance of water to the local Aboriginal culture and the presence of watercourses on the site could inform the design;
- Through sections demonstrate the passive heating/cooling and solar access requirements that have driven the roof form. Currently the roof forms do not vary with their respective orientations, provide justification for this and confirm the amenity and environmental performance of internal spaces;
- Adopt a more rigorous approach to addressing solar access into the classrooms;
- Illustrate how the site will achieve a tree canopy target of 40% of site coverage, noting this is consistent with State government targets and priorities.
- Explore opportunities for each classroom to have a mixed mode system advising occupants on the optimal method of passive climate control.
- Illustrate how the project is helping to deliver State government policies related to net-zero emissions;

Please contact GANSW Senior Design Advisor, Caroline Comino (carolinepeta.comino@planning.nsw.gov.au), if you have any queries regarding this advice.

Please refer to the design package requirements form for information on materials to be provided at the next SDRP.

Sincerely,

Carol Marra

Chair, SDRP

CC

NSW SDRP Panel members	Oi Choong, Tamara Donnellan, Carroll Go-Sam, Carol Marra (Chair, GANSW)
GANSW Design Advisor	Caroline Comino
DPIE	Nicholas Gunn
DPIE	Dimitri Gotsis
Group GSA	Rachel Faber, Rajat Khanna, Michael Mandl
DET	Alix Carpenter, Mark Reynolds, Ivica Djuric, Sarah Kelly

Government Architect
New South Wales

4 Parramatta Square
L17, 12 Darcy Street
Parramatta NSW 2150

government.architect
@planning.nsw.gov.au
T +61(02)9860 1450

NSW GOVERNMENT

GOVERNMENT ARCHITECT NEW SOUTH WALES

03 March 2021

Mark Reynolds

Via Email – Mark.reynolds38@det.nsw.edu.au

PROJECT: **Budawang School**
RE: SDRP SESSION 70 – 17.02.21 (Second Review)

Dear Mark,

Thank you for the opportunity to review the Budawang School project for a second time. Please find a summary of advice and recommendations arising from the review session held on 17.02.20.

The team's presentation has not convincingly explained the opportunities, constraints and design approaches for the school, and further analysis should be provided

While it is acknowledged that this school has many pragmatic requirements, equal priority must be given to the quality and amenity of spaces for both occupants and the community. The team is encouraged to explore all available options to ensure the design intent is not compromised.

The following are supported:

- Retention of existing trees as well as the increase in planting to the carpark and the central courtyard;
- The Vegetations Strategy Plan that allows for the replacement of the 46 removed trees on site with 46 proposed trees. A planting plan noting proposed tree species should be provided;
- Sensory gardens aligning with the library;
- The clear pedagogical model and the requirement for passive surveillance as the generating driver for the layout of the homebases and outdoor learning areas;
- The breaking down and programming of the outdoor play spaces including the introduction of a cycle track, the increase in size of the 'productive garden' that allows for greater connection to the hydrotherapy pool as well as allowing for a secondary outdoor space;
- The reconfiguration of the multipurpose space allowing the COLA to be more connected to the courtyard and creating greater flexibility in use;
- The increased roof overhangs, developed roof forms, covered walkways and a more resolved response to solar access;

Government Architect
New South Wales

4 Parramatta Square
L17, 12 Darcy Street
Parramatta NSW 2150

government.architect
@planning.nsw.gov.au
T +61(02)9860 1450

NSW GOVERNMENT

- Planting to act as screening to fence lines. It is understood all planting along fences will be delivered within the scope of this project;

The following is still required to provide more information and clarity:

- Provide a north / south section through the site;
- Provide an elevation from Croobyar Rd to illustrate what the Hydrotherapy pool looks like from the outside;
- All elevations to be clearer and at a larger scale;
- Look at alternative traffic and parking options. Consider there may be two carparks provided; one for staff and one for drop-off to better integrate carparking requirements with topography and context;
- Orientate all plans so north arrows are shown going up the page and include roof lines to illustrate location of covered walkways and outdoor spaces;
- Provide detail as to the type of fencing to be used noting the opportunity to reference the rural context of the site. Use built form as an alternative barrier where possible;

The following advice and recommendations should be addressed in the ongoing design development of the school.

Masterplan and Landscape

- The design should be better integrated with the existing topography of the site. Demonstrate how the changes to the levels will allow for tree retention;
- The edge condition to the east of the site and visibility into the homebases from the elevated pedestrian path requires further resolution;
- Community access to the hydrotherapy pool is supported. Provide a management plan indicating which facilities are accessible by the broader community and how these are accessed. More detailed resolution is required on pedestrian access as well as drop-off arrangement for the pool;
- While we acknowledge tree coverage has increased to 23% of the site and the concerns of the PRG, we encourage an increase in planting in this rural setting to deliver on state targets. Consider tree species that respond to the concerns of the PRG;
- The Hydrotherapy pool is encouraged to have a more open and generous relationship to the street, consider perforations in the blank façade or other solutions;
- The proposed scale of the car park and its proximity to the street do not deliver good urban design outcomes. Consider alternative options for carparking and access that allow the school and the hydrotherapy pool to have a public address to the street;

- Explore opportunities to incorporate views out to the landscape and open space;
- The proposed pedestrian access to the future school is still not supported as there is no surveillance and lacks amenity. Consider other design solutions that allow for the separation of pedestrian and vehicular movement;

Architectural Expression

- More details are required on the architectural expression to the school including materiality. The awning elements to the pathways as well as to the COLA need further detail and illustration;
- Provide more detail on the thresholds of inside to outside and 'pause spaces';
- Provide more details on the section through the homebases to the courtyard to illustrate how views/ edges are to be maximised;
- The plenums to the homebase rooms appear to be significantly oversized for the room volume. We understand the desire to create a feeling of differentiation in the space however this can be achieved in other ways which will not affect solar access and daylighting to these deep floor plates. The reduced ceiling heights to the withdrawal rooms will make tight enclosed spaces;
- The fencing requirements to the outdoor learning spaces require resolution to prevent the effect of 'fences within fences'. Consider other ways to separate these outdoor spaces through planting, programming of student groups, or moveable fences.

Aboriginal Cultural Heritage

- As 20% of the students are anticipated to be Indigenous, the response to Aboriginal Cultural Heritage is considered critical. The current proposed 'yarning circle' has become a one-size fits all approach to school design. consider a site-specific response through local consultation and the specific needs of this school;
- The Indigenous landscaping components should be considered as an integrated whole rather than a discrete element of the landscape design;
- The importance of water to the local Aboriginal culture and the presence of watercourses on the site could inform the design;

Sustainability and environmental aspects

- Adopt a more rigorous approach to addressing solar access and daylighting into the classrooms;
- Explore opportunities for each classroom to have a mixed mode system advising occupants on the optimal method of passive climate control.
- Clarify the quantum of how the ESD goals are to be achieved. Show where the water tanks, PVC etc are located and how many there are;

Please contact GANSW Senior Design Advisor, Caroline Comino (carolinepeta.comino@planning.nsw.gov.au), if you have any queries regarding this advice.

Please refer to the design package requirements form for information on materials to be provided at the next SDRP.

Sincerely,

Carol Marra

Chair, SDRP

CC

NSW SDRP Panel members	Oi Choong, Tamara Donnellan, Carroll Go-Sam, Carol Marra (Chair, GANSW)
GANSW Design Advisor	Caroline Comino
DPIE	Nicholas Gunn
DPIE	Dimitri Gotsis
Group GSA	Rachel Faber, Rajat Khanna, Michael Mandl
DET	Alix Carpenter, Mark Reynolds, Ivica Djuric, Sarah Kelly

Government Architect
New South Wales

4 Parramatta Square
L17, 12 Darcy Street
Parramatta NSW 2150

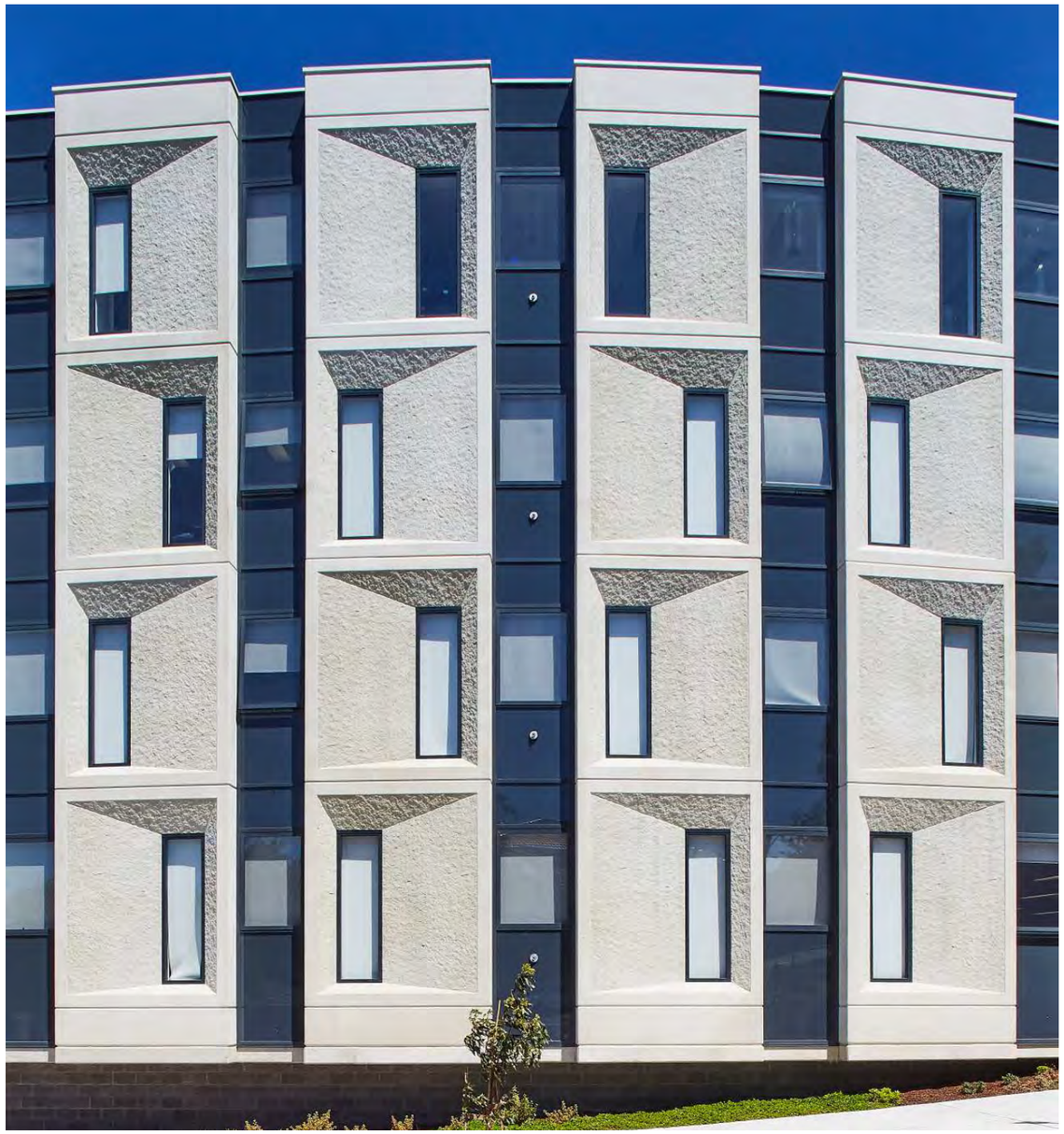
government.architect
@planning.nsw.gov.au
T +61(02)9860 1450

9.3 RESPONSE TO EDUCATION SEPP / GANSW DESIGN PRINCIPLES

"High quality, well designed schools create a sense of pride, identity and ownership for the communities they serve. They also help deliver better educational results.

There is growing appreciation of the significant role that good design can play in education, with increasing evidence that student learning outcomes are closely related to the quality of the environment in which they learn."

"Better Placed Design Guide for Schools"
Government Architect NSW



Context, built form and landscape

The site for Budawang SSP is located in Milton, on the South Coast of NSW. It is around 3 hours drive south of Sydney close to Ulladulla and Mollymock. The town is a popular stopping point along The Princes Highway, which runs through the town centre and has numerous shops and cafés to attract tourists. The SSP site is located 10 minutes walk southwards from the centre of Milton near the junction of The Princes Highway and Croobyar Road .

The project is situated on part of the former Shoalhaven Anglican School site, which is now in the ownership of the Department of Education NSW. Although the wider site measures around 7.6Ha, the SSP only encompasses around 9,750sqm, to the northern boundary of the site, occupying much of the street frontage onto Croobyar Road. The south, west and east of the SSP site is surrounded by the remainder of the Shoalhaven Anglican School site with existing school buildings largely to the south of the SSP site.

Site boundaries of the 7.6Ha DoE site are as follows:

- Croobyar Road to the north with residential buildings
- A heritage commercial building to the east operated as a bakery
- Residential buildings to the east
- One residential building and cement works to the west
- Milton Heliport to the west

The predominant built context surrounding the site is residential properties along Croobyar Road and the Princes Highway. These are typically single storey, low density, detached cottage s with pitched metal roofs. Some single storey town house are positioned at the junction of Croobyar Road an The Princes HIghway,; these are of a more linear form, again with pitched metal roofs.

A key built landmark in the vicinity of the site is the nearby bakery on the corner of The Princes Highway and Croobyar Road. This sandstone building was constructed in the 1870s and is heritage listed. Although adjacent to the site the Heritage Bakery of a different scale to the rest of the context; it is two storeys with a steeply pitched metal roof and a verandah at first floor overlooking Croobyar Road. The Heritage building is separated from the SSP by a car park and line of trees.

Built Form

The school has been designed to be of a massing which responds to the scale of the local residential context - as a single storey building.

Design concepts developed by GroupGSA considered student reaction to the building. It should feel comfortable and home-like. Materials reference the residential and rural materiality and scale of the area, so that the building will not feel too imposing, whilst still being contemporary. Through this strategy of considering the vernacular the design of the school responds to the local context in materiality, form and scale.

The materials and colour palette chosen are in keeping with nearby buildings and rock formations in the area, including the neighbouring sandstone heritage bakery, which is referenced in the selection of sandstone coloured concrete.

In terms of form, a key concept of the design is the courtyard layout. This stemmed from the earliest discussions with the PRG and relates to the PRG's desire to maximise passive surveillance throughout the main playground area and of main pathways leading through the school. Whilst answering this requirement, the courtyard form also offers opportunities to maximise connections of indoor and outdoor spaces, with all homebases benefiting from a view over the courtyard. This provides calming views of the landscape in addition to increased surveillance. This courtyard form also provides privacy for students, whilst still offering a public facade to the streetscape.

Tying together the myriad of requirements for each individual block and function and responding to the courtyard form, is the conceptual idea of an series of over-sailing roofs, which gather the accommodation below. The roofs provide a dominant aesthetic form, overlapping and stretching over the buildings, allowing a degree of flex in terms of the building footprint, whilst maintaining the clean lines of the roof.

These overlapping roof forms are skillions with clerestorys, the scale and materiality of which is comparable to nearby properties. The skillion roofs reference rural buildings, whilst the clerestorys refer to the existing educational buildings on the wider site. Clerestorys bring in natural light.. Roof pitches are raised 4 degrees towards the central courtyard - expanding the view of this central space, which forms the heart of the school. Clerestorys to the library, hall and hydrotherapy pool face north and west towards the streetscape. Increasing the height where required and providing more interest to the public facing facade.

The clerestory ridge line of the Hydrotherapy building is the highest point of the new SSP buildings. The Hydrotherapy building is also located closer to Croobyar Road an d the Heritage Bakery than the other blocks. At a level of RL58.00 the ridge line of the Hydrotherapy building is almost 5 metres lower than the ridge line of the 2 storey Heritage Bakery. Additionally the Hydrotherapy ridge line is comparable to the heights of residential properties to the opposite side of Croobyar Road.

Landscape

The courtyard form of the campus means that the landscape sits at the heart of the school. Connecting to the central courtyard, are further landscape zones created to maximise opportunities for outdoor learning and play. These zones are an important educational tool, providing authentic learning activities where students can experience science, art, and essential life skills that can only be created in the gardens and ecosystems of the natural environment.

Three design principles underpin the approach to the landscape design. These are:

1. Create a quality outdoor learning environment
2. Designing for inclusion
3. Develop a diversity of play opportunities

Employing these principles to the site will lead to "whole of school" activation and result in spatial design which fully explores the school's educational pedagogy.

Sustainable, efficient and durable

Sustainable design improves amenity for users of a building by providing well ventilated, well lit and comfortable places, therefore ideal for learning. For schools in particular, sustainability becomes embedded within the teaching and fosters opportunity for outdoor learning. Students are able to learn about sustainability through experiencing its positive impacts on their day to day life. EFSG Standards relating to sustainable design are being applied to this project. The design is being developed to achieve equivalency of a 4 Star Green Star rating.

Specification of robust materials, which are also durable and easy to maintain has been a main consideration. ESD principles are outlined further in this document. Key aspects include:

- Selection of robust, hard-wearing, low maintenance materials
- Ease of maintenance has been considered as part of the design process in terms of the building form and the selection of materials
- Protection from excess solar gain provided by deep overhangs and louvres
- Photovoltaic panels
- Rainwater tanks to be used for irrigation
- Waste management considers recycling
- Dual aspect façades
- Avoidance of damage caused by vandalism

Refer to Section ... of this report and the ESD Report for further information, and Section ... of the report with regard to maintenance.

Accessible and inclusive

Due to the nature of the user group, accessibility and inclusivity have been considered in from the earliest stage of the design to ensure

that the building is suitable for students with differing needs and capabilities. Students attending the school all have a diagnosis of moderate to severe intellectual impairment. This is typically accompanied by another disability or condition, which may include severe physical disabilities, neuro-diversity, sensory impairments, behavioural issues, etc. As, such the mobility of students and nature of their requirements varies significantly.

The school will have a high staff to student ratio. Class sizes will be typically 6-8 students with two staff members, however this will vary depending upon levels of care required. Staff will assist students in undertaking their day-to-day activities in addition to delivery of the pedagogy.

The focus of pedagogy is on gaining the lifeskills required to achieve the goal of independent living. Learning spaces both indoors and outdoors have been designed with this pedagogical aim in mind.

Homebases have been designed to cater for wide ranging needs; from the highly active with behavioural issues, through to the severely physically disabled. Ensuring that all students can be accommodated maximises flexibility for staff when allocating students to homebases, and thus is a means of future proofing the school.

The location of the school on the site of the former Shoalhaven Anglican School offers the possibility of co-location with a potential future educational facility, which may occupy the remainder of the 7.6 Ha campus. This affords the opportunity for students to access wider facilities if deemed appropriate by school staff.

The nature of the user group means that access compliance has typically needed to be above and beyond the requirements of AS1428.1 to adequately provide for the students needs. Examples are as follows:

- No ramps - gradient through central courtyard typically 1:40
- Short stretches of walkways at 1:20
- Hygiene Rooms are accessed directly off every homebase. These incorporate an adult sized changing table and accessible shower similar to the "Changing Places" design . The Changing Places Design has been modified to locate WC and grab rails adjacent to wall to allow for assisted and non-assisted individuals to use the facility.

Health and safety

Health and Safety has been a key consideration as part of the design process for the SSP. Due to the nature of the school some Health and Safety considerations have related specifically to the Special Needs and abilities of students attending the school. This has included:

- Consideration of escape routes both from a BCA perspective and for escape from challenging (aggressive) student behaviours.
- Inclusion of calming areas both within the building, such as the Withdrawal Rooms and Sensory Rooms allow students to calm and decompress and in the landscape.
- Glazing below 900mm has been avoided owing to the risks associated with students breaking windows.
- Fencing throughout the site considers the need to separate students, and reduce risks associated with students endangering themselves by absconding from school.

Safety in Design Reviews have been undertaken as part of the Schematic Design process.

Amenity

The existing Budawang School on Camden Street is on a site that is too small to expand and is not in the ownership of the Department of Education, these existing facilities have been identified as not fit for purpose. The proposed new school resolves a shortfall in Special Needs educational placements within the Shoalhaven area. Further, the new school provides facilities that fit the Special Needs pedagogy engendered by the school.

The school has been designed based on the EFSG standards relating to an SSP with 10 homebases. This allows for future expansion from 7 to 10 homebases. The Schedule of Accommodation for the school, including all learning, staff, and storage areas, etc., refers to the EFSG area allowance to ensure that the provision for Budawang SSP is adequate both from the day it opens and into the future.

Facilities provided by the SSP include the following:

- Seven homebases, which will accommodate 6-8 students per homebase depending upon levels of care required by the students. Each homebase will have two staff members.
- Every homebase is directly connected to a Practical Activities Area.
- Hygiene facilities located off every homebase to cater for wide ranging needs and abilities. These spaces also form part of the pedagogy in terms of learning self care skills.
- Additional hygiene facilities and WCs are located around the school within the Hydrotherapy building, library and hall.
- Core facilities for the school include the Library, Multipurpose Hall, Passive and Active Sensory Rooms, and Lifeskills Facility
- Hydrotherapy / aquatic facility
- Staff and Admin Rooms including office/interview rooms that can be used by visiting therapists.
- External play area: minimum of 10m² per student including a variety of different outdoor learning settings and options for play to suit different ages, abilities, and interests. The landscape includes a bike path, sensory garden, productive (vegetable) garden, bush garden, and play areas. These outdoor settings also serve as learning spaces, connecting the internal and external learning spaces and opportunities.

The school has been designed to allow for future expansion through inclusion of an additional 3 homebases at an unknown future date. This has been allowed for spatially within both the site Masterplan and in the area allocation for core facilities such as the hall and library, etc.

Design of learning spaces throughout the school has been based on Research undertaken by GroupGSA and discussed with the PRG and SINSW. Designing to suit the PRG pedagogy is discussed further within this report.

Whole of life flexible and adaptive

Flexibility of great importance to the design of learning spaces. Learning methodologies have changed notably within recent years, with a shift towards more open plan, collaborative spaces.

Flexibility for a Special Needs School can mean the ability to cater for as many student needs as possible, without being constrained by the layout of the building and site. With this in mind the homebases and their ancillary hygiene rooms have been designed to cater for wide ranging Special Needs - from the highly physically able with behavioural issues, to students who are severely physically disabled. Needs relating to neuro-diversity and sensory impairments have also been considered. Considering all of these factors, the seven homebases are almost identical to maximise options for staff when allocating students to classes, unencumbered by any consideration relating to toilet provision, ceiling hoists, bright colours on permanent surfaces, etc.

Further to this the following factors have been considered:

- The pedagogy of the SSP is focussed on lifeskills with a view to independent living in adulthood. These skills can be learned in numerous parts of the building both indoors and outdoors.
- The design of the school affords a variety of different spaces, including homebases which facilitate team teaching through inclusion of operable walls.
- Spatial adjacencies have been carefully considered.
- Location of th future block of 3 homebases to the south of the SSP site maximises the opportunities for expansion within the future. The SSP site Is "Landlocked" in all other directions by either roads or boundaries. Additionally leaving the southern side of the courtyard open allows for the opportunity of increased connection with any potential future educational facility that may occupy the remainder of the Shoalhaven Anglican School site.

Aesthetics

Aesthetic considerations focus on ensuring the building responds sympathetically to both the immediate local context and the wider vernacular. This has been discussed under"Context, Built Form, and Landscape".

As described, the building form is conceptually a courtyard with roof forms that provide deep overhanging eaves and clerestorys. These roofs also allows diffused overhead natural light into the learning spaces, whilst the overhangs provides shading to the outdoor learning areas and create covered walkways.

Soffits to the overhangs, drop off and COLA roofs are lined with timber effect panels to soften t he aesthetic and reference the timber

Coloured vertical louvres to high level windows offer colour as an fun element and is a component of the wayfinding strategy for the school. Colour is located at this higher level to raise it above the fences., which form a necessary safety element of the design.

Elevations overlooking the courtyard are glazed from 900mm AFFL. to maximise opportunities for passive surveillance over the central courtyard from the homebases. This glazing aids the impression of the roof as a floating element.

End elevations are concrete to 2700mm AFFL creating the appearance of being bookends. The gap between and 2700mm AFFL and the soffit is bridged by either glazing or horizontal louvres, which serve the mechanical system.

The internal colour scheme has been carefully considered in relation to the diverse needs of the students - particularly in relation to neuro-diverse students and those who are visually impaired.. This has been described further under section ... of this report.

Robustness of materials has been a key consideration; particularly as surfaces may be susceptible to damage resulting from aggressive student behaviours or from being hit by wheelchairs.

9.4 GANSW DESIGN PROCESS AND EVALUATION

The following principles defined by the Government Architect have been considered by GroupGSA as part of the design process.

Community integration

The design of the school considers the aesthetic integration of the project into the screetscape through careful selection of materiality to relate to the local built form and .nearby landmarks Bulk and scale of the buildings also refer to the neighbouring residential properties and to existing educational buildings on the Shoalhaven Anglican School site to ensure that the form of the new SSP fits within the context.

Students attending the school typically travel from a wide ranging area; from St Georges Basin to Batemans Bay. Due to this factor, it is expected that most students attending the school will not live in Milton. Due to this factor the integration of the school into the immediately community differs from a Primary School.

The school facilities provide amenity to the local community through the potential for shared use of the Hydrotherapy Pool outside school hours. This specialised facility is designed to cater for the wide ranging needs of the disabled community, who will benefit from the health aspects of Hydrotherapy.

Community members expected to use this facility are local people with disabilities, people requiring hydrotherapy as part of injury rehabilitation, SSP students and their families, and residents from the nearby aged care facilities.

A collaborative brief

The functional brief and education rationale was carefully developed through a collaborative design process, setting ambitions, goals and approach strategy. The design team, teachers, school executives, SINSW, DoE area director, parents and carers representatives developed the design through a structured consultation process through regular PRG meetings throughout the design process.

Additionally research was undertaken by GroupGSA into the requirements of students with Special Needs. This included the following:

- Visits to other SSPs and discussion with School Principals to evaluate the designs: Fernhill SSP, Yandelora SSP, The Ponds SSP, and Adjuga SSP.
- Desk top study of international Special Needs Schools to determine best practice on an internal level
- Reading various PhD studies covering various aspects of designing for Special Needs
- Discussion with PRG to corroborate learnings against the PRG's experience.

Participatory pedagogy

Pedagogically the school's focus is on the goal of independent living in adulthood. Learning spaces cater specifically to this aim.

There is extensive academic thought on the ideal methodology of catering for the requirements of Special Needs Students within the education system. During the Project initiation phase various Special Needs Pedagogical methodologies were discussed with a view to determining the masterplanning of the site to cater for both the short and long terms needs of the school. Options for Integration, Co-Location and Separation were considered within the masterplans presented to the PRG. A masterplan that provided adequate separation between the SSP and the future educational facility, with the potential for selective co-location was preferred. Site Planning has allowed for the possibility of increased integration in the future.

Procurement

The intention in terms of procurement is to deliver a cost-effective and long-term community asset.

The project has been adapted to fit SINSW's DfMA grid with a view to constructing the building using a "Kit of Parts" modular system - the use of pre-cast concrete and modularised window systems fits with this construction methodology.

Early Contractor Involvement (ECI) contracting is occurring to enable contractor involvement during the design process under a Design and Construct contract.

Master plan

Several masterplan options were presented to SINSW and the PRG by GroupGSA before the preferred option was developed further into a functional design brief.

The masterplan options all addressed location, massing, site access, car parking, existing site infrastructure, existing buildings on site, levels, opportunities and constraints, opportunities for connectivity. Privacy and surveillance.

Educational Rational and school specific needs and goals were considered as part of the consultation process during the masterplanning stage. Additionally the selected Masterplan allows for;

- Street presence for the Hydrotherapy and Core Facilities building
- Increased options for future expansion of the school southwards
- Considers the best use of the wider site
- Fits the courtyard concept of the SSP.

Design Review

Design reviews were undertaken internally at all milestones including masterplan stage, concept design stage, and schematic design. These benchmarked the design intent against the functional brief and educational expectations. Reviews included interdiscplinary staff from outside the project team.

Design reviews feedback and proposed changes and opportunities were further discussed and agreed upon with the Project Reference Group, DoE Project Management Office, the DoE technical stakeholder group, and GANSW.

Design Champion

The Project Reference Group was set at the beginning of the consultation process, prior to the Masterplanning stage. A Parents and Carers representative, as well as a local School Principal and different head teachers were included in the group. Their role was to set priorities and influence decisions as a reference to the State Government Client.

Post-occupancy evaluation

GroupGSA architects encourage stakeholders and DoE to obtain and keep records on objective outcomes of the design, efficiency, maintenance, fit for purpose functionality of the school.

The information becomes a benchmark for future project deliveries, impact on design outcomes, efficient use of space, community use, energy efficiency and any other matters that will benefit the future designs and stakeholders.

As part of the design process for Budawang SSP GroupGSA have visited other SSPs and undertaken discussion with School Principals as part of a "Lessons Learned" exercise. This information has been considered as part of the design for Budawang SSP.

APPENDIX 2 – MEETING/ COMMUNICATION REGISTER

Stakeholder Consultation Register - Budawang School

Stakeholder	No.	Date	Agenda	Communication Type	Key Issues Raised
Project Control Group (PCG)	PCG 1	6/12/2019	Status Update	Meeting	Role of the PCG Identify Key Stakeholder Participants in Planning Phase Scope of the PCG and Business Case
	PCG 2	20/01/2020			Project Update Program Communications and Engagement Master Plan
	PCG 3	24/02/2020			Previous Minutes Endorsement of VM1 short list of options Next Value Management Workshop - VM2 Program
	PCG 4	16/03/2020			Previous Minutes PCG Report Value Management 2 Workshop
	PCG 5	6/04/2020			PCG Report Concept Design Planning Pathway Business Case/ARP2 Consultation
	PCG 6	27/04/2020			Concept Design Business Case/ARP2 Update on planning activities Consultation
	PCG 7	6/05/2020			Previous Minutes Concept Design Planning Pathway Business Case/ARP2
	PCG 8	20/05/2020			Previous Minutes Business Case/ARP2 Revised Concept Design presented Planning Pathway
	PCG 9	15/06/2020			PCG Report Procurement Business Case Concept Design
	PCG 10	meeting cancelled			Nil
	PCG 11	17/08/2020			Review items from Previous Minutes Business Case and master plan endorsements Master Plan options explored – Use of Block J (preschool) land Design update
	PCG 12	21/09/2020			Review items from Previous Minutes Site Investigations Procurement Statutory Planning status
	PCG 13	19/10/2020			Review items from Previous Minutes Program Site Investigations Design Procurement Statutory Planning
	PCG 14	16/11/2020			Program Site Investigations Design Procurement Statutory Planning Community & Engagement
	PCG 15	21/12/2020			Site Investigations Design Procurement Statutory Planning Community & Engagement

Project Reference Group (PRG)	PRG 1	6/02/2020	Status Update	Meeting	Roles and Responsibilities of the PRG Project Overview Suggestions Program and future meetings
	PRG 2	28/02/2020			Project Update Communications and Engagement Master Plan Program
	PRG 3	27/03/2020			Project update Communications and Engagement Concept design Program
	PRG 4	8/05/2020			Actions from previous meeting Project update Communications and Engagement Concept design
	PRG 5	17/06/2020			Team Reconfiguration/Transition to Delivery Previous meeting minutes Project update Communications and Engagement
	PRG 6	17/08/2020			Business Case and master plan endorsements Master Plan options explored Design update
	PRG 7	18/11/2020			Presentation of Masterplan with commentary from SJA Landscape Plan displayed with commentary from Group GSA Building Layouts displayed with commentary from Group GSA
	PRG 8	3/12/2020			Changes made to Masterplan Comments/ Discussion
	PRG 9	17/12/2020			Changes made to Masterplan Changes made to Masterplan Comments/ Discussion Admin Block & Multi-Purpose Hall Layouts Home bases Layout
	PRG 10	8/02/2021			Changes made to Masterplan Design Review
Government Architect Meetings	GA 1	2/12/2020	Status Update	Meeting	Advice and recommedations
	GA 2	17/02/2021			Advice and recommedations
Value Management Workshop	VMW1	1/05/2020	Decision making	Meeting	Business Case(s); Responses to relevant operational policies; Change management plans incorporating workforce strategies; Benefits Realisation plan; Economic and Financial assessments; Master, concept and schematic plans with associated cost plans, and Program.
PTC (Traffic)	1	23/12/2020	TfNSW Consultation	Email	Relocation and Upgrade of the Budawang School for Special Purposes
	2	4/01/2021	Shoalhaven Council	Email	Budawang School Development Legislation
DPIE	1	17/08/2021	Planning	Email	Recommendations are provided by DPIE Water and NRAR.
	2	17/08/2021	Planning	Email	Request of Sears
Services Engineer	1	21/12/2020	Sydney Water	Email	Hydraulic services
	2	20/01/2021	Endeavour Energy	Email	Energy Supply
Aviation Consultant	1	2/02/2021	Avi Pro	Email	Helipad location in relation to the development
	2	5/02/2021	Toll	Email	Helipad location in relation to the development
Environmental Consultant	1	20/01/2021	NRAR	Email	BDAR Report
Town Planner	1	21/05/2020	Shoalhaven Council	Meeting	DA/SSDA alternative
	2	14/08/2020		Meeting	Updating Council

APPENDIX 3 – SURVEY

NSW GOVERNMENT

Budawang School for Specific Purposes Relocation

Have your say and take our survey

Please visit the Budawang project page at **schoolinfrastructure.nsw.gov.au** or click on the QR code to fill out the survey.

The survey will be open from Friday 18 December to Friday 5 February 2021.

BLZ_SB2057

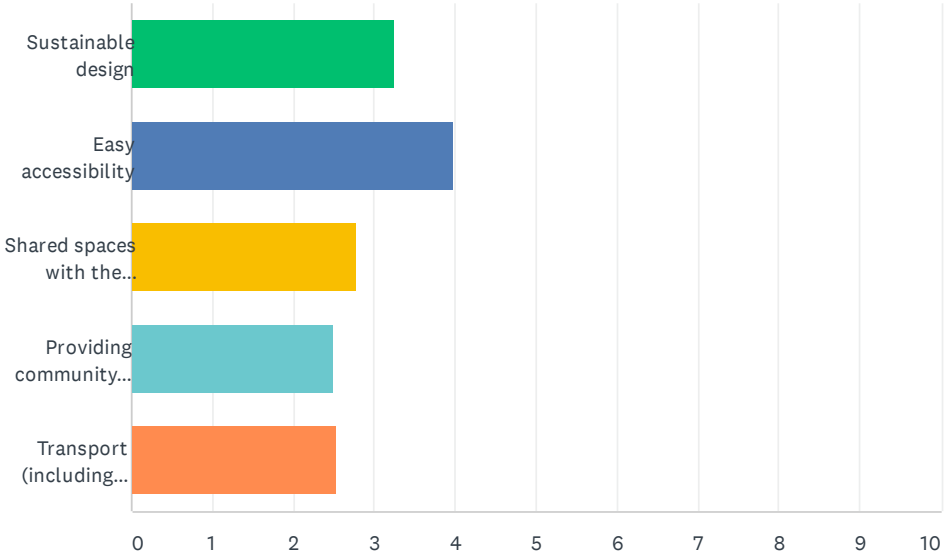
Q1 How do you feel about the proposal to build a new school in Milton to service students with an acute disability?

Answered: 77 Skipped: 0

ANSWER CHOICES	AVERAGE NUMBER	TOTAL NUMBER	RESPONSES
	9	687	77
Total Respondents: 77			

Q2 What elements are important for the school to consider to fit in with the needs of the Shoalhaven community? Drag and drop to prioritise - 1 being the highest and 5 being the lowest.Drag and drop to prioritise - 1 being the highest and 5 being the lowest.

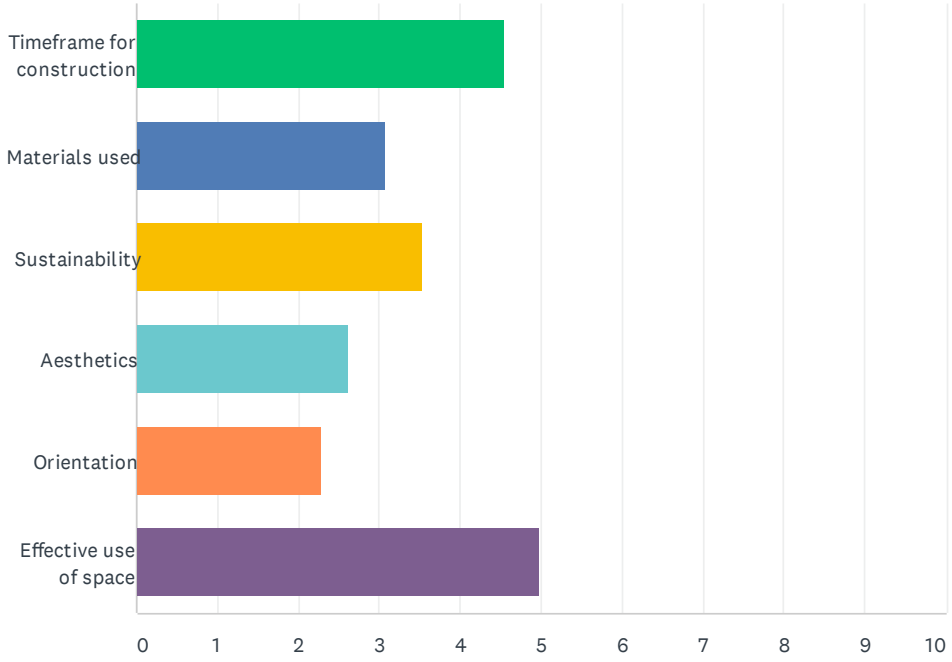
Answered: 67 Skipped: 10



	1	2	3	4	5	TOTAL	SCORE
Sustainable design	26.87% 18	25.37% 17	8.96% 6	22.39% 15	16.42% 11	67	3.24
Easy accessibility	43.28% 29	28.36% 19	16.42% 11	5.97% 4	5.97% 4	67	3.97
Shared spaces with the community	13.43% 9	11.94% 8	29.85% 20	28.36% 19	16.42% 11	67	2.78
Providing community access to the hall/pool and other amenities on site	8.96% 6	11.94% 8	25.37% 17	25.37% 17	28.36% 19	67	2.48
Transport (including sustainable options including walking and riding)	7.46% 5	22.39% 15	19.40% 13	17.91% 12	32.84% 22	67	2.54

Q3 What aspects of construction are most important to you? (Drag and drop to prioritise - 1 being the highest and 6 being the lowest.)

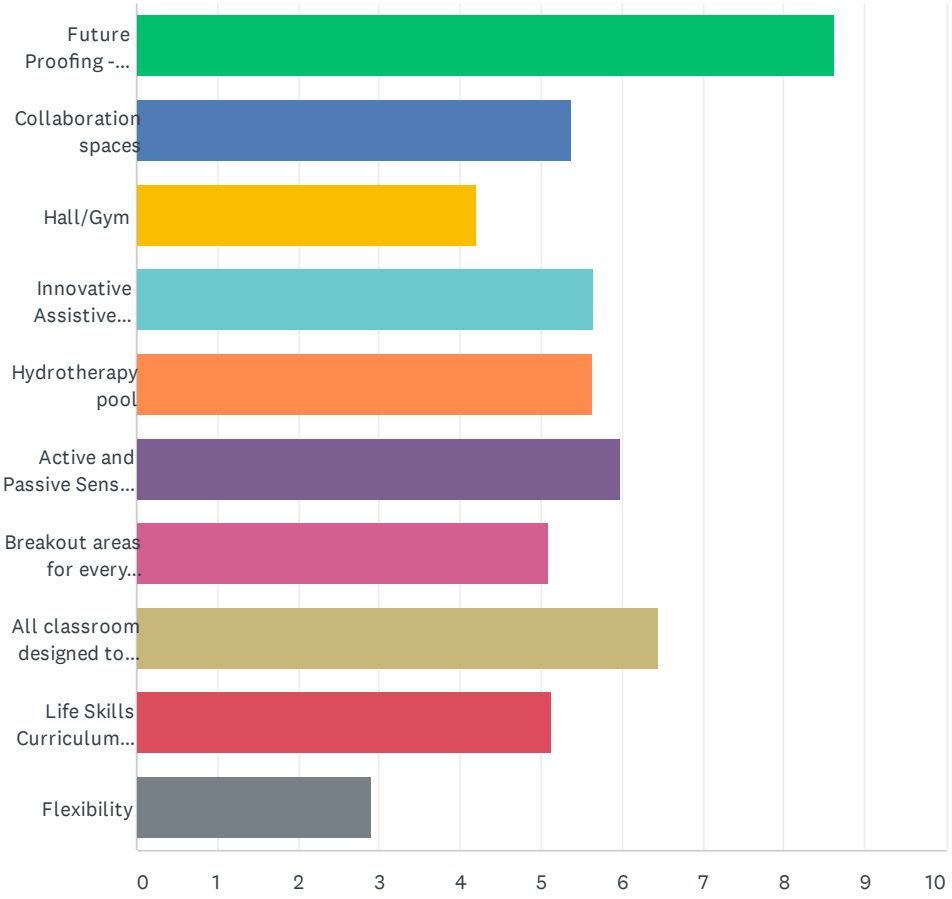
Answered: 64 Skipped: 13



	1	2	3	4	5	6	TOTAL	SCORE
Timeframe for construction	37.50% 24	26.56% 17	9.38% 6	12.50% 8	6.25% 4	7.81% 5	64	4.53
Materials used	1.56% 1	10.94% 7	29.69% 19	25.00% 16	17.19% 11	15.63% 10	64	3.08
Sustainability	7.81% 5	14.06% 9	29.69% 19	28.13% 18	12.50% 8	7.81% 5	64	3.53
Aesthetics	3.13% 2	6.25% 4	10.94% 7	21.88% 14	43.75% 28	14.06% 9	64	2.61
Orientation	1.56% 1	9.38% 6	15.63% 10	7.81% 5	18.75% 12	46.88% 30	64	2.27
Effective use of space	48.44% 31	32.81% 21	4.69% 3	4.69% 3	1.56% 1	7.81% 5	64	4.98

Q4 What is most important for us to consider in the new schools design? (Drag and drop to prioritise - 1 being the highest and 10 being the lowest.)

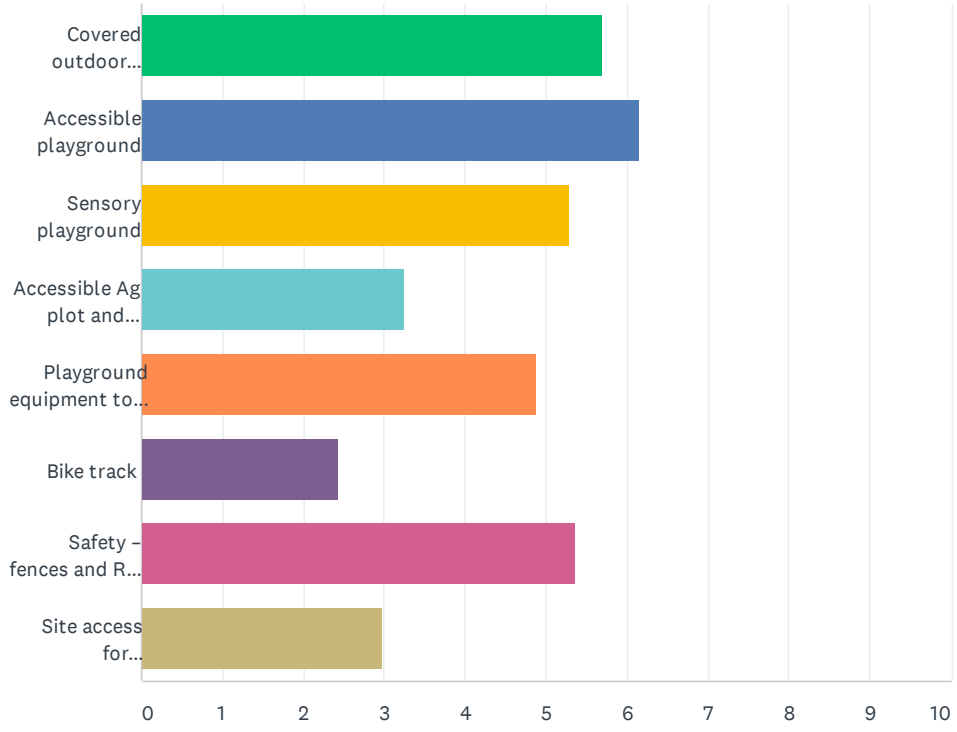
Answered: 52 Skipped: 25



	1	2	3	4	5	6	7	8	9	10	TOTAL	SCO
Future Proofing - enough classes to support growth	61.54% 32	7.69% 4	9.62% 5	5.77% 3	3.85% 2	1.92% 1	3.85% 2	1.92% 1	1.92% 1	1.92% 1	52	8
Collaboration spaces	1.92% 1	21.15% 11	7.69% 4	7.69% 4	7.69% 4	11.54% 6	7.69% 4	15.38% 8	13.46% 7	5.77% 3	52	5
Hall/Gym	1.92% 1	3.85% 2	5.77% 3	3.85% 2	19.23% 10	7.69% 4	11.54% 6	15.38% 8	17.31% 9	13.46% 7	52	4
Innovative Assistive Technology	3.85% 2	9.62% 5	11.54% 6	15.38% 8	13.46% 7	11.54% 6	11.54% 6	11.54% 6	9.62% 5	1.92% 1	52	5
Hydrotherapy pool	1.92% 1	15.38% 8	11.54% 6	15.38% 8	5.77% 3	15.38% 8	11.54% 6	7.69% 4	7.69% 4	7.69% 4	52	5
Active and Passive Sensory Rooms to assist regulation	5.77% 3	11.54% 6	9.62% 5	21.15% 11	7.69% 4	17.31% 9	15.38% 8	0.00% 0	5.77% 3	5.77% 3	52	5
Breakout areas for every classroom	3.85% 2	11.54% 6	7.69% 4	9.62% 5	9.62% 5	9.62% 5	11.54% 6	19.23% 10	9.62% 5	7.69% 4	52	5
All classroom designed to allow for flexibility of use - student access across K-12 and physical disabilities.	19.23% 10	13.46% 7	13.46% 7	3.85% 2	11.54% 6	7.69% 4	11.54% 6	7.69% 4	7.69% 4	3.85% 2	52	6
Life Skills Curriculum areas e.g Accessible - Kitchen, Ag plot and chicken coup.	0.00% 0	3.85% 2	17.31% 9	13.46% 7	17.31% 9	5.77% 3	7.69% 4	15.38% 8	15.38% 8	3.85% 2	52	5
Flexibility	0.00% 0	1.92% 1	5.77% 3	3.85% 2	3.85% 2	11.54% 6	7.69% 4	5.77% 3	11.54% 6	48.08% 25	52	2

Q5 What do you think is important in the outside school space? (Drag and drop to prioritise - 1 being the highest and 8 being the lowest.)

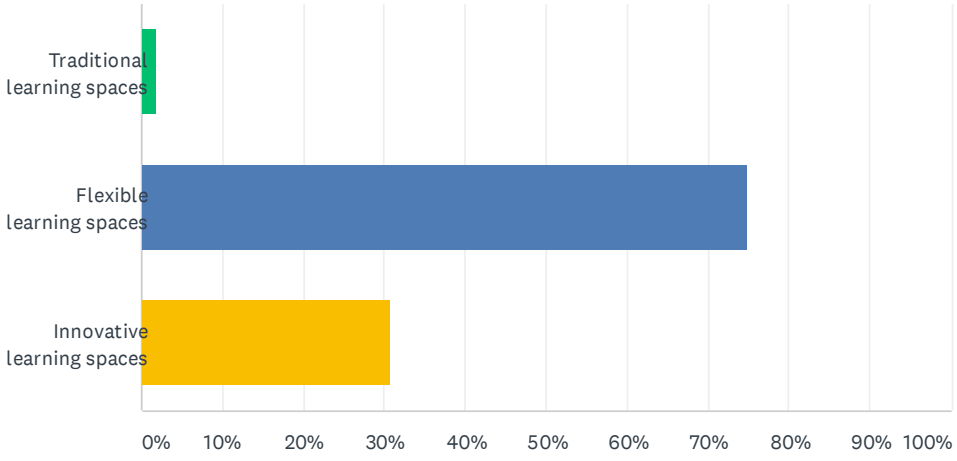
Answered: 52 Skipped: 25



	1	2	3	4	5	6	7	8	TOTAL	SCORE
Covered outdoor learning areas (COLAs)	25.00% 13	23.08% 12	17.31% 9	5.77% 3	9.62% 5	7.69% 4	1.92% 1	9.62% 5	52	5.69
Accessible playground	17.31% 9	30.77% 16	21.15% 11	19.23% 10	5.77% 3	3.85% 2	1.92% 1	0.00% 0	52	6.15
Sensory playground	1.92% 1	19.23% 10	26.92% 14	23.08% 12	17.31% 9	9.62% 5	1.92% 1	0.00% 0	52	5.29
Accessible Ag plot and chicken Coup	0.00% 0	1.92% 1	5.77% 3	11.54% 6	19.23% 10	30.77% 16	19.23% 10	11.54% 6	52	3.25
Playground equipment to assist regulation eg trampolines and swing	15.38% 8	3.85% 2	19.23% 10	15.38% 8	19.23% 10	13.46% 7	13.46% 7	0.00% 0	52	4.87
Bike track	1.92% 1	0.00% 0	0.00% 0	11.54% 6	7.69% 4	17.31% 9	25.00% 13	36.54% 19	52	2.42
Safety – fences and RFID access to all doors/gates	32.69% 17	15.38% 8	3.85% 2	7.69% 4	11.54% 6	7.69% 4	13.46% 7	7.69% 4	52	5.35
Site access for parents/buses – safety	5.77% 3	5.77% 3	5.77% 3	5.77% 3	9.62% 5	9.62% 5	23.08% 12	34.62% 18	52	2.98

Q6 What is your preferred style of classroom design?

Answered: 52 Skipped: 25



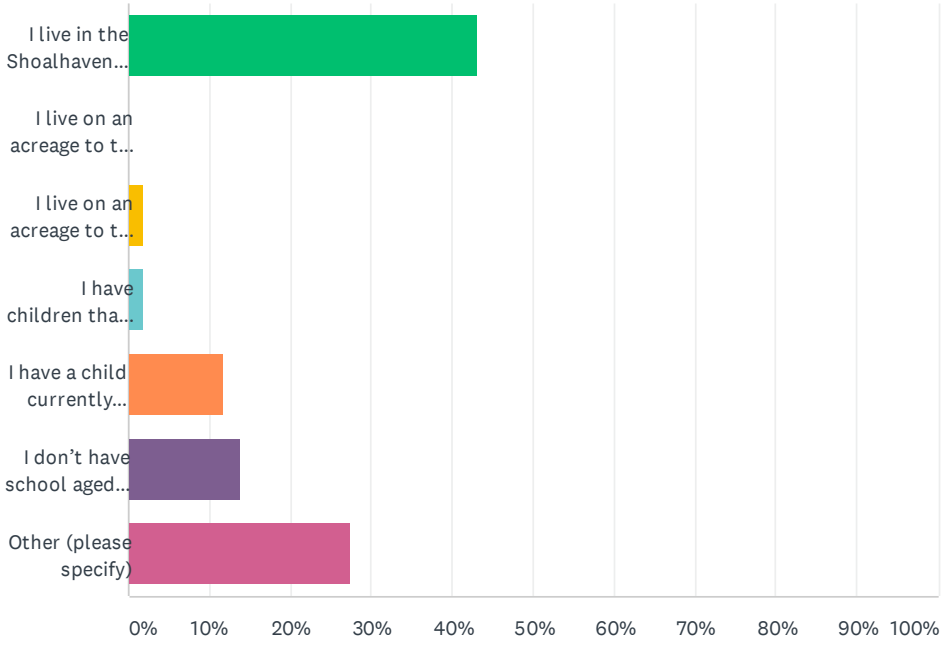
ANSWER CHOICES	RESPONSES	
Traditional learning spaces	1.92%	1
Flexible learning spaces	75.00%	39
Innovative learning spaces	30.77%	16
Total Respondents: 52		

Q7 How would you like to see Aboriginal and cultural acknowledgements incorporated into the project?

Answered: 51 Skipped: 26

Q8 What is your family's interest in a new school in Milton? (Choose all that are applicable.)

Answered: 51 Skipped: 26



ANSWER CHOICES	RESPONSES	
I live in the Shoalhaven region	43.14%	22
I live on an acreage to the south	0.00%	0
I live on an acreage to the north	1.96%	1
I have children that will attend the school within the next 4 years	1.96%	1
I have a child currently enrolled in the existing Budawang school	11.76%	6
I don't have school aged children, however I am interested in the local community facilities	13.73%	7
Other (please specify)	27.45%	14
TOTAL		51

Q9 Tell us how you think a new school for specific purposes will contribute to the Shoalhaven community?

Answered: 51 Skipped: 26

Q10 Please provide your contact details below:

Answered: 41 Skipped: 36

ANSWER CHOICES	RESPONSES	
Name	100.00%	41
Company	0.00%	0
Address	0.00%	0
Address 2	0.00%	0
City/Town	0.00%	0
State/Province	0.00%	0
ZIP/Postal Code	0.00%	0
Country	0.00%	0
Email Address	100.00%	41
Phone Number	0.00%	0

Relocation of Budawang School for Specific Purposes (SSP) survey

How would you like to see Aboriginal and cultural acknowledgements incorporated into the project?

Answered 51

Skipped 26

Respondents	Response Date	Responses
1	Jan 24 2021 11:29 AM	However local aboriginal community see fit
2	Jan 14 2021 02:34 PM	All people and cultures are important.
3	Jan 14 2021 02:05 PM	Integrate aboriginal history and heritage into the infrastructure and curriculum
4	Jan 14 2021 09:54 AM	Via stories of local peoples, local art
5	Jan 11 2021 03:59 PM	In collaboration with local aboriginal peoples
6	Jan 11 2021 03:31 PM	Art work and visits to the school
7	Jan 11 2021 02:27 PM	Consulting with local leaders for their suggestions. Art design through the school
8	Jan 09 2021 10:30 PM	artworks, flag, etc?
9	Jan 09 2021 06:44 AM	Reflection garden
10	Jan 08 2021 04:31 PM	Employ Indigenous teachers and teaching aids. Develop link programs with local Indigenous organisations.
11	Jan 08 2021 03:51 PM	Definitely needs incorporation
12	Jan 03 2021 03:51 PM	To be respectful of country through through involvement and engagement of elders in programs. Aboriginal art
13	Dec 31 2020 12:56 PM	Gardens
14	Dec 29 2020 04:48 PM	Sculptures and murals
15	Dec 29 2020 03:12 PM	Through collaboration with local Elders and Aboriginal community.
16	Dec 29 2020 03:04 PM	Naming of areas within the school should be in local language - Dhurga Use local Aboriginal artists such as Shane Snelson to design and paint in collaboration with students and staff.
17	Dec 29 2020 09:17 AM	Music, dance, art and other immersive experiences for students that are indicative of local cultural practices
18	Dec 28 2020 09:37 PM	Budawang is an Aboriginal name. Have a detailed description of its origin on the sign. All the rooms and building should have the aboriginal name above the English name as well as Braille.. use native edible plants in the landscape.
19	Dec 28 2020 06:02 PM	To be incorporated throughout project
20	Dec 28 2020 06:00 PM	History of area and art
21	Dec 28 2020 05:38 PM	Art and garden spaces
22	Dec 28 2020 05:37 PM	A lovely area decated to them
23	Dec 28 2020 05:26 PM	What ever. Don't care either way.
24	Dec 28 2020 05:09 PM	Not sure
25	Dec 28 2020 05:05 PM	.
26	Dec 28 2020 04:09 PM	Yarning Circle
27	Dec 28 2020 04:06 PM	I would like to see local elders like Noel Butler involved in the artwork, outdoor space design (including plantings) and all blessings of the building.
28	Dec 28 2020 03:25 PM	Murals
29	Dec 28 2020 02:42 PM	n/a
30	Dec 28 2020 02:42 PM	Appreciate and embrace the aboriginal culture a lot more within the school
31	Dec 28 2020 02:39 PM	N/A
32	Dec 28 2020 02:07 PM	Alot
33	Dec 28 2020 02:05 PM	Not important
34	Dec 28 2020 12:40 PM	Murals, names of buildings etc
35	Dec 28 2020 12:11 PM	.
36	Dec 28 2020 12:08 PM	In any way that pays homage to our local area and our elders
37	Dec 28 2020 12:00 PM	Consultation with local AECG & AEOs from local schools
38	Dec 28 2020 11:49 AM	As a non Aboriginal person I would like to see consultation with local Aboriginal communities to ensure effective, authentic immersion of culture and learning in this new site.
39	Dec 28 2020 11:47 AM	Consistent communication with elders from start to finish. Ask aboriginal People how they'd like to be involved.
40	Dec 28 2020 11:27 AM	Embedded into architecture, allocated spaces and artworks by local artists.
41	Dec 28 2020 11:14 AM	In consultation with local elders
42	Dec 28 2020 10:58 AM	Artworks , local cultural history
43	Dec 28 2020 10:49 AM	I would like to see consultation with people who know what is appropriate eg aboriginal lands council, AECG
44	Dec 28 2020 10:22 AM	Inclusive in all area, not tokenistic.ATSI educators, as well as an environment that acknowledges and respects.With resources, artwork completed in collaboration with students, families and elders included in the design process
45	Dec 28 2020 10:02 AM	Incorporated into the design - eg murals, yarn circle etc
46	Dec 28 2020 09:54 AM	Not a priority,
47	Dec 28 2020 09:51 AM	I think it would be a great idea.
48	Dec 28 2020 09:50 AM	Spaces incorporated throughout the school
49	Dec 28 2020 09:41 AM	Aboriginal murials that tell a story significant to the area.
50	Dec 28 2020 09:40 AM	Throughgarden and landscaping, native plants etc.
51	Dec 21 2020 12:30 PM	A prominent timber post with a plaque or similar at the entrance

Relocation of Budawang School for Specific Purposes (SSP) survey

Tell us how you think a new school for specific purposes will contribute to the Shoalhaven community?

Answered	**51**
Skipped	**26**

Respondents	Response Date	Responses
1	Jan 24 2021 11:31 AM	We also need the school site to provide for mainstream high school. Ulladulla High School facilities are inadequate for our current population, let alone the growing population
2	Jan 14 2021 02:35 PM	It will provide a facility for those who need it as the existing site is too small.
3	Jan 14 2021 02:07 PM	It is only a relocation within the Shoalhaven of a small distance so not applicable in terms of different contribution.
4	Jan 14 2021 09:54 AM	Improvement on the old school
5	Jan 11 2021 04:02 PM	First stage of having schools to cover the needs of the area. The area has one high school to filter all children into . It is grossly inadequate to the expanding population
6	Jan 11 2021 03:41 PM	It has outgrown its current school so the more we can assist local parents and children the better. But the local high school is full of demountables and needs to have its problems addressed also. The sale of the garside road block is a disgrace this block should have been used for the new budawang school and croobyar Road developed for some of our high school children. We have had a massive influx of families to the area and our current education facilities are not good enough.
7	Jan 11 2021 02:28 PM	More spaces for more support
8	Jan 09 2021 10:31 PM	the current site is small and insufficient. A new space can be purpose built and allow room for growth so that more students with high needs can attend an appropriate school.
9	Jan 09 2021 06:49 AM	The facilities that we currently have are bursting at the seems We have families moving to our area just to use this school and we need jobs in our community to help support this rise in population
10	Jan 08 2021 04:35 PM	Ulladulla High School is overcrowded. The senior program should be co-located with the Budawang School at the Milton site as promised by the government at the election.
11	Jan 08 2021 04:16 PM	The existing Budawang school is too small for the needs of the community and a new school for this specific needs is a necessity to the Shoalhaven community. However the needs of schools in the Shoalhaven doesn't end with Budawang. The Milton Ulladulla area has expanded hugely in the past ten years. With the closure of the SAS school a few years ago, students from there have had to go to other schools in Milton Ulladulla with others traveling to Nowra. The school in 2019 had the biggest year 7 group enter the school which saw the population of the high school hit 1400 students. Class numbers are high and impacts on students and teachers. The Milton Ulladulla community rallied with the Department of Education to buy the SAS property for the use of building a new or expansion of UHS, after the department sold a parcel of land in Mollymook which was earmarked for the High School. Now there is a second property not nearly 3ha being sold in Mollymook again by the Department of Education. The reality is this site would be more than sufficient for a new High School or expansion, but the community was told this was going to happen on the SAS site, which has caused a great deal of annoyance from locals, parents and grandparents. The Education department needs to sit down with locals and work through this before the Budawang development starts. We have one chance to get built what is necessary for our children future and present. At a minimum, Budawang and UHS could go on the SAS site. UHS could just be a senior school comprising year 10 to 12 with rooms for specific futures learning incorporated with TAFE NSW. However before the site in Mollymook is sold, the department could use this site for either UHS or Budawang schools.
12	Jan 03 2021 03:55 PM	It will encourage people with students with moderate and severe disabilities to move to this district. Provide opportunity for increased community involvement.
13	Dec 31 2020 12:56 PM	Unique school could attract people to the area
14	Dec 29 2020 04:50 PM	A place that enables more enrolments and somewhere with better facilities for children.
15	Dec 29 2020 03:18 PM	The country side location will be beneficial to enrolled children and teachers. The chance for updated equipment, access to hydrotherapy, it's just a better location.
16	Dec 29 2020 03:07 PM	Our current school is completely inadequate regarding size and resources for our students with special needs. With an increasing population in the Milton/Ulladulla area, so too the need for a suitable space for our students arises.
17	Dec 29 2020 09:18 AM	It will be a massive step forward in acknowledging the needs for these spaces as being equally important.
18	Dec 28 2020 09:44 PM	Apart from the kids in mainstream schools that need to be at a SSP, family with special needs kids will move to this area along with therapists that are in short supply. The remaining of the school should be used as a university that offers OT and Speech degrees. They can do their prac at Budawang which will benefit the schools dire need for more staff and specialised and current educators/therapists. If the University section of the site offered Ag or Science/Education degrees it would attract more families and specialised educators to the area too.
19	Dec 28 2020 06:41 PM	It will be able to grow when I first started working there there were only 18 kids and now it's grown heaps i think this will be a great thing for the community too

		Currently the Shoalhaven area has a shortage of space in SSP's. This leads to more pressure on out mainstream schools with children having to go to schools that are not suited to their level of need. Parents travel out of area to get suitable schooling. Current Badawang site is not suitable and
20	Dec 28 2020 06:07 PM	urgently needs a new home
21	Dec 28 2020 06:02 PM	there are very few schools that will cater for specific purpose children and they need so much more than the "normal" children
22	Dec 28 2020 05:40 PM	A specific built school that caters for children with disabilities.
23	Dec 28 2020 05:29 PM	There is a great need for more places in a school of this statue. Widen the entry requirement to cater for children with milder forms of disability.
24	Dec 28 2020 05:10 PM	It will be of great interest to community members with high need children
25	Dec 28 2020 05:06 PM	.
26	Dec 28 2020 04:24 PM	I think the new school is essential for our community and has the potential to demonstrate best practice in terms of supporting young people with a disability. I would like to see a strong connection built between the mainstream high school proposed for the same site. There should be easy access back and forth so that students from each school can participate in each others daily life. This school has the potential to show our community what inclusion and support for individuals with disability can really look like. I do not want to see the two schools (Budawang and public HS) as completely separate entities - shared facilities are essential in my mind. Budawang school has a large intake area and a new school must also take into consideration our growing population.
27	Dec 28 2020 04:10 PM	Improved facilities and expert staff to support students with a disability.
28	Dec 28 2020 03:31 PM	Firstly providing the students who attend Budawang a school a purposely built school for them- providing them the opportunity to completely gain an equal education due to the physical environment. Secondly for the community, members of the Shoalhaven, have the opportunity to utilise areas of the school and be exposed to the beautiful qualities each and every student at Budawang has and to gain an understanding of the modifications that are required to ensure every student has the opportunity to learn.
29	Dec 28 2020 02:48 PM	Current site is very crowded there is a big need for more this disability education in this area
30	Dec 28 2020 02:44 PM	My son was on a 3 year waiting list to get into Budawang! 3 years before he could access probably education for his needs. It makes me sad how many children are currently waiting on a waiting list to get into such rare schools. If anything more need to be built around the area so no kids are left behind anymore
31	Dec 28 2020 02:40 PM	I think that there is a high demand for high quality education for students with a disability. Budawang supplies that quality, individually-foucused learning.
32	Dec 28 2020 02:08 PM	It is a sorely needed thing in the local area. As well as new high school
33	Dec 28 2020 02:06 PM	Help children with disability and their family
34	Dec 28 2020 12:42 PM	It will hopefully be an outstanding facility y that will show that students with a disability learn in a supportive, technological and innovative environment.
35	Dec 28 2020 12:13 PM	The current sight is to small and the waiting list means that children are missing out on an education also the current stupids are at risk of harm in the current site due to its size and make up
36	Dec 28 2020 12:09 PM	Where the school is now is outdated and small. This will benefit the children attending the school immensely and therefore their input into the Shoalhaven community will improve.
37	Dec 28 2020 12:03 PM	The Shoalhaven is in desperate need of school infsstructure review both in support placements and mainstream. The numbers are unsustainable. This is a good start.
38	Dec 28 2020 12:02 PM	Pressure taken off of local schools. Ideally, the next SSP to be developed will now be to the north to accommodate the significant needs of the Bay & Basin community of schools and take some pressure off of space at Vincentia High School.
39	Dec 28 2020 11:48 AM	It will be able to provide enough placements for local students
40	Dec 28 2020 11:38 AM	The new school will be able to cater for the needs of our students more appropriately. It will support the staff to be able to focus more on providing quality education rather than being hindered by an inadequate learning space where behaviours are difficult to manage. A purpose built school will be specifically designed for the needs of students with complex needs with space to be flexible. Staff will be able to implement programs and behaviour management plans and whole school systems to improve overall education and well being of our students. This school will enhance our connection with the wider community and prepare our students for life beyond school with real life skills and experiences.
41	Dec 28 2020 11:15 AM	By providing a suitable space for children with disabilities to learn
42	Dec 28 2020 11:00 AM	It is well overdue the current school is too small there , so many children cannot attend Budawang .
43	Dec 28 2020 10:54 AM	Provide facilities that are safe and effective for the needs of this student population. Provide facilities that enable adequate responses to the needs (educational, sensory, behaviour, communication and social) of the students when they are in crisis/meltdown. Enabling students dignity during times of stress and the continuing of educational activities for others. Safety, dignity and learning are best catered for in a sensitively and proposed built environment that caters for the needs of this group of students who have missed out on this for so long.
44	Dec 28 2020 10:26 AM	A place to learn and grow.Supporting children and families to reach their highest potential.With room to allow more opportunities with the space to do so, future proofing so they do not out grow this space as they have in the current space.A calm environment
45	Dec 28 2020 10:10 AM	This facility will provide specialised support to students with complex learning needs and their families. Ensuring that ALL students are given relevant and appropriate educational opportunities and support.
46	Dec 28 2020 09:56 AM	A safe place for the students and staff to assist in learning to live in society.
47	Dec 28 2020 09:52 AM	I think it would be great and hopefully with a bigger school there would be more of an opportunity for more kids to get a placement.
48	Dec 28 2020 09:51 AM	Allow more access to individuals that require it
49	Dec 28 2020 09:43 AM	The students will have the quality school that they deserve and need to thrive in their education. Improved community access is beneficial for the community to embrace and be more understanding of people with disabilities
50	Dec 28 2020 09:42 AM	Having an SSP school in the area that is big enough for growth to give every child with a disability a chance at school that is specifically designed for special needs children will be amazing. Its a must need!
51	Dec 21 2020 12:31 PM	Great addition to accommodate everyone in the region

ALI AHMADI

PhD, MEng, MAAS

Ali Ahmadi is a Consultant with the Sydney office specialising in environmental, industrial, road and rail noise and vibration predictions, assessment and control. He graduated from the University of Adelaide with a Master of Mechanical Engineering with a primary focus on Acoustics and Vibration; and a PhD degree in Acoustics and Vibration. During his studies, he also worked with industrial and defence projects.

He has carried out various planning assessments and noise control projects and has gained a broad range of experience in conducting acoustic and vibration assessments. Ali has experience in both small-scale and state-significant projects and has helped various clients in DA applications, state significant and local environmental planning assessments for a range of developments including residential, commercial, industrial and infra structure projects.

He has carried out various medium to large scale construction and operation noise and vibration impact assessments. He has helped various clients and stakeholders in design of cost-effective noise control measures. This includes coordination and preparation of large noise 3D models.

QUALIFICATIONS

- PhD, University of Adelaide
- Master of Mechanical Engineering, University of Adelaide
- Member, Australian Acoustical Society (MAAS)
- Member of Acoustics, Vibration & Control Research Group (AVC Group)

EMPLOYMENT

2019 — Present Consultant, Marshall Day Acoustics, Sydney Australia
2017 — 2019 Consultant, Renzo Tonin and Associates, Sydney Australia
2016 — 2017 Consultant, RCA, Newcastle Australia

RELEVANT PROJECT EXPERIENCE

WestConnex Stage 1B (M4 East), NSW | Project Consultant | 2019

During the phased construction, Ali was responsible for 3D noise model of various operation scenarios and changes to the CNVIS during the construction stage. He provided construction noise and vibration management services during several stages of the construction.

Western Harbour Tunnel and the Warringah Freeway Upgrade | Project Consultant | 2018 - 2019

Western Harbour Tunnel which stretches from the Warringah Freeway at Cammeray, across Sydney Harbour, to the WestConnex interchange at Rozelle. Beaches Link which provides an alternative to the Spit Bridge for the Northern Beaches, connecting through to the Warringah Freeway and Gore Hill

Freeway. This large-scale construction project involved construction works spread across a corridor covering several densely populated suburbs of Sydney. Ali was part of a team to prepare Noise and Vibration EIS for the construction and operation of the project. The particular challenges included an enormous number of receivers and land uses along the proposed project alignment, which involved noise and vibration of staged construction works within the several proposed sites, construction traffic noise on the surrounding road networks and construction barge movements. The scope of the project involved baseline noise studies and determination of construction noise limits; prediction of noise impacts from various stages of construction noise activities; design of cost-effective noise control measures (including alternative mitigation measures such as community consultation); and verification of noise impacts of critical events via measurement and reporting. The scale of the project required the development of tailored acoustic tools and geographic interface solutions for the purpose of reporting predicted and actual noise impacts to stakeholders.

Bringelly Road upgrade| Project Consultant | 2017 – 2019

A $3.6 billion road investment program by The Australian and NSW governments to upgrade Bringelly Road between Camden Valley Way, Leppington and The Northern Road Bringelly as part of the Western Sydney Infrastructure Plan. At different stages of the construction works, Ali was responsible to provide vibration assessment and defining safe work distance to avoid and minimise potential structural damage and human annoyance due to vibration-intensive equipment and construction methodologies. Particular challenges included the potential construction vibration impacts on a heritage water canal and high-pressure gas pipes. In addition to the typical vibration criteria for structural damage, project-specific criteria defined by the Sydney Water had to be satisfied. Following careful vibration assessment, field trial and review of the constructability methodology long-term monitoring during construction near highly sensitive structures, exhibited no exceedance above the applicable criteria.

Linden street Sutherland| Project Consultant| 2019

The project involved EIS for two intersection upgrades in Sutherland. Ali carried out potential Noise and Vibration Impact assessment during future operations as well as construction works. The scale and complexity of the project required high-noise-intensity works to be conducted during night-time, often in close proximity to noise-sensitive receivers. The scope of the project involved baseline noise studies and determination of construction noise limits; prediction of noise impacts from various stages of construction noise activities; design of cost-effective noise control measures (including alternative mitigation measures such as community consultation); and verification of noise impacts of critical events via measurement and reporting.

Illawarra Hwy. & Sheepwash Rd. Intersection upgrade, NSW, NSW government | Project Consultant | 2018

The new roundabout at the intersection of the Illawarra Highway and Sheepwash Road near Burrawang was proposed to be built as part of essential safety improvements being funded by the NSW government. Ali carried out planning for noise monitoring for both model calibration and post-construction traffic noise comparison. He also carried out detailed noise modelling of current situation and future upgrade of the intersection.

Wentworth Ave. Intersection upgrade, Banksmeadow| Project Consultant | 2018

The project also involved upgrading the Page St Intersection upgrade, Banksmeadow;

The Macquarie University, NSW| Project Consultant | 2019

The Macquarie University proposed to install an Electron Microscope. Since electron microscope are highly-sensitive to background vibration, the challenge was to recommend a suitable location within the campus and provide recommendations on vibration isolation platforms. The project was particularly challenging as the Macquarie University campus is surrounded by highways, local roads, underground metro and other local operations. Ali liaised with the stakeholders to several locations potentially viable

to install the Electron Microscope. He conducted vibration monitoring to screen for influence from vibration-intensive sources and provided a detailed analysis of the measured results.

Covering Water Canal along Stacey St, Bankstown NSW| Project Consultant | 2018

The project involved construction works to cover the heritage water canal along Stacey Street in Bankstown, NSW. Ali was responsible to provide vibration assessment and defining safe work distance to avoid and minimise potential structural damage due to boring works proposed only a couple of meters from the structure of the water canal.

Emerald Hills Shopping Village, Leppington| Project Consultant | 2018

Ali carried out a complete construction noise and vibration impact assessments (CNVMP) for this project.

Hunter Medical Research Institute, Landmark, Charleston| Project Consultant | 2017

In response to vibration disturbance associated with the construction within the building of Hunter Medical Research Institute, Ali conducted vibration monitoring to screen for influence from construction works on highly-sensitive equipment. Detailed analysis of the measured results combined with online alerts, made it possible to complete the proposed construction works without impact on the highly-sensitive research measurements.

Post Approval – Consultation

Consultation needs to be meaningful, done with courtesy and respect and be well documented. These are people/ organisations that we need to be building meaningful relationships with.

Conditions of all consent can require consultation with a range of stakeholders. Consultation in the post approval world needs to be well documented to satisfy the condition requirements.

Examples include Council, service providers (eg. Electricity gas etc.), consult with local bus provider and TfNSW.

Read each condition carefully, any reference to consult triggers consultation.

Typically on State Significant Development, there will be a specific consultation condition as to how this piece can be appropriately addressed.

Consultation is not:

- A token gesture
- Done at the end of the piece of work,
- An email to the relevant stakeholder with no response;
- A meeting with the stakeholder with no meeting minutes.

Consultation is:

- Meaningful
- Done prior to the requirement,
- Captures an outcome,
- Identifies matters resolved,
- Identifies matters unresolved,
- Any disagreements are disclosed; and
- How we are going to address unresolved matters?

How to capture all the relevant details on consultation requirements? Any consultation requirement in a condition is required to be accompanied with the following table:

Education
School Infrastructure

Post Approval Consultation Record

Identified Party to Consult:	Community
Consultation type:	Project update November 2021
When is consultation required?	Prior to commencement of Demolition or Construction
Why	B14 – Construction Noise and Vibration Management Sub-Plan
When was consultation scheduled/held	November 2021 – February 2022
When was consultation held	November 2021 – February 2022
Identify persons and positions who were involved	Katherine Owen – SINSW Adrien Clements – Zauner Constructions General Community
Provide the details of the consultation	**November 2021** SINSW undertook Community Notification and Consultation within a Project Update, outlining the issues surrounding the Noise and Vibration Management Sub-Plan and the subsequent proposed actions **18 January 2022** As part of the SSDA, a Construction Noise and Vibration Management Plan was finalised based on consultant input and Community Consultation.
What specific matters were discussed?	New School for Specific Purpose in Milton NSW - Construction Noise and Vibration Management Sub-Plan
What matters were resolved?	A Construction Noise and Vibration Management Sub-Plan to be prepared to show the impacts of noise and vibration to the surrounding locale, specifically the Heritage Bakery, and the proposed mitigation strategies in place.
What matters are unresolved?	N/A
Any remaining points of disagreement?	N/A
How will SINSW address matters not resolved?	N/A

Adrien Clements

From: Ben Marshall <Ben_Marshall@sja.com.au>
Sent: Tuesday, 22 February 2022 9:01 AM
To: Adrien Clements; Matthew Green; Edward Goh
Cc: Chris Tudor; Olivia Hirst; patrick.mills11@det.nsw.edu.au; Katherine Owen
Subject: FW: COMMS - 220217 - Budawang SSP | Noise and Vibration Management Plan

Hi Adrien

Further to the below email, the noise and vibration management plan was communicated to the community via the project update below and no feedback was received:

https://www.schoolinfrastructure.nsw.gov.au/content/dam/infrastructure/projects/b/budawang-ssp/2021/Budawang_School_Project_Update_November_2021.pdf

In line with Olivia's comments can you please include the project update as an appendix to the CNVMP which should then satisfy the conditions B14 (e & f).

Any issues please let us know.

Thanks

Ben Marshall
NSW Regional Manager (Project Management)

Email ben_marshall@sja.com.au
Mobile +61 435 939 405
Phone +61 2 9236 5000
Level 1, 109 Pitt Street, Sydney NSW 2000
sja.com.au **LinkedIn.com/sja**

42.5 Construction Soil and Water Management Plan

Condition ID	Development Application Condition	Reference
B16	**Construction Soil and Water Management Plan**	
	(a) be prepared by a suitably qualified expert, in consultation with Council;	CSWMP – CV for Sediment Plan Pg 163 CSWMP – Pg 164 Consultation Record
	(b) measures to ensure that sediment and other materials are not tracked onto the roadway by vehicles leaving the site;	CSWMP – Pg 162 4.4 Vehicle Mitigation
	(c) detail where soil is to be reused on site. If soil is to be exported, details are to be provided of where exported soil is being disposed.	CSWMP – Pg 159 4.2 Soil Re-Use
	(d) 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';	CSWMP – Pg 154 4.1 Erosion and Sediment Control
	(e) include an Acid Sulfate Soils Management Plan, if required, including measures for the management, handling, treatment and disposal of acid sulfate soils, including monitoring of water quality at acid sulfate soils treatment areas;	CSWMP – Pg 162 4.5 Acid Sulfate Soils
	(f) 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);	CSWMP – Pg 158 4.2 Wet Weather Mitigation
	(g) detail all off-site flows from the site; and	CSWMP – Pg 157 Sediment & Erosion Control Plan
	(h) 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 and 1 in 100year ARI.	CSWMP – Pg 158 4.2 Wet Weather Mitigation

Zauner Construction Pty Ltd Construction Soil and Water Management Sub-Plan (CSWMSP)

Project Name	Budawang SSP
Project Number	409
Project Address	17 Croobyar Road, Milton, NSW, 2538
Client	Schools' infrastructure NSW
Client's Authorised Person	Chris Tudor
Principal Contractor	Zauner Construction

Job Title	Name	Signature	Date
Chief Executive Officer	Garry Zauner		25/5/22
Zauner HSE Manager	Peter Hertzog		24/5/22
Zauner Chief Operating Officer	Ronan Pringle		24/5/22
Zauner Project Manager	Adrien Clements		24/5/22

CEMP Sign off (Signature indicates personnel have read and understood this plan)

Zauner Authorised Person	Adrien Clements		25/5/22
Contracts Administrator	Ed Goh		24/5/22
Zauner Site Manager	Jake Saurine		24/5/22
Site HSE Officer	Ross Humble		24/5/22

Document Control

Number	Version	Date Issued
1.	Original	23/11/2021
2.	Revision 2	13/01/2022
3.	Revision 3	14/04/2022
4.	Updated to reflect DPIE Comments	18/05/2022

Contents

1 Purpose

This document to be read in conjunction with Zauner Health, Safety and Environment Project Management Plan has been produced for compliance with SSDA Development Consent Conditions part B condition number B16 Construction Soil and Water Management Sub-Plan (CTPMSP). This document outlines the requirements for all environmental, erosion and sediment controls to be implemented during construction works site specific to Budawang School for Specific Purposes.

This Plan has been prepared in consultation with local Shoalhaven City Council complementary documents, including Shoalhaven Builders Guide Best Environmental Practice publication.

2 Definitions

Environmental Aspect - An environmental aspect is a feature or characteristic of an activity, product, or service that affects or can affect the environment.

Environmental Harm - Is taken as the meaning defined in the relevant environmental legislation of the state/territory jurisdiction.

Environmental Impacts - any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects.

Environmental Nuisance - Is taken as the meaning defined in the relevant environmental legislation of the state jurisdiction.

Critical Incident - any event or series of events that is sudden, overwhelming, threatening or protracted and is normally severe in consequence

Dangerous Incident - incident in relation to a workplace that exposes any person to a serious risk resulting from an immediate or imminent exposure to:

- An uncontrolled escape, spillage or leakage of a substance
- An uncontrolled implosion, explosion or fire
- An uncontrolled escape of gas or steam
- An uncontrolled escape of a pressurised substance
- Electric shock
- The fall or release from a height of any plant, substance or thing
- The collapse, overturning, failure or malfunction of, or damage to, any plant that is required to be design or item registered under the work health and safety regulations, for example a collapsing crane
- The collapse or partial collapse of a structure
- The collapse or failure of an excavation or of any shoring supporting an excavation
- The inrush of water, mud or gas in workings, in an underground excavation or tunnel, or
- The interruption of the main system of ventilation in an underground excavation or tunnel
- Exposure to a substance which is likely to create a serious risk to health or safety in the future, for example asbestos or hazardous chemicals

Hazard - a condition which could progress to an incident occurring should appropriate control actions not be taken or maintained.

Hazardous Manual Task - a task that requires a person to lift, lower, push, pull, carry or otherwise move, hold or restrain any person, animal or thing involving one or more of the following:

- Repetitive or sustained force
- High or sudden force
- Repetitive movement
- Sustained or awkward posture
- Exposure to vibration

High Risk Construction Work -

- Involves a risk of a person falling more than 2 meters
- Is carried out on a telecommunication tower
- Involves demolition of an element of a structure that is load-bearing or otherwise related to the physical integrity of the structure
- Involves, or is likely to involve, the disturbance of asbestos
- Involves structural alterations or repairs that require temporary support to prevent collapse
- Is carried out in or near a confined space
- Is carried out in or near a shaft or trench with an excavated depth greater than 1.5 meters, or a tunnel
- Involves the use of explosives
- Is carried out on or near pressurised gas distribution mains or piping
- Is carried out on or near chemical, fuel or refrigerant lines
- Is carried out on or near energised electrical installations or services
- Is carried out in an area that may have a contaminated or flammable atmosphere
- Involves tilt-up or precast concrete
- Is carried out on, in or adjacent to a road, railway, shipping lane or other traffic corridor that is in use by traffic other than pedestrians
- Is carried out in an area at a workplace in which there is any movement of powered mobile
- is carried out in areas with artificial extremes of temperature
- is carried out in or near water or other liquid that involves a risk of drowning
- involves diving work

3 Safety

Zauner is committed to ensuring Zauner Construction's people, Clients, Subcontractors, Community Stakeholders, SINSW, School and all public participants enjoy a healthy, positive and safe working environment, including travel and access into site and when travelling along Croobyar Road. This Construction Soil and Water Management Sub-plan ensures that the Company is compliant with its requirements and conducts its business in a way that contributes positively to the community and environment it operates in.

4 Environmental Protocol and Compliance

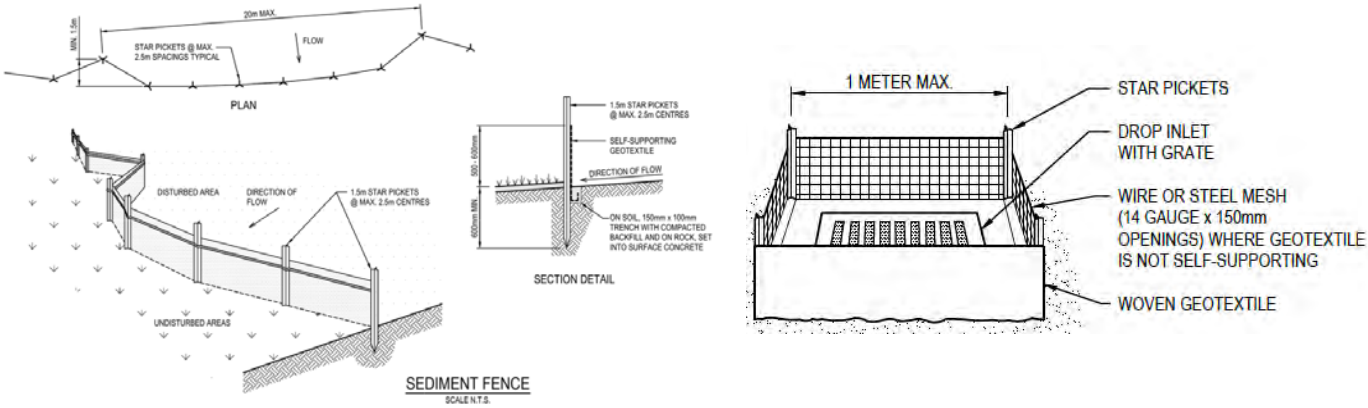
This document – Construction Soil and Water Management Sub-Plan (CSWMSP) aims to provide a plan for environmental control measures to assist in delivering safe logistical support of Budawang School for Specific Purpose project, planned to take place on Croobyar Road, Milton NSW commencing in 2022.

4.1 Erosion and Sediment Control

It is imperative that all sources of potential contamination are identified, risk assessed and controlled. Prior to undertaking any works onsite, erosion and sediment controls will be installed where there is a potential risk that work will cause erosion or sediment losses.

In the first instance, Zauner will undertake all Sediment and Erosion control practices in accordance with the publication Managing Urban Stormwater: Soils & Construction (4th edition, Landcom 2004) commonly referred to as the 'Blue Book'; and in review of H&H Sediment and Erosion control details DWG 20971_CC-SE02 including sediment fencing as close as possible to being parallel to the contours of the site, but with small returns as shown in the drawings to limit the catchment area of any one section.

Catchment areas will be small enough to limit water flow if concentrated at one point to 50 litres per second in the design storm event, usually the 10-year event. Sediment fencing and incorporating woven geotextile will also be utilised for all stormwater pits, or with the use of gravel-filled wire mesh or geotextile sausage to all kerb-side inlets as required.



All roads to be swept and maintained during the course of works and cleared areas to be rehabilitated promptly. Training, Inductions, Daily Site Inspections and Tool Box meetings shall form part of how erosion and sediment control issues are communicated to workers.

Erosion and sedimentation controls installed shall be maintained, managed, repaired or replaced as required. Additionally, climatic conditions both immediate and pending to be monitored closely and sediment control measures adjusted as required.

Erosion and sedimentation controls shall be monitored on an ongoing basis and immediately following a rainfall event. The controls shall be maintained or replaced as appropriate. Sediment shall be cleared when traps have collected 50-60% of capacity and the residue disposed of in an

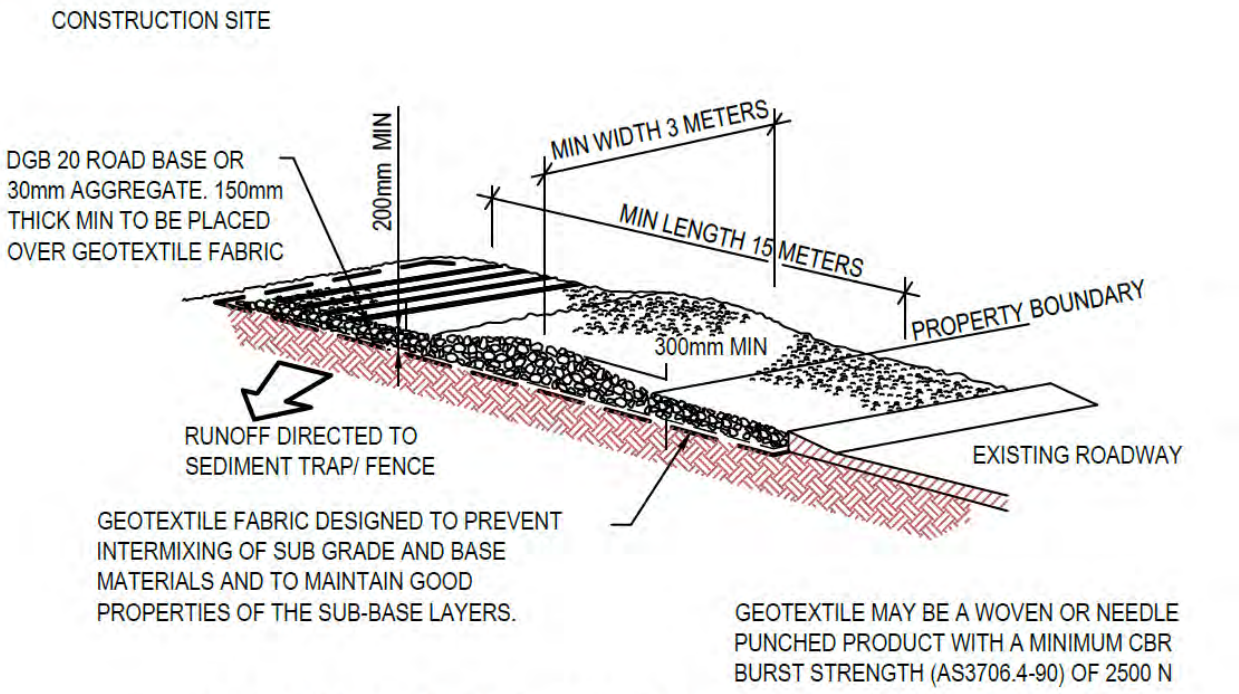
appropriate manner. In the first instance, and where available this will involve the reuse of sediment respread onsite in line with sustainable and environmental practices. Sediment placement will be in an area protected from potential erosion, and which has been previously monitored by Zauner Environmental Safety Officer to ensure familiarity with the water drainage and soil movements. Zauner may also seek consultant advice towards sediment recycling into final landscaped areas, utilising the rich organic matter and macro and micronutrients useful for plant growth. Where sediment cannot be reused or recycled, sediment shall be disposed of into an appropriate waste container, provided by Zauner suitably qualified waste Subcontractor and transported offsite. The waste Subcontractor must provide evidence of operating under local Shoalhaven City Council disposal practices. Further too, material shall only be exported to a site approved to receive such material through development consent and/ or EPA licensing.

Any temporary erosion and sedimentation control structures shall be removed post construction. The client will then take on the responsibility of sedimentation control.

Particular attention will be paid to the West boundary of the site which is where all stormwater and other rainwater run-off and like will fall towards. To ensure the highest level of stormwater management the following measures shall be implemented:

- Initial assessment of the site with Consultants, Zauner Subcontractors and site personnel to gain full understanding of the drainage system and potential breach points for stormwater run-off issues
- Review with a civil Sub Consultant to ensure contingent rain event planning is in place
- Identification and cleaning of drains applicable to the works and construction of barriers utilizing varying intercept drains to manage water velocities; sediment control drain socks; sediment control devices/ fences and geo filter fabric
- Implement control measures in conformance with Guidelines for Erosion and Sediment Control on Building Sites including;
- Minimise area to be cleared and leave as much vegetation as possible. Install temporary fences to define 'no go' areas that are not to be disturbed.
- Install sediment fence(s) along the low side of the site before work begins.
- Divert water around the work site and stabilise channels, but ensure that you do not flood the neighbouring property.
- Establish a single stabilised entry/exit point. Clearly mark the access point and give an access map that has a delivery point indicated for all supplies.
- Leave or lay a kerb-side turf strip (for example, the nature strip) to slow the speed of water flows and to trap sediment.
- Check the erosion and sediment controls every day and keep them in good working condition.
- Stockpile topsoil within the sediment controlled zone.
- Always be aware of the weather forecast.
- Stabilise exposed earth banks (e.g. vegetation, erosion control mats).
- Fill in and compact all trenches immediately after services have been laid.
- Install site waste receptacles (mini-skip, bins, wind-proof litter receptors).
- Sweep the road and footpath every day and put soil behind the sediment controls. Hosing down roads and footpaths is unacceptable.
- Connect downpipes from the guttering to the stormwater drain as soon as the roof is installed.
- Revegetate the site as soon as possible. The erosion and sediment control devices must be kept in place until 70% of the site has been revegetated.

Additionally, Zauner will implement site specific measures to ensure that sediment and other materials are not tracked onto the roadway by vehicles leaving the site. In the first instance, this will involve vehicle shaker grids at all entrances into the site compound. All vehicles will be inspected by full time Site Safety Office when leaving site to ensure no vehicles are at risk of tracking sediment and related material outside site including onto Croobyar Road, or along the shared access road inside existing School. If deemed by the Site Safety Officer not reasonable to Zauners quality and environmental management standards, the vehicle operator will be instructed to remain inside the site compound and redirect towards the site designated vehicle washdown bay. Washdown bay will involve careful placement of additional sediment control to ensure runoff from vehicles after hose down remains controlled. It is then up to the vehicle operator to satisfy to the Zauner site safety officer the vehicle is adequately cleaned before approval to leave site.



STABILISED SITE ACCESS WITH SHAKER RAMP

Mud deposited on the current road network due to truck movements to and from the site compound is to be prevented. Exposed areas of soil within the site are to be covered with gravel to prevent mud being deposited on the road network.

If any sediment or other materials are found on roadways as a result by Zauner and Zauner Subcontractors, this will be cleaned as soon as safe and reasonably practicable removing all foreign materials with sweeping, collecting, and containing back into site compound.

Further Erosion and Sediment Control plan outlined on below page specific to Budawang Site per drawing DWG which will present guide for stablisation controls layout to be implemented.

LEGEND

- SITE BOUNDARY
- PROPOSED SEDIMENTATION FENCE
- TRAFFIC MANOEUVRING
- PROPOSED VEHICLE SHAKER GRID
- PROPOSED STABILISED SITE ACCESS
- GEOTEXTILE INLET FILTER
- PROPOSED MESH & GRAVEL INLET FILTER
- PROPOSED STOCKPILE LOCATION

SEDIMENT & EROSION CONTROL NOTES

- ALL SEDIMENT CONTROL DEVICES ARE TO BE CONSTRUCTED, PLACED AND MAINTAINED IN ACCORDANCE WITH SHOALHAVEN CITY COUNCIL SPECIFICATIONS AND LANDCOM'S "SOIL AND CONSTRUCTION" MANUAL.
- ALL PERIMETER & SILTATION CONTROL MEASURES ARE TO BE PLACED PRIOR TO, OR AS THE FIRST STEP IN EARTH WORKS AND/OR CLEARING.
- THE SEDIMENT & EROSION CONTROL PLAN MAY REQUIRE FUTURE ADJUSTMENT TO REFLECT CONSTRUCTION STAGING. IT IS ALSO THE CONTRACTORS RESPONSIBILTY TO PREPARE THEIR OWN SEDIMENT AND EROSION CONTROL PLAN WHICH SUITS THE DESIGNED CONSTRUCTION STAGING.
- FILTRATION BUFFER ZONES ARE TO BE FENCED OFF AND ACCESS PROHIBITED TO ALL PLANT AND MACHINERY.
- ALL TEMPORARY EARTH BERMS, DIVERSIONS & SILT DAM EMBANKMENTS ARE TO BE MACHINE COMPACTED, SEEDED & MULCHED FOR TEMPORARY VEGETATION COVER AS SOON AS THEY HAVE BEEN FORMED.
- ALL SEDIMENT TRAPPING STRUCTURES AND DEVICES ARE TO BE INSPECTED AFTER STORMS FOR STRUCTURAL DAMAGE OR CLOGGING. TRAPPED MATERIAL IS TO BE REMOVED TO A SAFE LOCATION.
- ALL TOPSOIL IS TO BE STOCKPILED ON SITE FOR REUSE (AWAY FROM TREES AND DRAINAGE LINES). MEASURES SHALL BE APPLIED TO PREVENT EROSION OF THE STOCKPILES.
- ALL EARTHWORK AREAS SHALL BE ROLLED EACH EVENING TO SEAL THE EARTHWORKS.
- ALL FILLS ARE TO BE LEFT WITH A LIP AT THE TOP OF THE SLOPE AT THE END. ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND STRAW MULCHED WITHIN 14 DAYS OF COMPLETION OF FORMATION U.N.O. BY LANDSCAPE ARCHITECTS.
- UPON COMPLETION OF ALL EARTHWORKS OR AS DIRECTED BY COUNCIL SOIL CONSERVATION TREATMENTS SHALL BE APPLIED SO AS TO RENDER AREAS THAT HAVE BEEN DISTURBED, EROSION PROOF WITHIN 14 DAYS.
- EROSION AND SILT PROTECTION MEASURES ARE TO BE MAINTAINED AT ALL TIMES.

PROPOSED STABILISED VEHICLE ACCESS WITH SHAKER GRID

PROPOSED MESH AND GRAVEL INLET FILTER

PROPOSED STOCKPILE LOCATION

PROPOSED SEDIMENTATION FENCE

CROOBYAR ROAD

0 5 10 15 20 25m

5 4 3 2 1

SCALE 1:250

zauner construction

SEDIMENT AND EROSION CONTROL PLAN

SCALE: 1:250

CONSTRUCTION CERTIFICATE

SURVEY INFORMATION

SURVEYED BY:

PHILLIP BROWN LAND SURVEYORS

DATUM: AHD

ORIGIN OF LEVELS: SSM 42008 RL 53.019

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
07	ISSUED FOR CONSTRUCTION CERTIFICATE 2	MP	TR	11.02.2022
06	ISSUED FOR CONSTRUCTION CERTIFICATE	MP	TR	22.12.2021
05	ISSUED FOR 100% DESIGN DEVELOPMENT ISSUE	MP	TR	23.11.2021
04	ISSUED FOR 75% DESIGN DEVELOPMENT ISSUE	JK	TR	21.10.2021
03	ISSUED FOR TENDER	JK	TR	27.07.2021
02	ISSUED FOR CO-ORDINATION	JK	TR	21.05.2021
01	ISSUED FOR TENDER	MS	TR	12.02.2021

Client: SCHOOL INFRASTRUCTURE NSW

Architect: GROUP GSA

Suite 2.01
828 Pacific Highway
Gordon NSW 2072

Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au

henry&hymas

Project: BUDAWANG SCHOOL ALTERATIONS AND ADDITIONS
MILTON, NSW

Title: SEDIMENT AND EROSION CONTROL PLAN

Drawn	Designed	Date
J.Knight	L.Caha	NOV 2020
Checked	Approved	Scale @A1
T.Rozehnal	A.Francis	1:250

Drawing number: 20971_CC_SE01

Revision: 07

4.2 Wet-weather Mitigation

Zauner Construction will remain vigilant with weather monitoring to ensure all risks are mitigated so far as reasonably practicable. This will involve an environmental mitigation plan with ongoing modifications to the plan as development progresses.

Zauner has reviewed the Cardno Flood Advice dated 16 April 2021, and given the relatively high site level compared to the flood levels, the proposed development is expected to remain largely unaffected by flooding and above the FPL. Given the relatively small catchment (10 ha) upstream of Croobyar Road and the general site topography, it is not expected that any significant issues related to flood evacuation would be experienced. Therefore the flood flows for small and large sized events from 1 in 5 year ARI and 1 in 100-year ARI are generally noted as not applicable

Prior to discharge from the site, sediment must be filtered or settled from any discharge stream.
Any seepage or rainwater collected on site during construction shall either be re-used or disposed of, so as not to cause pollution. Seepage or rainwater shall not be pumped to the street stormwater system unless separate prior approval is given in writing from the council.

All erosion and sediment control measures will be effectively implemented and maintained for the duration of the construction works and until such time as all ground disturbed by the works has been stabilised and rehabilitated so that it no longer acts as a source of sediment.

Training, Inductions, Daily Site Inspections, Daily Hazard, Awareness & Consultation Register (HSE007) and Tool Box meetings shall form part of how wet-weather control issues are communicated to workers.

After a stormwater event the effectiveness of the established controls will be assessed by Zauner Site Manager to check the operations of all erosion and sediment controls. Any repairs or maintenance will be undertaken as required. For best outcomes, Zauner will anticipate all potential risks at the commencement of the works as well as being proactive and well prepared for abnormal circumstances and emergencies.

This will include the following:

- Storing extra sediment fence fabric and posts onsite to facilitate emergency repairs
- Ensuring sediment control contractor’s phone number is available onsite
- The entry/exit pad will require reapplication of aggregate if excessive sediment build-up occurs.
- Clean any catch drains.
- Erosion in drainage channels should be repaired with rock, turf or erosion control matting.
- Sediment fences should be replaced if the fabric is ripped or otherwise damaged. Retrenching may also be needed. Sediment fences work well if they are maintained on a weekly basis and/or after every storm event.
- Keep an eye on the weather and vigilance in proactive environmental procedures.

Accidental spills of soil or other materials onto the road or gutter will be removed at the end of the day's work or when safe to do so following major wet-weather events. Materials will be swept from the road,

not washed down the gutter. Following storms, the roadway and sediment controls will be inspected, and all excessive sediment residues removed.

Connecting roof downpipes is a vital process to keep the water off the site. Temporary or permanent downpipes will be installed at the same time as the roof is installed, dependent on programme constraints and other factors. The early connection of downpipes to the stormwater system will reduce site drainage problems. This will reduce downtime following storm events.

Where possible, Zauner will ensure open trenches are limited whenever the risk of storms is high. Coordination of various service connections will be undertaken so that a single trench can be used. Further too, areas where water flow is likely to concentrate will be avoided. In addition, excavated material will be placed uphill of trench to ensure run-off is diverted to trench lines.

All construction and demolition waste will be stored on-site in a way that prevents material loss caused by wind or water. Smaller materials such as litter will be contained in covered bins or litter traps formed on three sides by geotextile as a windbreak. By separating building waste products into separate litter traps, specific material can be recycled, which will be easier to monitor and cohesive with the Greenstar Waste management requirements.

Storage of equipment will be undertaken in the following process:

- Assess the upcoming wet weather and plan in advance for storage of equipment, or, action immediately once a wet weather event occurs
- Ensure equipment or materials susceptible to wet weather is stored undercover at all times
- Ensure Machinery or Plant is stored undercover when not in use. If there is no undercover area, adequately cover with tarpaulins and strap down securely in place
- Do not store equipment in high-traffic areas or areas susceptible to flooding.
- Provide a solid working platform to store equipment. Elevate on blocks to ensure water flows underneath are unobstructed

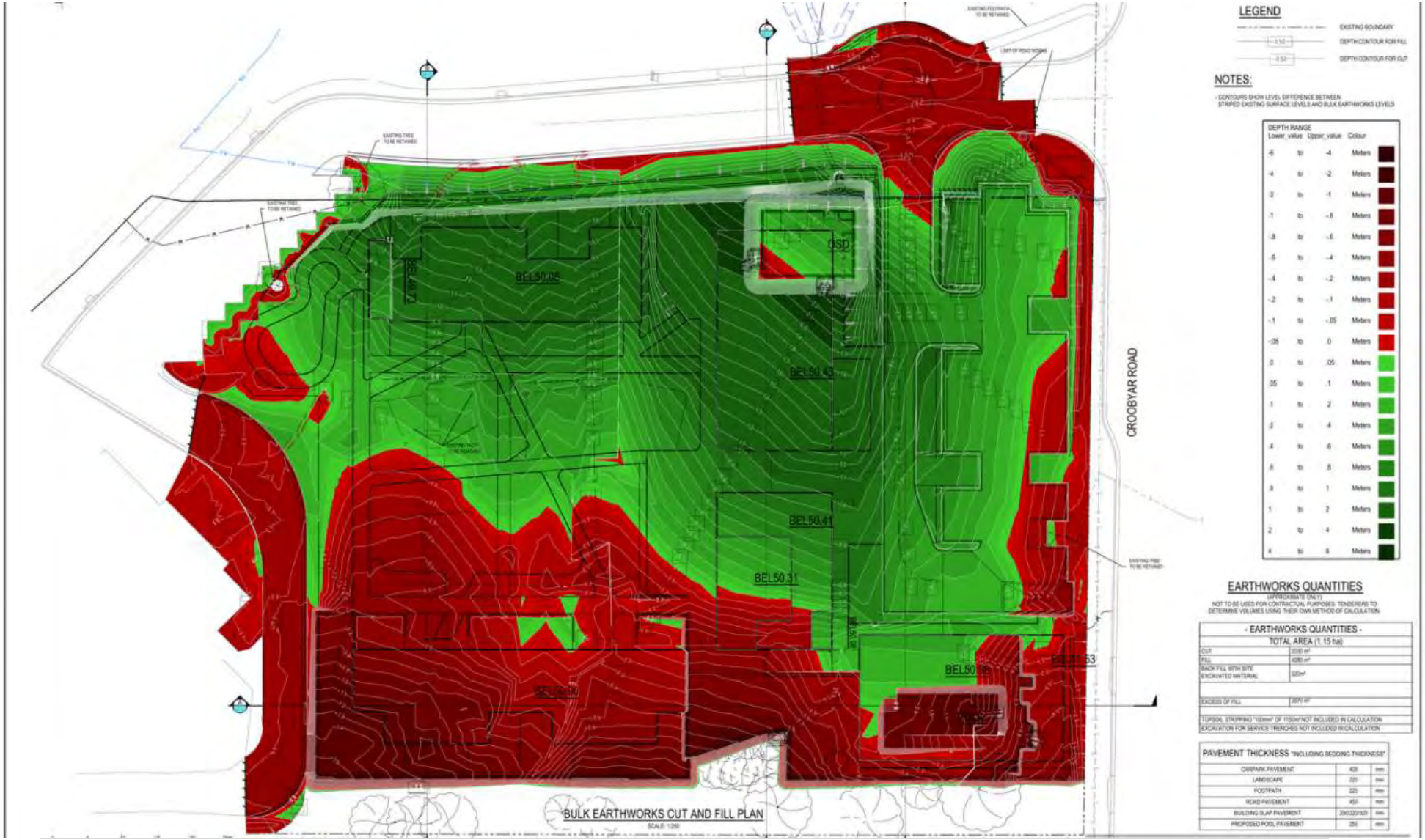
4.3 Soil Re-use

A significant portion of soil will be reused to accommodate levels along the west elevation of the Budawang site. This is documented in H&H Civil Bulk earthworks cut and fill plan DWG 20971_CC_BE01 below.

Stockpiles and building materials will not to be stored on the footpath or within the road reserve. Where necessary, stockpile losses will be minimised with the use of covers. All stockpiles and building materials will be located behind the sediment controls and will be protected from run-on water by placing diversion banks up-slope and with sediment control structures placed immediately down-slope. The location of all stockpiles on-site will be at least 2 metres (preferably 5 metres) from hazard areas, especially likely areas of concentrated or high velocity flows such as waterways, kerb inlet pits, paved areas and driveways.

The height of the stockpiles will be less than 2 metres. The incorrect storage of stockpiles is a major source of stormwater pollution. All site workers, subcontractors and delivery drivers will be advised of their responsibilities to minimise soil erosion and pollution. All delivery drivers will be given a designated location to deliver materials on site. This practice will also keep stockpiles away from site access and consequently keep sediment from being discharged to the stormwater system.

With the current cut and fill layout there will be no exported soil other than vegetable stockpile topsoil. For any exported soil Zauner will ensure all details are recorded and provided in monthly WHSE Management reports including of where exported soil is being disposed to. Material shall only be exported to a site approved to receive such material through development consent and/ or EPA licensing.


LEGEND
EXISTING BOUNDARY
DEPTH CONTOUR FOR FILL
DEPTH CONTOUR FOR CUT
NOTES:
DEPTH RANGE
Lower_value Upper_value Colour
CROOBYAR ROAD
BEL50.05
BEL50.43
BEL50.41
BEL50.31
OSD
EARTHWORKS QUANTITIES
- EARTHWORKS QUANTITIES -
TOTAL AREA (1.15 ha)
PAVEMENT THICKNESS
BULK EARTHWORKS CUT AND FILL PLAN

4.4 Vehicle Mitigation

- All vehicles will be cleaned on the site before departure.
- All vehicles will be registered and in good condition, Zauner plant checks will be undertaken on all vehicles proposing to enter the site.
- No smoky or noisy vehicles will be granted access to the site.
- All speed limits will be adhered to as all vehicle movements are under designated escort by Zauner escort personnel.
- All heavy vehicle routes under RMS and Local government regulations will be adhered to.
- All deliveries entering and leaving the site will be secured and where required tarped or covered.
- All excavated material leaving the site will be pre classified and managed accordingly the material will be deposited at EPA approved facilities based on the classification.

4.5 Acid Sulfate Soils

Douglas Partners have prepared a Geotechnical Investigation Report for the future Budawang SSP site. In the report they concluded that under ***8.5 Acid Sulfate Soils***, "The results of the limited testing of the fill encountered in Bore 101 indicated the existing fill was unlikely to include soils consistent with acid sulfate conditions. Similarly, the underlying residual clays are derived from weathering of the bedrock and hence are inconsistent with the formation of estuarine acid sulfate soils. As such, management of potential acid sulfate soils is not required for the proposed development".

As there is no Acid Sulfate Soils found within the test results, and the nearest location known for acid sulfate soils being 580m away, Zauner understand that there is no requirement to undertake an Acid Sulfate Soils Management Plan.

4.2 Wet-weather Mitigation

Zauner Construction will remain vigilant with weather monitoring to ensure all risks are mitigated so far as reasonably practicable. This will involve an environmental mitigation plan with ongoing modifications to the plan as development progresses.

Zauner has reviewed the Cardno Flood Advice dated 16 April 2021, and given the relatively high site level compared to the flood levels, the proposed development is expected to remain largely unaffected by flooding and above the FPL. Given the relatively small catchment (10 ha) upstream of Croobyar Road and the general site topography, it is not expected that any significant issues related to flood evacuation would be experienced.

Prior to discharge from the site, sediment must be filtered or settled from any discharge stream.
Any seepage or rainwater collected on site during construction shall either be re-used or disposed of, so as not to cause pollution. Seepage or rainwater shall not be pumped to the street stormwater system unless separate prior approval is given in writing from the council.

All erosion and sediment control measures will be effectively implemented and maintained for the duration of the construction works and until such time as all ground disturbed by the works has been stabilised and rehabilitated so that it no longer acts as a source of sediment.

Training, Inductions, Daily Site Inspections, Daily Hazard, Awareness & Consultation Register (HSE007) and Tool Box meetings shall form part of how wet-weather control issues are communicated to workers.

After a stormwater event the effectiveness of the established controls will be assessed by Zauner Site Manager to check the operations of all erosion and sediment controls. Any repairs or maintenance will be undertaken as required. For best outcomes, Zauner will anticipate all potential risks at the commencement of the works as well as being proactive and well prepared for abnormal circumstances and emergencies.

This will include the following:

- Storing extra sediment fence fabric and posts onsite to facilitate emergency repairs
- Ensuring sediment control contractor's phone number is available onsite
- The entry/exit pad will require reapplication of aggregate if excessive sediment build-up occurs.
- Clean any catch drains.
- Erosion in drainage channels should be repaired with rock, turf or erosion control matting.
- Sediment fences should be replaced if the fabric is ripped or otherwise damaged. Retrenching may also be needed. Sediment fences work well if they are maintained on a weekly basis and/or after every storm event.
- Keep an eye on the weather and vigilance in proactive environmental procedures.

Accidental spills of soil or other materials onto the road or gutter will be removed at the end of the day's work or when safe to do so following major wet-weather events. Materials will be swept from the road, not washed down the gutter. Following storms, the roadway and sediment controls will be inspected, and all excessive sediment residues removed.

Connecting roof downpipes is a vital process to keep the water off the site. Temporary or permanent downpipes will be installed at the same time as the roof is installed, dependent on programme constraints and other factors. The early connection of downpipes to the stormwater system will reduce site drainage problems. This will reduce downtime following storm events.

Where possible, Zauner will ensure open trenches are limited whenever the risk of storms is high. Coordination of various service connections will be undertaken so that a single trench can be used. Further too, areas where water flow is likely to concentrate will be avoided. In addition, excavated material will be placed uphill of trench to ensure run-off is diverted to trench lines.

All construction and demolition waste will be stored on-site in a way that prevents material loss caused by wind or water. Smaller materials such as litter will be contained in covered bins or litter traps formed on three sides by geotextile as a windbreak. By separating building waste products into separate litter traps, specific material can be recycled, which will be easier to monitor and cohesive with the Greenstar Waste management requirements.

Storage of equipment will be undertaken in the following process:

- Assess the upcoming wet weather and plan in advance for storage of equipment, or, action immediately once a wet weather event occurs
- Ensure equipment or materials susceptible to wet weather is stored undercover at all times
- Ensure Machinery or Plant is stored undercover when not in use. If there is no undercover area, adequately cover with tarpaulins and strap down securely in place
- Do not store equipment in high-traffic areas or areas susceptible to flooding.
- Provide a solid working platform to store equipment. Elevate on blocks to ensure water flows underneath are unobstructed

4.3 Soil Re-use

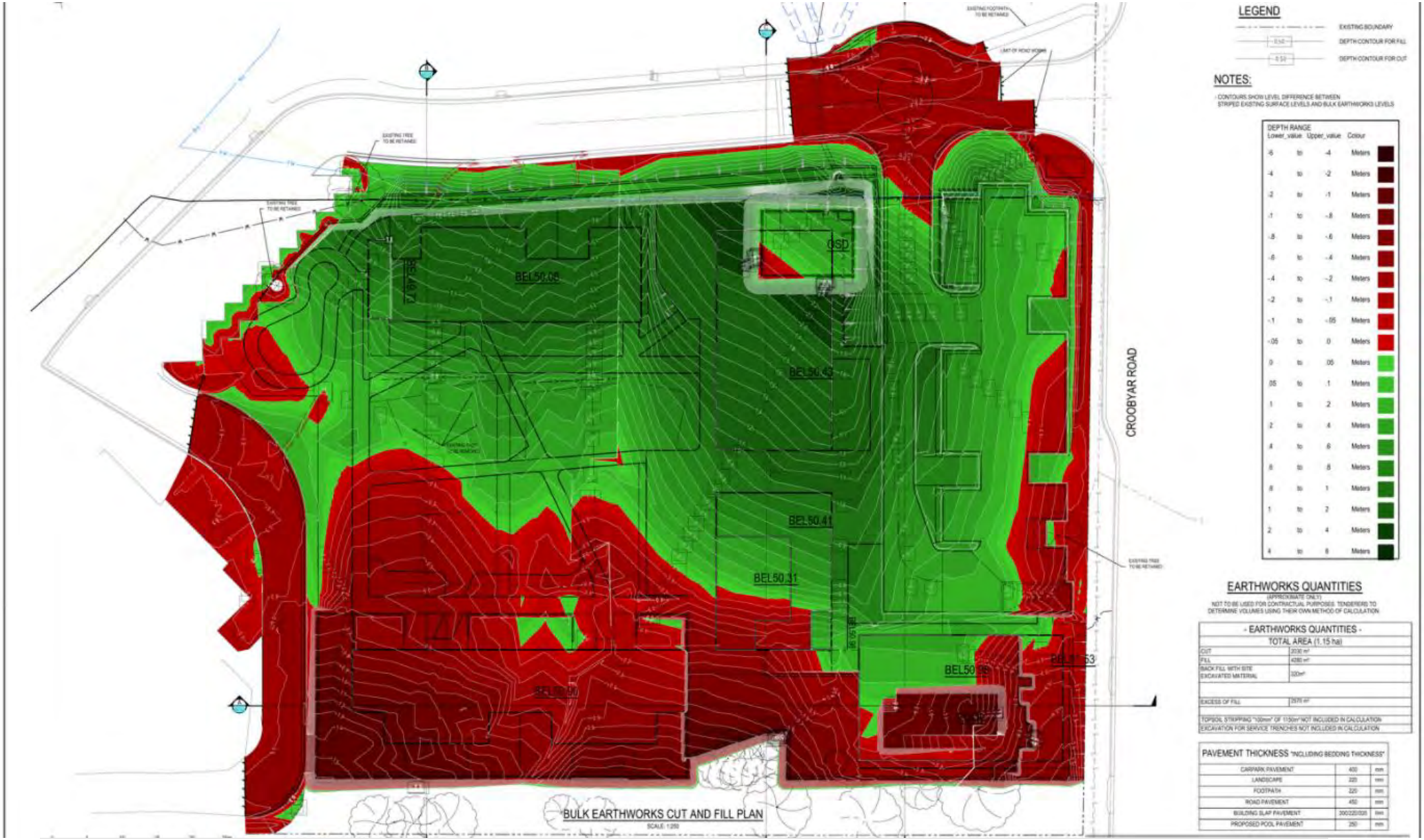
A significant portion of soil will be reused to accommodate levels along the west elevation of the Budawang site. This is documented in H&H Civil Bulk earthworks cut and fill plan DWG 20971_CC_BE01 below.

Stockpiles and building materials will not to be stored on the footpath or within the road reserve. Where necessary, stockpile losses will be minimised with the use of covers. All stockpiles and building materials will be located behind the sediment controls and will be protected from run-on water by placing diversion banks up-slope and with sediment control structures placed immediately down-slope. The location of all stockpiles on-site will be at least 2 metres (preferably 5 metres) from hazard areas, especially likely areas of concentrated or high velocity flows such as waterways, kerb inlet pits, paved areas and driveways.

The height of the stockpiles will be less than 2 metres. The incorrect storage of stockpiles is a major source of stormwater pollution. All site workers, subcontractors and delivery drivers will be advised of their responsibilities to minimise soil erosion and pollution. All delivery drivers will be given a designated

location to deliver materials on site. This practice will also keep stockpiles away from site access and consequently keep sediment from being discharged to the stormwater system.

With the current cut and fill layout there will be no exported soil other than vegetable stockpile topsoil. For any exported soil Zauner will ensure all details are recorded and provided in monthly WHSE Management reports including of where exported soil is being disposed to. Material shall only be exported to a site approved to receive such material through development consent and/ or EPA licensing.


LEGEND
EXISTING BOUNDARY
DEPTH CONTOUR FOR FILL
DEPTH CONTOUR FOR CUT
NOTES:
- CONTOURS SHOW LEVEL DIFFERENCE BETWEEN STRIPED EXISTING SURFACE LEVELS AND BULK EARTHWORKS LEVELS
DEPTH RANGE
Lower_value Upper_value Colour
EARTHWORKS QUANTITIES
- EARTHWORKS QUANTITIES -
TOTAL AREA (1.15 ha)
CUT
FILL
BACK FILL WITH SITE EXCAVATED MATERIAL
EXCESS OF FILL
TOPSOIL STRIPPING "150mm" OF 11.50m² NOT INCLUDED IN CALCULATION
EXCAVATION FOR SERVICE TRENCHES NOT INCLUDED IN CALCULATION
PAVEMENT THICKNESS "INCLUDING BEDDING THICKNESS"
CARPARK PAVEMENT
LANDSCAPE
FOOTPATH
ROAD PAVEMENT
BUILDING SLAB PAVEMENT
PROPOSED POOL PAVEMENT
OSD
BEL50.05
BEL50.43
BEL50.41
BEL50.31
CROOBYAR ROAD
BULK EARTHWORKS CUT AND FILL PLAN

4.4 Vehicle Mitigation

- All vehicles will be cleaned on the site before departure.
- All vehicles will be registered and in good condition, Zauner plant checks will be undertaken on all vehicles proposing to enter the site.
- No smoky or noisy vehicles will be granted access to the site.
- All speed limits will be adhered to as all vehicle movements are under designated escort by Zauner escort personnel.
- All heavy vehicle routes under RMS and Local government regulations will be adhered to.
- All deliveries entering and leaving the site will be secured and where required tarped or covered.
- All excavated material leaving the site will be pre classified and managed accordingly the material will be deposited at EPA approved facilities based on the classification.

4.5 Acid Sulfate Soils

Douglas Partners have prepared a Geotechnical Investigation Report for the future Budawang SSP site. In the report they concluded that under ***8.5 Acid Sulfate Soils***, "The results of the limited testing of the fill encountered in Bore 101 indicated the existing fill was unlikely to include soils consistent with acid sulfate conditions. Similarly, the underlying residual clays are derived from weathering of the bedrock and hence are inconsistent with the formation of estuarine acid sulfate soils. As such, management of potential acid sulfate soils is not required for the proposed development".

As there is no Acid Sulfate Soils found within the test results, and the nearest location known for acid sulfate soils being 580m away, Zauner understand that there is no requirement to undertake an Acid Sulfate Soils Management Plan.

henry&hymas

THOMAS ROZEHNAL

Partner – Senior Civil Engineer
BE Civil

trozehnal@hhconsult.com.au

Professional Profile

Thomas is an accomplished civil engineer with extensive experience in residential, commercial and industrial developments. With over 14 years' experience in grading and stormwater design, roads and preparing design documentation for civil engineering works, Thomas offers a versatile skillset in delivering sustainable infrastructure and development solutions.

Thomas has comprehensive design, construction and management experience on multi-disciplinary projects ranging from commercial and residential buildings, retail developments and OSD, Water Quality Design, Floodway modelling, and has worked successfully in a collaborative design team environment.

Thomas' responsibilities have included project co-ordination; liaising with clients, consultants, authorities and team members to coordinate concept and final project design and the documentation processes. He is valuable member of the *henry&hymas* Civil team.

Qualifications

- Bachelor of Engineering (Civil), Newcastle NSW Australia

Technical Skills

- Extensive experience in civil analysis software packages: Drains, 12d, AutoCAD, Bluebeam, XP Rafts, Rat HGL, HEC-RAS, MUSIC
- Expertise in Australian Standards & AUSTROADS

Major Project Experience

- Fig Tree Falls Integrated Resort – Large scale residential subdivision
- Australia Post Distribution Centre, Alexandria
- Narellan Town Centre, Stage 5A
- Shell Cove Stage 1&2 - Woolworths and Specialty development, residential development
- Emerald Hills Shopping Centre, Raby Road - Woolworths and Specialty Development
- Brookvale Community Health Centre – Health Centre and Multi-Storey carpark
- Granville Multipurpose Centre
- Department of Industries Building, Prince St, Orange

Post Approval – Consultation

Consultation needs to be meaningful, done with courtesy and respect and be well documented. These are people/ organisations that we need to be building meaningful relationships with.

Conditions of all consent can require consultation with a range of stakeholders. Consultation in the post approval world needs to be well documented to satisfy the condition requirements.

Examples include Council, service providers (eg. Electricity gas etc.), consult with local bus provider and TfNSW.

Read each condition carefully, any reference to consult triggers consultation.

Typically on State Significant Development, there will be a specific consultation condition as to how this piece can be appropriately addressed.

Consultation is not:

- A token gesture
- Done at the end of the piece of work,
- An email to the relevant stakeholder with no response;
- A meeting with the stakeholder with no meeting minutes.

Consultation is:

- Meaningful
- Done prior to the requirement,
- Captures an outcome,
- Identifies matters resolved,
- Identifies matters unresolved,
- Any disagreements are disclosed; and
- How we are going to address unresolved matters?

How to capture all the relevant details on consultation requirements? Any consultation requirement in a condition is required to be accompanied with the following table:

Education
School Infrastructure

Post Approval Consultation Record

Identified Party to Consult:	Shoalhaven City Council
Consultation type:	SSDA Submission and response via email conversations
When is consultation required?	Prior to commencement of Demolition or Construction
Why	B16 – Construction Soil & Water Management Sub-Plan approval
When was consultation scheduled/held	23 December 2021 – 02 February 2022
When was consultation held	23 December 2021 – 02 February 2022
Identify persons and positions who were involved	Harry Brizga – Development Engineering Officer, Shoalhaven City Council Adrien Clements – Project Manager, Zauner Constructions
Provide the details of the consultation	**23 December 2021** As part of the SSDA, a Construction Soil and Water Management Sub Plan has been submitted to Council for review and feedback by Zauner Constructions. **23 December 2021** Council supplied response and a number of minor comments to be updated on the plan. **18 January – 25 January 2022** Zauner and SCC undertake back and forth emails to discuss minor comments **2 February 2022** SCC confirm that appropriate consultation has occurred in accordance with condition B16
What specific matters were discussed?	New School for Specific Purpose in Milton NSW - Construction Soil and Water Management Sub Plan
What matters were resolved?	A construction soil and water management sub plan to be prepared to determine measures to manage construction site sediment and erosion in accordance with the publication Managing Urban Stormwater: Soils & Construction (‘Blue Book’)
What matters are unresolved?	N/A
Any remaining points of disagreement?	N/A
How will SINSW address matters not resolved?	N/A

NSW GOVERNMENT | Education
School Infrastructure

Adrien Clements

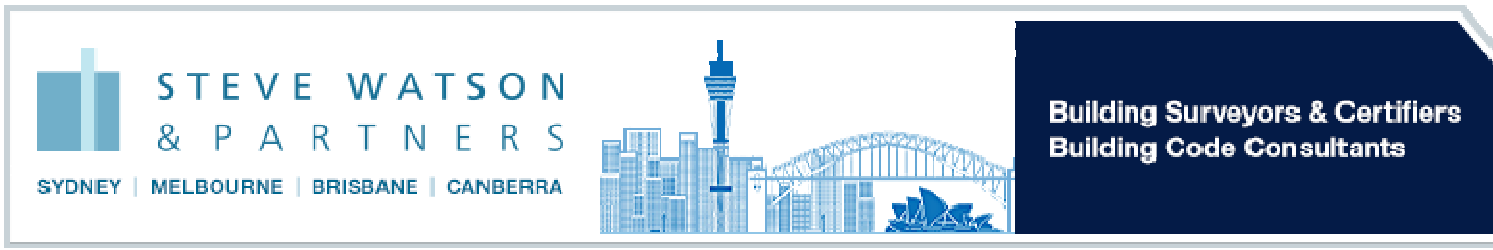
From: Peter Tran <ptran@swpartners.com.au>
Sent: Thursday, 10 February 2022 3:50 PM
To: Adrien Clements
Cc: Edward Goh
Subject: RE: 409 Budawang SSP - SSDA Condition B16 Consultation with Council

Thanks Adrien,

I confirm DA Condition B16 closed out.

Please do not hesitate to contact me if you have any queries

Peter Tran
Senior Building Regulations Consultant | Sydney Office
Level 17, 456 Kent Street, Sydney NSW 2000
T: (02) 9283 6555 | M: 0404 869 981 | ptran@swpartners.com.au
Steve Watson and Partners Pty Ltd



Please Note: All CC, CDC and OC Applications must be submitted via the **NSW ePlanning Portal**

From: Adrien Clements <Adrien.Clements@zauner.com.au>
Sent: Thursday, 10 February 2022 9:20 AM
To: Peter Tran <ptran@swpartners.com.au>
Cc: Edward Goh <Edward.Goh@zauner.com.au>
Subject: RE: 409 Budawang SSP - SSDA Condition B16 Consultation with Council

Hi Peter,

No problem, please see attached

Regards,

Adrien Clements

Project Manager	Zauner Construction	Adrien.Clements@zauner.com.au
Office: 02 4454 1827	Fax: 02 4454 1690	Mobile: 0415 618 760
Ulladulla Office	Suite 10, 132 Princess Highway	Ulladulla NSW 2539
PO Box 271	Ulladulla NSW 2539
Web: www.zauner.com.au

"Zauner Construction Celebrating Over 60 Years Pride in Workmanship"

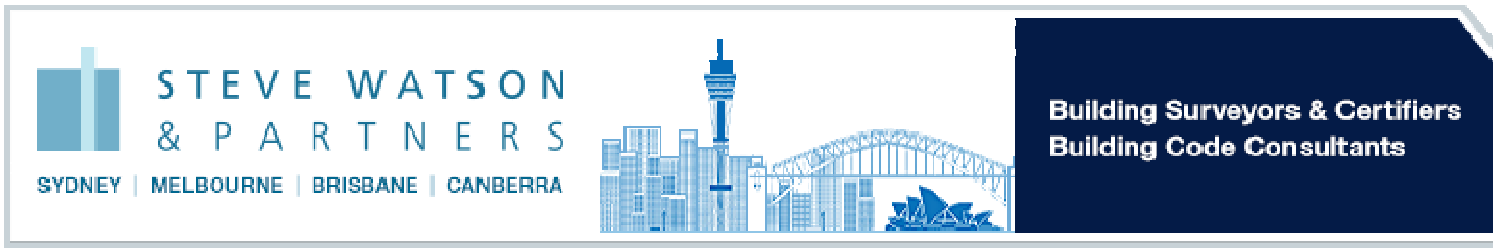
From: Peter Tran <ptran@swpartners.com.au>
Sent: Tuesday, 8 February 2022 5:54 PM
To: Adrien Clements <Adrien.Clements@zauner.com.au>
Cc: Edward Goh <Edward.Goh@zauner.com.au>
Subject: RE: 409 Budawang SSP - SSDA Condition B16 Consultation with Council

Hi Adrien,

Could you please forward a copy of the Council approved CSWMSP as refer to below.

Please do not hesitate to contact me if you have any queries

Peter Tran
Senior Building Regulations Consultant | Sydney Office
Level 17, 456 Kent Street, Sydney NSW 2000
T: (02) 9283 6555 | M: 0404 869 981 | ptran@swpartners.com.au
Steve Watson and Partners Pty Ltd



Please Note: All CC, CDC and OC Applications must be submitted via the **NSW ePlanning Portal**

From: Adrien Clements <Adrien.Clements@zauner.com.au>
Sent: Wednesday, 2 February 2022 10:49 AM
To: Peter Tran <ptran@swpartners.com.au>
Subject: FW: 409 Budawang SSP - SSDA Condition B16 Consultation with Council

Peter,

Please see below – SCC is satisfied with SSD Condition B16

Regards,

Adrien Clements

Project Manager	Zauner Construction	Adrien.Clements@zauner.com.au
Office: 02 4454 1827	Fax: 02 4454 1690	Mobile: 0415 618 760
Ulladulla Office	Suite 10, 132 Princess Highway	Ulladulla NSW 2539
PO Box 271	Ulladulla NSW 2539
Web: www.zauner.com.au

"Zauner Construction Celebrating Over 60 Years Pride in Workmanship"

From: Harry Brizga <Harry.Brizga@shoalhaven.nsw.gov.au>
Sent: Wednesday, 2 February 2022 10:39 AM
To: Adrien Clements <Adrien.Clements@zauner.com.au>
Cc: Peter Johnston <Peter.Johnston@shoalhaven.nsw.gov.au>; Scott Haylett <Scott.Haylett@shoalhaven.nsw.gov.au>; Harry Denham <Harry.Denham@zauner.com.au>
Subject: RE: 409 Budawang SSP - SSDA Condition B16 Consultation with Council

Hi Adrien,

Thanks for providing the revised plan.

Council is satisfied that appropriate consultation has occurred in accordance with condition B16.

Please advise if you need any further advice or information.

Kind regards,

Harry Brizga
Development Engineering Officer
Shoalhaven City Council

02 4429 3249
Bridge Rd (PO Box 42) Nowra NSW 2541
Harry.Brizga@shoalhaven.nsw.gov.au
www.shoalhaven.nsw.gov.au

RESPECT | INTEGRITY | ADAPTABILITY | COLLABORATION

Welcome to the NSW Planning Portal | Planning Portal - Department of Planning and Environment

From: Adrien Clements <Adrien.Clements@zauner.com.au>
Sent: Tuesday, 25 January 2022 4:05 PM
To: Harry Brizga <Harry.Brizga@shoalhaven.nsw.gov.au>
Cc: Peter Johnston <Peter.Johnston@shoalhaven.nsw.gov.au>; Scott Haylett <Scott.Haylett@shoalhaven.nsw.gov.au>; Harry Denham <Harry.Denham@zauner.com.au>
Subject: RE: 409 Budawang SSP - SSDA Condition B16 Consultation with Council

Hi Harry,

In regards to your final point around overland flow, please see attached. This is temporary diversion control of the overland flow until such time that the permanent provisions are in place.

Regards,

Adrien Clements

Project Manager	Zauner Construction	Adrien.Clements@zauner.com.au
Office: 02 4454 1827	Fax: 02 4454 1690	Mobile: 0415 618 760
Ulladulla Office	Suite 10, 132 Princess Highway	Ulladulla NSW 2539
PO Box 271	Ulladulla NSW 2539
Web: www.zauner.com.au

"Zauner Construction Celebrating Over 60 Years Pride in Workmanship"

From: Harry Brizga <Harry.Brizga@shoalhaven.nsw.gov.au>
Sent: Friday, 21 January 2022 8:23 AM
To: Adrien Clements <Adrien.Clements@zauner.com.au>
Cc: Peter Johnston <Peter.Johnston@shoalhaven.nsw.gov.au>; Scott Haylett <Scott.Haylett@shoalhaven.nsw.gov.au>; Harry Denham <Harry.Denham@zauner.com.au>
Subject: RE: 409 Budawang SSP - SSDA Condition B16 Consultation with Council

Hi Adrien,

Thanks for the changes made so far. I've provided additional comments below in blue.

Please advise if you have any questions.

Kind regards,

Harry Brizga
Development Engineering Officer
Shoalhaven City Council

02 4429 3249

Bridge Rd (PO Box 42) Nowra NSW 2541
Harry.Brizga@shoalhaven.nsw.gov.au
www.shoalhaven.nsw.gov.au

RESPECT | INTEGRITY | ADAPTABILITY | COLLABORATION

Welcome to the NSW Planning Portal | Planning Portal - Department of Planning and Environment

---

From: Adrien Clements <Adrien.Clements@zauner.com.au>
Sent: Tuesday, 18 January 2022 4:07 PM
To: Harry Brizga <Harry.Brizga@shoalhaven.nsw.gov.au>
Cc: Peter Johnston <Peter.Johnston@shoalhaven.nsw.gov.au>; Scott Haylett <Scott.Haylett@shoalhaven.nsw.gov.au>; Harry Denham <Harry.Denham@zauner.com.au>
Subject: RE: 409 Budawang SSP - SSDA Condition B16 Consultation with Council

Hi Harry,

Apologies for the delay in coming back to you.

Comments below in Green

Please let me know if you need any further info

Thanks in advance

Regards,

Adrien Clements

Project Manager	Zauner Construction	Adrien.Clements@zauner.com.au
Office: 02 4454 1827	Fax: 02 4454 1690	Mobile: 0415 618 760
Ulladulla Office	Suite 10, 132 Princess Highway	Ulladulla NSW 2539
PO Box 271	Ulladulla NSW 2539
Web: www.zauner.com.au

zauner construction

"Zauner Construction Celebrating Over 60 Years Pride in Workmanship"

From: Harry Brizga <Harry.Brizga@shoalhaven.nsw.gov.au>
Sent: Thursday, 23 December 2021 3:16 PM
To: Adrien Clements <Adrien.Clements@zauner.com.au>
Cc: Peter Johnston <Peter.Johnston@shoalhaven.nsw.gov.au>; Scott Haylett <Scott.Haylett@shoalhaven.nsw.gov.au>
Subject: RE: 409 Budawang SSP - SSDA Condition B16 Consultation with Council

Hi Adrien,

I have briefly reviewed the submitted plan. Unfortunately I have not had any prior involvement with this site or project so if some comments have previously been addressed, please advise. Comments are provided below for your consideration:

- The Erosion and Sediment Control Plan by Henry & Hymas is referred to, can a full-size PDF copy of this plan be provided? Attached The plan should consider:
    - Diversion bunds or other method of directing clean water runoff around the disturbed area and onto the watercourse at the western boundary. The intent is to construct a sandstone log retaining wall as soon as possible along the western boundary (section 6 within C110 attached), so that it can be backfilled and sediment run-off is minimised. Until the Sandstone log wall is constructed, the sediment and gravel inlet filters will be utilized. Noted.
    - Whether controls within the watercourse itself as a point of last resort are appropriate and necessary. H&H and Ecological have reviewed this and don't believe additional controls are necessary. If required we can add another layer of sediment fence to surround the entry of the watercourse. Noted.
- Section 4.1 – sediment removed from the controls shall be 'disposed of in an appropriate manner'. This could be expanded upon – e.g. disposed of into an appropriate waste container, or respread on site in an area protected from potential erosion where appropriate. Updated and expanded upon in Section 4.1. Revised information is satisfactory.
- Section 4.1 – vehicles will be inspected before leaving the site to ensure no sediment is tracked onto the road, but what happens if excessive dirt/mud etc. is identified? Is a washdown bay required? Updated and expanded upon in Section 4.1. Ideally a washdown bay and the required controls thereof should be included on plans, however the information is satisfactory at this stage.
- Section 4.2 – This section does not appear to provide adequate detail to satisfy condition B16 (h). The plan should address how stormwater flows onto the site from upstream properties will be managed (e.g. detail of temporary/permanent redirection of flows). Noting there is a natural flow path through the site, before filling is completed, it is likely concentrated flows in this area will occur particularly if upstream water is not diverted. Once filling has occurred, the alteration to ground levels will redirect natural flows which must be catered for. The controls must ensure water does not back up or cause ponding on adjoining properties. If final stormwater drainage is to be installed after bulk earthworks are complete, an interim measure to ensure this water is catered for may be required. Other control measures could be to ensure low points and flow paths are clear of stored material or debris particularly prior to rain events. Similar to the first point, the majority of the Eastern boundary, and most specifically along the carpark to the adjoining bakery, has a retaining wall. This will be one of the first items constructed to allow for back fill. We will have temporary diversions in place to direct water to the South of the site until the retaining wall is complete, from which the Ag lines and granular backfill behind the block wall will distribute the permanent runoff of overland flow. See attached S2.21 Retaining Wall Detail.

Noted. It would be good if the H&H erosion and sediment control plan could be updated to show the temporary cut off drain. Notwithstanding the final finished product (not subject to these comments), some form of deviation of flows from entering the excavation from upstream land should be shown on the plans. There would appear to be ample room between the Budawang site and the eastern boundary of the Dept of Education land to provide some sort of deviation of clean water which is an imperative principle of erosion control.

- Section 4.3 – it is acknowledged the final destination for surplus material is not yet known, however the plan should note that material shall only be exported to a site approved to receive such material through development consent and/or EPA licencing. Updated and expanded upon in Section 4.3. Noted, thanks.

Please advise if you have any questions.

Kind regards,

Harry Brizga
Development Engineering Officer
Shoalhaven City Council

02 4429 3249
Bridge Rd (PO Box 42) Nowra NSW 2541
Harry.Brizga@shoalhaven.nsw.gov.au
www.shoalhaven.nsw.gov.au

RESPECT | INTEGRITY | ADAPTABILITY | COLLABORATION

Welcome to the NSW Planning Portal | Planning Portal - Department of Planning and Environment

---

From: Peter Johnston <Peter.Johnston@shoalhaven.nsw.gov.au>
Sent: Thursday, 23 December 2021 1:13 PM
To: Adrien Clements <Adrien.Clements@zauner.com.au>
Cc: Harry Brizga <Harry.Brizga@shoalhaven.nsw.gov.au>
Subject: RE: 409 Budawang SSP - SSDA Condition B16 Consultation with Council

Hi Adrien,
Contact Harry Brizga (Phone 44293249) – Trim File 3A21/1000
Regards

Peter Johnston
Acting Development Services Manager
Shoalhaven City Council

02 4429 8925 | 0419 280 242
Deering Street Ulladulla NSW 2539
peter.johnston@shoalhaven.nsw.gov.au

[Welcome to the NSW Planning Portal | Planning Portal - Department of Planning and Environment]

From: Adrien Clements <Adrien.Clements@zauner.com.au>
Sent: Thursday, 23 December 2021 12:25 PM
To: Peter Johnston <Peter.Johnston@shoalhaven.nsw.gov.au>
Cc: Matthew Green <Matthew.Green@zauner.com.au>; Edward Goh <Edward.Goh@zauner.com.au>; Council Email <Council@shoalhaven.nsw.gov.au>
Subject: 409 Budawang SSP - SSDA Condition B16 Consultation with Council

Hi Peter,

Hoping you could assist. We are currently in the process of obtaining Council consultation/feedback for our CSWMSP plan as required under SSDA Condition B16:

B16. 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) detail where soil is to be reused on site. If soil is to be exported, details are to be provided of where exported soil is being disposed.

(d) 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';

(e) include an Acid Sulfate Soils Management Plan, if required, including measures for the management, handling, treatment and disposal of acid sulfate soils, including monitoring of water quality at acid sulfate soils treatment areas;

(f) 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);

(g) detail all off-site flows from the site; and

(h) 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 and 1 in 100-year ARI.

Could you please advise the best contact within Council to discuss the above and attached plan?

Merry Xmas and thanks in advance

Regards,

Adrien Clements

Project Manager	Zauner Construction	Adrien.Clements@zauner.com.au
Office: 02 4454 1827	Fax: 02 4454 1690	Mobile: 0415 618 760
Ulladulla Office	Suite 10, 132 Princess Highway	Ulladulla NSW 2539
PO Box 271	Ulladulla NSW 2539
Web: www.zauner.com.au

"Zauner Construction Celebrating Over 60 Years Pride in Workmanship"

This message may contain both confidential and privileged information intended only for the addressee named above. If you have received this email in error, please notify the sender immediately then destroy the original message.

This message may contain both confidential and privileged information intended only for the addressee named above. If you have received this email in error, please notify the sender immediately then destroy the original message.

42.6 Construction Waste Management Plan

Condition ID	Development Application Condition	Reference
B15	**Construction Waste Management Plan**	
	(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 proposed use;	CWMP – Pg 184 5.0 Proposal
	(b) information regarding the recycling and disposal locations; and	CWMP – Pg 184 5.0 Proposal
	(c) confirmation of the contamination status of the development areas of the site based on the validation results.	CWMP – Pg 189 6.0 Contamination Status of the Development

Zauner Construction Pty Ltd Construction Waste Management Sub-Plan (CWMSP)

Project Name	Budawang SSP
Project Number	409
Project Address	17 Croobyar Road, Milton, NSW, 2538
Client	Schools' infrastructure NSW
Client's Authorised Person	Chris Tudor
Principal Contractor	Zauner Construction

Job Title	Name	Signature	Date
Chief Executive Officer	Garry Zauner		25/5/22
Zauner HSE Manager	Peter Hertzog		24/5/22
Zauner Chief Operating Officer	Ronan Pringle		24/5/22
Zauner Project Manager	Adrien Clements	A. Clements	24/5/22

CEMP Sign off (Signature indicates personnel have read and understood this plan)

Zauner Authorised Person	Adrien Clements	A. Clements	25/5/22
Contracts Administrator	Ed Goh		24/5/22
Zauner Site Manager	Jake Saurine		24/5/22
Site HSE Officer	Ross Humble		24/5/22

Document Control

Number	Version	Date Issued
1.	Original	23/11/2021
2.	Updated to include PCA inclusions	23/12/2021
3.	Updated to include estimated quantities	14/04/2022
4.	Update to include classificaiton and verification	18/05/2022

Contents

1 Purpose

This document to be read in conjunction with Zauner Health, Safety and Environment Project Management Plan, has been produced for compliance with SSDA Development Consent Conditions Part B, condition number B15 Construction Waste Management Sub-Plan (CWMSP). This document outlines the procedures for the management of waste controls to be implemented during construction works site specific to Budawang School for Specific Purposes.

2 Definitions

Environmental Aspect - An environmental aspect is a feature or characteristic of an activity, product, or service that affects or can affect the environment.

Environmental Harm - Is taken as the meaning defined in the relevant environmental legislation of the state/territory jurisdiction.

Environmental Impacts - any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects.

Environmental Nuisance - Is taken as the meaning defined in the relevant environmental legislation of the state jurisdiction.

Critical Incident - any event or series of events that is sudden, overwhelming, threatening or protracted and is normally severe in consequence

Dangerous Incident - incident in relation to a workplace that exposes any person to a serious risk resulting from an immediate or imminent exposure to:

- An uncontrolled escape, spillage or leakage of a substance
- An uncontrolled implosion, explosion or fire
- An uncontrolled escape of gas or steam
- An uncontrolled escape of a pressurised substance
- Electric shock
- The fall or release from a height of any plant, substance or thing
- The collapse, overturning, failure or malfunction of, or damage to, any plant that is required to be design or item registered under the work health and safety regulations, for example a collapsing crane
- The collapse or partial collapse of a structure
- The collapse or failure of an excavation or of any shoring supporting an excavation
- The inrush of water, mud or gas in workings, in an underground excavation or tunnel, or
- The interruption of the main system of ventilation in an underground excavation or tunnel
- Exposure to a substance which is likely to create a serious risk to health or safety in the future, for example asbestos or hazardous chemicals

Hazard - a condition which could progress to an incident occurring should appropriate control actions not be taken or maintained.

Hazardous Manual Task - a task that requires a person to lift, lower, push, pull, carry or otherwise move, hold or restrain any person, animal or thing involving one or more of the following:

- Repetitive or sustained force
- High or sudden force
- Repetitive movement
- Sustained or awkward posture
- Exposure to vibration

High Risk Construction Work -

- Involves a risk of a person falling more than 2 meters
- Is carried out on a telecommunication tower
- Involves demolition of an element of a structure that is load-bearing or otherwise related to the physical integrity of the structure
- Involves, or is likely to involve, the disturbance of asbestos
- Involves structural alterations or repairs that require temporary support to prevent collapse
- Is carried out in or near a confined space
- Is carried out in or near a shaft or trench with an excavated depth greater than 1.5 meters, or a tunnel
- Involves the use of explosives
- Is carried out on or near pressurised gas distribution mains or piping
- Is carried out on or near chemical, fuel or refrigerant lines
- Is carried out on or near energised electrical installations or services
- Is carried out in an area that may have a contaminated or flammable atmosphere
- Involves tilt-up or precast concrete
- Is carried out on, in or adjacent to a road, railway, shipping lane or other traffic corridor that is in use by traffic other than pedestrians
- Is carried out in an area at a workplace in which there is any movement of powered mobile
- is carried out in areas with artificial extremes of temperature
- is carried out in or near water or other liquid that involves a risk of drowning
- involves diving work

Definitions of Purchased Materials

Material	Description
Landscaping Materials	Organic products such as mulch, compost, bark, wood chips and soil blends.
Concrete	Mixture of cement, sand and aggregates. May include additives or substitutes such as fly ash.
Fill	Excavated material such as clay, gravel, soil, sand and rock that has been mixed with another waste or excavated from areas that are contaminated with manufacturing chemicals, as the result of industrial, commercial, mining or agricultural activities.
Asphalt	Any materials containing bituminous hydrocarbons. May contain additives such as concrete. Includes recycled asphalt pavement.
Aggregates	Rock or other hard materials such as concrete, crushed stone or bricks between 4.25mm and 100mm particle size. See Australian Standards for detailed specifications.
Virgin Excavated Natural Material (VENM)	Virgin excavated material such as clay, gravel, sand, soil and rock that is not mixed with any other waste and has been excavated from natural areas that are not contaminated with manufactured chemicals, as the result of industrial, commercial, mining or agricultural activities.
Timber	Reclaimed, reused or recycled timber.
Sand	Very fine hard aggregate between 0.75mm and 4.25mm in size. Meets Australian Standard specification.
Bricks and Roof Tiles	Reclaimed, reused or recycled bricks and roof tiles.
Other Categories	Agencies can report on other major categories of materials they are purchasing. Please specify.

Definitions of Waste Materials

Material	Description
Vegetation waste	Vegetation such as leaves, grass clippings, branches and logs. Includes materials that have been processed eg sawn, chipped, mulched or composted. Does not include putrescible waste such as food scraps.
Concrete	Mixture of cement, sand and aggregates. May include additives or substitutes such as fly ash.
Fill	Excavated material such as clay, gravel, soil, sand and rock that has been mixed with another waste or excavated from areas that are contaminated with manufacturing chemicals, as the result of industrial, commercial, mining or agricultural activities.
Asphalt	Any materials containing bituminous hydrocarbons. May contain additives such as concrete. Includes recycled asphalt pavement.
Timber	Wood materials used for formwork or other construction purposes.
Virgin Excavated Natural Material (VENM)	Virgin excavated material such as clay, gravel, sand, soil and rock that is not mixed with any other waste and has been excavated from natural areas that are not contaminated with manufactured chemicals, as the result of industrial, commercial, mining or agricultural activities.
Bricks and Roof Tiles	Clay bricks and roof tiles which may be mixed together. This can include small amounts of concrete or plaster render.
Glass	Sheet glass used for doors, windows, partitioning etc.
Plasterboard	Composite material of gypsum and cardboard used for interior panels for buildings.
Steel	Metal building products and materials eg reinforcing steel, sheet roofing, structural columns and beams etc.
Non-ferrous metal	Metal building materials other than steel. Eg aluminum, brass, copper etc.
Mixed waste	Mixed demolition waste of which no one material comprises 50% or more of the load.
Other Categories	Agencies can report on other categories of waste they are generating or recycling. Please specify.

3 Safety

Zauner is committed to ensuring Zauner Construction's people, Clients, Subcontractors, Community Stakeholders, SINSW, School and all public participants enjoy a healthy, positive and safe working environment, including travel and access into site and when travelling along Croobyar Road. This Construction Waste Management Sub-plan ensures that the Company is compliant with its requirements and conducts its business in a way that contributes positively to the community and environment it operates in.

4 Waste Management

This document – Construction Waste Management Sub-Plan (CSWMSP) aims to provide a plan for waste control measures to assist in delivering safe logistical support of Budawang School for Specific Purpose project, planned to take place on Croobyar Road, Milton NSW commencing in 2022.

4.1 General

All Zauner employees shall be informed of the need to maintain a clean worksite. Bin lids shall be kept closed at all times, and all bins shall be emptied regularly. Rubbish accumulation and removal shall be the subject of regular monitoring under our Zauner management system specific for Budawang site.

A weekly inspection shall be carried out to ensure the worksite is left in a rubbish free state.
Waste material generated by the works shall be minimised or recycled as appropriate. Separate bins are to be provided for the sorting of recyclable and regulated waste in accordance with the site requirements.

All waste material that cannot be recycled shall be collected and removed from the site to be disposed of in a legal manner, i.e. at a legally operating waste management facility.

Where asbestos/hazardous materials are identified, removal and disposal of asbestos/hazardous materials must be carried out in accordance with the relevant requirements of the EPA and WHS Legislation. Further too, arrangements shall be made for the engagement of appropriately qualified specialists in hazardous materials handling and disposal. No contaminated materials can be taken from the site without approval from the Zauner Representative. Evidence must be provided of the lawful disposal of contaminated waste materials to the Zauner Representative. The safe disposal of used or leftover hazardous chemicals should be done in accordance the relevant Safety Data Sheet (SDS) for that product and legislative requirements.

For all waste bins disposed of or recycled from site, all loads will be weighed at a registered weigh bridge & dockets for each load will be obtained from the waste transporter. Each docket will show the weight of the load & the facility it was transported to & if the facility is recycling the material or disposing of it. Comply with monitoring requirements, including submission of Waste Recycling and Purchasing Report complete with waste disposal certificates and /or company certifications confirming appropriate, lawful disposal of waste.

All waste/recycle dockets will be filed on-site in the site files and be available to the client on request. A waste disposal docket will be obtained from the contracted waste disposal provider for each cleanout of the Ablutions block. Dockets will be filed on-site in the site files. No waste is to be burnt or buried on site. The worksite shall be left in a tidy and rubbish free state upon completion of the project.

4.2 Demolition Waste

All demolition works shall be carried out under an approved SWMS and applicable permits with needed controls selected according to the HOC. A demolition plan shall be presented to the Zauner Representative prior to commencement of demolition works and work must be carried out according to this plan. The plan shall be in accordance with legislative requirements and include details of:

- Hazard identification
- Hazardous materials survey
- Site contamination reports
- Risk assessments
- Heritage and Archaeological Controls
- Disconnection of all hazardous energy sources and services in consultation with all relevant stakeholders
- Structural integrity during demolition works
- Structural integrity of adjacent buildings
- The risk of falling including fall through of penetrations that may open up during works
- The risk of falling objects
- Demolition sequence
- Emergency procedures

Structural support systems must be designed by a qualified designer and detailed up to date drawings and plans are required to be submitted prior to demolition commencement. Any changes to the design or installed system are to be authorised and signed off by a qualified designer.

A written notice to the regulator shall be submitted by a licensed demolition contractor at least 5 days prior to the commencement of any of the following demolition work on a structure, or a part of a structure that is:

- Load bearing
- Otherwise related to the physical integrity of the structure
- That is at least 6 metres in height
- Involves load shifting machinery on a suspended floor

Work may not commence until the Demolition Notice has been approved in writing and provided to the Zauner Representative.

4.3 Construction Waste

Where appropriate items shall be reused on site, for example, rock or topsoil for landscaping purposes. Alternatively, all waste materials on-site will be stored in designated waste areas and appropriate materials sent for recycling (like cardboard, timber, green waste, plastics).

Materials sent for recycling are to have waste reports/certificates received by percentage weight or volume. In all cases evidence of lawful disposal of waste must be provided to the Zauner representative. Onsite waste receptacles shall be appropriately protected from weather conditions for example the provision of lids or covers. All waste shall be disposed of in accordance with legislative requirements and EPA NSW Waste Classification Guidelines.

5 Proposal

The proposed development involves the removal of the existing trees on site, demolition of a Brick constructed pre-school building, bulk excavation and construction of the new Budawang School. The Preschool building will be demolished by a specialist contractor licensed to remove all asbestos materials (if applicable) and associated surface contaminated materials and disposal will be at a licensed waste depot. Demolished materials unsuitable for recycling will be deposited daily into industrial waste bins located on the site in accordance with council guidelines. Bins will be provided by a licensed waste contractor and disposed at authorized waste facilities.

The following generally outlines proposed material destinations for construction and demolition waste, subject to further site investigations, and where material re-use is not applicable.

5.1 Demolition

The development involves the demolition of external paving, preschool brick building, Block L, existing wall and existing gatehouse.

Material	Destination
Timber	Re Use for formwork on-site. Contractor to deliver remaining to Ulladulla Waste Depot for recycling to mulch
Plasterboard	Contractor delivery to Ulladulla Waste Depot
Roof iron	Contractor delivery to Ulladulla Waste Depot for recycling
Concrete	Contractor to segregate, some site crushed for pavements during construction remaining to be crushed offsite recycled masonry products
Bricks	Segregate and recycled for crushed masonry products South Nowra
Asbestos	Kemps Creek facility transported as asbestos material
Organics (green waste, vegetation)	Mulched onsite reuse by Arborist for mulch on-sell
Doors	Delivery to second hand building yard
Carpet	Delivery to Ulladulla Waste Depot
Timber/Leadlight windows	Contractor delivery to second hand building yard. If damaged, delivery to Ulladulla Waste Depot

5.2 Bulk Excavation

The proposal includes bulk excavation with onsite recycling and disposal at an approved landfill site.

Bulk Excavation	Location Landfill
Clean Top Soil	Reuse on site for landscaping
Clean Compacted Soil	Reuse on site for back fill
Clean Fill	Transported to reuse facility South Nowra
Rock	Transported to recycling crusher facility South Nowra

5.3 Construction

An area shall be set aside and shall be sufficient to locate the various waste streams (bricks & tiles, concrete, timber, steel, non-ferrous metals, plasterboard, pallets, plastics, cardboard, packaging, paint and paint drums and other waste). Space shall also be provided for bulk materials such as sand that are not stored in skips. This area shall be kept clear so that vehicles have ready access and maneuvering room and shall also be kept in a tidy condition both for WHS reasons and to encourage separation of waste materials. The waste management principles and facilities in use on the site shall be included as part of the site induction for all personnel working on the site and their correct use shall be rigidly enforced.

5.4 Roles and Responsibilities

Action/Controls	Responsibility	Comments
PRE-CONSTRUCTION		
Waste control and management shall be considered for the project site over the duration of works. Best practice waste minimisation and management measures shall be implemented on site. Waste material generated by the works shall be minimised or recycled as appropriate.	Project Manager/ Site Manager/Site Safety Officer/Environmental Officer	Bins to be regularly inspected by Zauner Site Team to ensure sorting, recycling and proper waste separation is occurring
All workers shall be informed of the need to maintain a clean worksite.	Site Manager/Site Safety Officer/Environmental Officer	Site inductions, toolbox meetings
Only specialist and licenced subcontractors shall be engaged to remove hazardous and contaminated waste in accordance with WHS and EPA legislation.	Project Manager/ Site Manager/ Site Safety Officer/Environmental Officer	
Only landfill sites licenced and authorised by the EPA to accept hazardous waste shall be used. It is noted that the final identification of these locations shall be confirmed as part of the subcontractor letting process.	Project Manager/ Site Manager/Site Safety Officer/Environmental Officer	

5.5 Estimated Volumes

The following table details the estimated composition by m3 of construction waste to be generated for the total site.

Composition and Management of Construction waste by m3

Materials Onsite			Destination		
Type of Material	**Classification**	**Estimated Volume (m3)**	**On-Site (Reuse or Recycle)**	**Off-Site**	**Disposal**
Concrete	General Solid Waste (non-putrescible)	100m3	Separated on site and crushed for use in pavement construction where possible	Collected by contractor and disposed at concrete recycling facility	Ulladulla Resource Transfer Centre
Asphalt	General Solid Waste (non-putrescible)	200 m3	Separated on site and crushed for use in pavement and/or temporary access road construction where possible.	Collected by contractor and disposed at recycling facility	Ulladulla Resource Transfer Centre. No disposal to landfill
Excavation Material	General Solid Waste (non-putrescible)	4040m3	stockpiled for use during construction	Excavation materials will be collected and used as clean fill by the appointed contractor and/or forwarded to various facilities such as garden landscapers, or roadworks	Not Applicable
Timber	General Solid Waste (non-putrescible)	10m3	Separated and where feasible, reused	Unused material separated and stockpiled onsite. Collected by specialist timber	Ulladulla Resource Transfer Centre

				subcontractor for recycling	
Bricks	General Solid Waste (non-putrescible)	150m3	Bricks will be stockpiled and reused wherever possible. Option to be crushed for use in pavement and/or temporary access road construction where possible.	Acceptable quality bricks collected by a contractor and sold for reuse. Unusable bricks will be collected and recycled at an appropriate facility.	Ulladulla Resource Transfer Centre
Plasterboard	General Solid Waste (non-putrescible)	15m3	No on-site reuse	Collected by the contractor for recycling	Ulladulla Resource Transfer Centre
Metal	General Solid Waste (non-putrescible)	10m3	No on-site reuse	Collected by specialist metal subcontractor for recycling	Scrap Metal Merchant – Nowra
Carpet	General Solid Waste (non-putrescible)	6m3	No on-site reuse	This will be disposed of into a designated bin and collected for recycling if of the required quality or disposal to landfill	Ulladulla Resource Transfer Centre
Glazing	General Solid Waste (non-putrescible)	5m3	No on-site reuse	Recyclers consulted as to potential for recycling and if suitable separated for recycling	Ulladulla Resource Transfer Centre
Tiles	General Solid Waste (non-putrescible)	0.5m3	Broken tiles not suitable for recycling used where possible as material for access roads and paths	Collected by contractor and disposed at recycling facility (for sale for reuse), if tiles are appropriate	Ulladulla Resource Transfer Centre

Mixed Recyclables	General Solid Waste (non-putrescible)	20m3	No on-site reuse	Contractor appointed to collect and recycle	No disposal to landfill
General Waste	General Solid Waste (non-putrescible)	200m3	No on-site reuse	No recycling or reuse	Ulladulla Resource Transfer Centre
Green Waste	General Solid Waste (non-putrescible)	50m3	No on-site reuse	Trees and Shrubs mulched and taken to Garden centre for re-sale	Garden Haven Ulladulla

A range of other materials may be generated on the site once the construction activities commence.

All potentially recyclable materials will be separated and stored on-site for an appointed waste/recycling contractor to inspect and to determine the suitability of the material for recycling (or even reuse). If approved for either action, then the contractor can then remove the items.

For materials that are not designated as potentially able to be reused or recycled, then they are to be disposed of at a landfill licensed to receive those specific materials.

If during any site earthworks or excavation, asbestos, evidence of gross contamination or unknown type of material not previously detected is observed (Unexpected Finds), site works are to cease until the Project Manager has been notified and appropriate instructions have been provided to field personnel. Further works in such a location should be conducted under the supervision of a suitably qualified environmental consultant after a formal notification to the Site Auditor. All additional work would be documented and detailed in a validation report prepared by the Environmental Specialist and reviewed by the Site Auditor

6 Contamination Status of the Development

Upon review of the Intrusive Investigation for Contaminated Land prepared by Douglas Partners, the preliminary waste classification of the fill encountered at the site is preliminarily classified as General Solid Waste and the natural clays and bedrock are preliminarily classified as VENM. A Hazardous Material Inspection was undertaken by Asbestos Reporting for Building J and Building L, noting the presence of minimal asbestos. All Reports can be found within Annexure A.

Prior to the commencement of operation, the Applicant must submit a Section A1 Site Audit Statement or a Section A2 Site Audit Statement accompanied by an Environmental Management Plan prepared by a NSW EPA accredited Site Auditor. The Section A1 or A2 Site Audit Statement must verify the relevant part of the site is suitable for the intended land use and be provided, along with any Environmental Management Plan to the Planning Secretary and the Certifier.

7 Recording Framework

The below Waste Recycling Report sheet has been developed as a general framework for recording all construction and demolition waste, based on the specific reporting period and quantity separated between general waste, cardboard waste, metal waste and earth/ rock removal.

Prior to construction, Zauner will also develop a separate Construction and Demolition Waste management checklist, which will identify 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 proposed use. This checklist will be in line with best practice sustainability outcomes specific to Green Star construction and demolition waste requirements to reduce and monitor waste going to landfill.

EP006 - Waste Recycling Report

Zauner Construction Project Name:

Reporting Period: _____

GENERAL WASTE (tonnes)	CARDBOARD WASTE (tonnes)	METAL WASTE (tonnes)	EARTH/ROCK REMOVAL (tonnes)
TOTAL	TOTAL	TOTAL	TOTAL

Report prepared by:	
Name	
Signature:	**Date:**

Zauner Construction Pty Ltd (ABN 21 087 732 607)
366 Griffith Road Lavington Albury NSW 2641
PO Box 288 Lavington Albury NSW 2641
Phone (02) 6025 1888 Fax (02) 6040 1635
www.zauner.com.au

Version: 9 September 2011

ASBESTOS REPORTING
SOUTH COAST
(A Division Of N.R. Wallace Contracting Pty Ltd)

HAZARDOUS MATERIALS INSPECTION
BUDAWANG SSP MILTON NSW

CLIENT: **S J A.**

OUR REFERENCE: **3628 / L**

DATE OF INSPECTION: **14 December 2020.**

PURPOSE: **To inspect and report on the presence of asbestos containing materials (ACM), to provide a statement, audit, management plan, and register in accordance with the W H & S Regulations 2017, AS 2601-2001 Demolition of Structures, the Code of Practice for the Safe Management of Asbestos and the Code of Practice for the Safe Removal of Asbestos.**

Building L
Budawang SSP
17 Croobyar Road Milton NSW

ABN 43 003015 923
Mobile: 0419 285 443
Phone/Fax: 02 4447 4492
www.asbestosreportingnsw.com.au
email: neil@asbestosreportingnsw.com.au
PO Box 1358 Nowra NSW 2541

1.0 GENERAL/SCOPE

1.1 Note attachment A regarding my personal details which confirm my qualifications and competence in providing this report.

1.2 The property inspected comprises a single level building, which has been used as a school room9s) and is being prepared for demolition.

1.3 The areas inspected were the internal and external areas throughout.

1.4 The purpose of the inspection was to identify any installed asbestos containing materials (ACM). The purpose of the inspection was to also identify any suspicious materials (where the presence of asbestos could not be confirmed).

1.5 The inspection was a level 1 (visual) inspection and three samples of materials were removed for testing. **This asbestos statement will satisfy Regulation 422 of the Work Health and Safety Act 2017, described in clause 1.7 below.**

1.6 I was able to inspect all areas and there were no limitations during the inspection.

1.7 Regulation 422 of the Work Health and Safety Act 2017 states that ***' a person with management or control of a workplace must ensure so far as reasonably practical, that all asbestos or ACM at the workplace is identified by a competent person. If the materials cannot be identified but a competent person believes that there is a high possibility it is asbestos or ACM, assume that the material is asbestos.'***

Regulation 425 of the Work Health and Safety Act 2017 states that ***' a person with management or control of a workplace must ensure that a register (an asbestos register) is prepared and kept at the workplace. The register must indicate the date on which the asbestos was identified as well as the location, type and its condition.'***

Regulation 429 of the Work Health and Safety Act 2017 applies if asbestos or ACM has been identified at the workplace and states that ***' a person with management or control of a workplace must ensure that a written plan (an asbestos management plan) for the workplace is prepared and kept up to date.'***

1.8 I have prepared a draft Hazardous Substances Management Plan in section 5.0 of this report in accordance with Regulation 429. This report and Management Plan must be made readily available to all employees, inspectors/auditors, any person authorised by SafeWork NSW, or any person who in the course of any maintenance work may come in contact with any material that is recorded in this report.

2.0 IMPORTANT INFORMATION REGARDING THE SCOPE & LIMITATIONS OF THE INSPECTION AND THIS REPORT

2.1 The report is based on the requirements of Australian Standard 4349.1, Part 1, Property Inspections and in accordance with Office of Fair Trading guidelines for building inspections.

2.2 This report is not an all encompassing report dealing with the building from every aspect.

2.3 **THIS IS A VISUAL INSPECTION ONLY** limited to those areas and sections of the property fully accessible and visible to me on the date of the inspection. This inspection did not include breaking apart, dismantling, removing or moving objects.

2.4 This is a report of the presence of hazardous materials visible at the time of the inspection and contains all notable observations together with what is considered as helpful information and advice.

2.5 **This report is made solely for the use and benefit of the client named on the first page of this report, owner of the property, Building Contractor, regulatory authorities, inspectors/auditors, any person authorised by SafeWork NSW, or any person who in the course of any work may come in contact with any material as recorded in the report. No liability or responsibility whatsoever, in contract or tort, is accepted to any third party whom may rely on the report wholly or in part. Any third party acting or relying on this report, in whole or in part does so at their own risk.**

3.0 CLIENT COMPLAINTS PROCEDURE

In the event of any controversy or claim arising out of, or relating to this Report, either party must give written Notice of the dispute to the other party. If the dispute is not resolved within ten (10) days from the service of the Notice then the dispute shall be referred to a mediator nominated by the Inspector. Should the dispute not be resolved by mediation then either party may refer the dispute to the Institute of Arbitrators and Mediators of Australia for resolution by arbitration.

4.0 OBSERVATIONS
HAZARDOUS MATERIALS AND SUBSTANCES

This is an audit carried out under section 1.6.1 of AS 2601-2001, and in accord with the W H & S Regulations 2017, the Code of Practice for the Safe Management of Asbestos and the Code of Practice for the Safe Removal of Asbestos.

4.1 **Methodology:**

Level 1 (visual) inspections were carried out for non-friable asbestos (ACM), suspicious materials, and friable asbestos (ACM), **in accordance with Regulation 422**. Two samples of materials were removed for testing.

4.2 **Non Friable Asbestos (ACM) in accordance with Regulation 422:**

There **is no non-friable** asbestos (ACM).

4.3 **Suspicious material in accordance with Regulation 422.:**

There were no suspicious materials found.

Any materials of a fibro nature which are buried in the ground, covering drainage pipes and the like, or have been over-sheeted should be treated as suspicious materials and managed in the same manner as ACM until their composition can be determined. Refer to attachment B 2 (Register).

4.4 **Friable asbestos (ACM) in accordance with Regulation 422:**

There was **no friable asbestos** found internally or externally.

4.5 **Materials that were tested:**

Two samples of materials were removed for testing. Refer to the Certificate of Analysis from Clearsafe Environmental Solutions, Report No. 20-8849-16-ID.

The samples were taken as follows:

Sample 1. The Hardiplank style external wall cladding. **No asbestos detected**

Sample 2. Eaves linings which are indicative throughout. **No asbestos detected**

N. R. Wallace
CPCCBC 5014A
16 December 2020.

Attachment A

PERSONAL DETAILS
NEIL WALLACE

Qualifications:

- Trade Certificate in Carpentry and Joinery.
- Trade Certificate in Roof Plumbing.
- Post Trade Certificate in Building Foreman Clerk of Works (Honours).
- Post Trade Certificate in Building (Building Certificate).
- Graduate Diploma in the Masters of Project Management (UTS).
- Continuing Professional Development (CDP) through membership in industry associations, attending seminars, and updating data, Standards and Codes, and building processes.
- Licensed Builder, No. 36933.
- Accredited Certifier Course, BSAP & DIPNR (UTS).
- Conduct Asbestos Assessment Associated with Removal CPCCBC 5014A
- Asbestos Inspection, Audits and Removal.
- Asbestos Assessment, Identification and Reporting.

Work experience:

- Employed in the building industry since 1968
- Experience gained in domestic, commercial, industrial and high rise construction. Notable projects include Gavin and Shallala housing estates, Campbelltown and Liverpool, sub-contract Carpenter. Unit developments in Sutherland Shire, Building Foremen/Project Manager. High Court Building and National gallery in Canberra, sub-contract protective coatings, waterproofing and joint sealants. Restoration of buildings. Darling Harbour, sub-contract protective coatings, waterproofing and joint sealants.
- Former part time lecturer in Building Foreman Clerk of Works Post Trade Course at St. George College and Randwick College of TAFE (1985-1989)
- Former Area Manager with the Builders Licensing Board (BLB) and Building Services Corporation (BSC) (1985-1989)
- Expert witness in accordance with the Code of Conduct, for BLB and BSC, (1985-1989), Solicitors and Law firms, and Consumer Trader and Tenancy Tribunal.
- Project Manager/Consultant on 38 medium density redevelopment building sites in the Sydney Metropolitan area carried out under the Federal Government Stimulus Program for Affordable and Adaptable Housing 2009-2011. Total value in excess $120,000,000.00 including remediation of asbestos contaminated sites.

Self employed as an Accredited Building Consultant since 1989, includes inspection of properties and detailed reports for, purchasers, Owner Builder Warranty insurance, detection of problems and defects, problem solving, and compliance with standards and codes. Fact finding, reporting and assessing condition of properties. Asbestos Audits. Occupational Health and Safety inspections.

Certificate of Analysis

Clearsafe
ENVIRONMENTAL SOLUTIONS

Clearsafe Environmental Solutions Pty Ltd
9 Industrial Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 20-8849-16-ID
Received Date: 15/12/2020
Analysis Date: 15/12/2020
Report Date: 15/12/2020
Site Address: Asbestos Analysis
As Received
Client Name: N R Wallace Contracting Pty Ltd
Client Address: PO Box 1358
Nowra NSW 2541

Client Contact: Neil Wallace (neil@asbestosreportingnsw.com.au)
Sampled By: As Received
Approved Identifier: Nathan Crouch
Approved Signatory: Luke Heckenberg

Test Method: Asbestos identification in bulk samples by polarised light microscopy and dispersion staining, in accordance with 'AS4964-2004 Method for the Qualitative Identification of Asbestos in Bulk Samples' and Clearsafe Method SOP.ID.01 [Detection Limit - 0.1g/kg (AS4964)].

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

An independent analytical technique is recommended for confirmation of vinyl and bituminous samples, or samples in which 'Unknown Mineral Fibre' is detected.

NATA accreditation relates to the analysis of the sample(s) and does not cover the sample collection process.

Sample Number	Sample Reference / Location	Description **	Result *
20-8849/22	17 Croobyar Road, Milton - Building J, notice board wall at entry	Fibrous Board, Ribbon-Like Fibres. Sample Size: 20x20x5mm	No Asbestos Detected [6]
20-8849/23	17 Croobyar Road, Milton - Building J, eaves lining	Fibrous Board, Ribbon-Like Fibres. Sample Size: 20x20x5mm	No Asbestos Detected [6]
20-8849/24	17 Croobyar Road, Milton - Building J, soffit lining	Fibrous Board, Ribbon-Like Fibres. Sample Size: 20x20x5mm	No Asbestos Detected [6]
20-8849/25	17 Croobyar Road, Milton - Building L, wall cladding	Fibrous Board, Ribbon-Like Fibres. Sample Size: 20x20x5mm	No Asbestos Detected [6]
20-8849/26	17 Croobyar Road, Milton - Building L, eaves lining	Fibrous Board, Ribbon-Like Fibres. Sample Size: 20x20x5mm	No Asbestos Detected [6]

* **Result Codes:**
1 - Chrysotile Asbestos Detected
2 - Amosite Asbestos Detected
3 - Crocidolite Asbestos Detected
4 - Unknown Mineral Fibre Detected
5 - Synthetic Mineral Fibre (SMF) Present
6 - Organic Fibres Present

** **Description Codes:**
FCS - Fibrous Cement Sheeting
VFT - Vinyl Floor Tile

NATA
WORLD RECOGNISED ACCREDITATION

NATA Accredited Laboratory No. 18542
Accredited for compliance with ISO/IEC 17025 - Testing. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian / national standards.

ASBESTOS REPORTING
SOUTH COAST
(A Division Of N.R. Wallace Contracting Pty Ltd)

HAZARDOUS MATERIALS INSPECTION
BUDAWANG SSP MILTON NSW

CLIENT: **S J A.**

OUR REFERENCE: **3628 / J**

DATE OF INSPECTION: **14 December 2020.**

PURPOSE: **To inspect and report on the presence of asbestos containing materials (ACM), to provide a statement, audit, management plan, and register in accordance with the W H & S Regulations 2017, AS 2601-2001 Demolition of Structures, the Code of Practice for the Safe Management of Asbestos and the Code of Practice for the Safe Removal of Asbestos.**

Building J
Budawang SSP
17 Croobyar Road Milton NSW

ABN 43 003015 923
Mobile: 0419 285 443
Phone/Fax: 02 4447 4492
www.asbestosreportingnsw.com.au
email: neil@asbestosreportingnsw.com.au
PO Box 1358 Nowra NSW 2541

1.0 GENERAL/SCOPE

1.1 Note attachment A regarding my personal details which confirm my qualifications and competence in providing this report.

1.2 The property inspected comprises a single level building, which has been used as a child care centre and is being prepared for demolition.

1.3 The areas inspected were the internal and external areas throughout.

1.4 The purpose of the inspection was to identify any installed asbestos containing materials (ACM). The purpose of the inspection was to also identify any suspicious materials (where the presence of asbestos could not be confirmed).

1.5 The inspection was a level 1 (visual) inspection and three samples of materials were removed for testing. **This asbestos statement will satisfy Regulation 422 of the Work Health and Safety Act 2017, described in clause 1.7 below.**

1.6 I was able to inspect all areas and there were no limitations during the inspection.

1.7 Regulation 422 of the Work Health and Safety Act 2017 states that ***' a person with management or control of a workplace must ensure so far as reasonably practical, that all asbestos or ACM at the workplace is identified by a competent person. If the materials cannot be identified but a competent person believes that there is a high possibility it is asbestos or ACM, assume that the material is asbestos.'***

Regulation 425 of the Work Health and Safety Act 2017 states that ***' a person with management or control of a workplace must ensure that a register (an asbestos register) is prepared and kept at the workplace. The register must indicate the date on which the asbestos was identified as well as the location, type and its condition.'***

Regulation 429 of the Work Health and Safety Act 2017 applies if asbestos or ACM has been identified at the workplace and states that ***' a person with management or control of a workplace must ensure that a written plan (an asbestos management plan) for the workplace is prepared and kept up to date.'***

1.8 I have prepared a draft Hazardous Substances Management Plan in section 5.0 of this report in accordance with Regulation 429. This report and Management Plan must be made readily available to all employees, inspectors/auditors, any person authorised by SafeWork NSW, or any person who in the course of any maintenance work may come in contact with any material that is recorded in this report.

2.0 IMPORTANT INFORMATION REGARDING THE SCOPE & LIMITATIONS OF THE INSPECTION AND THIS REPORT

2.1 The report is based on the requirements of Australian Standard 4349.1, Part 1, Property Inspections and in accordance with Office of Fair Trading guidelines for building inspections.

2.2 This report is not an all encompassing report dealing with the building from every aspect.

2.3 **THIS IS A VISUAL INSPECTION ONLY** limited to those areas and sections of the property fully accessible and visible to me on the date of the inspection. This inspection did not include breaking apart, dismantling, removing or moving objects.

2.4 This is a report of the presence of hazardous materials visible at the time of the inspection and contains all notable observations together with what is considered as helpful information and advice.

2.5 **This report is made solely for the use and benefit of the client named on the first page of this report, owner of the property, Building Contractor, regulatory authorities, inspectors/auditors, any person authorised by SafeWork NSW, or any person who in the course of any work may come in contact with any material as recorded in the report. No liability or responsibility whatsoever, in contract or tort, is accepted to any third party whom may rely on the report wholly or in part. Any third party acting or relying on this report, in whole or in part does so at their own risk.**

3.0 CLIENT COMPLAINTS PROCEDURE

In the event of any controversy or claim arising out of, or relating to this Report, either party must give written Notice of the dispute to the other party. If the dispute is not resolved within ten (10) days from the service of the Notice then the dispute shall be referred to a mediator nominated by the Inspector. Should the dispute not be resolved by mediation then either party may refer the dispute to the Institute of Arbitrators and Mediators of Australia for resolution by arbitration.

4.0 OBSERVATIONS
HAZARDOUS MATERIALS AND SUBSTANCES

This is an audit carried out under section 1.6.1 of AS 2601-2001, and in accord with the W H & S Regulations 2017, the Code of Practice for the Safe Management of Asbestos and the Code of Practice for the Safe Removal of Asbestos.

4.1 **Methodology:**

Level 1 (visual) inspections were carried out for non-friable asbestos (ACM), suspicious materials, and friable asbestos (ACM), **in accordance with Regulation 422**. Three samples of materials were removed for testing.

4.2 **Non Friable Asbestos (ACM) in accordance with Regulation 422:**

There **is non-friable** asbestos (ACM) refer to attachment B 1 (Register) as follows:

A. EXTERNAL AREAS WHICH ARE ACCESSIBLE

- The mounting board to the electrical meter box on an external wall.

It should be noted that the mere presence of asbestos in a building does not mean that the health of the occupants is endangered. However, asbestos containing materials can become hazardous when due to damage, disturbance or deterioration over time, they release fibres into the air.

4.3 **Suspicious material in accordance with Regulation 422.:**

There were no suspicious materials found.
Any materials of a fibro nature which are buried in the ground, covering drainage pipes and the like, or have been over-sheeted should be treated as suspicious materials and managed in the same manner as ACM until their composition can be determined. Refer to attachment B 2 (Register).

4.4 **Friable asbestos (ACM) in accordance with Regulation 422:**

There was **no friable asbestos** found internally or externally.

4.5 **Materials that were tested:**

Three samples of materials were removed for testing. Refer to the Certificate of Analysis from Clearsafe Environmental Solutions, Report No. 20-8849-16-ID.

The samples were taken as follows:

Sample 1. Notice board wall at entry gates. **No asbestos detected**

Sample 2. Eaves linings which are indicative throughout. **No asbestos detected**

Sample 3. Soffit linings to the courtyard area. **No asbestos detected**

5.0 HAZARDOUS SUBSTANCES MANAGEMENT PLAN IN ACCORDANCE WITH REGULATION 429

5.1 If the amount of ACM to be removed does not exceeds 10m.

5.2 If materials are disturbed by drilling, mechanical damage or other means, the cleaning or rectification work must comply with the Code of Practice for the Safe Management of Asbestos and the Code of Practice for the Safe Removal of Asbestos.

5.3 Prior to providing a quotation for the removal and disposal of the asbestos waste the contractor or firm should receive a copy of this audit and report and then visit the site to familiarise themselves with the site, services, location of the hazardous materials, volume of same, site layout, storage and movement area available and need for scaffolding and other safety equipment necessary to expedite the works in accordance with SafeWork NSW and EPA requirements, including notification and site amenities.

5.4 The contractor shall indicate the method of removing, bagging and disposal of the asbestos. The contractor shall provide you with a copy of the receipts for tipping and/or waste disposal certificate and then later submit these to Council or the Principal Certifying Authority.

5.5 The works should be inspected by a competent independent person (i.e. not associated with the removal company) after removal and noted with a clearance certificate. I can provide this service if required.
The clearance inspection must be carried out prior to any other works taking place at the property.

N. R. Wallace
CPCCBC 5014A
16 December 2020.

Attachment A

PERSONAL DETAILS
NEIL WALLACE

Qualifications:

- Trade Certificate in Carpentry and Joinery.
- Trade Certificate in Roof Plumbing.
- Post Trade Certificate in Building Foreman Clerk of Works (Honours).
- Post Trade Certificate in Building (Building Certificate).
- Graduate Diploma in the Masters of Project Management (UTS).
- Continuing Professional Development (CDP) through membership in industry associations, attending seminars, and updating data, Standards and Codes, and building processes.
- Licensed Builder, No. 36933.
- Accredited Certifier Course, BSAP & DIPNR (UTS).
- Conduct Asbestos Assessment Associated with Removal CPCCBC 5014A
- Asbestos Inspection, Audits and Removal.
- Asbestos Assessment, Identification and Reporting.

Work experience:

- Employed in the building industry since 1968
- Experience gained in domestic, commercial, industrial and high rise construction. Notable projects include Gavin and Shallala housing estates, Campbelltown and Liverpool, sub-contract Carpenter. Unit developments in Sutherland Shire, Building Foremen/Project Manager. High Court Building and National gallery in Canberra, sub-contract protective coatings, waterproofing and joint sealants. Restoration of buildings. Darling Harbour, sub-contract protective coatings, waterproofing and joint sealants.
- Former part time lecturer in Building Foreman Clerk of Works Post Trade Course at St. George College and Randwick College of TAFE (1985-1989)
- Former Area Manager with the Builders Licensing Board (BLB) and Building Services Corporation (BSC) (1985-1989)
- Expert witness in accordance with the Code of Conduct, for BLB and BSC, (1985-1989), Solicitors and Law firms, and Consumer Trader and Tenancy Tribunal.
- Project Manager/Consultant on 38 medium density redevelopment building sites in the Sydney Metropolitan area carried out under the Federal Government Stimulus Program for Affordable and Adaptable Housing 2009-2011. Total value in excess $120,000,000.00 including remediation of asbestos contaminated sites.

Self employed as an Accredited Building Consultant since 1989, includes inspection of properties and detailed reports for, purchasers, Owner Builder Warranty insurance, detection of problems and defects, problem solving, and compliance with standards and codes. Fact finding, reporting and assessing condition of properties. Asbestos Audits. Occupational Health and Safety inspections.

Certificate of Analysis

Clearsafe
ENVIRONMENTAL SOLUTIONS

Clearsafe Environmental Solutions Pty Ltd
9 Industrial Road, Unanderra NSW 2526
info@clearsafe.com.au
1300 042 962

Report Number: 20-8849-16-ID
Received Date: 15/12/2020
Analysis Date: 15/12/2020
Report Date: 15/12/2020
Site Address: Asbestos Analysis
As Received
Client Name: N R Wallace Contracting Pty Ltd
Client Address: PO Box 1358
Nowra NSW 2541

Client Contact: Neil Wallace (neil@asbestosreportingnsw.com.au)
Sampled By: As Received
Approved Identifier: Nathan Crouch
Approved Signatory: Luke Heckenberg

Test Method: Asbestos identification in bulk samples by polarised light microscopy and dispersion staining, in accordance with 'AS4964-2004 Method for the Qualitative Identification of Asbestos in Bulk Samples' and Clearsafe Method SOP.ID.01 [Detection Limit - 0.1g/kg (AS4964)].

Notes: The results contained within this report relate only to the samples tested. This report should not be copied, presented or reviewed except in full.

An independent analytical technique is recommended for confirmation of vinyl and bituminous samples, or samples in which 'Unknown Mineral Fibre' is detected.

NATA accreditation relates to the analysis of the sample(s) and does not cover the sample collection process.

Sample Number	Sample Reference / Location	Description **	Result *
20-8849/22	17 Croobyar Road, Milton - Building J, notice board wall at entry	Fibrous Board, Ribbon-Like Fibres. Sample Size: 20x20x5mm	No Asbestos Detected [6]
20-8849/23	17 Croobyar Road, Milton - Building J, eaves lining	Fibrous Board, Ribbon-Like Fibres. Sample Size: 20x20x5mm	No Asbestos Detected [6]
20-8849/24	17 Croobyar Road, Milton - Building J, soffit lining	Fibrous Board, Ribbon-Like Fibres. Sample Size: 20x20x5mm	No Asbestos Detected [6]
20-8849/25	17 Croobyar Road, Milton - Building L, wall cladding	Fibrous Board, Ribbon-Like Fibres. Sample Size: 20x20x5mm	No Asbestos Detected [6]
20-8849/26	17 Croobyar Road, Milton - Building L, eaves lining	Fibrous Board, Ribbon-Like Fibres. Sample Size: 20x20x5mm	No Asbestos Detected [6]

* **Result Codes:**
1 - Chrysotile Asbestos Detected
2 - Amosite Asbestos Detected
3 - Crocidolite Asbestos Detected
4 - Unknown Mineral Fibre Detected
5 - Synthetic Mineral Fibre (SMF) Present
6 - Organic Fibres Present

** **Description Codes:**
FCS - Fibrous Cement Sheeting
VFT - Vinyl Floor Tile

NATA
WORLD RECOGNISED ACCREDITATION

NATA Accredited Laboratory No. 18542
Accredited for compliance with ISO/IEC 17025 - Testing. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian / national standards.

Douglas Partners
Geotechnics | Environment | Groundwater

Integrated Practical Solutions

Report on
Limited Intrusive Investigation for Contaminated Land

Proposed Budawang SSP Relocation
17 Croobyar Road, Milton

Prepared for
School Infrastructure New South Wales (SINSW)

Project 89390.02
December 2020

Douglas Partners
Geotechnics | Environment | Groundwater

Document History

Document details

Project No.	89390.02	Document No.	R.002.Rev0
Document title	Report on Limited Intrusive Investigation for Contaminated Land Proposed Budawang SSP Relocation		
Site address	17 Croobyar Road, Milton		
Report prepared for	School Infrastructure New South Wales (SINSW)		
File name	89390.02.R.002.Rev0		

Document status and review

Status	Prepared by	Reviewed by	Date issued
Draft 0	Kenton Horsley	Glyn Eade, CEnvP SC40108	8 December 2020

Distribution of copies

Status	Electronic	Paper	Issued to
Draft 0	1	0	Mr Michael Stern, School Infrastructure New South Wales (SINSW)

The undersigned, on behalf of Douglas Partners Pty Ltd, confirm that this document and all attached drawings, logs and test results have been checked and reviewed for errors, omissions and inaccuracies.

	Signature		Date
Author			8 December 2020
Reviewer		for Glyn Eade	8 December 2020

bsi. ISO 9001 Quality Management
FS 604853

Douglas Partners Pty Ltd
ABN 75 053 980 117
www.douglaspartners.com.au
1/1 Luso Drive
Unanderra NSW 2526
PO Box 486
Unanderra NSW 2526
Phone (02) 4271 1836

Douglas Partners
Geotechnics | Environment | Groundwater

Table of Contents

Report on Limited Intrusive Investigation for Contaminated Land
Proposed Budawang SSP Relocation
17 Croobyar Road, Milton

1. Introduction

This report presents the results of a limited intrusive investigation for contaminated land undertaken on a portion of land at the former Shoalhaven Anglican College at 17 Croobyar Road, Milton. The investigation was commissioned in an email dated 29 September 2020 by Michael Stern of School Infrastructure New South Wales (SINSW) and was undertaken in general accordance with Douglas Partners' proposal WOL200347 dated 13 August 2020.

It is understood that the site is proposed to be re-developed for the potential relocation of the Budawang School for Specific Purposes (Budawang SSP). The proposed development of the site includes the demolition of some existing buildings and the construction of new school buildings along with proposed car parks and pavements. This limited intrusive investigation was undertaken to provide sub-surface information for planning and design purposes for possible submission to Shoalhaven City Council (SCC) with a Development Application (DA).

A preliminary masterplan showing the proposed development layout and existing buildings were provided by the client prior to the investigation. Two proposed (alternate) master plans were provided by the client, following completion of the field work component part of the investigation.

The investigation was undertaken concurrently with a geotechnical investigation, the results of which have been presented under separate cover (DP, 2020).

2. Scope of Works

The scope of work for the investigation comprised:

- A review of a previous DP preliminary site investigation for contaminated land (PSI) (DP, 2018) and a previous PSI completed by Cardno (NSW/ACT) Pty Ltd (Cardno, 2020);
- Soil sampling from all geotechnical investigation drilling locations for contaminated land investigation and preliminary waste classification purposes;
- Laboratory testing of selected soil samples for a range of the following identified contaminants of potential concern (CoPC):
  - Metals / metalloids (arsenic, cadmium, chromium, copper, lead, manganese, mercury, nickel and zinc);
  - Polycyclic aromatic hydrocarbons (PAH);
  - Total recoverable hydrocarbons (TRH);
  - Benzene, toluene, ethylbenzene and xylene (BTEX);
  - Phenols;
  - Organochlorine pesticides (OCP) and organophosphorus pesticides (OPP);

- Polychlorinated biphenyls (PCB); and
- Asbestos (asbestos containing material (ACM), asbestos fines (AF) and fibrous asbestos (FA));

- Analysis of selected samples for pH and cation exchange capacity (CEC) for the purposes of determining site specific Ecological Investigation Levels (EILs); and
- Preparation of this report.

3. Site Description

The site, forms part of Lot 200 in Deposited Plan 1192140 comprises an irregular shaped area of approximately 2.4 hectares with maximum north-south and east-west dimensions of 150 m and 160 m respectively (refer Drawing 1 in Appendix B). It is bounded to the west by Lot 1 in Deposited Plan 811690, to the north by a sewer pumping station and Croobyar Road, to the east by existing low-density residential development with the Princes Highway beyond, and to the south by the remainder of the former grounds of the Shoalhaven Anglican College. Surface levels generally fall in the westerly direction at grades of 1 in 20 to 1 in 90 with some near level terraces associated with the existing school infrastructure. The overall difference in level across the site is estimated to be about 8 m from the highest part of the site (north-eastern part) to the lowest (south-western part).

At the time of the investigation, single storey buildings associated with the former school were located in the northern and southern sections of the site (refer Drawing 1). A north to south trending drainage depression was located along the western boundary. Stands of trees were noted along the eastern and western boundaries and sporadically throughout the remainder of the site. An existing netball / basketball playing surface was located in the western part of the site. Other parts of the site typically comprised lightly grassed/landscaped (near existing buildings) or asphalt sealed areas (car parks and driveways). A sewer main diagonally crosses the site (refer Drawing 1, Appendix B).

4. Regional Geology and Acid Sulfate Soils

Reference to web-based mapping indicates that the site is underlain by Milton Monzonite (a medium to coarse grained igneous rock) of Mesozoic age. The results of the field work were consistent with the broad-scale geological mapping with monzonite intersected in six of the eight boreholes that intersected bedrock.

The NSW Acid Sulfate Soil Risk Map indicates that the site is in an area of *"no known occurrence of acid sulfate materials"* and is about 580 m from the nearest mapped area, which is identified as having a *"low probably of occurrence of acid sulfate materials (Lap2)".* These low probability areas are noted as *"generally not expected to contain ASS materials, although highly localised occurrences may occur especially near boundaries with environments with a high probability of ASS occurrence".*

5. Review of Previous Reports

The investigation has included the review of the following previous reports:

- DP's *Report on Preliminary Site Investigation for Contaminated Land, Proposed Seniors Living Development, 17 Croobyar Road, Milton*, DP project 89390.01, dated March 2018 (DP, 2018); and
- Cardno (NSW/ACT) Pty Ltd (Cardno), *Preliminary Site Investigation and Limited Soil Assessment, Budawang SSP, Milton*, dated May 2020 (Cardno, 2020).

5.1 DP, 2018

DP (2018) was undertaken for a larger portion of Lot 200 in Deposited Plan 1192140 than is the subject of the current investigation. The DP (2018) investigation extent included the entirety of the current investigation site.

DP (2018) comprised a review of site information, a review of site history information, a site walkover and preparation of a report.

Based on the findings of the site history investigation and site walkover DP (2018) considered that the site exhibited a low potential for widespread or significant contamination and a moderate potential for localised contamination to exist. This low to moderate potential for contamination existed through the former and current land use of adjacent properties and the progressive development and use as a school. This included, but was potentially not limited to, the following being relevant to the current investigation site:

- the potential for contaminant migration on to the site from off-site sources (adjacent property uses included a coach company and builders' yard);
- the potential use of fill of an unknown origin during the development of the site including the filling of drainage / creek lines;
- the potential storage and use of hazardous chemicals associated with the scholastic use of the site, including horticultural activities, the maintenance of school facilities (e.g. pesticides/termicides etc.) and the maintenance of horticultural equipment;
- the potential use of hazardous building materials in the construction of site structures; and
- the degradation of hazardous building materials that may exist localised to the areas directly adjacent to the site structures.

Based upon the findings of the DP PSI, it was recommended that if greater confidence were required regarding the compatibility of the site for the proposed land use then further intrusive investigation of the potential contamination issues should be undertaken.

Furthermore, it was recommended that a hazardous building materials survey be undertaken on all site structures.

5.2 Cardno, 2020

Cardno (2020) was undertaken to provide preliminary advice on the contamination status of the site and potential associated implications with respect to the proposed development.

Cardno (2020) comprised a review of site information, a review of site history information, a limited intrusive investigation, laboratory analysis and report preparation.

Based on the site history review Cardno (2020) generally considered that the site exhibited low potential risks to human health and the environment.

The intrusive investigation comprised the hand excavation of three shallow sampling points. The sampling points were reported as encountering natural soil conditions with no signs of contamination.

Three samples were selected for analysis for the CoPC (similar to those listed in Section 2 of this report except for phenols and asbestos). All laboratory results were reported at less than the adopted assessment criteria with the exception of copper results exceeding the adopted generic ecological investigation level (EIL) of 80 mg/kg, with results of 82 mg/kg and 100 mg/kg being reported. Cardno (2020) considered that these concentrations were representative of regional conditions and not indicative of contamination warranting further consideration. DP notes that the copper concentrations recorded in Cardno (2020) are less than the site specific EIL that has been developed and adopted as part of this investigation.

Cardno (2020) did not recommend any further intrusive contaminated land investigations but did recommend an unexpected finds protocol (UFP) be prepared and that pre-demolition hazardous building materials surveys be completed for any buildings requiring demolition.

6. Preliminary Conceptual Site Model

A preliminary conceptual site model (CSM) has been developed by DP, based on the site desktop study and observations made during the site walkover. The CSM identifies potential sources of CoPC, sensitive receptors, and potential transport mechanisms that could expose sensitive receptors to unacceptable ecological and/or health risks.

The objective of the CSM is to highlight actual or potential exposure pathways that may exist and identify any data gaps that may need to be addressed during this investigation.

For potential ecological and / or human health risks to be present, all of the following elements of an exposure pathway are required:

1. Contaminant source (s) (e.g. a fuel tank or fill);
2. Receptor(s) (e.g. site worker, site occupier or terrestrial/aquatic ecosystem); and
3. Transport mechanism/exposure route(s) between the source and receptor (e.g. vapour/ groundwater migration, ingestion or inhalation).

If all three elements are present, it is considered that a complete exposure pathway exists. Partial or incomplete exposure pathways may also be present. A qualitative assessment of the presence, or otherwise, of the above elements at the site and the CSM is discussed in the following subsections.

6.1 Potential Contamination Sources and Contaminants of Concern

Based on the findings of DP (2018) it is considered that the potential for contamination exists at the site through the former and current land use of adjacent properties and the progressive development and use of the site as a school. This includes, but potentially not limited to the following:

- the potential for contaminant migration on to the site from off-site sources (adjacent property uses included a coach company and builders' yard);
- the potential use of fill of an unknown origin during the development of the site including the filling of drainage / creek lines;
- the potential storage and use of hazardous chemicals associated with the scholastic use of the site, including horticultural activities, the maintenance of school facilities (e.g. pesticides/termicides etc.) and the maintenance of horticultural equipment;
- the potential use of hazardous building materials in the construction of site structures; and
- the degradation of hazardous building materials that may exist localised to the areas directly adjacent to the site structures.

As such, and based on the findings of the site history and site walkover, the potential sources (S) of contamination comprise:

- S1 – Potential for contaminant migration on to the site from off-site sources;
- S2 - Potential for contamination associated with fill of unknown origin related to the progressive development of the site;
- S3 - Potential storage and use of hazardous chemicals associated to use of the site as a school including the maintenance of school facilities and equipment; and
- S4 - Hazardous building materials (HBM) associated with the construction of current site structures.

CoPC associated with the above identified potential sources include metals, petroleum hydrocarbons (such as total recoverable hydrocarbons, monocyclic and polycyclic aromatic hydrocarbons), polychlorinated biphenyls (PCB), pesticides, phenols, asbestos, lead based paint and other hazardous building materials (HBM).

6.2 Potential Receptors

Receptors (R) that potentially could be influenced by the potential contaminants at this site include:

Human health receptors:

- R1 - Current and future site users (residential).
- R2 - Adjacent users (residential).
- R3 – Construction and maintenance workers (commercial / industrial)

Environmental receptors:

- R4 - Groundwater.
- R5 - Surface Water (Pettys Creek, Stony Creek and Burrill Lake).
- R6 - Flora and Fauna.

6.3 Potential Pathways

Potential pathways (P) for contaminants to encounter identified receptors, with consideration to the site's proposed end use, current condition, and geological, topographical and hydrogeological characteristics, include:

- P1 - Direct contact with soil (ingestion and dermal).
- P2 - Inhalation of dust and/or vapours.
- P3 - Leaching of contaminants and vertical migration into groundwater.
- P4 - Surface water run-off from hardstand areas during heavy rainfall.
- P5 - Lateral migration of groundwater providing base flow to watercourses.
- P6 - Direct contact of contaminated ground with ecological receptors.

6.4 Summary of Preliminary CSM

A 'source–pathway–receptor' approach has been used to assess the potential risks to human and environmental receptors from contamination sources on or in the vicinity of the site, via exposure pathways.

The possible pathways between the sources and receptors are provided in Table 1.

Table 1: Potential Complete Pathways

Source	Transport Pathway	Receptor	Action Recommended
S1 – Potential for contaminant migration on to the site from off-site sources S2 - Potential for contamination associated with fill of unknown origin related to the progressive development of the site; S3 - Potential storage and use of hazardous chemicals associated to use of the site as a school including the maintenance of school facilities and equipment; S4 - Hazardous building materials associated with the construction of current and former site structures and the demolition of former site structures.	P1 - Ingestion and dermal contact P2 - Inhalation of dust / vapours	R1 - Current Users R3 – Construction and Maintenance Workers	An intrusive investigation is recommended to assess possible contamination including chemical testing of the soils. Testing of soils will be used as a as a screen for potential surface water and groundwater contamination.
	P2 - Inhalation of dust / vapours	R2 - Adjacent users	
	P5 - Leaching of contaminants	R4 - Groundwater R5 – Surface Water	
	P3 - Surface water run-off P4 - Lateral migration of groundwater	R5 - Surface water	
	P6 - Contact with terrestrial ecology	R6 - Terrestrial ecology	

7. Sampling and Analysis Quality Plan

7.1 Data Quality objectives

The investigation was devised with reference to the seven-step data quality objective (DQO) process, which is provided in Appendix B Schedule B2, NEPC (2013). The DQO process is outlined in Appendix D.

7.2 Soil Sampling Rationale

Based on the preliminary nature of the investigation, sampling and analysis from the eight borehole locations drilled as part of DP's geotechnical investigation was considered appropriate at this stage.

8. Site Assessment Criteria

The site assessment criteria (SAC) applied in the current investigation are informed by the CSM (Section 6) which identified human and environmental receptors to potential contamination on the site.

Analytical results are assessed (as a Tier 1 assessment) against the SAC comprising primarily the investigation and screening levels presented in Schedule B1 of NEPC (2013).

The investigation and screening levels applied in the current investigation comprise levels adopted for a generic residential with minimal access to soils land use scenario. The derivation of the SAC is included in Appendix F and the adopted SAC are listed on the summary analytical results tables in Appendix H.

9. Results

9.1 Field Work Results

Details of the subsurface conditions encountered during the field investigation are provided on the borehole logs (refer Appendix G), which should be read in conjunction with the accompanying notes defining classification methods and descriptive terms.

The field work indicated slightly variable subsurface conditions, which were typically consistent with the results of the previous investigation. The succession of strata is broadly summarised as follows:

TOPSOIL / TOPSOIL FILL:	to depths of 0.1 to 0.2 m in all the boreholes;
FILL:	silty gravel fill to a depth of 1.0 m in Bore 101 and possible fill (sandy clay) in Bore 104 to a depth of 0.5 m;
CLAY:	variably firm to hard (but typically stiff to very stiff) clay and sandy clay to depths of 1.9 to 5.5 m in all boreholes. Bores 101 and 104 were terminated in very stiff to hard clays at depths of 5.5 and 4.0 m, respectively;
MONZONITE:	very low strength monzonite to the termination depths (on refusal of the auger) at depths of 2.2 to 4.0 m in Bores 102, 103 and 105 to 108.

Groundwater seepage was observed at depths of 3.5 m, 3.4 m and 2.7 m in Bores 101, 104 and 107 (ie typically within with the residual clay profile). No free groundwater was observed in the remaining boreholes during excavation. It is noted however, that the boreholes were immediately backfilled following excavation, sampling and logging which precluded longer term monitoring of groundwater levels. Furthermore, groundwater levels are affected by climatic conditions and soil permeability and will therefore vary with time and spatially.

The results from the field testing using the PID were all relatively low, a maximum reading of 6.4 ppm and typically less than 1 ppm.

No obvious signs of contamination such as odours, staining or non-soil anthropogenic inclusions were encountered during the field work.

9.2 Laboratory Analytical Results

The laboratory analysis results are summarised in the following tables in Appendix H:

- Table H1: Summary of Laboratory Results – Metals, TRH, BTEX and PAH;
- Table H2: Summary of Laboratory Results – Phenol, OCP, OPP, PCB and Asbestos; and
- Table H3: Summary of Waste Classification Assessment.

The laboratory certificates of analysis together with the chain of custody and sample receipt information are provided in Appendix I.

10. Discussion

10.1 Contamination Status of Soils for On-Site Reuse

The analytical results for all contaminants tested in most samples were below the adopted SAC. The following exceedances were recorded:

- TRH $>C_{10} – C_{16}$ in sample 108/0.1 reported a concentration of 160 mg/kg compared to the adopted ecological screening level (ESL) of 120 mg/kg;
- TRH F2 in samples 106/0.1 and 108/0.1 reported concentrations of 120 mg/kg and 160 mg/kg respectively compared to the adopted health screening level (HSL) of 110 mg/kg; and
- TRH F3 in samples 106/0.1 and 108/0.1 reported concentrations of 510 mg/kg and 750 mg/kg respectively compared to the adopted ESL of 300 mg/kg.

Statistical analysis was undertaken using ProUCL 5.1 for the data set obtained for TRH $>C_{10} – C_{16}$, TRH F2 and TRH F3 to determine the 95% upper confidence limit (UCL) The calculated 95% UCLs were 90 mg/kg, 90 mg/kg and 300 mg/kg respectively, being less than or equal to the adopted SAC. Furthermore, the following is noted:

- There was no evidence of ecological distress on the surface of the site and healthy vegetation growth was observed. There was evidence of microbial activity (invertebrates) in the topsoil / fill that was encountered across the site.
- The shallow topsoil / fill will likely be stripped as part of preparatory earthworks where buildings are to be constructed. This further decreases the potential risk of vapour intrusion into the buildings.

Based on the results of the preliminary testing completed as part of the investigation no significant contaminated land constraints with respect to on-site reuse of soils have been identified.

10.2 Waste Classification of Soils for Off-Site Disposal

The following Table 2 presents the results of the six-step procedure outlined in NSW EPA (2014) for determining the type of waste and the waste classification. This process applies to the topsoil and fill at the site, which do not meet the definition of VENM.

Table 2: Six Step Classification Procedure - Fill

Step	Comments	Rationale
1. Is the waste special waste?	No	No asbestos-containing materials (ACM), clinical or related waste, or waste tyres were observed in the boreholes; Asbestos was not detected by the analytical laboratory.
2. Is the waste liquid waste?	No	The topsoil and fill comprised a soil matrix.
3. Is the waste "pre-classified"?	No	The topsoil or fill is not pre-classified with reference to NSW EPA (2014). The natural material, if classified as VENM, is pre-classified as General Solid Waste (non-putrescible).
4. Does the waste possess hazardous waste characteristics?	No	The topsoil and fill were not observed to contain or considered at risk to contain explosives, gases, flammable solids, oxidising agents, organic peroxides, toxic substances, corrosive substances, coal tar, batteries, lead paint or dangerous goods containers.
5. Determining a wastes classification using chemical assessment	Conducted	Refer to Table H3, Appendix H.
6. Is the waste putrescible or non-putrescible?	Non-putrescible	The fill does not contain materials considered to be putrescible [a].

Note: a wastes that are generally not classified as putrescible include soils, timber, garden trimmings, agricultural, forest and crop materials, and natural fibrous organic and vegetative materials (NSW EPA, 2014)

The field and laboratory data quality assurance and quality control results for the samples have been reviewed and are considered to be acceptable. The laboratory certificate is attached.

As shown in Table H3, Appendix H, after additional leachability analysis was undertaken on one sample, all laboratory results were below the relevant criteria for General Solid Waste as defined in the NSW EPA (2014).

Table 3: Preliminary Waste Classification Summary - Fill

Item	Description
Based on the observations at the time of sampling and the reported analytical results, the fill described as:	Topsoil (silt) and silty gravel fill
Within the area subject to classification as shown on Drawing 1, Appendix B is classified as:	In-situ Fill; General Solid Waste.

Table 4 presents the results of the assessment of natural soils and bedrock at the site with reference to the VENM definition in the POEO Act and the EPA[1] website.

[1] https://www.epa.nsw.gov.au/your-environment/waste/classifying-waste/virgin-excavated-natural-material

Table 4: VENM Classification Procedure

Item	Comments	Rationale
1. Is the material natural?	Yes	Natural materials logged in the boreholes as typically stiff to very stiff clay and sandy clay overlying monzonite bedrock. These materials underlie the topsoil or fill at the site.
2. Is the material impacted by manufactured chemicals or process residues?	No	There were no visual or olfactory indicators of chemical contamination of the materials in the test pits. Concentrations of contaminants were considered to be typical of background concentrations (Table H1 and Table H2, Appendix H).
3. Are the materials acid sulfate soils?	No	Refer to Section 4.
4. Are there current or previous land uses that have (or may have) contaminated the materials?	No	Development of the site for its current use may have impacted on surface soils overlying the materials. Low chemical concentrations indicate no likely impact on the natural materials.

Table 5: Preliminary Waste Classification Summary - Natural

Item	Description
Based on the outcomes presented in Table 4, the natural soils and bedrock described as:	stiff to very stiff clay and sandy clay and monzonite bedrock
Within the area subject to classification as shown on Drawing 1, Appendix B is classified as:	VENM

10.3 Data Quality Assurance and Quality Control

The data quality assurance and quality control (QA/QC) results are included in Appendix J. Based on the results of the field QA and field and laboratory QC, and evaluation against the data quality indicators (DQI) it is concluded that the field and laboratory test data obtained are reliable and useable for this assessment.

11. Conclusions and Recommendations

Based on the results of this limited investigation undertaken no significant contaminated land constraints with respect to the on-site reuse of soils has been identified in the samples analysed.

Based on the preliminary waste classification undertaken the fill encountered at the site is preliminarily classified as General Solid Waste and the natural clays and bedrock are preliminarily classified as VENM. Given the preliminary nature of the waste classification it is recommended that further waste classification investigation be undertaken following demolition of site structures and removal of surficial hardstand areas.

Furthermore, following the complete removal of all fill, assessment should be undertaken to validate that natural materials have not been impacted by former site activities.

As a matter of due diligence, it is recommended that an UFP be implemented as part of a construction environmental management plan (CEMP) for any proposed earthworks and development.

It is further recommended that a pre-demolition hazardous building materials survey and testing of the asphaltic concrete for the potential presence of coal tar be undertaken prior to the demolition of the site structures.

12. References

Cardno. (2020). *Preliminary Site Investigation and Limited Soil Assessment, Budawang SSP, Milton.* Cardno (NSW/ACT) Pty Ltd.

CRC CARE. (2017). *Risk-based Management and Remediation Guidance for Benzo(a)pyrene.* Technical Report no. 39: Cooperative Research Centre for Contamination Assessment and Remediation of the Environment.

DP. (2018). *Report on Preliminary Site Investigation for Contaminated Land, Proposed Seniors Living Development, 17 Croobyar Road, Milton.* Douglas Partners Pty Ltd.

DP. (2020). *Report on Geotechnical Investigation, Proposed Budawang SSP Relocation 17 Croobyar Road, Milton.* Douglas Partners Pty Ltd.

NEPC. (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM].* Australian Government Publishing Services Canberra: National Environment Protection Council.

NSW EPA. (1995). *Contaminated Sites, Sampling Design Guidelines.* NSW Environment Protection Authority.

NSW EPA. (2014). *Waste Classification Guidelines, Part 1: Classifying Waste.* NSW Environment Protection Authority.

NSW EPA. (2020). *Guidelines for Consultants Reporting on Contaminated Land.* Contaminated Land Guidelines: NSW Environment Protection Authority.

13. Limitations

Douglas Partners (DP) Pty Ltd has prepared this report for this proposed Bundawang SSP relocation project at 17 Croobyar Road, Milton in accordance with DP's proposal WOL200347 dated 13 August 2020 and acceptance received from Mr Michael Stern dated 29/9/2020. The work was carried out under a modified SINSW consultancy agreement (SINSW00964/20 Budawang SSP Geotech Consultancy dated 28 September 2020. This report is provided for the exclusive use of School Infrastructure New South Wales (SINSW) for this project only and for the purposes as described in the report. It should not be used by or relied upon for other projects or purposes on the same or other site or by a third party. Any party so relying upon this report beyond its exclusive use and purpose as stated above, and without the express written consent of DP, does so entirely at its own risk and without recourse to DP for any loss or damage. In preparing this report DP has necessarily relied upon information provided by the client and/or their agents.

The results provided in the report are indicative of the sub-surface conditions on the site only at the specific sampling and/or testing locations, and then only to the depths investigated and at the time the work was carried out. Sub-surface conditions can change abruptly due to variable geological processes and also as a result of human influences. Such changes may occur after DP's field testing has been completed.

DP's advice is based upon the conditions encountered during this investigation. The accuracy of the advice provided by DP in this report may be affected by undetected variations in ground conditions across the site between and beyond the sampling and/or testing locations. The advice may also be limited by budget constraints imposed by others or by site accessibility.

The assessment of atypical safety hazards arising from this advice is restricted to the environmental components set out in this report and based on known project conditions and stated design advice and assumptions. While some recommendations for safe controls may be provided, detailed 'safety in design' assessment is outside the current scope of this report and requires additional project data and assessment.

This report must be read in conjunction with all of the attached and should be kept in its entirety without separation of individual pages or sections. DP cannot be held responsible for interpretations or conclusions made by others unless they are supported by an expressed statement, interpretation, outcome or conclusion stated in this report.

This report, or sections from this report, should not be used as part of a specification for a project, without review and agreement by DP. This is because this report has been written as advice and opinion rather than instructions for construction.

Douglas Partners Pty Ltd

Appendix A

About This Report

About this Report

Douglas Partners

Introduction

These notes have been provided to amplify DP's report in regard to classification methods, field procedures and the comments section. Not all are necessarily relevant to all reports.

DP's reports are based on information gained from limited subsurface excavations and sampling, supplemented by knowledge of local geology and experience. For this reason, they must be regarded as interpretive rather than factual documents, limited to some extent by the scope of information on which they rely.

Copyright

Borehole and Test Pit Logs

The borehole and test pit logs presented in this report are an engineering and/or geological interpretation of the subsurface conditions, and their reliability will depend to some extent on frequency of sampling and the method of drilling or excavation. Ideally, continuous undisturbed sampling or core drilling will provide the most reliable assessment, but this is not always practicable or possible to justify on economic grounds. In any case the boreholes and test pits represent only a very small sample of the total subsurface profile.

Interpretation of the information and its application to design and construction should therefore take into account the spacing of boreholes or pits, the frequency of sampling, and the possibility of other than 'straight line' variations between the test locations.

Groundwater

Where groundwater levels are measured in boreholes there are several potential problems, namely:

- In low permeability soils groundwater may enter the hole very slowly or perhaps not at all during the time the hole is left open;
- A localised, perched water table may lead to an erroneous indication of the true water table;
- Water table levels will vary from time to time with seasons or recent weather changes. They may not be the same at the time of construction as are indicated in the report; and
- The use of water or mud as a drilling fluid will mask any groundwater inflow. Water has to be blown out of the hole and drilling mud must first be washed out of the hole if water measurements are to be made.

More reliable measurements can be made by installing standpipes which are read at intervals over several days, or perhaps weeks for low permeability soils. Piezometers, sealed in a particular stratum, may be advisable in low permeability soils or where there may be interference from a perched water table.

Reports

The report has been prepared by qualified personnel, is based on the information obtained from field and laboratory testing, and has been undertaken to current engineering standards of interpretation and analysis. Where the report has been prepared for a specific design proposal, the information and interpretation may not be relevant if the design proposal is changed. If this happens, DP will be pleased to review the report and the sufficiency of the investigation work.

Every care is taken with the report as it relates to interpretation of subsurface conditions, discussion of geotechnical and environmental aspects, and recommendations or suggestions for design and construction. However, DP cannot always anticipate or assume responsibility for:

- Unexpected variations in ground conditions. The potential for this will depend partly on borehole or pit spacing and sampling frequency;
- Changes in policy or interpretations of policy by statutory authorities; or
- The actions of contractors responding to commercial pressures.

If these occur, DP will be pleased to assist with investigations or advice to resolve the matter.

About this Report

Site Anomalies

In the event that conditions encountered on site during construction appear to vary from those which were expected from the information contained in the report, DP requests that it be immediately notified. Most problems are much more readily resolved when conditions are exposed rather than at some later stage, well after the event.

Information for Contractual Purposes

Where information obtained from this report is provided for tendering purposes, it is recommended that all information, including the written report and discussion, be made available. In circumstances where the discussion or comments section is not relevant to the contractual situation, it may be appropriate to prepare a specially edited document. DP would be pleased to assist in this regard and/or to make additional report copies available for contract purposes at a nominal charge.

Site Inspection

The company will always be pleased to provide engineering inspection services for geotechnical and environmental aspects of work to which this report is related. This could range from a site visit to confirm that conditions exposed are as expected, to full time engineering presence on site.

Sampling Methods

Douglas Partners

Sampling

Sampling is carried out during drilling or test pitting to allow engineering examination (and laboratory testing where required) of the soil or rock.

Disturbed samples taken during drilling provide information on colour, type, inclusions and, depending upon the degree of disturbance, some information on strength and structure.

Undisturbed samples are taken by pushing a thin-walled sample tube into the soil and withdrawing it to obtain a sample of the soil in a relatively undisturbed state. Such samples yield information on structure and strength, and are necessary for laboratory determination of shear strength and compressibility. Undisturbed sampling is generally effective only in cohesive soils.

Test Pits

Test pits are usually excavated with a backhoe or an excavator, allowing close examination of the in-situ soil if it is safe to enter into the pit. The depth of excavation is limited to about 3 m for a backhoe and up to 6 m for a large excavator. A potential disadvantage of this investigation method is the larger area of disturbance to the site.

Large Diameter Augers

Boreholes can be drilled using a rotating plate or short spiral auger, generally 300 mm or larger in diameter commonly mounted on a standard piling rig. The cuttings are returned to the surface at intervals (generally not more than 0.5 m) and are disturbed but usually unchanged in moisture content. Identification of soil strata is generally much more reliable than with continuous spiral flight augers, and is usually supplemented by occasional undisturbed tube samples.

Continuous Spiral Flight Augers

The borehole is advanced using 90-115 mm diameter continuous spiral flight augers which are withdrawn at intervals to allow sampling or in-situ testing. This is a relatively economical means of drilling in clays and sands above the water table. Samples are returned to the surface, or may be collected after withdrawal of the auger flights, but they are disturbed and may be mixed with soils from the sides of the hole. Information from the drilling (as distinct from specific sampling by SPTs or undisturbed samples) is of relatively low reliability, due to the remoulding, possible mixing or softening of samples by groundwater.

Non-core Rotary Drilling

The borehole is advanced using a rotary bit, with water or drilling mud being pumped down the drill rods and returned up the annulus, carrying the drill cuttings. Only major changes in stratification can be determined from the cuttings, together with some information from the rate of penetration. Where drilling mud is used this can mask the cuttings and reliable identification is only possible from separate sampling such as SPTs.

Continuous Core Drilling

A continuous core sample can be obtained using a diamond tipped core barrel, usually with a 50 mm internal diameter. Provided full core recovery is achieved (which is not always possible in weak rocks and granular soils), this technique provides a very reliable method of investigation.

Standard Penetration Tests

Standard penetration tests (SPT) are used as a means of estimating the density or strength of soils and also of obtaining a relatively undisturbed sample. The test procedure is described in Australian Standard 1289, Methods of Testing Soils for Engineering Purposes - Test 6.3.1.

The test is carried out in a borehole by driving a 50 mm diameter split sample tube under the impact of a 63 kg hammer with a free fall of 760 mm. It is normal for the tube to be driven in three successive 150 mm increments and the 'N' value is taken as the number of blows for the last 300 mm. In dense sands, very hard clays or weak rock, the full 450 mm penetration may not be practicable and the test is discontinued.

The test results are reported in the following form.

- In the case where full penetration is obtained with successive blow counts for each 150 mm of, say, 4, 6 and 7 as:

  4,6,7
  N=13

- In the case where the test is discontinued before the full penetration depth, say after 15 blows for the first 150 mm and 30 blows for the next 40 mm as:

  15, 30/40 mm

The results of the SPT tests can be related empirically to the engineering properties of the soils.

Dynamic Cone Penetrometer Tests / Perth Sand Penetrometer Tests

Dynamic penetrometer tests (DCP or PSP) are carried out by driving a steel rod into the ground using a standard weight of hammer falling a specified distance. As the rod penetrates the soil the number of blows required to penetrate each successive 150 mm depth are recorded. Normally there is a depth limitation of 1.2 m, but this may be extended in certain conditions by the use of extension rods. Two types of penetrometer are commonly used.

- Perth sand penetrometer - a 16 mm diameter flat ended rod is driven using a 9 kg hammer dropping 600 mm (AS 1289, Test 6.3.3). This test was developed for testing the density of sands and is mainly used in granular soils and filling.
- Cone penetrometer - a 16 mm diameter rod with a 20 mm diameter cone end is driven using a 9 kg hammer dropping 510 mm (AS 1289, Test 6.3.2). This test was developed initially for pavement subgrade investigations, and correlations of the test results with California Bearing Ratio have been published by various road authorities.

Soil Descriptions

Douglas Partners

Description and Classification Methods

The methods of description and classification of soils and rocks used in this report are based on Australian Standard AS 1726-1993, Geotechnical Site Investigations Code. In general, the descriptions include strength or density, colour, structure, soil or rock type and inclusions.

Soil Types

Soil types are described according to the predominant particle size, qualified by the grading of other particles present:

Type	Particle size (mm)
Boulder	>200
Cobble	63 - 200
Gravel	2.36 - 63
Sand	0.075 - 2.36
Silt	0.002 - 0.075
Clay	<0.002

The sand and gravel sizes can be further subdivided as follows:

Type	Particle size (mm)
Coarse gravel	20 - 63
Medium gravel	6 - 20
Fine gravel	2.36 - 6
Coarse sand	0.6 - 2.36
Medium sand	0.2 - 0.6
Fine sand	0.075 - 0.2

The proportions of secondary constituents of soils are described as:

Term	Proportion	Example
And	Specify	Clay (60%) and Sand (40%)
Adjective	20 - 35%	Sandy Clay
Slightly	12 - 20%	Slightly Sandy Clay
With some	5 - 12%	Clay with some sand
With a trace of	0 - 5%	Clay with a trace of sand

Definitions of grading terms used are:

- Well graded - a good representation of all particle sizes
- Poorly graded - an excess or deficiency of particular sizes within the specified range
- Uniformly graded - an excess of a particular particle size
- Gap graded - a deficiency of a particular particle size with the range

Cohesive Soils

Cohesive soils, such as clays, are classified on the basis of undrained shear strength. The strength may be measured by laboratory testing, or estimated by field tests or engineering examination. The strength terms are defined as follows:

Description	Abbreviation	Undrained shear strength (kPa)
Very soft	vs	<12
Soft	s	12 - 25
Firm	f	25 - 50
Stiff	st	50 - 100
Very stiff	vst	100 - 200
Hard	h	>200

Cohesionless Soils

Cohesionless soils, such as clean sands, are classified on the basis of relative density, generally from the results of standard penetration tests (SPT), cone penetration tests (CPT) or dynamic penetrometers (PSP). The relative density terms are given below:

Relative Density	Abbreviation	SPT N value	CPT qc value (MPa)
Very loose	vl	<4	<2
Loose	l	4 - 10	2 -5
Medium dense	md	10 - 30	5 - 15
Dense	d	30 - 50	15 - 25
Very dense	vd	>50	>25

Soil Descriptions

Soil Origin

It is often difficult to accurately determine the origin of a soil. Soils can generally be classified as:

- Residual soil - derived from in-situ weathering of the underlying rock;
- Transported soils - formed somewhere else and transported by nature to the site; or
- Filling - moved by man.

Transported soils may be further subdivided into:

- Alluvium - river deposits
- Lacustrine - lake deposits
- Aeolian - wind deposits
- Littoral - beach deposits
- Estuarine - tidal river deposits
- Talus - scree or coarse colluvium
- Slopewash or Colluvium - transported downslope by gravity assisted by water. Often includes angular rock fragments and boulders.

Rock Strength

Rock strength is defined by the Point Load Strength Index ($Is_{(50)}$) and refers to the strength of the rock substance and not the strength of the overall rock mass, which may be considerably weaker due to defects. The test procedure is described by Australian Standard 4133.4.1 - 2007. The terms used to describe rock strength are as follows:

Term	Abbreviation	Point Load Index $Is_{(50)}$ MPa	Approximate Unconfined Compressive Strength MPa*
Extremely low	EL	<0.03	<0.6
Very low	VL	0.03 - 0.1	0.6 - 2
Low	L	0.1 - 0.3	2 - 6
Medium	M	0.3 - 1.0	6 - 20
High	H	1 - 3	20 - 60
Very high	VH	3 - 10	60 - 200
Extremely high	EH	>10	>200

* Assumes a ratio of 20:1 for UCS to $Is_{(50)}$. It should be noted that the UCS to $Is_{(50)}$ ratio varies significantly for different rock types and specific ratios should be determined for each site.

Degree of Weathering

The degree of weathering of rock is classified as follows:

Term	Abbreviation	Description
Extremely weathered	EW	Rock substance has soil properties, i.e. it can be remoulded and classified as a soil but the texture of the original rock is still evident.
Highly weathered	HW	Limonite staining or bleaching affects whole of rock substance and other signs of decomposition are evident. Porosity and strength may be altered as a result of iron leaching or deposition. Colour and strength of original fresh rock is not recognisable
Moderately weathered	MW	Staining and discolouration of rock substance has taken place
Slightly weathered	SW	Rock substance is slightly discoloured but shows little or no change of strength from fresh rock
Fresh stained	Fs	Rock substance unaffected by weathering but staining visible along defects
Fresh	Fr	No signs of decomposition or staining

Degree of Fracturing

The following classification applies to the spacing of natural fractures in diamond drill cores. It includes bedding plane partings, joints and other defects, but excludes drilling breaks.

Term	Description
Fragmented	Fragments of <20 mm
Highly Fractured	Core lengths of 20-40 mm with some fragments
Fractured	Core lengths of 40-200 mm with some shorter and longer sections
Slightly Fractured	Core lengths of 200-1000 mm with some shorter and longer sections
Unbroken	Core lengths mostly > 1000 mm

Rock Descriptions

Rock Quality Designation

The quality of the cored rock can be measured using the Rock Quality Designation (RQD) index, defined as:

$$\text{RQD \%} = \frac{\text{cumulative length of 'sound' core sections} \geq 100 \text{ mm long}}{\text{total drilled length of section being assessed}}$$

where 'sound' rock is assessed to be rock of low strength or better. The RQD applies only to natural fractures. If the core is broken by drilling or handling (i.e. drilling breaks) then the broken pieces are fitted back together and are not included in the calculation of RQD.

Stratification Spacing

For sedimentary rocks the following terms may be used to describe the spacing of bedding partings:

Term	Separation of Stratification Planes
Thinly laminated	< 6 mm
Laminated	6 mm to 20 mm
Very thinly bedded	20 mm to 60 mm
Thinly bedded	60 mm to 0.2 m
Medium bedded	0.2 m to 0.6 m
Thickly bedded	0.6 m to 2 m
Very thickly bedded	> 2 m

Symbols & Abbreviations

Douglas Partners

Introduction

These notes summarise abbreviations commonly used on borehole logs and test pit reports.

Drilling or Excavation Methods

C	Core drilling
R	Rotary drilling
SFA	Spiral flight augers
NMLC	Diamond core - 52 mm dia
NQ	Diamond core - 47 mm dia
HQ	Diamond core - 63 mm dia
PQ	Diamond core - 81 mm dia

Water

▷	Water seep
▽	Water level

Sampling and Testing

A	Auger sample
B	Bulk sample
D	Disturbed sample
E	Environmental sample
U_{50}	Undisturbed tube sample (50mm)
W	Water sample
pp	Pocket penetrometer (kPa)
PID	Photo ionisation detector
PL	Point load strength Is(50) MPa
S	Standard Penetration Test
V	Shear vane (kPa)

Description of Defects in Rock

The abbreviated descriptions of the defects should be in the following order: Depth, Type, Orientation, Coating, Shape, Roughness and Other. Drilling and handling breaks are not usually included on the logs.

Defect Type

B	Bedding plane
Cs	Clay seam
Cv	Cleavage
Cz	Crushed zone
Ds	Decomposed seam
F	Fault
J	Joint
Lam	Lamination
Pt	Parting
Sz	Sheared Zone
V	Vein

Orientation

The inclination of defects is always measured from the perpendicular to the core axis.

h	horizontal
v	vertical
sh	sub-horizontal
sv	sub-vertical

Coating or Infilling Term

cln	clean
co	coating
he	healed
inf	infilled
stn	stained
ti	tight
vn	veneer

Coating Descriptor

ca	calcite
cbs	carbonaceous
cly	clay
fe	iron oxide
mn	manganese
slt	silty

Shape

cu	curved
ir	irregular
pl	planar
st	stepped
un	undulating

Roughness

po	polished
ro	rough
sl	slickensided
sm	smooth
vr	very rough

Other

fg	fragmented
bnd	band
qtz	quartz

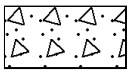
Symbols & Abbreviations

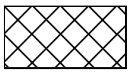
Graphic Symbols for Soil and Rock

General


Asphalt


Road base

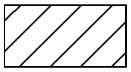

Concrete

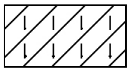

Filling

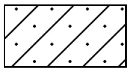
Soils


Topsoil

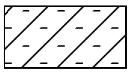

Peat

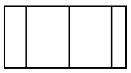

Clay

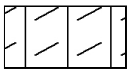

Silty clay

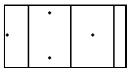

Sandy clay

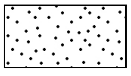

Gravelly clay

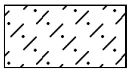

Shaly clay

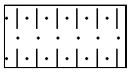

Silt


Clayey silt


Sandy silt

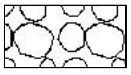

Sand

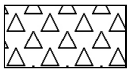

Clayey sand


Silty sand


Gravel

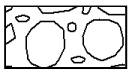

Sandy gravel


Cobbles, boulders

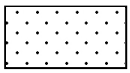

Talus

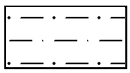
Sedimentary Rocks

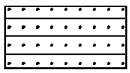

Boulder conglomerate

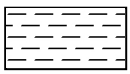

Conglomerate


Conglomeratic sandstone

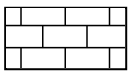

Sandstone


Siltstone

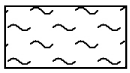

Laminite

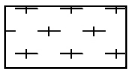

Mudstone, claystone, shale

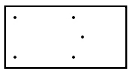

Coal


Limestone

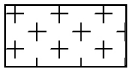
Metamorphic Rocks

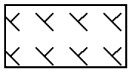

Slate, phyllite, schist

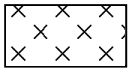

Gneiss

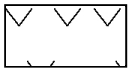

Quartzite

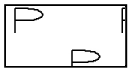
Igneous Rocks


Granite


Dolerite, basalt, andesite

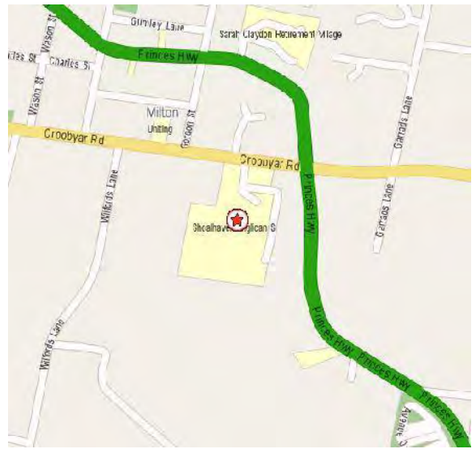

Dacite, epidote


Tuff, breccia


Porphyry

Appendix B

Drawing 1



Locality Plan

Legend

- Borehole Location
- Lot Boundary (Approx.)
- Proposed Pavement Area (T.B.C)
- Proposed Building (T.B.C)
- Approximate Proposed Development Boundary (T.B.C)
- Approximate Location of Existing Sewer Main

0 10 20 30 40 50 m

Douglas Partners
Geotechnics / Environment / Groundwater

CLIENT:	School Infrastructure NSW (SINSW) Pty Ltd		
OFFICE:	Wollongong	DRAWN BY:	DJM
SCALE:	1:700 @ A3	DATE:	6/10/2020

TITLE: **Test Location Plan**
Proposed Budawang SSP Relocation
17 Croobyar Road, Milton

N

PROJECT No:	89390.02
DRAWING No:	1
REVISION:	0

Appendix C

Photographs

Photo 1 – View across the north eastern section of the site towards a small creek and pump station.

Photo 2 – View to the north east across the front sporting field.

Douglas Partners Geotechnics | Environment | Groundwater	**Site Photographs** **Proposed Budawang SSP Relocation** **17 Croobyar Road, Milton**	PROJECT: 89390.02 PLATE No: 1 REV: 0
	CLIENT: School Infrastructure NSW	DATE: 06/11/2020

Photo 3 – View to the north towards an existing building.

Photo 4 – View to the south showing existing buildings.

Douglas Partners Geotechnics | Environment | Groundwater	**Site Photographs** **Proposed Budawang SSP Relocation** **17 Croobyar Road, Milton**	PROJECT: 89390.02 PLATE No: 2 REV: 0
	CLIENT: School Infrastructure NSW	DATE: 06/11/2020

Photo 5 – View across northern car park.

Photo 6 – View across southern car park.

Douglas Partners Geotechnics | Environment | Groundwater	**Site Photographs**	PROJECT:	89390.02
	Proposed Budawang SSP Relocation	PLATE No:	3
	17 Croobyar Road, Milton	REV:	0
	CLIENT: School Infrastructure NSW	DATE:	06/11/2020

Photo 7 – View east of the southernmost existing building at the site.

Photo 8 – View south behind existing tennis courts across a grassed fill platform.

Douglas Partners Geotechnics | Environment | Groundwater	**Site Photographs** **Proposed Budawang SSP Relocation** **17 Croobyar Road, Milton**	PROJECT: 89390.02 PLATE No: 4 REV: 0
	CLIENT: School Infrastructure NSW	DATE: 06/11/2020

Appendix D

Data Quality Objectives

Appendix D, Data Quality Objectives
Proposed Budawang SSP Relocation
17 Croobyar Road, Milton

D1.0 Data Quality Objectives

The DSI has been devised broadly in accordance with the seven-step data quality objective (DQO) process which is provided in Appendix B, Schedule B2 of NEPC *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]* (NEPC, 2013).

Step	Summary
1: State the problem	The objective of the investigation is to confirm the contamination status of the site with respect to the proposed land use. The report is being undertaken as the land is to be redeveloped. The requirements of the regulator, Council, will also be considered by consulting their Development Control Plan (DCP), Local Environment Plan (LEP) and any other requirements based on our recent experience with Council on similar sites. A preliminary conceptual site model (CSM) has been prepared (Section 6) for the proposed development. The project team consisted of experienced environmental engineers and scientists working in the roles of Project Principal, Project Reviewer, Project Manager, Field staff.
2: Identify the decisions / goal of the study	The site history has identified possible contaminating previous uses which are identified in the CSM (Section 6). The CSM identifies the associated contaminants of potential concern (CoPC) and the likely impacted media. The site assessment criteria (SAC) for each of the CoPC are detailed in Section 8 and Appendix F. The decision is to establish whether or not the results fall below the SAC or whether or not the 95% upper confidence limit of the sample population falls below the SAC. On this basis, an assessment of the site's suitability from a contamination perspective and whether (or not) further assessment and / or remediation will be derived.
3: Identify the information inputs	Inputs to the investigation will be the results of analysis of samples to measure the concentration of CoPC identified in the CSM (Section 6) at the site using National Assocation of Testing Authorities (NATA) accredited laboratories and methods, where possible. The SAC for each of the CoPC are detailed in Section 8 and Appendix F. A photoionization detector (PID) will be used on-site to screen soils for VOC. PID readings will be used to inform sample selection for laboratory analysis.
4: Define the study boundaries	The lateral boundaries of the investigation area are shown on Drawing 1, Appendix B. The vertical boundaries are to the extent of contamination impact as determined from the site history assessment and site observations. The assessment is limited to the timeframe over which the field investigation was undertaken.
5: Develop the analytical approach (or decision rule)	The decision rule is to compare all analytical results with SAC (Section 8 and Appendix F, based on NEPC (2013)). Where guideline values are absent, other sources of guideline values accepted by NEPC (2013) shall be adopted where possible.

Step	Summary
	Where a sample result exceeds the adopted criterion, a further site-specific assessment will be made as to the risk posed by the presence of that contaminant(s). Initial comparisons will be with individual results then, where required, summary statistics (including mean, standard deviation and 95% upper confidence limit (UCL) of the arithmetic mean (95% UCL) to assess potential risks posed by the site contamination. Quality control results are to be assessed according to their relative percent difference (RPD) values. For field duplicates, triplicates and laboratory results, RPDs should generally be below 30%; for field blanks and rinsates, results should be at or less than the limits of reporting (NEPC, 2013). The field and laboratory quality assurance assessment is included in Appendix J.
6: Specify the performance or acceptance criteria	• Baseline condition: Contaminants at the site and/or statistical analysis of data (in line with NEPC (2013)) exceed human health and environmental SAC and poses a potentially unacceptable risk to receptors (null hypothesis). • Alternative condition: Contaminants at the site and statistical analysis of data (in line with NEPC (2013)) complies with human health and environmental SAC and as such, does not pose a potentially unacceptable risk to receptors (alternative hypothesis). • Unless conclusive information from the collected data is sufficient to reject the null hypothesis, it is assumed that the baseline condition is true. • Uncertainty that may exist due to the above potential decision errors shall be mitigated as follows: • As well as a primary screening exercise, the use of the 95% UCL as per NEPC (2013) may be applied, ie: 95% is the defined confidence level associated with the UCL on the geometric mean for contaminant data. The resultant 95% UCL shall subsequently be screened against the corresponding SAC. • The statistical assessment will only be able to be applied to certain datasets, such as those obtained via systematic sampling. Identification of areas for targeted sampling will be via professional judgement and errors will not be able to have a probability assigned to them.
7: Optimise the design for obtaining data	As the purpose of the sampling program is to assess for potential contamination across the site, the sampling program is reliant on professional judgement to identify and sample the potentially affected areas. Further details regarding the proposed sampling plan are presented in Section 7.

D1.0 References

NEPC. (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM].* Australian Government Publishing Services Canberra: National Environment Protection Council.

Appendix E

Field Work Methodology

Appendix E, Field Work Methodology
Proposed Budawang SSP Relocation
17 Croobyar Road, Milton

E1.0 Guidelines

The following key guideline was consulted for the field work methodology:

- NEPC *National Environment Protection (Assessment of Site Contamination) Measure 1999* (as amended 2013) [NEPM] (NEPC, 2013).

E2.0 Soil Sampling

Soil sampling is carried out in accordance with DP standard operating procedures. The general sampling and sample management procedures comprise:

- Collect soil samples directly from the solid flight auger;
- Collect near surface samples using hand tools;
- Transfer samples in laboratory-prepared glass jars with Teflon lined lids by hand, capping immediately and minimising headspace within the sample jar;
- Collect replicate samples in zip-lock bags for photo-ionisation detector (PID) screening;
- Collect ~500 ml samples for FA and AF analysis;
- Collect ~40 g to 50 g samples in zip-lock bags for asbestos (presence / absence) analysis;
- Wear a new disposable nitrile glove for each sample point thereby minimising potential for cross-contamination;
- Collect 10% replicate samples for quality control (QC) purposes;
- Label sample containers with individual and unique identification details, including project number, sample location and sample depth (where applicable);
- Place samples into a cooled, insulated and sealed container for transport to the laboratory; and
- Use of chain of custody documentation.

E2.1 Field Testing

Field testing is carried out in accordance with DP standard operating procedures. The general sampling and sample management procedures comprise:

PID Field Test

- Calibrate the PID with isobutylene gas at 100 ppm and with fresh air prior to commencement of each successive day's field work;
- Allow the headspace in the PID zip-lock bag samples to equilibrate; and
- Screen using the PID.

E3.0 References

NEPC. (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM].* Australian Government Publishing Services Canberra: National Environment Protection Council.

Douglas Partners Pty Ltd

Appendix F

Site Assessment Criteria

Appendix F, Site Assessment Criteria
Proposed Budawang SSP Relocation
17 Croobyar Lane, Milton

F1.0 Introduction

F1.1 Guidelines

The following key guidelines were consulted for deriving the site assessment criteria (SAC):

- NEPC National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM] (NEPC, 2013).
- CRC CARE *Health screening levels for petroleum hydrocarbons in soil and groundwater* (CRC CARE, 2011).

F1.2 General

The SAC applied in the current investigation are informed by the CSM which identified human and environmental receptors to potential contamination on the site. Analytical results are assessed (as a Tier 1 assessment) against the SAC comprising primarily the investigation and screening levels of Schedule B1 of NEPC (2013).

The following inputs are relevant to the selection and/or derivation of the SAC:

- Land use: residential (SSP considered equivalent to a primary school)
    - Corresponding to land use category 'A', defined as residential with garden / accessible soil (home grown produce <10% fruit and vegetable intake, (no poultry)), also includes children's day care centres, preschools and primary schools.
- Soil type: sand

F2.0 Soils

F2.1 Health Investigation and Screening Levels

The generic health investigation levels (HIL) and health screening levels (HSL) are considered to be appropriate for the assessment of human health risk via all relevant pathways of exposure associated with contamination at the site. The adopted soil HIL and HSL for the CoPC are presented in Table 1 andTable 2.

Table 1: Health Investigation Levels (mg/kg)

Contaminant	HIL-A
Metals	
Arsenic	100
Cadmium	20
Chromium (VI)	100
Copper	6,000
Lead	300
Mercury (inorganic)	40
Nickel	400
Zinc	7,400
PAH	
B(a)P TEQ	3
Total PAH	300
Phenols	
Phenol	3,000
Pentachlorophenol	100
OCP	
DDT+DDE+DDD	240
Aldrin and dieldrin	6
Chlordane	50
Endosulfan	270
Endrin	10
Heptachlor	6
HCB	10
Methoxychlor	300
OPP	
Chlorpyrifos	160
PCB	
PCB	1

Table 2: Health Screening Levels (mg/kg)

Contaminant	HSL-A&B	HSL-A&B	HSL-A&B	HSL-A&B
SAND	**0 m to <1 m**	**1 m to <2 m**	**2 m to <4 m**	**4 m+**
Benzene	0.5	0.5	0.5	0.5
Toluene	160	220	310	540
Ethylbenzene	55	NL	NL	NL
Xylenes	40	60	95	170
Naphthalene	3	NL	NL	NL
TRH F1	45	70	110	200
TRH F2	110	240	440	NL

Notes: TRH F1 is TRH F1 minus BTEX

TRH F2 is TRH F2 minus naphthalene

The soil saturation concentration (Csat) is defined as the soil concentration at which the porewater phase cannot dissolve any more of an individual chemical. The soil vapour that is in equilibrium with the porewater will be at its maximum. If the derived soil HSL exceeds Csat, a soil vapour source concentration for a petroleum mixture could not exceed a level that would results in the maximum allowable vapour risk for the given scenario. For these scenarios, no HSL is presented for these chemicals and the HSL is shown as 'not limiting' or 'NL'

Table 3: Health Screening Levels (mg/kg)

Contaminant	HSL-C	HSL-C	HSL-C	HSL-C
SAND	**0 m to <1 m**	**1 m to <2 m**	**2 m to <4 m**	**4 m+**
Benzene	NL	NL	NL	NL
Toluene	NL	NL	NL	NL
Ethylbenzene	NL	NL	NL	NL
Xylenes	NL	NL	NL	NL
Naphthalene	NL	NL	NL	NL
TRH F1	NL	NL	NL	NL
TRH F2	NL	NL	NL	NL

Notes: TRH F1 is TRH F1 minus BTEX

TRH F2 is TRH F2 minus naphthalene

The soil saturation concentration (Csat) is defined as the soil concentration at which the porewater phase cannot dissolve any more of an individual chemical. The soil vapour that is in equilibrium with the porewater will be at its maximum. If the derived soil HSL exceeds Csat, a soil vapour source concentration for a petroleum mixture could not exceed a level that would results in the maximum allowable vapour risk for the given scenario. For these scenarios, no HSL is presented for these chemicals and the HSL is shown as 'not limiting' or 'NL'

The HSL for direct contact derived from CRC CARE (2011) are in Table 4.

Table 4: Health Screening Levels for Direct Contact (mg/kg)

Contaminant	DC HSL-A	DC HSL-IMW
Benzene	100	1,100
Toluene	14,000	120,000
Ethylbenzene	4,500	85,000
Xylenes	12,000	130,000
Naphthalene	1,400	29,000
TRH F1	4,400	82,000
TRH F2	3,300	62,000
TRH F3	4,500	85,000
TRH F4	6,300	12,000

Notes: TRH F1 is TRH F1 minus BTEX
TRH F2 is TRH F2 minus naphthalene
IMW intrusive maintenance worker

F2.2 Asbestos in Soil

The HSL for asbestos in soil are based on likely exposure levels for different scenarios published in NEPC (2013) for the following forms of asbestos:

- Bonded asbestos containing material (ACM); and
- Fibrous asbestos and asbestos fines (FA and AF).

The HSL are in Table 5.

Table 5: Health Screening Levels for Asbestos

Form of Asbestos	HSL-A
ACM	0.01%
FA and AF	0.001%
FA and AF and ACM	No visible asbestos for surface soil *

Notes: Surface soils defined as top 10 cm.
* Based on site observations at the sampling points and the analytical results of surface samples.

F2.3 Ecological Investigation Levels

Ecological investigation levels (EIL) and added contaminant limits (ACL), where appropriate, have been derived in NEPC (2013) for arsenic, copper, chromium (III), nickel, lead, zinc, DDT and naphthalene. The adopted EIL, derived using the interactive (excel) calculation spreadsheet provided on the NEPM toolbox website are shown in Table 7, with inputs into their derivation shown in Table 6.

Table 6: Inputs to the Derivation of the Ecological Investigation Levels

Variable	Input	Rationale
Age of contaminants	"Aged" (>2 years)	
pH	5.8	Range 4.3 to 8, mean of 5.8
CEC	13.6 $cmol_c/kg$	Range 11 to 18 $cmol_c/kg$, mean of 13.6 $cmol_c/kg$
Clay content	10%	
Traffic volumes	high	
State / Territory	NSW	

Table 7: Ecological Investigation Levels (mg/kg)

Contaminant	EIL-A
Metals	
Arsenic	100
Copper	270
Nickel	360
Chromium III	680
Lead	1,100
Zinc	660
PAH	
Naphthalene	170
OCP	
DDT	180

F2.4 Ecological Screening Levels

Ecological screening levels (ESL) are used to assess the risk of selected petroleum hydrocarbon compounds, BTEX and benzo(a)pyrene to terrestrial ecosystems. The adopted ESL are shown in Table 8.

Table 8: Ecological Screening Levels (mg/kg)

Contaminant	Soil Type	ESL-A
Benzene	Coarse	50
Toluene	Coarse	85
Ethylbenzene	Coarse	70
Xylenes	Coarse	105
TRH F1	Coarse/ Fine	180*

Contaminant	Soil Type	ESL-A
TRH F2	Coarse/ Fine	120*
TRH F3	Coarse	300
TRH F4	Coarse	2,800
B(a)P	Coarse	0.7

Notes: ESL are of low reliability except where indicated by * which indicates that the ESL is of moderate reliability
TRH F1 is TRH F1 minus BTEX
TRH F2 is TRH F2 including naphthalene

F2.5 Management Limits

In addition to appropriate consideration and application of the HSL and ESL, there are additional considerations which reflect the nature and properties of petroleum hydrocarbons, including:

- Formation of observable light non-aqueous phase liquids (LNAPL);
- Fire and explosion hazards;
- Effects on buried infrastructure eg: penetration of, or damage to, in-ground services.

The adopted management limits are in Table 9.

Table 9: Management Limits (mg/kg)

Contaminant	Soil Type	ML-A
TRH F1	Coarse	700
TRH F2	Coarse	1,000
TRH F3	Coarse	2,500
TRH F4	Coarse	10,000

Notes: TRH F1 is TRH F1 including BTEX
TRH F2 is TRH F2 including naphthalene

F3.0 References

CRC CARE. (2011). *Health screening levels for petroleum hydrocarbons in soil and groundwater.* Parts 1 to 3, Technical Report No. 10: Cooperative Research Centre for Contamination Assessment and Remediation of the Environment.

NEPC. (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM].* Australian Government Publishing Services Canberra: National Environment Protection Council.

Appendix G

Borehole Logs

BOREHOLE LOG

CLIENT: School Infrastructure New South Wales (SINSW)
PROJECT: Proposed Budawang SSP Relocation
LOCATION: 17 Croobyar Road, Milton

SURFACE LEVEL: 48.0 AHD
EASTING: 267398
NORTHING: 6088349
DIP/AZIMUTH: 90°/--

BORE No: 101
PROJECT No: 89390.02
DATE: 13/10/2020
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
48	0.1	TOPSOIL/SILT (ML): low plasticity, dark brown, w<PL		E	0.1		PID = 0.9		
		FILL/Silty GRAVEL (GP): medium gravel, brown and dark brown, dry		D E	0.5		PID = 1.0		
47	1.0	CLAY (CH): high plasticity, dark brown, with silt, w>PL, firm		D E	1.0		PID = 0.8		
				D E	1.5		pp = 50 PID = 0.6		
46	2			D	2.0		pp = 50		
		-becoming grey mottled green and brown, trace sand below 2.2m		D	2.5		pp = 75		
45	3	-becoming stiff below 3.0m		D	3.0		pp = 100		
	3.3	Sandy CLAY (CI): medium plasticity, brown red, fine to medium sand, w>PL, very stiff						▽	
44	4			D	4.5				
43	5								
	5.5	Bore discontinued at 5.5m -limit of investigation		D	5.5				

RIG: Kubota KX018-4 mini-excavator **DRILLER:** Clinton Taylor **LOGGED:** FH **CASING:** Uncased

TYPE OF BORING: Solid flight auger - TC bit

WATER OBSERVATIONS: Groundwater seepage at 3.5m

REMARKS: w =moisture content, PL = plastic limit

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: School Infrastructure New South Wales (SINSW)
PROJECT: Proposed Budawang SSP Relocation
LOCATION: 17 Croobyar Road, Milton

SURFACE LEVEL: 50.7 AHD
EASTING: 267471
NORTHING: 6088360
DIP/AZIMUTH: 90°/--

BORE No: 102
PROJECT No: 89390.02
DATE: 13/10/2020
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
50	0.15	TOPSOIL/SILT (ML): low plasticity, dark brown, w<PL		E	0.1		PID = 1.5		
		CLAY (CH): high plasticity, brown, w<PL, stiff		D E	0.5		pp = 100-150 PID = 0.1		
		-with fine to medium sand below 0.8m		D E	1.0		pp = 150 PID = 0.3		
49	1.8			D E	1.5		PID = 0.2		
		Sandy CLAY (CI): medium plasticity, red brown, fine to medium sand, w~PL, stiff		D	2.0				
48				D	2.5				
		-very stiff to hard, below 3.0m		D	3.0				
47	3.5	MONZONITE: medium grained, orange brown, with extremely weathered rock bands, very low strength, highly weathered		D	3.5				
46	4.0	Bore discontinued at 4.0m -refusal on very low strength monzonite		D	4.0				
45									

RIG: Kubota KX018-4 mini-excavator **DRILLER:** Clinton Taylor **LOGGED:** FH **CASING:** Uncased

TYPE OF BORING: Solid flight auger - TC bit

WATER OBSERVATIONS: No free groundwater observed

REMARKS: w =moisture content, PL = plastic limit

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: School Infrastructure New South Wales (SINSW)
PROJECT: Proposed Budawang SSP Relocation
LOCATION: 17 Croobyar Road, Milton

SURFACE LEVEL: 48.3 AHD
EASTING: 267430
NORTHING: 6088321
DIP/AZIMUTH: 90°/--

BORE No: 103
PROJECT No: 89390.02
DATE: 13/10/2020
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 1000mm)
48	0.15	TOPSOIL/SILT (ML): low plasticity, dark brown, w<PL		E	0.1		PID = 0.1		
		CLAY (CH): high plasticity, brown, with silt, w<PL, stiff to very stiff		D E	0.5		pp = 200 PID = 0.8		
				B					
	1			D E	1.0		PID = 0.4		1
47	1.3	CLAY (CH): high plasticity, pale brown orange, with fine to medium sand, w>PL, stiff		D E	1.5		pp = 150 PID = 0.6		
	2			D	2.0		pp = 150-200		2
46	2.2	Sandy CLAY (CI): medium plasticity, brown orange, fine to medium sand, w>PL, stiff to very stiff		D	2.5		pp = 150-200		
	2.9								
	3 3.0	MONZONITE: medium grained, brown orange red, with extremely weathered rock bands, very low strength, highly weathered		D	3.0				3
45		Bore discontinued at 3.0m -refusal on very low strength monzonite							
	4								4
44									
	5								5
43									

RIG: Kubota KX018-4 mini-excavator **DRILLER:** Clinton Taylor **LOGGED:** FH **CASING:** Uncased

TYPE OF BORING: Solid flight auger - TC bit

WATER OBSERVATIONS: No free groundwater observed

REMARKS: w =moisture content, PL = plastic limit

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: School Infrastructure New South Wales (SINSW)
PROJECT: Proposed Budawang SSP Relocation
LOCATION: 17 Croobyar Road, Milton

SURFACE LEVEL: 46.7 AHD
EASTING: 267375
NORTHING: 6088306
DIP/AZIMUTH: 90°/--

BORE No: 104
PROJECT No: 89390.02
DATE: 13/10/2020
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 1000mm)
46.6	0.1	TOPSOIL/SILT (ML): low plasticity, dark brown, w~PL		B	0.1		PID = 0.4		
		Sandy CLAY (CH): high plasticity, pale brown orange, fine to medium sand, w>Pl, stiff (possible fill)		D E					
	0.5	CLAY (CH): high plasticity, brown, w>Pl, stiff		D E	0.5		PID = 0.4		
				B					
46	1			D E	1.0		PID = 0.3		1
		-firm below 1.2m							
				D	1.5		pp = 50-100		
45	2	-stiff, with fine sand below 2.0m		D	2.0		pp = 75-100		2
				D	2.5		pp = 100		
	2.6	Sandy CLAY (CI): medium plasticity, red brown, fine to medium sand, w>PL, stiff							
44	3			D	3.0				3
				D	3.5			▽	
43		-becoming very stiff to hard below 3.5m							
	4	4.0 Bore discontinued at 4.0m		D	4.0				4
		-refusal on hard sandy clay							
42	5								5
41									

RIG: Kubota KX018-4 mini-excavator **DRILLER:** Clinton Taylor **LOGGED:** FH **CASING:** Uncased

TYPE OF BORING: Solid flight auger - TC bit

WATER OBSERVATIONS: Groundwater seepage at 3.4m

REMARKS: w =moisture content, PL = plastic limit

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: School Infrastructure New South Wales (SINSW)
PROJECT: Proposed Budawang SSP Relocation
LOCATION: 17 Croobyar Road, Milton

SURFACE LEVEL: 51.4 AHD
EASTING: 267494
NORTHING: 6088304
DIP/AZIMUTH: 90°/--

BORE No: 105
PROJECT No: 89390.02
DATE: 13/10/2020
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
51	0.1	TOPSOIL/SILT (ML): low plasticity, dark brown, w<pl		D	0.1		PID = 1.1		
		CLAY (CH): high plasticity, brown, trace fine to medium sand, w~PL, stiff		E B	0.2				
				D E	0.5		pp = 150 PID = 0.2		
50	1			D E	1.0		pp = 150-200 PID = 0.5		1
				D	1.5		pp = 100-150		
	1.9	-becoming stiff to very stiff below 1.8m							
49	2	Sandy CLAY (CI): medium plasticity, fine to medium sand, w~PL, stiff		D	2.0				2
	2.5	MONZONITE: medium grained, brown with pale grey, with extremely weathered rock bands, very low strength, highly weathered		D	2.5				
48	2.9	Bore discontinued at 2.9m -refusal on very low strength monzonite							3
47	4								4
46	5								5

RIG: Kubota KX018-4 mini-excavator **DRILLER:** Clinton Taylor **LOGGED:** FH **CASING:** Uncased

TYPE OF BORING: Solid flight auger - TC bit

WATER OBSERVATIONS: No free groundwater observed

REMARKS: w =moisture content, PL = plastic limit

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: School Infrastructure New South Wales (SINSW)
PROJECT: Proposed Budawang SSP Relocation
LOCATION: 17 Croobyar Road, Milton

SURFACE LEVEL: 50.2 AHD
EASTING: 267460
NORTHING: 6088279
DIP/AZIMUTH: 90°/--

BORE No: 106
PROJECT No: 89390.02
DATE: 13/10/2020
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 1000mm)
50	0.15	TOPSOIL /SILT (ML): low plasticity, dark brown, trace clay, w<PL		E	0.1		PID = 3.9		
		CLAY (CH): high plasticity, brown, trace silt, w<PL, stiff							
	0.5	CLAY (CH): high plasticity, pale brown, trace fine to medium sand, w<PL, stiff to very stiff		D E	0.5		pp = 150-200 PID = 0.2		
	1			D E	1.0		pp = 200 PID = 0.2		1
49	1.2	CLAY (CI): medium plasticity, pale orange brown, trace fine to medium sand, w<PL, very stiff		D E	1.5		pp = 200-250 PID = 0.4		
	2	-with extremely weathered rock bands below 2m		D	2.0				2
48	2.3	MONZONITE: medium grained, brown orange, with extremely weathered bands, very low strength, highly weathered		D	2.5				
	2.5	Bore discontinued at 2.5m -refusal on very low strength monzonite							
	3								3
47									
	4								4
46									
	5								5
45									

RIG: Kubota KX018-4 mini-excavator **DRILLER:** Clinton Taylor **LOGGED:** FH **CASING:** Uncased

TYPE OF BORING: Solid flight auger - TC bit

WATER OBSERVATIONS: No free groundwater observed

REMARKS: w =moisture content, PL = plastic limit

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: School Infrastructure New South Wales (SINSW)
PROJECT: Proposed Budawang SSP Relocation
LOCATION: 17 Croobyar Road, Milton

SURFACE LEVEL: 48.0 AHD
EASTING: 267406
NORTHING: 6088243
DIP/AZIMUTH: 90°/--

BORE No: 107
PROJECT No: 89390.02
DATE: 13/10/2020
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 150mm)
48	0.2	TOPSOIL/SILT (ML): low plasticity, dark brown, trace clay, w<PL		E	0.1		PID = 1.8		
		CLAY (CH): high plasticity, dark brown, with silt, w<PL, stiff							
	0.5	CLAY (CH): high plasticity, pale orange brown, trace fine to medium sand, w~PL, stiff		D E	0.5		pp = 200 PID = 18.2		
		-w<PL, below 0.8m		B					
47	1			D E	1.0		pp = 150 PID = 0.2		1
				D E	1.5		pp = 100-150		
	1.8	Sandy CLAY (CI): medium plasticity, pale orange brown, fine to medium sand, w<Pl, stiff		D	2.0		pp = 100		
46	2	-becoming w>PL, below 2.2m							2
				D	2.5			▽	
45	3			D	3.0				3
				D	3.5				
	3.7	Bore discontinued at 3.7m -refusal on very low strength monzonite							
44	4								4
43	5								5

RIG: Kubota KX018-4 mini-excavator **DRILLER:** Clinton Taylor **LOGGED:** FH **CASING:** Uncased

TYPE OF BORING: Solid flight auger - TC bit

WATER OBSERVATIONS: Groundwater seepage at 2.7m

REMARKS: w =moisture content, PL = plastic limit

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▽	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: School Infrastructure New South Wales (SINSW)
PROJECT: Proposed Budawang SSP Relocation
LOCATION: 17 Croobyar Road, Milton

SURFACE LEVEL: 52.5 AHD
EASTING: 267490
NORTHING: 6088240
DIP/AZIMUTH: 90°/--

BORE No: 108
PROJECT No: 89390.02
DATE: 13/10/2020
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per 1000mm)
52	0.2	TOPSOIL/SILT (ML): low plasticity, dark brown, trace fine sand, w<PL		D E	0.1		PID = 6.4		
	0.6	CLAY (CH):high plasticity, brown mottled dark brown, with silt, w<PL, stiff		D E	0.5		pp = 150 PID =.6		
51	1	Sandy CLAY (CI): medium to high plasticity, brown, fine to medium sand, w<PL, stiff -becoming very stiff, with extremely weathered rock bands below 1.3m		D E	1.0		pp = 150		1
				D E	1.5				
50	1.9 2	MONZONITE: medium grained, brown with grey, with extremely weathered bands, very low strength, highly weathered		D	2.0				2
	2.2	Bore discontinued at 2.2m -refusal on very low strength monzonite							
49	3								3
48	4								4
47	5								5

RIG: Kubota KX018-4 mini-excavator **DRILLER:** Clinton Taylor **LOGGED:** FH **CASING:** Uncased

TYPE OF BORING: Solid flight auger - TC bit

WATER OBSERVATIONS: No free groundwater observed

REMARKS: w =moisture content, PL = plastic limit

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

Appendix H

Laboratory Results Summary Tables

Douglas Partners
Geotechnics | Environment | Groundwater

Table H1: Summary of Laboratory Results – Metals, TRH, BTEX, PAH

			Metals								TRH								BTEX							PAH			
			Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C10	TRH C6 - C10	TRH >C10-C16	F1 ((C6-C10)-BTEX)	F1 ((C6-C10)-BTEX)	F2 (>C10-C16 less Naphthalene)	F3 (>C16-C34)	F4 (>C34-C40)	Benzene	Benzene	Toluene	Toluene	Ethylbenzene	Ethylbenzene	Total Xylenes	Naphthalene [b]	Naphthalene [b]	Benzo(a)pyrene (BaP)	Benzo(a)pyrene TEQ
		PQL	4	0.4	1	1	1	0.1	1	1	25	10	50	25	10	50	100	100	0.2	1	0.5	1	1	1	1	1	1	0.05	0.5
Sample ID	Depth	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	µg/l	mg/kg	mg/kg	µg/l	mg/kg	mg/kg	mg/kg	mg/kg	µg/l	mg/kg	µg/l	mg/kg	µg/l	mg/kg	mg/kg	µg/l	mg/kg	mg/kg
101/0.1	0.1 m	13/10/2020	<4	<0.4	6	85	14	<0.1	3	28	<25	NT	<50	<25	NT	<50	120	110	<0.2	NT	<0.5	NT	<1	NT	<1	<1	NT	<0.05	<0.5
			100 NC	20 NC	100 680	6000 270	300 NC	40 NC	400 360	7400 660	NC NC	NC NC	NC 120	NC 180	NC 180	NC NC	NC 300	NC 2800	NC 50	NC 50	NC 85	NC 85	NC 70	NC 70	NC 105	NC NC	NC NC	NC 0.7	3 NC
101/0.5	0.5 m	13/10/2020	<4	<0.4	3	120	6	<0.1	3	31	<25	NT	<50	<25	NT	<50	<100	<100	<0.2	NT	<0.5	NT	<1	NT	<1	<1	NT	<0.05	<0.5
			100 NC	20 NC	100 680	6000 270	300 NC	40 NC	400 360	7400 660	NC NC	NC NC	NC 120	NC 180	NC 180	NC NC	NC 300	NC 2800	NC 50	NC 50	NC 85	NC 85	NC 70	NC 70	NC 105	NC NC	NC NC	NC 0.7	3 NC
102/0.1	0.1 m	13/10/2020	<4	<0.4	4	76	20	<0.1	2	30	<25	NT	<50	<25	NT	<50	<100	<100	<0.2	NT	<0.5	NT	<1	NT	<1	<1	NT	<0.05	<0.5
			100 NC	20 NC	100 680	6000 270	300 NC	40 NC	400 360	7400 660	NC NC	NC NC	NC 120	NC 180	NC 180	NC NC	NC 300	NC 2800	NC 50	NC 50	NC 85	NC 85	NC 70	NC 70	NC 105	NC NC	NC NC	NC 0.7	3 NC
103/0.1	0.1 m	13/10/2020	<4	<0.4	5	72	20	<0.1	2	32	<25	NT	<50	<25	NT	<50	120	120	<0.2	NT	<0.5	NT	<1	NT	<1	<1	NT	<0.05	<0.5
			100 NC	20 NC	100 680	6000 270	300 NC	40 NC	400 360	7400 660	NC NC	NC NC	NC 120	NC 180	NC 180	NC NC	NC 300	NC 2800	NC 50	NC 50	NC 85	NC 85	NC 70	NC 70	NC 105	NC NC	NC NC	NC 0.7	3 NC
104/0.1	0.1 m	13/10/2020	<4	<0.4	5	86	17	<0.1	2	24	<25	NT	<50	<25	NT	<50	<100	<100	<0.2	NT	<0.5	NT	<1	NT	<1	<1	NT	<0.05	<0.5
			100 NC	20 NC	100 680	6000 270	300 NC	40 NC	400 360	7400 660	NC NC	NC NC	NC 120	NC 180	NC 180	NC NC	NC 300	NC 2800	NC 50	NC 50	NC 85	NC 85	NC 70	NC 70	NC 105	NC NC	NC NC	NC 0.7	3 NC
104A/0.1	0.1 m	13/10/2020	4	<0.4	24	42	17	<0.1	9	45	<25	NT	<50	<25	NT	<50	180	180	<0.2	NT	<0.5	NT	<1	NT	<1	<1	NT	0.2	<0.5
			100 NC	20 NC	100 680	6000 270	300 NC	40 NC	400 360	7400 660	NC NC	NC NC	NC 120	NC 180	NC 180	NC NC	NC 300	NC 2800	NC 50	NC 50	NC 85	NC 85	NC 70	NC 70	NC 105	NC NC	NC NC	NC 0.7	3 NC
104/0.5	0.5 m	13/10/2020	<4	<0.4	1	130	7	<0.1	1	34	<25	NT	<50	<25	NT	<50	<100	120	<0.2	NT	<0.5	NT	<1	NT	<1	<1	NT	<0.05	<0.5
			100 NC	20 NC	100 680	6000 270	300 NC	40 NC	400 360	7400 660	NC NC	NC NC	NC 120	NC 180	NC 180	NC NC	NC 300	NC 2800	NC 50	NC 50	NC 85	NC 85	NC 70	NC 70	NC 105	NC NC	NC NC	NC 0.7	3 NC
105/0.1	0.1 m	13/10/2020	<4	<0.4	4	62	30	<0.1	2	55	<25	NT	<50	<25	NT	<50	120	160	<0.2	NT	<0.5	NT	<1	NT	<1	<1	NT	<0.05	<0.5
			100 NC	20 NC	100 680	6000 270	300 NC	40 NC	400 360	7400 660	NC NC	NC NC	NC 120	NC 180	NC 180	NC NC	NC 300	NC 2800	NC 50	NC 50	NC 85	NC 85	NC 70	NC 70	NC 105	NC NC	NC NC	NC 0.7	3 NC
106/0.1	0.1 m	13/10/2020	<4	<0.4	5	63	14	<0.1	3	39	<25	NT	120	<25	NT	120	510	300	<0.2	NT	<0.5	NT	<1	NT	<1	<1	NT	<0.05	<0.5
			100 NC	20 NC	100 680	6000 270	300 NC	40 NC	400 360	7400 660	NC NC	NC NC	NC 120	NC 180	NC 180	NC NC	NC 300	NC 2800	NC 50	NC 50	NC 85	NC 85	NC 70	NC 70	NC 105	NC NC	NC NC	NC 0.7	3 NC
107/0.1	0.1 m	13/10/2020	<4	<0.4	3	62	14	<0.1	2	26	<25	NT	<50	<25	NT	<50	150	160	<0.2	NT	<0.5	NT	<1	NT	<1	<1	NT	<0.05	<0.5
			100 NC	20 NC	100 680	6000 270	300 NC	40 NC	400 360	7400 660	NC NC	NC NC	NC 120	NC 180	NC 180	NC NC	NC 300	NC 2800	NC 50	NC 50	NC 85	NC 85	NC 70	NC 70	NC 105	NC NC	NC NC	NC 0.7	3 NC
107/0.5	0.5 m	13/10/2020	<4	<0.4	4	71	14	<0.1	2	11	<25	NT	<50	<25	NT	<50	<100	<100	<0.2	NT	<0.5	NT	<1	NT	<1	<1	NT	<0.05	<0.5
			100 NC	20 NC	100 680	6000 270	300 NC	40 NC	400 360	7400 660	NC NC	NC NC	NC 120	NC 180	NC 180	NC NC	NC 300	NC 2800	NC 50	NC 50	NC 85	NC 85	NC 70	NC 70	NC 105	NC NC	NC NC	NC 0.7	3 NC
108/0.1	0.1 m	13/10/2020	<4	<0.4	3	60	11	<0.1	2	47	<25	NT	160	<25	NT	160	750	380	<0.2	NT	<0.5	NT	<1	NT	<1	<1	NT	<0.05	<0.5
			100 NC	20 NC	100 680	6000 270	300 NC	40 NC	400 360	7400 660	NC NC	NC NC	NC 120	NC 180	NC 180	NC NC	NC 300	NC 2800	NC 50	NC 50	NC 85	NC 85	NC 70	NC 70	NC 105	NC NC	NC NC	NC 0.7	3 NC
BD1	0.1 m	13/10/2020	<4	<0.4	3	55	11	<0.1	2	45	<25	NT	170	<25	NT	170	830	440	<0.2	NT	<0.5	NT	<1	NT	<1	<1	NT	NT	NT
			100 NC	20 NC	100 680	6000 270	300 NC	40 NC	400 360	7400 660	NC NC	NC NC	NC 120	NC 180	NC 180	NC NC	NC 300	NC 2800	NC 50	NC 50	NC 85	NC 85	NC 70	NC 70	NC 105	NC NC	NC NC	NC 0.7	3 NC

Lab result

HIL/HSL value EIL/ESL value

HIL/HSL exceedance | EIL/ESL exceedance | HIL/HSL and EIL/ESL exceedance | ML exceedance | ML and HIL/HSL or EIL/ESL exceedance

Indicates that asbestos has been detected by the lab below the PQL, refer to the lab report **Blue** = DC exceedance

Bold = Lab detections NT = Not tested NL = Non limiting NC = No criteria NA = Not applicable NAD = No asbestos detected at the reporting limit

Notes:

HIL/HSL/DC	NEPC, Schedule B1 - HIL A (undefined), HSL A/B (undefined), DC HSL A (undefined)
EIL/ESL	NEPC, Schedule B1 - EIL UR/POS (undefined), ESL UR/POS (undefined)
ML	NEPC, Schedule B1 - ML R/P/POS (undefined)
a	QA/QC replicate of sample listed directly below the primary sample
b	Reported naphthalene laboratory result obtained from BTEXN suite
c	Criteria applies to DDT only

Douglas Partners
Geotechnics | Environment | Groundwater

Table H2: Summary of Laboratory Results – Phenol, OCP, OPP, PCB, Asbestos

			Phenol	OCP												OPP	PCB	Asbestos			Asbestos						
			Phenol	DDT+DDE+DDD [c]	DDD	DDE	DDT	Aldrin & Dieldrin	Total Chlordane	Total Endosulfan	Endrin	Heptachlor	Hexachlorobenzene	Methoxychlor	Chlorpyriphos	Total PCB	Asbestos ID in soil >0.1g/kg	Trace Analysis	Asbestos (50 g)	Asbestos ID in soil >0.1g/kg	Trace Analysis	Asbestos ID in soil <0.1g/kg	ACM >7mm Estimation	FA and AF Estimation	FA and AF Estimation	Asbestos (500 ml)
		PQL	5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1									<0.001	0.001
Sample ID	Depth	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	-	-	-	-	-	g	g	%(w/w)	-
101/0.1	0.1 m	13/10/2020	<5 130 NC	<0.1 600 NC	<0.1 NC NC	<0.1 NC NC	<0.1 NC NC	<0.1 10 NC	<0.1 90 NC	<0.1 400 NC	<0.1 20 NC	<0.1 10 NC	<0.1 15 NC	<0.1 500 NC	<0.1 340 NC	<0.1 1 NC	NT	NT	NT	NAD	NAD	NAD	NT	NT	NAD	NAD
101/0.5	0.5 m	13/10/2020	NT 130 NC	NT 600 NC	NT NC NC	NT NC NC	NT NC NC	NT 10 NC	NT 90 NC	NT 400 NC	NT 20 NC	NT 10 NC	NT 15 NC	NT 500 NC	NT 340 NC	NT 1 NC	NAD	NAD	NAD	NT	NT	NT	NT	NT	NT	NT
102/0.1	0.1 m	13/10/2020	<5 130 NC	<0.1 600 NC	<0.1 NC NC	<0.1 NC NC	<0.1 NC NC	<0.1 10 NC	<0.1 90 NC	<0.1 400 NC	<0.1 20 NC	<0.1 10 NC	<0.1 15 NC	<0.1 500 NC	<0.1 340 NC	<0.1 1 NC	NT	NT	NT	NAD	NAD	NAD	NT	NT	NAD	NAD
103/0.1	0.1 m	13/10/2020	<5 130 NC	<0.1 600 NC	<0.1 NC NC	<0.1 NC NC	<0.1 NC NC	<0.1 10 NC	<0.1 90 NC	<0.1 400 NC	<0.1 20 NC	<0.1 10 NC	<0.1 15 NC	<0.1 500 NC	<0.1 340 NC	<0.1 1 NC	NT	NT	NT	NAD	NAD	NAD	NT	NT	NAD	NAD
104/0.1	0.1 m	13/10/2020	<5 130 NC	<0.1 600 NC	<0.1 NC NC	<0.1 NC NC	<0.1 NC NC	<0.1 10 NC	<0.1 90 NC	<0.1 400 NC	<0.1 20 NC	<0.1 10 NC	<0.1 15 NC	<0.1 500 NC	<0.1 340 NC	<0.1 1 NC	NT	NT	NT	NAD	NAD	NAD	NT	NT	NAD	NAD
104A/0.1	0.1 m	13/10/2020	<5 130 NC	<0.1 600 NC	<0.1 NC NC	<0.1 NC NC	<0.1 NC NC	<0.1 10 NC	<0.1 90 NC	<0.1 400 NC	<0.1 20 NC	<0.1 10 NC	<0.1 15 NC	<0.1 500 NC	<0.1 340 NC	<0.1 1 NC	NT	NT	NT	NAD	NAD	NAD	NT	NT	NAD	NAD
104/0.5	0.5 m	13/10/2020	NT 130 NC	NT 600 NC	NT NC NC	NT NC NC	NT NC NC	NT 10 NC	NT 90 NC	NT 400 NC	NT 20 NC	NT 10 NC	NT 15 NC	NT 500 NC	NT 340 NC	NT 1 NC	NAD	NAD	NAD	NT	NT	NT	NT	NT	NT	NT
105/0.1	0.1 m	13/10/2020	<5 130 NC	<0.1 600 NC	<0.1 NC NC	<0.1 NC NC	<0.1 NC NC	<0.1 10 NC	<0.1 90 NC	<0.1 400 NC	<0.1 20 NC	<0.1 10 NC	<0.1 15 NC	<0.1 500 NC	<0.1 340 NC	<0.1 1 NC	NT	NT	NT	NAD	NAD	NAD	NT	NT	NAD	NAD
106/0.1	0.1 m	13/10/2020	<5 130 NC	<0.1 600 NC	<0.1 NC NC	<0.1 NC NC	<0.1 NC NC	<0.1 10 NC	<0.1 90 NC	<0.1 400 NC	<0.1 20 NC	<0.1 10 NC	<0.1 15 NC	<0.1 500 NC	<0.1 340 NC	<0.1 1 NC	NT	NT	NT	NAD	NAD	NAD	NT	NT	NAD	NAD
107/0.1	0.1 m	13/10/2020	<5 130 NC	<0.1 600 NC	<0.1 NC NC	<0.1 NC NC	<0.1 NC NC	<0.1 10 NC	<0.1 90 NC	<0.1 400 NC	<0.1 20 NC	<0.1 10 NC	<0.1 15 NC	<0.1 500 NC	<0.1 340 NC	<0.1 1 NC	NT	NT	NT	NAD	NAD	NAD	NT	NT	NAD	NAD
107/0.5	0.5 m	13/10/2020	NT 130 NC	NT 600 NC	NT NC NC	NT NC NC	NT NC NC	NT 10 NC	NT 90 NC	NT 400 NC	NT 20 NC	NT 10 NC	NT 15 NC	NT 500 NC	NT 340 NC	NT 1 NC	NAD	NAD	NAD	NT	NT	NT	NT	NT	NT	NT
108/0.1[a]	0.1 m	13/10/2020	<5 130 NC	<0.1 600 NC	<0.1 NC NC	<0.1 NC NC	<0.1 NC NC	<0.1 10 NC	<0.1 90 NC	<0.1 400 NC	<0.1 20 NC	<0.1 10 NC	<0.1 15 NC	<0.1 500 NC	<0.1 340 NC	<0.1 1 NC	NT	NT	NT	NAD	NAD	NAD	NT	NT	NAD	NAD
BD1	-	13/10/2020	NT 130 NC	NT 600 NC	NT NC NC	NT NC NC	NT NC NC	NT 10 NC	NT 90 NC	NT 400 NC	NT 20 NC	NT 10 NC	NT 15 NC	NT 500 NC	NT 340 NC	NT 1 NC	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

Lab result

HIL/HSL value EIL/ESL value

HIL/HSL exceedance EIL/ESL exceedance HIL/HSL and EIL/ESL exceedance ML exceedance ML and HIL/HSL or EIL/ESL exceedance

Indicates that asbestos has been detected by the lab below the PQL, refer to the lab report **Blue** = DC exceedance

Bold = Lab detections NT = Not tested NL = Non limiting NC = No criteria NA = Not applicable NAD = No asbestos detected at the reporting limit

Notes:

HIL/HSL	NEPC, Schedule B1 - HIL B (undefined), HSL A/B (undefined)
EIL/ESL	NEPC, Schedule B1 - EIL UR/POS (undefined), ESL UR/POS (undefined)
ML	NEPC, Schedule B1 - ML R/P/POS (undefined)
a	QA/QC replicate of sample listed directly below the primary sample
b	Reported naphthalene laboratory result obtained from BTEXN suite
c	Criteria applies to DDT only

Table H3: Summary of Waste Classification Assessment

			Metals								TRH		BTEX						PAH															Phenol	OCP		OPP	PCB	Asbestos						
			Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C9	C10-C36 +recoverable hydrocarbons	Benzene	Toluene	Ethylbenzene	m+p-Xylene	o-Xylene	Xylenes (total)	Benzo(a)pyrene (BaP)	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(b,j+k)fluoranthene	Benzo(g,h,i)perylene e	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	Phenol	Total Endosulfan	Total Analysed OCP	Total Analysed OPP	Total PCB	Asbestos ID in soil >0.1g/kg	Trace Analysis	Asbestos ID in soil >0.1g/kg	Asbestos ID in soil <0.1g/kg	Trace Analysis	FA and AF Estimation
		PQL	4	0.4	1	1	1	0.1	1	1	25	50	0.2	0.5	1	2	1	3	0.05	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	1	0.1	0.1	5	0.1	0.1	0.1	0.1						<0.001
Sample ID	Depth	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	-	-	-	-	%(w/w)
101/0.1	0.1 m	13/10/2020	<4	<0.4	6	85	14	<0.1	3	28	<25	130	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<5	<0.1	<0.1	<0.1	<0.1	NT	NT	NAD	NAD	NAD	NAD
101/0.5	0.5 m	13/10/2020	<4	<0.4	3	120	6	<0.1	3	31	<25	<50	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	NT	NT	NT	NT	NT	NAD	NAD	NT	NT	NT	NT
102/0.1	0.1 m	13/10/2020	<4	<0.4	4	76	20	<0.1	2	30	<25	<50	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<5	<0.1	<0.1	<0.1	<0.1	NT	NT	NAD	NAD	NAD	NAD
103/0.1	0.1 m	13/10/2020	<4	<0.4	5	72	20	<0.1	2	32	<25	140	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<5	<0.1	<0.1	<0.1	<0.1	NT	NT	NAD	NAD	NAD	NAD
104/0.1	0.1 m	13/10/2020	<4	<0.4	5	86	17	<0.1	2	24	<25	110	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<5	<0.1	<0.1	<0.1	<0.1	NT	NT	NAD	NAD	NAD	NAD
104A/0.1	0.1 m	13/10/2020	4	<0.4	24	42	17	<0.1	9	45	<25	150	<0.2	<0.5	<1	<2	<1	<3	0.2	<0.1	<0.1	<0.1	0.3	0.3	0.1	0.2	<0.1	0.1	<0.1	0.1	<1	<0.1	0.2	<5	<0.1	<0.1	<0.1	<0.1	NT	NT	NAD	NAD	NAD	NAD
104/0.5	0.5 m	13/10/2020	<4	<0.4	1	130	7	<0.1	1	34	<25	<50	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	NT	NT	NT	NT	NT	NAD	NAD	NT	NT	NT	NT
105/0.1	0.1 m	13/10/2020	<4	<0.4	4	62	30	<0.1	2	55	<25	130	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<5	<0.1	<0.1	<0.1	<0.1	NT	NT	NAD	NAD	NAD	NAD
106/0.1	0.1 m	13/10/2020	<4	<0.4	5	63	14	<0.1	3	39	<25	780	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<5	<0.1	<0.1	<0.1	<0.1	NT	NT	NAD	NAD	NAD	NAD
107/0.1	0.1 m	13/10/2020	<4	<0.4	3	62	14	<0.1	2	26	<25	170	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<5	<0.1	<0.1	<0.1	<0.1	NT	NT	NAD	NAD	NAD	NAD
107/0.5	0.5 m	13/10/2020	<4	<0.4	4	71	14	<0.1	2	11	<25	<50	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	NT	NT	NT	NT	NT	NAD	NAD	NT	NT	NT	NT
108/0.1	0.1 m	13/10/2020	<4	<0.4	3	60	11	<0.1	2	47	<25	1101	<0.2	<0.5	<1	<2	<1	<3	<0.05	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<5	<0.1	<0.1	<0.1	<0.1	NT	NT	NAD	NAD	NAD	NAD
BD1	-	13/10/2020	<4	<0.4	3	55	11	<0.1	2	45	<25	1211	<0.2	<0.5	<1	<2	<1	<3	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Waste Classification Criteria [f]																																												
CT1			100	20	100	NC	100	4	40	NC	650	10000	10	288	600	NC	NC	1000	0.8	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	288	60	<50	4	<50	NC	NC	NC	NC	NC	NC
SCC1			500	100	1900	NC	1500	50	1050	NC	650	10000	18	518	1080	NC	NC	1800	10	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	518	108	<50	7.5	<50	NC	NC	NC	NC	NC	NC
TCLP1			5	1	5	NC	5	0.2	2	NC	NC	NC	0.5	14.4	30	NC	NC	50	0.04	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	14.4	3	NC	0.2	NC	NC	NC	NC	NC	NC
CT2			400	80	400	NC	400	16	160	NC	2600	40000	40	1152	2400	NC	NC	4000	3.2	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	1152	240	<50	16	<50	NC	NC	NC	NC	NC	NC
SCC2			2000	400	7600	NC	6000	200	4200	NC	2600	40000	72	2073	4320	NC	NC	7200	23	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	2073	432	<50	30	<50	NC	NC	NC	NC	NC	NC
TCLP2			20	4	20	NC	20	0.8	8	NC	NC	NC	2	57.6	120	NC	NC	200	0.16	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	57.6	12	NC	0.8	NC	NC	NC	NC	NC	NC	NC

CT1 exceedance TCLP1 and/or SCC1 exceedance CT2 exceedance TCLP2 and/or SCC2 exceedance Asbestos detection

NT = Not tested NL = Non limiting NC = No criteria NA = Not applicable NAD = No asbestos detected at the reporting limit

Notes:

a QA/QC replicate of sample listed directly below the primary sample

b Total chromium used as initial screen for chromium(VI).

c Total recoverable hydrocarbons (TRH) used as an initial screen for total petroleum hydrocarbons (TPH)

d Criteria for scheduled chemicals used as an initial screen

e Criteria for Chlorpyrifos used as initial screen

f All criteria are in the same units as the reported results

PQL Practical quantitation limit

CT1 NSW EPA, 2014, Waste Classification Guidelines Part 1; Classifying Waste, Maximum values of specific contaminant concentration (SCC) for classification without TCLP: General solid waste

SCC1 NSW EPA, 2014, Waste Classification Guidelines Part 1; Classifying Waste, Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: General solid

TCLP1 NSW EPA, 2014, Waste Classification Guidelines Part 1; Classifying Waste, Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: General solid

CT2 NSW EPA, 2014, Waste Classification Guidelines Part 1; Classifying Waste, Maximum values of specific contaminant concentration (SCC) for classification without TCLP: Restricted solid waste

SCC2 NSW EPA, 2014, Waste Classification Guidelines Part 1; Classifying Waste, Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: Restricted sc

TCLP2 NSW EPA, 2014, Waste Classification Guidelines Part 1; Classifying Waste, Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: Restricted sc

Appendix I

Laboratory Certificate of Analysis, Chain-of-Custody Documentation and Sample Receipt Advice

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 253914

Client Details

Client	Douglas Partners Unanderra
Attention	Kenton Horsley
Address	Unit 1, 1 Luso Drive, Unanderra, NSW, 2526

Sample Details

Your Reference	**89390.02, Milton**
Number of Samples	13 Soil, 2 Water
Date samples received	21/10/2020
Date completed instructions received	21/10/2020

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	28/10/2020
Date of Issue	28/10/2020

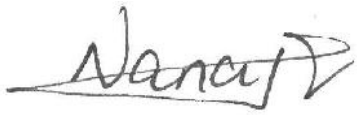
NATA Accreditation Number 2901. This document shall not be reproduced except in full.

Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Asbestos Approved By
Analysed by Asbestos Approved Identifier: Lucy Zhu
Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By
Diego Bigolin, Team Leader, Inorganics
Dragana Tomas, Senior Chemist
Hannah Nguyen, Senior Chemist
Lucy Zhu, Asbestos Supervisor
Manju Dewendrage, Chemist

Authorised By



Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		253914-1	253914-2	253914-3	253914-4	253914-5
Your Reference	UNITS	101/0.1	101/0.5	102/0.1	103/0.1	104/0.1
Date Sampled		13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Date analysed	-	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	95	87	94	85	91

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		253914-6	253914-7	253914-8	253914-9	253914-10
Your Reference	UNITS	104A/0.1	104/0.5	105/0.1	106/0.1	107/0.1
Date Sampled		13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Date analysed	-	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	100	90	88	92	93

vTRH(C6-C10)/BTEXN in Soil				
Our Reference		253914-11	253914-12	253914-13
Your Reference	UNITS	107/0.5	108/0.1	BD1
Date Sampled		13/10/2020	13/10/2020	13/10/2020
Type of sample		Soil	Soil	Soil
Date extracted	-	22/10/2020	22/10/2020	22/10/2020
Date analysed	-	23/10/2020	23/10/2020	23/10/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	90	95	101

svTRH (C10-C40) in Soil						
Our Reference		253914-1	253914-2	253914-3	253914-4	253914-5
Your Reference	UNITS	101/0.1	101/0.5	102/0.1	103/0.1	104/0.1
Date Sampled		13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Date analysed	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020	22/10/2020
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	130	<100	<100	140	110
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	120	<100	<100	120	<100
TRH >C_{34} -C_{40}	mg/kg	110	<100	<100	120	<100
Total +ve TRH (>C10-C40)	mg/kg	230	<50	<50	240	<50
Surrogate o-Terphenyl	%	87	72	64	90	90

svTRH (C10-C40) in Soil						
Our Reference		253914-6	253914-7	253914-8	253914-9	253914-10
Your Reference	UNITS	104A/0.1	104/0.5	105/0.1	106/0.1	107/0.1
Date Sampled		13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Date analysed	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020	22/10/2020
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	90	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	280	<100
TRH C_{29} - C_{36}	mg/kg	150	<100	130	410	170
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	120	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	120	<50
TRH >C_{16} -C_{34}	mg/kg	180	<100	120	510	150
TRH >C_{34} -C_{40}	mg/kg	180	120	160	300	160
Total +ve TRH (>C10-C40)	mg/kg	360	120	280	940	310
Surrogate o-Terphenyl	%	100	86	89	103	103

svTRH (C10-C40) in Soil				
Our Reference		253914-11	253914-12	253914-13
Your Reference	UNITS	107/0.5	108/0.1	BD1
Date Sampled		13/10/2020	13/10/2020	13/10/2020
Type of sample		Soil	Soil	Soil
Date extracted	-	22/10/2020	22/10/2020	22/10/2020
Date analysed	-	22/10/2020	22/10/2020	22/10/2020
TRH C_{10} - C_{14}	mg/kg	<50	91	91
TRH C_{15} - C_{28}	mg/kg	<100	500	540
TRH C_{29} - C_{36}	mg/kg	<100	510	580
TRH >C_{10} -C_{16}	mg/kg	<50	160	170
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	160	170
TRH >C_{16} -C_{34}	mg/kg	<100	750	830
TRH >C_{34} -C_{40}	mg/kg	<100	380	440
Total +ve TRH (>C10-C40)	mg/kg	<50	1,300	1,400
Surrogate o-Terphenyl	%	85	108	110

PAHs in Soil						
Our Reference		253914-1	253914-2	253914-3	253914-4	253914-5
Your Reference	UNITS	101/0.1	101/0.5	102/0.1	103/0.1	104/0.1
Date Sampled		13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Date analysed	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	112	112	119	115	124

PAHs in Soil						
Our Reference		253914-6	253914-7	253914-8	253914-9	253914-10
Your Reference	UNITS	104A/0.1	104/0.5	105/0.1	106/0.1	107/0.1
Date Sampled		13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Date analysed	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.3	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	0.3	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.2	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	1.5	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	109	112	111	113	114

PAHs in Soil			
Our Reference		253914-11	253914-12
Your Reference	UNITS	107/0.5	108/0.1
Date Sampled		13/10/2020	13/10/2020
Type of sample		Soil	Soil
Date extracted	-	22/10/2020	22/10/2020
Date analysed	-	22/10/2020	22/10/2020
Naphthalene	mg/kg	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	113	113

Organochlorine Pesticides in soil						
Our Reference		253914-1	253914-3	253914-4	253914-5	253914-6
Your Reference	UNITS	101/0.1	102/0.1	103/0.1	104/0.1	104A/0.1
Date Sampled		13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Date analysed	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020	22/10/2020
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	98	97	100	98	96

Organochlorine Pesticides in soil					
Our Reference		253914-8	253914-9	253914-10	253914-12
Your Reference	UNITS	105/0.1	106/0.1	107/0.1	108/0.1
Date Sampled		13/10/2020	13/10/2020	13/10/2020	13/10/2020
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Date analysed	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	96	97	96	99

Organophosphorus Pesticides in Soil						
Our Reference		253914-1	253914-3	253914-4	253914-5	253914-6
Your Reference	UNITS	101/0.1	102/0.1	103/0.1	104/0.1	104A/0.1
Date Sampled		13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Date analysed	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	98	97	100	98	96

Organophosphorus Pesticides in Soil					
Our Reference		253914-8	253914-9	253914-10	253914-12
Your Reference	UNITS	105/0.1	106/0.1	107/0.1	108/0.1
Date Sampled		13/10/2020	13/10/2020	13/10/2020	13/10/2020
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Date analysed	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	96	97	96	99

PCBs in Soil						
Our Reference		253914-1	253914-3	253914-4	253914-5	253914-6
Your Reference	UNITS	101/0.1	102/0.1	103/0.1	104/0.1	104A/0.1
Date Sampled		13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Date analysed	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	98	97	100	98	96

PCBs in Soil					
Our Reference		253914-8	253914-9	253914-10	253914-12
Your Reference	UNITS	105/0.1	106/0.1	107/0.1	108/0.1
Date Sampled		13/10/2020	13/10/2020	13/10/2020	13/10/2020
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Date analysed	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	96	97	96	99

Acid Extractable metals in soil						
Our Reference		253914-1	253914-2	253914-3	253914-4	253914-5
Your Reference	UNITS	101/0.1	101/0.5	102/0.1	103/0.1	104/0.1
Date Sampled		13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Date analysed	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	6	3	4	5	5
Copper	mg/kg	85	120	76	72	86
Lead	mg/kg	14	6	20	20	17
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	3	3	2	2	2
Zinc	mg/kg	28	31	30	32	24

Acid Extractable metals in soil						
Our Reference		253914-6	253914-7	253914-8	253914-9	253914-10
Your Reference	UNITS	104A/0.1	104/0.5	105/0.1	106/0.1	107/0.1
Date Sampled		13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Date analysed	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Arsenic	mg/kg	4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	24	1	4	5	3
Copper	mg/kg	42	130	62	63	62
Lead	mg/kg	17	7	30	14	14
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	9	1	2	3	2
Zinc	mg/kg	45	34	55	39	26

Acid Extractable metals in soil				
Our Reference		253914-11	253914-12	253914-13
Your Reference	UNITS	107/0.5	108/0.1	BD1
Date Sampled		13/10/2020	13/10/2020	13/10/2020
Type of sample		Soil	Soil	Soil
Date prepared	-	22/10/2020	22/10/2020	22/10/2020
Date analysed	-	22/10/2020	22/10/2020	22/10/2020
Arsenic	mg/kg	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4
Chromium	mg/kg	4	3	3
Copper	mg/kg	71	60	55
Lead	mg/kg	14	11	11
Mercury	mg/kg	<0.1	<0.1	<0.1
Nickel	mg/kg	2	2	2
Zinc	mg/kg	11	47	45

Misc Soil - Inorg						
Our Reference		253914-1	253914-3	253914-4	253914-5	253914-6
Your Reference	UNITS	101/0.1	102/0.1	103/0.1	104/0.1	104A/0.1
Date Sampled		13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Date analysed	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg					
Our Reference		253914-8	253914-9	253914-10	253914-12
Your Reference	UNITS	105/0.1	106/0.1	107/0.1	108/0.1
Date Sampled		13/10/2020	13/10/2020	13/10/2020	13/10/2020
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Date analysed	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5

Moisture						
Our Reference		253914-1	253914-2	253914-3	253914-4	253914-5
Your Reference	UNITS	101/0.1	101/0.5	102/0.1	103/0.1	104/0.1
Date Sampled		13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Date analysed	-	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020
Moisture	%	25	6.9	19	28	25

Moisture						
Our Reference		253914-6	253914-7	253914-8	253914-9	253914-10
Your Reference	UNITS	104A/0.1	104/0.5	105/0.1	106/0.1	107/0.1
Date Sampled		13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	22/10/2020	22/10/2020	22/10/2020	22/10/2020	22/10/2020
Date analysed	-	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020
Moisture	%	15	13	28	20	25

Moisture				
Our Reference		253914-11	253914-12	253914-13
Your Reference	UNITS	107/0.5	108/0.1	BD1
Date Sampled		13/10/2020	13/10/2020	13/10/2020
Type of sample		Soil	Soil	Soil
Date prepared	-	22/10/2020	22/10/2020	22/10/2020
Date analysed	-	23/10/2020	23/10/2020	23/10/2020
Moisture	%	19	17	17

Asbestos ID - soils				
Our Reference		253914-2	253914-7	253914-11
Your Reference	UNITS	101/0.5	104/0.5	107/0.5
Date Sampled		13/10/2020	13/10/2020	13/10/2020
Type of sample		Soil	Soil	Soil
Date analysed	-	26/10/2020	26/10/2020	26/10/2020
Sample mass tested	g	Approx. 35g	Approx. 25g	Approx. 20g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Asbestos comments	-	NO	NO	NO
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils NEPM						
Our Reference		253914-1	253914-3	253914-4	253914-5	253914-6
Your Reference	UNITS	101/0.1	102/0.1	103/0.1	104/0.1	104A/0.1
Date Sampled		13/10/2020	13/10/2020	13/10/2020	13/10/2020	13/10/2020
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	27/10/2020	27/10/2020	27/10/2020	27/10/2020	27/10/2020
Sample mass tested	g	475.85	466.11	321.83	459.22	950.75
Sample Description	-	Brown fine-grained soil & debris	Brown fine-grained soil & debris	Brown fine-grained soil & debris	Brown fine-grained soil & debris	Brown coarse-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–	–
FA and AF Estimation*	g	–	–	–	–	–
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001

Asbestos ID - soils NEPM					
Our Reference		253914-8	253914-9	253914-10	253914-12
Your Reference	UNITS	105/0.1	106/0.1	107/0.1	108/0.1
Date Sampled		13/10/2020	13/10/2020	13/10/2020	13/10/2020
Type of sample		Soil	Soil	Soil	Soil
Date analysed	-	27/10/2020	27/10/2020	27/10/2020	27/10/2020
Sample mass tested	g	434.73	467.82	310.18	563.65
Sample Description	-	Brown fine-grained soil & debris	Brown fine-grained soil & debris	Brown fine-grained soil & debris	Brown fine-grained soil & debris
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–
FA and AF Estimation*	g	–	–	–	–
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001

vTRH(C6-C10)/BTEXN in Water			
Our Reference	UNITS	253914-14	253914-15
Your Reference		TB	TS
Date Sampled		13/10/2020	13/10/2020
Type of sample		Water	Water
Date extracted	-	22/10/2020	22/10/2020
Date analysed	-	23/10/2020	23/10/2020
TRH C_6 - C_9	µg/L	<10	[NA]
TRH C_6 - C_{10}	µg/L	<10	[NA]
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	[NA]
Benzene	µg/L	<1	90%
Toluene	µg/L	<1	92%
Ethylbenzene	µg/L	<1	101%
m+p-xylene	µg/L	<2	100%
o-xylene	µg/L	<1	105%
Naphthalene	µg/L	<1	[NT]
Surrogate Dibromofluoromethane	%	95	99
Surrogate toluene-d8	%	98	97
Surrogate 4-BFB	%	97	101

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
ASB-001	Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg (0.01% w/w) as per Australian Standard AS4964-2004. Results reported denoted with * are outside our scope of NATA accreditation. **NOTE** #1 Total Asbestos g/kg was analysed and reported as per Australian Standard AS4964 (This is the sum of ACM >7mm, <7mm and FA/AF) **NOTE** #2 The screening level of 0.001% w/w asbestos in soil for FA and AF only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. Estimation = Estimated asbestos weight Results reported with "--" is equivalent to no visible asbestos identified using Polarised Light microscopy and Dispersion Staining Techniques.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.

Method ID	Methodology Summary
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-022	Determination of VOCs sampled onto coconut shell charcoal sorbent tubes, that can be desorbed using carbon disulphide, and analysed by GC-MS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-MS/GC-MSMS. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	253914-3
Date extracted	-			22/10/2020	1	22/10/2020	22/10/2020		22/10/2020	22/10/2020
Date analysed	-			23/10/2020	1	23/10/2020	23/10/2020		23/10/2020	23/10/2020
TRH C_6 - C_9	mg/kg	25	Org-023	<25	1	<25	<25	0	109	105
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	1	<25	<25	0	109	105
Benzene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	110	104
Toluene	mg/kg	0.5	Org-023	<0.5	1	<0.5	<0.5	0	100	94
Ethylbenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	99	95
m+p-xylene	mg/kg	2	Org-023	<2	1	<2	<2	0	119	117
o-Xylene	mg/kg	1	Org-023	<1	1	<1	<1	0	100	97
naphthalene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	103	1	95	95	0	105	99

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	12	22/10/2020	22/10/2020		[NT]	[NT]
Date analysed	-			[NT]	12	23/10/2020	23/10/2020		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	12	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	12	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	12	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	12	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	12	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	12	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	12	<1	<1	0	[NT]	[NT]
naphthalene	mg/kg	1	Org-023	[NT]	12	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	12	95	95	0	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	253914-3
Date extracted	-			22/10/2020	1	22/10/2020	22/10/2020		22/10/2020	22/10/2020
Date analysed	-			22/10/2020	1	22/10/2020	22/10/2020		22/10/2020	22/10/2020
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	1	<50	<50	0	115	115
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	1	<100	<100	0	106	113
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	1	130	160	21	108	79
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	1	<50	<50	0	115	115
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	1	120	200	50	106	113
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	1	110	140	24	108	79
Surrogate o-Terphenyl	%		Org-020	82	1	87	92	6	112	64

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	12	22/10/2020	22/10/2020		[NT]	[NT]
Date analysed	-			[NT]	12	22/10/2020	22/10/2020		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	12	91	85	7	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	12	500	470	6	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	12	510	510	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	12	160	150	6	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	12	750	720	4	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	12	380	390	3	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	12	108	113	5	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	253914-3
Date extracted	-			23/10/2020	1	22/10/2020	22/10/2020		22/10/2020	22/10/2020
Date analysed	-			23/10/2020	1	22/10/2020	22/10/2020		22/10/2020	22/10/2020
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	106	105
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	101	99
Fluorene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	104	102
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	107	103
Anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	104	101
Pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	104	99
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	104	104
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	1	<0.05	<0.05	0	97	116
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	112	1	112	114	2	118	112

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	6	22/10/2020	22/10/2020		[NT]	[NT]
Date analysed	-			[NT]	6	22/10/2020	22/10/2020		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	6	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	6	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	6	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	6	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	6	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	6	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	6	0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	6	0.2	<0.1	67	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	6	0.3	<0.1	100	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	6	0.2	<0.1	67	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	6	0.3	<0.2	40	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	6	0.2	0.07	96	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	6	0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	6	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	6	0.1	0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	6	109	97	12	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	12	22/10/2020	22/10/2020		[NT]	[NT]
Date analysed	-			[NT]	12	22/10/2020	22/10/2020		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	12	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	12	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	12	113	116	3	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	253914-3
Date extracted	-			22/10/2020	1	22/10/2020	22/10/2020		22/10/2020	22/10/2020
Date analysed	-			22/10/2020	1	22/10/2020	22/10/2020		22/10/2020	22/10/2020
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	94	94
HCB	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	89	89
gamma-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	89	83
delta-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	108	105
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	101	95
gamma-Chlordane	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	99	96
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	105	101
Endrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	96	100
Endosulfan II	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	88	90
Endrin Aldehyde	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	76	84
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	100	1	98	97	1	99	96

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	12	22/10/2020	22/10/2020		[NT]	[NT]
Date analysed	-			[NT]	12	22/10/2020	22/10/2020		[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
HCB	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	12	99	99	0	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	253914-3
Date extracted	-			22/10/2020	1	22/10/2020	22/10/2020		22/10/2020	22/10/2020
Date analysed	-			22/10/2020	1	22/10/2020	22/10/2020		22/10/2020	22/10/2020
Dichlorvos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	86	122
Dimethoate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	100	100
Fenitrothion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	95	117
Malathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	104	122
Chlorpyriphos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	101	105
Parathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	98	120
Bromophos-ethyl	mg/kg	0.1	Org-022	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	115	125
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	100	1	98	97	1	99	96

QUALITY CONTROL: Organophosphorus Pesticides in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	12	22/10/2020	22/10/2020		[NT]	[NT]
Date analysed	-			[NT]	12	22/10/2020	22/10/2020		[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	12	99	99	0	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	253914-3
Date extracted	-			22/10/2020	1	22/10/2020	22/10/2020		22/10/2020	22/10/2020
Date analysed	-			22/10/2020	1	22/10/2020	22/10/2020		22/10/2020	22/10/2020
Aroclor 1016	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	100	100
Aroclor 1260	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	100	1	98	97	1	99	96

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	12	22/10/2020	22/10/2020		[NT]	[NT]
Date analysed	-			[NT]	12	22/10/2020	22/10/2020		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-021	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-021	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	12	99	99	0	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	253914-3
Date prepared	-			22/10/2020	1	22/10/2020	22/10/2020		22/10/2020	22/10/2020
Date analysed	-			22/10/2020	1	22/10/2020	22/10/2020		22/10/2020	22/10/2020
Arsenic	mg/kg	4	Metals-020	<4	1	<4	<4	0	99	#
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	<0.4	0	92	70
Chromium	mg/kg	1	Metals-020	<1	1	6	6	0	95	80
Copper	mg/kg	1	Metals-020	<1	1	85	87	2	101	75
Lead	mg/kg	1	Metals-020	<1	1	14	14	0	95	77
Mercury	mg/kg	0.1	Metals-021	<0.1	1	<0.1	<0.1	0	111	99
Nickel	mg/kg	1	Metals-020	<1	1	3	3	0	98	77
Zinc	mg/kg	1	Metals-020	<1	1	28	29	4	94	72

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	12	22/10/2020	22/10/2020		[NT]	[NT]
Date analysed	-			[NT]	12	22/10/2020	22/10/2020		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	12	<4	<4	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	12	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	12	3	3	0	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	12	60	56	7	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	12	11	12	9	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	12	2	2	0	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	12	47	45	4	[NT]	[NT]

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	253914-3
Date prepared	-			22/10/2020	1	22/10/2020	22/10/2020		22/10/2020	22/10/2020
Date analysed	-			22/10/2020	1	22/10/2020	22/10/2020		22/10/2020	22/10/2020
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	1	<5	<5	0	100	99

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			22/10/2020	[NT]	[NT]	[NT]	[NT]	22/10/2020	[NT]
Date analysed	-			23/10/2020	[NT]	[NT]	[NT]	[NT]	23/10/2020	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	90	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	90	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	90	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	84	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	95	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	91	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	96	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate toluene-d8	%		Org-023	99	[NT]	[NT]	[NT]	[NT]	99	[NT]
Surrogate 4-BFB	%		Org-023	100	[NT]	[NT]	[NT]	[NT]	106	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

8 metals in soil :
-# Low spike recovery was obtained for this sample. Sample matrix interference is suspected. However, an acceptable recovery was obtained for the LCS

Asbestos: Excessive sample volume was provided for asbestos analysis. A portion of the supplied sample was sub-sampled according to Envirolab procedures. We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab recommends supplying 40-50g (50mL) of sample in its own container as per AS4964-2004.
Note: Samples were sub-sampled from bags provided by the client.

Asbestos-ID in soil: NEPM
This report is consistent with the reporting recommendations in the National Environment Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013. This is reported outside our scope of NATA accreditation.

Note: All samples analysed as received. However, samples 253914-4 & 10 are below the minimum 500mL sample volume as per National Environment Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013.

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	Douglas Partners Unanderra
Attention	Kenton Horsley

Sample Login Details

Your reference	89390.02, Milton
Envirolab Reference	253914
Date Sample Received	21/10/2020
Date Instructions Received	21/10/2020
Date Results Expected to be Reported	28/10/2020

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	12 Soil, 3 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	18.2
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBsin Soil	Acid Extractable metalsin soil	Misc Soil - Inorg	Asbestos ID - soils	Asbestos ID - soils NEPM	vTRH(C6-C10)/BTEXN in Water
101/0.1	✓	✓	✓	✓	✓	✓	✓	✓		✓	
101/0.5	✓	✓	✓				✓		✓		
102/0.1	✓	✓	✓	✓	✓	✓	✓	✓		✓	
103/0.1	✓	✓	✓	✓	✓	✓	✓	✓		✓	
104/0.1	✓	✓	✓	✓	✓	✓	✓	✓		✓	
104A/0.1	✓	✓	✓	✓	✓	✓	✓	✓		✓	
104/0.5	✓	✓	✓				✓		✓		
105/0.1	✓	✓	✓	✓	✓	✓	✓	✓		✓	
106/0.1	✓	✓	✓	✓	✓	✓	✓	✓		✓	
107/0.1	✓	✓	✓	✓	✓	✓	✓	✓		✓	
107/0.5	✓	✓	✓				✓		✓		
108/0.1	✓	✓	✓	✓	✓	✓	✓	✓		✓	
BD1	✓	✓					✓				
TB											✓
TS											✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.

TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

Douglas Partners
Geotechnics | Environment | Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No:	89390.02	**Suburb:**	Milton	**To:**	Envirolab Services
Project Name:	Proposed SSP	**Order Number**	89390.02		Ashley Street, Chatswood
Project Manager:	Kenton Horsley	**Sampler:**	Fiona Henry	**Attn:**	Simon Song
Emails:	kenton.horsley@douglaspartners.com.au			**Phone:**	99106200
Date Required:	Standard			**Email:**	Samplereceipt@envirolabservices.com.au
Prior Storage:	Fridge	Do samples contain 'potential' HBM?	NO		

Sample ID	Lab ID	Date Sampled	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes: Combo 8A NEPM	Combo 3A ID	pH, CEC	TRH/BTEX	Combo 1M					Notes/preservation
101/0.1	1	13/10/20	S	G&P	X									
101/0.5	2	13/10/20	S	G&P		X								
102/0.1	3	13/10/20	S	G&P	X									
103/0.1	4	13/10/20	S	G&P	X									
104/0.1	5	13/10/20	S	G&P	X									
104A/0.1	6	13/10/20	S	G&P	X									
104/0.5	7	13/10/20	S	G&P		X								
105/0.1	8	13/10/20	S	G&P	X									
106/0.1	9	12/10/20	S	G&P	X									
107/0.1	10	12/10/20	S	G&P	X									
107/0.5	11	12/10/20	S	G&P		X								
108/0.1	12	12/10/20	S	G&P	X									
BD1	13	12/10/20	S	G&P					X					
BD2	~~14~~	13/10/20	S	G&P					X					Please send ALS (8HM, TRH/BTEX)
TB/TS	14/15	13/10/20	S	G&P				X						
PQL (S) mg/kg													**ANZECC PQLs req'd for all water analytes** ☐	

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200
Job No: 253914
Date Received: 21.10.20
Time Received: 1514
Received By: MO
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit

Metals to Analyse: 8HM unless specified here: 8HM + Mn

Lab Report/Reference No: 253914

Total number of samples in container: **Relinquished by:** **Transported to laboratory by:**

Send Results to: Douglas Partners Pty Ltd **Address:** **Phone:** **Fax:**

Signed: **Received by:** Michael Ojie EGS **Date & Time:** 21-10-20 1514

Appendix J

Data Quality Assessment

Appendix J, Data Quality Assessment
Proposed Budawang SSP Relocation
17 Croobyar Road, Milton

J1.0 Field and Laboratory Data Quality Assurance and Quality Control

The field and laboratory data quality assurance and quality control (QA/QC) procedures and results are summarised in the following Table 1. Reference should be made to the field work methodology and the laboratory results / certificates of analysis for further details. The relative percentage difference (RPD) results, along with the other filed QC samples are included in at the end of this appendix.

Table 1: Field and Laboratory Quality Control

Item	Evaluation / Acceptance Criteria	Compliance
Analytical laboratories used	NATA accreditation	C
Holding times	Various based on type of analysis	C
Intra-laboratory replicates	10% of primary samples; <30% RPD	PC
Trip Spikes	1 per sampling event; 60-140% recovery	C
Trip Blanks	1 per sampling event; <PQL	C
Laboratory / Reagent Blanks	1 per batch; <PQL	C
Matrix Spikes	1 per lab batch; 70-130% recovery (inorganics); 60-140% recovery (organics)	C
Surrogate Spikes	All organics analysis; 70-130% recovery (inorganics); 60-140% recovery (organics)	C
Control Samples	1 per lab batch; 70-130% recovery (inorganics); 60-140% recovery (organics)	C
Standard Operating Procedures (SOP)	Adopting SOP for all aspects of the sampling field work	C

Notes:
C = compliance; PC = partial compliance; NC = non-compliance

The RPD results were all within the acceptable range, with the exception of those indicated in the summary results tables. The exceedances are not, however, considered to be of concern given that:

- The typically low actual differences in the concentrations of the replicate pair where some RPD exceedances occurred;
- The replicate pair being collected from fill which was heterogeneous;

- A replicate, rather than a homogenised duplicate, was used to minimise risk of volatile loss, hence greater variability can be expected;
- Most of the recorded concentrations being relatively close to the practical quantitation limit (PQL);
- The majority of RPDs within the replicate pair being within the acceptable limits;
- All other QA/QC parameters met the data quality indicators (DQIs).

In summary, the QC data is determined to be of sufficient quality to be considered acceptable for the assessment.

J2.0 Data Quality Indicators

The reliability of field procedures and analytical results was assessed against the following DQIs as outlined in NEPC *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [the NEPM]* (NEPC, 2013):

- Completeness: a measure of the amount of usable data from a data collection activity;
- Comparability: the confidence (qualitative) that data may be considered to be equivalent for each sampling and analytical event;
- Representativeness: the confidence (qualitative) of data representativeness of media present on-site;
- Precision: a measure of variability or reproducibility of data; and
- Accuracy: a measure of closeness of the data to the 'true' value.

Table 2: Data Quality Indicators

Data Quality Indicator	Method(s) of Achievement
Completeness	Systematic and selected target locations sampled.
	Preparation of borehole logs, sample location plan and chain of custody records.
	Preparation of field groundwater sampling sheets.
	Laboratory sample receipt information received confirming receipt of samples intact and appropriateness of the chain of custody.
	Samples analysed for contaminants of potential concern (CoPC) identified in the Conceptual Site Model (CSM).
	Completion of chain of custody (CoC) documentation.
	NATA accredited laboratory results certificates provided by the laboratory.
	Satisfactory frequency and results for field and laboratory quality control (QC) samples as discussed in Section J1.0.
Comparability	Using appropriate techniques for sample recovery, storage and transportation, which were the same for the duration of the project.
	Experienced sampler(s) used.
	Use of National Association of Testing Authorities (NATA) registered laboratories, with test methods the same or similar between laboratories.
	Satisfactory results for field and laboratory QC samples.
Representativeness	Target media sampled.
	Sample numbers recovered and analysed are considered to be representative of the target media and complying with DQOs.
	Samples were extracted and analysed within holding times.
	Samples were analysed in accordance with the CoC.
Precision	Field staff followed standard operating procedures.
	Acceptable RPD between original samples and replicates.
	Satisfactory results for all other field and laboratory QC samples.
Accuracy	Field staff followed standard operating procedures.
	Satisfactory results for all field and laboratory QC samples.

Based on the above, it is considered that the DQIs have been generally complied with.

J3.0 Conclusion

Based on the results of the field QA and field and laboratory QC, and evaluation against the DQIs it is concluded that the field and laboratory test data obtained are reliable and useable for this assessment.

J4.0 References

NEPC. (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM].* Australian Government Publishing Services Canberra: National Environment Protection Council.

Douglas Partners Pty Ltd

Douglas Partners
Geotechnics | Environment | Groundwater

Table QA1: Relative Percentage Difference Results – Intra-laboratory Replicates

			Metals								TRH						BTEX				PAH
			Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C10	TRH >C10-C16	F1 ((C6-C10)-BTEX)	F2 (>C10-C16 less Naphthalene)	F3 (>C16-C34)	F4 (>C34-C40)	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene [b]
Sample ID	Depth	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
BD1	0.1 m	13/10/2020	<4	<0.4	3	55	11	<0.1	2	45	<25	170	<25	170	830	440	<0.2	<0.5	<1	<1	<1
108/0.1	0.1 m	13/10/2020	<4	<0.4	3	60	11	<0.1	2	47	<25	160	<25	160	750	380	<0.2	<0.5	<1	<1	<1
		Difference	0	0	0	5	0	0	0	2	0	10	0	10	80	60	0	0	0	0	0
		RPD	0%	0%	0%	9%	0%	0%	0%	4%	0%	6%	0%	6%	10%	15%	0%	0%	0%	0%	0%

Douglas Partners
Geotechnics | Environment | Groundwater

Table QA2: Trip Blank Results - Soils (mg/kg)

Sample ID	Benzene	Benzene	Toluene	Toluene	Ethylbenzene	Ethylbenzene	m+p-Xylene	m+p-Xylene	o-Xylene	o-Xylene
TB	<1	<1	<1	<1	<1	<1	<2	<2	<1	<1

Douglas Partners
Geotechnics | Environment | Groundwater

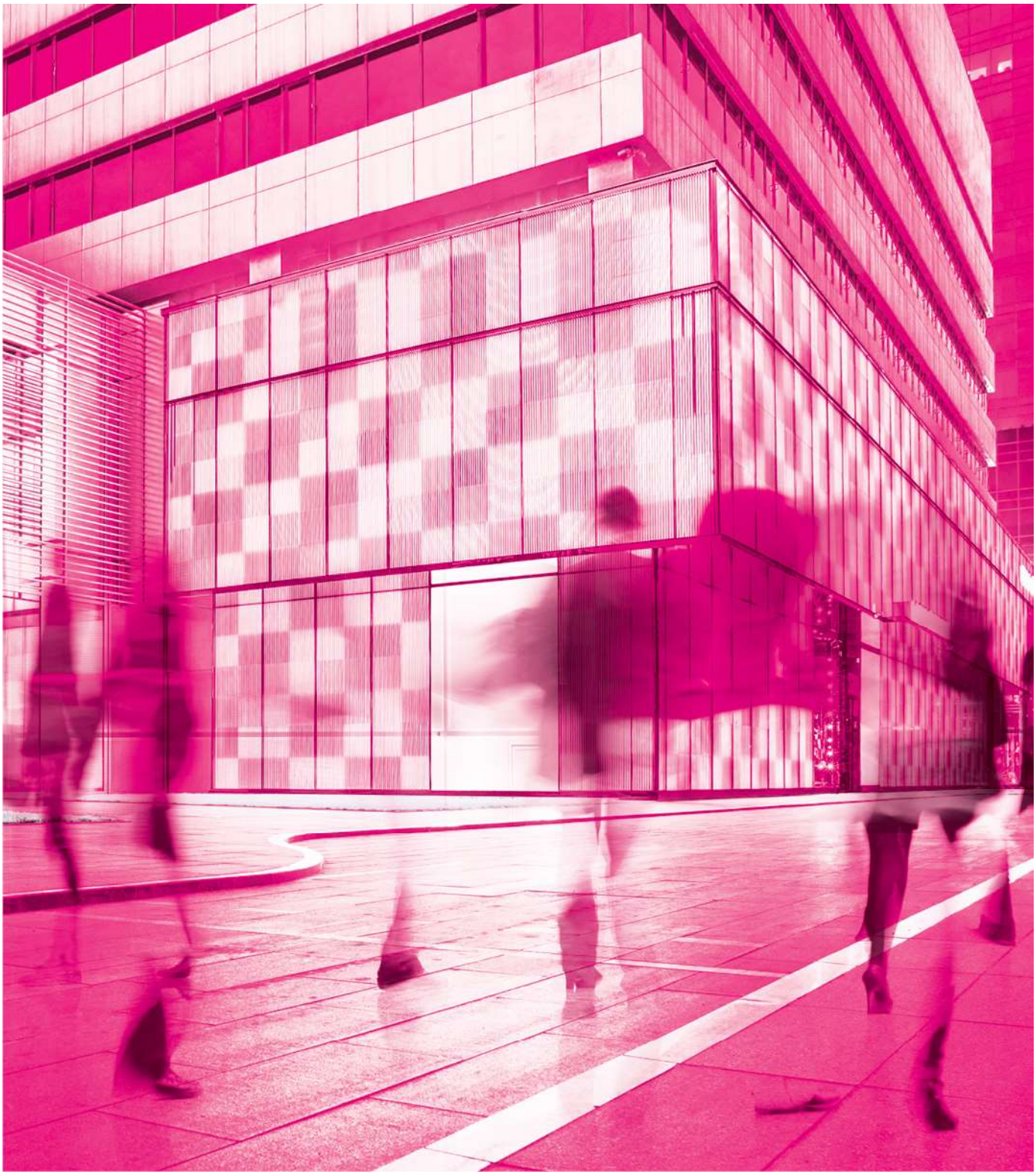
Table QA3: Trip Spike Results – Soils (% Recovery)

Sample ID	Benzene	Benzene	Toluene	Toluene	Ethylbenzene	Ethylbenzene	m+p-Xylene	m+p-Xylene	o-Xylene	o-Xylene
TS	90	90	92	92	101	101	100	100	105	105

42.7 Construction Traffic and Pedestrian Management Plan

Condition ID	Development Application Condition	Reference
B13	**Construction Traffic and Pedestrian Management Plan**	
	(a) be prepared by a suitably qualified and experienced person(s);	CTPMP – Pg 384 CV's
	(b) be prepared in consultation with Council and TfNSW;	CTPMP – Pg 385 Consultation Record
	(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	CTPMP – 347 5.11 Traffic Control Measures
	(d) detail heavy vehicle routes, access and parking arrangements	CTPMP – Pg 341 5.9 Construction Vehicle Routes

Condition ID	Development Application Condition	Reference
B17	**Driver Code of Conduct**	
	(a) minimise the impacts of earthworks and construction on the local and regional road network;	CTPMP – Pg 379 6.2 General Considerations
	(b) minimise conflicts with other road users;	CTPMP – Pg 379 6.2 General Considerations
	(c) minimise road traffic noise; and	CTPMP – Pg 379 6.2 General Considerations
	(d) ensure truck drivers use specified routes.	CTPMP – Pg 382 6.6 Communic of Driver Code of Conduct



Construction Traffic & Pedestrian Management Sub-Plan;

Budawang School

For Zauner Construction

12 April 2022

parking;
traffic;
civil design;
wayfinding;

ptc.

Document Control

Budawang School, Construction Traffic & Pedestrian Management Sub-Plan

Issue	Date	Issue Details	Author	Reviewed	For the attention of
1	16/12/2020	Draft Issue	PS	KB/SW	Mark Reynolds (SINSW)
2	18/02/2021	Final Issue	HL	KB/SW	Mark Reynolds (SINSW)
3	23/02/2021	Revision 1	HL	KB/SW	Mark Reynolds (SINSW)
4	20/04/2021	Revision 2	HL	KB/SW	Michael Stern (SINSW)
5	23/07/2021	Revision 3	PS	KB/SW	Chris Tudor (SINSW)
6	12/04/2022	CTPMSP	HL	KB/DB	Adrien Clements (Zauner Construction)

Contact

Kasia Balsam
Team Leader
+61 2 8920 0800
+61 478 848 945
kasia.balsam@ptcconsultants.co

Dan Budai
Project Director
+61 2 8920 0800
+61 450 524 500
dan.budai@ptcconsultants.co
SafeWork NSW Card No: TCT0016805 (PWZ)

Henry Li
Traffic Engineer
+61 2 8920 0800
henry.li@ptcconsultants.co
SafeWork NSW Card No: TCT1020401 (PWZ)

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

Contents

1. Introduction

1.1 Background

ptc. has been engaged by Zauner Construction to prepare a Construction Traffic & Pedestrian Management Sub-Plan (CTPMSP) associated with the development of the Budawang School (the School). The School is proposed to be relocated from 32 Camden Street Ulladulla to a new site (to occupy a portion of the existing Shoalhaven Anglican School) at 17 Croobyar Road, Milton NSW. This report outlines the proposed works associated with the demolition and construction activities of the development.

The site of the relocated school lies within the Shoalhaven City Council's local government area and has been assessed under relevant Council and State controls.

The location of the relocated School is outlined in Figure 1.

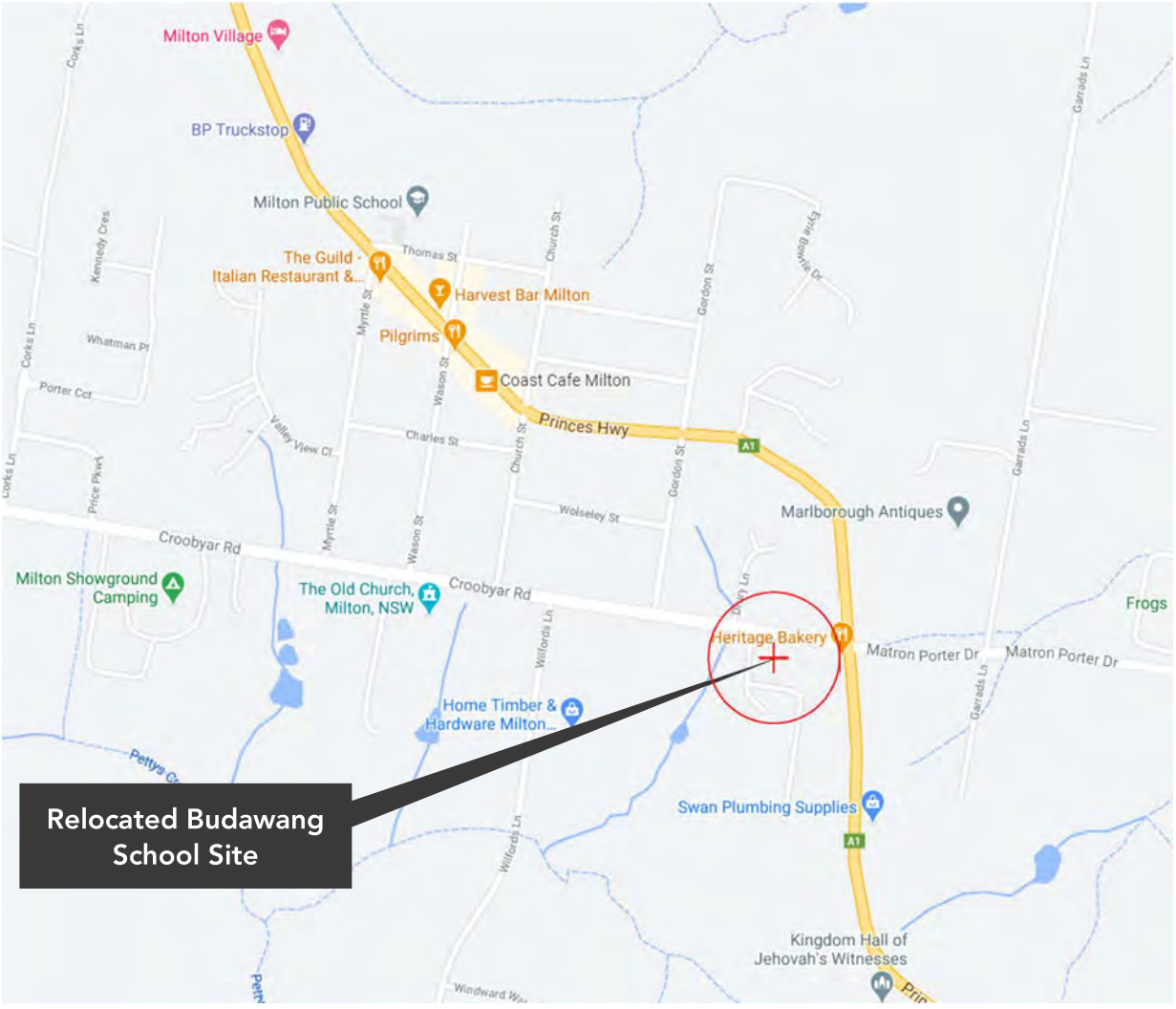


Figure 1 – Site Location (Source: Google Maps)

1.2 Purpose of this Report

The CTPMSP address the potential construction activity associated with the construction of the development, including:

- Location of any proposed Works Zones, 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 SSDA Conditions of Consent

This CTPMSP has been prepared to address the following SSDA Conditions of Consent (SSD-8845345):

Table 1 - SSDA Conditions of Consent

SSDA Condition of Consent	Document Reference / Comments
Condition B13: *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 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*	This CTPMSP has been prepared by qualified Traffic Engineers who hold SafeWork NSW Prepare a Works Zone Traffic Management Plan (PWZTMP) accreditation. A Concept CTMP has been prepared and submitted previously as part of the SSDA for Council and TfNSW comment. The SSDA has been approved and this detailed CTPMSP will also be submitted the relevant authorities for review and approval. Refer to Section 5.13

SSDA Condition of Consent	Document Reference / Comments
(d) detail heavy vehicle routes, access and parking arrangements.	Refer to Section 5.9 and Section 5.16
Condition 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 8am and 1pm, Saturdays.* ***No work may be carried out on Sundays or public holidays.***	Refer to Section 5.6
Condition 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 1pm and 4pm, Saturdays.*	Refer to Section 5.6
Condition 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.*	Refer to Section 5.6
Condition C10: *All construction 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.*	Refer to Section 5.9 and Section 5.16

1.4 Structure of this Report

This report has been prepared to present the traffic and pedestrian management arrangements (including Traffic Guidance Schemes) associated with the Budawang School development.

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

Section 2	Background and description of the project;
Section 3	A description of the development proposal;
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;
Section 6	CTPMSP approval, monitoring and review requirements;
Section 7	TGS confirmation and approval; and
Section 8	Summary

2. Site Background

2.1 Site Location

The School site is located within the north-western portion of the existing Shoalhaven Anglican School site at 17 Croobyar Road, Milton NSW and identified as Lot 200 in Deposited Plan 1192140. It is located approximately 1km south-west of the Milton Town Centre.

The School site area is approximately 5,000m^2 and has a frontage to Croobyar Road to the north. An aerial view of the subject site is shown in Figure 2.

Figure 2 – Aerial View of the Subject Site (Source: Near Map)

2.2 Surrounding Land Use

The proposed School site is currently within an RU2 (Primary Production) zone, where the surrounds are comprise of R2 Low Density Residential zones and RU4 (Primary Production Small Lots) and various other RU2 zones. The Milton Town Centre is located to the north-west comprising a combination of B2 (Local Centre), SP2 (Infrastructure) zones as well as a few scattered Public Recreation (RE1) zones within the vicinity of the site. Refer to Figure 3 for details of the surrounding land use zoning.

The Milton-Ulladulla Bypass is planned to be completed as part of the Princes Highway Upgrade project and currently under investigation. The project will serve as an opportunity to improve the safety and amenity of existing intersections for pedestrians, cyclists as well as vehicles. Community consultation has identified that the intersection of Princes Highway/Matron Porter Drive/Croobyar Road as a potential location to be investigated as part of the project. The identified corridor as shown in the Shoalhaven Local Environmental Plan (LEP) is illustrated in Figure 3.

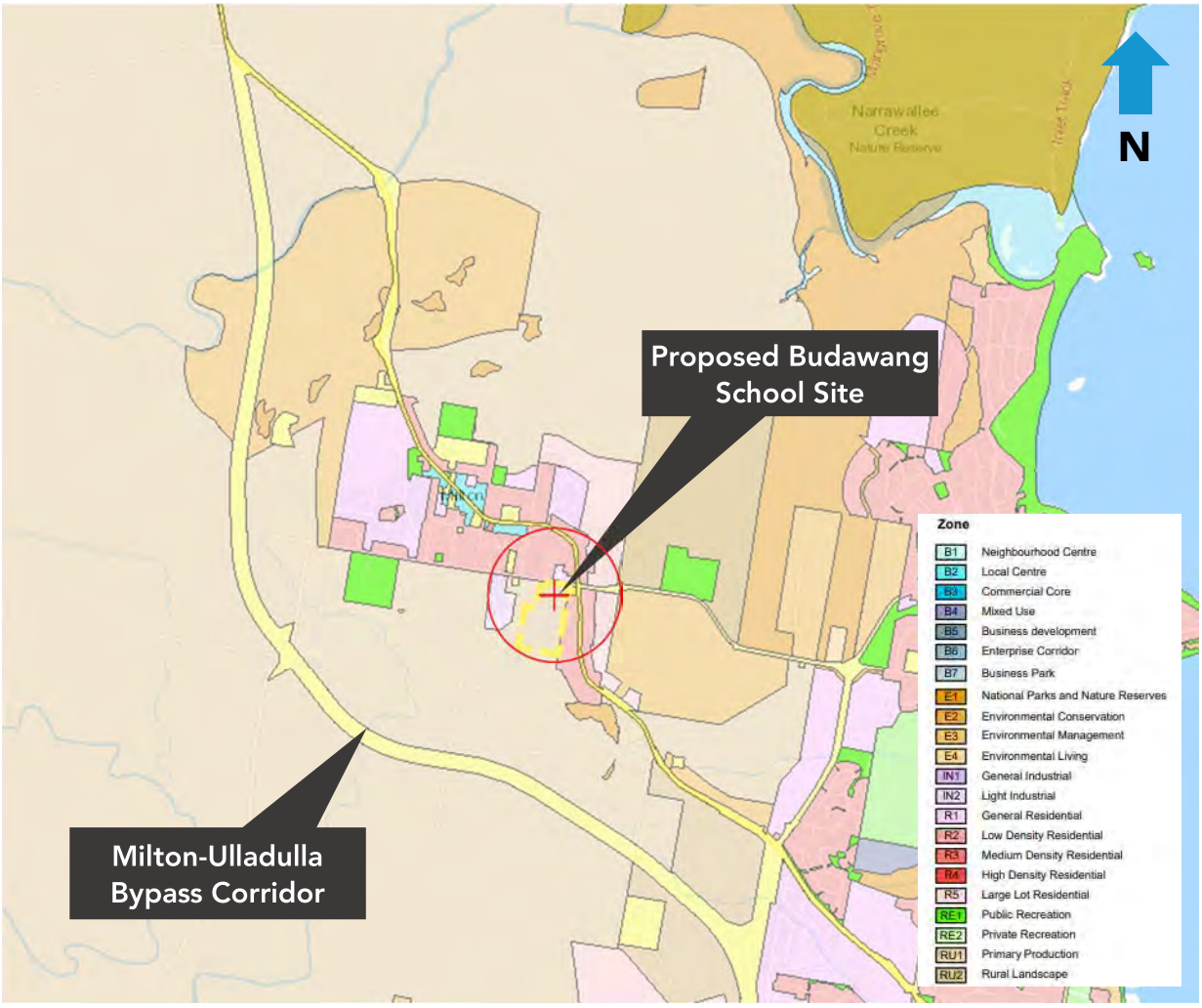


Figure 3 – Local Land Use Map (Source: NSW Planning Viewer)

3. Development Proposal

The development proposal involves preparation of site and construction of new structures for the proposed School development.

The development proposal for the Budawang School involves the relocation of the existing Budawang School from Ulladulla to a part of a new lot within the former Shoalhaven Anglican School site at 17 Croobyar Road, Milton NSW.

In the context of transport and traffic, the proposed School will involve the following:

- A capacity of 80 student placements, accommodating students from ages 4 to 20 with moderate to severe intellectual and physical disability;
- Due to the nature of the school, the enrolment catchment is not clearly defined, and some student travel from as far as Nowra;
- An estimated staff population of approximately 34 FTE staff;
- Three pick-up/drop-off spaces;
- 30 staff car parking spaces (inclusive of two accessible bays); and
- One shared loading bay accommodating trucks up to 11.3m for the purposes of deliveries to the hydrotherapy pool and waste collection.

4. Existing Transport Facilities

4.1 Road Hierarchy

The subject site is located in Milton, NSW and is primarily serviced by the Princes Highway which forms the main north-south arterial connection through the Milton Town Centre and along the south coast of New South Wales. The main east-west connection is Croobyar Road (local road) which forms the northern frontage of the proposed Budawang School site.

A summary of the key State and Council managed local roads serving the site is presented below.

Figure 4 – Surrounding Road Network (Source: TfNSW Road Hierarchy)

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)

A summary of the roads serving the proposed site are presented in the following tables.

Table 2 – Princes Highway (Northbound)

Princes Highway (A1)	
Road Classification	State Road
Alignment	North - South
Number of Lanes	Typically 1 lane in each direction with parking lanes on either side of the carriageway
Carriageway Type	Undivided
Carriageway Width	12.5m
Speed Limit	50km/h northbound; 60km/h southbound
School Zone	No
Parking Controls	Typically unrestricted parking
Forms Site Frontage	No

Figure 5 – Princes Highway – Northbound (Source: Google Street View)

Table 2 – Croobyar Road (Westbound)

Croobyar Road	
Road Classification	Local Road
Alignment	East - West
Number of Lanes	Typically 1 lane in each direction
Carriageway Type	Undivided
Carriageway Width	12.5m
Speed Limit	50km/h
School Zone	Yes
Parking Controls	Typically unsigned
Forms Site Frontage	Yes

Figure 6 – Croobyar Road – Eastbound (Source: Google Street View)

Table 3 – Gordon Street (Northbound)

Gordon Street	
Road Classification	Local Road
Alignment	North - South
Number of Lanes	1 lane in each direction
Carriageway Type	Undivided
Carriageway Width	8.5m
Speed Limit	50km/h
School Zone	No
Parking Controls	Unsigned
Forms Site Frontage	No

Figure 7 – Gordon Street – Northbound (Source: Google Street View)

4.2 Key Intersections

The key intersections in the vicinity of the site and their characteristics are listed below and shown in Figure 8:

- Princes Highway / Croobyar Road: Signalised 4-arm intersection; and
- Croobyar Road / Site Driveway: Priority-controlled 3-arm intersection.

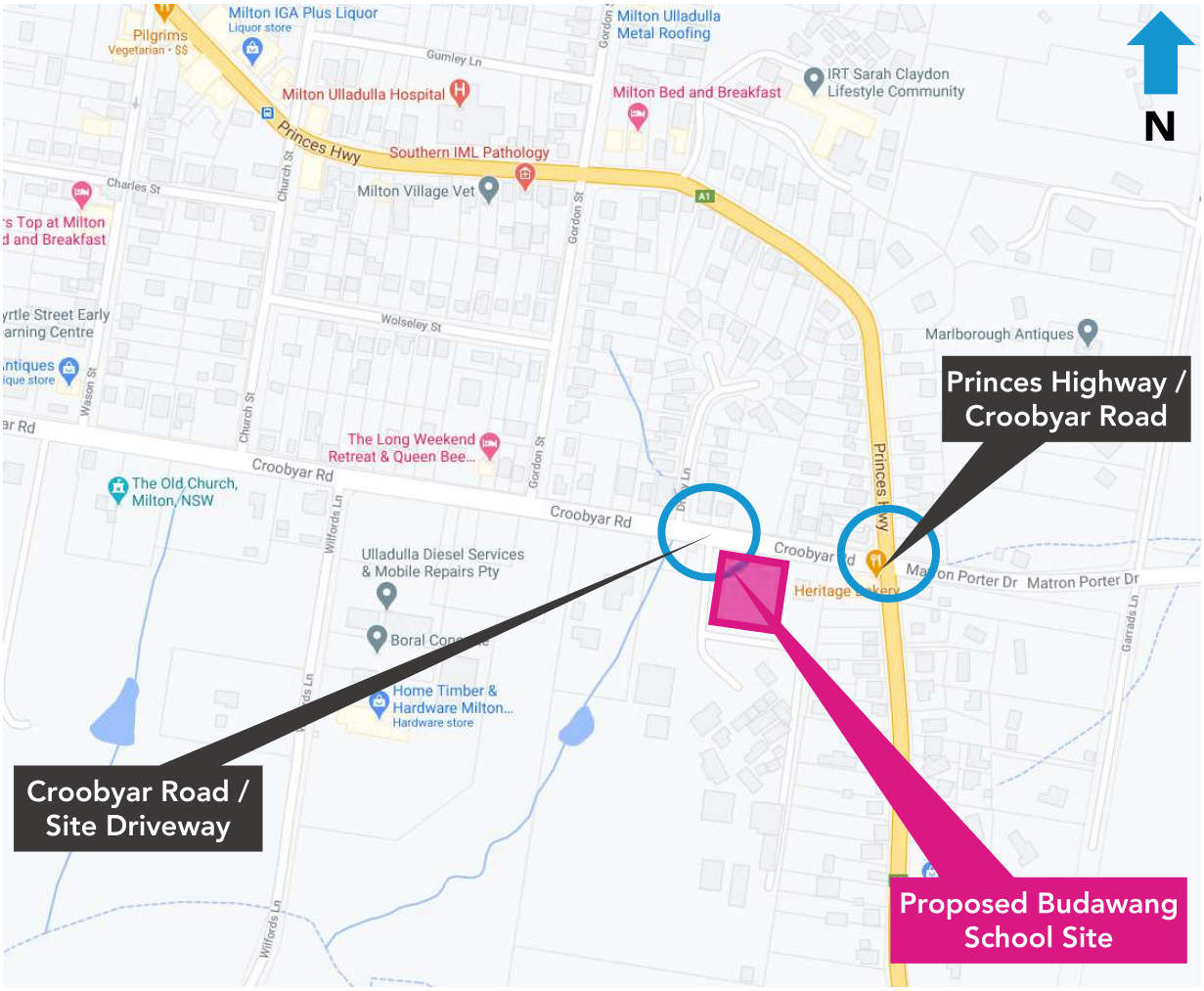


Figure 8 – Key Intersections

4.3 Public Transport

The locality of the site has been assessed in the context of available forms of public transport that may be utilised by construction workers. When defining accessibility, the *NSW Planning Guidelines for Walking & Cycling (2004)* suggests that 400m-800m is a comfortable walking distance to access public transport and local amenities.

The notional ('as the crow flies') walking catchments of 400m and 800m radius from the proposed Budawang School site as well as the actual walking catchments are illustrated in Figure 9. The existing bus routes operating within the vicinity of the School are also presented. Details of the available public transport options are outlined in the following sections.

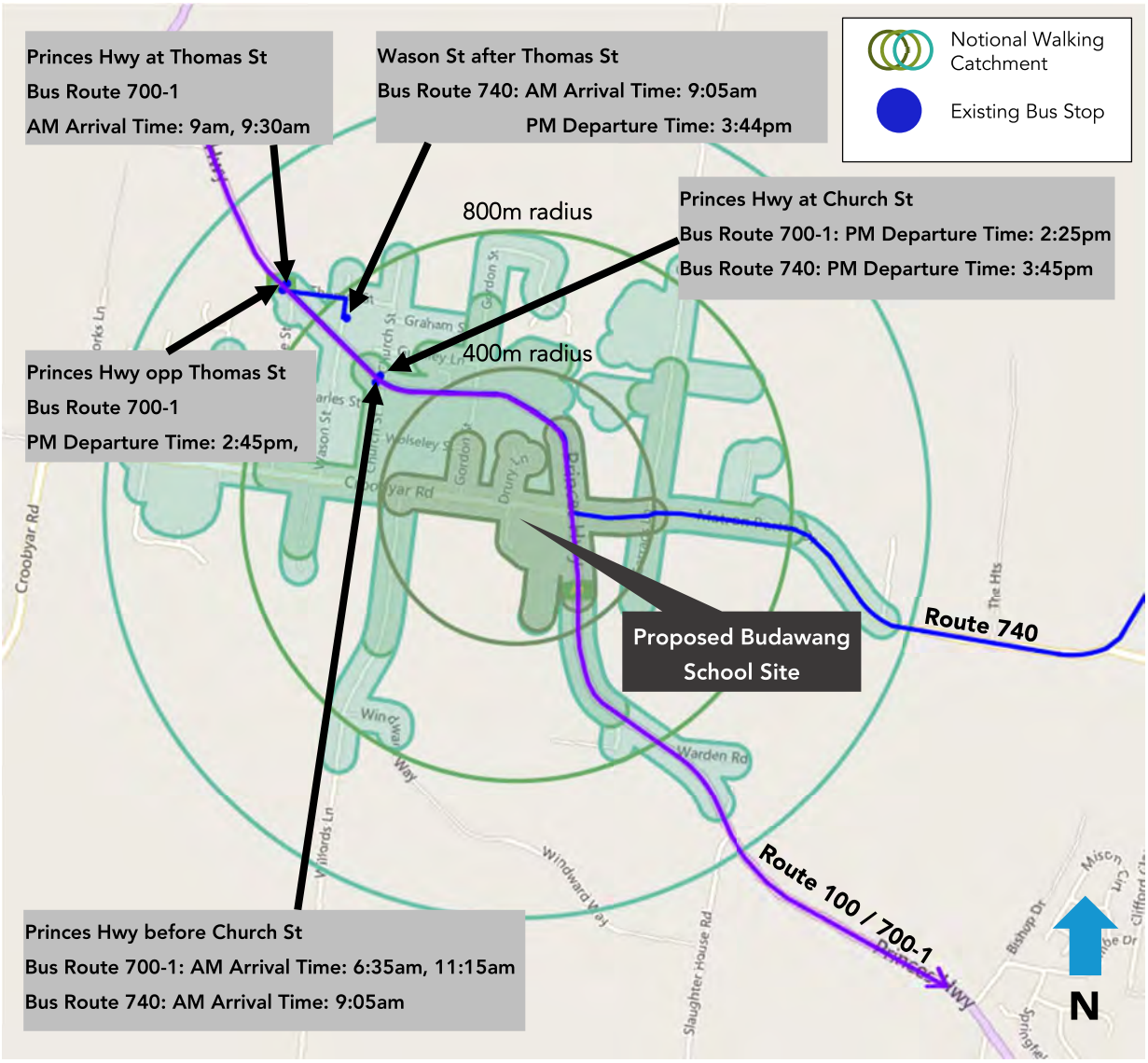


Figure 9 – Existing Walking Catchments

4.3.1 Bus Services

As shown in Figure 9 and Table 3, there are only three bus services operating within the 400m, 800m and 1,200m walking catchments. The closest existing bus stop (Stop ID: 253818) is located adjacent to the Princes Highway/Church Street intersection and lies within the 800m actual walking catchment. This bus stop is only serviced by the 700-1 bus.

It is noted that there are also bus stops located further along the Princes Highway, adjacent to the Princes Highway/Thomas Street intersection, and along Wason Street, but these are located approximately 1,200m away from the site. These bus stops are serviced by the 100 and 740 buses, respectively.

The existing bus services including coverage, approximate operation times and frequency, are summarised in Table 3 and the nearby bus stops are illustrated in Figure 9.

Table 3 – Public Bus Service Summary

Bus Route	Operator	Coverage	Approximate Operation Times and Service Frequency
100	Premier Motor Service	Bomaderry to Burrill Lake via Nowra & Ulladulla	Mon & Fri: 2 services per day at 9:30am and 2:45pm Tues & Thurs: 2 services per day at 9:00am and 3:05pm
700-1	Premier Motor Service	Bomaderry to Eden	Mon-Fri: 2 services per day at 2:10pm and 7:30pm Sat: 2 services per day at 2:10pm and 7:30pm Sun & Public Holidays: 2 services per day at 2:10pm and 7:30pm
		Eden to Bomaderry	Mon-Fri: 2 services per day at 6:35am and 11:15am Sat: 2 services per day at 6:35am and 11:15am Sun & Public Holidays: 2 services per day at 6:35am and 11:15am
740	Busline Group	Ulladulla to Milton via Mollymook & Narrawallee	Mon-Fri: 9:05am, 11:15am, 2:15pm, 2:15pm, 3:20pm Sat: 1 service at 9:20am
		Milton to Ulladulla via Narrawallee & Mollymook	Mon-Fri: 9:05am, 10:05am, 11:10am, 2:15pm, 3:45pm Sat: 1 service at 9:45am, 11:35am

The subject site is currently poorly serviced by bus, with limited weekday services, typically only two services per day, which would not suit construction workers. Therefore, the current public transport provision is not a viable travel mode option for construction staff.

4.4 Active Transport

The locality has been reviewed for features that would attract active transport trips (walking and cycling), with reference to the *NSW Planning Guidelines for Walking and Cycling (2004)*. The existing cycling facilities within Milton is presented in Figure 10. A discussion on the adequacy of this infrastructure is presented in the following subsections.

4.4.1 Cycling

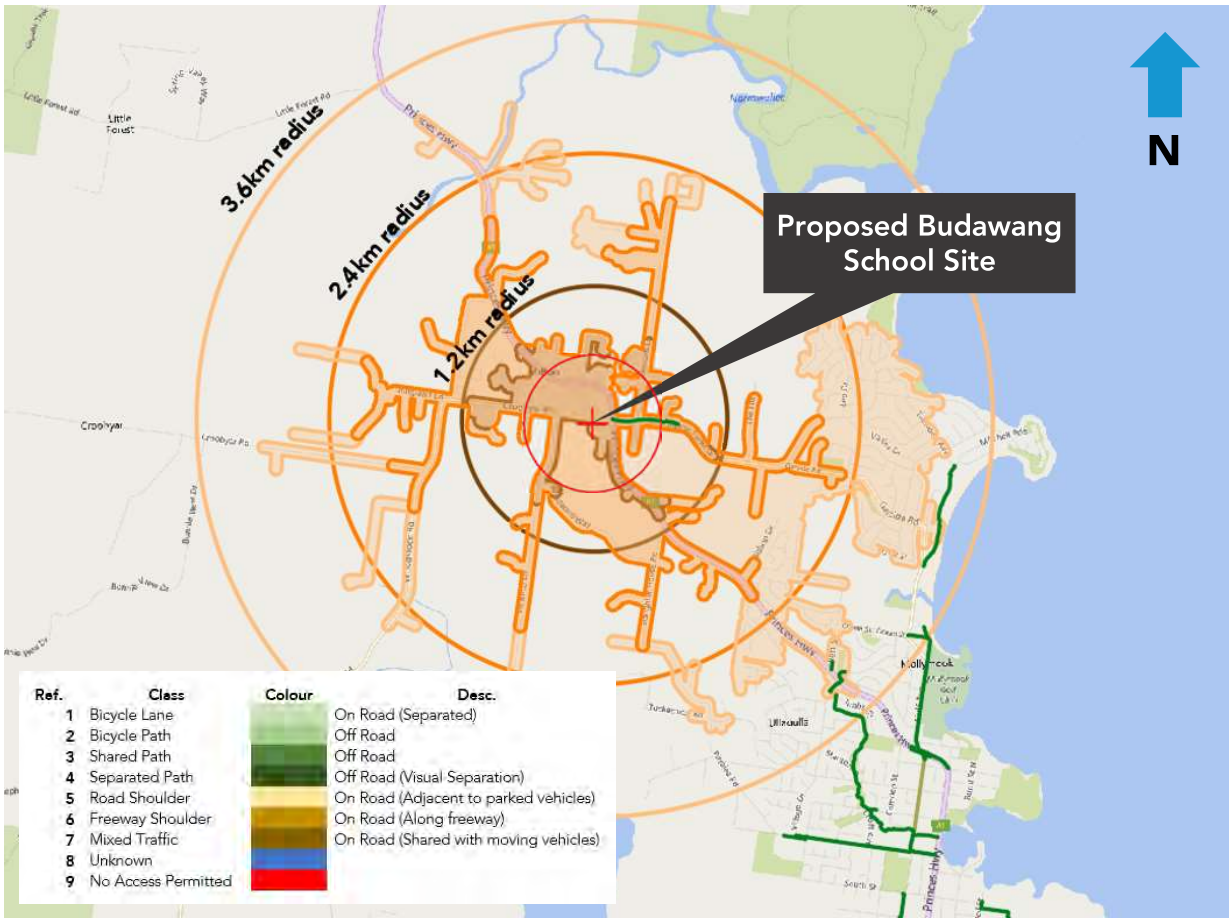


Figure 10 – Existing Cycling Infrastructure

As illustrated in Figure 10, the cycling network is currently underdeveloped with limited cycling facilities within the vicinity of the proposed Budawang School site. It is noted that the majority of the cycling facilities are on-road which may act as a barrier to the uptake of cycling. Furthermore, the limited off-road cycling infrastructure is not well connected with sections of off-road shared paths provided that can only be accessed by travelling on-road.

In considering these, cycling is a travel mode which may not be likely to be utilised. Although the adjacent town centres such as Mollymook and Ulladulla lie outside the actual cycling catchment of 3.6km, cycling journeys of between 4km to 12km can be managed by adults if appropriate cycling infrastructure is provided.

Due to the lack of cycling infrastructure available surrounding the vicinity of the school, it is not anticipated that construction workers will utilise this mode of travel.

4.4.2 Walking

Walking may be viable transport option for construction staff who reside within one kilometre (approximately 15-20min) from the School. Walking is also the most space efficient mode of transport for short trips and presents the highest benefits. Co-benefits where walking replaces a motorised trip include improved health for the individual, reduced congestion on the road network and reduced noise and emission pollution.

A desktop review of the pedestrian infrastructure within the vicinity of the proposed Budawang School site is generally underdeveloped and there are currently limited footpaths provided near the School. The existing pedestrian infrastructure within 1,200m radius from the School is shown in Figure 11.

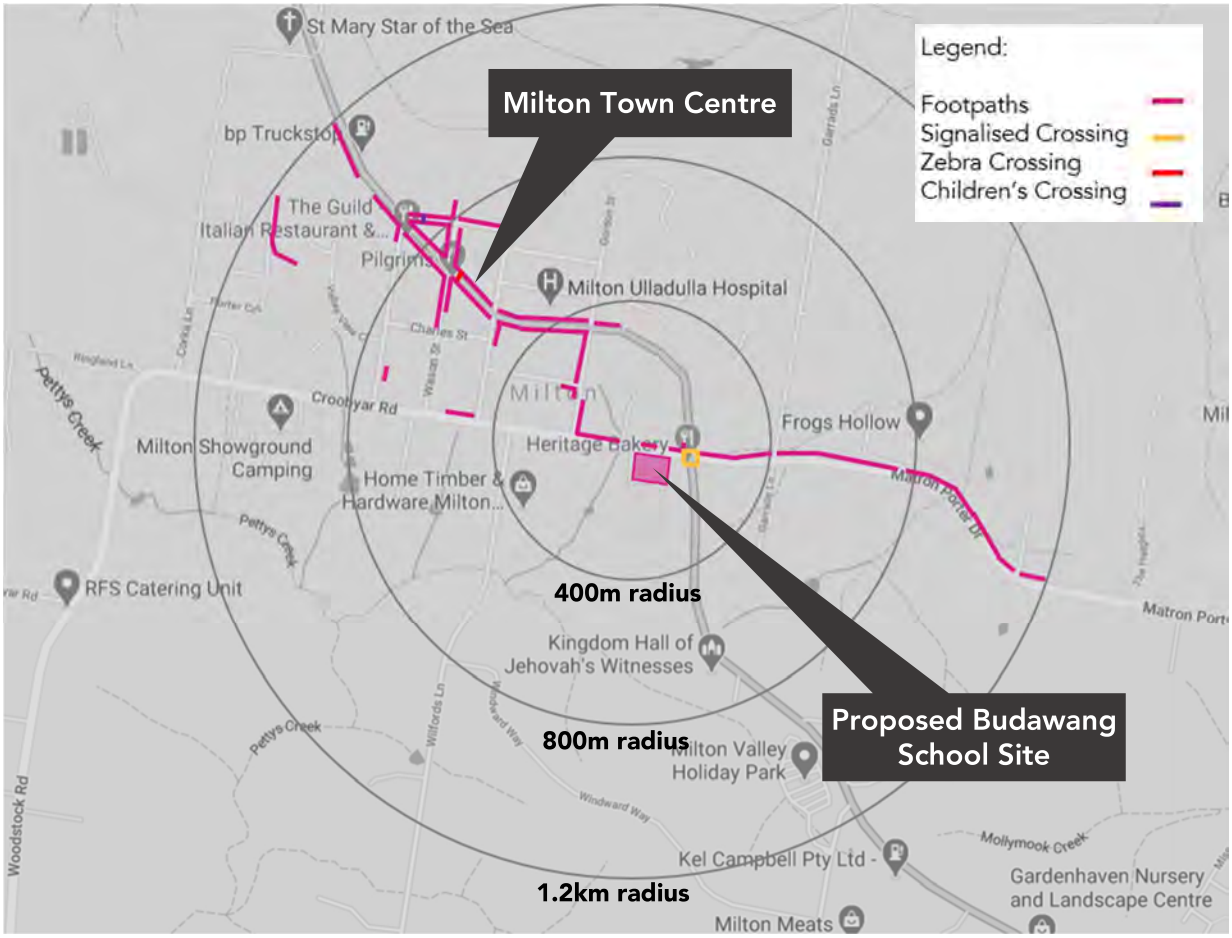


Figure 11 – Existing Pedestrian Infrastructure within 1.2km Radius of Budawang School

A review of the existing pedestrian infrastructure indicates that there are significant gaps in the network with footpaths only being sparsely provided across the walking catchment. Footpaths are provided along the Princes Highway within the Milton Town Centre but pedestrian connectivity through the surrounding local roads is generally poor, with footpaths either provided only on one side of the carriageway or are missing.

Pedestrians would be required to utilise the nature strips on either side of the carriageway, which is generally typical of regional areas, but not ideal to encourage active transport. Notwithstanding this, there are signalised pedestrian crossings provided along each approach of the Princes Highway / Matron Porter Drive / Croobyar Road intersection which would assist in providing pedestrian connectivity across the Princes Highway.

In considering the above factors, walking would likely attract only a small proportion of staff, and taking into account the described constraints, this travel mode may not be likely to be chosen.

5. Construction & Pedestrian Traffic Management Sub-Plan (CPTMSP)

The following sections outline the proposed construction activity, anticipated timeline as well as the proposed management measures relating to vehicular access, pedestrian access and other key considerations for the delivery of the project.

5.1 Objectives

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.

5.1 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 12.

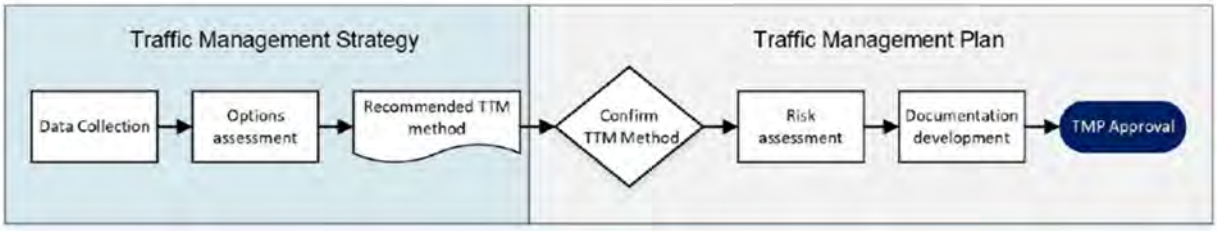


Figure 12 – Traffic Management Planning Process

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 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 contains some existing signage and infrastructure that may obstruct signs and devices needed for certain strategies.

Work Area
The area needed to safely perform the work is generally constrained to within the subject site for Stage 1 works (details of staging and construction vehicle access provided in Sections 5.5 and 5.9, respectively). The Stage 2 works will require use of the road reserve within the Croobyar Road frontage, subject to Council approval.

Vulnerable Road Users
Desire lines of pedestrians and cyclists are impacted by the works or create undesired interaction between these road users and traffic.

Community Facilities and Needs
Access to surrounding properties are not impacted by the work. However, access to the existing property south of the Budawang School site which utilises the same internal road will be temporarily impacted. Coordination with the Principal Contractor is required to allow access to the existing property to the south of the Budawang School site.

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 the "Around (elimination)" method, whereby the works associated with the delivery of the project will be undertaken within the construction site with some works requiring use of the road reserve on Croobyar Road.

The TfNSW mandatory forms associated with the proposed works are included in Attachment 5.

5.4 General Requirements

In accordance with Transport for New South Wales (TfNSW) requirements, all vehicles transporting loose materials will have the entire load covered and/or secured to prevent any large items, dust or dirt particles depositing onto the roadway during 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 to 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 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, vehicles, refuse skips or the like, under any circumstances. No construction vehicles are permitted to double park, or park on the public road.

The application/contractor is required to follow and abide by the specific standard requirements for construction management as set out by Shoalhaven City Council.

5.5 Construction Staging

The works are scheduled to commence in April 2022 and expected to be complete by April 2024. The works will be undertaken in two main stages, being the Stage 1 Main Works with the existing childcare centre remaining in operation, and Stage 2 Block D Works where the Budawang School will commence operation and the existing childcare centre will be demolished to accommodate the construction of the new hydrotherapy building.

Table 4 - Construction Staging Summary

Stage	Description of Works	Estimated Timeframe
Stage 1 - Main Works	• Demolition • Bulk excavation and civil works • Construction of Buildings A1, A2, B and C • Construction of car park • Construction of Central Courtyard • Fitout and Finishes	April 2022 – April 2023
Stage 2 - Block D Works	• Demolition • Civil works • Structure and envelope works • Fitout and Finishes	April 2023 – April 2024

The staging plans prepared by Zauner are illustrated in Figure 13 and Figure 14. The full-size staging plans are included in Attachment 1.

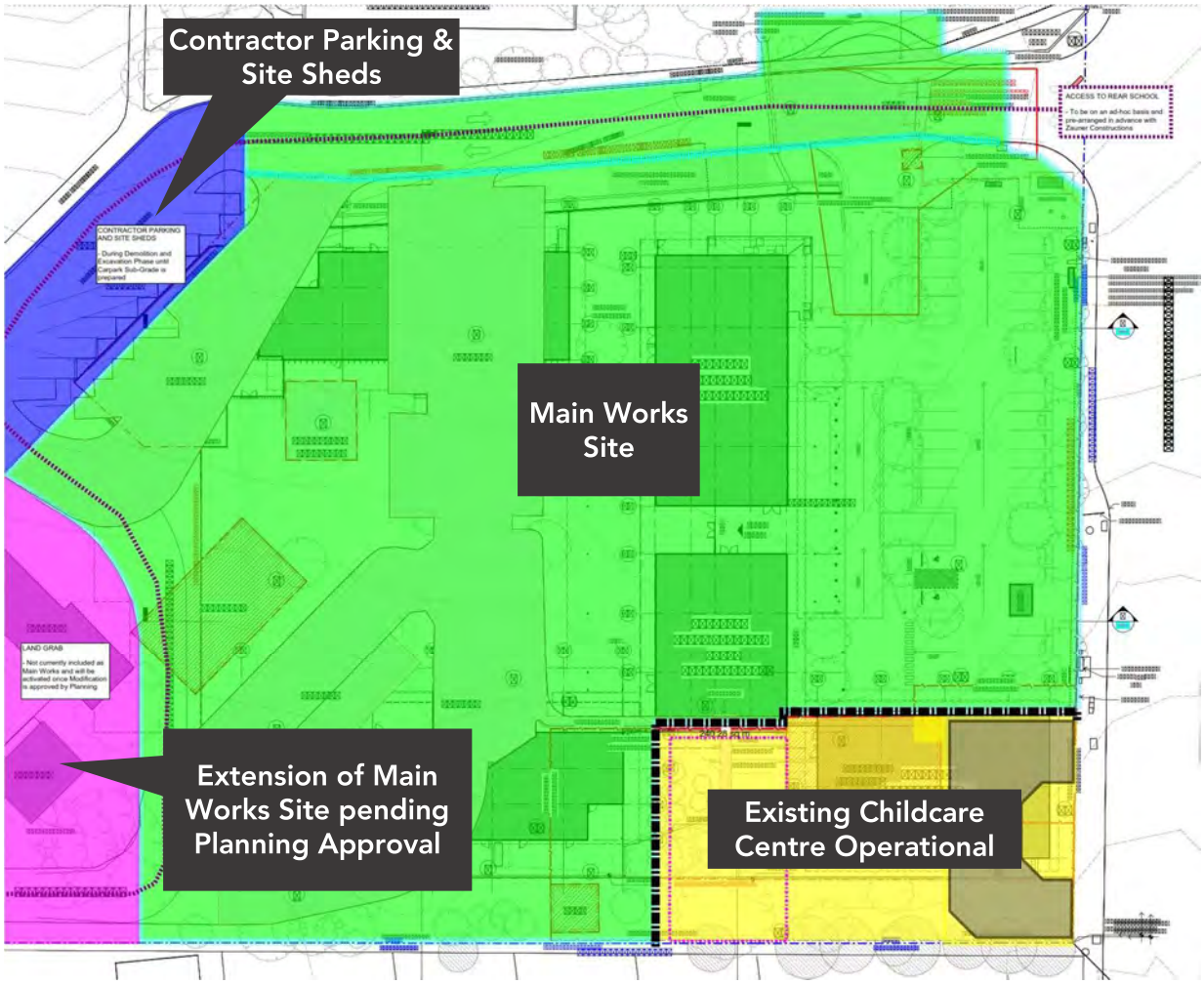


Figure 13 - Stage 1 Main Works Staging Plan (Source: Zauner Construction)

As shown in Figure 13, the scope for Stage 1 involves:

- Construction of the main buildings;
- Existing childcare centre at the north-eastern portion of the site to remain operational. New drop-off facility to be constructed for childcare centre;
- Contractor parking and site sheds to be provided at the south-western portion of the site; and
- Extension of the Main Works site to the south which is not currently included in scope of the Main Works. This extension will be activated pending modification approval.

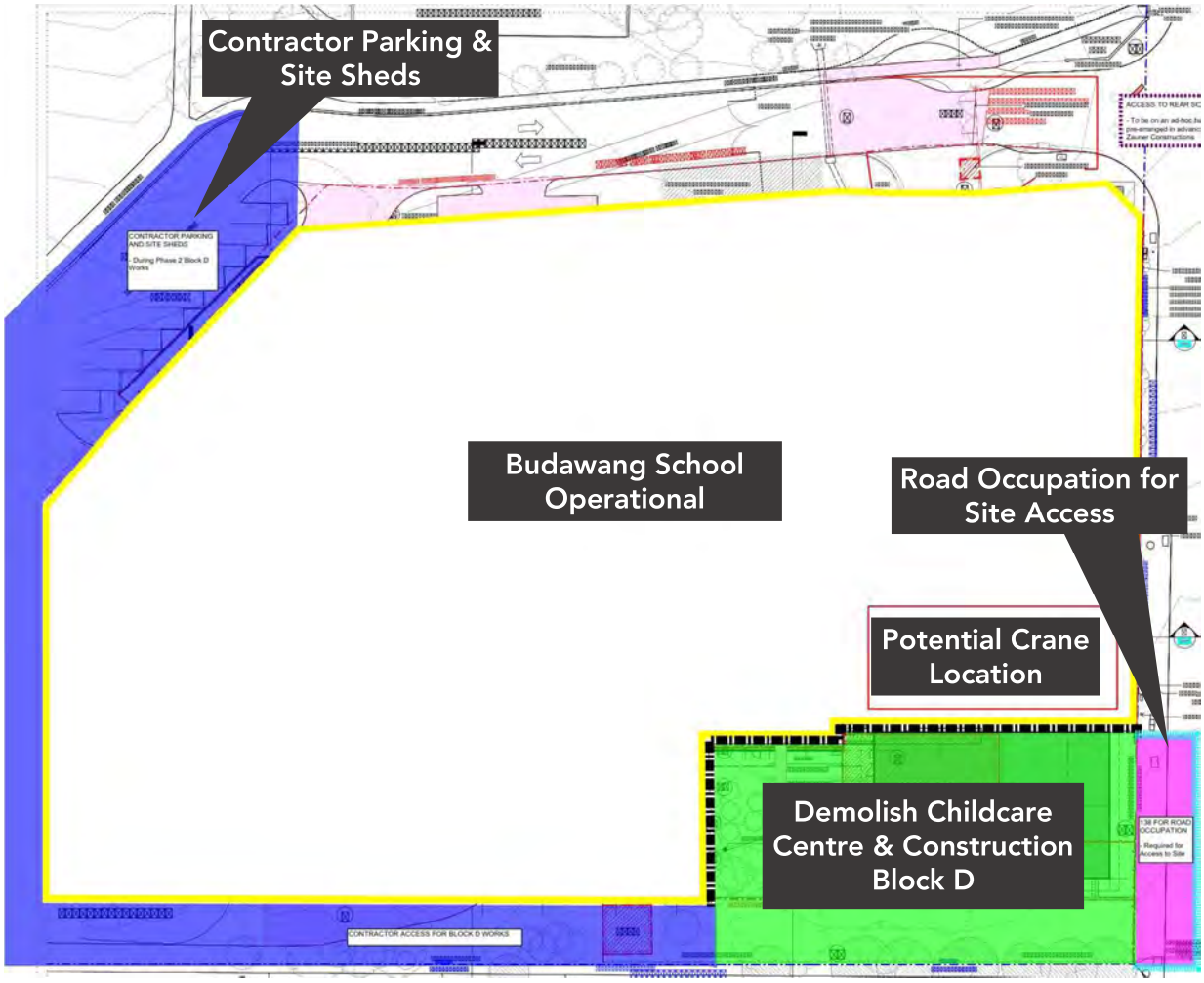


Figure 14 – Concept Stage 2 Block D Works Staging Plan (Source: Zauner Construction)

The scope for Stage 2 works involves:

- Budawang School will be operational;
- Demolish existing childcare centre and construct Block D; and
- Contractor parking and site sheds to be provided at the south-western portion of the site.

It is noted that the site establishment plan for Stage 2 may be updated closer to the commencement of works for this stage.

5.6 Hours of Work

All works, associated with the project will be restricted to the time periods outlined in accordance with Condition C4 of the SSDA Conditions of Consent. Construction, including the delivery of materials to and from the site, may only be carried out between the following hours:

- Monday to Friday: 7am to 6pm;
- Saturdays: 8am to 1pm; and
- Sundays & Public Holidays: No works to be undertaken without prior approval.

In addition to the permitted construction working hours above, the following allowances and restrictions in accordance with Condition C5 and C8 also apply:

"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:

- *Monday to Friday: 6pm to 7pm; and*
- *Saturdays: 1pm to 4pm.*

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

- *Monday to Friday: 9am to 12pm; 2pm to 5pm; and*
- *Saturdays: 9am to 12pm."*

5.7 Construction Vehicle Types

It is anticipated that the works will involve the use of the following vehicle types:

- 19m Truck & Dog Trailers (largest vehicle type)
- 12.5m Heavy Rigid Vehicles (HRV)
- 8.8m Medium Rigid Vehicles (MRV)

Any oversized vehicles (including the use of mobile cranes) that is required to travel to the project into the vicinity of the site will be dealt with separately, with the submission of required permits to and subsequent approval by TfNSW and Shoalhaven City Council prior to any delivery being undertaken.

Any road closures associated with the use of a mobile crane must be applied to Council in advance as it requires local traffic committee approval. All Oversize Overmass (OSOM) applications must be submitted via the National Heavy Vehicle Regulator (NHVR) portal.

5.8 Construction Traffic Volumes

The delivery of materials to and from the site will result in some generated traffic activity associated with the works. Where possible, deliveries are to be scheduled to occur outside of the peak commuter periods. The expected vehicle types and estimated construction traffic volumes during each phase of the Stage 1 and Stage 2 works is outlined in Table 5.5.

Table 5.5 - Estimated Construction Vehicle Volumes

Phase	Largest Expected Vehicle Type	Estimated Average No. of Trucks per Day	Estimated Peak No. of Trucks per Day
Demolition	19m Truck & Dog	4	6
Civil Works	12.5m HRV	6	8
Structural/Envelope	12.5m HRV	2	4
Fit-out/Finishes	12.5m HRV	1	3

As shown in Table 5.5, the estimated construction vehicle volumes are minor and spread out over the course of a day and therefore, not anticipated to result in any notable impact on the surrounding road network.

5.9 Construction Vehicle Routes

The site is located in Milton 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 roads and all loading and unloading of materials will be undertaken within the site or within approved work zones.

As shown in Section 4.1, the closest state road providing access to the site is the Princes Highway. Considering the location of Milton in relation to potential material depots, it is assumed that the majority of the construction traffic will arrive from the north or south.

All vehicle routes to the site are constrained to existing public roads that have the physical geometry to accommodate the turning movements. The routes have been selected based on minimal turn movements and manoeuvres at the key intersections described in Section 4.2.

Two routes have been identified for construction vehicle access depending on the stage of the works, outlined as follows:

- Stage 1 Main Works – Access to Gates 1, 2 and 3
- Stage 2 Block D Works – Access to Gates 4 and 5

Further details of each construction vehicle access route are provided in the following subsections.

5.9.1 Stage 1 – Main Works

Construction vehicles shall enter and exit the site via the existing driveway off Croobyar Road and the internal road in a forward direction.

Vehicles travelling from the north will travel southbound along the Pacific Highway, turn right into Croobyar Road and then turn left into the site. Vehicles travelling from the south will travel northbound along the Pacific Highway, turn left into Croobyar Road and then turn left into the site.

All vehicles leaving the site will turn right into Croobyar Road and then either turn left or right into the Princes Highway to travel north or southbound respectively.

Vehicle routes are shown in Figure 15 and swept paths showing vehicles entering and exiting the site are included in Attachment 3.

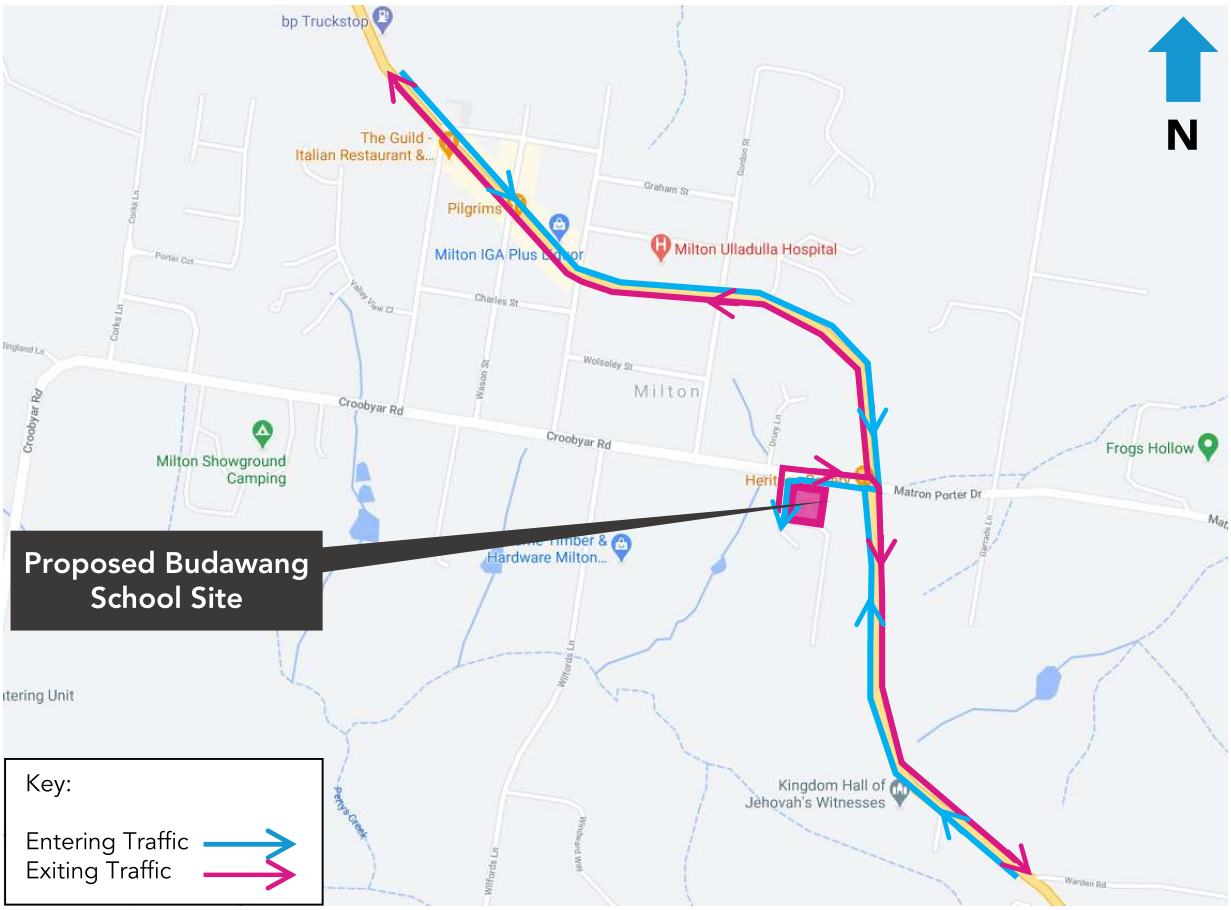


Figure 15 – Stage 1 Construction Vehicle Routes

As shown in Figure 16, there are three vehicular access gates within the construction site for Stage 1, each accessible via the internal road connection to Croobyar Road.

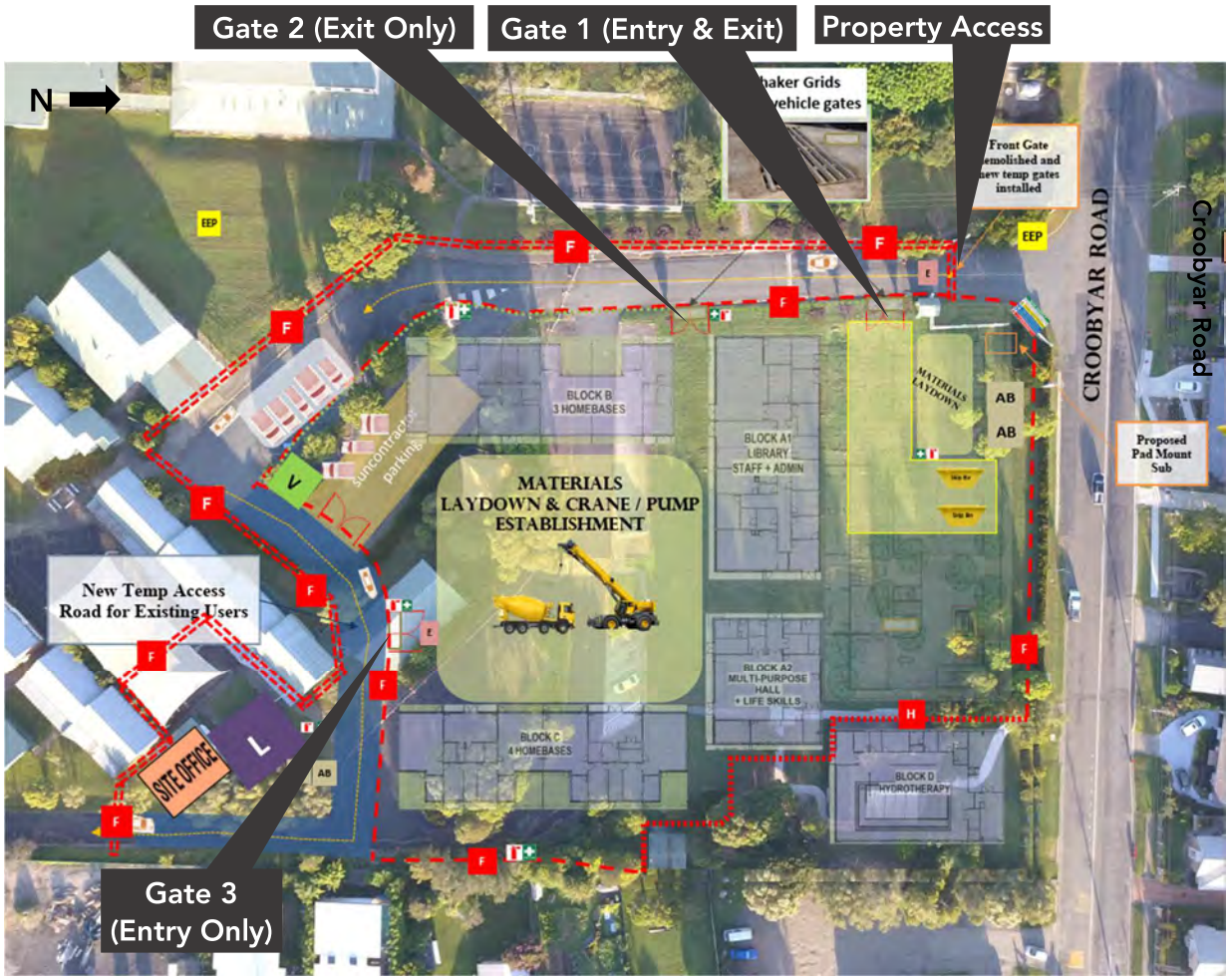


Figure 16 – Stage 1 Site Establishment Plan (Source: Zauner Construction)

Details regarding the site establishment arrangement for Stage 2 may vary and will be provided in due course once the information is available.

The following subsections outline the access arrangements at each of the proposed gates.

5.9.1.1. Property Access Gate

The property access gate is situated at the north-western corner of the site and provides access from Croobyar Road. This property access gate will facilitate construction vehicle access to the site as well as the adjoining property. It is noted that access to the adjoining property will be ad-hoc and will need to be pre-arranged in advance with Zauner Construction.

5.9.1.2. Gate 1

Gate 1 is located closest to Croobyar Road and facilitates entry and exit of delivery vehicles, concrete mixers/pumps and cranes.

The swept path demonstrating access and egress by a 19m Truck & Dog is shown in Figure 17, with the full-sized drawing included in Attachment 3.

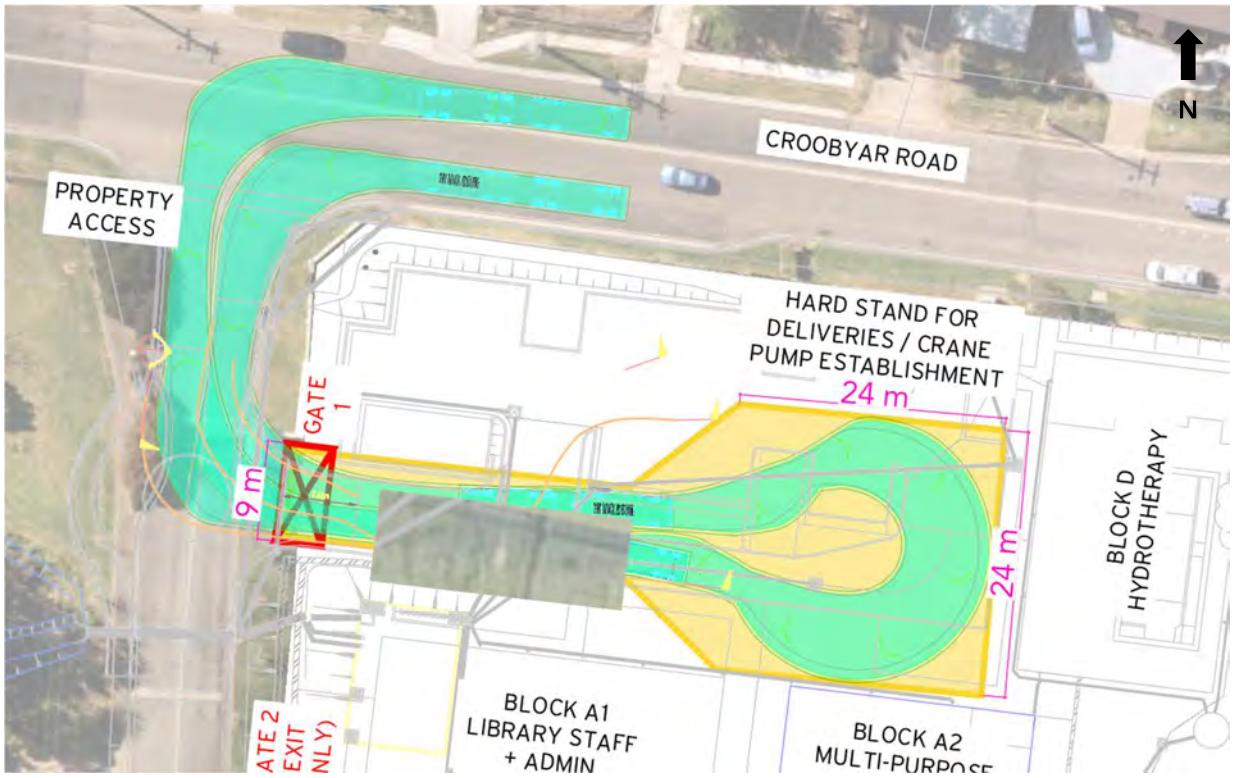


Figure 17 – 19m Truck & Dog Access & Egress via Gate 1

All vehicles entering and exiting the site shall do so in a forward direction.

Based on the swept paths, the minimum width of Gate 1 is to be 9m to facilitate two-way entry and egress for a 19m Truck & Dog. A hardstand area for vehicle manoeuvring of approximately 24m x 24m is required to facilitate turning for a 19m Truck & Dog.

5.9.1.3. Gate 2 and Gate 3

Gate 2 operates as a one-way exit and Gate 3 operates as a one-way entry gate. Both gates are to be minimum 6m wide to facilitate 8.8m MRV access and egress. The swept path assessment illustrated in Figure 18 demonstrates that all vehicles up to 8.8m MRVs are able to enter and exit the site in a forward direction. Furthermore, the swept paths along the internal roadway indicate that a B99 design vehicle is also able to pass an MRV to demonstrate that two-way passing is achieved.

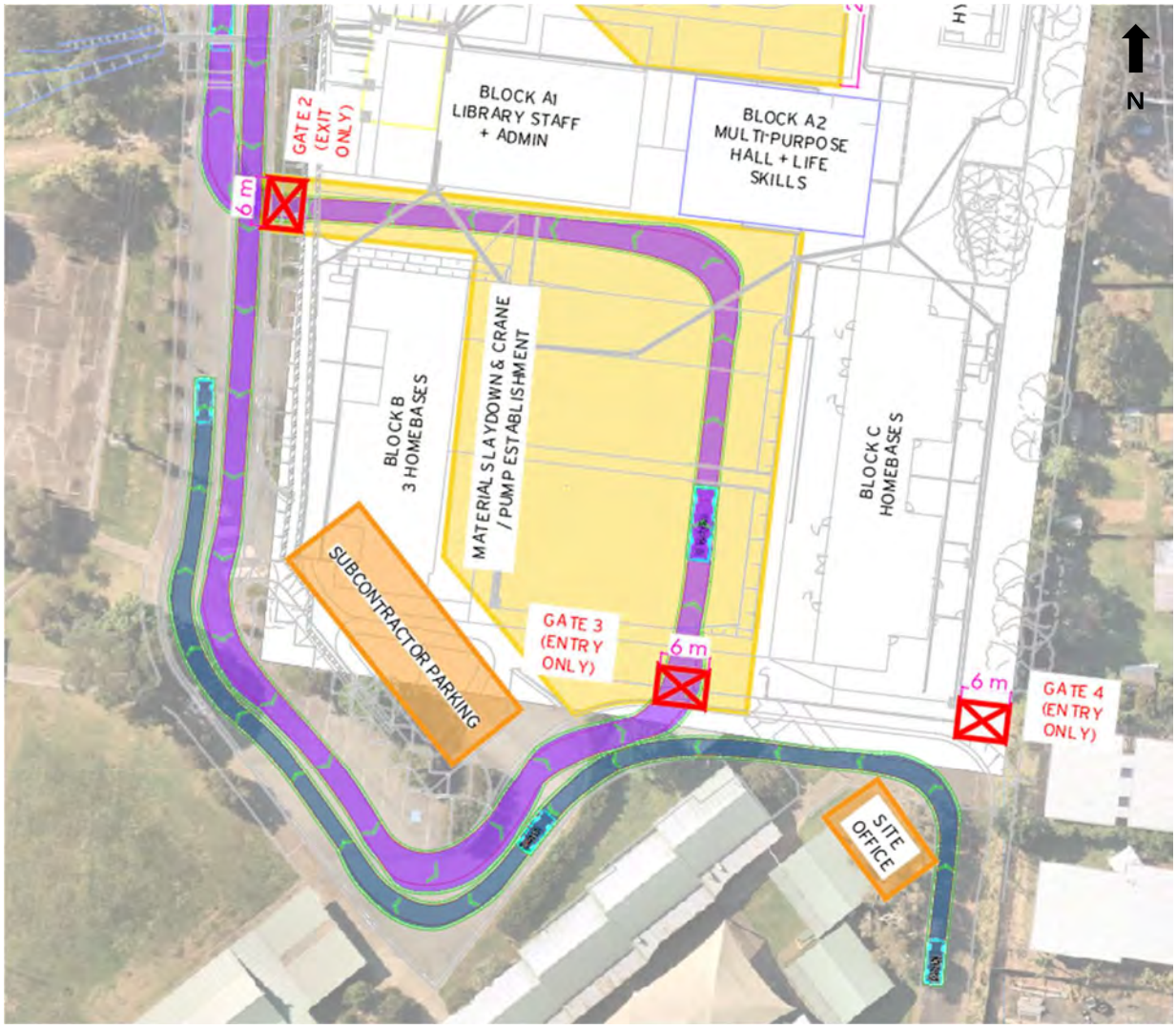


Figure 18 - 8.8m MRV Access & Egress via Gate 2 & 3

5.9.2 Stage 2 Works - Road Reserve on Croobyar Road

As outlined in Section 5.5, the road reserve within the Croobyar Road frontage of the existing childcare centre will be occupied for the Stage 2 Block D Works as shown in Figure 19.

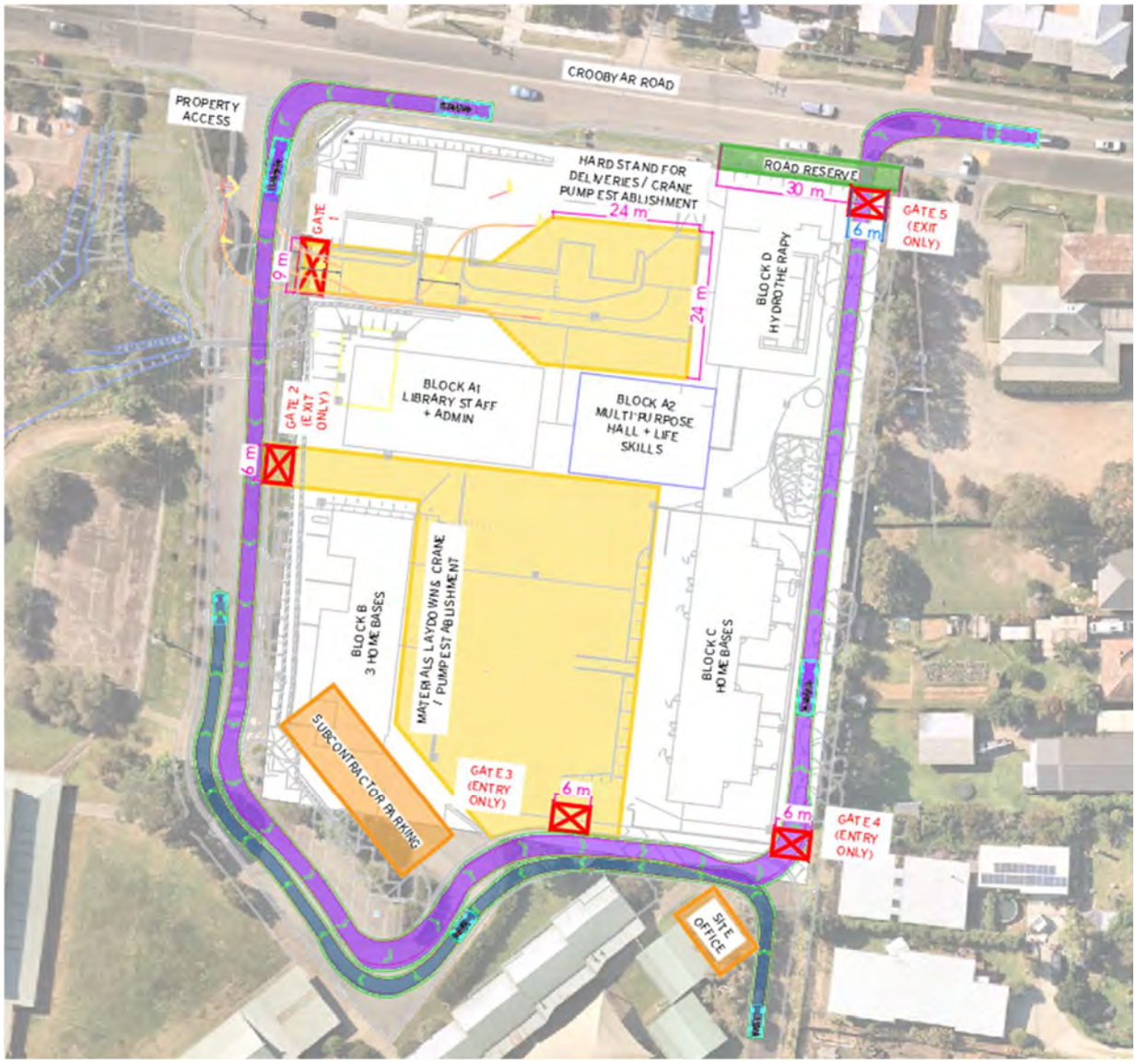


Figure 19 - 8.8m MRV Access & Egress via Gate 4 & 5

5.10 Works Zones

No Works Zones are proposed as part of the works.

5.11 Traffic Control Measures

Traffic Guidance Schemes (TGS) (previously known as 'Traffic Control Plans' or TCPs) outlines the proposed traffic management measures to inform road users of the changed traffic conditions in the vicinity of the works site. Traffic control measures are required as trucks will be turning into the site intermittently at various access points around the construction site.

Appropriate TGS signage will be required along Croobyar Road as trucks will be accessing the site intermittently. Concept TGSs have been prepared and these are included in Attachment 4.

The proposed pedestrian management measures which are proposed to maintain safety around the work areas are outlined in Section 5.13.

It is noted that detailed TGSs are to be prepared by the appointed traffic management contractor prior to commencement of works and submitted to Council and TfNSW for approval. All TGSs associated with the CTPMSP must comply with the Australian Standards and the *TfNSW Traffic Control at Work Sites Technical Manual* (TCAWS). Any required traffic controllers shall be appropriately qualified and SafeWork NSW accredited.

Traffic control shall be established in accordance with the requirements of the TCAWS and gate controllers are to be stationed at site access gates to manage access and egress to the site.

Traffic Controllers (where required) 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.

5.12 Parking Controls

No changes to existing on-street parking controls are required.

5.13 Pedestrian Management

Due to the nature of the site and the emphasis placed on materials handling, the efficient control and protection of pedestrian traffic is of utmost importance. The general public will not be allowed into the construction area.

The entire site (and any remote work areas when applicable) will be physically separated via A class fencing. The fencing will be established immediately following site possession and fitted with appropriate public directional signage. The access points to the site will be securely locked when demolition or construction activities are not occurring.

5.14 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.

5.15 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 Shoalhaven City Council and TfNSW prior to any delivery.

It is understood that oversize and over-mass vehicles are generally not allowed to travel on Local Roads unless approval for a one-off occasion is obtained from the National Heavy Vehicle Regulator (NHVR) and the City. Requests to use these vehicles must be submitted to the NHVR 28 days prior to the vehicle's scheduled travel date. For more information, please contact the NHVR on 1300 696 487 or www.nhvr.gov.au.

Should the contractor require a partial road closure on a Council or TfNSW road, or carry out any work within 150m of Traffic Signals, an application will be made to the relevant authority to obtain their approval.

5.16 Staff Parking

As outlined in Section 5.9, a designated on-site parking area for subcontractors has been provided which accommodates five car parking spaces accommodating B99 car-derived vans and utes.

5.17 Work Site Security

As discussed in Section 5.13, to provide security to the work site and protection to the general public, it is proposed that the site perimeter boundaries consist of A class fencing, installed during the period of construction. The fencing will be established immediately following site possession and fitted with appropriate public directional signage.

All access points are to be securely locked when construction activities are not in progress. The extents of the temporary fencing is illustrated in the site establishment plan included in Attachment 2.

5.18 Staff Induction

All staff and subcontractors are required to undergo a site-specific induction which outlines the construction procedures and management framework specific to the project. The induction is aimed at instilling in each person a common-sense approach to safety, to ensure they employ the responsible environmental practices and awareness needed to deliver the project in accordance with the relevant regulations and standards.

The induction will include permitted access routes to and from the construction site for all vehicles, as well as standard environmental, WHS, driver protocols and emergency procedure. Additionally, the Principal Contractor will discuss CTPMSP requirements regularly as part of toolbox talks and advise workers of public transport and carpooling opportunities.

5.19 Emergency Vehicle Access

The proposed traffic control arrangements do not propose closure of any local roads. Any emergency vehicles requiring access to the project site will do so via the existing driveway off Croobyar Road.

5.20 Access to Adjoining Properties

Access to adjoining properties will be provided on an ad-hoc basis and to be pre-arranged in advance with Zauner Construction. The adjacent landowners will be notified of works via letter box distribution and road signage to advise of anticipated truck movements in operation, with access to adjoining properties being maintained at all times.

5.21 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 SafeWork NSW accreditation in accordance with Section 8 of Traffic Control at Worksites.

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

5.22 Method of Communicating Traffic Changes

Traffic Guidance Schemes (TGSs, previously known as 'Traffic Control Plans' or TCPs) in accordance with Australian Standards (*AS 1742.3 – Traffic Control Devices for Works on Roads*) and *TfNSW Traffic Control at Work Sites Manual* will advise motorists of upcoming changes in the road network.

During construction, the contractor shall each morning prior to work commencing ensure all signage is erected in accordance with the TGSs and be 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".

The associated TGS road signage will inform drivers of works activities in the area including truck movements in operation. Any variation to the layout of the TGS on site is to be recorded and certified by authorised SafeWork NSW accredited personnel.

The applicant must notify adjacent properties of the Work Zone at least 14 days before the installation of the Work Zone (from the Work Zone Conditions).

Road Occupancy License is required for any works which impact on the road corridor, in addition to any permits required by Council. These need to be submitted to the Transport Management Centre (via the OPLINC system) a minimum of 10 business days prior to works commencing.

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;
- High vulnerable road user activity;
- Other construction activity or roadworks in close proximity to the proposed work site; and
- Reduced lane and shoulder widths.

This is appropriate for the construction of the development because of the following:

- Moving traffic could spill from the construction site access gates and obstruct vehicular access to the buildings using the shared access driveway from Croobyar Road. This may lead to delays for other users to the site.
  Risk Matrix Reference: R1

- Queued traffic from the adjacent buildings located to the south of the site could pose manoeuvrability issue for trucks turning into and out of the construction site, prolong and delay the construction process and impact on surrounding on-street parking.
  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 5.6 using the following definitions:

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

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.

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.

Table 5.6 - Risk Matrix

Likelihood	Consequence						
		Insignificant	Minor	Moderate	Major	Severe	Catastrophic
	Almost certain	R1, R2					
	Very likely						
	Likely						
	Unlikely						
	Very unlikely						
	Almost unprecedented						

As shown in Table 5.6, R1 and R2 have been assessed to be medium risks and some recommended risk mitigation measures include:

- Preparation of TGSs to communicate to road users within the vicinity of the work site of the changed traffic conditions.
- Coordination with Site Managers of neighbouring sites to ensure that deliveries can be managed to be spread out across the day rather than have all deliveries arriving at the same time to relieve pressure on the surrounding road network.
- Consult with the adjoining properties to notify them of the potential impact on their access arrangements. This can be done by the Construction Manager. Consultation letters can be prepared and drafted accordingly.

5.24 Contact Details for On-Site Enquiries and Site Access

The Principal Contractor is Zauner Construction and all on-site enquiries can be addressed to:

Adrien Clements
Project Manager
0415 618 760

Jake Saurine-Brown
Site Manager
0415 759 182

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.

Sediment tracked onto the public roadway by vehicles leaving the subject site is to be swept up immediately.

6. CTPMSP Approval, Monitoring and Review

This CTPMSP 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 CTPMSP 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 CTPMSP remains current and addresses all risks at the work site for the duration of the project or activity.

To ensure that this CTPMSP is kept up to date, the activities identified in Table 6.1 will be undertaken to facilitate review and continuous improvement.

Table 6.1 - 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 CTPMSP 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 2 hours; and • Once after care arrangements have been installed if required	ITCP or PWZTMP	TCAWS Appendix E.4 Shift / Daily TTM inspection checklist
	CTPMSP review	To ensure that CTPMSP 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

Stage	Activity	Purpose	Qualification	Tools and checklists
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 CTPMSP 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.

7. TGS Confirmation and Approval

The Traffic Guidance Schemes (TGSs) shown in Attachment 4 outlines the proposed traffic management to inform road users of the changed traffic conditions in the vicinity of the works site. The TGSs must be set out in accordance with Issue 6.0 of the Traffic Control at Work Sites Technical Manual, September 2020 (TCAWS).

TGSs are to be implemented on Croobyar Road throughout the project to warn road users of trucks entering and exiting the construction site.

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 SafeWork NSW qualified person upon engagement of the traffic management contractor and prior to commence of works on site.

7.1 TGS Verification

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.

7.2 TGS Approval

The SafeWork NSW 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 SafeWork NSW 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.

8. Summary

This CTPMSP 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 CTPMSP 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. Should any changes be made, they will need to be reviewed and approved by Council and/or TfNSW prior to implementation.

Attachment 1 - Staging Plans

CONTRACTOR PARKING AND SITE SHEDS

- During Demolition and Excavation Phase until Carpark Sub-Grade is prepared

ACCESS TO REAR SCHOOL

- To be on an ad-hoc basis and pre-arranged in advance with Zauner Constructions

MAIN WORKS

(Approx 12-14 Months)

- Demolition
- Bulk Excavation
- Construction of A1, A2, B & C
- Construction of Carpark
- Construction of Central Courtyard

NOTE:
This assumption is made with access not required 24/7 to the rear of the School, only as and when pre-arranged with Zauner Constructions

LAND GRAB

- Not currently included as Main Works and will be activated once Modification is approved by Planning

240.28 SQ.M

OPERATING CHILDCARE with new carparking at Croobyar Road

2.00 m

zauner construction

SCHOOL INFRASTRUCTURE NSW

GROUPGSA

CONTRACTOR PARKING AND SITE SHEDS

- During Phase 2 Block D Works

ACCESS TO REAR SCHOOL

- To be on an ad-hoc basis and pre-arranged in advance with Zauner Constructions

OPERATIONAL
BUDAWANG SSP

POTENTIAL REQUIREMENT FOR CRANE TO ACCESS NEW CARPARK TO ASSIST WITH CONSTRUCTION OF BLOCK D

STAGE 2

(Approx 10-12 Months)

- Demolition and Construction of Hydrotherapy Building and Vegetable Garden

138 FOR ROAD OCCUPATION

- Required for Access to Site

CONTRACTOR ACCESS FOR BLOCK D WORKS

2.00 m

Attachment 2– Site Establishment Plan

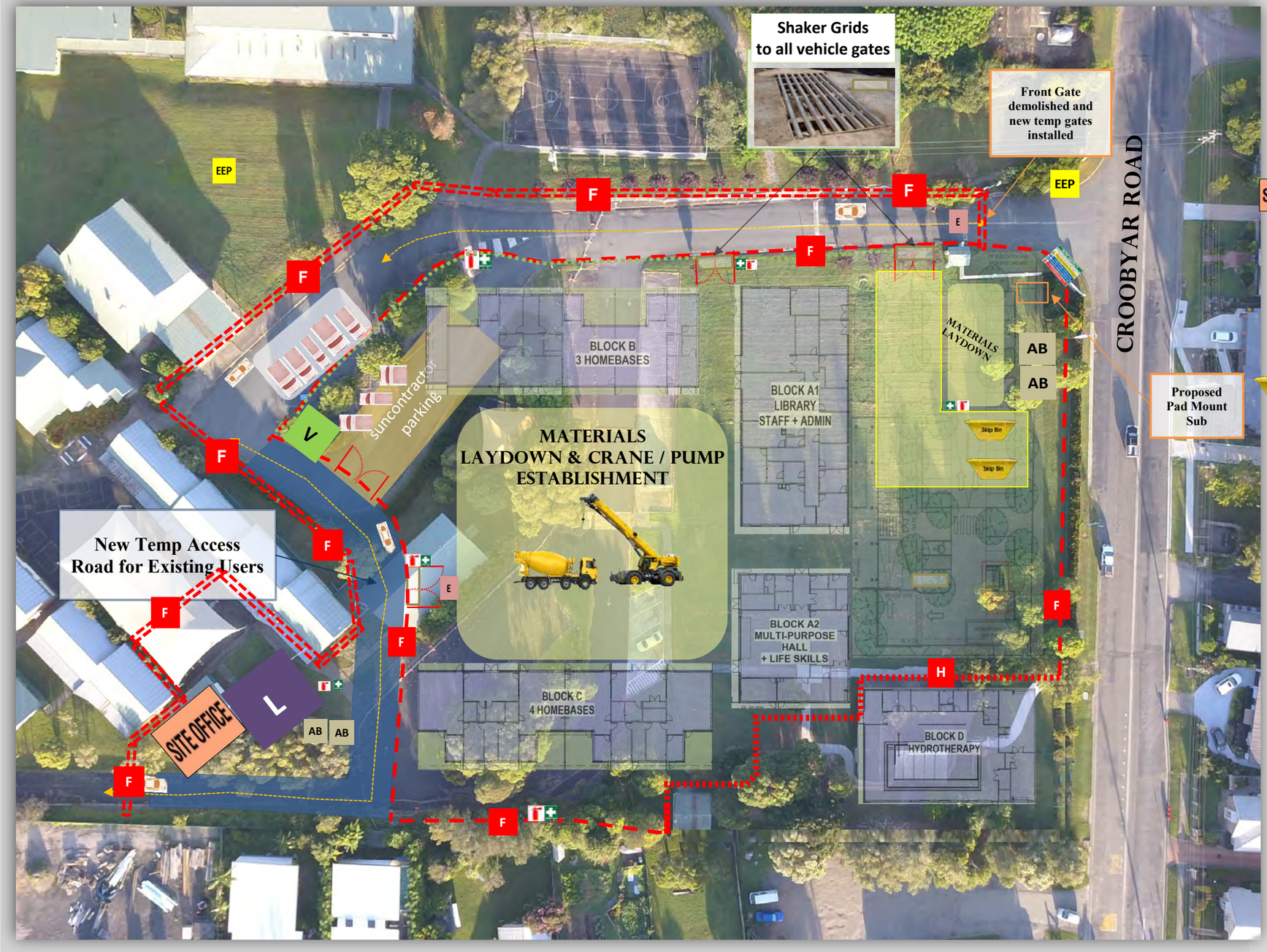
School Appreciation

Zauner risk and impact minimisation strategies recognise the need to ensure the greater School site and Community are not impacted by the works

Work Health and Safety (WHS)

Zauner full-time Site Safety Officer to remain vigilant with public interface to ensure safe working environment for everyone involved

zauner construction

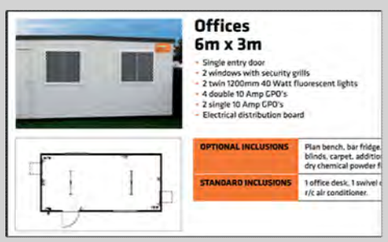


Legend

- Construction Works
- F — Temporary Fencing
- Public Shared Access Path
- E — Main Entry to Site
- SITE OFFICE — Site Office
- Materials Laydown Area / Crane Establishment
- L — Lunch Room/ Site Meeting Room
- EEP — Emergency Evacuation Point North/ South
- AB — Ablution Block / Portable Toilet
- Skip Bin — Waste Processing and Disposal
- Location of Main Site Sign Board
- First Aid and MSDS Location
- Temp Contractor Parking
- Fire Extinguisher
- V — Material Stockpile Zone
- Shipping Container Material Storage
- Sediment Control
- H — Acoustic Hoarding

Notes-

1) Traffic Management Plan to be provided by an accredited traffic management consultant
2) Stormwater and sediment control to be in conjunction with local council requirements
3) Traffic and road signage (including directional at main entrance) to be provided as per traffic consultant
4) All items indicated on this plan may not be to scale



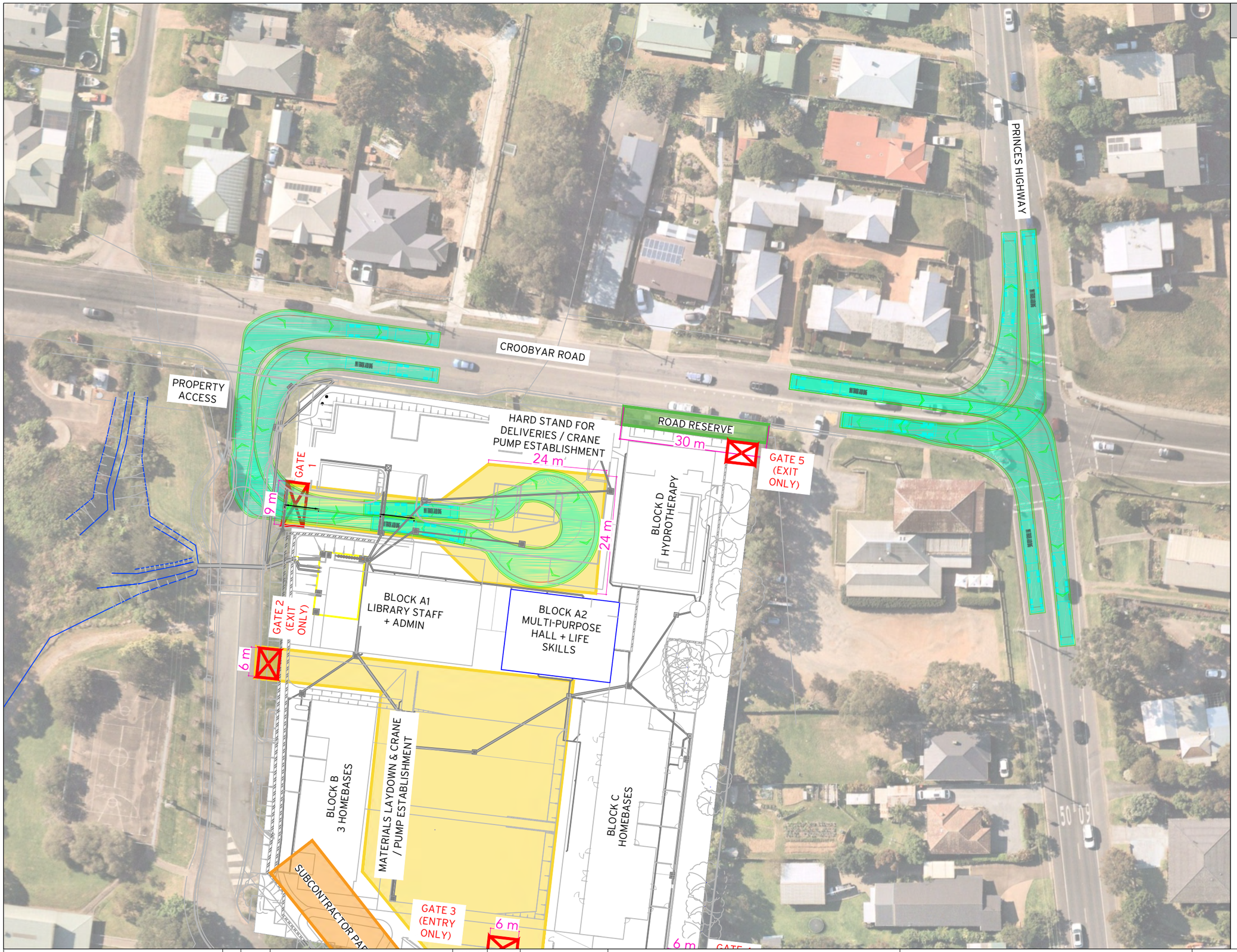
Budawang School

Site Establishment Plan

Stage 1

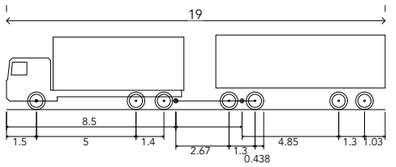
[Revision 02 - 01.04.2022]

Attachment 3- Construction Vehicle Swept Paths



comments

A3



19M TRUCK AND DOG

Overall Length	19.000m
Overall Width	2.600m
Overall Body Height	3.738m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock-to-lock time	4.00s
Wall to Wall Turning Radius	12.000m

The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytico Pty Ltd based upon vehicle data provided by Austroads. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

Suite 502, 1 James Place
North Sydney NSW 2060

t +61 2 8920 0800

ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
P6	12/04/22	FOR COORDINATION	HL	KB/DB
P5	01/04/22	FOR COORDINATION	HL	KB
P4	23/02/22	FOR INFORMATION	HL	KB
P3	14/02/22	FOR INFORMATION	HL	KB
P2	01/02/21	FOR INFORMATION	HL	KB
P1	18/01/21	FOR INFORMATION	HL	KB

PROJECT

Budawang School

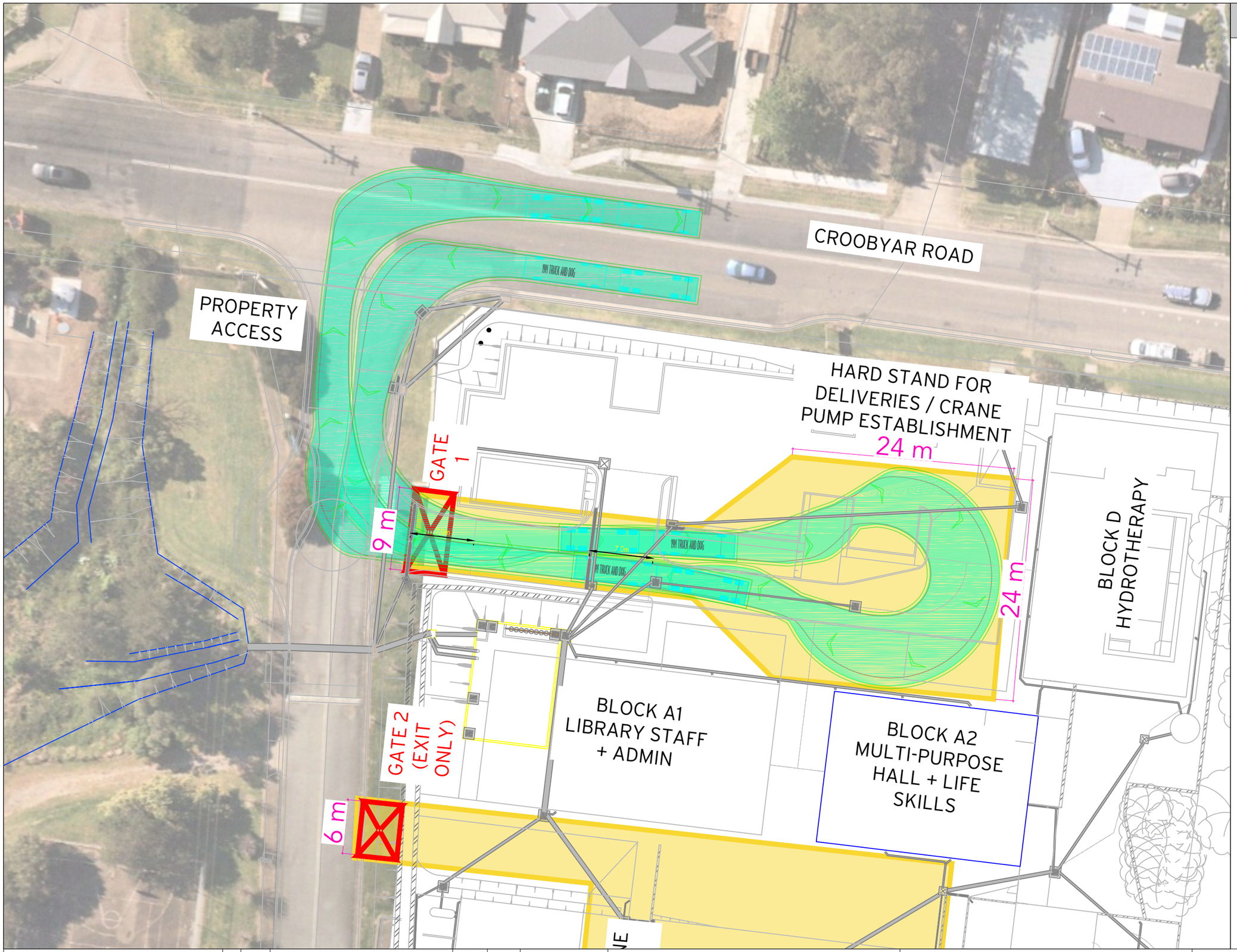
DRAWING TITLE

Construction Swept Paths
Stage 1 Works
19m Truck & Dog Access & Egress
Princes Hwy / Croobyar Rd

CLIENT	SINSW
DRAWING #	TD-101
PROJECT #	22-0112
SCALE	1 : 250

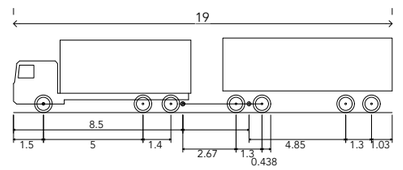
PRELIMINARY

REV P6



comments

A3



19M TRUCK AND DOG

Overall Length	19.000m
Overall Width	2.600m
Overall Body Height	3.738m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock-to-lock time	4.00s
Wall to Wall Turning Radius	12.000m

The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytico Pty Ltd based upon vehicle data provided by Austroads. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

Suite 502, 1 James Place
North Sydney NSW 2060

t +61 2 8920 0800

ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
P6	12/04/22	FOR COORDINATION	HL	KB/DB
P5	01/04/22	FOR COORDINATION	HL	KB
P4	23/02/22	FOR INFORMATION	HL	KB
P3	14/02/22	FOR INFORMATION	HL	KB
P2	01/02/21	FOR INFORMATION	HL	KB
P1	18/01/21	FOR INFORMATION	HL	KB

PROJECT

Budawang School

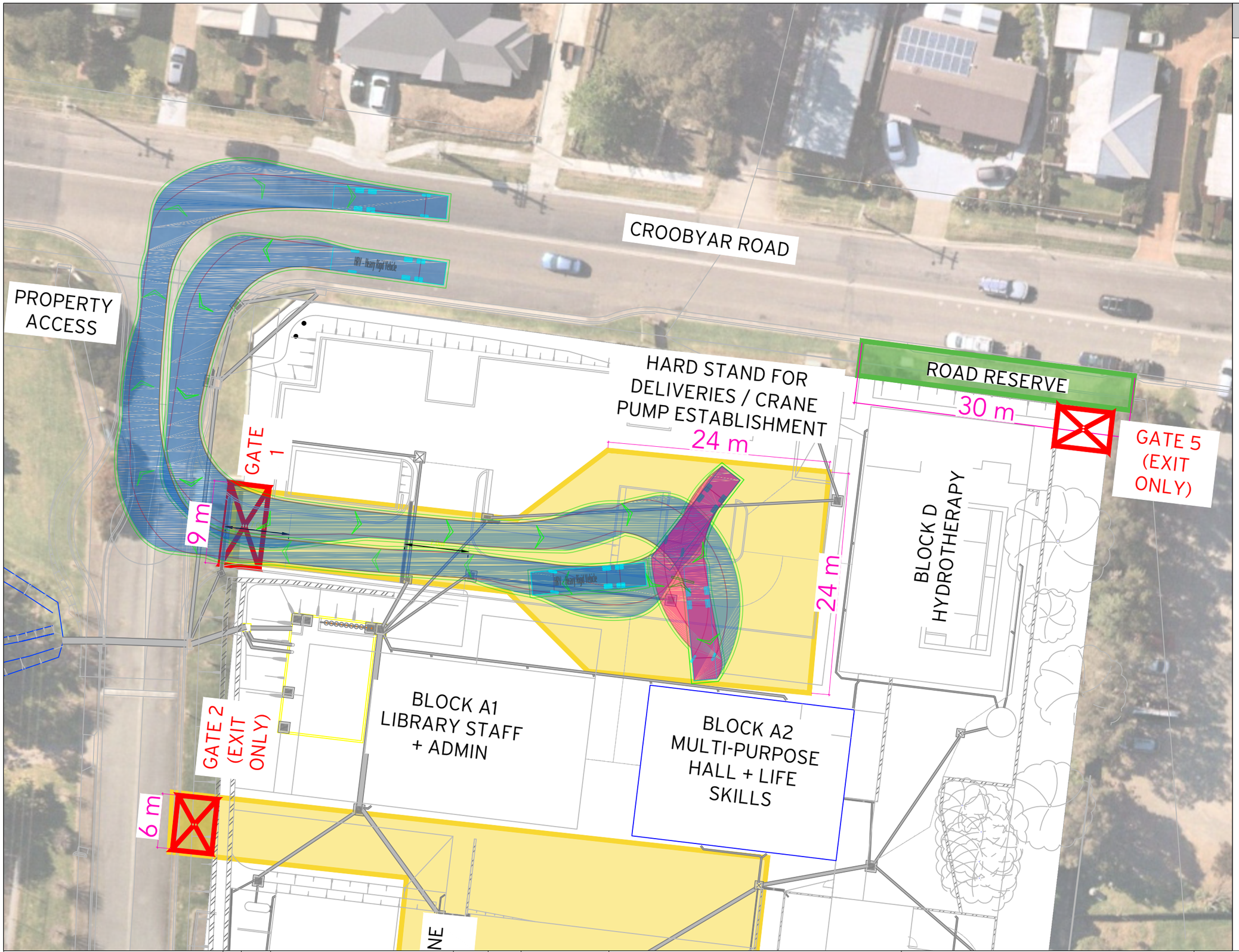
DRAWING TITLE

Construction Swept Paths
Stage 1 Works
19m Truck & Dog Access & Egress (Gate 1)

CLIENT	SINSW
DRAWING #	TD-102
PROJECT #	22-0112
SCALE	1 : 400

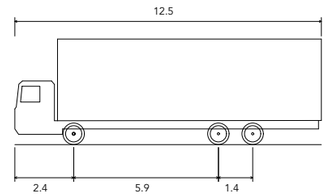
PRELIMINARY

REV P6



comments

A3



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

The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytico Pty Ltd based upon vehicle data provided by Austroads. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

Suite 502, 1 James Place
North Sydney NSW 2060

t +61 2 8920 0800

ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
P6	12/04/22	FOR COORDINATION	HL	KB/DB
P5	01/04/22	FOR COORDINATION	HL	KB
P4	23/02/22	FOR INFORMATION	HL	KB
P3	14/02/22	FOR INFORMATION	HL	KB
P2	01/02/21	FOR INFORMATION	HL	KB
P1	18/01/21	FOR INFORMATION	HL	KB

PROJECT

Budawang School

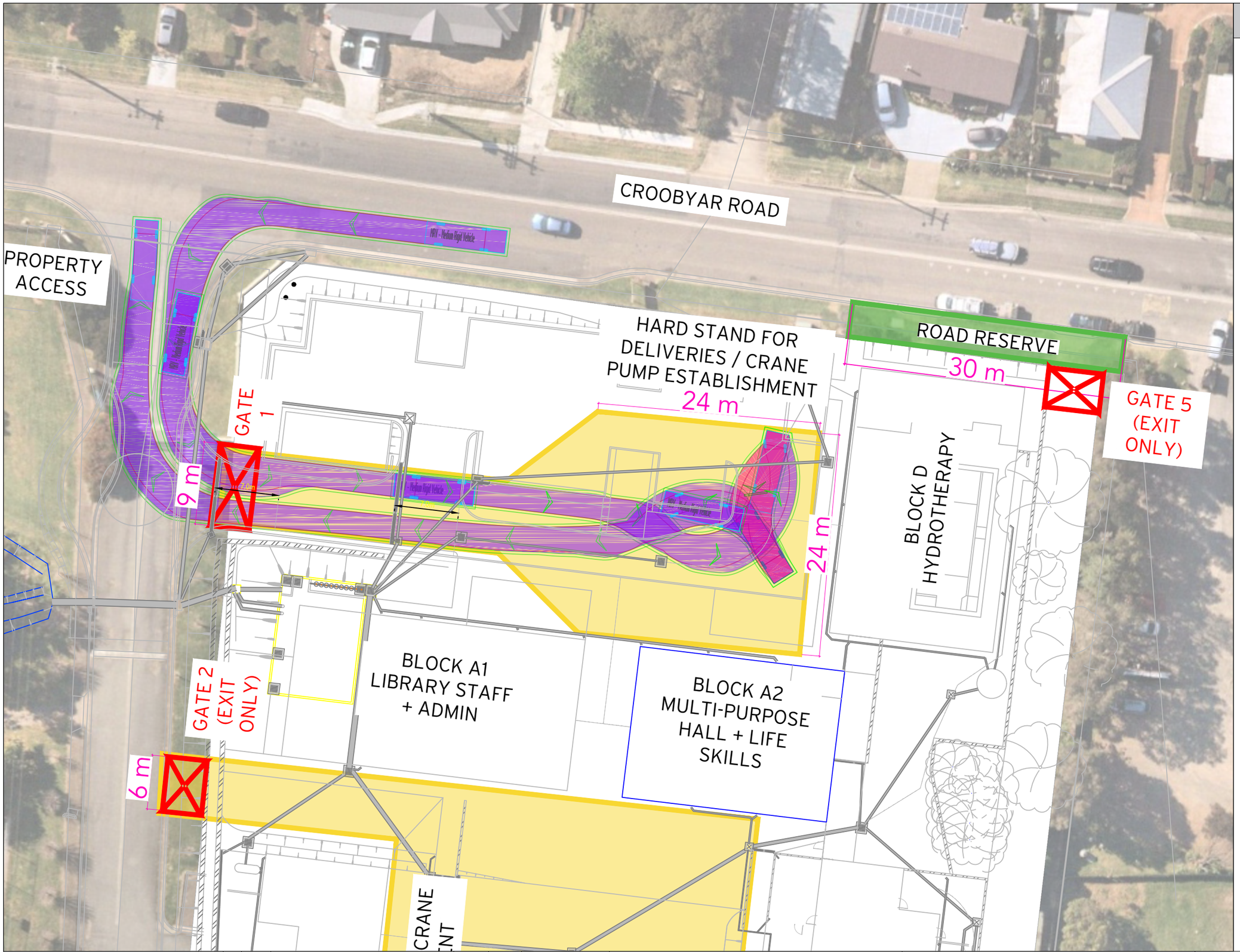
DRAWING TITLE

Construction Swept Paths
Stage 1 Works
12.5m HRV Access & Egress (Gate 1)

CLIENT	SINSW
DRAWING #	HRV-101
PROJECT #	22-0112
SCALE	1 : 400

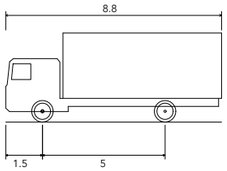
PRELIMINARY

REV P6



comments

A3



MRV - Medium Rigid Vehicle	
Overall Length	8.800m
Overall Width	2.500m
Overall Body Height	3.633m
Min Body Ground Clearance	0.428m
Track Width	2.500m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	10.000m

The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytico Pty Ltd based upon vehicle data provided by Austroads. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

Suite 502, 1 James Place
North Sydney NSW 2060

t +61 2 8920 0800

ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
P6	12/04/22	FOR COORDINATION	HL	KB/DB
P5	01/04/22	FOR COORDINATION	HL	KB
P4	23/02/22	FOR INFORMATION	HL	KB
P3	14/02/22	FOR INFORMATION	HL	KB
P2	01/02/21	FOR INFORMATION	HL	KB
P1	18/01/21	FOR INFORMATION	HL	KB

PROJECT

Budawang School

DRAWING TITLE

Construction Swept Paths
Stage 1 Works
8.8m MRV Access & Egress (Gate 1)

CLIENT	SINSW
DRAWING #	MRV-101
PROJECT #	22-0112
SCALE	1 : 400

PRELIMINARY

REV P6

BLOCK A1
LIBRARY STAFF
+ ADMIN

BLOCK A2
MULTI-PURPOSE
HALL + LIFE
SKILLS

HYD

24

GATE 2
(EXIT
ONLY)

6 m

BLOCK B
3 HOMEBASES

MATERIALS LAYDOWN & CRANE
/ PUMP ESTABLISHMENT

BLOCK C
HOMEBASES

SUBCONTRACTOR PARKING

GATE 3
(ENTRY
ONLY)

6 m

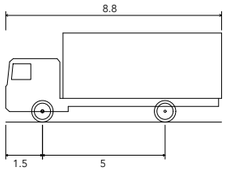
6 m

GATE 4
(ENTRY
ONLY)

SITE
OFFICE

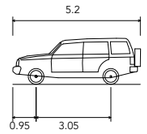
comments

A3



MRV - Medium Rigid Vehicle

Overall Length	8.800m
Overall Width	2.500m
Overall Body Height	3.633m
Min Body Ground Clearance	0.428m
Track Width	2.500m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	10.000m



B99 Vehicle (Realistic min radius) (2004)

Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	1.878m
Min Body Ground Clearance	0.272m
Track Width	1.840m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.250m

The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytico Pty Ltd based upon vehicle data provided by Austroads. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

Suite 502, 1 James Place
North Sydney NSW 2060

t +61 2 8920 0800

ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
P6	12/04/22	FOR COORDINATION	HL	KB/DB
P5	01/04/22	FOR COORDINATION	HL	KB
P4	23/02/22	FOR INFORMATION	HL	KB
P3	14/02/22	FOR INFORMATION	HL	KB
P2	01/02/21	FOR INFORMATION	HL	KB
P1	18/01/21	FOR INFORMATION	HL	KB

PROJECT

Budawang School

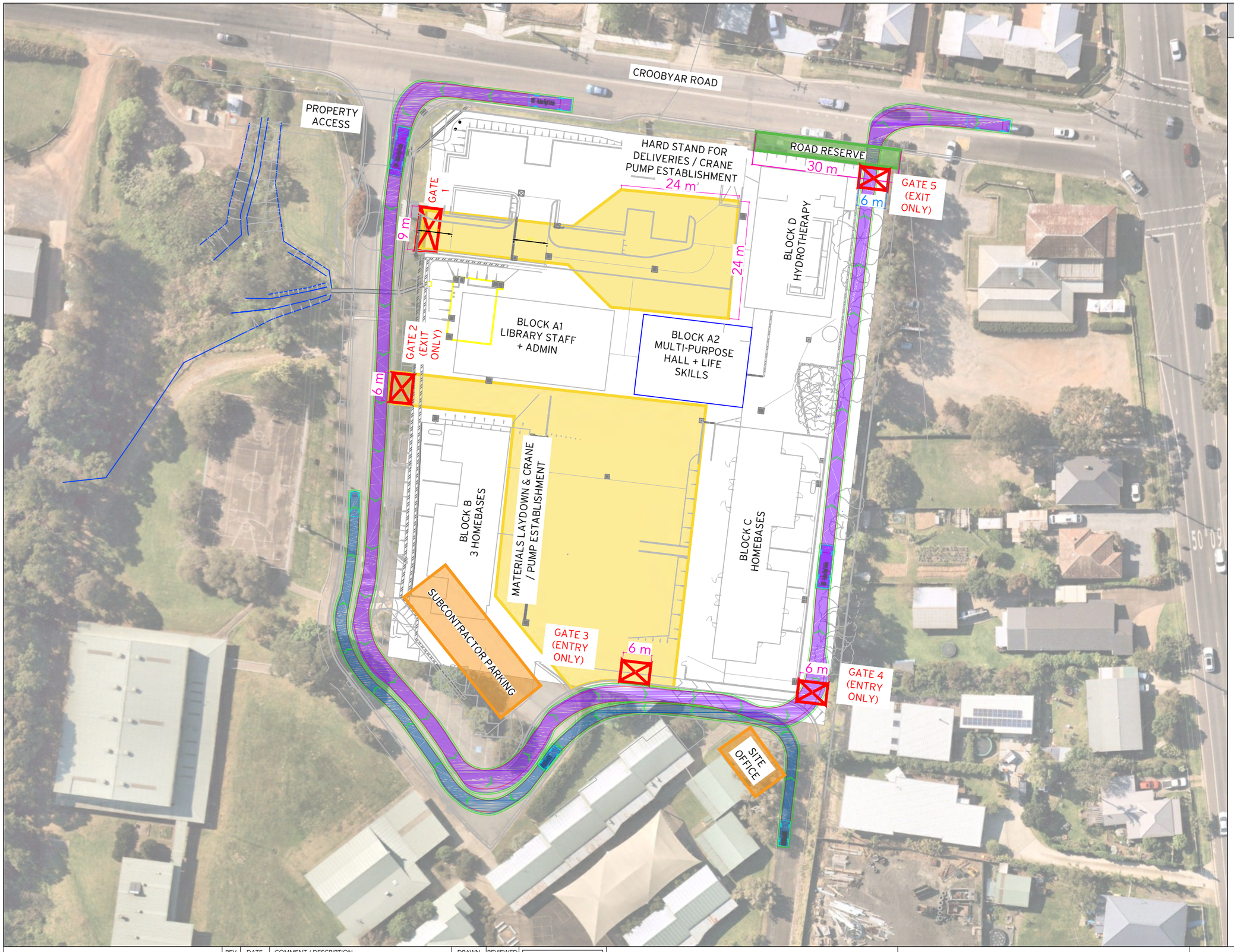
DRAWING TITLE

Construction Swept Paths
Stage 1 Works
8.8m MRV Access & Egress (Gate 2 & 3)

CLIENT	SINSW
DRAWING #	MRV-102
PROJECT #	22-0112
SCALE	1 : 500

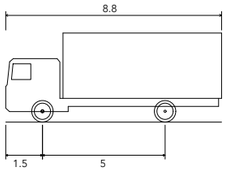
PRELIMINARY

REV P6



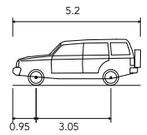
comments

A3



MRV - Medium Rigid Vehicle

Overall Length	8.800m
Overall Width	2.500m
Overall Body Height	3.633m
Min Body Ground Clearance	0.428m
Track Width	2.500m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	10.000m



B99 Vehicle (Realistic min radius) (2004)

Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	1.878m
Min Body Ground Clearance	0.272m
Track Width	1.840m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.250m

The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytico Pty Ltd based upon vehicle data provided by Austroads. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

Suite 502, 1 James Place
North Sydney NSW 2060

t +61 2 8920 0800

ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
P6	12/04/22	FOR COORDINATION	HL	KB/DB
P5	01/04/22	FOR COORDINATION	HL	KB
P4	23/02/22	FOR INFORMATION	HL	KB
P3	14/02/22	FOR INFORMATION	HL	KB
P2	01/02/21	FOR INFORMATION	HL	KB
P1	18/01/21	FOR INFORMATION	HL	KB

PROJECT

Budawang School

DRAWING TITLE

Construction Swept Paths
Stage 2 Works
8.8m MRV Access & Egress (Gate 4 & 5)

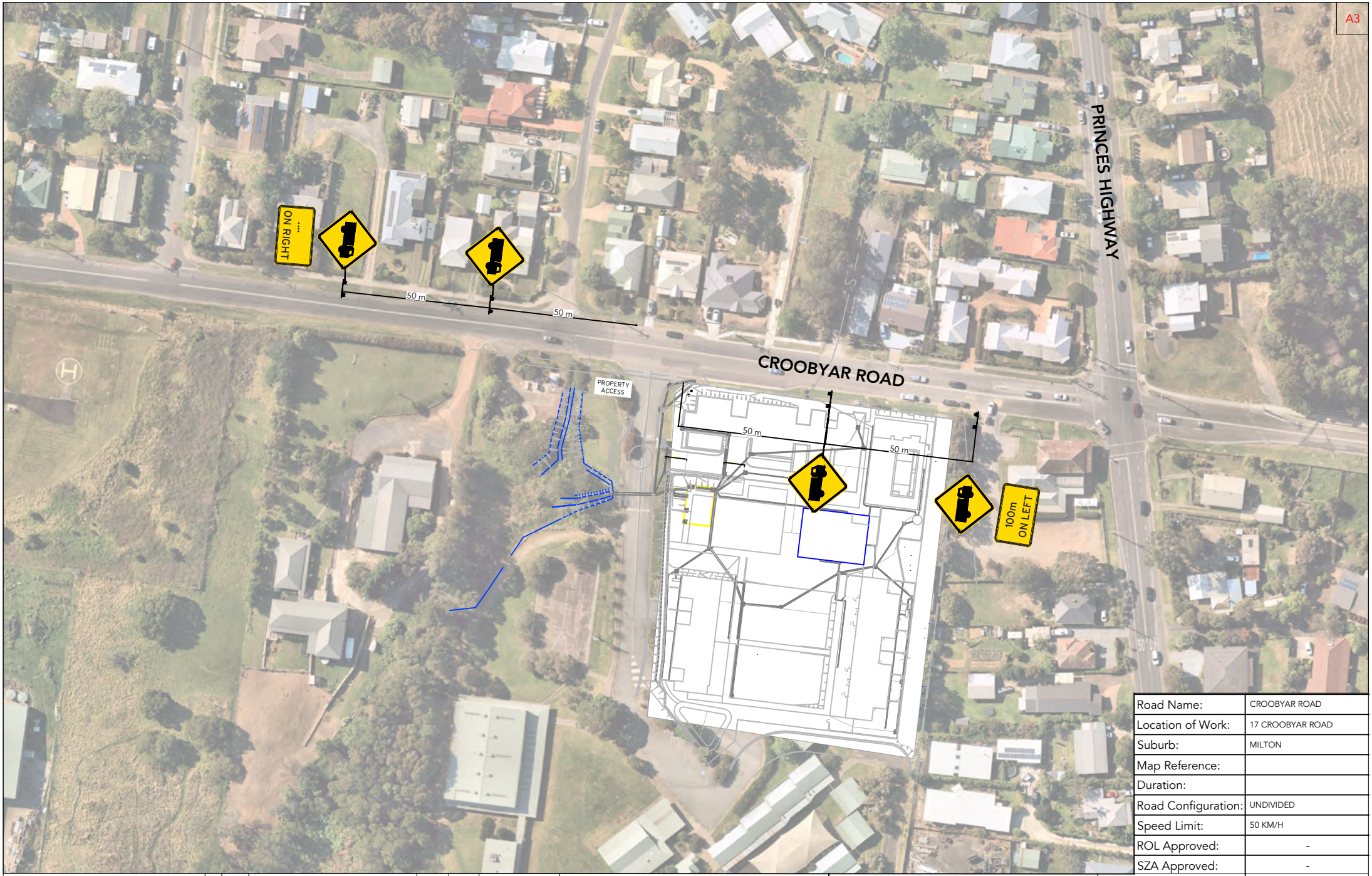
CLIENT	SINSW
DRAWING #	MRV-201
PROJECT #	22-0112
SCALE	1 : 750

PRELIMINARY

REV P6

Attachment 4 - Concept Traffic Guidance Schemes (TGSs)

A3



Road Name:	CROOBYAR ROAD
Location of Work:	17 CROOBYAR ROAD
Suburb:	MILTON
Map Reference:	
Duration:	
Road Configuration:	UNDIVIDED
Speed Limit:	50 KM/H
ROL Approved:	-
SZA Approved:	-

Suite 502, 1 James Place
North Sydney NSW 2060

t +61 2 8920 0800

ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
P5	22/04/22	CONCEPT TGS	HL	DB/KB
P4	-	NOT ISSUED	-	-
P3	-	NOT ISSUED	-	-
P2	-	NOT ISSUED	-	-
P1	-	NOT ISSUED	-	-

PROJECT
BUDAWANG SCHOOL

DRAWING TITLE
CONCEPT TGS - STAGE 1

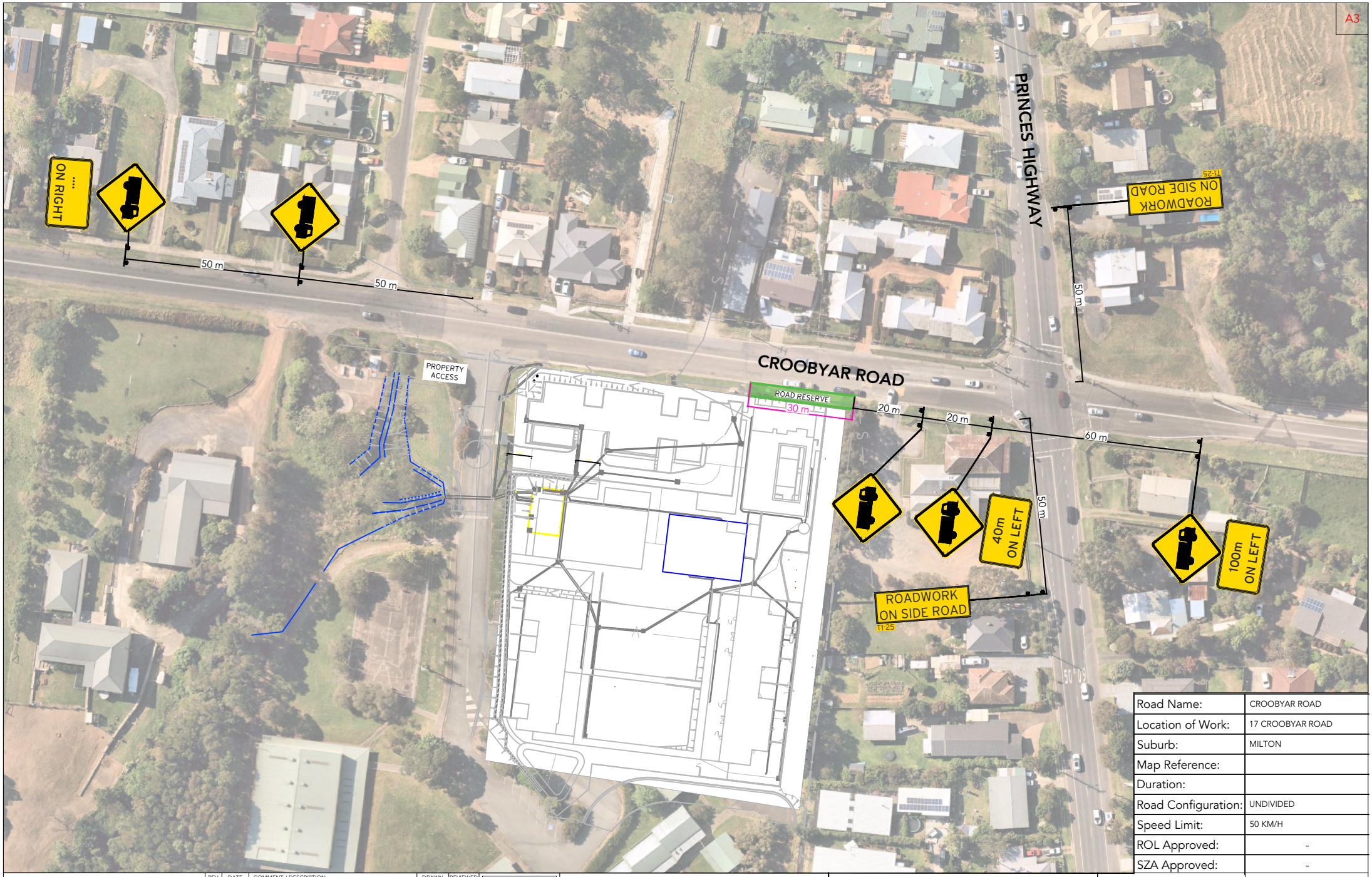
Designed by:	HENRY LI (PWZ NO: TCT1020401)
Requested by:	ADRIEN CLEMENTS (ZAUNER)
Approved by:	DAN BUDAI (PWZ NO: TCT0016805)
Delegation:	PROJECT DIRECTOR

CLIENT	SINSW
DRAWING #	TGS-101
PROJECT #	2890
SCALE	NTS

PRELIMINARY

REV P6

A3



Road Name:	CROOBYAR ROAD
Location of Work:	17 CROOBYAR ROAD
Suburb:	MILTON
Map Reference:	
Duration:	
Road Configuration:	UNDIVIDED
Speed Limit:	50 KM/H
ROL Approved:	-
SZA Approved:	-

Suite 502, 1 James Place
North Sydney NSW 2060

t +61 2 8920 0800

ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
P5	12/04/22	CONCEPT TGS	HL	DB/KB
P4	-	NOT ISSUED	-	-
P3	-	NOT ISSUED	-	-
P2	-	NOT ISSUED	-	-
P1	-	NOT ISSUED	-	-

PROJECT
BUDAWANG SCHOOL

DRAWING TITLE
CONCEPT TGS - STAGE 2

Designed by:	HENRY LI (PWZ NO: TCT1020401)
Requested by:	ADRIEN CLEMENTS (ZAUNER)
Approved by:	DAN BUDAI (PWZ NO: TCT0016805)
Delegation:	PROJECT DIRECTOR

CLIENT	SINSW
DRAWING #	TGS-201
PROJECT #	2890
SCALE	NTS

PRELIMINARY

REV P6

Attachment 5 - TfNSW Mandatory Forms

Monday, April 11, 2022

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	Budawang School
Current project phase	Construction
Activity/works	Construction of the relocated Budawang School
Location	17 Croobyar Road, Milton
Start of works	Tuesday, April 26, 2022
End of works	Tuesday, April 30, 2024
Hours of operation	Day
Day - From: / To:	7:00 AM - 6:00 PM

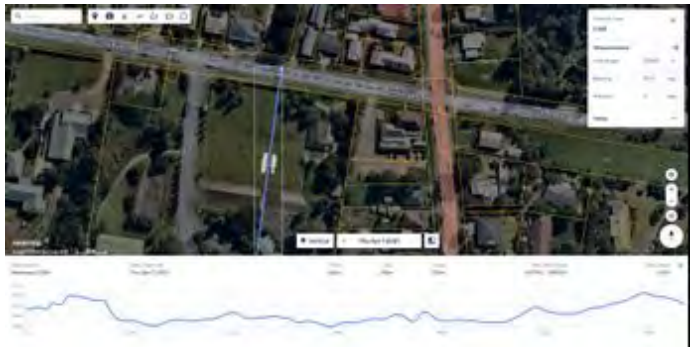
Site related information

Setting of works	Urban

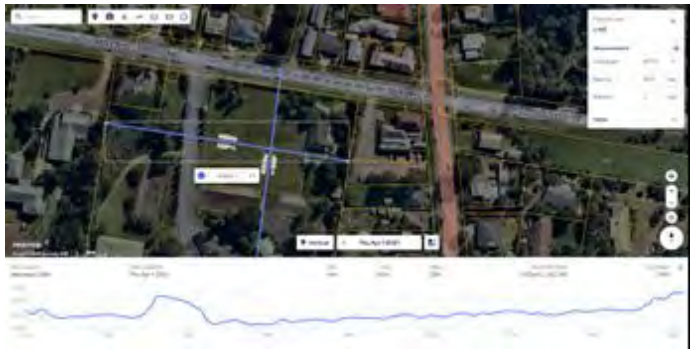
Describe the unique cross-sectional features

Refer to cross section diagrams attached for details of the site elevations

Attach a cross section of location of works



Attach a photo of location of works



Posted speed limit/s

Road name	Croobyar Road	**Limit**	50
Road name	Princes Highway	**Limit**	60

Are intersections impacted by the project length? No

Traffic data

Traffic volumes - Average Daily Traffic (ADT): Croobyar Rd (5,700); Princes Hwy (14,000)

Traffic peak times AM 8:30 AM - 9:30 AM

Traffic peak times PM 3:00 PM - 4:00 PM

Traffic composition Heavy vehicles

% of Heavy vehicles: 3.5%

Provide details:

~3.5% HV surveyed on Croobyar Road; ~5.97% HV surveyed on Princes Hwy

The ADT and traffic composition are based on traffic survey volumes taken from the original Development Application. The ADT has been 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

Provide further details:

There is currently an existing Childcare centre which will remain operational during Stage 1 works to construct the main Budawang School. A new drop-off facility will be provided for this childcare centre to enable parents to drop off their children directly in front of the centre.

Crash history at location

There has been one crash at the intersection of Princes Hwy/Croobyar Road in the last 5 years which resulted in minor injuries. There does not appear to be any recurring historical pattern of crashes occurring within the frontages of the site.

Include any supporting documentation

Constraints

Significant traffic generators

Schools

Community facilities

Events

Schools

Specify location

The site for the relocated Budawang School utilises the former Shoalhaven Anglican School site but is not currently operational. The existing childcare centre in the north-east corner of the site will remain operational. Further details are included in the CTPMSP.

Duration / time restrictions

School Zone

Impacts

Works to be primarily undertaken within the site. S138 required to undertake works within the road reserve during Stage 2 works (appropriate applications shall be made to the relevant authorities prior

to undertaken any works).

Other

Road environment constraints

Existing pedestrian infrastructure is limited, with no footpath provided on the southern side of Croobyar Road.

Other

Completed by

Please enter your details below

First name	Henry
Last name	Li
Email address	henry.li@ptcconsultants.co
Role	Traffic Engineer
Organisation	ptc.
Division	Traffic Engineer
Date	Monday, April 11, 2022

Persons consulted

First name	Adrien
Last name	Clements
Email address	adrien.clements@zauner.com.au
Role	Project Manager
Organisation	Zauner Construction
Division	Construction
Date	Monday, April 11, 2022
2. Add the details of another person who was consulted?	No

Delivery partner - provided to

Please enter their details below

First name	Adrien
Last name	Clements
Email address	adrien.clements@zauner.com.au
Role	Project Manager
Organisation	Zauner Construction
Division	Construction
Date	Monday, April 11, 2022
Send a copy of this form to the nominated delivery partner?	No

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 6 - Driver Code of Conduct

This Driver Code of Conduct applies to all personnel and any other person conducting business relating to the Budawang School for Specific Purpose Project, whether a direct employee of Zauner Construction or employed by another organisation providing service or working with Zauner Construction

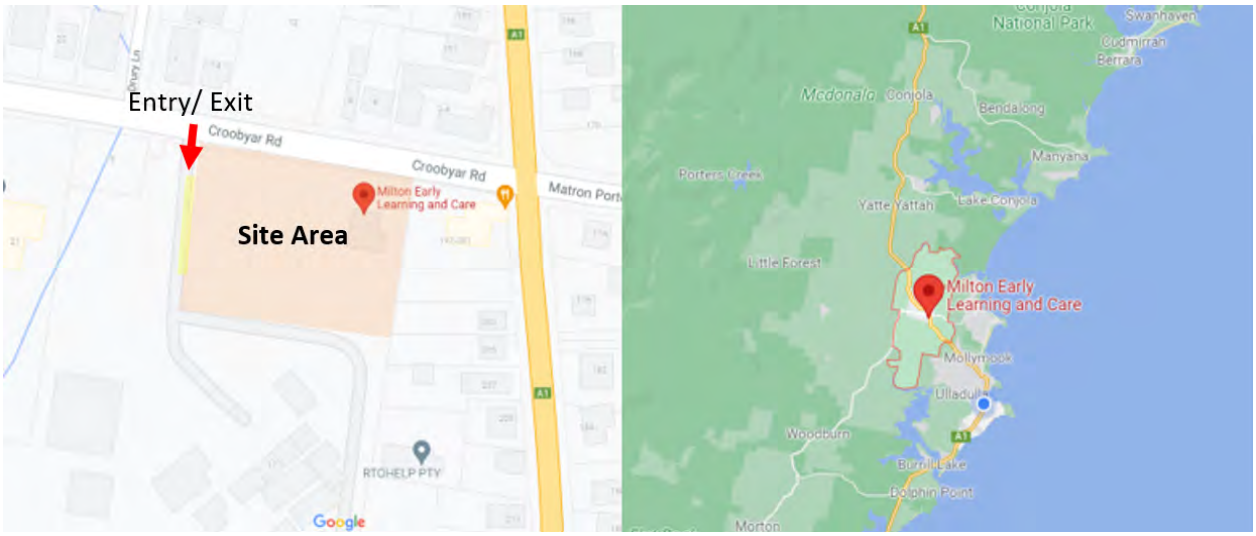
Project: Budawang School for Specific Purpose

Onsite Contact:
- Site Manager – Jake Saurine 0415 759 182
- Site Safety Officer – Ross Humble 0400 108 004

Offsite Contact: Project Manager – Adrien Clements 0415 618 760

Hours of Operation (unless agreed otherwise):

Monday to Saturday	7:00AM to 5:30PM
Sunday and Public Holidays	No works undertaken unless agreed otherwise



Google Maps Site Location: 17 Croobyar Road, Milton NSW 2538

6.1 General Requirements

- As a driver you are required to know and comply with all the transport road regulations pertaining to your vehicle, including secured and overhanding load requirements
- You are expected to hold a valid driver's license for the class of the vehicle you are operating
- You are expected to be well rested and take breaks if experiencing driver fatigue
- Undertake a site induction carried out by Zauner Construction personnel
- Remain vigilant with latest Covid-19 sign-in requirements
- Operate the vehicle in a safe manner within and outside the construction site and comply with the direction of Zauner Construction personnel while inside the site
- Advise Zauner Construction personnel of intended delivery arrival time at minimum 30 minutes prior to arrival onsite

6.2 General Considerations

As a driver you are expected to consider potential impacts to:
- traffic flow on Croobyar Road and the Princes Highway
- cyclists, pedestrians, and shared access users who may be present in the area
- bus services, taxi, holiday peak traffic and tourism vehicles
- general parking, emergency vehicles and access

At all times the driver is responsible for the safety and wellbeing of all workplace and non-workplace personnel. To ensure road safety and efficient operations the following has been developed as standard guideline.

Objective	Mitigation
Ensure truck drivers use specified 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)
Minimise Impact on General Flow of Traffic	All vehicles are expected to plan their approach into site, including early warning with Zauner Construction personnel towards arrival time onsite. Where applicable, material deliveries are to be coordinated outside of peak traffic times to minimise disruption of day-to-day traffic
Ensure Road Safety with Speed Limits	All heavy vehicle drivers are to observe the posted speed limits, within or outside of the construction. Keep in mind that there are changes in traffic conditions and altered speed limits are posted on approach to the site
Ensure Road Safety when Entering/ Exiting site	All vehicles are to drive into site front on (no reversing in) to maximise visibility. Always check for pedestrians and other shared road users, in particular when exiting site. Drivers are to recognise shared roads inside the site area
Minimise 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
Ensure material loads are transported legally and safely	RMS requires all load covers to secure and contain all materials within the vehicle or trailer. All drivers are responsible for proper load restraints, including suitable equipment for loads to be covered at all times
Minimise road Traffic noise	All heavy vehicles are to ensure reasonable noise mitigation measures are implemented to avoid or minimise noise. In particular to sensitive locations such as adjacent residential, School, Church and Hospital areas. At the minimum, all vehicles must comply with the Department of Environment and Conservation (NSW) Managing vehicle noise guide. This includes a reduction in the speed of a vehicle in sensitive areas to reduce compression braking.

Minimise conflicts with other road users	All vehicles are to drive safely and use common sense when approaching high trafficable areas including Croobyar Road and Princes Highway traffic light intersections. Vehicle operators are to ensure clear line of sight with other road users
Ensure road safety on cyclists, pedestrians and bus services	All vehicle operators are to remain vigilant with road safety and awareness for non-vehicular traffic, including but not limited to pedestrians, cyclists, runners ect. and the like which approach vehicle blind spots unexpectedly. At all times no vehicles are to impede with any public transport access paths such as preventing bus services from pulling into pick-up/ drop-off stop points
Minimise impact on parking arrangements	All construction vehicles and workers are to minimise impact on residential street or public parking including along Croobyar Road and the adjacent Heritage Bakery public car park. At all times no parking is permitted along the South side of Croobyar Road
Ensure efficient operations of emergency service vehicles	All vehicle operators are to ensure clear passage for unexpected emergency service vehicles including inside the site shared access road which requires 24/7 access for fire truck and other emergency service vehicles if required. At all times vehicles which are waiting for material unload are to be positioned where instructed by Zauner Construction personnel to minimise obstruction to service vehicles
Minimise impact to Heavy Vehicle frequency	To increase road safety, heavy vehicles leaving the construction site should be separated, as far as practicable and at minimum of a 10-minute interval. In particular when pulling out from Croobyar Road onto the Princes Highway.

6.3 Breakdowns and Emergencies

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. In the case of an emergency, call 000 as soon as safe and possible.

Service NSW Transport Management Centre
131 700

All Other Emergencies
000

If there is a product spill while loading/unloading or en-route the driver must:

1) Immediately warn persons in the area who may be at risk;
2) Inform their shift supervisor/owner. If this occurs on Croobyar Road, Zauner Construction must be contacted so a clean-up can be initiated;
3) All spills must be adequately cleaned up and waste disposed of in an acceptable and environmental manner;
4) Put out warning triangles where it is safe to do so;
5) Contact the NSW Police Service.

6.4 Heavy Vehicle Speed

Increased speed means not only an increased risk of crashing but also increased severity if an accident occurs. A study undertaken for the Australian Transport Safety Bureau found that travelling 10 km/h faster than the average traffic speed can more than double the risk of involvement in a casualty accident. (Source Roads and Maritime Services (RMS) previously known as Roads and Traffic Authority (RTA).

There are two types of speeding:

1) Where a heavy vehicle travels faster than the posted speed limit; and
2) Where a driver travels within the speed limit but because of road conditions (e.g. fog or rain) this speed is inappropriate. (Source RMS).

Drivers and truck operators are to be aware of the “Three Strikes Scheme” introduced by the Roads and Maritime Services which applies to all vehicles over 4.5 tonnes. When a heavy vehicle is detected travelling at 15 km/h or more over the posted or relevant heavy vehicle speed limit by a mobile Police unit or fixed speed camera, the Roads and Maritime Services will record a strike against that vehicle. If three strikes are recorded within a three year period, the Roads and Maritime Services will act to suspend the registration of that vehicle (up to three months). More information is available from the Roads and Maritime Services website. Vehicle speed on public roads is enforced by the NSW Police Service.

The speed limit within the Budawang School for Specific Purpose site is 10 km/h which is to be strictly maintained.

All heavy vehicle drivers are to observe the posted speed limits, with speed adjusted appropriately to suit the road environment and prevailing weather conditions, to comply with the NSW Road Rules. The vehicle speed must be appropriate to ensure the safe movements of the vehicle based on the vehicle configuration.

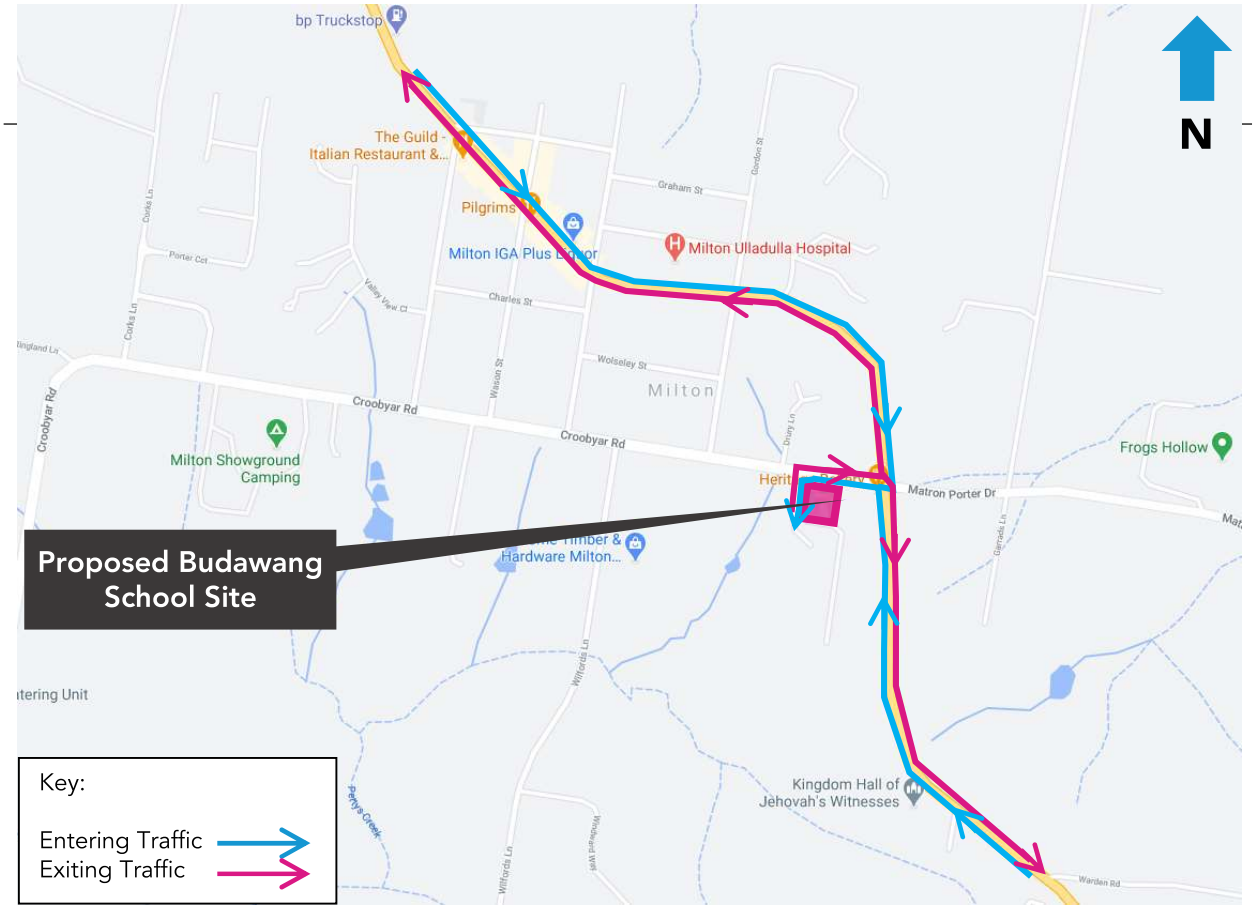
6.5 Deliveries

All deliveries to site will be as per *5.9 Vehicle Construction Routes* within the CTPMSP

6.6 Communication of Driver Code of Conduct

The Driver Code of Conduct will be communicated to the Heavy Vehicle Drivers in the following way:

- Through Zauner's WHS system Hammertech, in which Sub-Contractors are pre-loaded into the system and sent a welcome email in which the Driver Code of Conduct is contained. This way, Sub-Contractors are advised of the requirements prior to attending site
- During an initial induction onsite
- Monthly Updates to all Sub-Contractors as part of the boarder WHS Communication Strategy
- Signage displayed on the Site Safety Shed and a hardcopy of the Code of Conduct contained within the Site Safety Shed



ptc.

experience

Kasia Balsam
Team Leader

- M.Sc. Civil Engineering, Technical University Darmstadt (Germany)

Kasia is a qualified Civil Engineer with a focus on traffic and transport matters. She gained her first practical experience in Germany, where she worked in a traffic and transport consultancy for four years. Having worked in Australia for a while now, Kasia has immersed in and embraced local issues and their resolution.

Kasia's projects range from traffic impact assessments, construction and event traffic management plans to car park designs for both private developers and public authorities. Most recently, Kasia has been increasingly involved in school projects, while working with School Infrastructure NSW on public schools and with private educational facilities. The various projects include car park and pick-up/drop-off area capacity assessments as well as layout and access design work at masterplan, concept design and development application stages.

Kasia is dedicated to her tasks and together with her determination and precision she is focused on finding solutions which satisfy both the relevant requirements and the client's wishes.

In addition to being fluent in English she also speaks German and Polish, further increasing ptc.'s international capabilities.

Post Approval – Consultation

Consultation needs to be meaningful, done with courtesy and respect and be well documented. These are people/ organisations that we need to be building meaningful relationships with.

Conditions of all consent can require consultation with a range of stakeholders. Consultation in the post approval world needs to be well documented to satisfy the condition requirements.

Examples include Council, service providers (eg. Electricity gas etc.), consult with local bus provider and TfNSW.

Read each condition carefully, any reference to consult triggers consultation.

Typically on State Significant Development, there will be a specific consultation condition as to how this piece can be appropriately addressed.

Consultation is not:

- A token gesture
- Done at the end of the piece of work,
- An email to the relevant stakeholder with no response;
- A meeting with the stakeholder with no meeting minutes.

Consultation is:

- Meaningful
- Done prior to the requirement,
- Captures an outcome,
- Identifies matters resolved,
- Identifies matters unresolved,
- Any disagreements are disclosed; and
- How we are going to address unresolved matters?

How to capture all the relevant details on consultation requirements? Any consultation requirement in a condition is required to be accompanied with the following table:

Education
School Infrastructure

Post Approval Consultation Record

Identified Party to Consult:	Shoalhaven City Council (SCC) & TfNSW
Consultation type:	SSDA Submission and response via email conversations
When is consultation required?	Prior to commencement of Demolition or Construction
Why	B13 – Construction Traffic and Pedestrian Management Sub-Plan approval
When was consultation scheduled/held	18 January – 14 February 2022
When was consultation held	18 January – 14 February 2022
Identify persons and positions who were involved	Elira Reynolds – Development Services Case Officer, TfNSW Harry Brizga – Development Engineering Officer, SCC Scott Haylett – Development Engineering Coordinator, SCC Adrien Clements – Project Manager, Zauner Constructions
Provide the details of the consultation	**Consultation with Shoalhaven City Council** **18 January 2022** As part of the SSDA, a Construction Traffic and Pedestrian Management Sub-Plan has been submitted to Council for review and feedback. **21 January 2022** Council supplied response and a number of minor comments to be updated on the plan. **21 January 2022** Zauner returned comments to close out **14 February 2022** SCC confirm they have reviewed the revised CTMP for the development and can advise that it has addressed Council's previous concerns and is now considered acceptable. **Consultation with TfNSW** **18 January 2022** As part of the SSDA, a Construction Traffic and Pedestrian Management Sub-Plan has been submitted to TfNSW for review and feedback. **24 January 2022** TfNSW noted it has no further comments to be incorporated into the plan
What specific matters were discussed?	New School for Specific Purpose in Milton NSW - Construction Traffic and Pedestrian Management Sub-Plan

What matters were resolved?	A Construction Traffic and Pedestrian Management Sub-Plan to be prepared to show the proposed traffic arrangements including signage and traffic control for heavy vehicles
What matters are unresolved?	N/A
Any remaining points of disagreement?	N/A
How will SINSW address matters not resolved?	N/A

Adrien Clements

From: Scott Haylett <Scott.Haylett@shoalhaven.nsw.gov.au>
Sent: Monday, 14 February 2022 8:49 AM
To: Adrien Clements
Cc: Peter Johnston; Harry Brizga
Subject: RE: 409 Budawang SSP - B13 Construction Traffic and Pedestrian Management Sub-Plan
Attachments: Zauner Construction Pty Ltd Construction Traffic and Pedestrian Management Sub-Plan Rev1.pdf

Hi Adrien,

I have reviewed the revised CTMP for the development and can advise that it has addressed Council's previous concerns and is now considered acceptable.

Please ensure a S138 application is submitted and approved prior to commencement of any works in the road reserve.

Regards,

Scott Haylett
Development Engineering Coordinator
Shoalhaven City Council

02 4429 3308 | 0423 292 131
Bridge Rd (PO Box 42) Nowra NSW 2541
scott.haylett@shoalhaven.nsw.gov.au

RESPECT | INTEGRITY | ADAPTABILITY | COLLABORATION

Welcome to the NSW Planning Portal | Planning Portal - Department of Planning and Environment

---

From: Adrien Clements <Adrien.Clements@zauner.com.au>
Sent: Thursday, 10 February 2022 4:22 PM
To: Peter Johnston <Peter.Johnston@shoalhaven.nsw.gov.au>; Scott Haylett <Scott.Haylett@shoalhaven.nsw.gov.au>
Subject: RE: 409 Budawang SSP - B13 Construction Traffic and Pedestrian Management Sub-Plan

Hi Peter/Scott,

I understand Harry is away so hoping you can help close out below email – just need an ok from SCC on the Sub-Plan so we can close off remaining CC1 docs

Thanks in advance

Regards,

Adrien Clements

Project Manager	Zauner Construction	Adrien.Clements@zauner.com.au
Office: 02 4454 1827	Fax: 02 4454 1690	Mobile: 0415 618 760
Ulladulla Office	Suite 10, 132 Princess Highway	Ulladulla NSW 2539
PO Box 271	Ulladulla NSW 2539
Web: www.zauner.com.au

"Zauner Construction Celebrating Over 60 Years Pride in Workmanship"

From: Adrien Clements
Sent: Thursday, 10 February 2022 4:20 PM
To: 'Harry Brizga' <Harry.Brizga@shoalhaven.nsw.gov.au>
Cc: 'Peter Johnston' <Peter.Johnston@shoalhaven.nsw.gov.au>; 'Scott Haylett' <Scott.Haylett@shoalhaven.nsw.gov.au>
Subject: RE: 409 Budawang SSP - B13 Construction Traffic and Pedestrian Management Sub-Plan

Hi Harry,

Just to close out to the satisfaction of the PCA, can you please confirm the below responses clarify your queries and that SCC is satisfied with the CTPM Sub-Plan?

Updated Sub-Plan attached

Regards,

Adrien Clements

Project Manager	Zauner Construction	Adrien.Clements@zauner.com.au
Office: 02 4454 1827	Fax: 02 4454 1690	Mobile: 0415 618 760
Ulladulla Office	Suite 10, 132 Princess Highway	Ulladulla NSW 2539
PO Box 271	Ulladulla NSW 2539
Web: www.zauner.com.au

"Zauner Construction Celebrating Over 60 Years Pride in Workmanship"

This email message is intended only for the addressee and contains information which may be confidential. If you are not the intended recipient do not read, save, forward, disclose, or copy the contents of this email. If this email has been sent to you in error, please delete this email and any copies or links to this email completely and immediately from your system. Please use our planet's resources wisely.

From: Adrien Clements
Sent: Friday, 21 January 2022 11:02 AM
To: Harry Brizga <Harry.Brizga@shoalhaven.nsw.gov.au>
Cc: Peter Johnston <Peter.Johnston@shoalhaven.nsw.gov.au>; Scott Haylett <Scott.Haylett@shoalhaven.nsw.gov.au>
Subject: RE: 409 Budawang SSP - B13 Construction Traffic and Pedestrian Management Sub-Plan

Hi Harry,

Thanks for the comments – responses below.

Regards,

Adrien Clements

Project Manager	Zauner Construction	Adrien.Clements@zauner.com.au
Office: 02 4454 1827	Fax: 02 4454 1690	Mobile: 0415 618 760
Ulladulla Office	Suite 10, 132 Princess Highway	Ulladulla NSW 2539
PO Box 271	Ulladulla NSW 2539
Web: www.zauner.com.au

"Zauner Construction Celebrating Over 60 Years Pride in Workmanship"

From: Harry Brizga <Harry.Brizga@shoalhaven.nsw.gov.au>
Sent: Friday, 21 January 2022 8:50 AM
To: Adrien Clements <Adrien.Clements@zauner.com.au>
Cc: Peter Johnston <Peter.Johnston@shoalhaven.nsw.gov.au>; Scott Haylett <Scott.Haylett@shoalhaven.nsw.gov.au>
Subject: RE: 409 Budawang SSP - B13 Construction Traffic and Pedestrian Management Sub-Plan

Hi Adrien,

A few comments below on the Traffic and Pedestrian Management Plan for your consideration.

- Site establishment plan (p11) differs from the erosion and sediment control plan in terms of stabilised site access points and vehicle movements, i.e. the stabilised site access was to be established on the main site access point off Croobyar Rd, not off the internal driveway. Yes apologies, we will update as per the H&H plan.
- Are any school operations continuing in existing buildings on the site whilst the Budawang school is under construction? I was of the understanding that the remainder of the site is currently disused which would allow for a safer worksite and an ability to occupy and undertake works on the internal driveway without concern for passing traffic. If visitor access is still required past the construction site, specific attention will be required for

stages of the work that affect the internal driveway. Traffic control may also be required on the driveway itself for truck movements where these have the potential to conflict with other traffic within the site. Yes the remaining existing school is not currently in use. We are in discussion with SINSW that may result in an arrangement where we provide incidental traffic control as and when there is any access requirements to the rear of the school.

- TCP for footpath works on Croobyar Rd will be required. Yes this will be developed and issued when we finalise the plans and submit as part of a 138 application to Council

Please advise if you have any questions.

Kind regards,

Harry Brizga
Development Engineering Officer
Shoalhaven City Council

02 4429 3249
Bridge Rd (PO Box 42) Nowra NSW 2541
Harry.Brizga@shoalhaven.nsw.gov.au
www.shoalhaven.nsw.gov.au

Welcome to the NSW Planning Portal | Planning Portal - Department of Planning and Environment

---

From: Adrien Clements <Adrien.Clements@zauner.com.au>
Sent: Tuesday, 18 January 2022 4:48 PM
To: Harry Brizga <Harry.Brizga@shoalhaven.nsw.gov.au>
Cc: Peter Johnston <Peter.Johnston@shoalhaven.nsw.gov.au>; Scott Haylett <Scott.Haylett@shoalhaven.nsw.gov.au>
Subject: 409 Budawang SSP - B13 Construction Traffic and Pedestrian Management Sub-Plan

Hi Harry,

As part of the SSDA for Budawang School in Milton, we need to consult with Council on Condition B13 Construction Traffic and Pedestrian Management Sub-Plan.

B13. 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 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, access and parking arrangements.

Please find attached Zauner's proposed plan. Can you advise if you have any comments to incorporate into the plan?

Regards,

Adrien Clements

Project Manager	Zauner Construction	Adrien.Clements@zauner.com.au
Office: 02 4454 1827	Fax: 02 4454 1690	Mobile: 0415 618 760
Ulladulla Office	Suite 10, 132 Princess Highway	Ulladulla NSW 2539
PO Box 271	Ulladulla NSW 2539
Web: www.zauner.com.au

"Zauner Construction Celebrating Over 60 Years Pride in Workmanship"

This message may contain both confidential and privileged information intended only for the addressee named above. If you have received this email in error, please notify the sender immediately then destroy the original message.

Adrien Clements

From: Elira Reynolds <Elira.Reynolds@transport.nsw.gov.au>
Sent: Monday, 24 January 2022 10:22 AM
To: Adrien Clements
Subject: RE: 409 Budawang SSP - B13 Construction Traffic and Pedestrian Management Sub-Plan

Hi Adrien,

I refer to your email below. Andrew is on leave until next week so I will be responding to your enquiry.

I have reviewed the draft CTPMSP and note the proposed arrangements including signage and traffic control for heavy vehicles. TfNSW is supportive of the hours of operation (i.e. no work on Sundays or Public Holidays) and the guideline to coordinate deliveries outside of peak traffic times listed in the Driver Code of Conduct.

TfNSW has no further comments to be incorporated into the plan.

Let me know if you would like to discuss this further.

Thanks,

Elira

Elira Reynolds (*she/her*)
Development Services Case Officer
Development Services, South
Regional and Outer Metropolitan
Transport for NSW

Level 4 90 Crown Street Wollongong NSW 2500 I 02 9549 9397 I elira.reynolds@transport.nsw.gov.au

I acknowledge the traditional owners and custodians of the land in which I work and pay my respects to Elders past, present and future.

OFFICIAL

From: Adrien Clements <Adrien.Clements@zauner.com.au>
Sent: Tuesday, January 18, 2022 4:50:08 PM
To: Andrew Lissenden <andrew.lissenden@transport.nsw.gov.au>
Cc: Edward Goh <Edward.Goh@zauner.com.au>; Harry Denham <Harry.Denham@zauner.com.au>
Subject: 409 Budawang SSP - B13 Construction Traffic and Pedestrian Management Sub-Plan

Hi Andrew,

I was passed on your details from Kasia at PTC.

As part of the SSDA for Budawang School in Milton, we need to consult with TfNSW on Condition B13 Construction Traffic and Pedestrian Management Sub-Plan.

B13. 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 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, access and parking arrangements.

Please find attached Zauner's proposed plan. Can you advise if you have any comments to incorporate into the plan?
Regards,

Adrien Clements
Project Manager	Zauner Construction	Adrien.Clements@zauner.com.au
Office: 02 4454 1827	Fax: 02 4454 1690	Mobile: 0415 618 760
Ulladulla Office	Suite 10, 132 Princess Highway	Ulladulla NSW 2539
PO Box 271	Ulladulla NSW 2539
Web: www.zauner.com.au

"Zauner Construction Celebrating Over 60 Years Pride in Workmanship"

OFFICIAL

OFFICIAL

OFFICIAL

OFFICIAL

42.8 Hazardous Materials and Asbestos Management Plan(s)

LPO Box 486, Narellan 2567 | T: (02) 4647 8683 | F: (02) 4647 0560

ACN 135 193 001 • ABN 58 135 193 001

ASBESTOS MANAGEMENT PLAN

Project:	Budawang SSP
Address:	17 Croobyar Road, Milton, NSW, 2538
Client:	Zauner Construction
Contractor:	Name: AttCall Civil Contractors Pty Ltd. Licence: AD210080
Project Manager:	Chris Fallas
Asbestos Supervisor:	Mali Haule
Works Description:	Removal of bonded asbestos electrical board
Date:	07/02/2022
Revision:	A
Prepared By:	Name: Chris Fallas Date: 07/02/22 Signature:
Reviewed By:	Name: Stephen Langlands Date: 07/02/22 Signature:

BESTPRACTICE CERTIFICATION ISO9001 QUALITY MANAGEMENT SYSTEM
BESTPRACTICE CERTIFICATION ISO14001 ENVIRONMENT MANAGEMENT SYSTEM
BESTPRACTICE CERTIFICATION ISO45001 OH&S MANAGEMENT SYSTEM

Attcall Civil Contractors Pty Ltd
ABN 58 135 193 001 ACN 135 193 001
2 Smeaton Grange Rd, Smeaton Grange NSW
PO Box 486 Narellan LPO NSW 2567
Telephone: (02) 4647 8683
civil@attcall.com.au

CONTENTS

Attcall Civil Contractors Pty Ltd
ABN 58 135 193 001 ACN 135 193 001
2 Smeaton Grange Rd, Smeaton Grange NSW
PO Box 486 Narellan LPO NSW 2567
Telephone: (02) 4647 8683
civil@attcall.com.au

1. ASBESTOS REMOVAL PLAN

This document sets out the procedures and precautions required by personnel involved in the removal of asbestos materials from the electrical board for the project Budawang SSP for the client Zauner Constructions. This document is intended as a general guide to health and safety and reference should be made to the Work Method Statement (WMS) prepared for this site.

Works must be carried out in accordance with the following documents;

- Code of Practice – How to Manage and Control Asbestos in the Workplace (Safework NSW; 2019)
- Code of Practice – Demolition Works (Safework NSW; 2019)
- Safe Work Australia (2019) Workplace Exposure Standards for Airborne Contaminants.
- Code of Practice – How to Safely Remove Asbestos (SafeWork NSW; 2019)
- NSW Dangerous Goods Act 1975 and Regulations 1978
- Work Health and Safety Act 2017.
- NSW EPA 'Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes 2004'
- Project contract documents
- Hazardous Material Survey 3628/L Date 14/12/2020
- Hazardous Material Survey 3628/J Date 14/12/2020
- DA – SSD-8845345 Condition B26

2. LOCATION & DESCRIPTION OF ACM

Works are documented in the scope of works agreed between Attcall Civil and Zauner Construction and described briefly below;

- Removal of asbestos.
- Determine the extent of asbestos

Locations;

- 17 Croobyar Road Milton, NSW
- The mounting board on the electrical meter box on an external wall.
- Ref Appendix A – Extract from report.

Generally the material is;

- Small bonded piece in good condition.

The following description of the works sequence and methodologies are to be used as a guide for the works to be carried out on site. The Asbestos Supervisor is responsible for ensuring the works are completed safely as per the Code of Practice for How to Safely Remove Asbestos (SafeWork NSW 2019) and the Work Health and Safety Act 2017. This methodology may be altered during the removal process to complete the works safely and documented appropriately by a JSA or WMS specific to the task. For minor changes and day to day updates will be delivered by the Supervisor in a Toolbox Talk.

Refer to Project Specific Quality, Safety, and Environmental Management Plan for all safe work method statements including but not limited to the high-risk activities.

- Construction work involving the disturbance or removal of asbestos

Refer to the table below depicting the order of progress for works on site:

2.1. Typical Works & Sequence

Ref	Item – Asbestos	Methodology/Task by
1.	Perimeter site fencing	• To be supplied and installed by Builder.
2.	Isolate Services & disconnection	• **HOLD POINT** - By Builder - certificate of disconnection/decommission to be forwarded to Attcall **HOLD POINT RELEASE**

3.	Work Cover Asbestos Submission	• **N/A –** ACM is a bonded sheet and <10m2
4.	Zauner Asbestos Permit / Checklist	• **HOLD POINT** – By AttCall Civil / Zauner – Asbestos works checklist to be completed **HOLD POINT RELEASE**
5.	Attcall SWMS HR 208 Asbestos Removal	• **HOLD POINT –** By AttCall Civil – Approval by Builder Builders **HOLD POINT RELEASE**
6.	Erosion & Sediment Control	• Attcall to install erosion and sediment control as required for works.
7.	Establish work zone	• Establish an exclusion zone around work. • Line the floor with plastic. • Establish asbestos bin/asbestos removal bags • Establish decontaminated area for equipment, tools, PPE etc as required. • Provide appropriate signage. • Have water readily available.
8.	ACM Removal - Asbestos Electrical Board	During removal process the following procedures must be followed; • All personnel within the exclusion/work zone must wear appropriate PPE, including face mask (P2 minimum), coveralls, safety boots, gloves etc. • Water methods of removal to be used where practical. Wet down asbestos material with water (not under pressure) or spray with PVA product. • Carefully remove asbestos. • Care is to be taken to not break or damage the ACM further unless required for the removal thereof. Any necessary damage must be kept to a minimum • All materials to be placed in asbestos removal bags and marked as asbestos. • At the completion of the work the area is to be vacuumed and wet wiped and all plastic and disposable coveralls are to be sealed in plastic bags for disposal. Respirators are to be bagged and disposed. • Double bag Asbestos and gooseneck tie. • Remove asbestos bag to EPA approved tip.
9.	Decontamination	• Wash down all tools and equipment prior to leaving the exclusion zone • All PPE to be placed into asbestos bags and disposed as asbestos waste.
10.	Clearance Assessments	• Clearance report to be undertaken by suitably qualified Hygienist.

3. HAZARDOUS MATERIALS

This document sets out the procedures and precautions required by personnel involved in the removal of Hazardous Materials on the site for the Client. This document is intended as a general guide to health and safety and reference should be made to the Work Method Statement (WMS) prepared for this site and the specific Hazardous Materials Identified. No hazardous materials have been identified outside of the area as illustrated in Appendix A – ACM Location. If hazardous materials are found during works, workers onsite are to follow the below unexpected findings protocol.

3.1. Typical Features of "Unexpected Findings"

Any material that is uncovered during the demolition and earthworks deemed to be foreign, be that UST related, imported fill material or building waste, should be scrutinised further to determine if total Petroleum hydrocarbons, asbestos containing materials or other contaminates are present.

The main features to look for are:

- Material containing anthropogenic artefacts such as rubble, plastics, metal etc;
- Asbestos or suspected asbestos containing material;
- Material with fibres visible;
- Material with an obvious unnatural odour i.e., fuel, solvent, burnt odour
- Material that is noticeably stained in colour;
- Archaeological artefacts; and
- Any material that has evidently been dumped on site.

3.2. Unexpected Finding Protocol

Should any personnel come across any suspected asbestos or hazardous materials, work should cease immediately in the affected areas until further sampling and investigations is performed. The area should be bunted off and clearly labelled. Builder management are to be notified immediately. Ensure all asbestos-containing materials remaining in-situ are labelled appropriately to warn of the dangers of disturbing these materials, in accordance with the requirements of the code of practice.

Attcall Civil Contractors Pty Ltd
ABN 58 135 193 001 ACN 135 193 001
2 Smeaton Grange Rd, Smeaton Grange NSW
PO Box 486 Narellan LPO NSW 2567
Telephone: (02) 4647 8683
civil@attcall.com.au

4. ASBESTOS MANAGEMENT PLAN PERSONNEL

Project Team		
Role	**Name**	**Qualifications/Training**
MD	Clinton McKinnon	White Card, 35+ years industrial experience, Asbestos Supervisor, Asbestos Removal, Demolition Supervisor
CM	Chris Fallas	B.E (Civil) Hons, White card, 15 years industrial experience, Asbestos Removal
Supervisors	Mali Haule	Demolition Supervisor, White Card, VOCs as required, Asbestos Supervisor, Asbestos Removal.
Operators	TBC	White card and relevant VOC or statement of attainment for competency
Labour	TBC	White card, Asbestos removal
Plant Tools and Equipment		
Item		**Qualification/Training**
Signage, barricades, fall protection		WMS induction and Toolbox talks
Hand tools, hammers, pinch bars, broom, shovel, wheelbarrow		WMS induction and Toolbox talks
Electric tools, leads and cordless tools. Grinders, drills, saws		WMS induction and Toolbox talks
Excavator, skid steer, boom lift and scissor lift		WMS induction and Toolbox talks and VOC or Statement of Attainment
Truck and dog or Bogie		WMS induction and Toolbox talks, applicable drivers' licence
Inspection and Maintenance		
Electrical equipment		Monthly testing and tagging
Plant		Daily prestart checks and routine maintenance as required by the operating manual. Evidence to be kept and supplied on request
Personal Protective Equipment (PPE)		
General	Steel capped boots, high visibility clothing (long pants and long sleeves), hard hat, gloves, safety glasses	
ACM Removal	Additional PPE required suited to the task as recommended by the relevant WMS, JSA or Toolbox including coveralls, P2 mask (minimum) gloves	

Work Particulars		
Ref	**Item**	**Description / Control**
	Describe work area	Electrical Board
	Building Height	N/A
	Hazardous materials identified	ACM Bonded
	Services to be disconnected	By Client- sign off certificate to be forwarded to Attcall
	What exclusion zones are required	Perimeter Work Site Fencing by Zauner Flagging / bunting / Signage by Attcall.
	What scaffolding or platforms required	N/A
	Plans and documents supplied for the works	3628/J Date: 14 Dec 20 DA Cond. B26 of SSD-8845345
	Nominate disposal of materials and recycling	ACM Bonded – Asbestos Bags. Removal EPA Approved Bin
	Provision of environmental plan and measures	Provided by Builder
	Access and Egress	Refer to plan mark – Appendix
	Materials Handling	TBC onsite and confirmed via toolbox talk.
	Crushing & Recycling Material	N/A

5. ASBESTOS CHECKLIST

Item	✓ or N/A	Comment
Asbestos Licence	✓	AD210080 Exp 27/06/2022
Workcover Notice	N/A	
WMS		TBC by Chris Fallas
Insurances Provided	✓	Submitted
Dial Before You Dig / Service Plans	✓	Received
Service Disconnection		By Builder:
Builder's Asbestos Checklist		By Builder & Attcall.
Traffic Management Plan		N/A
Site Plan	✓	Attached
Demolition Fencing / Barricading / Hoarding Plan	✓	Attached; by client
Environmental Controls- including dust control, sediment controls, noise controls	✓	To be installed to existing pits and sediment fence to be installed on low side of project once demolition of slab has commenced; maintain existing controls; application of water during demolition to control dust

6. HAZARD IDENTIFICATION & RISK ASSESSMENT

The Occupational Health & safety Legislation requires employers to identify any foreseeable hazards that may arise in the workplace and to assess the risks of harm arising from the identified hazards. Employers then have an obligation to eliminate the hazards. If this is not "reasonably practicable" they must control the risks by implementing measures to lessen the risk of harm.

6.1. Identifying Hazards

A hazard is defined as a condition with the potential to cause injury or disease to people or damage to property or disruption to productivity.

Effective hazard control involves a commitment of human, financial and physical resources. Since these resources are limited, the organisation has to allocate them according to its assessment of priorities. Determination of these priorities is based on the frequency and severity of injury or illness posed by the hazard.

6.2. Prioritising Identified Hazards

Safety Hierarchy of Controls

1. **ELIMINATION**, can the risk or hazard be totally eliminated?

2. **SUBSTITUTION**, can the risk or hazard be replaced with a less hazardous method, material or system?

3. **ISOLATION**, can the hazard or risk be distanced from persons or can it be enclosed to prevent entry/access?

4. **ENGINEERING CONTROLS**, can the hazard or risk be guarded or made safe by engineering methods?

5. **ADMINISTRATIVE CONTROLS**, can training, increased supervision, rotation or signage assist?

6. **PERSONAL PROTECTIVE EQUIPMENT**, can PPE protect the worker from the hazard or risk?

Hierarchy of Control

SAFETY RISK MATRIX		CONSEQUENCE				
		CATASTROPHIC	EXTREME	SEVERE	MODERATE	INSIGNIFICANT
LIKELIHOOD	VERY LIKELY	VERY HIGH 25	VERY HIGH 23	HIGH 20	MEDIUM 16	MEDIUM 11
	LIKELY	VERY HIGH 24	HIGH 21	MEDIUM 17	MEDIUM 12	LOW 7
	POSSIBLE	HIGH 22	MEDIUM 18	MEDIUM 15	LOW 8	LOW 4
	UNLIKELY	HIGH 19	MEDIUM 13	LOW 9	LOW 5	LOW 2
	RARELY	MEDIUM 14	LOW 10	LOW 6	LOW 3	LOW 1

SAFETY CONSEQUENCE DEFINITIONS	WHS
CATASTROPHIC	Incident or issue resulting in Death or property damage resulting in immediate shutdown of operations
EXTREME	Incident or issue resulting in permanent disability, ill health or property damage resulting in long delays of operations
SEVERE	Incident or issue resulting in one or more LTI(s) or significant property damage leading to restricted operations. Incident or issue resulting in MTI(s) or restricted work capabilities
MODERATE	Incident or issue resulting in FATI(s) or property damage of a very minor nature not affecting operations
INSIGNICICANT	Incident or issue that is reportable but has no real impact on people or operations

Safety Priority Risk Rating	Residual Risks
VERY HIGH 25-23	Stop work immediately, if required create exclusion zone Report immediately to the HSEQ Manager & Site Foreman.
HIGH 22-19	Control the risk immediately. Report immediately to the HSEQ Manager & Site Foreman.
MEDIUM 18-11	Control risk within 24 hours. Report to the HSEQ Manager or Site Foreman.
LOW 10-1	May not need immediate attention but controls must be monitored. Report to Project Manager and Site Foreman.

The numbers show how important it is to do something about the hazard;

H19 to H25 (Very High - High) - It is extremely important to do something immediately

M11 to M18 (Med) - Something should be done as soon as possible

L1 to L10 (Low) - May not require action at this time

Assessing Risks

When assessing risks, the following should be considered in identifying contributing factors:

(i) The work premises and the working environment, including layout and condition,

(ii) the capability, skill, experience and age of people ordinarily undertaking the work,

(iii) the systems of work being used, and

(iv) the range of reasonably foreseeable conditions.

Review shall be made of all available Health & Safety Information from relevant authorities, including:

(i) Any health and safety information provided by the supplier of plant or equipment,

(ii) the Material Data Safety Sheet for any hazardous substance,

(iii) the label of any unopened consumer package containing a hazardous substance,

(iv) results of any biological monitoring carried out,

(v) results of atmospheric monitoring of contaminants in the workplace, information about previous injuries, illness and dangerous incidents, and

(vi) Consultation with workers involved in the tasks to be undertaken.

6.3. Hazard Control

Attcall Civil will rank hazard control strategies from the most effective to the least effective using the following 'hierarchy of hazard control'. Not all types of strategies will be practicable, and more than one strategy may be needed to achieve the best protection.

1. **Remove the hazard**
2. **Engineering Controls**
   - **Design**. Try to ensure hazards are designed out when new materials, equipment and work systems are planned or introduced to the workplace.
   - **Provide less hazardous** materials, equipment or substances.
   - **Adopt a safer process.** Make alterations to tools, equipment or to make the task safer.
   - **Enclose or isolate the hazard.** Use guards, fences, or remote handling devices.
3. **Administrative Controls**
   - **Establish** work systems and administrative procedures such as;
     - Job rotation to reduce exposure or boredom; or timing the job to reduce the number of workers exposed to the risk.
     - Routine maintenance and housekeeping procedures
     - Training on hazards and correct work procedures.
4. **Personal Protective Equipment**
   - **Provide** suitable and properly maintained Personal Protective Equipment.

Note. PPE is seen as a last resort when dealing with a hazard. Generally, controlling a hazard will involve using more than one of the available options

7. MANUAL HANDLING

Attcall has specific Manual Handling rules, all Workers must abide by these.

Incorrect manual handling is the largest single cause of lost time injuries. Following is a list of manual handling rules:

- Take time to think about how best you can approach each task to avoid injury
- Identify if a two-man lift is required or if the job can be done using lifting aids.
- Use lifting aids whenever practicable.
- **NEVER** lift with your back, always use your legs to lift any object.
- **DO NOT** lift things that:
    - Are too heavy, large or awkward
    - Have moving parts
    - Are difficult to grip
    - Are poorly positioned away from the body

Control

a) Supervisors should consult with workers&/or committees and other appropriate experts to decide how to reduce risks by:

- redesigning the workplace, plant, equipment or containers used, in order to avoid twisting, side bending, excessive reach or heavy loads
- assessing whether mechanical aids will reduce the risks (wheelbarrows, trestles etc)
- Determining training and education needs of workers regarding the hazards and/or appropriate techniques to reduce the risk of injury. Control of manual handling risks is a continuous process which involves the training of all new Workers and the re-training of existing workers.

b) Workers shall observe all instructions and directions relating to control measures to reduce manual handling risks.

Workers who deliberately violate instructions will face disciplinary action.

8. PROTECTION OF THE ENVIRONMENT

Attcall Civil Pty Limited understands the importance of environmental protection, and is fully aware of its responsibilities, as a company operating in the civil construction industry, to ensure its compliance with all environmental Regulations, Legislation, Standards and Codes of Practice applying to the industry.

The Company undertakes to carry out all reasonable measures to meet or exceed all necessary environmental requirements.

In order to maintain the aims of this policy, the Company undertakes to carry out the following:

- Regularly assess the environmental effects of the Company and its work practices.
- Training of Workers on environmental issues
- Minimise material wastage
- Control noise emissions from operations
- Implement recycling for renewable material
- Ensure energy efficiency wherever possible
- Prevent where possible, or limit the production of pollutants to water, air and soil.
- Minimise environmental effects of our operations on the general public.
- Dispose of any contaminated material in an appropriate manner in accordance with all statutory requirements and codes of practice.

Attcall Civil Contractors Pty Ltd
ABN 58 135 193 001 ACN 135 193 001
2 Smeaton Grange Rd, Smeaton Grange NSW
PO Box 486 Narellan LPO NSW 2567
Telephone: (02) 4647 8683
civil@attcall.com.au

9. WORKERS AND SUBCONTRACTOR SIGN-OFF

Name	Sign	Date

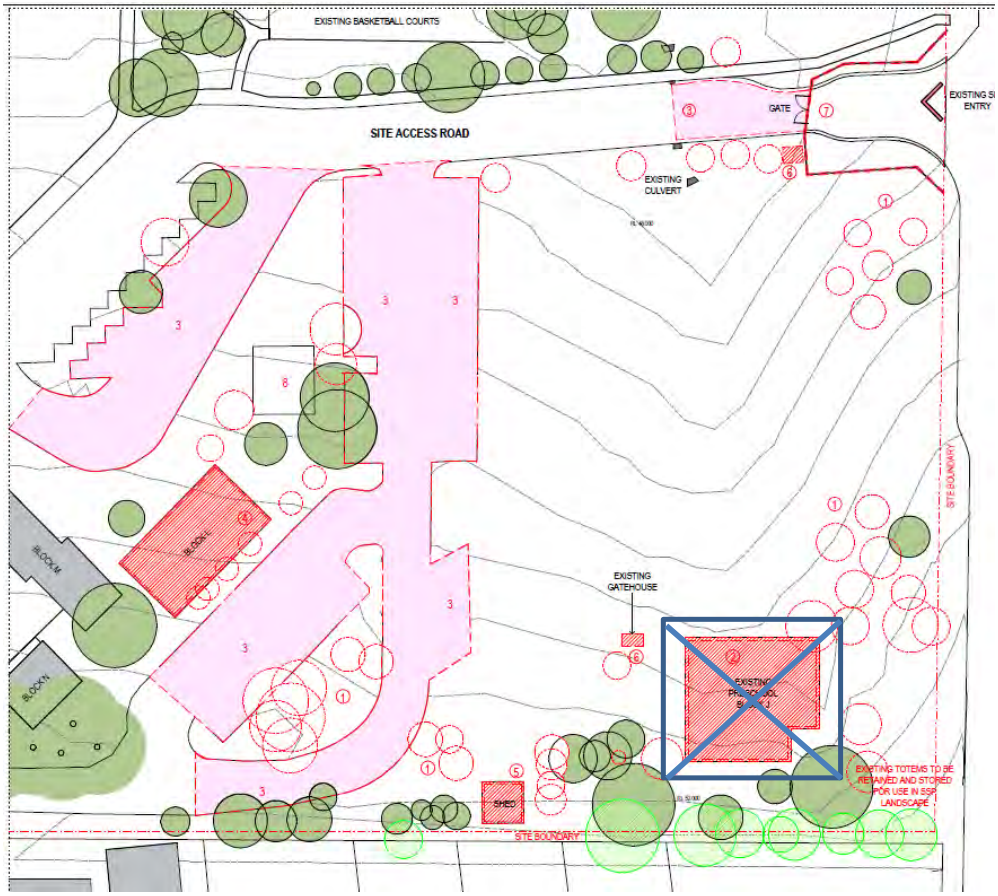
APPENDIX A – ACM LOCATION

4.2 **Non Friable Asbestos (ACM) in accordance with Regulation 422:**
There **is non-friable** asbestos (ACM) refer to attachment B 1 (Register) as follows:

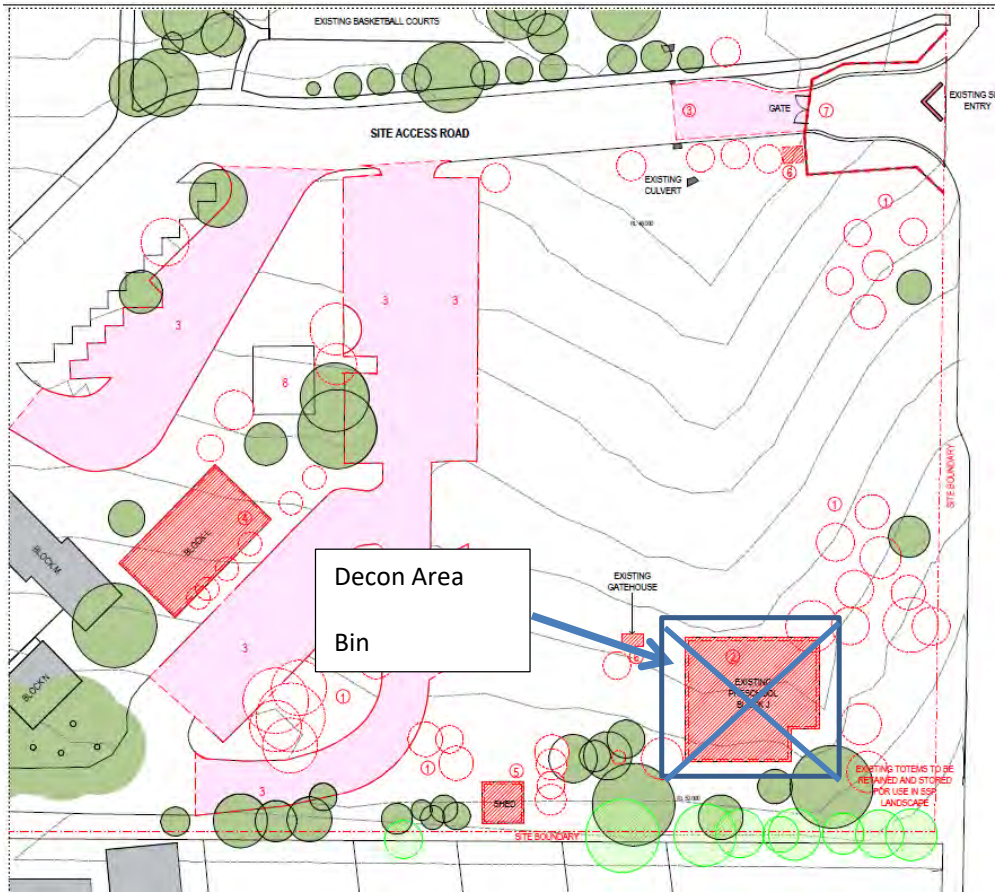
A. EXTERNAL AREAS WHICH ARE ACCESSIBLE

- The mounting board to the electrical meter box on an external wall.

It should be noted that the mere presence of asbestos in a building does not mean that the health of the occupants is endangered. However, asbestos containing materials can become hazardous when due to damage, disturbance or deterioration over time, they release fibres into the air.



APPENDIX B – EXCLUSION ZONE



APPENDIX C – ACM REMOVAL LICENCE

NSW GOVERNMENT | SafeWork NSW

NON FRIABLE ASBESTOS REMOVAL LICENCE

Issued under the *Work Health and Safety Regulation 2011 (NSW)*.This licence is not transferable.

Licence:	AD210080
Licence period:	From: 28/01/2010 To: 27/06/2022
Licence holder name:	Attcall Civil Contractors Pty Ltd
ABN:	58 135 193 001
ACN:	135 193 001
Trading name:	Attcall Civil Contractors Pty Ltd
Address:	7 Bellingham St NARELLAN NSW 2567

Description of the work that can be undertaken under this licence

- Non friable asbestos removal work

Licence holder obligations

A nominated supervisor must be readily available to attend the site when licenced non friable asbestos removal work is carried out.

This licence must be available for inspections at all times.

All licenced asbestos removal work is to be notified to SafeWork NSW at least five days prior to the work commencing.

The licence holder must notify SafeWork NSW in writing of any changes to the licence or supervisor details within 14 days.

APPENDIX E – CERTIFICATE OF CURRENCY ACM

Epsilon | Liability

ABN 68 097 402 134 AFSL 245612

CERTIFICATE OF CURRENCY

This document certifies that the Policy referred to above is in force until 4.00p.m. on the Expiry Date shown unless the Policy is cancelled, lapsed, varied or otherwise altered in accordance with relevant Policy Conditions or the provisions of the *'Insurance Contracts Act 1984'*.

Insured:	Attcall Civil Contractors Pty Ltd McKinnon Holdings (NSW) Pty Ltd
Class Of Business:	Asbestos Removal Liability Policy
Limit of Indemnity:	$10,000,000 in the aggregate any one Period of Insurance (inclusive of Defence costs).
Co-Insurers:	Certain Underwriters at Lloyd's – 75% Berkley Insurance Company t/a Berkley Re Australia – 25%
Issuer:	Epsilon Insurance Broking Services Pty Ltd t/a Epsilon Underwriting Agencies
Policy Number:	ABA0496ASB
Period of Insurance:	From: 30th June, 2021 at 4.00p.m. local standard time. To: 30th June, 2022 at 4.00p.m. local standard time.

Signed: _____ **Date:** 30 June 2021

EPSILON UNDERWRITING AGENCIES

For and on behalf of Epsilon Insurance Broking Services Pty Ltd trading as Epsilon Underwriting Agencies as agent for the Underwriter as specified above.

This Certificate:
- Is issued as a matter of information only and confers no rights upon the holder.
- Does not amend, extend or alter the coverage afforded by the Policy listed.
- Reference must be made to the current Policy wording for full details of the cover provided.

Suite 1503 | Level 15 | 1 Market Street | Sydney NSW 2000 | Ph: 02 9299 3466

APPENDIX F – CERTIFICATE OF CURRENCY

Epsilon | Liability

ABN 68 057 402 134 AFSL 245612

CERTIFICATE OF CURRENCY

This document certifies that the Policy referred to above is in force until 4.00p.m. on the Expiry Date shown unless the Policy is cancelled, lapsed, varied or otherwise altered in accordance with relevant Policy Conditions or the provisions of the *'Insurance Contracts Act 1984'*.

Insured:	Attcall Civil Contractors Pty Ltd McKinnon Holdings (NSW) Pty Ltd National Dry Hire Pty Ltd Attcall Administration Pty Ltd
Class Of Business:	Section 1: Public and Products Liability Section 2: Financial Loss (Professional Indemnity)
Limit of Indemnity:	**Section 1:** $20,000,000 any one Occurrence in respect of public liability and in the aggregate during the Period of Insurance in respect of products liability. **Section 2:** $1,000,000 any one claim in the aggregate any one Period of Insurance.
Co-Insurer:	**Primary Liability:** Certain Underwriters at Lloyd's of London – 50% Berkley Insurance Company t/a Berkley Re Australia – 50%
Issuer:	Epsilon Insurance Broking Services Pty Ltd t/a Epsilon Underwriting Agencies
Policy Number:	AWB0916BU
Period of Insurance:	From: 30th June, 2021 at 4.00p.m. local standard time. To: 30th June, 2022 at 4.00p.m. local standard time.

The Policy notes the Interest of Carafa Developments Pty Ltd as Landlord in respect to 2 Sedgwick Street, Smeaton Grange NSW 2567 but only in respect to the liability of the Insured arising from the conduct of the Insured's Business.

Signed: EPSILON UNDERWRITING AGENCIES

For and on behalf of Epsilon Insurance Broking Services Pty Ltd trading as Epsilon Underwriting Agencies as agent for the Underwriter as specified above.

Date: 5 July 2021

This Certificate:
- Is issued as a matter of information only and confers no rights upon the holder.
- Does not amend, extend or alter the coverage afforded by the Policy listed.
- Reference must be made to the current Policy wording for full details of the cover provided.

Suite 1503 | Level 15 | 1 Market Street | Sydney NSW 2000 | Ph: 02 9299 3466

APPENDIX G – WORKERS INSURANCE

icare | Workers Insurance

Certificate of currency

005908 0277 EMAIL
David Lowe
ATTCALL CIVIL CONTRACTORS PTY LTD
2 Sedgwick Street
SMEATON GRANGE NSW 2567

Issue date:
13/05/2021

Dear David

Statement of coverage

The following policy of insurance covers the full amount of the employer's liability under the *Workers Compensation Act 1987 (NSW)*.

Employer name:	Policy number:	Valid:
ATTCALL CIVIL CONTRACTORS PTY LTD	108225101	30/06/2021 - 30/06/2022
Trading name:	**ABN:**	**ACN:**
	58 135 193 001	135 193 001

Industry classification number (WIC)[3]	Number of workers[1]	Wages/units[2]
421020 Site Preparation Services	90	$6,237,942.31

1. Number of workers includes contractors/deemed workers
2. Total wages/units estimated for the current period
3. The policy covers all workers employed by the entity named on this certificate in the course of its primary business activity or any other activities ancillary to its primary business activity as required.

Important information

Principals relying on this certificate should ensure it is accompanied by a statement under section 175B of the *Workers Compensation Act 1987 (NSW)*. Principals should also check and satisfy themselves that the information is correct and ensure that the proper workers compensation insurance is in place, i.e. compare the number of employees on site to the average number of employees estimated; ensure that the wages are reasonable to cover the labour component of the work being performed; and confirm that the description of the industry/industries noted is appropriate. A principal contractor may become liable for any outstanding premium of the sub-contractor if the principal has failed to obtain a statement or has accepted a statement where there was reason to believe it was false.

Yours faithfully,

Peter Meighan
Underwriting Operations Manager
icare Workers Insurance

Asbestos Management Plan

Project Name: Budawang SSP
Job No #: 409
Project Address: 17 Croobyar Road, Milton, NSW, 2538

Note: This plan is be read in conjunction with:-
Project Contract Plans/Specifications and Documents
3rd Party Asbestos and Hazardous Material Registers/Survey Reports/Contamination Assessment Reports

ISSUED DATE: 20/09/2021

Zauner Construction
366 Griffith Road Lavington NSW 2641
P.O. Box 288 Lavington NSW 2641
T: (02) 6025 1988
F: (02) 6040 1635
www.zauner.com.au
ABN: 21 087 732 607

CONTENTS

ASBESTOS MANAGEMENT PLAN APPROVAL AND SIGN OFF

APPROVAL

Zaune Job Title	Name	Signature	Date
Health, Safety and Environment (HSE) Manager	Peter Hertzog		
Construction Manager	Matthew Green		
Project Manager	Adrien Clements		

HSEPMP SIGN OFF (Signature indicates personnel have read and understood this plan)

Job Title	Name	Signature	Date
Site Manager	Jake Saurine		
Site Health, Safety and Environment Oficer (HSEO)	Ross Humble		
Zauner Project Manager	Adrien Clements		
Contract Adniminstrator	Ed Goh		
Other Zauner Personnel (list below)			

1. INTRODUCTION

1.1. Purpose

The purpose of this management plan is to assist Zauner Construction personnel, PCBUs, contractors and workers to safely manage the risks associated with the presence and removal of asbestos. The management of asbestos is important to ensure that Asbestos Containing Materials (ACM) are not damaged nor deteriorate to such an extent that site workers, public, external contractors or visitors are unnecessarily exposed to airborne asbestos fibres. This plan shall be readily available to workers, health and safety representatives and other PCBU's.

1.2. Background Information

Asbestos is the name given to a group of fibrous silicate minerals that occur naturally in the environment. Asbestos was widely used as construction and insulation material in buildings until the late 1980 when bans on its manufacturer and use were put into place. It was not until the 31st December 2003, that the use of asbestos was completely prohibited. As the bans on asbestos were not absolute prior to 2003 and building materials may have been stockpiled, stored or recycled and used, it is possible that asbestos may be present in buildings that were constructed up to 31st December 2003 and later. Asbestos has been used in the manufacture of more than 3000 products.

1.3. Health Implications Associated with Asbestos

Asbestos is a known carcinogen. Asbestos materials in a bonded form, do not present an immediate health risk if they remain undisturbed and in good condition. It is however, the inhalation of fibres from friable forms of asbestos or dusts generated by disturbing bonded material that can cause asbestosis, lung cancer and mesothelioma.

1.4. Company Requirements

All PCBU's, subcontractors, Zauner Construction personnel and workers must comply with this plan. Zauner Construction personnel are not permitted to remove asbestos or undertake asbestos related works.

1.5. Meaning of Key Terms

Airborne Asbestos: Any fibres of asbestos small enough to be made airborne

Asbestos is the name given to various forms of naturally occurring silicate minerals. It can be either friable or non-friable.

Asbestos Containing Dust or Debris (ACD) means dust or debris that has settled within a workplace and is (or assumed to be) contaminated with asbestos.

Asbestos Containing Material (ACM) means any material or thing that, as part of its design contains asbestos.

Asbestos Removal Control Plan: An asbestos removal control plan is a document that identifies the specific control measures a licence holder will use to ensure workers and other persons are not at risk when asbestos removal works is being conducted.

Asbestos Register: The asbestos register is a document that lists all identified or assumed asbestos in a workplace. The register is used to ensure that ACM can be located so that any work that could potentially disturb asbestos can be avoided. The register is used to record the date on which the asbestos or ACM was identified and the location, type and condition of the asbestos or ACM.

Competent person in relation to carrying out clearance inspections under clause 473 of the WHS Regulation 2017, means a person who has acquired through training or experience the knowledge and skills of relevant asbestos removal industry practice and holds a certification in relation to the specified VET course for asbestos assessor work or a tertiary qualification in occupational health and safety, occupational hygiene, science, building, construction or environmental health. For all other purposes, competent persons means a person who has acquired through training, qualification or experience the knowledge and skills to carry out the task.

Friable asbestos means material that is in a powder form or that can be crumbled, pulverised or reduced to a powder by hand pressure when dry, and contains asbestos.

GHS means Globally Harmonised System of Classification and Labelling of Chemicals.

HSEPMP means the Health, Safety and Environment Project Management Plan that has been developed for this project.

HSEMSM means the Health, Safety and Environment Management System Manual that has been developed for this project.

Non-friable asbestos means material containing asbestos that is not friable asbestos, including material containing asbestos fibres reinforced with a bonding compound.

Licensed asbestos assessor means a person who holds an asbestos assessor licence.

Licensed asbestos removalist means a person conducting a business or undertaking who is licensed under the WHS Regulation 2011.

PCBU means Person Conducting a Business or Undertaking.

License: A licence granted by the WorkCover Authority of NSW or WorkSafe ACT to carry on the business of licensed work under the Work Health and Safety Regulation, 2017.

2. OBJECTIVES

- Remove all high-risk asbestos items where possible
- Aim for an asbestos free workplace
- Deliver effective asbestos management work programs
- Ensure that no one is exposed to airborne asbestos fibres
- Ensure compliance with this Asbestos Management Plan
- Ensure the Asbestos and ACM Register is maintained, reviewed and accurate.

3. REGULATORY REQUIREMENTS

- Remove all high-risk asbestos items where possible
- Aim for an asbestos free workplace
- Deliver effective asbestos management work programs
- Ensure that no one is exposed to airborne asbestos fibres
- Ensure compliance with this Asbestos Management Plan
- Ensure the Asbestos and ACM Register is maintained, reviewed and accurate.

4. REQULATORY REQUIREMENTS

All asbestos removal and asbestos related activities shall be performed in accordance with relevant Commonwealth and State Acts, Regulations, Codes of Practice and Industry Standards.

4.1. State Legislative Requirements

Relevant NSW State Legislation includes:

- NSW Work Health & Safety Act (2011)
- NSW Work Health & Safety Regulation (2017)
- Environmentally Hazardous Chemicals Act 1985 (NSW)
- Waste Avoidance and Resource Recovery Act 2001 (NSW)

4.2. Codes of Practice/Guides/Standards

Key Codes of Practice (COP), Australian Standards and Guidance Information, includes but is not limited to:

- NSW COP - How to Safely Remove Asbestos
- NSW COP - How to Manage and Control Asbestos in the Workplace
- NSW COP - Demolition Work
- AS 2601-2001 – The Demolition of Structures

5. ROLES AND RESPONSIBILITIES

There are a number of specific duties in the WHS Legislation that require consultation with others throughout the asbestos removal process. These duties apply to a number of duty holders including the licensed asbestos removalist, the person who commissioned the work, and the person with management or control of the workplace. It is vital that consultation, cooperation and coordination occurs between all duty holders and stakeholders with whom Zauner Construction shares a duty with in the management of asbestos and ACM on the work site.

PERSON / PARTY	RESPONSIBILITY
Zauner Construction - HSE Manager	• Endorse Asbestos Management Plan • Provide Asbestos Awareness Training for Zauner Construction personnel • Incident management
Zauner Construction Project Manager (PM)	• Overall responsibility for the correct implementation of asbestos related procedures on site in accordance with WHS Legislation, this plan and the Health, Safety and Environement Project Management Plan (HSEPMP) developed for the project. Responsibilities include: - • Ensuring all asbestos and ACM, so far as is reasonably practicable has been identified by a competent person (e.g. Licenced Asbestos Assessor). This includes making sure that an Asbestos and Hazardous Materials Survey/Report has been completed and reviewed by a competent person (e.g. Licenced Asbestos Assessor) and a copy provided to the asbestos removalist and any other stakeholders • Review of Asbestos Register for adequacy prior to works. • Engagement of competent person (e.g. licenced asbestos assessor) to revise Asbestsos Register if not adequate • Providing a copy of Asbestos Registers and Hazmat Reports to site • Ensuring asbestos awareness training has been completed for Zauner Construction site personnel and other stakeholders/workers • Notifying stakeholders of intended asbestos works, including the Zauner Construction HSE Manager • Notifying stakeholders of any asbestos finds • Ensuring all asbestos removal works are undertaken by licensed asbestos removalists • Ensuring compliance with the Asbestos Removal Control Plan • Ensuring regulatory and contractual requirements for air monitoring and clearance certificates are complied with • Ensuring copies of the Asbestos and ACM Register, survey reports, clearance certificates, air monitoring results are provided to the client • Responding to incidents • Ensuring records are kept in accordance with the Zauner Construction Safety Management System

PERSON / PARTY	RESPONSIBILITY
Site Manager (SM)	• Comply with this plan • Ensure appropriate asbestos signage is in place • Issuing of Zauner HSE050 - Asbestos Removal Permit • Arranging the surveying, identification and sampling of suspected asbestos containing materials by a competent person (e.g. Licenced Asbestos Assessor) • Arranging for any damaged asbestos or ACM to be assessed by a competent person (e.g. licenced asbestos assessor) and removed by licenced asbestos removalists • Ensuring all asbestos repairs and removal works are undertaken by licensed asbestos removalists • Ensuring asbestos awareness training has been completed for Zauner Construction site personnel. • Ensuring stakeholders have been notified of intended asbestos works, including the Zauner Construction HSE Manager • Managing the asbestos works and removal program • Responding to incidents • Ensuring regulatory and contractual requirements for air monitoring and clearance certificates are complied with • Ensuring all staff and contractors are aware of and comply with this plan • Ensuring compliance with the Asbestos Removal Control Plan • Restricting access to asbestos work areas • Ensuring workers/PCBU's have access to the site Asbestos and ACM Register • Ensuring clearance inspections are carried out and a clearance certificate issued prior to re-occupation of the work area • Recording and filing of asbestos related paperwork in accordance with Zauner Construction HSE Management System
Zauner Construction Health Safety Environment Officer (HSEO)	• Asbestos removal and related works to be undertaken in accordance with WHS Legislation and this plan • Ensuring site workers are made aware of any asbestos or ACM's present on site as part of the site induction process • Ensuring workers and subcontractors/PCBU's have access to the site Asbestos and ACM Register • Ensuring all staff and contractors/PCBU's are aware and have access to this plan • Ensure appropriate asbestos signage is in place • Issuing of Zauner HSE050 - Asbestos Removal Permit • Respond to incidents • Document, prepare, record and file asbestos related paperwork in accordance with Zauner HSE Safety Management System • Ensuring the Asbestos Register and Hazardous Materials Reports are on site and are available to those who need it • Restricting access to areas where asbestos works are being performed • Ensuring clearance inspections are carried out and a clearance certificate issued prior to re-occupation of the work area

PERSON / PARTY	RESPONSIBILITY
Subcontractors/PCBU undertaking asbestos removal or related works *(Licensed Asbestos Removalist)*	Subcontractors/PCBU's performing general building maintenance, repairs, installations or working with ACM on Zauner Construction workplaces must prior to works ensure: • The site Asbestos & ACM Register and Hazardous Material Audit/Survey reports are obtained • All risks relating to possible exposure to airborne asbestos fibres are identified, assessed and evaluated • A site specific Asbestos Removal Control Plan, SWMS and Risk Assessment have been provided to and reviewed by Zauner Construction • Workers undertaking asbestos related works are appropriately licensed and trained • Provide information on the health risks and effects to workers carrying out the works • All unauthorised persons have been vacated from the proposed asbestos works area • Signage and barricades erected to indicate and delineate the asbestos work area • HSE050 - Asbestos Removal Permit has been obtained from a Zauner Representative • An Approved Safety Regulator Notification for licensed asbestos removal works has been obtained and provided to Zauner Construction • Health Monitoring of workers All asbestos removal work is undertaken in accordance with the WHS Legislation, Codes of Practice : *How to Safely Remove Asbestos* and this Asbestos Management Plan including ensuring: • Air monitoring is undertaken by a competent person and analysed by a National Association of Testing Authorities (NATA) accredited laboratory and reports provided to the Zauner Representative • An asbestos removalist supervisor is readily available or present • Correct tools, equipment and PPE are used • Decontamination facilities are available • Asbestos waste is lawfully contained, labelled and disposed of as soon as is reasonably practicable • Asbestos waste disposed of at waste facility authorised to accept asbestos waste • The Zauner Construction SM is advised of any additional asbestos that was not included in the site Asbestos & ACM Register
Workers	• Comply with WHS Legislation, Codes of Practice and the requirements of this plan. • Not impact or work on any asbestos or ACM. • Not disturb any material suspected of containing asbestos. • Report any unlabelled or suspected material asbestos ACM to the Zauner SM. • Immediately report any damage to asbestos or ACM or suspected exposure to airborne asbestos fibres to the Zauner Representative

6. MANAGING THE RISKS

6.1 Managing the Risks Associated with Asbestos and ACM

Managing the risks associated with asbestos and ACM involves: -

- Identifying asbestos and ACM
- Assessing the risk of exposure to airborne asbestos
- Eliminating or minimising the risk by implementing control measures
- Reviewing control measures to ensure they are effective

Any asbestos or ACM within the works zone must be identified and removed prior to the commencement of demolition, partial demolition, renovation or refurbishment if it is likely to be disturbed by those works.

Where it is not reasonable practicable to remove asbestos, then other control measures must be implemented to ensure people are not exposed to airborne asbestos. A competent person (e.g. licenced asbestos assessor) shall be engaged to provide advice and guidance regarding the appropriate controls.

6.2 Identification of Asbestos/ACM Register

Zauner Construction shall take all reasonable steps are taken to identify all asbestos and ACM within the site. Prior to works and if not provided by the client, Zauner Construction will engage an competent person (e.g. Licenced Asbestos Assessor) to undertake an instrusive/Division 6 Asbestos and Hazardous Material survey of the site.

The objective of an Asbestos/Hazardous Material Audit is to identify asbestos and other hazardous materials, which may be present and/or at risk of being disturbed by building works such as demolition or refurbishment.

The audit report shall include; Asbestos and ACM Register; risk assessment for all identified or assumed asbestos and details of required control measures to prevent any exposure to airborne asbestos fibres.

Prior to any demolition or refurbishment work the Asbestos Register shall be reviewed. If the register is found to be inadequate for the proposed demolition or refurbishment it shall be revised by a competent person, such as a licenced asbestos assessor.

A copy of the Asbestos and ACM Register shall be provided to the PCBUs/subcontractor before carrying out work where:

- There is a risk of exposure to airborne asbestos and/or
- Demolition or refurbishment of a structure is to take place.

Supporting information that should be included in the register is:

- Register of ACM items
- Register of items which were sampled but were found to contain no asbestos
- Certificates of analysis
- Photos
- Floor plans with asbestos containing items marked up

- Asbestos and Hazardous Materials Audit Reports and Management Plans

Should additional ACM items be identified (e.g. unexpected finds) that hadn't been included in previous audit/survey registers the Zauner Construction HSE001 - ACM Register may be used.

The asbestos register, audit report and any other supporting information must be provided to the person assuming management or control of the workplace if Zauner Construction is relinquishing management or control of the workplace.

6.3 Informing Parties of the Licensed Asbestos Removal Works

The licensed asbestos removalist shall inform Zauner Construction about the licensed asbestos works and the date that the works are to commence.

Zauner Construction shall notify the following stakeholders:

- Anyone occupying premises in the immediate vicinity of the workplace
- Anyone conducting a business or undertaking at or in the vicinity of the workplace
- All other site workers to be made aware
- The person who commissioned the work (eg. client)

6.4 Samples to Identify Asbestos

Only competent persons (e.g. occupational hygienist, licensed asbestos assessor) are to be engaged to take samples for analysis. All asbestos samples must be analysed by a NATA-accredited laboratory. A copy of the sample results are to be provided to Zauner Construction. The Asbestos and ACM Register for the site shall be updated accordingly.

6.5 Asbestos and ACM Labelling

Where asbestos and ACM has been identified on the site it must be clearly labelled as ACM in accordance with the site asbestos register and legislative requirements.

6.6 Other Asbestos Related Work/Maintenance Procedures

Asbestos related activities such as maintenance tasks that may impact on ACM are to be performed under controlled conditions to prevent the distribution of airborne asbestos fibres. As a first priority removing ACM or asbestos must be considered. **The HSE Manager must be contacted prior to any asbestos related works being undertaken, such as those listed below.**

- The drilling of asbestos containing materials
- Sealing, painting, coating of asbestos cement products
- Cleaning leaf litter from the gutters of asbestos cement roofs
- Replacing cabling in asbestos cement conduits or boxes
- Working on electrical mounting boards (switchboards) containing asbestos

Should approval to undertake any of the above tasks be granted by the HSE Manager, The Code of Practice - *How to Manage and Control Asbestos in the Workplace* has certain procedures for maintenance tasks and these must be followed.

6.7 Naturally Occurring Asbestos

Naturally occurring asbestos (NOA) may be encountered in excavation activities and in veins within rock formations.

Ongoing management of NOA may be determined with the aid of an air monitoring program to assess asbestos exposure levels and the effectiveness of specific risk control measures. Zauner Construction shall ensure the risks to health and safety associated with NOA—i.e. the release of airborne asbestos—are minimised using the hierarchy of control measures. This can be done by: – wetting surfaces to reduce the dust levels – suppressing, containing and extracting dust in processing operations (water sprays or local exhaust at transfer points and vibrating screens) – using wet drilling or other approved in-hole dust suppression – preventing the spread of contamination by using wash down facilities – providing information to and training and supervision of all workers potentially at risk, and – ensuring PPE is used where required

6.8 Asbestos Contaminated Soil

Asbestos contaminated soil comprises of non-attached pieces of asbestos cement products and other material containing asbestos uncovered in soil often during other work activities, such as excavation.

A licenced asbestos assessor or a contaminated site risk assessment practitioner shall be engaged to determine appropriate safety and environmental control measures.

All asbestos and any contaminated soil removed must be disposed of as asbestos waste according to the WHS Regulations (i.e. it must be contained and labelled in accordance with the GHS), the EPA and the requirements of the local licensed waste disposal facility.

If the soil is suspected of containing asbestos, it shall be assumed the soil contains asbestos.

7. REMOVAL OF ASBESTOS AND ACM

7.1 Zauner Construction - Asbestos Removal Permit (HSE050)

The Zauner Construction HSE050 - Asbestos Removal Permit is required to be completed prior to any Asbestos/ACM removal and remediation works.

7.2 Licensed Contractors

Any work commissioned by Zauner Construction that involves the removal of asbestos must be carried out by a licensed asbestos removalist. There are two types of asbestos removal licences: Class A and Class B. The type of licence required will depend on the type and quantity of asbestos or ACM that to be removed. Contractors with a Class A licence can remove both friable and non-friable asbestos. Contractors with a Class B licence can only remove non-friable asbestos.

7.3 Safety Regulator – Notification of Asbestos Removal Work

The licensed asbestos removalist must notify the Safety Regulator at least five days before licensed asbestos removal work commences. The licensed asbestos removalist shall provide Zauner Construction with a copy of the Notification once it has been 'Accepted or Approved' by the safety regulator.

7.4 Asbestos Removal Control Plan

The licensed asbestos removalist shall prepare an asbestos removal control plan for any licensed asbestos removal work they are commissioned to undertake. A copy must be provided to Zauner Construction before work commences.

7.5 Project Specific Notification and Permit Requirements

Additonal notification requirements may apply to this project. Refer to HSEPMP and project contract documents.

7.6 Warning Signs and Barricades

The asbestos removalist shall ensure that signs and barricades are used to clearly delineate and indicate that asbestos removal work is being performed.

7.7 Limiting Access to Asbestos Removal Area

Zauner Construction shall ensure, so far is reasonably practicably, that no one other than the licensed asbestos removalist workers has access to the asbestos removal area. The only exception to this is people who are allowed under the WHS Regulation 2017 or another law to be in the asbestos removal area (for example, inspector and emergency service workers). A combination of signs and barricades may be necessary to limit access to the asbestos removal area.

7.8 Asbestos Removalist Supervisor to be Present or Readily Available

The licenced asbestos removalist shall ensure that an asbestos supervisor who holds the appropriate certification oversees the work. For friable asbestos removal works, the asbestos supervisor must be present whenever the work is being carried out.

7.9 Airborne Fibre Monitoring

Air monitoring requirements will vary depending on; the type of asbestos being removed, the location and position of asbestos, if an enclosure is used, whether the asbestos removal work is within a building or outside and if it has been specified in the contract.

Prior to works, the Zauner Construction project team, the Licensed Asbestos Removalist and Independent Asbestos Assessor and any other stakeholders are to consult with each other to confirm air monitoring requirements.

7.10 Tools and Equipment

Tools and equipment to be used for asbestos removal jobs are required to minimise the generation of airborne asbestos fibres. High-speed abrasive power or pneumatic tools such as angle grinders, sander, saws and high speed drills must never be used. Hand tools are preferred over power tools.

At the end of the removal work, all tools should be:

- Decontaminated i.e. fully dismantled and cleaned under controlled conditions as described in the Code of Practice, or
- Disposed of in sealed containers similar to that for disposal of the ACM waste product.

7.11 Decontamination Facilities

The licensed asbestos removalist shall ensure that particular areas are set up for workers to personally decontaminate themselves and any tools or equipment when they are entering and leaving the asbestos removal area to eliminate or minimise airborne asbestos from being released from the asbestos removal area.

7.12 Clearance Certificates

No person is permitted to re-enter the area of the site that the asbestos removalist has been in control of until an Asbestos Clearance Certificate has been obtained. Clearance certificates are required for all licensed asbestos removal works from an independent licenced asbestos assessor.

7.13 Transport and Disposal of Asbestos Waste & Contaminated PPE

To achieve "final completion" of an asbestos removal activity, Zauner Construction shall require verification from the licensed asbestos removalist that the asbestos waste has been transported and disposed of in accordance with EPA and local government regulations. All asbestos waste shall be disposed of at an approved landfill disposal authorised to accept asbestos waste as soon as is practicable.

The asbestos removalist is to ensure that asbestos waste is contained and labelled in accordance with the Globally Harmonised System (GHS) before the waste is removed from the asbestos removal area.

7.14 Indicating the Presence of Asbestos in the Workplace

All identified or assumed asbestos, including where asbestos is inaccessible be clearly indicated. If it is reasonably practicable, labels must be used to identify the material as containing asbestos, however signs may be more appropriate to use.

Further examples of labels or signs that can be used to indicate the location or presence of asbestos or ACM are included in the appendices.

8. DOCUMENTATION REQUIREMENTS

8.1 Record Keeping

Zauner Construction shall maintain detailed records of all activities relating to asbestos works which have been undertaken on site. The records kept include:

- Copies of all asbestos survey/audit reports, including updates and amendments
- Copies of Asbestos and ACM Registers
- Copies of all Safety Regulator (SafeWork NSW & Environment Protection Authority NSW) notifications and permits
- Risk Assessments and SWMS documents
- Zauner Construction HSE050 - Asbestos Removal Permit
- Previous versions of the asbestos register
- Zauner Construction Air Monitoring and Clearance certificate records
- Records pertaining to the informing of employees/contractors about the presence of asbestos on site, and that those employees have been appropriately trained in safe work procedures and practices
- Clearance certificates indicating areas are safe to reoccupy after asbestos abatement works; and
- Airborne fibre monitoring results

All asbestos and other hazardous material records are to be filed in a designated (preferably red) folder titled - "*Asbestos and Hazardous Material Documentation*". The project team is to ensure that an electronic copy of this information has been scanned and uploaded as it is received onto Isolution3 and Procore under the applicable project.

On completion of the project, the Asbestos and Hazmat Folder (red folder) shall be handed to the Zauner Head Office HSE Team, who will organise with the person responsible for managing company archives long term storage of these documents. Note, all asbestos related records and documents are to be retained for a period of 30 years, with the exception of Health Monitoring Records that shall be kept for 40 years.

9. HEALTH MONITORING

PCBU's must arrange appropriate medical examinations for workers conducting asbestos removal or engaged in ongoing medical examinations for workers conducting asbestos removal or engaged in ongoing-related activities to identify any health changes resulting from their exposure to asbestos.

10. CERTIFICATION AND TRAINING

10.1 Certification

A licensed asbestos removalist must not direct or allow a worker to carry out licensed asbestos work unless they are satisfied the worker holds a certification that is relevant to the class of licensed asbestos removal work they will be carrying out. The training is provided by an external registered training organisation (RTO).

10.2 Training

The licensed asbestos removalist must provide appropriate training to a worker carrying out licensed asbestos removal work to ensure the work is carried out in accordance with the asbestos removal control plan.

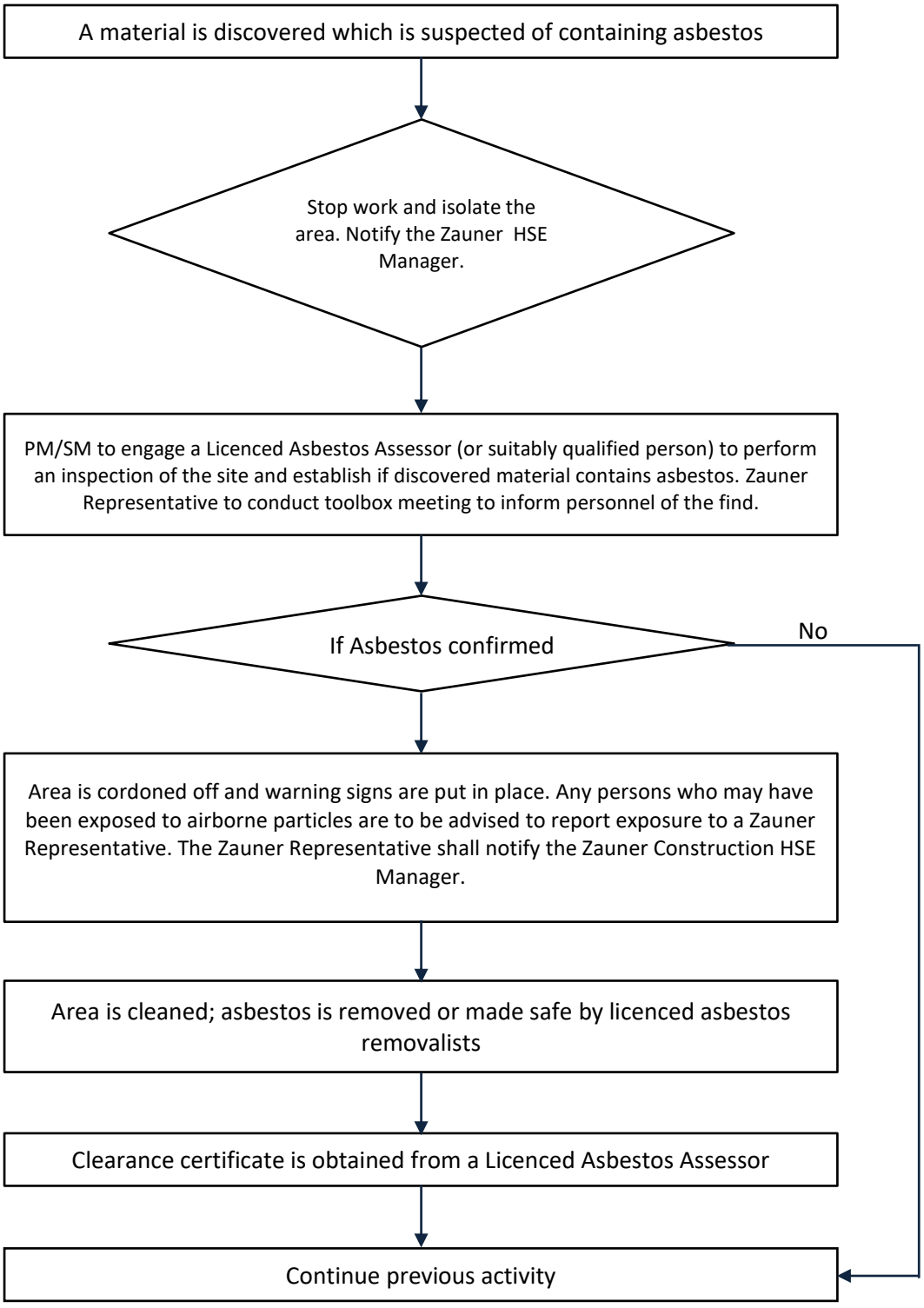
10.3 Training (Zauner Construction Workers)

Refer to the Zauner Training Management Plan developed for this project.

11. INCIDENT RESPONSE AND NOTIFICATION

Any employee or subcontractor who has been or is likely to be exposed to a prohibited or notifiable carcinogenic substance must notify Zauner Construction head office HSE Manager or their delegate by both phone and a hazard report.

12. UNEXPECTED FINDS



42.9 External Lighting Compliance

ELECTRICAL SERVICES DESIGN CERTIFICATION – JANUARY 2022	
Project Name:	BUDAWANG SCHOOL
Project Address:	15 CROOBYAR ROAD, MILTON NSW 2538
Part of Building To Be Certified:	BLOCKA A, B, C, D

Pursuant to the provisions of the requirements from the National Construction Code of Australia, **I, on behalf of Intelle Pty Ltd** hereby certify that the below design will be carried out in accordance with regular engineering practice and to meet the requirements of the National Construction Code of Australia, the Environment Planning and Assessment Regulation, relevant Australian Standards, and relevant conditions of the Development Consent.

In particular, the design will be in accordance with the following:

RELEVANT AUSTRALIA STANDARDS		RELEVANT PARTS
NCC 2019	National Construction Code Volume One	Clauses E4.5/NSW E4.6 & E4.8 E4.2, E4.4
NCC 2019	Energy Efficiency Installations	Section J6
AS1158 - 2018	External Lighting	
AS 1680 Part 0 – 2009	Artificial Lighting	
AS 2293 Part 1 - 2019	Emergency and Exit Signs	
AS 3000 – 2018	Electrical Wiring	
AS4282 - 2019	Obtrusive Effects of Outdoor Lighting	
BCA Report	Pending	

This certificate should not be construed as relieving any other party of their responsibilities.

I am an appropriately qualified and competent person in this area and as such can certify that the design of the systems in the documents listed below have been designed in accordance with the above nominated standards of performance.

DRAWING NO.	TYPE OF DOCUMENT (e.g. drawings, specifications, calculations etc.)	BY	REV	DATE
1490-6A E001	LEGEND & DRAWING SCHEDULE	RG	F	23.11.2021
1490-6A E010	SITE PLAN-EXTERNAL LIGHTING & CABLE RETICULATION	RG	F	23.11.2021
1490-6A E011	SITE PLAN-EXTERNAL LIGHTING ROOF	RG	F	23.11.2021

DESIGN CERTIFICATION

DRAWING NO.	TYPE OF DOCUMENT (e.g. drawings, specifications, calculations etc.)	BY	REV	DATE
1490-6A E012	SITE PLAN-LIGHTNING PROTECTION SYSTEM	RG	F	23.11.2021
1490-6A E020	ELECTRICAL SINGLE LINE DIAGRAM	RG	G	10.12.2021
1490-6A E021	ELECTRICAL DISTRIBUTION BOARD SCHEMATICS	RG	G	10.12.2021
1490-6A E022	ELECTRICAL DISTRIBUTION BOARD SCHEMATICS	RG	G	10.12.2021
1490-6A E030	COMMS SINGLE LINE DIAGRAM	RG	G	10.12.2021
1490-6A - A-E100	BLOCK A - LIGHTING LAYOUT	RG	F	23.11.2021
1490-6A - A-E200	BLOCK A - POWER & COMMUNICATIONS LAYOUT	RG	F	23.11.2021
1490-6A - A-E300	BLOCK A - CABLE RETICULATION LAYOUT	RG	F	23.11.2021
1490-6A - A-E400	BLOCK A ROOF PV SYSTEM	RG	F	23.11.2021
1490-6A - B-E100	BLOCK B - LIGHTING LAYOUT	RG	F	23.11.2021
1490-6A - B-E200	BLOCK B - POWER & COMMUNICATIONS LAYOUT	RG	F	23.11.2021
1490-6A - B-E300	BLOCK B - CABLE RETICULATION LAYOUT	RG	F	23.11.2021
1490-6A - C-E100	BLOCK C - LIGHTING LAYOUT	RG	F	23.11.2021
1490-6A - C-E200	BLOCK C - POWER & COMMUNICATIONS LAYOUT	RG	F	23.11.2021
1490-6A - C-E300	BLOCK C - CABLE RETICULATION LAYOUT	RG	F	23.11.2021
1490-6A - D-E100	BLOCK D - LIGHTING LAYOUT	RG	F	23.11.2021
1490-6A - D-E200	BLOCK D - POWER & COMMUNICATIONS LAYOUT	RG	F	23.11.2021
1490-6A - D-E300	BLOCK D - CABLE RETICULATION LAYOUT	RG	F	23.11.2021
0965-40A E010	SPECIFICATION	RG	F	23.11.2021
0965-40A E011	SCOPE OF WORK	RG	F	23.11.2021
0965-40A E121	LEVEL 21 LIGHTING LAYOUT	RG	F	23.11.2021
0965-40A E123	LEVEL 23 LIGHTING LAYOUT	RG	F	23.11.2021

FULL NAME OF DESIGNER:	Raluca Grancea

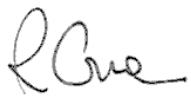
DESIGN CERTIFICATION

QUALIFICATIONS AND EXPERIENCE:	B. Eng. Electrical and communications Services Over 25 years' experience
ADDRESS OF DESIGNER:	Level 2, 350 Kent Street, Sydney, NSW 2000
BUSINESS TELEPHONE NO:	+61 2 9772 3600
MOBILE NO:	+61 431 005 832
NAME OF EMPLOYER:	Intelle Pty Ltd.

The information contained in this statement is true and accurate to the best of my knowledge.

Intelle Pty Ltd possesses Professional Indemnity Insurance to the satisfaction of the Building Owner.

Yours Faithfully,



RALUCA GRANCEA
Senior Electrical Engineer

42.10 **Community Consultation and Complaints Handling Plan**

NSW GOVERNMENT Education

January 2022

School Infrastructure NSW

Community Communication Strategy

Budawang School for Specific Purposes (SSP)

Document Purpose

This Community Communication Strategy (CCS) has been developed 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 School Infrastructure NSW (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, SJA or contractor, Zauner 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 requirements and where they are addressed

State Significant Developments B7**	The Community Communications Strategy addresses this in section
Identify people to be consulted during the design and construction phase	▪ Section 4 ▪ Section 5 ▪ Section 6
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, PRG ▪ Section 6 ▪ Section 8.5
Set out procedures and mechanisms: ▪ Through which the Applicant will respond to enquiries or feedback from the community; and	▪ Section 8.5

State Significant Developments B7**	The Community Communications Strategy addresses this in section
Set out procedures and mechanisms: ▪ 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.

Planning is underway to relocate Budawang School from Ulladalla to a site on Croobyar Road in Milton. More than 30 students living in communities from Batemans Bay to Sanctuary Point attend Budawang School which caters for young people with moderate to severe intellectual disabilities. Along with the relocation, the project aims to deliver:

- new facilities for students and teachers at Budawang SSP including:
- modern, purpose built teaching and learning spaces
- a sensory playground
- kitchen garden
- covered outdoor learning area
- library
- multipurpose facility
- life skills centre
- new spaces for school and administrative staff
- a hydrotherapy pool
- seven new learning spaces to accommodate student growth and new core facilities

It is proposed that some of the new facilities at Budawang School will be shared with the community, including other schools in the area.

The Budawang 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 30 September 2021.

DPIE's web page on the project can be accessed here.

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 **Overarching 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.

3.2 Project messaging

3.2.1 Project status

The State Significant Development Application has been assessed by the Department of Planning, Industry & Environment and consent has been granted.

3.2.2 Project benefits

Budawang School is being relocated to provide new facilities for students and teachers. These facilities will include:

- modern, purpose built teaching and learning spaces
- a sensory playground
- kitchen garden
- covered outdoor learning area
- library
- multipurpose facility
- life skills centre
- new spaces for school and administrative staff
- a hydrotherapy pool
- seven new learning spaces to accommodate student growth and new core facilities

3.2.3 High-quality learning environment

- The project will provide flexible learning spaces that 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. Is there additional wording for SSP
- 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 relocated school will be built in accordance with current sustainability principles. School Infrastructure NSW is committed to environmentally conscious construction and maintenance practices.
- The new school will achieve a 4 green star rating, registered with the Green Building Council of Australia.

3.3 Construction phase

3.3.1 Safety

- School Infrastructure NSW is committed to ensuring that work is completed safely and efficiently and with minimal impact to the local community. Prior to construction starting, any hazardous material is required to be removed from the site. This work will be carried out in accordance with regulatory requirements including the provisions of SafeWork NSW.

3.3.2 Traffic management

- The construction contractor has developed a Traffic Management Plan to ensure that vehicle movements are managed with minimal disruption to the local community. All construction vehicles (excluding worker 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 before stopping.

3.3.3 Noise, vibration and dust

- A Construction Noise and Vibration Management Plan is being prepared prior to the commencement of any work.
- 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.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 8:00am to 1:00pm on Saturdays. No work is currently proposed for Sundays or Public Holidays.
- During the COVID-19 pandemic, in line with the NSW Environmental Planning and Assessment (COVID-19 Development – Construction Work Days) Order 2020, School Infrastructure NSW construction sites can operate on weekends and public holidays if required. This is to allow workers to abide by social distancing rules while on construction sites by distributing building work across the week.These hours will continue while the EPA COVID-19 order is in place.
- 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 1pm and 4pm, Saturdays.
- 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 activities must be given to affected residents before undertaking the activities or as soon as is practical afterwards.
- Rock breaking, 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.

3.3.4 Flora and fauna

- School Infrastructure NSW is committed to ensuring construction work has a minimal impact upon flora and fauna.
- School Infrastructure NSW will comply with all Development Consent Conditions relating to the protection of flora and fauna, 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 flora and fauna, will be prepared in accordance with relevant guidelines and performance indicators, and will be prepared to the satisfaction of the Department of Planning, Industry and Environment (DPIE).
- A Landscape Plan will be implemented to manage the vegetation and landscaping works on-site. The plan must; provide for the planting of at least 45 trees; detail the location, species, maturity and height at maturity of the plants; include species indeigeouns to the locality; include the planting of trees with a pot container of 100 litres or greater, with a minimum maturity height of 3m; and comply with the landscaping requirements.

3.3.5 Soil and water

- School Infrastructure NSW is committed to the appropriate management of soil and water on the construction site.

- School Infrastructure NSW will comply with all Development Consent Conditions relating to soil and water management, 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 for the management of soil and water, will be prepared in accordance with relevant guidelines and performance indicators, and will be prepared to the satisfaction of the Department of Planning, Industry and Environment (DPIE).
- A suitably qualified and experienced consultant will prepare a Construction Soil and Water Management Sub-Plan (CSWMSP) condition B16. The CSWMSP will;

o describe erosion and sediment control measures to be implemented during construction

o provide a plan of how construction works will be managed in wet-weather events

o detail flows from the site to surrounding area

o describe the measures to be taken to manage stormwater and flood flows for small and large sized events

  - include an Acid Sulfate Soils Management Plan, if required.

- 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).

3.3.6 Contamination

- Prior to construction, a Construction Environmental Management Plan (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 prepared to the satisfaction of the Department of Planning, Industry and Environment (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.
- Air monitoring will be required during ACM removal which is required to be disposed of at a licensed collection facility. Air monitoring samples to be analysed by NATA laboratory.
- The CEMP will include protocols for the management of unexpected contamination discovered during the course of construction works.

3.3.7 Visual amenity

- Prior to construction, a Construction Environmental Management Plan (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 Department of Planning, Industry and Environment (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.
- 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.

3.3.8 Heritage

- Prior to construction, a Construction Environmental Management Plan (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 prepared to the satisfaction of the Department of Planning, Industry and Environment (DPIE).

- The CEMP will include unexpected finds protocols for objects of Aboriginal or Historic heritage.
- Construction must be undertaken in accordance with the recommendations of the Aboriginal Cultural Heritage Assessment Report prepared by Tocomwall dated February 2021.
- In the event that relics of Aboriginal heritage are discovered, all works in the immediate vicinity will cease, and consultation will occur with a suitably qualified archaeologist, registered Aboriginal representatives and DPIE to determine an appropriate management strategy. In the event that relics of historic heritage are discovered, all works in the immediate vicinity will cease, and consultation will occur with DPIE to determine an appropriate management strategy. In addition:
    - Construction methodology will be prepared to ensure against damage to heritage items.
    - Photographic archival recording of the school, buildings, artwork and landscape will be undertaken.
    - An Art Management Strategy will be prepared.
    - An Interpretation Plan should be prepared with representatives of the school community and include stories of site geography.

- A vibration assessment will be undertaken for the adjacent heritage listed bakery at 197-201 Princess Highway Milton.

3.3.9 Disruptive works

- Construction work for Budawang School Relocation 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.

3.3.10 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

3.4 Handover phase

3.4.1 Traffic and access

- Construction work at Budawang School has been completed. We can now confirm access arrangements including pick-up and drop-off arrangements.

3.5 Official school opening

- The new Budawang School was delivered today, with brand new facilities now open for the school.
- Thank you for your patience during construction and we are thrilled to deliver this project for the school community.

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 consultation 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) will participate 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 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 to communications and engagement related matters, the PRG will also:

- 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.

Figure 1: Project Reference Group (PRG)

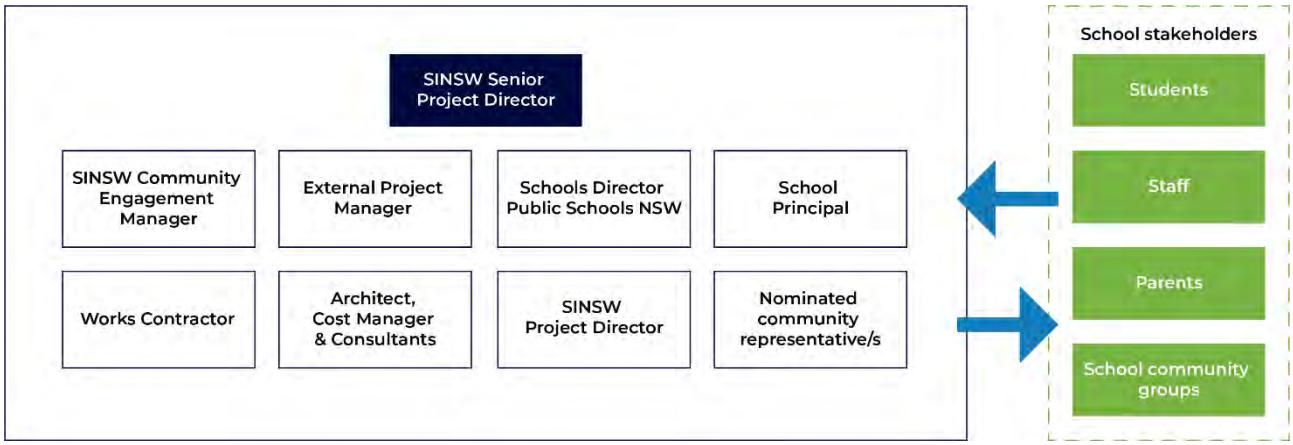
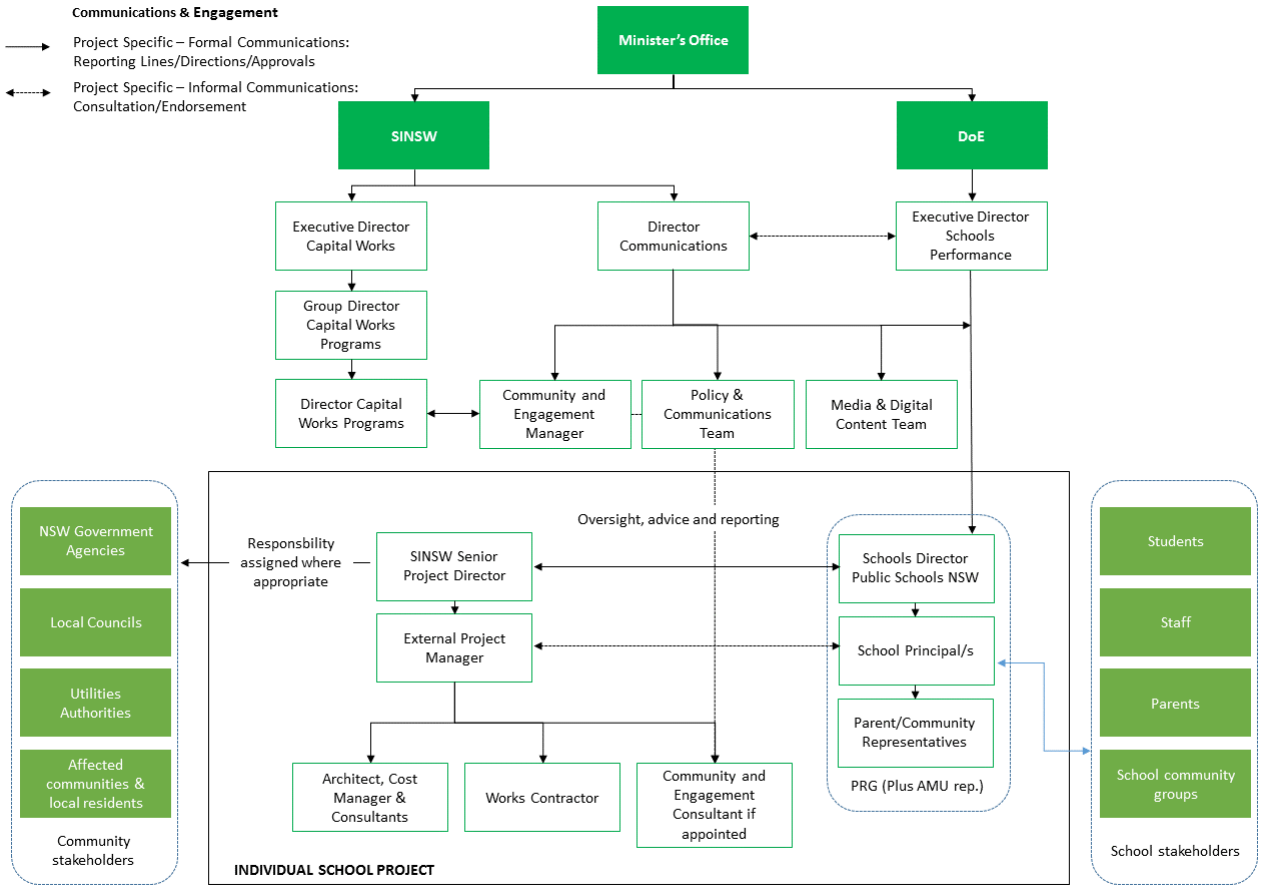


Figure 2 below maps how the department and SINSW will communicate both internally and externally.

Figure 2: SINSW Project Governance



5 Stakeholders

The stakeholder list below summarises who will be consulted during the design and construction phase via ongoing face to face meetings, communications collateral and digital engagement methods.

Table 2: Stakeholders

Stakeholders	Interest and involvement
Local Members of Parliament: ▪ Federal – Member for Gilmore, Fiona Phillips ▪ State – Member for the South Coast, Shelley Hancock	▪ 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 ▪ Shoalhaven 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 – Shoalhaven City Council ▪ Mayor Amanda Findley ▪ CEO Stephen Dunshea	▪ 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 redeveloped school once

Stakeholders	Interest and involvement
	completed
• Local community -Milton and surrounding suburbs • Ulladulla Area School Expansion Action Group • Neighbouring residents • Local businesses in the area • Nearby Childcare	▪ Shared use of school and community facilities ▪ Traffic: increased congestion on nearby streets ▪ Providing accurate information regarding upcoming construction and school impacts ▪ School operations: increased enrolments, longer OSHC longer operational hours ▪ Planning considerations: change of built form, overshadowing, perception of design ▪ Construction: noise and impacts of truck movements and site access, tree removal ▪ Utilities infrastructure: Upgrades and impact on existing supply ▪
Nearby public schools • Ulladulla Primary School • Milton Public School • Ulladulla High School	▪ Impact on school resources and funding concerns (as these schools have not received funding) ▪ Impact on current students for special needs purposes ▪ Implications for teaching staff ▪ Possible impacts on enrolments ▪ Opportunities to view the new facilities
Adjoining affected landowners and businesses • Big Fat Smile (only for the duration of time that it is operating within the wider DoE owned site, lease is scheduled to expire in February 2022)	▪ 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 • Local Aboriginal Land Council • Aboriginal community within the school and local area	▪ Preserve, protect and renew culture and heritage

6 Engagement Approach

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 communications 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 and Agencies and Council, two distinct streams of engagement will continue for the project as follows:

- 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, admin 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 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 7 days before in local newspapers, on our website and via letterbox drops
- 1300 number that is published on all communications material, including project site signage
- School Infrastructure NSW email address that is published on all communications material, including project site signage

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 3 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

6.2 Construction works notification distribution methodology

Construction works notifications will be distributed to targeted properties in the vicinity of the project. These properties have been identified as part of the technical studies and plans submitted as part of the planning and assessment approval pathway and post approval requirements. Specifically, the notification distribution map at Figure 3 below has been prepared through an analysis of the potential project impacts and requirements identified in the Construction Environmental Management Plan, specifically the Construction Noise and Vibration Management Sub Plan

This methodology has been used to identify the anticipated construction impacts identified for this project. It does not include an arbitrary distribution area due to the robust impact analysis that has been carried out during planning and assessment phase of the project.

The distribution area may be altered:

- to address specific construction activities where the impact/s affect fewer or greater properties, depending on the nature of the work
- where ongoing monitoring shows more widespread impacts to that predicted in the environmental impact assessment
- if complaints are received outside of the distribution area
- if there is an approved project modification in the future that results in more widespread impacts
- at the discretion of School Infrastructure NSW.

Additional project updates and notifications will also be distributed when communicating milestones and higher-level information to the wider community such as construction contract award and project completion. Such updates and notifications may not detail construction impacts and may be distributed to a greater number of addresses to widely publicise the project's achievements.

Figure 3: Map of construction works notification distribution area below

See Table 3 on next page to interpret colouring and classification of the map above.

Table 3 Noise sensitive receivers

NCA ID	Location	Receiver Type	Description
R1	East of the proposed site	Residential	Single-storey residential buildings with a common boundary with the proposed development. This group of residential receivers represents the closest sensitive residential receivers located east of the subject site.
C1	East of the proposed site	Commercial	A heritage-listed double-storey commercial building (a bakery) with a common boundary with the proposed development. This receiver is identified as the closest commercial receiver to the subject site.
R2	North of the proposed site	Residential	Single-storey residential buildings located approximately 20 m north of the proposed site. This group of residential receivers represents the closest sensitive residential receivers located north of the subject site.
R3	West of the proposed site	Residential	A single-storey residential building located approximately 70 m west of the proposed site. This location represents the closest sensitive residential receiver west of the subject site.

Table 4: 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 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 undertaken with at least 7 days' notice of significant construction activities, major disruptions and opportunities to meet the project team or find out more at 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. Directs all enquiries, comments and complaints through to our 1300 number and School Infrastruture NSW 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.	Throughout the life of the project and updated for

Communications Tool	Description of Activity	Frequency
	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.	12 months post completion
Display boards	A0 size full colour information boards to use at info sessions or to be permanently displayed in appropriate places (school admin 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
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 info booth, held at a key milestone or contentious period. We have more information on the project available on display boards/ screens and an information pack handout – including project	As required

Communications Tool	Description of Activity	Frequency
	scope, planning approvals, any impacts on the school community or residents, project timeline, FAQs. Members from the project and communications team will be available to answer questions about the project. These events occur after school hours on a week day (from 3:00pm – 7:00pm to cover working parents). All liaison summarised and loaded on the CRM.	
Information pack	A 4 page A4 colour, fold out flyer that can include: ▪ Project scope ▪ Project update ▪ FAQs ▪ Contact information ▪ Project timeline To be distributed at info sessions or at other bigger events/ milestones in hard copy and also made available electronically.	As required
Media releases/events	Media releases are distributed upon media milestones. They promote major project milestones and activities and generate broader community awareness.	Media milestones: ▪ Project announcement ▪ Concept design completed ▪ Planning approval lodged ▪ Planning approval granted ▪ Construction contract tendered ▪ Construction contract awarded ▪ SOD turning opportunity ▪ Handover ▪ Official opening
Notifications	A4, single or double sided, printed in colour that can include FAQs 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	As required according to the construction program. Distibuted 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.

Communications Tool	Description of Activity	Frequency
	and higher level information to the wider community i.e. project announcement, concept design/DA lodgement, construction award, completion. Always includes the project summary, information booths/ sessions if scheduled, progress summary and contact info.	Specific timings indicated in table 5 – Section 8.
Photography, time-lapse photography and videography	Captures progress of construction works and chronicles particular construction activities. Images to be used in notifications, newsletters and report, on the website and 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 contruction progress images are used
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 Budawang School for Specific Purposes (SSP). Provides high level information including project scope, project image and SINSW contact information. Fixed to external fencing/ entrances etc. that are visible and is 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 an email address linking direct to the Community Engagement team. Email address (schoolinfrastructure@det.nsw.edu.au) is published on all communications materials.	Throughout the life of the project
School Infrastructure NSW website	A dedicated project page for Budawang School for Specific Purposes (SSP) is located on the SINSW website.	Updated at least monthly and is live for at least 12 months post completion of the project

Communications Tool	Description of Activity	Frequency
Welcome pack/ thank you pack	At project completion the following flyers are utilised: ▪ **Welcome pack** – project completion for school community - A 2 to 4 page A4 flyer which is provided to the school community on the first day/week they are returning to school when new facilities are opening, or attending a new school. Includes project overview, map outlining access to the school and key locations, FAQs, contact information. ▪ **Thank you pack** – A 2 to 4 page A4 flyer tailored to the local residents to thank them for their patience and support of the project.	Project completion only

7 Engagement Delivery Timeline

The following engagement delivery timeline maps tailored communications tools and activities by key milestone.

See Appendix A for alternative communication and engagement methods should social distancing restrictions be reinstated during the Covid-19 pandemic.

Table 5: Engagement timeline

Project Phase / milestone	Target Audiences	Proposed communication tools / activities / purpose as per Table 3	Timing / implementation
Site establishment and early works	School community Local community and neighbours	Webpage update Media release (if required) Early works commencement notification	February 2022
Main Construction works, including but not limited to: ▪ Works commenced ▪ Key impact periods – noise, dust, traffic, vibration	School community Local community and neighbours	Sod turn Webpage update Media release (if required) Project Update / Information Pack Information Sessions (TBC) Works notifications	February 2021 to December 2022 (at key construction events as required, as per our notification process in Table 5)
Term prior to project completion	School Community Local community and neighbours	Webpage update Project Update / Information Pack Information Sessions (TBC)	October to December 2022 (Term 4)
Handover and welcome to new school	School community	D1T1 Welcome Pack Welcome Teams Information Boards Media release (if required)	January 2023
Opening	School community Local community and neighbours	Official opening ceremony	January 2023
Post-opening	All	Website remains live Project signage remains installed 1300 phone and email still active, and CRM still maintained for complaints and enquiries.	January 2024 (at least 12 months post construction completion)

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

The SINSW Online Content Team upload to the SINSW website.SINSW also maintains a LinkedIn page. SINSW utilises the Department of Education's social channels including FaceBook and Twitter, where appropriate.

8.4 Notification process

Notifications (titled works notifications or project updates as per Table 3) are SINSW's 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, allowing stakeholders and community members to plan for the impacts and make alternative arrangements where required. Depending on the work activity, notifications are distributed in person via door knocks, via letterbox drop, via the school, electronically via email, and uploaded to the SINSW project webpage.

Stakeholder engagement and community notification will:

- outline the reason that the work is required
- outline the location, nature, and duration of the proposed works
- outline work hours
- be written in plain English
- include a diagram that clearly indicates the location of the works, where required
- include a 1300 community contact number, project email address and website details.

Table 6: Notifications periods

Table 6 below outlines minimum notification periods for specific work activities that will be targeted for stakeholder and community notification. All notification periods prescribed within development approvals or by approving bodies will be adhered to. Regular project updates regarding the general work program will be also provided to nearby households and businesses throughout construction.

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

Works activity	Minimum community notification period
Notifications regarding traffic changes, parking impacts, road closures, major detours	10 – 14 days
Pedestrian route changes and other impacts	10 – 14 days
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 - https://www.ombo.nsw.gov.au/complaints.

The below table summarises timeframes for responding to enquiries and complaints, through each correspondence method:

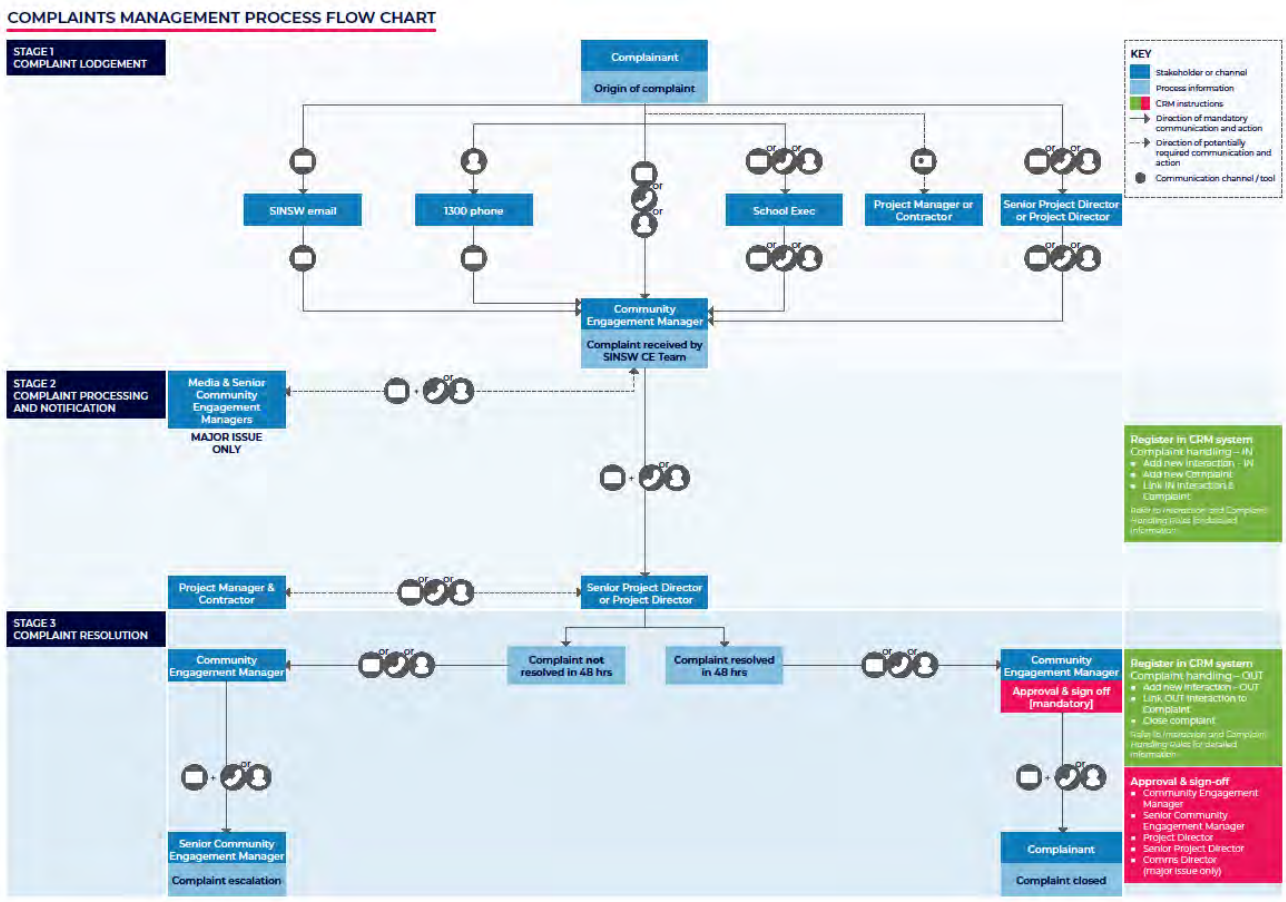
Table 7: Complaint and enquiry response time

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.

Complaint	Acknowledgement times	Response times
		If not possible, continue contact, escalate as required and resolve within 7 business days.
Phone call after hours*	Within two (2) hours of receiving message upon returning to office.	Following acknowledgement, complaint to be closed out within 48 hours. If not possible, continue contact, escalate as required and resolve within 7 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 7 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 7 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 7 business days.
Phone call after hours	Within two (2) hours of receiving message upon returning to office.	Interaction to be logged and closed out within 7 business days.
Email during business hours	At time of email (automatic response)	Interaction to be logged and closed out within 7 business days.
Email outside of business hours	At time of email (automatic response)	Interaction to be logged and closed out within 7 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 4 - Internal Complaints Process



8.5.1 Disputes involving compensation and rectification

School Infrastructure NSW 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, School Infrastructure NSW 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 CE Manager
- SINSW Senior Manager, CE
- 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 (DPIE) (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 should social distancing requirements come into effect once again. These alternatives are proposed to ensure we would 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.

Mandatory requirements and alternatives at a glance:

Items in **bold** have alternate delivery options.

SSD CONDITION	ALTERNATIVE
1300 community information line	No change
Advertising (print)	Promote online info 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	No door knocks, use letterbox drop*
Face-to-face meetings/briefings	Phone call or teleconferencing
FAQs	No change
Information booths	No info booths: issue project update instead
Information sessions (drop in)	Digital version
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

SSD CONDITION	ALTERNATIVE
	Distributed to near neighbours via letterbox drop*
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

42.11 **SSDA Compliance Conditions**

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.

Alan Bright
Director
State Significant Acceleration

Sydney 30 September 2021

SCHEDULE 1

Application Number:	SSD - 8845345
Applicant:	Department of Education
Consent Authority:	Minister for Planning and Public Spaces
Site:	Part Lot 200 DP1192140 17 Croobyar Road, Milton
Development:	Construction of Budawang School for Specific Purposes including the: • demolition of three buildings, structures and driveway surfaces; • removal of trees; • bulk earthworks; • construction of five one-storey buildings including a library and administration building, multi-purpose hall building, hydrotherapy pool building and two homebase buildings (designed for up to 56 students); • construction of internal drop-off and pick up facilities and a car park with 29 spaces; • landscaping and construction of fences; and • installation of signage.

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*
Advisory Notes	Advisory information relating to the consent but do not form a part of this consent
Applicant	The Department of Education or any other person carrying out any development to which this consent applies
BCA	Building Code of Australia
BC Act	*Biodiversity Conservation Act 2016*
CEMP	*Construction Environmental Management Plan*
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	Conditions contained in Schedule 2 of this document
Construction	All physical work to enable operation (unless specifically excluded by a condition) including but not limited to the carrying out of works for the purposes of the development, including earthworks, and erection of buildings and other infrastructure permitted by this consent, but excluding the following: • demolition and removal of buildings; • 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* or *Environment Protection and Biodiversity Conservation Act 1999*) 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).
Council	Shoalhaven City Council

Day	The period from 7 am to 6 pm on Monday to Saturday, and 8 am to 6 pm on Sundays and Public Holidays
Demolition	The deconstruction and removal of buildings, sheds, driveways, paths, and other structures on the site
Department	NSW Department of Planning and Environment
Development	The development described in the EIS and Response to Submissions, including the works and activities, 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
ESS 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 *Budawang School*, prepared by Mecone, 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
GTP	Green Travel Plan
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
Management and mitigation measures	The management and mitigation measures set out in 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 (or delegate)
Mitigation	Activities associated with reducing the impacts of the development prior to or during those impacts occurring
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
OEH	NSW Office of Environment and Heritage
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.
RtS	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

TfNSW (RMS)	Transport for New South Wales (Roads and Maritime Services)
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 Drawings prepared by *Group GSA*			
Dwg No.	**Rev**	**Name of Plan**	**Date**
SSDA-0000	E	Cover Sheet / Drawing Index	08/09/2021
SSDA-1110	E	Site Location Plan	08/09/2021
SSDA-1111	D	Site Plan - Existing	08/09/2021
SSDA-1120	E	Demolition Plan	08/09/2021
SSDA-2000	I	Site Plan	08/09/2021
SSDA-2001	F	Block A Plan	08/09/2021
SSDA-2002	F	Block B Plan	08/09/2021
SSDA-2003	F	Block C Plan	08/09/2021
SSDA-2004	G	Hydrotherapy Plan	08/09/2021
SSDA-2010	F	Site Roof Plan	08/09/2021
SSDA-2011	E	Block A Roof Plan	08/09/2021
SSDA-2012	D	Block B Roof Plan	28/07/2021
SSDA-2013	E	Block C Roof Plan	08/09/2021
SSDA-2014	E	Hydrotherapy Roof Plan	08/09/2021
SSDA-2800	C	Signage Plan	08/04/2021
SSDA-2801	A	Signage Plan	08/04/2021
SSDA-3005	C	Street Elevation	08/04/2021
SSDA-3010	F	Block A Elevations Sheet 01	08/04/2021
SSDA-3011	E	Block A Elevations Sheet 02	08/04/2021
SSDA-3012	E	Block B Elevations	08/04/2021
SSDA-3013	E	Block C Elevations	08/04/2021
SSDA-3014	A	Block D Elevations	08/04/2021
SSDA-3020	B	Materials Board	08/04/2021
SSDA-3100	D	Site Sections	08/04/2021
SSDA-3110	F	Block A Sections	14/04/2021
SSDA-3111	D	Block B Sections	08/04/2021
SSDA-3112	E	Block C Sections	08/04/2021
SSDA-3113	D	Block D Sections	08/04/2021

SSDA-3201	C	Cladding, Window and Floor Details	08/04/2021
SSDA-3202	C	Cladding, Window and Floor Details	08/04/2021
Landscape Plans prepared by *GroupGSA*			
Dwg No.	**Rev**	**Name of Plan**	**Date**
L-0002	K	Tree Management Plan	08/09/2021
L-2001	G	Landscape Site Plan	08/09/2021
L-2002	F	Site Plan - Fencing	08/09/2021
L-2101	D	Detailed Plans - Bush Garden & Sensory Playground	29/07/2021
L-2102	D	Detailed Plans - Bike Track & Productive Garden	29/07/2021
L-2103	D	Detailed Plans - Outdoor Learning Space	29/07/2021
L-6000	E	Boundary Treatments 1	08/09/2021
L-6001	E	Boundary Treatments 2	08/09/2021

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 a 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 A133, 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.

Note: Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.

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.

Design and Construction for Bush Fire

A20. New construction must comply with Sections 3 and 5 (BAL 12.5) Australian Standard AS3959-2009 Construction of buildings in bushfire-prone areas or NASH National Standard Steel Framed Construction in Bushfire Areas (as updated) as appropriate and section 7.5 of Planning for Bush Fire Protection 2019.

A21. The provision of water, electricity and gas must comply with Table 6.8c of Planning for Bush Fire Protection 2019.

Applicability of Guidelines

A22. 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.

A23. 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

A24. 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

A25. 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

A26. 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

A27. 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.

A28. Subsequent notification must be given and reports submitted in accordance with the requirements set out in **Appendix 2**.

Non-Compliance Notification

A29. 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.

A30. 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.

A31. 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

A32. Within three months of:

(a) the submission of a compliance report under condition A3535;

(b) the submission of an incident report under condition A28;

(c) the submission of an Independent Audit under condition C38 or C39;

(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.

A33. 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

A34. Compliance Reports of the project must be carried out in accordance with the Compliance Reporting Post Approval Requirements.

A35. 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.

A36. The Applicant must make each Compliance Report publicly available 60 days after submitting it to the Planning Secretary.

A37. 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.

Shoalhaven Water Certificate of Compliance

A38. A Certificate of Compliance must be obtained to verify that all necessary requirements for matters relating to water supply and sewerage (where applicable) for the development have been made with Shoalhaven Water. An application for a Certificate of Compliance is to be made once the Development Consent has been granted.

PART B PRIOR TO COMMENCEMENT OF CONSTRUCTION OR DEMOLITION

Notification of Commencement

B1. 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.

B2. 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

B3. 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

B4. 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

B5. Prior to the commencement of demolition, removal of buildings or construction (whichever occurs first), 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

B6. Prior to the commencement of demolition, removal of buildings or construction (whichever occurs first), 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

B7. 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.

(e) include any specific requirements around traffic, noise and vibration, visual impacts, amenity, flora and fauna, soil and water, contamination, heritage.

Ecologically Sustainable Development

B8. 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.

Outdoor Lighting

B9. 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

B10. Prior to the commencement of demolition and removal of buildings, 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.

Environmental Management Plan Requirements

B11. 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

B12. Prior to the commencement of demolition, removal of buildings or construction (whichever occurs first), 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) external lighting in compliance with AS 4282-2019 Control of the obtrusive effects of outdoor lighting;

(iv) community consultation and complaints handling as set out in the Community Communication Strategy required by condition B7;

(b) an unexpected finds protocol for Aboriginal and non-Aboriginal heritage and associated communications procedure;

(c) Construction Traffic and Pedestrian Management Sub-Plan (see condition B13);

(d) Construction Noise and Vibration Management Sub-Plan (see condition B144);

(e) Construction Waste Management Sub-Plan (see condition B15);

(f) Construction Soil and Water Management Sub-Plan (see condition B166);

B13. 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 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, access and parking arrangements.

B14. The Construction Noise and Vibration Management Sub-Plan (CNVMP) must address, but not be limited to, the following:

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

(b) a vibration assessment for the adjacent heritage listed bakery at 197-201 Princess Highway Milton.

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

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

(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 B144(e); and

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

B15. 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 proposed use;

(b) information regarding the recycling and disposal locations; and

(c) confirmation of the contamination status of the development areas of the site based on the validation results.

B16. 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) detail where soil is to be reused on site. If soil is to be exported, details are to be provided of where exported soil is being disposed.

(d) 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';

(e) include an Acid Sulfate Soils Management Plan, if required, including measures for the management, handling, treatment and disposal of acid sulfate soils, including monitoring of water quality at acid sulfate soils treatment areas;

(f) 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);

(g) detail all off-site flows from the site; and

(h) 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 and 1 in 100-year ARI.

B17. 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

B18. Prior to the commencement of construction, the Applicant must provide sufficient parking facilities on-site, including for heavy vehicles and for site personnel, to ensure that construction traffic associated with the development does not utilise public and residential streets or public parking facilities.

Operational Noise – Design of Mechanical Plant and Equipment

B19. Prior to the installation of mechanical plant and equipment, a detailed assessment of mechanical plant and equipment with compliance with the relevant project noise trigger levels as recommended in the Budawang School Acoustic Assessment for SEARS dated 15 April 2021 and prepared by Marshall Day Acoustics must be undertaken by a suitably qualified person. Noise from mechanical plant and equipment must achieve no greater than background noise +5db.

B20. Evidence must be submitted to the Certifier that any noise mitigation recommendations identified in the assessment carried out under B19 have been incorporated into the design.

Construction and Demolition Waste Management

B21. Prior to the commencement of the removal of any waste material from the site, the Applicant must notify the TfNSW Traffic Management Centre of the truck route(s) to be followed by trucks transporting waste material from the site.

Operational Waste Storage and Processing

B22. 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 of a size suitable for the predicted waste generation;

(c) contains a bunded area for the storage of pool chemicals;

(d) 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;

(e) includes a hot and cold water supply with a hose through a centralised mixing valve;

(f) is naturally ventilated or an air handling exhaust system must be in place; and

(g) includes signage to clearly describe the types of materials that can be deposited into recycling bins and general garbage bins.

(h) The floor to be constructed of concrete at least 75mm thick and adequately graded to drain to a Shoalhaven Water approved drainage fitting.

(i) The floor to be finished so that it is non-slip and has a smooth and even surface covered at all intersections.

Road Upgrade

B23. Prior to the commencement of construction of the internal roads, the Applicant must submit design plans to the Certifier which demonstrate that the proposed internal roads comply with Table 6.8b of *Planning for Bush Fire Protection 2019*.

Construction Access arrangements

B24. 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

B25. 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 29 on-site car parking spaces 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.

Hazardous Materials and Asbestos Management Plan

B26. Prior to the commencement of demolition, removal of buildings or construction (whichever occurs first), a Hazardous Materials and Asbestos Management Plan prepared by a suitably qualified and experienced consultant must be submitted to the satisfaction of the Certifier for the proposed buildings to be demolished.

Public Domain Works

B27. A public footpath is to be provided in front of the site along Croobyar Road.

B28. Prior to the commencement of any footpath or public domain works, the Applicant must consult with Council and demonstrate to the Certifier that the streetscape design and treatment meets the requirements of Council, including addressing pedestrian management. The Applicant must submit documentation of approval for each stage from Council to the Certifier.

Shoalhaven Water

B29. Prior to the commencement of demolition, removal of buildings or construction (whichever occurs first), all conditions listed on the Shoalhaven Water Notice of Requirements under the heading “Prior to the Commencement of Any Works” must be complied with. Written notification must be issued by Shoalhaven Water and provided to the Certifier.

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 B100.

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 8am and 1pm, 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 1pm 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 their 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 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 properties 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 or commercial 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 B144 of this consent.

Trees approved for removal

C19. This consent only permits the removal of trees numbered 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 23, 30, 31, 32, 34, 35, 36, 37, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 73, 74, 75, 77, 78, 79, 80 and 81 in the Arboricultural Impact Assessment Report

dated March 2021 and prepared by Allied Tree Consultancy. This consent does not authorise the removal of any other trees.

Tree Protection

C20. 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 and residual lot that are not approved for removal must be suitably protected during construction as per the recommendations of the Arboricultural Impact Assessment Report, prepared by Allied tree Consultancy, dated 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.

Landscaping

C21. Prior to the installation of landscaping where appropriate, the Applicant must prepare a revised Landscape Plan to manage the revegetation and landscaping works on-site, to the satisfaction of the Planning Secretary. The plan must:

(a) provide for the planting of trees;

(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;

(d) include the planting of trees with a pot container of 100 litres or greater, with a minimum height at maturity of 3m;

(e) comply with the landscaping requirements of 'Planning for Bush Fire Protection 2019' detailed in Schedule 4.

Air Quality

C22. The Applicant must take all reasonable steps to minimise dust generated during all works authorised by this consent.

C23. 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 Soil

C24. The Applicant must:

(a) ensure that only VENM, ENM, or other material approved in writing by 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

C25. 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

C26. 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

C27. 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 civil drawings, prepared by henry & hymas, dated 27/07/2021;

(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;

Aboriginal Cultural Heritage

C28. Construction must be undertaken in accordance with the recommendations of the Aboriginal Cultural Heritage Assessment Report prepared by Tocomwall dated February 2021 and the following requirements:

(a) Further consultation with RAPs must be undertaken to determine where artifacts recovered during construction and test excavations (undertaken in preparation of the ACHAR) are to be stored or reburied.

(b) Requirement 26 "Stone artefacts deposition and storage" in the Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (24 September 2010), available online at: https://www.heritage.nsw.gov.au/assets/Code-ofPractice-for-Archaeological-Investigation-in-NSW.pdf must be complied with.

(c) An Aboriginal Site Monitor must be present during works that impact subsurface within the location of the artefact scatter, and associated PAD. This will require the boundaries of the site, and associated PAD to be defined and mapped prior to works commencing.

(d) If suspected human remains are located during any stage of the proposed works, work must stop immediately, and the NSW Police notified. An archaeologist or physical anthropologist must be contacted in the first instance where there is uncertainty whether the remains are human. If identified as Aboriginal, culturally appropriate management solutions should be co-developed in cooperation with Aboriginal community and RAPs.

Unexpected Finds Protocol – Aboriginal Heritage

C29. 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 EES Group.

Unexpected Finds Protocol – Historic Heritage

C30. 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 following consultation with the Heritage Council (or delegate) and with the written approval of the Planning Secretary.

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 accordance with AS 4282-2019 Control of the obtrusive effects of outdoor lighting.

Independent Environmental Audit

C37. Proposed independent auditors must be agreed to in writing by the Planning Secretary prior to the commencement of an Independent Audit.

C38. Independent Audits of the development must be conducted and carried out in accordance with the Independent Audit Post Approval Requirements.

C39. 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 week's notice to the Applicant of the date or timing upon which the audit must be commenced.

C40. 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 C38 of this consent, or condition C39 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.

C41. 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.

C42. 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.

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 **Error! Reference source not found.**19 have been incorporated into the design of mechanical plant and equipment.

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.

Post-construction Dilapidation Report

D11. 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

D12. 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 or otherwise addressed by contributions required by **Error! Reference source not found.** of this consent.*

Road Damage

D13. 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 Subject Site as a result of construction works associated with the approved development must be met in full by the Applicant.

Protection of Property

D14. 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.

Bicycle Parking and End-of-Trip Facilities

D15. 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 2 staff and 2 visitor 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; 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 Zones

D16. Prior to the commencement of operation, all required School Zone signage, speed management signage and associated pavement markings along Croobyar Road 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.

D17. The Applicant must maintain records of all dates in relation to installing, altering and removing traffic control devices related to speed.

School Transport Plan

D18. Prior to the commencement of operation, a School Transport Plan (STP), 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.

Utilities and Services

D19. Prior to commencement of operation, a certificate of compliance under section 307 of the *Water Management Act 2000* must be obtained from Council and submitted to the Certifier. If the development is to be completed in approved stages, or application is subsequently made for staging of the development, separate Compliance Certificates must be obtained for each stage of the development.

Stormwater Operation and Maintenance Plan

D20. Prior to the commencement of operation, an 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

D21. Prior to the commencement of operation, way-finding signage and signage identifying the location of staff car parking must be installed.

D22. 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

D23. 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; and

(d) include the Management and Mitigation Measures included in EIS.

Site Contamination

D24. Prior to the commencement of operation, the Applicant must submit a Section A1 Site Audit Statement or a Section A2 Site Audit Statement accompanied by an Environmental Management Plan prepared by a NSW EPA accredited Site Auditor. The Section A1 or A2 Site Audit Statement must verify the relevant part of the site is suitable for the intended land use and be provided, along with any Environmental Management Plan to the Planning Secretary and the Certifier.

Landscaping

D25. Prior to the commencement of operation, landscaping of the site must be completed in accordance with landscape plan approved under condition C21.

D26. Prior to the commencement of operation, the Applicant must prepare an operational landscape management plan to manage the revegetation and landscaping on-site and submit it to the Certifier. The plan must describe the ongoing monitoring and maintenance measures to manage revegetation and landscaping.

Asset Protection Zones

D27. Prior to the commencement of operation, the entire site must be managed as an inner protection area (IPA) in accordance with the requirements of Appendix 4 of Planning for Bush Fire Protection 2019. When establishing and maintaining an IPA the following requirements apply:

(a) tree canopy cover should be less than 15% at maturity;

(b) trees at maturity should not touch or overhang the building;

(c) lower limbs should be removed up to a height of 2m above the ground;

(d) tree canopies should be separated by 2 to 5m;

(e) preference should be given to smooth barked and evergreen trees;

(f) large discontinuities or gaps in vegetation should be provided to slow down or break the progress of fire towards buildings;

(g) shrubs should not be located under trees;

(h) shrubs should not form more than 10% ground cover;

(i) clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.

(j) grass should be kept mown (as a guide grass should be kept to no more than 100mm in height); and

(k) leaves and vegetation debris should be removed.

Evacuation and Emergency Planning

D28. Prior to the commencement of operation, a Bush Fire Emergency Management and Evacuation Plan must be prepared consistent with *Development Planning – A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan*.

Note: A copy of the Bush Fire Emergency Management and Evacuation Plan should be provided to the Local Emergency Management Committee for its information prior to occupation of the development.

PART E POST OCCUPATION

Hours of Operation (Hydrotherapy Pool)

E1. Community use of the Hydrotherapy pool is limited to the following hours:

(a) 3pm to 8pm weekdays

(b) 9am to 6pm weekends and public holidays

Out of Hours Event Management Plan

E2. 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 hall/hydrotherapy pool, where applicable, restricting use before 8am and after 10pm;

(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.

E3. The Out of Hours Event Management Plan (School Use) must be implemented by the Applicant for the duration of the identified events or use.

E4. 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 hall/hydrotherapy pool, where applicable, restricting use before 8am and after 10pm;

(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.

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.

Operational Noise Limits

E8. The Applicant must ensure that noise generated by operation of the development does not exceed the noise limits in the Budawang School Acoustic Assessment for SEARS dated 15 April 2021 and prepared by Marshall Day Acoustics.

Unobstructed Driveways and Parking Areas

E9. 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

E10. The School Transport Plan required by condition **Error! Reference source not found.**18 of this consent must be updated annually and implemented unless otherwise agreed by the Planning Secretary.

Ecologically Sustainable Development

E11. 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 B88, evidence of compliance of implementation must be provided to the Planning Secretary and Certifier.

Outdoor Lighting and Signage

E12. 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.

E13. The Applicant must ensure that any digital signage board is illuminated only between the hours of 7am and 5pm. Should the illumination of the signage board result in amenity impacts, the illumination must be adjusted to reduce the impacts to an acceptable level.

Landscaping

E14. The Applicant must maintain the landscaping and vegetation on the site in accordance with the approved Operational Landscape Management Plan required by condition D2526 for the duration of occupation of the development.

Asset Protection Zones

E15. The asset protection zones required by condition D2728 must be maintained 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 A27 or, having given such notification, subsequently forms the view that an incident has not occurred.
2. Written notification of an incident must:
   (a) identify the development and application number;
   (b) provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident);
   (c) identify how the incident was detected;
   (d) identify when the applicant became aware of the incident;
   (e) identify any actual or potential non-compliance with conditions of consent;
   (f) describe what immediate steps were taken in relation to the incident;
   (g) identify further action(s) that will be taken in relation to the incident; and
   (h) 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) 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.