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Construction and Environmental Management Plan (C.E.M.P)

Meriden Senior School

Design and Creative Arts (DaCA)

28 Redmyre Rd, Strathfield NSW 2135

Project No: BN1090

Rev 2, 16 August 2023

Record of revisions of HSE Site Management Plan

Edition Revision	Date	Section	Page	Revision Details
1	14 Aug 2023	All	All	
2	16 Aug 2023	4, Appendix D	All	Addition of consultation records

References

This C.E.M.P has been developed to address Part C of State Significant Development SSD-39005127 and in accordance with Environmental Management Plan Guideline: Guideline for Infrastructure Projects (DPIE April 2020).

Condition	Description	Location in Document
C16 (a)	Construction Environmental Management Plan to include: i. Hours of work ii. 24-hour contact details of site manager iii. Management of dusk and odour to protect the amenity of the neighbourhood iv. External lighting in compliance with AS 4282-2019 Control of the obtrusive effects of outdoor lighting v. Community consultation and complaints handling as set out in the Community Communication Strategy required by Condition C8 vi. Detail the quantities of each waste type generated during construction and the proposed reuse, recycling and disposal locations vii. Detail the methods of retention of significant trees within the site identified in *Arboricultural Impact Assessment and Tree Protection Specification* prepared by Tree IQ dated 27 July 2022, *Addendum* dated 6 March 2023, and *Addendum* dated 24 May 2023	Section 1 Appendix A (Community Consultation Strategy)
C16 (b) & 18	Construction Traffic and Pedestrian Management Sub-Plan	Section 2 and Appendix B
C16 (c) & 19	Construction Noise and Vibration Management Sub-Plan	Section 3 and Appendix C
C16 (d), 20, 22 & D24	Construction Soil and Water Management Sub-Plan	Section 4

C16 (e)	an unexpected finds protocol for contamination, any required remediation (if relevant) and associated communications procedure	Section 5
C16 (f)	an unexpected finds protocol for Aboriginal and non-Aboriginal heritage and associated communications procedure	Section 6
C16 (g)	waste classification (for materials to be removed) and validation (for materials to remain) be undertaken to confirm the contamination status in these areas of the site	Section 7
C23	Construction Worker Transportation Strategy	Section 8
C21 (a-d)	Driver Code of Conduct	Section 9

Contents

1 Project Details

To satisfy SSD-39005127 Condition 16a, the project details for Meriden School include:

i. Hours of Work:

As per Part D4 of SSD-39005127 Condition D4(a) and D4(b), the hours of works are:

a) Between 7am – 6pm, Mondays to Fridays inclusive; and
b) Between 8am and 1pm, Saturdays
c) No work may be carried out on Sundays or public holidays.

ii. 24-hour contact details of the Site Supervisor
a) Andrew Antoniou 0497 862 000

iii. Management of dust and odour to protect the amenity of the neighbourhood.
a) Dust control and air quality is maintained during construction, by/ in accordance with:
i. Stockpiles are kept damp, (unless water restrictions apply).
ii. Unsealed areas are kept damp when vehicle movements over these areas are required (unless water restrictions apply).
iii. Roadways are kept clean.
iv. Materials transported in open trucks are covered to prevent the generation of dust.
v. Equipment powered by internal combustion engines are maintained properly and serviced regularly to prevent the discharge of excessive pollutants, including smoke and/or toxic fumes or odours.
vi. Exhausts and ductwork from equipment are located away from air intakes, windows, enclosed areas and public areas.
vii. Perimeter fencing is covered with a shade cloth, where required, to prevent dust blowing outside the construction site.
viii. Materials are only cut in designated areas, set away from boundaries and public areas, with adequate dust (and noise) suppression. Where cutting needs to occur in-situ, localised dust suppression measures must be used.
ix. Checking weather reports daily to enable action to be taken when high winds are predicted.
x. Prohibiting the burning of timber and other combustible materials.

iv. External lighting
a) All external lighting will be designed, constructed and certified in compliance with AS 4282-2019 - Control of the obtrusive effects of outdoor lighting;

v. Community Consultation
a) Community consultation and complaints handling as set out in the Community Consultation Strategy required by Condition C8 in Appendix A.

vi. Waste Type

As outlined in the Waste and Recycling Plan in Appendix J, the proposed reuse, recycling and disposal locations are listed below:

BINGO Recycling Centre Alexandria EPL No. 4679
BINGO Recycling Centre Artarmon EPL No. 20763
BINGO Recycling Centre Auburn EPL No. 10935
BINGO Recycling Ecology Park Eastern Creek EPL No. 20121
BINGO Recycling Centre Greenacre EPL No. 20847
BINGO Recycling Centre Kembla Grange EPL No. 20601
BINGO Recycling Centre Mortdale EPL No. 20622
BINGO Recycling Centre Patons Lane EPL No. 21259
BINGO Recycling Centre Revesby EPL No. 20607
BINGO Recycling Centre Tomago EPL No. 20585

The expected composition and waste types are as per the below:

Wastes Inwards	Percentage (approx.)
Heavy Recyclable Materials	45%
Light Recyclable Materials	35%
Metals	10%
Non-Recyclable Materials	10%
Total	100%

Heavy Recyclable Materials include:

- Soil
- Dirt
- Sand
- Rubble
- Brick
- Concrete
- Tiles
- Stone
- Asphalt

Light Recyclable Materials include:

- Timber
- Green Waste
- Cardboard/Paper
- Plastic
- Plasterboard

Metals include:

- Ferrous (steel, black iron)
- Non-ferrous (copper, wire, aluminium, stainless)

vii. Retention of Significant Trees

As outlined by Tree IQ in the Arboricultural Impact Assessment and Tree Protection Specification (27 July 2022), Addendum (06 March 2023) and Addedum (24 May 2023), the following will be observed:

a) The significant trees as identified by Tree IQ will be protected prior and during construction with the following activities prohibited:
    i. Modification of existing soil levels, excavations, trenching or movement or rock
    ii. Mechanical removal of vegetation
    iii. Storage of materials, plant or equipment or erection of site sheds
    iv. Affixing of signage or hoarding to the trees
    v. Preparation of building materials, refueling or disposal of waste materials and chemicals
    vi. Lighting fires
    vii. Movement of pedestrian or vehicular traffic
    viii. Temporary or permanent location of services, or the works required for their installation
    ix. Any other activities that may cause damage to the tree
b) Trunk protection will be installed to the trees as nominated by Tree IQ in the Arboricultural Impact Assessment and Tree Protection Specification. Trunk protection will consist of the following:
    i. Wrapping padding around the trunk and first order branches to a minimum height of 2m
    ii. 90x45mm timber battens spaced at 150mm centres strapped and placed over padding. (battens will not be fixed to the tree/s).
c) Tree protection fencing will be installed at the perimeter of Tree Protection Zones for the trees nominated by Tree IQ as outlined in the Arboricultural Impact Assessment and Tree Protection Specification. This will include 1.8m high chain wire mesh panels with shade cloth (if required) and secured with concrete feet. Signage will also be installed on the fencing to identify the Tree Protection Zone.

2 Construction Traffic and Pedestrian Management Plan

Introduction to Construction Traffic and Pedestrian Management Plan

The Construction Traffic and Pedestrian Management Plan was developed by Commercial TC (Licence No. TCT0002510) on behalf of Buildcorp to satisfy the Development Consent relating to State Significant Development SSD-39005127 Conditions C16b and Conditions 18a-i in consultation with Strathfield Council and Transport for NSW. Please refer to Appendix B.

This Plan has been developed in accordance with the following documentation:

- Preliminary Construction Traffic Management Plan within the Transport and Accessibility Impact Assessment prepared by TTW (04 August 20222)
- Traffic Impact Statement prepared by TTW (08 March 2023)
- Preliminary Construction Management Plan prepared by Buildcorp (17 May 2023)

Measures to Ensure Road and Pedestrian Safety During Construction

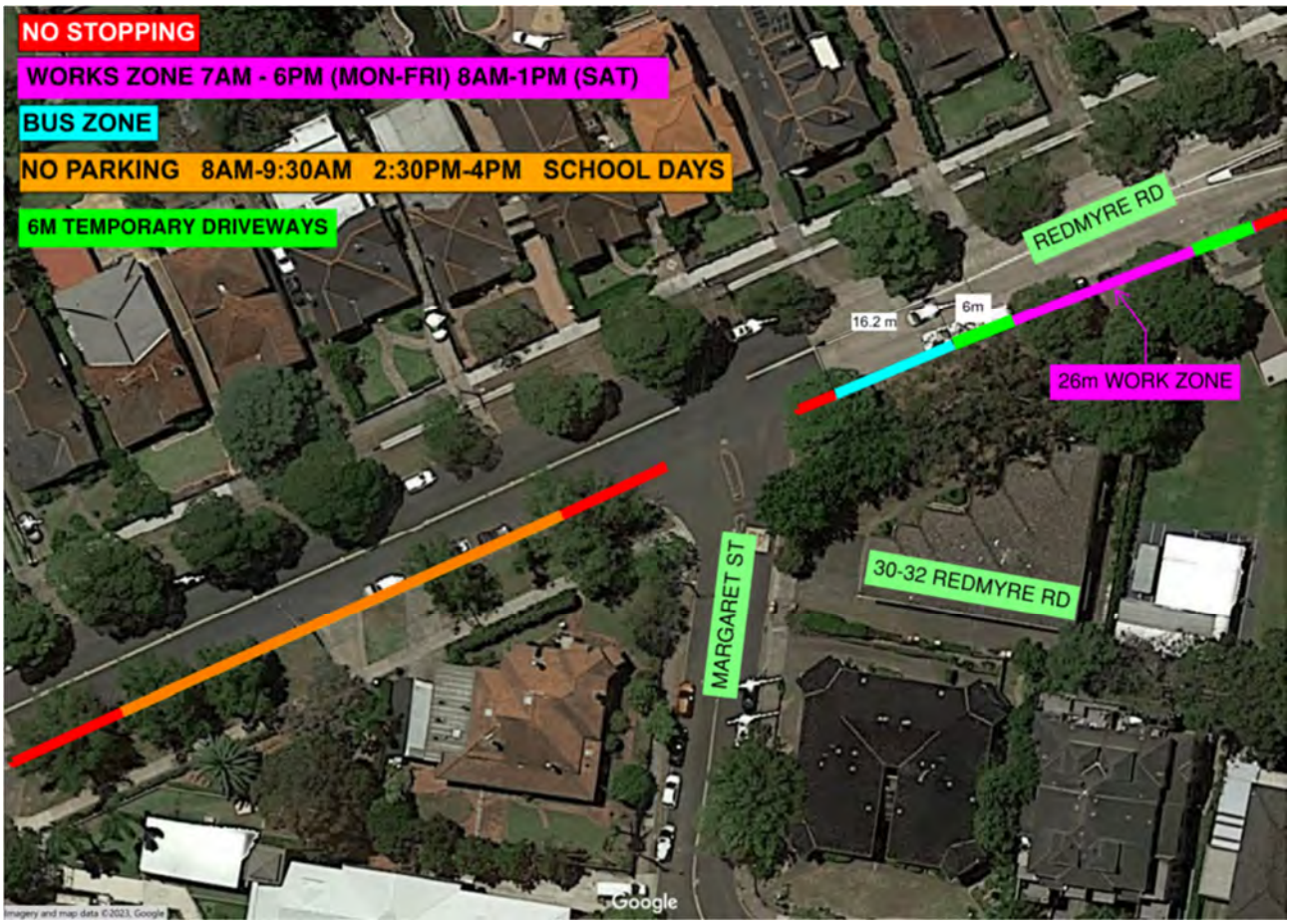
- Works Zone: A Works Zone will be required on Redmyre Rd for the duration of construction between the temporary construction entry and exit driveways as developed in consultation with Strathfield Council. This will create separation between construction vehicles and buses and other vehicles.
- Construction Vehicle Movements: Licenced traffic controllers will manage the ingress and egress of all vehicles and advanced warning/directional signage will be placed around the construction site to direct delivery/construction vehicles to the site and inform other vehicles of upcoming works. To prevent the hold of traffic or endangerment of pedestrians/cyclists, construction vehicle drivers entering site will giving way to pedestrians, cyclists and buses before entering/exiting site. All construction vehicles will be issued with the Construction Traffic and Pedestrian Management Plan and follow the nominated routes as required.
- Vehicles Departing Site: all vehicles exiting the site will be loaded to their prescribed weight limits, tarpaulins (or the like) will be used to cover trucks prior to departure and will be free of mud or debris.
- Construction Vehicles and Plant: The loading and unloading of materials and parking of plant or equipment will occur within the construction site.
- Speed of Construction Vehicles: On all public roads, construction vehicle drivers are required to follow the posted speed limits. Drivers are also advised to proceed at 40km/h when approaching Meriden School and/or buses. The speed of vehicles is to be adjusted to suit weather conditions and road environment in compliance with the Australian road rules and regulations.
- Fencing, Barriers, Hoarding: 2.1m chain-wire fencing will be installed around the perimeter of the construction site to prevent unauthorised access into work areas. Signage will be displayed nominating project name and address, 24hr contact details and advising unauthorised access to the site is prohibited.
- Traffic Controllers: During peak construction periods, it is proposed that traffic controller(s) will control construction vehicles entering and exiting the site to maintain the safety of the public.

Redmyre Road Bus Zone Relocation/Extension

Minor temporary changes to the existing bus zone on Redmyre Road which have been developed in consultation with and endorsed by Transit Systems NSW and Strathfield Council will be made for the duration of construction works. To accommodate for the temporary construction exit driveway on Redmyre Rd, the bus zone will be shifted west towards Margaret St as marked in blue below. The minimum bus zone length has been achieved as confirmed by Transit Systems NSW and entry in/out of the bus zone will be maintained at all times.

Measures to Ensure Student Safety During Construction

- Fencing, barriers, hoarding: noting that the construction site is located in the school grounds, 2.1m chain-wire fencing will be installed around the perimeter of the site with locked pedestrians gates to prevent unauthorised access into the construction site. Signage indicating the designated site entry point will be located around the perimeter of the site to direct workers to the nominated entry gate on Redmyre Rd. This will prevent workers from accessing site via the school grounds.

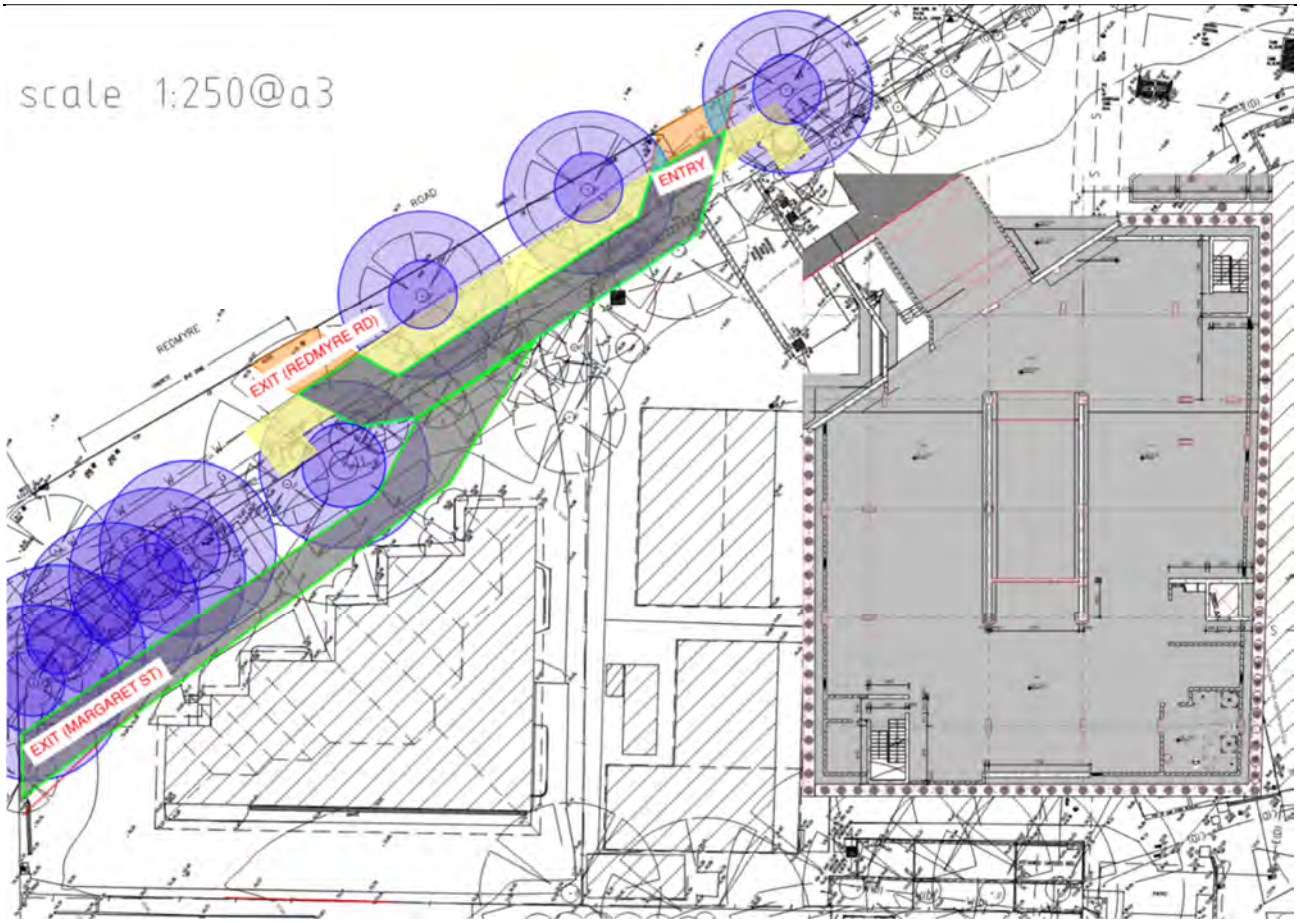


Heavy Vehicle Movements:

Heavy Vehicle movements to and from site onto Redmyre Road will be restricted between 8am-9:30am and 2:30pm-4pm on school days to minimise potential conflict with buses during peak hours where possible. Approval from Strathfield Council will be sought for concrete pour days as these vehicle movements cannot be restricted. Notification of construction activities which will occurring with the peak school hours (8am-9:30am and 2:30pm-4pm) will be sent to affected residents prior to the commencement of activities or as soon as it is practicable afterwards.

Heavy Vehicle movement routes have been nominated in the Construction Traffic and Pedestrian Management Plan as per the below.

As per the below figure, access into the construction site will be via Redmyre Rd and two exits will be provided. The first exit is located on Redmyre Rd and the second is location on Margaret St. The loading and unloading of materials and parking of construction vehicles will be kept within the site at all times.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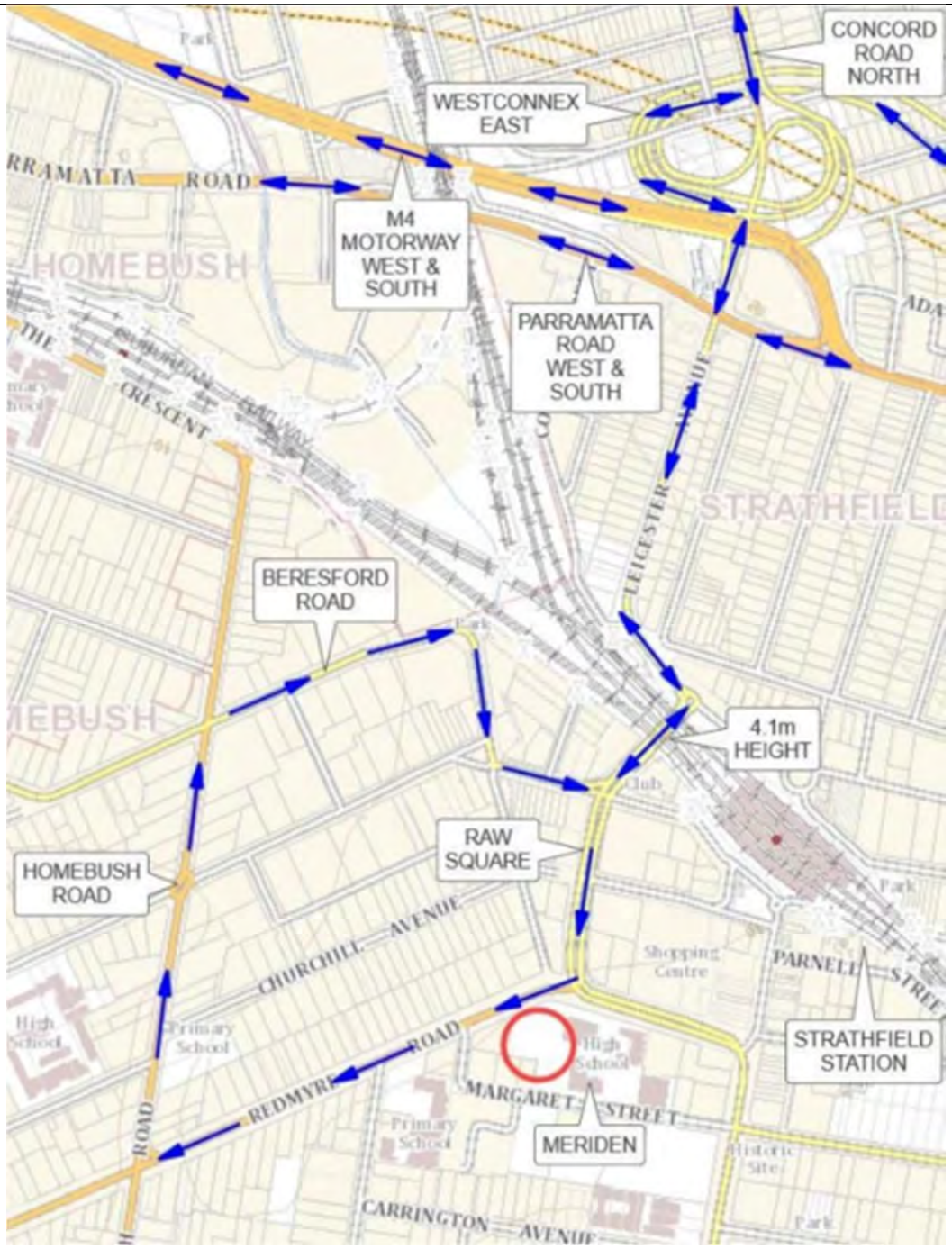
ENTRY
EXIT (REDMYRE RD)
EXIT (MARGARET ST)
REDMYRE
ROAD


CONCORD ROAD NORTH
WESTCONNEX EAST
M4 MOTORWAY WEST & SOUTH
PARRAMATTA ROAD WEST & SOUTH
BERESFORD ROAD
4.1m HEIGHT
RAW SQUARE
HOMEBUSH ROAD
STRATHFIELD STATION
MERIDEN
HOMEBUSH
STRATHFIELD
CHURCHILL AVENUE
PARNELL STREET
MARGARET STREET
CARRINGTON AVENUE
REDMYRE ROAD
CRESCENT

3 Construction Noise and Vibration Management Plan

Introduction to Noise and Vibration

As per the RWDI Report No. #2205139 dated 11 August 2023, a Construction Noise and Vibration Management Plan (CNVMP) was developed with the purpose of satisfying the Development Consent relating to State Significant Development SSD-39005127 Condition 16c and Conditions C19a-i. This Management Plan is also consistent with Noise and Vibration Impact Assessment report prepared by Wilkinson Murray dated 16 December 2022 and Addendum dated 3 March 2023.

The information provided in this Noise and Vibration control plan relates to the way(s) in which controls are to be implement and managed to reduce noise and vibration as much as reasonably and practicably possible.

Please refer to Appendix C.

Construction Noise and Vibration Mitigation Measures

Without mitigation, noise levels from construction activities have been predicted to exceed the noise management levels nominated in the guidelines at some surrounding receivers. Therefore, noise control measures are recommended to ensure that noise is reduced where feasible.
The following project-specific mitigation measures are recommended:

• Selection of quietest construction equipment where feasible;

• Localised treatment such as barriers, shrouds, and the like around fixed plant, such as pumps, generators, and concrete pumps where feasible

Plant Noise Audit – Noise emission levels of all critical items of mobile plant and equipment should be checked for compliance with noise limits appropriate to those items prior to the equipment going into regular service. To this end, testing should be established with the contractor.

Operator Instruction – Operators should be trained in order to raise their awareness of potential noise problems and to increase their use of techniques to minimise noise emission.

Equipment Selection – All fixed plant at the work sites should be appropriately selected, and where necessary, fitted with silencers, acoustical enclosures, and other noise attenuation measures in order to ensure that the total noise emission from each work site complies with EPA guidelines.

Site Noise Planning – Where practical, the layout and positioning of noise-producing plant and activities on each work site should be optimised to minimise noise emission levels.

Effects on the School – When practical, the following measures can be adopted to reduce the affects of noise and vibration on the operational school

- Closing of classroom windows
- Scheduled works during school holidays (where feasible)

Noise Control Plan

To ensure that all site personnel adequately control noise creation and levels, Buildcorp will monitor the work of Trade Subcontractors by:

- Educating and making trade subcontractors aware of the importance of minimizing noise and vibration;
- Making this Noise and Vibration Management Plan readily available to all trade subcontractors during the construction works;
- Inspecting site works and paying specific attention to activities which directly result in noise and vibration;
- Ensuring noisy and vibratory works are undertaken during specified times only;

- Acting in accordance with the information previously shown
- Incorporating noise and vibration management into daily pre-start meetings and weekly toolbox talks (on a needs basis).

Noise and Vibration Monitoring

External monitoring of construction noise and vibration levels will be undertaken where appropriate in response to noise related complaint(s) (determined on a case-by-case basis).

Noise and vibration levels generated by construction activities as part of the construction process should aim to comply with the noise goals the NSW 'Interim Construction Noise Guideline' (ICNG).

Buildcorp is responsible for implementing this Construction Noise and Vibration Management Plan and ensuring that all reasonable measures are implemented to minimize the generation of excessive noise and vibration levels from the site to sensitive receiver locations.

Based on the findings of the Construction and Operational Noise Report prepared by Wilkinson Murray, the following is observed:

Construction Noise

Noise objectives for construction have been established based on EPA guidelines. The noise management levels should be adopted as objectives to work toward in minimising any noise impact at surrounding residences.

It has been determined that noise from construction activities for the construction during the day period will potentially exceed established construction noise management levels, noting that the maximum level of 75 dBA will not be exceeded. Therefore, the planning and management of construction activities must consider the sensitivities of surrounding residents so as to minimise the impact of construction activities at these receivers.

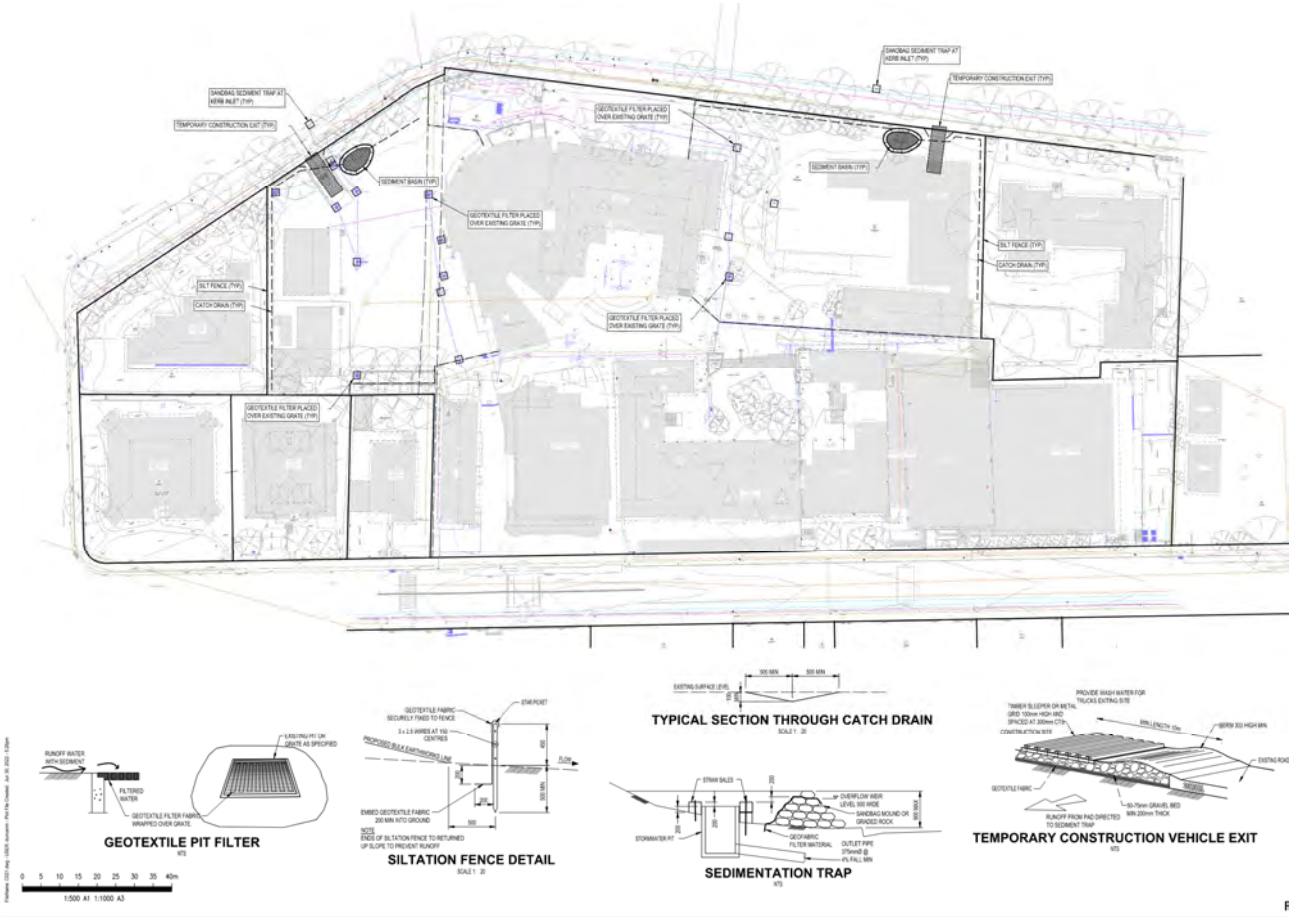
The control of construction noise and vibration should be addressed in a Noise & Vibration Management Plan developed when the successful contractor has been appointed for the project.

The following project-specific mitigation measures are recommended:

- Selection of quietest feasible construction equipment;
- Use of rock saws or smaller rock breakers where feasible; and
- Localised treatment, such as barriers, shrouds, and the like around fixed plant, such as pumps, generators, and concrete pumps where feasible

4 Construction Soil and Water Management Plan

A construction soil and water management plan has been developed by Enstruct and is to be incorporated into this project, as per the below excerpt from Enstruct ''Erosion and Sediment Control Plan and Details'' Drawing No. C021. All works will be carried out in accordance with local authority requirements, EPA Pollution Control Manual for Urban Stormwater and Landcom NSW – Managing Urban Stormwater: Soils and Construction. The Construction Soil and Water Management Plan has been developed in consultation with Strathfield Council as per Appendix D.



The measures to be implemented include:

Entry and Exits

A purpose made construction exit similar to a ''cattle-grid'' is to be provided. The cattle grid will ensure that the tyres of the vehicles existing the site are shaken to remove excess soils prior to driving on the public roadway.

- Exit Cattle Grid will be located in the 30-32 Redmyre site (Redmyre Rd driveway)
- Exit Cattle Grid will be located in the 30-32 Redmyre site (Margaret St driveway)

Silt Fencing

Silt fencing to the following zones will be installed to ensure all sediment from the construction works are contained within the site:

- Along the Redmyre Rd frontage of 28, 30 and 32 Redmyre Rd
- Along the Margaret St frontage of 30-32 Redmyre Rd

Haybale

Haybale will be installed at strategic locations around the site, to intercept all site waterflows and trap sediment. TTW have provided indicative locations for Haybale, however construction site waterflows will be observed when construction commenced, and Haybale will be laid accordingly.

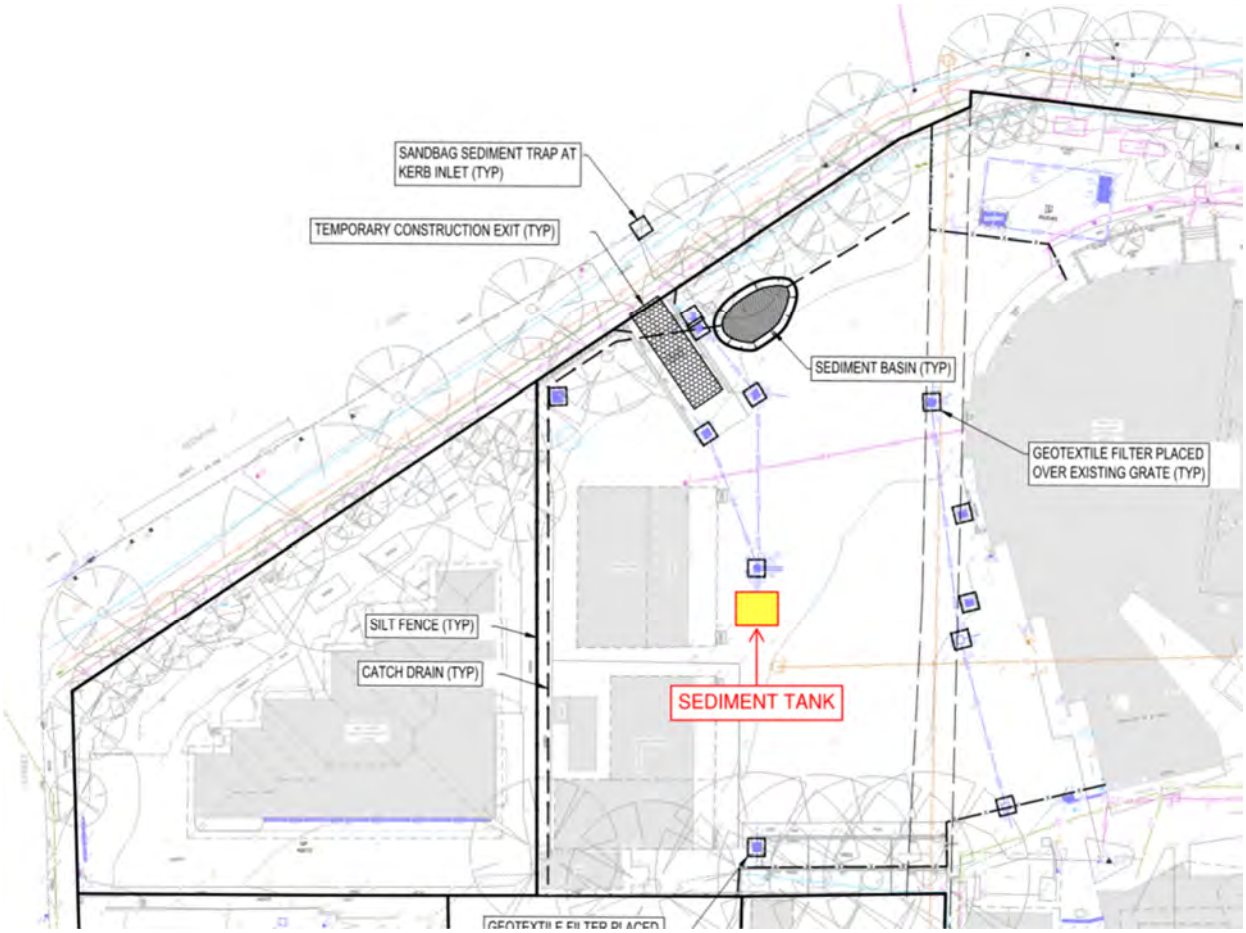
Geotextile Filters

All pits in and within the immediate vicinity of the construction site will be covered with Geotextile Fabric to ensure only clean water is charged into the stormwater system. Fabric will be maintained and replaced when rips or tears begin to occur.

Temporary Sediment Trap

A temporary sediment trap is to be construction in the north of the site (adjacent to the existing oval). The sediment trap will have a sediment storage volume of 6m3 and a total storage volume of 17m3. The sediment trap will be provided with a temporary 300mm dia. Connect to an existing pit. The sediment trap will also be routinely cleaned out for maximum efficiency.

As part of the proposed development, a permanent OSD and Rainwater Tank is to be installed in the location of the temporary sediment trap. At the time of construction, the permanent OSD and Rainwater Tank, an alternate sediment tank with flocking facilities shall be temporarily installed on site should it be necessary to control sediment and water-run off.



Management of Construction in Wet-Weather Events

As this project includes the excavation for a 2-storey basement, a sediment tank will be installed and located within the site to hold any rainwater or the like from wet-weather events. To prevent sediments from entering the public stormwater system when pumping out the collected water, coagulants are added to the water in

the sediment tank to create a floc with the unsettled particles. This process will prevent the contamination of the stormwater system.

Off-Site Flows from Site

Off-site flows from site include the pump out of water collected in the sediment tank into the public stormwater system. As there may be sediments in the water collected on site, coagulants are added to water in the sediment tank to create floc which prevents potential contamination of the stormwater system. Any solids in the water will be collected and disposed of in a bin which will be emptied at a licensed waste facility.

A vehicle wash down area will be located at the two exit driveways to remove any soil or debris from vehicles before exiting site. This will prevent tracking on the road networks. Cattle grids installed on top of DGB will be located at the exits and water will drain into through the DGB into the ground.

Measures to Manage Stormwater and Flood Flows

The following measures will be implemented to manage stormwater and flood flows for small and large sized events:

- Controlling erosion and managing stormwater during construction works is achieved by/ carried out in accordance with:
- Assessing all drains, gutters and areas upon which water may collect and implementing control measures using a Sediment Control Plan.
- Identifying where the natural falls of the site are and ensuring that sediment filters such as straw bales filters, gravel surface barriers, sandbags, pit baskets or geo-textile mesh screens are installed at runoff points, remain effective and are maintained during construction (to Council requirements).
- Sediment controls and practices are maintained during the project. Sediment controls are adhered to as per council and water catchment requirements.
- Cleaning rumble grids as required. Filtering water run-off from cleaning the grid must be filtered before exiting the site.
- Retaining natural vegetation to absorb water flows and to minimise dust. Ensure that revegetation occurs as soon as possible after the completion of works.
- Ensuring that waste materials such as paint, concrete slurries and chemicals are not discharged into a stormwater drain. Facilities are provided to enable paint brushes, rollers and spray equipment are cleaned without discharge of by-product into the stormwater system.
- Wastewater is collected and treated from concrete or tile cutting, by connecting to a wash-down system.

5 Unexpected Finds Protocol for Contamination

Within the Remediation Action Plan (RAP) to Meriden School dated May 2023, as unexpected finds protocol (UFP) has been developed to provide guidance of processes to follow if any unexpected find is encountered during the remediated, excavation or construction works.

All site personnel are to be inducted into and made aware of their responsibilities under the UFP, which should be included or references in the Contractors Environmental Management Plan.

Residual hazards that may exist at the site would generally be expected to be detectable through visual or olfactory means. All site personnel are required to report unexpected signs of environmental concern to the Site Manager if observed during the course of their works e.g., asbestos contamination, presence of potential unexploded ordinance, unnatural staining, potential contamination sources (such as buried drums or tanks) or chemical spills.

In the event of an unexpected asbestos find, all work in the immediate vicinity should cease and the client should be contacted immediately;

i. Temporary barricades should be erected to isolate the area from access to the public and workers;
ii. A qualified occupational hygienist and/or asbestos consultant should be contacted (preferably the validation consultant will have an in-house hygienist or asbestos assessor);
iii. The client should engage an environmental consultant to attend the site and assess the extent of remediation that may be required and/or adequately characterise the contamination in order to allow for cap and containment of the material;
iv. In the event that remediation is required, the procedures outlined within this report should be adopted where appropriate, alternatively an addendum to this RAP should be prepared;
v. An additional sampling and analytical rationale should be established by the consultant and should be implemented with reference to the relevant guideline documents; and
vi. Appropriate validation

In the event of potential unexploded or chemical find, all work in the immediate vicinity should cease and the client should be contacted immediately;

vii. Stop work in the affected area and ensure the area is barricaded to prevent unauthorised access;
viii. Notify authorities needed to obtain emergency response for any health or environmental concerns (e.g., fire brigade);
ix. Notify the Principal's Representative of the occurrence;
x. Notify any of the authorities that the Contractor is legally / contractually required to notify (e.g., EPA, Council); and
xi. Notify the Environmental Consultant.

The Principal's Representative is to notify any of the authorities which the Principal is legally / contractually required to notify (e.g. EPA, Council). Where appropriate the Principal's Representative will also implement appropriate community consultation in accordance with a Communications Plan.

The Environmental Consultant will assess the extent and significance of the find and develop an investigation, remediation or management approach using (where possible) the principles and procedures already outlined in the RAP. Where a Site Auditor is involved, the proposed approach will be discussed and agreed with the Site Auditor prior to implementation.

6 Unexpected Finds Protocol for Heritage

Based on the findings of the Aboriginal Cultural Heritage Assessment (ACHA), the following is recommended:

Works may proceed with caution:

General measures will need to be undertaken to ensure unexpected finds of Aboriginal sites or objects are not harmed. These general measures include:

Aboriginal objects are protected under the National Parks and Wildlife (NPW) Act regardless if they are registered on Aboriginal Heritage Information Management Sydney (AHIMS) or not. If suspected Aboriginal objects, such as stone artefacts are located during future works, works must cease in the affected area and an archaeologist called in to assess the finds.

If the finds are found to be Aboriginal objects, the Office of Environment and Heritage (OEH) must be notified under section 89A of the NPW Act. Appropriate management and avoidance or approval under a section 90 AHIP should then be sought if Aboriginal objects are to be moved or harmed.

In the extremely unlikely event that human remains are found, works should immediately cease and NSW Police should be contacted. If the remains are suspected to be Aboriginal, the OEH may also be contacted at this time to assist in determining appropriate management.

Submit ACHA to AHIMS

In accordance with Chapter 3 of the Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH 2011) the ACHA should be submitted for registration on the AHIMS register within three months of completion.

Based on the findings of the Heritage Impact Statement for SSD 9692, the following is observed:

Unlikely heritage deposits

All sites are highly disturbed as a result of building works associated with the school over the last 100 years. Notwithstanding the above, the provisions of the Heritage Act 1977 prevail in relation to unexpected finds.

7 Waste Classification and Management

Waste Management - Demolition

Where possible, demolition of the remaining components of the existing building is carried out in a manner to maximise reuse or recycling.

Prior to demolition works commencing, a hazardous materials survey of the site will be undertaken. Should any classified material be identified a specialist subcontractor will be engaged to remove the waste. These materials are to be disposed of in accordance with Authority requirements. Any materials to be demolished which are not identified as hazardous should be placed in the provided construction waste skip bins which will then be collected by the approved subcontractor for sorting and disposal.

Waste Management – Excavation Fill Material

Any fill materials identified requiring excavation within the site footprint should be reused, where suitable, on the site as part of the site engineering or landscaping work. Excess or contaminated excavation fill is to be removed off site and classified in accordance with relevant authorities. To ensure the fill is being taken to the correct landfill the subcontractor transporting the waste should provide details of the landfill site, the EPA licence details and confirmation that landfill is authorised to receive that waste. Trucking docket records are to be kept on site to check that fill is going to the nominated landfills.

Waste Management and Recycling:

Bingo Industries offers a complete, comprehensive solution to the management and recycling of wastes to assure compliance with clients' waste management policy.

Bingo Recycling Centre's combine bin storage, waste collection, waste recycling and waste transfer to service the building and construction industry and domestic waste management needs in New South Wales. Wastes collected by Bingo Bins are taken directly to one of these facilities where approximately 90% of wastes are converted to recovered resources.

Bingo Recycling Centre Alexandria	EPL No. 4679
Bingo Recycling Centre Artarmon	EPL No. 20763
Bingo Recycling Centre Auburn	EPL No. 10935
Bingo Recycling Centre Eastern Creek (Genesis)	EPL No. 20121
Bingo Recycling Centre Greenacre	EPL No. 20847
Bingo Recycling Centre Kembla Grange	EPL No. 20601
Bingo Recycling Centre Mortdale	EPL No. 20622
Bingo Recycling Centre Revesby	EPL No. 20607
Bingo Recycling Centre Tomago	EPL No. 20585

As can be expected waste materials inwards vary considerably and are delivered to the Recycling Centres in tipping and non-tipping vehicles or in skip bins. Of the wastes inwards approximately 90% is recovered and recycled as materials outwards and the balance 10% to landfill. Waste materials inwards are processed to achieve the maximum recovery of resources and the minimum of un-recoverable material for offsite disposal.

Typical Composition of Bingo's Wastes Inwards

Wastes Inwards	**Percentage (approx.)**
Heavy Recyclable Materials	45%
Light Recyclable Materials	35%
Metals	10%
Non-Recyclable Materials	10%
Total	100%

Heavy Recyclable Materials:
Soil
Dirt
Sand
Rubble
Brick
Concrete
Tiles
Stone
Asphalt

Light Recyclable Materials:
Timber
Green Waste
Cardboard / Paper
Plastic
Plasterboard

Metals:
Ferrous (steel, black iron)
Non-Ferrous (copper, wire, aluminium, stainless)

At the Resource Recovery Facility a simple and effective waste processing procedure is applied. See Materials Flow Diagram (below). Wastes inwards unloaded onto the sorting area where the waste is raked with a hydraulic excavator to expose the contents and where recyclable materials are hand and machine sorted. The raking process separates the waste into four streams for further processing.

Stream #1 Non-recyclable materials. This waste is passed to a holding area for off-site disposal.

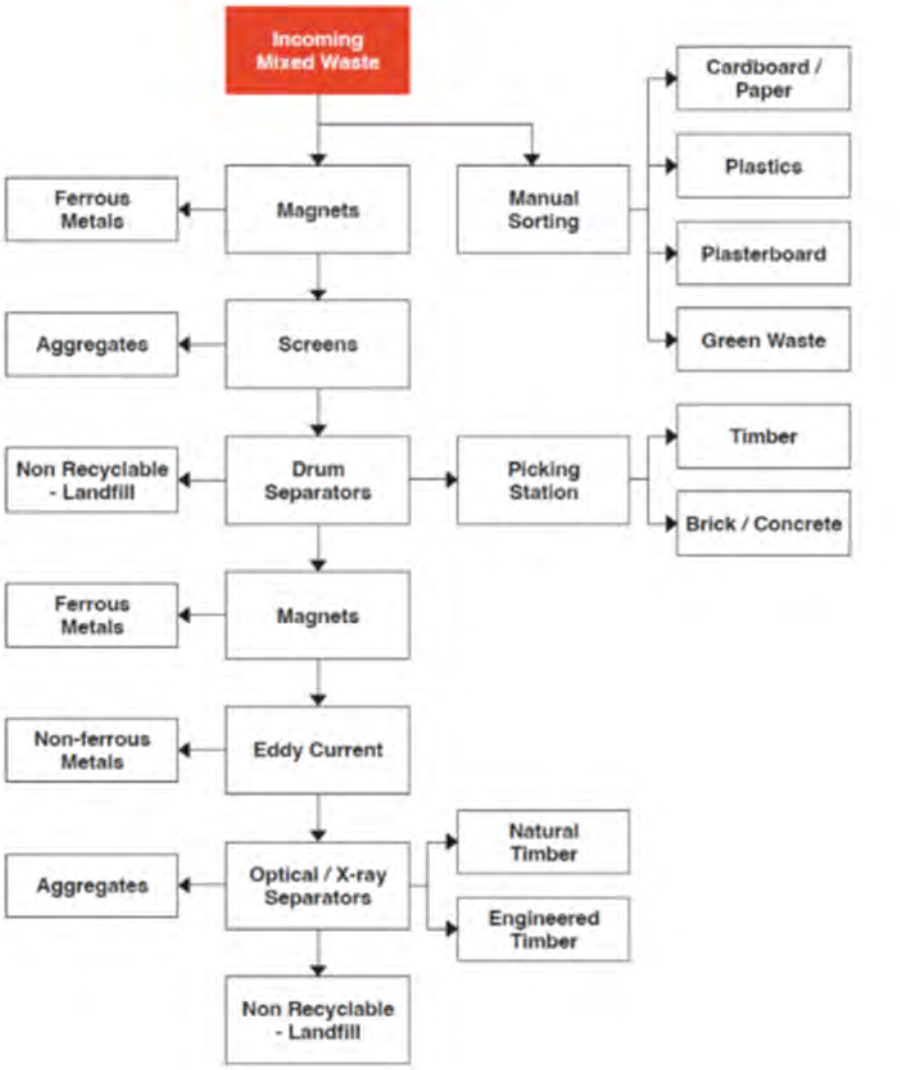
Stream #2 Metals and light recyclable materials are removed and stored for off-site recycling.

Stream #3 Large sized heavy weight brick, concrete and rubble pieces. This waste is passed to the crushers where they are crushed and re-enforcing fabric removed. The output from the crushers passes to the screener where products of different size are separated and stored in stockpiles. Re-enforcing fabric is collected and stored in the general steel bin for off-site recycling.

Stream #4 Small sized heavy weight soil, sand, brick, concrete and rubble. These wastes pass to the screener where the soil is separated form the brick, concrete and rubble. The brick, concrete and rubble then pass through Stream #3.

Once Stream #3 and Stream #4 waste is processed on site by crushing and screening to form saleable products such as soil, sand, and aggregates. These products are retained on site until sold.

BINGO Recycling Centre
Materials Flow Diagram



In summary, Bingo Bins take all their mixed waste skip bins directly to EPA Licensed Recycling Centres. From there the waste is sorted and separated into the following material classes for processing and recycling.

Type of Material	Where Processed/ Recycled	How Processed/ Recycled
Heavy Recyclable Materials (soil, dirt, sand, rubble, concrete, brick, tiles, asphalt, stone)	Bingo Recycling Centres	Re-processed into recycled products (such as recycled soil, fill sand, aggregates, roadbase) by crushing and screening.
Timber/ Green Waste	Clean & Green Organics/ Genesis	Re-processed into woodchip and mulch by shredding.
Metal/ Steel	Sell & Parker/ CMI/ SIMS/ Sydney Copper Scraps	Re-processed into new metal and steel products by shearing, baling and re-smeltering.
Brick/ Concrete	Boral/ Genesis	Re-processed into recycled products (such as fill sand, aggregates, roadbase) by crushing and screening.
Cardboard/ Paper/ Plastic	Polytrade Recycling/ J.J. Richards/ Orora	Re-processed into new cardboard, paper and plastic products by breaking down the material into a form for re-use.
Plasterboard	ReGyp	Re-processed into gypsum products by shredding and screening.
General Waste	SUEZ Landfill/ Horsley Park Landfill/ Genesis Landfill	n/a

Bingo Recycling Centres
76-82 Burrows Road, Alexandria NSW 2015
10 Mclachlan Ave, Artarmon NSW 2064
3-5 Duck Street, Auburn NSW 2144
Honeycomb Drive, Eastern Creek NSW 2766
35 Wentworth St, Greenacre NSW 2190
50 Wyllie Road, Kembla Grange NSW 2526
20 Hearne Street, Mortdale NSW 2223
37-51 Violet Street, Revesby NSW 2212
29 Laverick Avenue, Tomago NSW 2322

Clean & Green Organics
769 The Northern Rd, Bringelly NSW 2566

Sell & Parker
45 Tattersall Road, Blacktown NSW 2148

CMI
38 York Road, Ingleburn NSW 2565

SIMS
43 Ashford Ave, Milperra NSW 2214
76 Christie St, St Marys NSW 2760

Sydney Copper Scraps

130 Adderley St, Auburn NSW 2760

Boral
6-10 Burrows Road South, St Peters NSW 2044

Polytrade Recycling
32 South St, Rydalmere NSW 2116
40 Madeline St, South Strathfield NSW 2136

J.J. Richards
12 Heald Rd, Ingleburn NSW 1890
8 Kommer Pl, St Marys NSW 2760

Orora
1891 Botany Rd, Matraville NSW 2036

ReGyp
330 Captain Cook Drive, Kurnell NSW 2231

SUEZ Landfill
Elizabeth Drive, Kemps Creek NSW 2178

Horsley Park Landfill
Wallgrove Road, Horsley Park NSW 2164

Genesis Landfill
Honeycomb Drive, Eastern Creek NSW 2766

8 Construction Worker Transportation Strategy

This Strategy has been developed to minimise the demand for parking in nearby public and residential streets or public parking facilities and the following has been observed:

Contractor Parking

There will be no parking provided on-site. No on-street parking will be allowed for construction workers. Where possible, workers will be encouraged to utilise public transport in lieu of driving to the site to minimise parking demand and the impact of construction activities on the surrounding streets. The construction site is located approximately 450m from Strathfield Station with access to the train and bus network.

If Contractors have no alternate options other than the use of private vehicles to travel to and from site, then there are several public carparks which can be utilised within the immediate vicinity of the Site.

Workers will also have the option to cycle or walk to site and access to showers and changeroom facilities will be provided on site.

The above will be included in the site induction when on-boarding new workers to ensure each individual is aware of the transportation strategy.

9 Driver Code of Conduct

Overview

A Drive Code of Conduct has been developed to communicate to construction vehicle drivers the designated transport routes and procedures to ensure safe driving practices when travelling to and from site.

Measures to Minimise the Impacts of Earthworks and Construction on the Local and Regional Network

The following measures will be implemented to minimise the impacts of earthworks and construction on the local network:

- Load covering: all loaded vehicles entering and exiting site will be covered by a tarpaulin or the like to prevent spillage of materials onto the road networks.
- Vehicle inspections: prior to departing site, loaded vehicles will be inspected for cleanliness to ensure all loose debris is removed from the body of the vehicles and wheels to prevent tracking on the road networks.
- Parking and Standing of Heavy Vehicles: Parking and standing of Heavy Vehicles will be contained within the site however if required, vehicles exceeding 4.5 tonnes will not be parked on a roadway for more than 1 hour unless prior Council approval is received.
- Heavy Vehicle routes: construction vehicle access will be limited to the use of State Road networks where possible to minimise the impact on the surrounding networks. The nominated routes have been marked below.

Measures to Minimise Conflicts with Other Road Users

- Where possible, Heavy Vehicles travelling to and from site should be staggered to avoid convoys on the roadways to increase road safety and alleviate public concerns.

Measures to Minimise Traffic Noise

The following measures will be implemented to minimise the impact of noise from construction vehicles:

- Locked and secured tailgates
- Posted speeds for the local road networks to be adhered to
- No tailgating and ensuring a minimum 3 second gap is observed
- Ensuring all equipment is fit for purpose
- Adhering to the loading, dispatch and product transportation times

Measures to Ensure Truck Drivers Use Specified Routes

- The Driver Code of Conduct which includes the nominated Heavy Vehicle routes will be included in the documentation packs sent to contractors during the procurement phase prior to commencement on site which will be distributed to the drivers.

10 Appendix A – Community Communication Strategy

The Community Communication Strategy has been developed by Urbis in accordance with SSD-39005127 Condition 8 and Conditions 9a-e.

URBIS

MERIDEN SCHOOL -COMMUNITY COMMUNICATION STRATEGY

Development Consent for SSD 39005127 – Clause C8

Prepared for

MERIDEN SCHOOL C/- CARMICHAEL TOMPKINS PROPERTY GROUP

11 August 2023

URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

Director	Calli Brown
Consultant	Aleena Castanos
Engagement Assistant	Stephanie Lee
Project Code	P0047606
Report Number	Client review

Urbis acknowledges the important contribution that Aboriginal and Torres Strait Islander people make in creating a strong and vibrant Australian society.

We acknowledge, in each of our offices, the Traditional Owners on whose land we stand.

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CONTENTS

FIGURES

TABLES

1. INTRODUCTION

For more than 120 years, Meriden School has provided quality education and created an environment to maximise the personal, intellectual and physical development of young women. Meriden School is planning for a high-quality Design and Creative Arts and Social Science building, providing more facilities for research and collaborative learning for Social Science (the Project).

This Community Communications Strategy (the Strategy) has been prepared in line with the requirements of Development Consent Clause C8 for Meriden School (SSD 39005127). Urbis Engagement, an engagement consultancy, appointed by Meriden School c/- Carmichael Tompkins Property Group, has prepared this strategy.

The activities outlined in this strategy will be implemented by both Meriden School and its appointed building contractor Buildcorp, with enquiry management implemented by Urbis Engagement. This Strategy life cycle covers a period of no later than two weeks before the commencement of construction and for a minimum of 12 months following the completion of construction.

1.1. CROSS-REFERENCE OF CONSENT REQUIREMENTS

Table 1 identifies the reference/s within this Strategy as they relate to the requirements under Clause C8 – Community Communication Strategy.

Table 1 Report reference for Development Consent (SSD 39005127)

Consent condition	Consent condition	Report reference
C8.	No later than two weeks before the commencement of any 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.	
C8.a	Identify people to be consulted during the design and construction phases;	Section 3
C8.b	Set out procedures and mechanisms for the regular distribution of accessible information about or relevant to the development;	Section 4.1
C8.c	Provide for the formation of community-based forums, if required, that focus on key environmental management issues for the development;	Section 4.1.1
C8.d.i	Set out procedures and mechanisms through which the community can discuss or provide feedback to the Applicant;	Section 4.2
C8.d.ii	Set out procedures and mechanisms through which the Applicant will respond to enquiries or feedback from the community;	Section 4.2
C8.d.iii	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 4.3
C8.e	Include any specific requirements around traffic, noise and vibration, visual impacts, amenity, flora and fauna, soil and water, contamination, heritage.	Section 5

2. PROJECT OVERVIEW

2.1. THE SITE

Founded in 1897, and located within the Strathfield Local Government Area, Meriden is an Anglican school for girls located across three non-contiguous campuses (Figure 1). The SSD relates to the Senior School Campus at 3-13 Margaret Street & 10-28 Redmyre Road (Lot 101 DP862040) only.

Figure 1 Meriden School's three campuses

Source: Allen Jack + Cottier

2.2. THE SURROUNDING COMMUNITY

Meriden School is located in Strathfield, approximately 13km west of the Sydney CBD. Strathfield includes a town centre around the train station, with a range of mixed-use activities, medium and high-density residential areas, and low-density residential.

Immediately surrounding the site are:

- To the north: Strathfield Plaza, comprising a single-storey retail centre and 8-storey commercial tower. Further to the North is Strathfield Station and the Strathfield Town Square.
- To the east: 3 and 4-storey residential flat buildings. Further east is the southern part of the Strathfield town centre mixed-use area.
- To the south: low-scale detached residential buildings, and the Santa Maria Del Monte school campus.
- To the west: low-density residential area, characterised by single and two-storey buildings, and the St Peter and Paul Russian Orthodox Church.

2.3. THE PROJECT

The Project's primary objective is to expand teaching and learning opportunities through the provision of contemporary classrooms in well-resourced learning department precincts.

Approved works are located on the Senior School Campus only and include:

- New Design and Creative Arts (DaCA) Building (Stage 1 – commencing August 2023)
  - Demolition of the existing demountable, located in the northwest of the Senior School
  - Construction and use of a new 3-storey Design and Creative Arts (DaCA) building, comprising a rooftop terrace and two levels of basement parking.
- New Social Science Building (Stage 2 – estimated commencement 2027)
  - Demolition of the existing DaCA building, located in the northeast of the Senior School
  - Construction and use of a new 3-storey Social Science Building, comprising of 2 basement levels of general learning and staff areas and a rooftop terrace
  - The replacement of the existing swimming pool (located next to the existing DaCA building) with an open space area and a volleyball court
  - The modification of the existing Admin Building (the Ethel B. Wallis Memorial Building) to provide internal connection to the proposed Social Science building
  - The removal of trees for the construction of the basement for the new DaCA building and the new Social Science building
  - The integration of additional landscaping throughout the development area.

The proposal will be undertaken in accordance with the Architectural Plans prepared by Architectus. The proposed photomontage is provided in Figure 2.

Figure 2 Proposed photo montages

Picture 1 DaCA building

Source: Architectus 2022

Picture 2 Social Science Building

Source: Architectus 2022

3. PEOPLE TO BE CONSULTED DURING DESIGN AND CONSTRUCTION

Meriden School is surrounded by residential and business neighbours, and it will be important to make sure near neighbours are well informed about construction activity and impacts. People who will be informed and consulted during design and construction, or stakeholders, are outlined in Table 2.

The communication activities used to consult them, and their concerns are also outlined. This table will be reviewed and updated by Meriden School, Buildcorp and Urbis Engagement as needed.

Table 2 Stakeholders, activities, and concerns

People to be consulted (Stakeholders)	**Communication activities (see Section 4)**	**Concerns**
Individual households and businesses along: ▪ Redmyre Road ▪ Vernon Street ▪ Carrington Avenue ▪ Margaret Street (See exact locations in Figure 3)	Enquiries and feedback response Issues resolution and mediation of disputes Incident management Construction updates as required (notifications, newspaper advertisements and website). Construction signage.	Traffic management Visual impacts Construction activities Environmental impacts
Regulatory agencies and utilities: ▪ Strathfield Council ▪ Endeavour Energy ▪ Office of Environment and Heritage ▪ Roads and Maritime Services ▪ Sydney Water ▪ NSW State Design Review Panel ▪ Jemena ▪ Ausgrid	Contact is covered by relevant approvals.	Traffic management Visual impacts Construction activities Environmental impacts
Environment and Heritage Group of the Department of Planning and Environment.	Contact is covered by relevant approvals.	Regulatory oversight of Development Consent C8 for SSD 39005127
Local Aboriginal community	Contact is covered by relevant approvals.	As part of the Aboriginal Cultural Heritage Assessment (ACHAR)

Figure 3 Households and businesses surrounding the School

Source: Meriden School

4. PROCEDURES AND MECHANISMS

4.1. INFORMATION PROVISION

Information about the project will be provided to residents in line with the requirements of Development Consent Condition C8 through the communication activities outlined in Table 3. The communications activities outlined in this table will be implemented by both Meriden School and Buildcorp, with enquries and complaints managed by Urbis Engagement.

Table 3 Communication activities for information provision.

Activity	Description	Stakeholder	Engagement lead	Timing
Establishment of community feedback, enquiries and complaints phone number and email: ▪ 1800 244 863 ▪ engagement@urbis.com.au	Provided during all communications activity. The process for responding is outlined in Sections 4.2 and 4.3.	All stakeholders	Urbis Engagement with support from: ▪ Meriden School ▪ Buildcorp	Ongoing
Website updates ▪ http://www.meriden.nsw.edu.au/about-us/future-planning	In accordance with Condition A26, information will be made available through a dedicated construction information page on the Meriden School website.	All stakeholders	Meriden School	At least 48 hours before commencement of construction with ongoing updates.
Start of construction notification letter	Letter outlining construction timeline, impacts and mitigations, and community feedback, enquiries and complaints phone number and email.	Individual households and businesses identified in Figure 3.	Meriden School Buildcorp	No less than 14 days before start of construction
High-impact or out-of-hours works notification letter	Letter outlining out-of-hours works, impacts and mitigations, and community feedback, enquiries	Individual households and businesses identified in Figure 3.	Meriden School Buildcorp	No less than 7 days before out-of-hours work

Activity	Description	Stakeholder	Engagement lead	Timing
	and complaints phone number and email			
Unplanned works notification letter	Letter outlining unplanned works, impacts and mitigations, and community feedback, enquiries and complaints phone number and email	Individual households and businesses identified in Figure 3.	Meriden School Buildcorp	No less than 24 hours before unplanned work or as soon as practical afterwards

4.1.1. Community based forums

Depending on the level of stakeholder interest and feedback in the first three months of construction, Meriden School and Buildcorp will consider the establishment of community-based forums to enable deeper focus on key environmental management issues for the Project.

4.2. ENQUIRIES AND FEEDBACK RESPONSE

As outlined in Table 3, community feedback, enquiries and complaints phone number and email will be established and maintained for the design and construction of the project by Urbis Engagement.

All feedback and enquiries will be answered within two business days. If an answer is not immediately available, the person making the enquiry will be provided with an update each business day until the enquiry can be resolved.

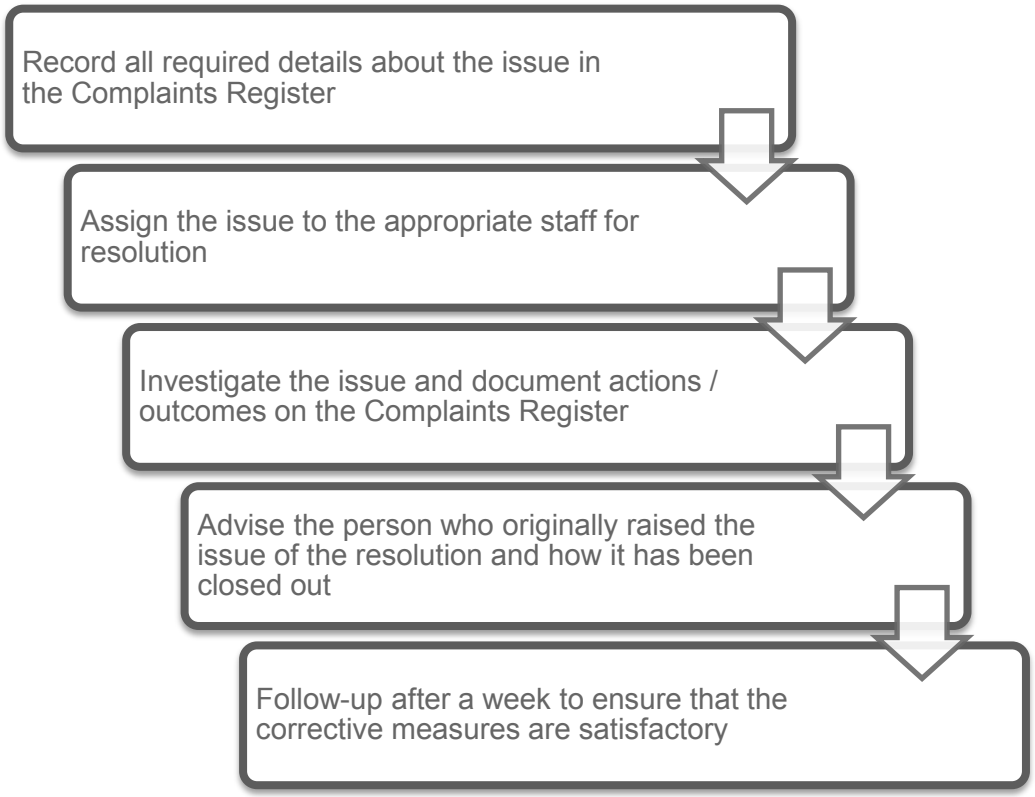
All feedback and enquiries will be recorded in a Community Issues Register.

4.3. ISSUES RESOLUTION AND MEDIATION OF DISPUTES

This Strategy provides a procedure for issues resolution and the mediation of disputes, targeting resolution within 7 days from the date the issue was first raised. This mechanism in Figure 4 allows for the identification and implementation of corrective measures in response to issues raised by the community, to minimise the likelihood of recurrence.

Urbis Engagement will pass on any feedback and complaints to Meriden School and Buildcorp for inclusion in a Community Issues Register and follow up action.

Figure 4 Complaints resolution process



5. PROJECT SPECIFIC INFORMATION REQUIREMENTS

Table 4 outlines the details of the project-specific information requirements and the relevant overarching project management documentation. This information will be used to explain the impacts and mitigations in the community communication detailed in Section 4.

Table 4 Project-specific information requirements

Category	Information requirements	Management reference
Traffic management	Management of construction traffic and access Traffic control measures including temporary road closures or diversions Out-of-hours construction traffic	Construction Traffic and Pedestrian Management Sub-Plan (CTPMSP)
Visual impacts	Visual impact of construction activity Restoration and landscaping	Construction Environmental Management Plan (CEMP)
Construction activities	Management of heritage items and unexpected finds Site working hours Out-of-hours or emergency works High impact works e.g. excavation, piling and structural works Site personnel behaviour	Construction Environmental Management Plan (CEMP) Construction Noise and Vibration Management Sub-Plan (CTPMSP)
Environmental impacts	Hazardous materials management Environmental controls – sediment controls, tree protection & dust control Flora and fauna management Sediment run-off management	Construction Waste Management Sub-Plan (CWMSP) Construction Soil and Water Management Plan (CSWMSP) Health, Safety and Environmental (HSE) Management Plan.

DISCLAIMER

This report is dated 11 August 2023 and incorporates information and events up to that date only and excludes any information arising, or event occurring, after that date which may affect the validity of Urbis Pty Ltd **(Urbis)** opinion in this report. Urbis prepared this report on the instructions, and for the benefit only, of Meriden School c/- Carmichael Tompkins Property Group **(Instructing Party)** for the purpose of Community Communications Strategy **(Purpose)** and not for any other purpose or use. To the extent permitted by applicable law, Urbis expressly disclaims all liability, whether direct or indirect, to the Instructing Party which relies or purports to rely on this report for any purpose other than the Purpose, and to any other person which relies or purports to rely on this report for any purpose whatsoever (including the Purpose).

In preparing this report, Urbis was required to make judgements which may be affected by unforeseen future events, the likelihood and effects of which are not capable of precise assessment.

All surveys, forecasts, projections and recommendations contained in or associated with this report are made in good faith and on the basis of information supplied to Urbis at the date of this report, and upon which Urbis relied. Achievement of the projections and budgets set out in this report will depend, among other things, on the actions of others over which Urbis has no control.

In preparing this report, Urbis may rely on or refer to documents in a language other than English, which Urbis may arrange to be translated. Urbis is not responsible for the accuracy or completeness of such translations and disclaims any liability for any statement or opinion made in this report being inaccurate or incomplete arising from such translations.

Whilst Urbis has made all reasonable inquiries it believes necessary in preparing this report, it is not responsible for determining the completeness or accuracy of information provided to it. Urbis (including its officers and personnel) is not liable for any errors or omissions, including in information provided by the Instructing Party or another person or upon which Urbis relies, provided that such errors or omissions are not made by Urbis recklessly or in bad faith.

This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the reasonable belief that they are correct and not misleading, subject to the limitations above.

URBIS

11 Appendix B – Construction Traffic and Pedestrian Management Plan

The Construction Traffic and Pedestrian Management Plan has been developed by Commercial TC in accordance with SSD-39005127 Condition 16b and Conditions C18a-i.

CONSTRUCTION TRAFFIC MANAGEMENT PLAN

Meriden School

Rev 1.4 – 03/07/2023

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CTMP Table of Contents

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Contact List

STATE TRANSIT AUTHORITY

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STRATHFIELD COUNCIL

02 9748 9999

BUILDCORP CONTACT

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0498 993 993

ALEKSANDRA MOISEJENKOVA

0498 282 282

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1 PROJECT DETAILS

Proposed Works

Buildcorp is undertaking construction of the new Design and Creative Arts Centre including a two (2) level basement and three (3) above ground levels.

Alterations and additions to Meriden Senior School:

- Demolition of existing buildings and removal of a swimming pool
- Construction of:
  - A new three-storey Design and Creative Arts building, with bridge link to the existing Wallis Building, roof terrace, two levels of basement car parking.
  - A new three-storey Social Science building comprising learning / staff areas, presentation areas in two basements and roof terrace.
- Alterations to the existing Administration building.
- Replacement vehicle and pedestrian access from Redmyre Road.
- Associated works including tree removal, landscaping and play areas.
- Change of use of 30-32 Redmyre Road to educational use and use as a temporary construction compound.

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Construction Traffic

The construction activities shall include:

- Demolition
- Basement Excavation
- Formwork, Reinforcement, and Concrete
- Façade Glass
- Internal Fitout

Traffic to and from the site during these stages will consist of trucks for delivery of equipment, and materials and removal of equipment, earth, waste bins and materials.

The works phase duration is expected to be eighteen (18) months with a maximum truck size as truck and dog.

Excavation Load Out	20 – 30	Truck and Dogs	Per Day MAX
Concrete Pours	20 – 30	10 Wheel Agitators	Per Day MAX

Site Location

Meriden School for Girls is an independent Anglican single-sex, early learning, primary, and secondary day school for girls with the site located a t3 Margaret Street and 30-32 Redmyre Road, Strathfield (Lot 10 DP 862040 and SP16610).

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Purpose

The purpose of this Traffic Management Plan is to show how Buildcorp proposes to manage safety regarding traffic during demolition, excavation, and construction, to meet the requirements of Strathfield Council and RMS. This CTMP is prepared for the purpose of considering the safety of construction site personnel, staff, students, visitors, neighbours, emergency services, road users and pedestrians. The purpose of this report is to detail traffic management for each stage and seeks to minimise the impact on public amenities and ensure safe practice in accordance with RMS and Strathfield Council Guidelines.

Scope

The scope includes the provision for the:

- Safe movement of vehicular and pedestrian traffic.
- Protection of workers on the site and from passing traffic.
- Provision for access to the property for delivery of materials and movement of work vehicles located within the limits of the project.
- Design, construction, maintenance and removal of any necessary temporary roadways and detours.
- Provision of traffic controllers.
- Installation of temporary signs, road markings, lighting, and safety barriers.
- Proposed protection of pedestrians adjacent to the site.

Plan Objective

The key objectives of this Construction Traffic Management Plan are:

- To satisfy the key legal requirements related to Traffic, Transport and Access to site.
- So that the information can be applied to the planning and implementation of traffic control plans.
- To ensure the safety of its employees, contractors and public
- To maximise the value and outcomes of traffic monitoring activities
- To ensure no injuries or property damage to persons or their property on or surrounding the project.
- To actively monitor traffic impacts related to the demolition and construction works on surrounding areas.
- School Staff and Students, Site workers, pedestrians, cyclists, and traffic.
- Minimise delays to traffic and consider the needs of all road users.
- Maintain satisfactory property access.
- Minimise disruption to businesses.
- Minimise disturbance to the environment.
- Minimise disturbance to emergency services located next to the site.
- To ensure compliance with relevant specifications and the RMS Traffic Control at Work Sites Handbook (TCAWS) Version 6.1
- To guide drivers through changed conditions and guide them around the work site.

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2 CONSTRUCTIONS

Construction Activity

Meriden School staff, students, and visitors shall be advised of construction activities and any exclusion zones. Traffic Controllers shall manage pedestrian routes, and shall utilise signage, barricading, and personal escort as control and safety measures.

Drivers are to observe the posted speed limits on all public roads all drivers are advised to proceed near any school or school buses at 40km/h, with speed adjusted appropriately to suit the road environment and prevailing weather conditions to comply with the Australian Road Rules. Site speed is no more than 10km/h while being escorted into work zones and within school boundaries.

All building materials and any other items associated with the development shall be stored within the confines of the property. No materials shall be stored on Council's footpath, nature strip, or road reserve without prior Council approval.

Building operations such as brick cutting, washing tools or brushes and mixing mortar shall not be carried out on public roadways or footpaths or in any locations which could lead to the discharge of materials into the storm water drainage system.

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Site Working Hours

Monday – Friday 7am – 6pm
Saturday: - 8am – 1pm
No work permitted on Sunday or Public holidays.

A two-way system with a UHF channel can be nominated to assist in accepting deliveries.

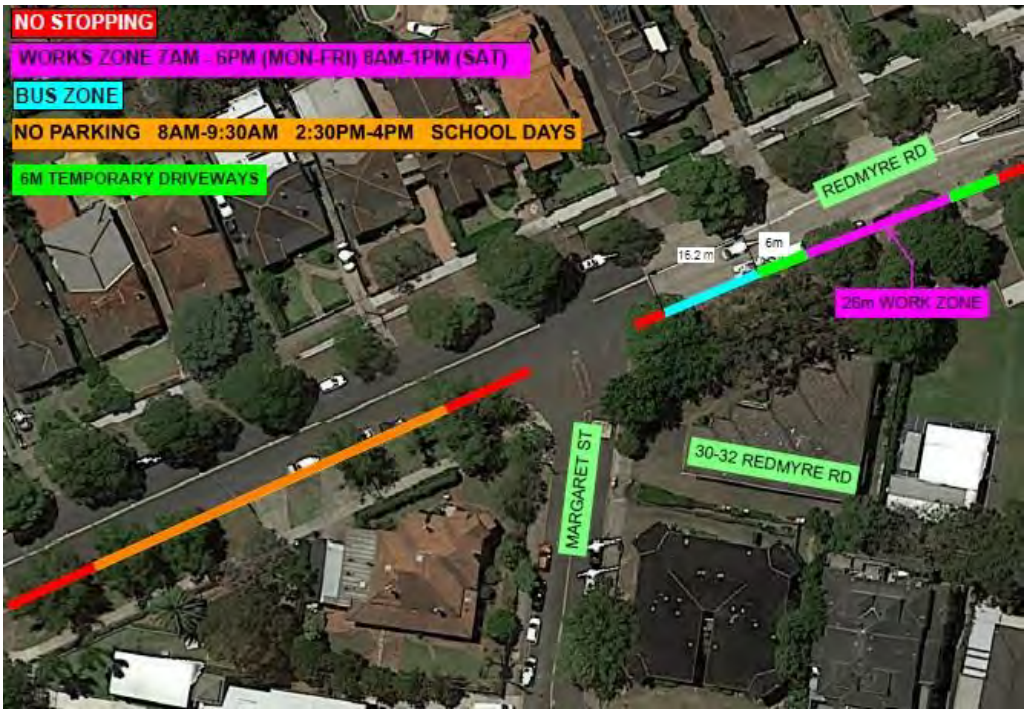
Hours of proposed truck movements to be within approved DA hours. However, delivery of piling rigs, delivery of precast elements, will need to be transported to site out of hours to comply with authority guidelines.

Noise emissions and vibration must be minimised, work is to be carried out in accordance with the NSW Department of Environment, Climate Change and Water's Interim Noise Construction Guidelines 2009 for noise emissions from demolition, excavation, and construction activities.

Works / Loading Zones

Works associated with this development shall take place onsite and within a Council advised and approved Work Zone located on Redmyre Road as shown below.

The existing driveway to be replaced to suit proposed works. Parking outside the site entry on Redmyre Road from Raw Square to Margaret Street shall be removed. The bus stop, bus zone, and school zone signage shall be relocated.



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Construction Vehicles Movement/Work Zones

Adequate advanced warning and directional signage will be placed around the site. This will direct drivers to the construction site and inform other drivers and pedestrians of upcoming works on their route. Drivers shall ensure movements shall not affect traffic flow or endanger pedestrians, by giving way to pedestrians and cyclists before trucks enter and exit site.

All truck movements shall be carried out taking into consideration the surrounding building and roads. Adequate measures to reduce severity / seriousness of incidents shall be put in place to improve conditions.

All drivers of trucks and construction vehicles will be given this CTMP and will be aware of the truck and vehicle routes and advised to channel into staff prior to delivery.

A portion of the footpath in front of 28 and 30-32 Redmyre Road shall be incorporated into the site. A temporary footpath shall be provided for pedestrian safety. All plant and heavy machinery will be placed or parked within the site. No plant or machinery will be placed on the street. No truck and dog trailer or oversize vehicle to be left on local roads unless approval has been obtained for a one-off occasion from Strathfield Council. During demolition and excavation all construction vehicles will be loaded within the site or work zone.

Work vehicles will arrive via Redmyre Road and depart from the site access gate located on either Redmyre Road or Margaret Street as per TGSs in Appendix. All trucks arriving and departing from the site are to leave site in a safe and suitable manner.

No materials, equipment, structures, or goods of any type are to be stored within designated tree protection zones.

Dust control measures are to be implemented during all periods of earth works, demolition, excavation and construction to minimise the dust nuisance on surrounding properties. The council guidelines for Controlling Dust from Construction Sites and

Section 126 of the Protection of the Environments Operations Act 1997 to be utilised.

No materials, skip bins, concrete pumps, cranes, machines or temporary signs shall be stored on the council's footpath, nature strip, park or reserve without the prior approval of Council under section 138 of the roads act 1993.

All exiting trucks shall be:

- Loaded to their prescribed weight limits.
- All trucks will be covered by tarpaulin or like prior to leaving the site as required.
- All vehicles leaving the site must be free of mud or any other debris. Drivers of vehicles that exit the site must check their vehicles are clean prior to exiting. It is the responsibility of each driver to confirm their vehicles are clean prior to exiting site.

Buildcorp will ensure that:

- No vehicle shall make deliveries outside Council's approved DA site hours with the exception of oversized loads approved by relevant authorities.
- All delivery vehicles will arrive at pre-arranged times to site.
- No queuing or marshalling of trucks shall occur for this site. Any vehicles that arrive to the site that are unable to be accommodated as outlined shall be sent back to their origin.
- All vehicles arriving to the construction site shall strictly adhere to the speed limit.
- This CTMP and all relevant plans shall be given to all transport companies associated with the site and expected to pass relevant information to its personnel and truck drivers arriving at the site.

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Construction vehicles required by the proposed construction activities include:

- Heavy Rigid Vehicles (12.5HR).
- Multi Combination Vehicles (Truck & Dog).
- Infrequent use of semi-trailers for special deliveries.
- Concrete pumper and agitator vehicles during building works.
- Small to medium sized trucks for other deliveries.

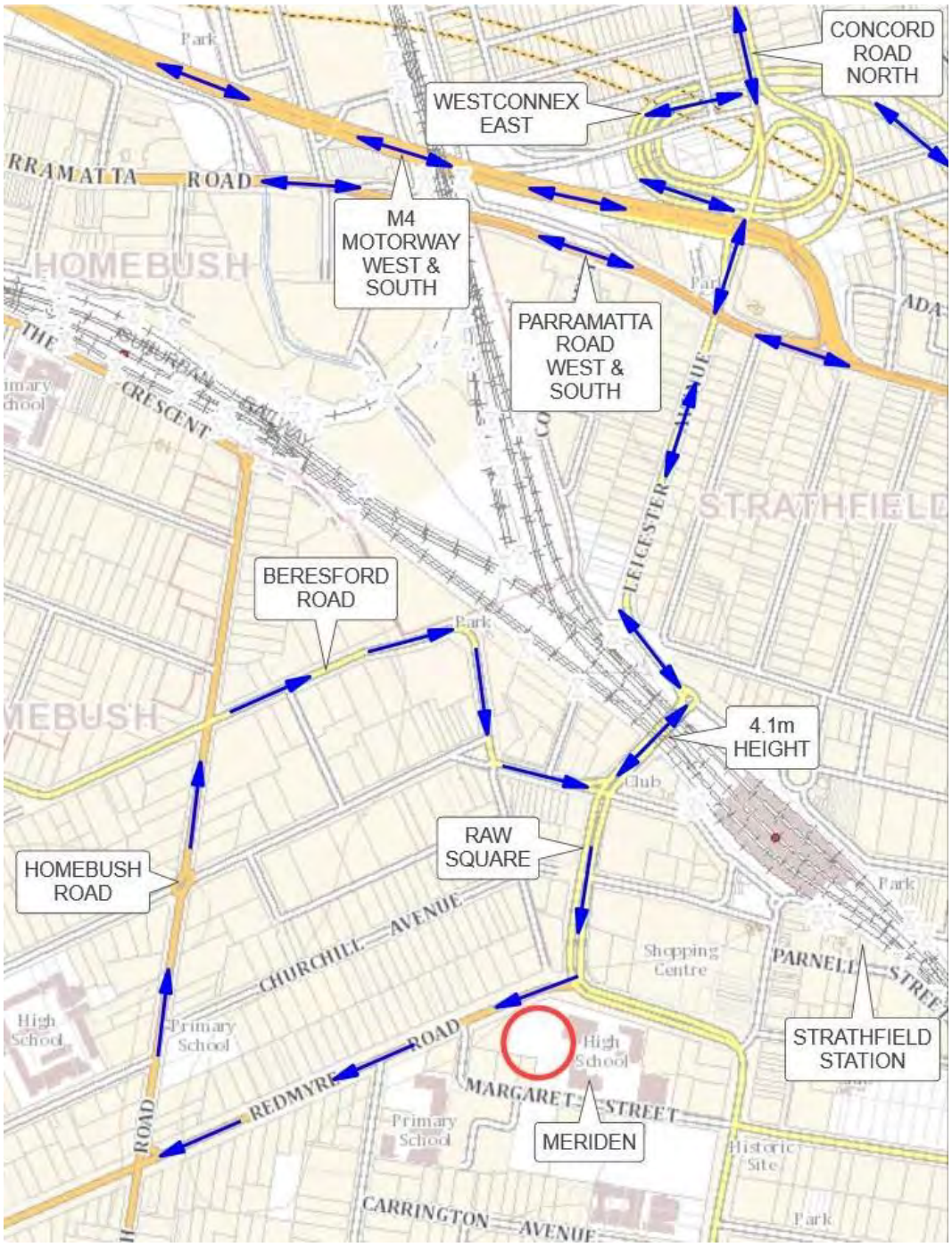
Use of oversized and over mass vehicles are required for Delivery of piling rigs, delivery of precast elements, will need to be transported to site out of hours to comply with authority guidelines.

Arrival & Departure of Vehicles

Adequate advanced warning and directional signage will be placed around the site. This will direct drivers to the construction site and inform other drivers and pedestrians of upcoming works on their route.

All truck movements shall be carried out taking into consideration the surrounding building and roads. Adequate measures to reduce severity/seriousness of incidents shall be put in place to improve conditions.

Heavy Vehicle Route to and from Site



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Arrival and Departure Route to Site

It is illegal to park a truck exceeding 4.5 tonnes on a roadway for more than one (1) hour unless signs are installed allowing such and illegal to barricade/ reserve a section of roadway without the prior approval of Council. Vehicles shall leave site in a forward direction.

Vehicle Movement Plan

The proposed work will involve a degree of internal pedestrian (staff and students) and construction vehicle / truck management. Traffic controller/s will be required to put temporary barriers in place to stop pedestrians when work vehicles are accessing work site locations. A traffic controller will walk escort vehicles when on school grounds. Meriden School staff, students and visitors shall be advised of construction activities.

Construction Vehicles and Plant

All loading and unloading of materials shall be done within the site or Work Zone. Trucks are not to queue on the maintenance gate driveway or on public roads; traffic controllers shall manage the ingress and egress. Trucks unable to immediately enter the site shall queue at a remote location. All drivers of trucks and construction vehicles shall be issued this CTMP and shall be made aware of the truck and vehicle routes.

All plant and heavy machinery will be placed or parked within the site. No plant or machinery shall be placed on the street. No vehicles to be left on local roads unless approval has been obtained for a one-off occasion from Council. All vehicles, plant, and equipment shall be operated in accordance with NSW Road Rules 2014.

Drivers Code of Conduct

This drivers Code of Conduct for Heavy Vehicles is to ensure that drivers adhere to the designated transport routes, and outline procedures to ensure that drivers implement safe driving practices, particularly when entering/exiting truck routes.

General Requirements

Heavy vehicles drivers must:

- Have undertaken a site induction carried out by a qualified person under the direction of Buildcorp
- Hold a valid driver's licence for the class of vehicle being operated.
- Operate the vehicle in a safe manner with and external to the site.
- Comply with the direction of authorised site personnel when within the site.

Speed of Heavy Vehicles

Drivers are to observe the posted speed limits on all public roads all drivers are advised to proceed near the school and school buses at 40km/h, with speed adjusted appropriately to suit the road environment and prevailing weather conditions to comply with the Australian Road Rules.

For vehicles driving into the school gates, site speed is no more than 10km/h while heading into work zones.

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Heavy Vehicle Control

To minimise the impact of noise from truck transport, the following controls apply to truck operators at Meriden:

- Tailgates must be locked and secured to avoid noise and spillage.
- Always observe the posted speed on site and the local road network.
- No tail gaiting is permitted – a 3 second gap is to be observed always.
- The equipment to be used must be fit for purpose.
- Drivers shall obey the loading, dispatch, and product transportation times.

.

Load Covering

Loose material on the road surface has the potential to cause road crashes and vehicles damage. All loaded vehicles entering or leaving the site are effectively covered for the duration of the trip. The load cover must be removed upon arriving at the site. All care is to be taken to ensure that all loose debris from the vehicle body and wheels is removed prior to leaving the site and again after uploading. Drivers must ensure that following the tipping that the tailgate is locked before leaving the site. Buildcorp management is to monitor loose material on the side of haulage route from the site and take appropriate action regularly.

Cleanliness

All loaded vehicles are to be inspected prior to leaving the site for cleanliness. Any materials that could fall on the road should be removed prior to leaving the site.
In case of wet weather, tyres to be hosed before leaving site.

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Vehicle Departure and arrival

Heavy vehicle movements to and from the site onto Redmyre Road will be restricted between 8am – 9:30am and 2:30pm – 4pm to minimise potential conflict with buses on Redmyre Road during school peak hours. Approval from Strathfield Council will be sought for concrete pour days as heavy vehicle movements cannot be restricted. Notification of construction activities which will occur within the peak school hours (8am-9:30am and 2:30pm-4pm) will be sent to affected residents prior to the commencement of the activities or as soon as it is practical afterwards. To alleviate public concern and increase road safety, heavy vehicles leaving the site should be separated and it is important for all drivers to be aware of the requirement to avoid convoys leaving the site.

Dust Control

Buildcorp is responsible for the mitigation of all dust generated on site or as a result of undertaking the works.

Fencing, Barriers & Hoarding

Temporary fencing shall be erected around all work areas. The perimeter shall be secured with fencing and hoardings to keep the site secure, and any new fencing shall be temporary (such as cyclone wire) and at least 1.8 metres high. All fencing is to be maintained for the duration of construction to ensure that the work area is secured.

A sign shall be displayed on the site indicating the name of the person responsible for the site and a telephone number of which that person can be contacted during and outside normal working hours, or when the site is unattended.

<u>The sign must be erected in a predominant position shall display the following:</u>

- Name, address, and telephone number of the site manager certifying authority for the works.
- Name of site manager contractor (if applicable) for any building work and a telephone number on which that person may be contacted out of hours.
- Unauthorised access to the work site is prohibited.

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Waste Management and Recycling

A formal Construction Waste Management Plan will be produced by Buildcorp prior to works commencing. All material that cannot be recycled or reused will be disposed to an approved landfill facility. Waste will be minimised and that generated will be separated to maximise recycling. The highest waste production will be during the demolition of existing buildings onsite.

Dangerous goods (such as petrol, diesel, oxy-acetylene, oils, etc.) will be stored in a lockable compound with sufficient ventilation in accordance with relevant codes of practice and standards. Material safety data sheets on all flammable and potentially harmful liquids will be provided by the contractor undertaking the works.

Removal and storage of Rubbish or Spoil.

All industrial rubbish bins will be stored on site and in a position for easy access for removal by trucks. All removal trucks will have the load covered by tarpaulin or other means to secure loads. All excavations and backfilling shall be executed safely and in accordance with the relevant Australian Standards.

The Council expects demolition and excavated material to be reused and/or recycled wherever possible. No materials shall be placed, dumped, of left on any Council roads or footpaths. Removed or damaged street furniture, including parking and street signs, shall be replaced immediately. Copies of demolition and construction waste dockets that verify the facility that received the material for recycling or disposal and the quantity of waste received, must be retained on site at all times during construction.

Responsibility

It is the responsibility of Buildcorp to ensure that these traffic measures are disseminated, implemented, and maintained in accordance with the principles in the project, Occupational Health, Safety & Rehabilitation Management Plan: and it is the responsibility of every worker involved with this work site to comply with the guidelines set down in this plan.

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Emergency Response

- Commercial Traffic will provide traffic control by qualified traffic controllers for emergencies such as accidents and spillages on the maintained network.
- Commercial Traffic will use an appropriate standard plan drawn from the RMS Traffic Control at Work Sites Manual, adjusting it as needed to suite the site conditions.
- For all other planned and scheduled maintenance and other works under the contract, Commercial Traffic will prepare Traffic Control Plans as required.

Time Management

Commercial Traffic aims to meet its time related obligations. Among them are:

- Lodging early as possible (minimum of 10 Business Days before the works) a road occupancy application. See RTA G10 (2.6). Noting, however, the exemptions for emergencies and hazards set down at RTA G11 (8).

- Promptly advising the TMC of delays to traffic which are, or are anticipated to be, longer than 15 minutes.

- Advising STA if any of the public transport routes can be affected due to works being done.

Proposed Strategy of Traffic Management

Road/Lane Closure

- The proposed works will not require any lane closures at this stage. If required, all permits will be applied for through Strathfield Council prior to the commencement of works. If any other partial road closure, temporary driveways, or mobile cranes are required appropriate application will be made to Council prior to commencement of such works.
- Roadworks will not be undertaken on state roads or within 100 m of traffic signals for this project. A Road Occupancy Licence will be made if required to NSW Transport Management Centre and a copy will be provided to Council.
- Any traffic control plans (TGSs) associated with this CTMP will comply with relevant Australian Standards and RMS Traffic Control at Worksites Manual.

Parking for Site Workers

- Parking will be provided on-site. Even so, to minimise car usage, the contractor will be encouraged to assist in the transportation of workers to the site and all site personnel will be made aware of the public transport options available in the vicinity of the site and encouraged to utilise these facilities. Site personnel will also be encouraged to consider car-pooling wherever practicable. Staff related with the construction works should not park on the public road.
- It is recommended that an onsite tool drop off and storage facility is included in the construction site management such that construction personnel can drop tools to the site by vehicle and then store them on site for the duration of works, thus enabling them to travel on public transport without needing to transport heavy tools each day.

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Public Transport.

- Temporary changes to the bus zone on Redmyre Road are proposed (subject to approval) to accommodate the construction activities.

  Prior to the commencement of any construction works, the Applicant must:

  - consult with Transit Systems NSW regarding a temporary relocation, or extension (if agreed with Transit Systems NSW) of the bus zone on Redmyre Road that would be affected by construction works pursuant to this development consent.
  - obtain necessary endorsements/approvals from the relevant road's authority (Transit Systems NSW or Council) for the relocation or extension of the bus zone to allow for entry/exit of construction vehicles.
  - submit the details of the consultation and endorsements and obtain approval in writing by the Planning Secretary.
- The bus zone must be relocated or extended as agreed with Transit Systems NSW and be operational prior to the commencement of construction vehicle movements on the site.

- Strathfield Station and multiple bus routes are located within the vicinity of the site.

Pedestrians and Cyclists

- Works are taking place isolated from the public.
- Drivers must be aware of the footpath at the maintenance access driveway.
- Only authorised personnel will be permitted within the building site unless accompanied by site management, if not inducted to the site. Whilst within the confines of the building site, all personnel will attire in correct PPE to ensure that they are visible to moving traffic.

Emergency Vehicle

- Emergency vehicles will always be given priority during operation hours. Outside of operation hours, on-site staff will be present and will be able to provide access to emergency vehicles, if required.
- If the case, any emergency vehicle required for site will be given priority.

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Access to properties and noise pollution

- The works will not affect access to properties. Regarding noise impacts, Buildcorp will strive to keep all noise associated with the works at a minimum. Likewise, no noise will be made outside the approved hours for site.
- Where there is a strong community reaction to noise associated with demolition, excavation and/or construction, council may require respite periods by restricting the hours that the specific noisy activity can occur.
- If this is imposed, council will consider:

  - Times identified by the community when they are less sensitive to noise.

  - If the community is prepared to accept a longer period of construction in exchange for a restriction on construction hours.
- Prior to commencement of the site preparation works, it is recommended that Buildcorp inform the local community regarding the traffic control and management arrangements that will be implemented and the timing/duration of works. It is envisaged that the requirements for community consultation will be set out in the conditions of consent, and all the community notification.
- Notification of works affecting any properties or residents will be notified in the form of a letter via letter box drop two weeks prior then again, the day before the work starts.

Traffic Controllers

RMS/Safe Work NSW Accredited Traffic Controllers shall be on site when or if required.

Community & Motorists Consultation/Notification

A Buildcorp representative is available to meet with any neighbours affected by the site works to discuss the proposed measures mentioned within this construction traffic management plan. Notification of construction activity will be sent to properties near the work site. This notification in the form of a letter will be made by letterbox drop two weeks prior to work commencing and again the day before works commences.

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Temporary advance warning signs will advise motorists on their approach to the work site. Regular consultation to be held with Council's manager for social and community services.

Permits and Road Occupancy Licence.

A road occupancy permits will not be required at this stage as all works are isolated and within site boundaries.

Workplace Health & Safety

Buildcorp will access the risk and will incorporate the traffic control plans and the traffic management plan into the site safety plan.

This CTMP must be included in site inductions to ensure all new employees are aware of the construction management obligations.

Traffic Control Plans

Traffic Control Plans (TCP) or Traffic Guidance Schemes (TGS), Vehicle Movement Plan or Pedestrian Movement Plans for this project can be added or included in this document. The TGS is a diagram showing signs and devices arranged to warn traffic and guide it around, past or, if necessary, through the work site or temporary hazard. Buildcorp will ensure authorised traffic controllers will be present on site to assist access of trucks in and out of the site ensuring the safety of pedestrian's, cyclists, and all other vehicles. The land uses surrounding the site are educational and residential.

The TGSs are designed to address the following issues where applicable:

- Use of traffic control devices
- Speed limit requirements
- Provisions for pedestrian traffic and their safety

- Provision for vehicle and plan movement
- Parking restrictions and parking facilities
- Provision for trade vehicles and plant movement
- Informing all site personnel of any high-risk areas, and
- Providing adequate signage within the Construction site for access and egress of vehicles.

Monitoring and Review

Monitoring and review is important throughout the CTMP process (both preparation and implementation) to ensure that the CTMP remains current and addresses all risks at the worksite. After the CTMP has been implemented, a review should be undertaken to ensure that it is operating as expected. Schedule further reviews as the program progress, to ensure that the plan continues to operate as expected.

Daily Inspections

The monitoring program generally incorporates daily inspections:

- Before the start of work activity on site
- During the hours of work
- Closing down at the end of the shift period

Provide a template for a daily inspection register allowing indication of:

- When traffic controls were erected
- When changes to controls occurred and why the changes were undertaken
- Any significant observations associated with the traffic control and their impacts on road users or adjacent properties

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Collecting information is particularly important in the event of an incident in case legal proceedings result.

CTMP Review & Improvement

Outline a process to facilitate continuous improvement which may include debrief meetings to discuss any issues or risks associated with the plan.
Ensure the CTMP is kept up to date, considering changes in traffic volumes, vehicle types, the road environment, work practices, standards, and jurisdictionally specific legislation.

Review of the CTMP will be required if any on-site changes occur (with the exception of repositioning of traffic control devices) by a person appropriately qualified in the relevant jurisdiction.

A copy of all documentation relating to the endorsement of the changes must be held on-site by the person managing the works.

Where there are non-compliances identified the procedure should have a mechanism for the issuing of a formal corrective action. Corrective actions should be closed out and a registered as such in accordance with the organisations normal practice.

Out of Working Hours Contacts

Nick Zambounis - 0422 094 161
Project Manager

Construction Traffic Management Plan designed by Aleksandra Moisejenkova

Contact: 0498 282 282

RMS license type: Prepare a Work Zone Traffic Management Plan

RMS license No.: TCT0002510

Appendix A - Traffic Controllers' Tickets

Surname	First Name	Contractor Name	Certificate Number	Expiry Date

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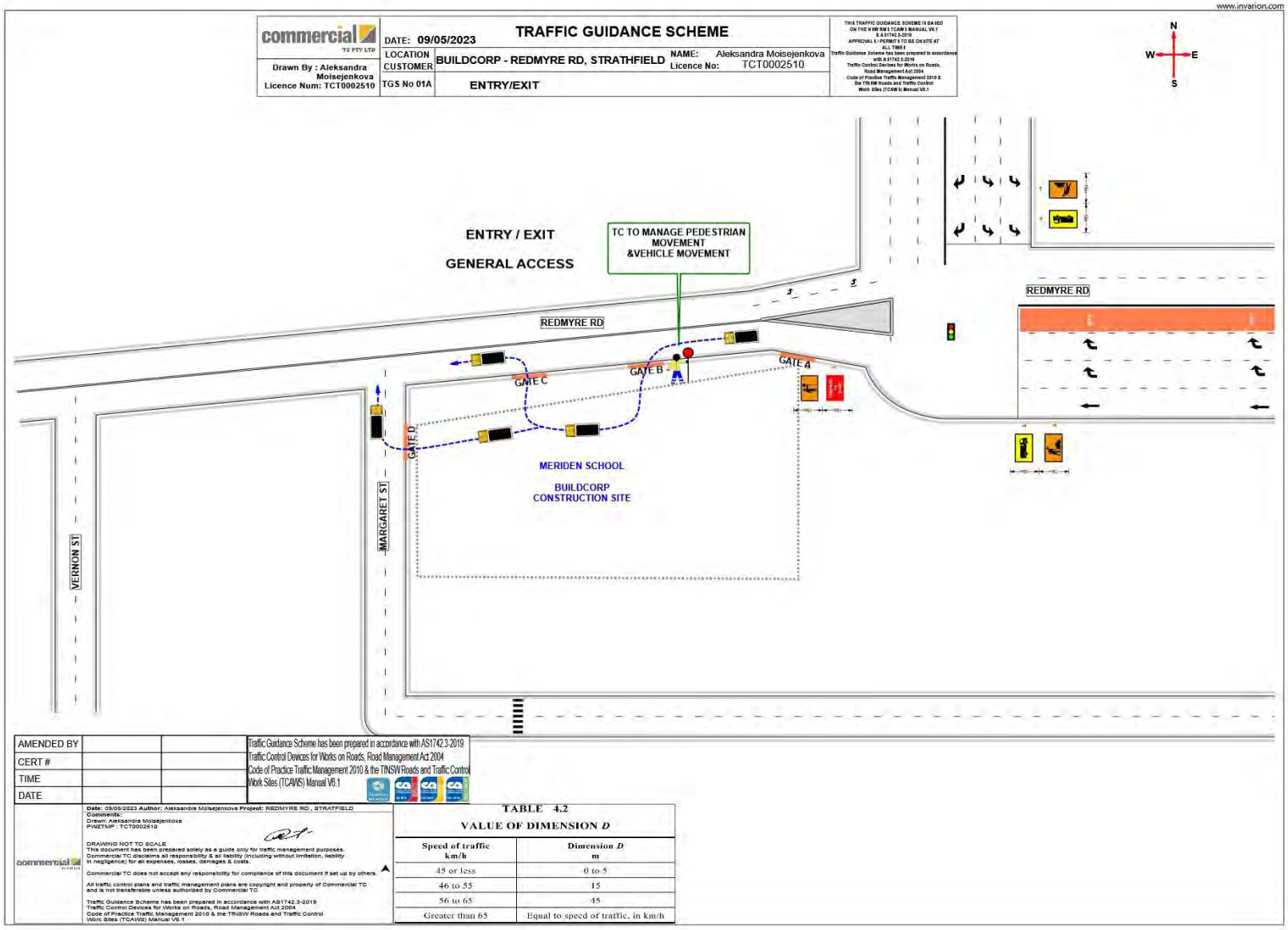
Appendix B – Traffic Guidance Scheme



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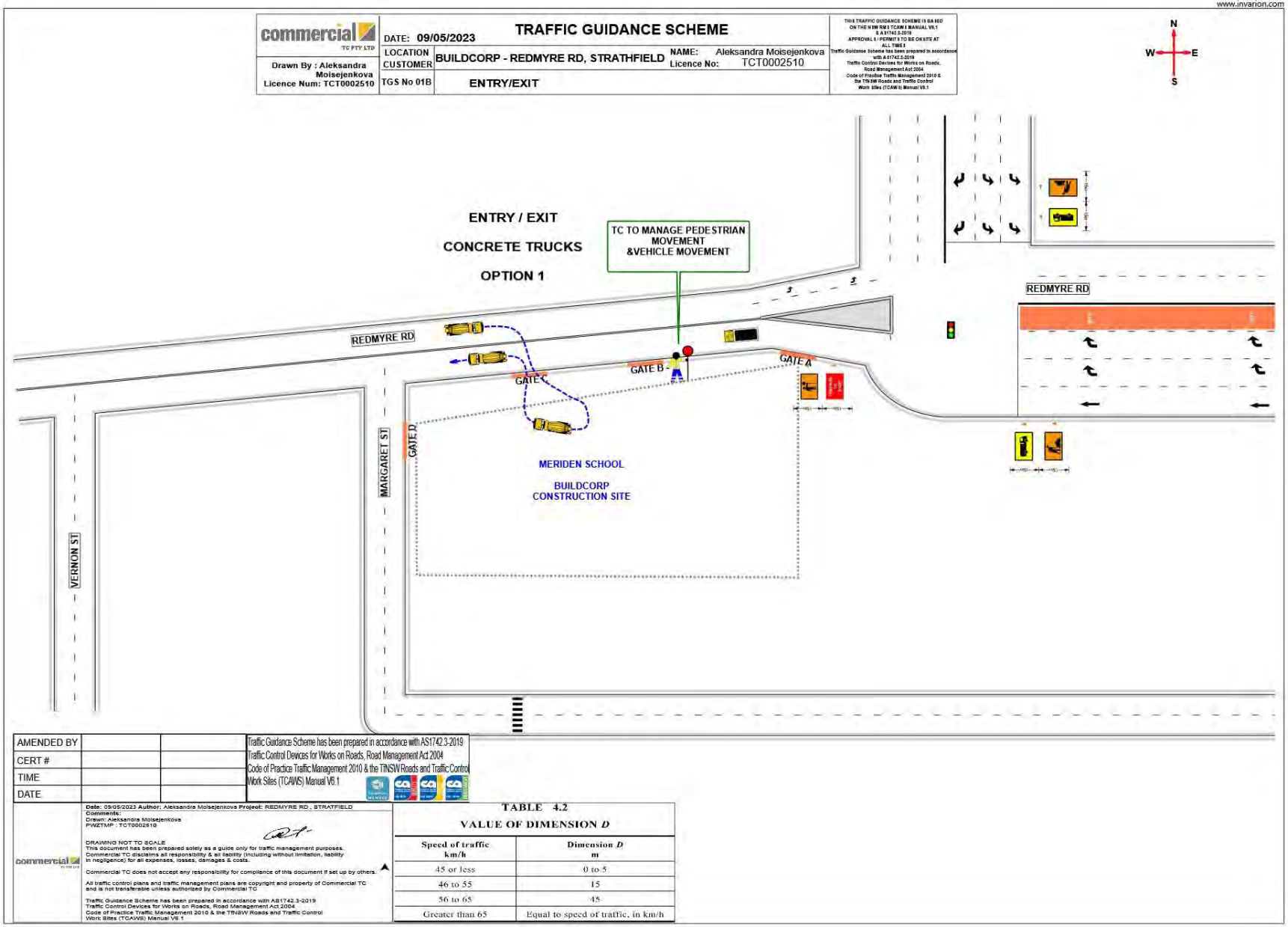

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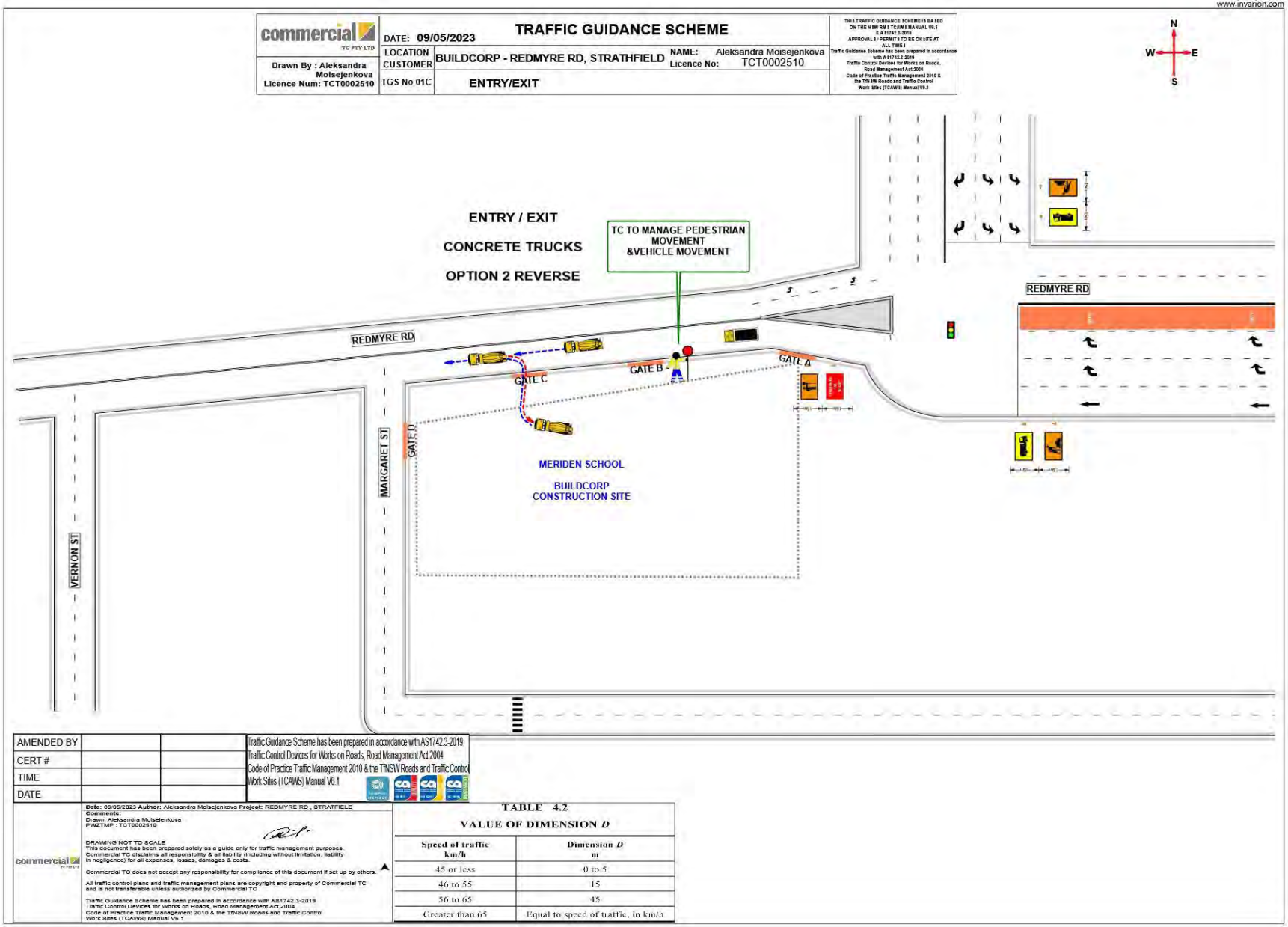

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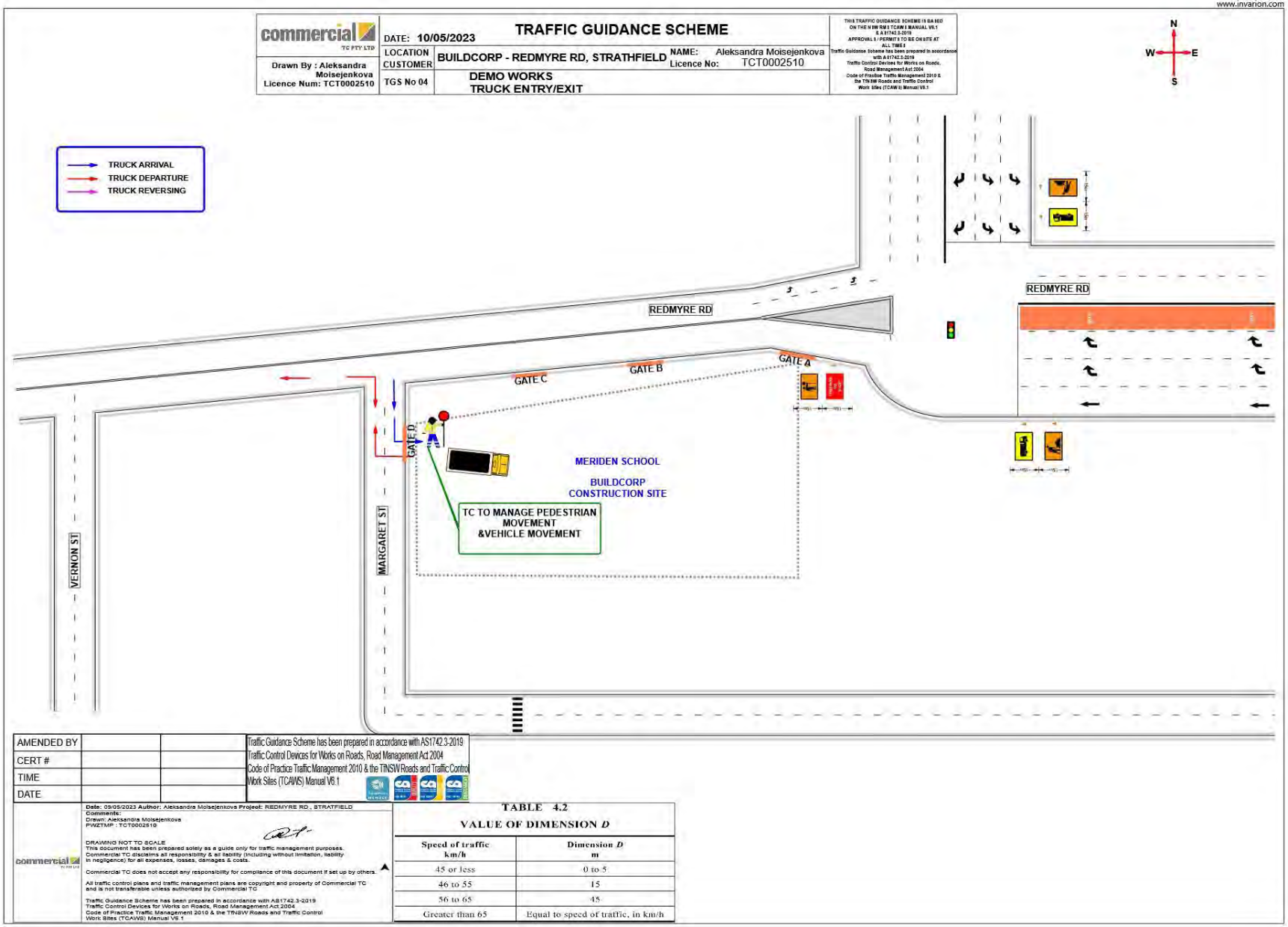

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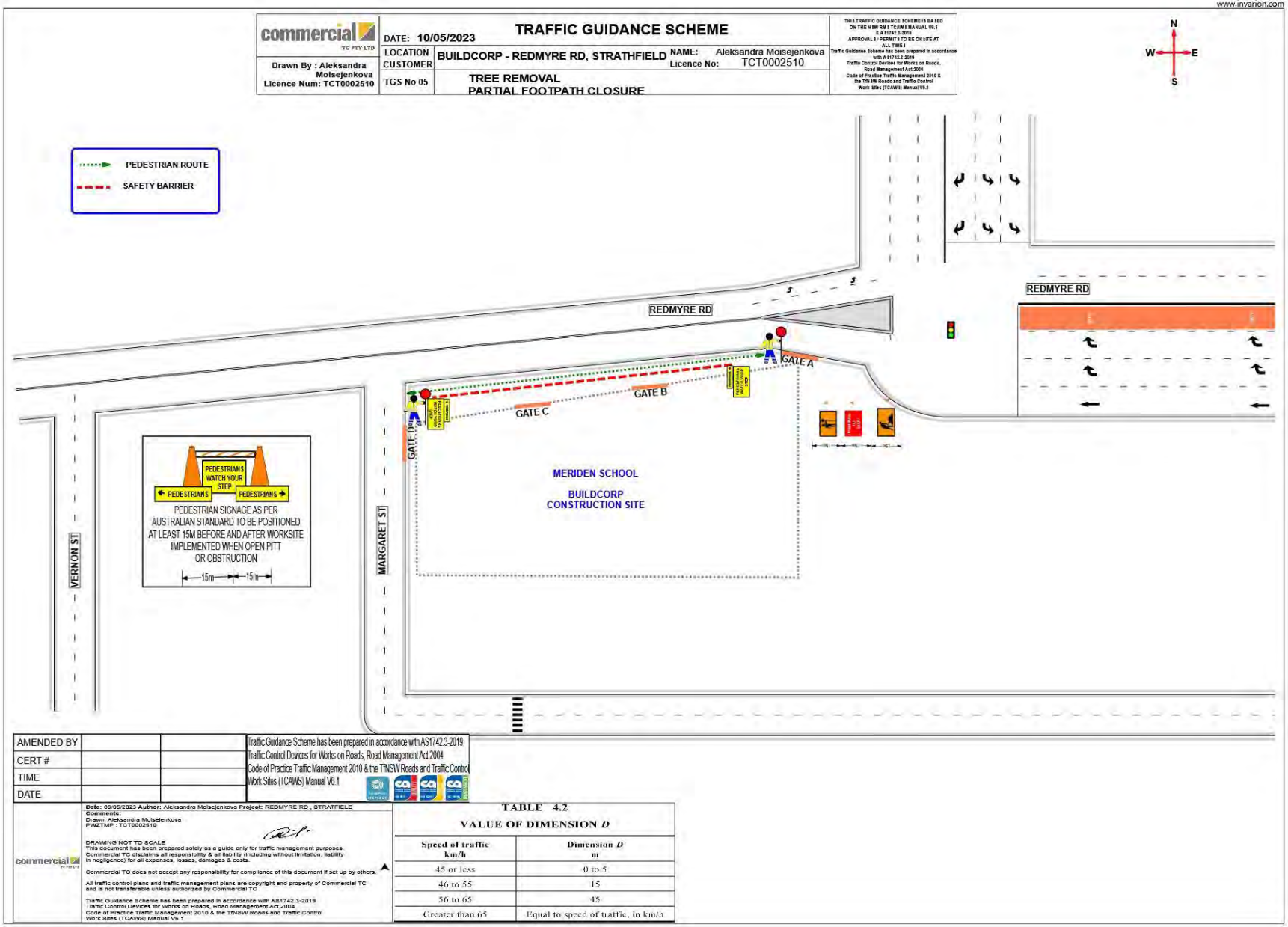

TABLE 4.2
VALUE OF DIMENSION *D*

Speed of traffic km/h	Dimension *D* m
45 or less	0 to 5
46 to 55	15
56 to 65	45
Greater than 65	Equal to speed of traffic, in km/h

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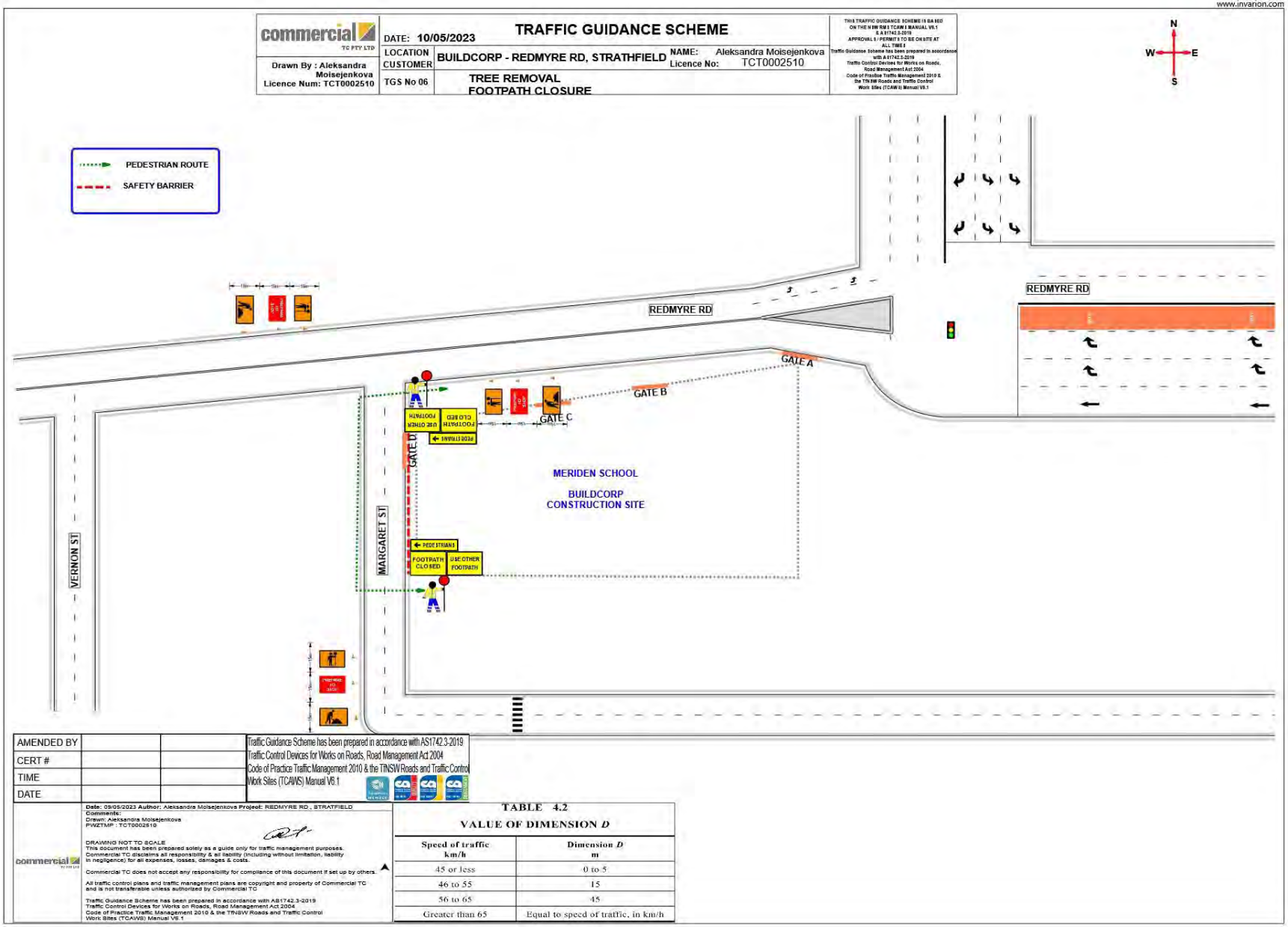

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Appendix C – Swept Path Diagram

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12 Appendix C – Construction Noise and Vibration Management Plan

The Construction Noise and Vibration Management Plan has been developed by RWDI in accordance with SSD-39005127 Condition C16c and Conditions C19a-i.

REPORT

MERIDEN SCHOOL DESIGN AND CREATIVE ARTS BUILDING

3 MARGARET STREET, STRATHFIELD NSW 2135

CONSTRUCTION NOISE AND VIBRATION MANAGEMENT PLAN
RWDI # 2205139
17 August 2023

SUBMITTED TO

Meriden School
3 Margaret Street
Strathfield NSW 2135

CC TO
Robin Merrick
Carmichael Tompkins Property Group
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SUBMITTED BY

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RWDI Australia Pty Ltd (RWDI)
ABN: 86 641 303 871

DOCUMENT CONTROL

Version	Status	Date	Prepared By	Reviewed By
A	Draft	11 August 2023	Peter Thang	Justin Leong
A	Final	17 August 2023	Peter Thang	-

NOTE

All materials specified by RWDI Australia Pty Ltd (RWDI) have been selected solely on the basis of acoustic performance. Any other properties of these materials, such as fire rating, chemical properties etc. should be checked with the suppliers or other specialised bodies for fitness for a given purpose.

The information contained in this document produced by RWDI is solely for the use of the client identified on the front page of this report. Our client becomes the owner of this document upon full payment of our **Tax Invoice** for its provision. This document must not be used for any purposes other than those of the document's owner. RWDI undertakes no duty to or accepts any responsibility to any third party who may rely upon this document.

RWDI

RWDI is a team of highly specialised consulting engineers and scientists working to improve the built environment through three core areas of practice: building performance, climate engineering and environmental engineering. More information is available at www.rwdi.com.

AAAC

This firm is a member firm of the Association of Australasian Acoustical Consultants and the work here reported has been carried out in accordance with the terms of that membership.

QUALITY ASSURANCE

RWDI Australia Pty Ltd operates a Quality Management System which complies with the requirements of AS/NZS ISO 9001:2015. This management system has been externally certified by SAI Global and Licence No. QEC 13457 has been issued for the following scope: The provision of consultancy services in acoustic engineering, air quality and wind engineering; and the sale, service, support and installation of acoustic monitoring and related systems and technologies.

GLOSSARY OF ACOUSTIC TERMS

Most environments are affected by environmental noise which continuously varies, largely as a result of road traffic. To describe the overall noise environment, a number of noise descriptors have been developed and these involve statistical and other analysis of the varying noise over sampling periods, typically taken as 15 minutes. These descriptors, which are demonstrated in the graph below, are here defined.

Maximum Noise Level (L_{Amax}) – The maximum noise level over a sample period is the maximum level, measured on fast response, during the sample period.

L_{A1} – The L_{A1} level is the noise level which is exceeded for 1% of the sample period. During the sample period, the noise level is below the L_{A1} level for 99% of the time.

L_{A10} – The L_{A10} level is the noise level which is exceeded for 10% of the sample period. During the sample period, the noise level is below the L_{A10} level for 90% of the time. The L_{A10} is a common noise descriptor for environmental noise and road traffic noise.

L_{A90} – The L_{A90} level is the noise level which is exceeded for 90% of the sample period. During the sample period, the noise level is below the L_{A90} level for 10% of the time. This measure is commonly referred to as the background noise level.

L_{Aeq} – The equivalent continuous sound level (L_{Aeq}) is the energy average of the varying noise over the sample period and is equivalent to the level of a constant noise which contains the same energy as the varying noise environment. This measure is also a common measure of environmental noise and road traffic noise.

ABL – The Assessment Background Level is the single figure background level representing each assessment period (daytime, evening and night time) for each day. It is determined by calculating the 10th percentile (lowest 10th percent) background level (L_{A90}) for each period.

RBL – The Rating Background Level for each period is the median value of the ABL values for the period over all of the days measured. There is therefore an RBL value for each period – daytime, evening and night time.

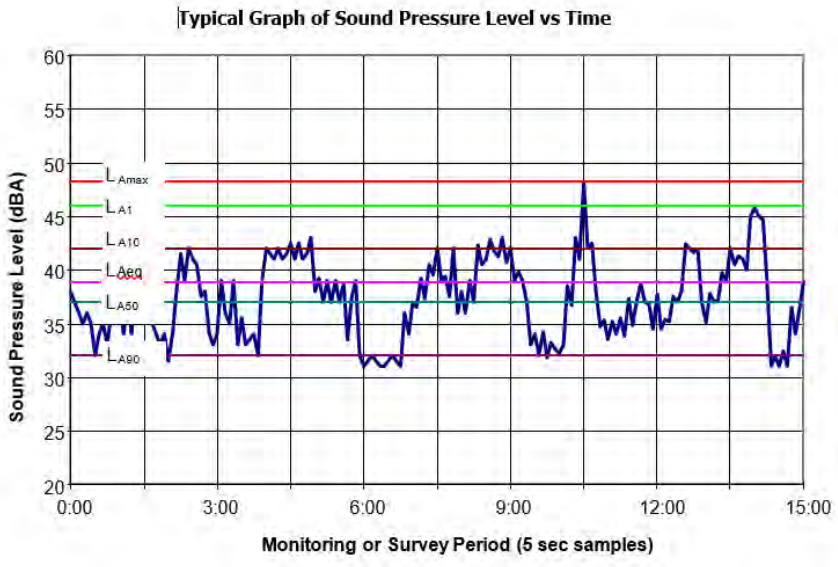

TABLE OF CONTENTS

1 INTRODUCTION

RWDI Australia Pty Ltd (RWDI) has been commissioned to prepare a Construction Noise and Vibration Management Plan (CNVMP) for the construction of the approved Design and Creative Arts (DaCA) Building for the Meriden School at 3-13 Margaret Street, Strathfield, in order to address Condition C19 of the Consent Conditions of SSD-39005127. It is noted that other construction works have been approved as part of SSD-39005127, however these will not be considered in this CNVMP at this stage. Condition C19 is reproduced below:

> *Condition C19 The Construction Noise and Vibration Management Sub-Plan (CNVSMSP) must address, but not be limited to, the following:*
>
> *a. Be prepared by a suitably qualified and experienced noise expert;*
> *b. Be generally consistent with the Noise and Vibration Impact Assessment Report prepared by Wilkinson Murray dated 16 December 2022 and the Addendum dated 3 March 2023;*
> *c. Describe the procedures for achieving the noise management levels in the 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 C19e;*
> *g. Include measures to manage construction noise impacts on existing students within the site (Senior School students) including (but not limited to) restriction of the construction hours during examination times, additional hoardings, use of quiet equipment;*
> *h. Include a complaints management system that would be implemented for the duration of the construction; and*
> *i. Include a program to monitor and report on the impacts and environmental performance of the development and the effectiveness of the management measures in accordance with condition C15*
>
> *This document documents the noise and vibration management levels for the construction works, gives a summary of the predicted levels and advises the management and mitigation strategy for noise and vibration associated with the worst-case scenario associated with the construction works.*

This CNVMP has been carried out with reference to the following documents:

- *Interim Construction noise Guideline* (DECC, 2009) – *ICNG*
- *Assessing Vibration: A Technical Guideline* (DEC, 2006) – *AVTG*
- BS 7385 Part 2-1993 *"Evaluation and measurement for vibration in buildings Part 2"*

2 PROJECT OVERVIEW

2.1 Site Location

Meriden School is situated in the Strathfield Local Government area (LGA). Founded in 1897, the Meriden school site comprises three adjacent campuses:

- Senior School Campus fronting both Redmyre Road and Margaret Street;
- Junior Campus fronting Vernon Street and Margaret Street; and
- Lingwood Prep Campus fronting Margaret Street.

The School originated on the Senior School site and has expanded from this site as surrounding properties have been acquired. Each campus is located in close proximity to each other. The SSDA pertains only to the Senior School Campus and does not include the Junior Campus and Lingwood Prep Campus. The Senior Campus is located at 3 Margaret Street and is legally described as Lot 101 DP862040. The Senior Campus has a site area of approximately 15,042 m^2 and slopes from the Margaret Street frontage towards Redmyre Road.

2.2 Noise Catchment Areas

The areas with noise-sensitive receivers around the site have been divided into four Noise Catchment Areas (NCAs). The NCAs group together sensitive receivers with similar existing noise environments. The NCAs and sensitive receivers in the area around the development are detailed in **Table 2-1** and are shown in **Figure 2-1**.

Table 2-1: Noise Catchment Areas

NCA	Direction from Development	Description
NCA01	North	Residential receivers to the North of the New DaCA building across Redmyre Road.
NCA02	West	Residential receivers to the West of the New DaCA building adjacent to the campus boundary.
NCA03	South	Residential receivers to the South of the Senior Campus across Margaret Street.
NCA04	East	Residential receivers to the East of the Social Science building adjacent to the campus boundary.

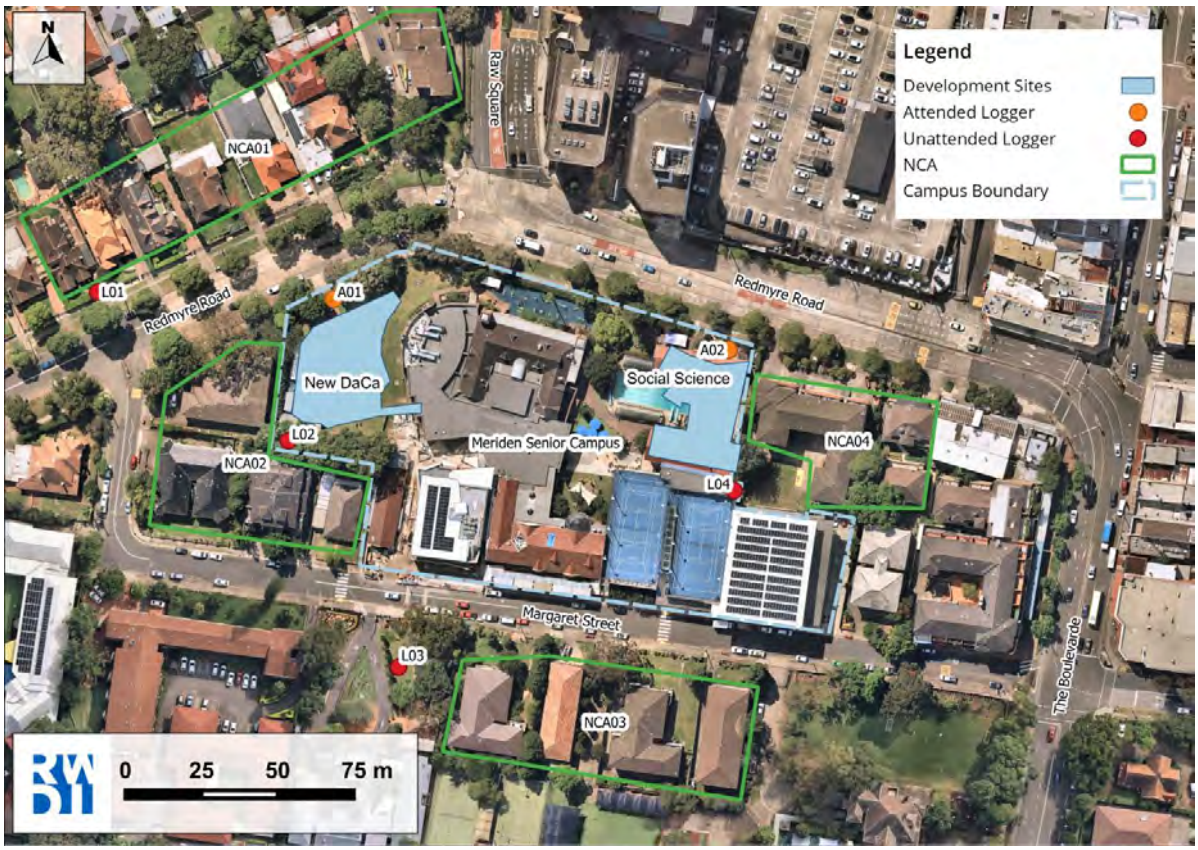

Figure 2-1: NCAs and Noise Logger Locations for Meriden Senior Campus Development

2.3 Proposed Development

The proposed works will involve the removal of two existing demountables and the construction of a new three-story Design and Creative Arts building with roof terrace and two levels of basement car parking.

Figure 2-2 presents the proposed site plan.

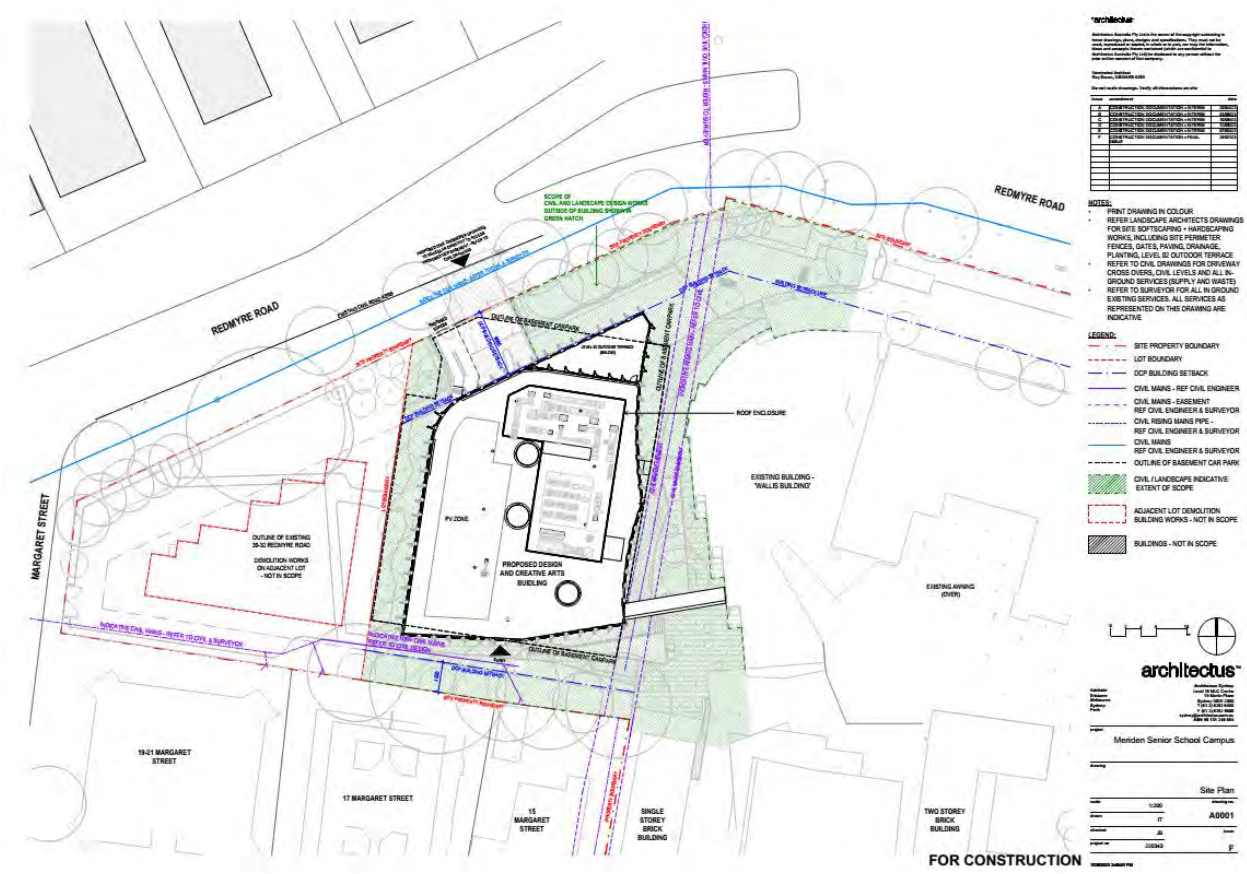

Figure 2-2: Site Plan

2.4 Approved Construction Hours

The approved construction hours are outlined in the Conditions in Consent:

Construction Hours

D4. 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 Friday inclusive; and
b. Between 8am and 1pm, Saturdays

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

D5. No heavy construction vehicle movements to and from the site onto Redmyre Road, should occur between 8am - 9.30am and 2.30pm - 4pm, to minimise potential conflict with buses on Redmyre Road during school peak hours.

D8. 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.

2.5 Proposed Construction Methodology

As advised by the contracted builder, **Table 2-2** presents the program of the proposed construction works with indicative construction equipment.

Table 2-2: Proposed Construction Methodology and Staging

Week	Construction Stage
Week 1-4	**Early Works – relocation of existing services**

	• 8 t Excavator to:
	  ○ Dig trenches for pipes
	  ○ Crane pipes into trenches
	  ○ Backfill trenches
	• Miscellaneous delivery trucks

Week 1-4	**Demolition and Tree removal**
	• Jackhammers, power tools and hand demolition • 18 t Excavator for demolition of existing structure/trees and pavements. • Truck and dog trailers to cart out waste
Weeks 5-7	**Shoring/Piling**
	• 20 t piling rig • Concrete delivery trucks • Reinforcement delivery trucks • 18 t Excavator
Weeks 8-16	**Excavation, Anchors, and Shotcrete**
	• 18 t excavators with buckets, rippers and hammers • Truck and dog trailers • Concrete delivery trucks • Shotcrete (pneumatic application) • Basement anchor installation
Weeks 17-33	**Structure Works**
	• Concrete delivery trucks • Concrete boom pumps • Reinforcement delivery trucks • Formwork delivery trucks • Mobile cranes • Scaffolding • Grinding, jackhammering, power tools, nailing, hammering etc

3 EXISTING NOISE ENVIRONMENT

To characterise the existing noise environment of the project location, RWDI personnel attended site to conduct long-term unattended and short-term attended noise measurements.

We note that the Meriden School Campus has been operating well in excess of 10 years, with its current operation considered a normal part of the existing acoustic environment for the area. Given this, the establishment of background noise levels for the site (presented in the sub-sections below) includes existing noise generation associated with the school as is consistent with Fact Sheet A of the EPA's Noise Policy for Industry. These background noise levels (inclusive of noise generation from the existing school) will be used in establishing noise management levels for the approved construction activity (presented in section 4.1).

3.1 Unattended Noise Measurements

In order to quantify the existing noise environment, long-term ambient noise levels were monitored at the following locations:

- L01 – The front yard of 33 Redmyre Road near the T- junction of Redmyre Road and Margaret Street between 27 May and 6 June 2022.
- L02 – At the rear 30-32 Margaret Street between 17 and 24 May 2022.
- L03 – The south of the Meriden Senior Campus across Margaret Street between 3 and 12 December 2018.
- L04 – Along the eastern boundary of the Meriden school campus, near the south-eastern corner of the future Social Science building between 8 and 16 August 2022. This monitoring location will be representative of the ambient noise environment at the NCA04 receivers.

The noise monitoring equipment used for the noise measurements consisted of ARL NGARA environmental noise loggers set to A-weighted, fast response, continuously monitoring over 15-minute sampling periods. This equipment is capable of remotely monitoring and storing noise level descriptors for later detailed analysis. The equipment calibration was checked before and after the survey and no significant drift was noted.

The logger determines L_{A1}, L_{A10}, L_{A90} and L_{Aeq} levels of the ambient noise. L_{A1}, L_{A10} and L_{A90} are the levels exceeded for 1%, 10% and 90% of the sample time respectively (see Glossary for definitions). The L_{A1} is indicative of maximum noise levels due to individual noise events such as the occasional pass-by of a heavy vehicle. The L_{A90} level is normally taken as the background noise level during the relevant period.

Detailed results for each monitoring location are shown in graphical form in Appendix A. The graphs show measured values of L_{Aeq}, L_{A90}, L_{A10} and L_{A1} for each 15-minute monitoring period.

Ambient noise on site consisted primarily of traffic noise from the surrounding roadways. Noise data measured during inclement weather was excluded in accordance with EPA procedures.

The measured rating background levels (RBL) at the unattended noise monitoring locations are presented in **Table 3-1**. Construction activities are limited to day time hours, as such only day time RBLs have been presented.

Table 3-1: Unattended Noise Measurements – Background (LA90) Noise Levels

Noise Monitor Location	Time of Day [1]	Rating Background Level (RBL) $L_{A90, period}$ dBA
L01	Day	46
L02	Day	46
L03	Day	43
L04	Day	48

Note 1: Day = 7am – 6pm

4 CONSTRUCTION NOISE AND VIBRATION CRITERIA

4.1 Construction Noise Management Levels

The EPA released the Interim Construction Noise Guideline (ICNG) in July 2009. The guideline provides noise management level (NML) guidelines that assist in assessing the impact of construction noise.

For residences, the $L_{Aeq,(15min)}$ noise affected NML during the recommended standard construction hours is background noise plus 10dBA. Standard hours are defined as Monday to Friday 7.00am-6.00pm, and Saturday 8.00am-1.00pm. Outside the standard hours, where construction is justified, the noise management level would be background + 5dBA. **Table 4-1** details the ICNG noise management levels.

Table 4-1 Interim Construction Noise Guideline Criteria

Time of Day	NML	How to Apply
Recommended Standard Hours **Monday to Friday** **7am to 6pm** **Saturday** **8am to 1pm** **No work on Sundays or Public Holidays**	Noise Affected RBL+10 dBA	The noise affected level represents the point above which there may be some community reaction to noise. Where the predicted or measured $L_{Aeq\ (15min)}$ 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 75 dBA	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: 1. 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; 2. if the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.
Outside Recommended Standard Hours	Noise Affected RBL+5 dBA	A strong justification would typically be required for works outside the recommended standard hours. The proponent should apply all feasible and reasonable work practices to meet the noise affected level. Where all feasible and reasonable practices have been applied and noise is more than 5 dBA above the noise affected level, the proponent should negotiate with the community. For guidance on negotiating agreements see section 7.2.2 of the *ICNG*.

Additionally, this CNVMP considers the *ICNG* recommendations for non-residential uses, in particular that construction noise levels should not exceed:

- $L_{Aeq,15min}$ 70dBA external to commercial buildings when they are in use;
- $L_{Aeq,15min}$ 45dBA internally within school classrooms when in use; and
- $L_{Aeq,15min}$ 65dBA internally within school outdoor play areas when in use.

For the purpose of this assessment, the internal classroom noise level has been converted to an external level of $L_{Aeq,15min}$ 70 dBA, allowing for attenuation (25 dB) achieved through closed windows.

Based on the above, **Table 4-2** presents the applicable noise management levels for construction activities at surrounding receivers that have been adopted for all applications.

Table 4-2 Site-Specific Construction Noise Management Levels, $L_{Aeq,15min}$

Location (External)	Construction Noise Management Level (NMLs)	Highly Noise Affected Noise Level
NCA01	56	75
NCA02	56	
NCA03	53	
NCA04	58	
School Classroom	70	-
Commercial	70	-

If required, out of hours construction permits will be sought from the relevant authorities.

4.2 Construction Vibration Criteria

Criteria for assessment of the effects of vibration on human comfort are set out in British Standard 6472-1992. Methods and criteria in that Standard are used to set "preferred" and "maximum" vibration levels in the document "*Assessing Vibration: A Technical Guideline*" (2006) produced by the NSW EPA.

4.2.1 Cosmetic Damage

In terms of the most recent relevant vibration damage objectives, Australian Standard AS 2187: Part 2-2006 "*Explosives – Storage and Use – Part 2: Use of Explosives*" recommends the frequency dependent guideline values and assessment methods given in BS 7385 Part 2-1993 "*Evaluation and measurement for vibration in buildings Part 2*", as they "are applicable to Australian conditions".

The British Standard sets guide values for building vibration based on the lowest vibration levels above which damage has been credibly demonstrated. These levels are judged to give a minimum risk of vibration-induced damage, where minimal risk for a named effect is usually taken as a 95% probability of no effect.

The recommended limits (guide values) from BS7385 for transient vibration to ensure minimal risk of cosmetic damage to residential and industrial buildings are presented numerically in **Table 4-3**.

Table 4-3: Transient Vibration Guide Values – Minimal Risk of Cosmetic Damage

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**	50mm/s at 4 Hz and above	N/A
Un-reinforced or light framed structures **Residential or light commercial type buildings**	15mm/s at 4 Hz increasing to 20mm/s at 15 Hz	20mm/s at 15 Hz increasing to 50mm/s at 40 Hz and above

The Standard states that the guide values in **Table 4-3** relate predominantly to transient vibration which does not give rise to resonant responses in structures, and to low-rise buildings.

The British Standard goes on to state that "*Some data suggests that the probability of damage tends towards zero at 12.5 mm/s peak component particle velocity*". In addition, a building of historical value should not (unless it is structurally unsound) be assumed to be more sensitive.

4.2.2 Human Exposure

Acceptable values of human exposure to continuous vibration, such as that associated with drilling, are dependent on the time of day and the activity taking place in the occupied space (e.g. workshop, office, residence or a vibration-critical area). Guidance on preferred values for continuous vibration are set out in **Table 4-4**.

Table 4-4: Criteria for Exposure to Continuous Vibration

Place	Time	Peal Particle Velocity (mm/s)	
		Preferred	Maximum
Critical working areas (e.g. hospital operating theatres precision laboratories)	Day or night time	0.14	0.28
Residences	Daytime	0.28	0.56
	Night time	0.20	0.40
Offices	Day or night time	0.56	1.1
Workshops	Day or night time	1.1	2.2

In the case of intermittent vibration, which is caused by plant such as rock breakers, the criteria are expressed as a Vibration Dose Value (VDV) and are presented in **Table 4-5**.

Table 4-5: Acceptable Vibration Dose Values for Intermittent Vibration ($m/s^{1.75}$)

Location	Daytime		Night Time	
	Preferred Value	Maximum Value	Preferred Value	Maximum Value
Critical Areas (e.g. operating theatres)	0.10	0.20	0.10	0.20
Residences	0.20	0.40	0.13	0.26
Offices, schools, educational institutions, and places of worship	0.40	0.80	0.40	0.80
Workshops	0.80	1.60	0.80	1.60

Calculation of VDV requires knowledge of the number of events and their duration in the relevant time period.

5 CONSTRUCTION NOISE ASSESSMENT

This section of the assessment relates to typical construction activities expected to occur during works on the site, and their impact on residential receivers.

5.1 Construction Equipment and Noise Source Levels

Sound power levels (SWLs) for the typical operation of construction equipment applied in the modelling are listed **Table 5-1**. These SWLs have been based on measurements conducted by RWDI.

Table 5-1 Construction Scenarios for Construction Works for New DaCA Building

Stage	Equipment	Operating minutes in 15-min period	Quantity	Sound Power Level (dB)		
				Individual Item (SWL)	L_{Aeq} Activity	Total L_{Aeq}
Early Works – relocation of existing services	8-ton excavator	7.5	1	99	96	105
	Truck (with trailer)	7.5	1	107	104	
Demolition and Tree Removal	Jackhammers	5	1	110	105	109
	Power tools	7.5	1	100	97	
	18t excavators with buckets, rippers and hammers	7.5	1	106	103	
	Truck and dog trailers	7.5	1	107	104	
Shoring and Piling	20t piling rig	7.5	1	111	108	113
	Concrete trucks	7.5	1	112	109	
	18t excavator	7.5	1	106	103	
	Delivery trucks	5	1	108	103	
Excavation, Anchors, and Shotcrete	18t excavators with buckets, rippers and hammers	7.5	1	117	114	116
	Truck and dog trailers	7.5	1	107	104	
	Concrete trucks	10	1	112	110	
	Shotcrete (pneumatic application)	7.5	1	106	103	
	Concrete trucks	10	1	112	110	114
	Concrete boom pumps	10	1	112	110	

Stage	Equipment	Operating minutes in 15-min period	Quantity	Sound Power Level (dB)		
				Individual Item (SWL)	L_{Aeq} Activity	Total L_{Aeq}
Structure Works Construction	Reinforcement delivery trucks	7.5	1	107	104	
	Formwork delivery trucks	7.5	1	107	104	
	Hand Tools	5	1	98	93	

5.2 Construction Noise Predictions

Assessment of likely noise generation at surrounding receivers has been undertaken for the proposed construction works.

Site-related noise emissions were calculated addressing the following factors:

- Equipment sound level emissions and location;
- Receiver locations;
- Distance between source and receiver;
- Screening effect (existing barriers and buildings).

Calculations have been conducted for each stage with plant items operating across the construction site.

The construction noise predictions are shown in **Table 5-2** to

Table 5-5. Exceedances of the NMLs during recommended standard construction hours have also been listed.

Table 5-2: Predicted Construction Noise Level – Early Works, Demolition, and Tree Removal

Receiver	Predicted External Noise Levels	NML, dBA	Exceedance of NML, dBA	Highly Noise Affected NML, dBA	Exceedance of Highly Noise Affected NML, dBA
NCA01	46-61	56	0-5	75	-
NCA02	64-72	56	8-16	75	-
NCA03	34-45	53	-	75	-
NCA04	31-36	58	-	75	-
Senior School	36-74	70	0-4	-	-
Junior School	45-50	70	-	-	-
Bethany Centre	49-55	70	-	-	-

Table 5-3: Predicted Construction Noise Level – Shoring/Piling

Receiver	Predicted External Noise Levels	NML, dBA	Exceedance of NML, dBA	Highly Noise Affected NML, dBA	Exceedance of Highly Noise Affected NML, dBA
NCA01	49-64	56	0-8	75	-
NCA02	67-72	56	11-16	75	-
NCA03	38-51	53	-	75	-
NCA04	34-39	58	-	75	-
Senior School	39-76	70	0-6	-	-
Junior School	52-55	70	-	-	-
Bethany Centre	55-60	70	-	-	-

Table 5-4: Predicted Construction Noise Level – Excavation, Anchors, and Shotcrete

Receiver	Predicted External Noise Levels	NML, dBA	Exceedance of NML, dBA	Highly Noise Affected NML, dBA	Exceedance of Highly Noise Affected NML, dBA
NCA01	50-66	56	0-10	75	-

NCA02	69-75	56	13-19	75	-
NCA03	40-52	53	-	75	-
NCA04	37-41	58	-	75	-
Senior School	42-78	70	0-8	-	-
Junior School	53-57	70	-	-	-
Bethany Centre	56-61	70	-	-	-

Table 5-5: Predicted Construction Noise Level – Structure Works

Receiver	Predicted External Noise Levels	NML, dBA	Exceedance of NML, dBA	Highly Noise Affected NML, dBA	Exceedance of Highly Noise Affected NML, dBA
NCA01	50-65	56	0-9	75	-
NCA02	68-73	56	12-17	75	-
NCA03	39-52	53	-	75	-
NCA04	35-40	58	-	75	-
Senior School	41-77	70	0-7	-	-
Junior School	53-57	70	-	-	-
Bethany Centre	56-61	70	-	-	-

5.3 Discussion of Results

The greatest potential noise impacts from construction will be on the top floor of the residential development at 17 Margaret St, on the residential property at 15 Margaret Street, and on the Meriden Senior School Buildings. Throughout the demolition and construction period, careful management will be required to minimise impact at these receivers.

A review of the predicted noise level range indicates noise-affected NML exceedances of up to 19 dBA at residential receivers may occur. This exceedance is not unusual for construction works in a relatively quiet residential area and can be mitigated by the construction noise management procedures detailed in the following sections.

Predicted noise levels at the external façade of the Meriden Senior school classrooms will be up to 77 dBA and are likely to exceed the recommended noise limits at times, due to the close proximity of works.

Recommended mitigation measures are discussed in section 8.

6 CONSTRUCTION VIBRATION IMPACTS

Of all the equipment used, the 18 tonne excavator with a hydraulic hammer attachment would be expected to generate the highest levels of vibration.

The Transport for NSW *Construction Noise and Vibration Strategy* suggests safe working distances between items of plant used for construction and vibration sensitive receivers. If these safe working distances are maintained, no adverse impacts from vibration intensive works are likely to occur at receivers in terms of human response or cosmetic damage.

The safe working distances shown in **Table 6-1** are recommended to be adopted as criteria for the proposed works. Provided the works occur outside of these setback distances, adverse vibration impacts are not expected.

Table 6-1: Safe Working Distances of Vibration Intensive Equipment

Plant	Rating/Description	Cosmetic Damage	Human Response
Small Hydraulic Hammer	300kg, 5-12t Excavator	2 m	7 m
Medium Hydraulic Hammer	900kg, 12-18t Excavator	7 m	23 m
Large Hydraulic Hammer	1600kg, 18 to 34t excavator	22 m	73 m

Furthermore, **Table 6-2** summarises vibration levels at given distances from a heavy hydraulic rock hammer operating in Sydney sandstone, based on measurements undertaken by RWDI.

Table 6-2: Measured Vibration Levels from Hydraulic Rock Hammering

Operation	Vibration Velocity Level (mm/s) at Given Distances					
	5 m	10 m	20 m	30 m	40 m	50 m
Heavy Hydraulic Rock Hammer (eg. 1500 kg)	5.8	2.4	1.0	0.6	0.4	0.3

With respect to vibration impacts, **Table 6-3** identifies the setback distances to the nearest receivers.

Table 6-3: Distance between Vibration Intensive Works & Nearest Building Type

Meriden School Senior Campus Buildings	Residential properties
6 m	8 m

6.1 Cosmetic Damage

With consideration to the minimum setback distances as per **Table 6-1**, the vibration levels from **Table 6-2** shows indicatively that hydraulic hammering may be undertaken without exceeding the adopted cosmetic damage criteria of BS7385 (refer to section **Table 4-3**).

It is recommended that vibration intensive activities (such as use of the 18 tonne excavator with a hydraulic hammer attachment) should not be undertaken within 7 m of the sensitive buildings. At this distance, a vibration velocity of approximately 3.8 mm/s is predicted, which is below the cosmetic damage goals of 7.5 mm/s.

The risk of cosmetic damage to buildings is considered to be low as the predicted peak vibration velocity levels are expected to be below the identified conservative criteria for this project and likely to possess a dominant frequency above 50 Hz. Notwithstanding this, the actual level of vibration that may arise is dependent on a number of variables such as the type and weight of hammer selected, the hammer's operational settings, distance from the source and geological conditions.

When the use of hammers is required within 20 m of any structure, it is recommended to undertake vibration monitoring to ensure that levels do not exceed criteria. Further details regarding this are provided in Section 9.

6.2 Human Exposure

Predicted vibration levels are within the range where a low probability of adverse comment is expected.

Targeted consultation with the on-campus stakeholders will be undertaken prior to and during vibration generating works and vibration monitoring will be undertaken during vibration intensive works if within 23 m of any buildings. Further details regarding this are provided in Section 9.

7 OFF-SITE TRAFFIC ASSESSMENT

Noise from traffic associated with the proposed construction/demolition would be minimised as much as practicable by limitations on construction hours and Australian Design Rules, which apply to road-registered vehicles. Additionally, the logistics of truck movements will be carefully managed to avoid trucks idling in local streets.

With consideration to the indicative works programme, for the purpose of assessment up to four truck movements per hour have been assumed (i.e. two movements each way per hour).

Truck speeds would be limited by the imposed local speed limits along the local roads. Based on these limits, the identified truck volumes and typical setback distance to the residential facades, it is predicted that the $L_{Aeq,1hour}$ 55 dBA daytime criterion considered by this assessment would be met.

Additionally, it is considered that on the public roads surrounding the site, the noise contribution from the project truck movements may generate less than a 2 dB increase with respect to existing traffic noise levels. This is based on the assumption that drivers operate with reasonable due care and attention.

8 NOISE AND VIBRATION CONTROL METHODS

8.1 Noise and Vibration Control

The determination of appropriate noise control measures will be dependent on the particular activities and construction appliances. This section provides an outline of available methods.

8.1.1 Construction Noise & Vibration Mitigation Measures

Without mitigation, noise levels from construction activities have been predicted to exceed the noise management levels nominated in the guidelines at some surrounding receivers. Therefore, noise control measures are recommended to ensure that noise is reduced where feasible.

The following project specific mitigation measures are recommended:

- *Operator Instruction* – Operators should be trained in order to raise their awareness of potential noise problems and to increase their use of techniques to minimise noise emission.
- *Equipment Selection* – All fixed plant at the work sites should be appropriately selected, and where necessary, fitted with silencers, acoustical enclosures, and other noise attenuation measures in order to ensure that the total noise emission from each work site complies with EPA guidelines.
- *Site Noise Planning* – Where practical, the layout and positioning of noise-producing plant and activities on each work site should be optimised to minimise noise emission levels.

The adoption of the above measures is aimed at working towards achieving the noise management levels established at surrounding receivers.

8.1.2 Site Specific Noise Mitigation Measures

Classroom windows will remain closed as much as possible to maximise the noise reduction.

Regular liaison with the school in regard to provision of specific respite periods during critical periods (i.e. exams) is recommended. School management has provided dates for which are detailed in **Table 8-1**. The contractor is to maintain active communication with the school during these periods to ensure noise from construction does not impact the students.

Table 8-1: School Noise Sensitive Periods

Date	Time	Location	Comments
5 September 2023	From 10am	GCMD	Exams – No noise works permitted
13 September 2023	All day	GCMD	Exams – No noise works permitted
14 September 2023	9.30am-1.30pm	Wallis Hall	Exams – No noise works permitted
11 October 2023 to 3 November 2023	-	-	Written examination period
6 December 2023	9.00am-10.00am	Wallis Hall	Junior School Prize Giving

8.1.3 Selection of Alternate Activity or Process

Where a particular activity or construction appliance is found to generate excessive noise levels, it may be possible to select an alternative approach or appliance. For example, the use of a hydraulic hammer on certain areas of the site may potentially generate high levels of noise. By carrying out this activity by use of pneumatic hammers, lower levels of noise are expected.

8.1.4 Acoustic Barrier

Additional barriers or screens can be an effective means of reducing noise. Barriers can be located either at the source or receiver. The placement of barriers at the source is generally only effective for static plant. Mobile equipment cannot be effectively attenuated by placing barriers at the source.

The degree of noise reduction provided by barriers is dependent on the amount by which line of sight can be blocked by the barrier. If the receiver is totally shielded from the noise source reductions of up to 15 dBA can be effected. Where only partial obstruction of line of sight occurs, noise reductions of 5 to 8 dBA may be achieved. As barriers are used to provide shielding and do not act as an enclosure, the material they are constructed from should have a noise reduction performance that is approximately 10d BA greater than the maximum reduction provided by the barrier. In this case the use of a material such as 10 mm or 15 mm thick plywood would be acceptable for such barriers.

8.1.5 Silencing Devices

Where construction activities or plant are noisy, the use of silencing devices may be possible. These may take the form of engine shrouding, or special industrial silencers fitted to exhausts.

8.1.6 Material Handling

The installation of rubber matting over material handling areas can reduce the sound of impacts due to material being dropped by up to 20dBA.

8.1.7 Treatment of Specific Equipment

In certain cases, it may be possible to specially treat a piece of equipment to dramatically reduce the sound levels emitted.

8.1.8 Noise and Vibration Monitoring

Where required, noise and vibration monitoring can be undertaken to determine the effectiveness of any control measures implemented. The results of monitoring can be used to devise further control measures.

9 CONSTRUCTION MANAGEMENT PROCESSES

9.1 Community Consultation

Consultation with and the provision of information to the surrounding community is regarded as a major factor in controlling the negative reaction to the inevitable impacts associated with a construction site.

In order for any construction noise management programme to work effectively, continuous communication is required between all parties which may be potentially impacted upon including the builder, school and surrounding residential receivers. This establishes a dynamic response process which allows for the adjustment of control methods and criteria for the benefit of all parties.

The objective in undertaking a consultation process is to:

- Inform and educate the groups about the project and the noise controls being implemented;
- Increase understanding of all acoustic issues related to the project and options available;
- Identify group concerns generated by the project, so that they can be addressed; and
- Ensure that concerned individuals or groups are aware of and have access to the Complaints Register which will be used to address any construction noise related problems should they arise.

To ensure that this process is effective, regular information regarding the proposed works and period when they will be required to be conducted should be provide to neighbouring receivers.

9.2 Response to Complaints

Should ongoing complaints of excessive noise and vibration impacts occur measures can be undertaken to investigate the complaint, the cause of the complaint identified and changes to work practices implemented. In the case of exceedances of the vibration limits, all work potentially producing vibration shall cease until the exceedance is investigated.

The effectiveness of any changes shall be verified before continuing. Documentation and training of site staff shall occur to ensure the practices that produced the exceedances are not repeated.

If a noise and vibration complaint is received the complaint shall be recorded. The complaint form shall list:

- The name and location of the complainant (if provided);
- The time and date the complaint was received;
- The nature of the complaint and the time and date it occurred;
- The name of the employee who received the complaint;
- Actions taken to investigate the complaint, and a summary of the results of the investigation;
- Required remedial action, if required;
- Validation of the remedial action by a consultant or as detailed in this report; and
- Summary of feedback to the complainant.

A permanent register of complaints shall be held. All complaints received shall be fully investigated and reported to management. The complainant shall also be notified of the results and actions arising from the investigation.

The investigation of a complaint shall involve where applicable;

- Noise and/or vibration measurements at the affected receiver;
- an investigation of the activities occurring at the time of the incident;
- inspection of the activity; and
- whether work practices were being carried out either within established guidelines or outside these guidelines.

9.3 Environmental Inductions

It is important that an induction is provided to all site personnel, contractors and sub-contractors with an emphasis on understanding and managing impacts. This shall include the location of sensitive receivers, specific mitigation measures, site hours and complaints procedure.

9.4 Monitoring

9.4.1 Construction Noise Monitoring

Where determined necessary, noise monitoring should generally be undertaken on an attended basis (minimum of 15 minutes at each location), in order to differentiate between construction noise sources and other sources, such as road traffic noise, and in order to observe and identify any abnormally noisy construction equipment or operations.

During the attended monitoring, typical maximum noise levels associated with particular plant items should be noted as well as the L_{Aeq} descriptor. Where possible, extraneous noise events such as road traffic noise should be excluded from the results or highlighted in accompanying notes.

Noise monitoring of construction noise during normal construction hours will be conducted by a qualified acoustic consultant at locations representative of nearby receivers.

The results of measurements will be documented along with any recommendations for mitigation. Any mitigation will be determined in consultation with the site Project Manager.

Noise monitoring will be conducted in response to complaints from nearby identified receivers.

The results of all noise monitoring will be compared with established noise management level to determine appropriate actions.

Monitoring must be conducted with equipment (Class 1) that holds current NATA calibration. The time of day, duration and weather shall be noted as well as the contribution from construction activities.

9.4.2 Construction Vibration Monitoring

Where determined necessary, attended vibration monitoring can be undertaken if vibration sensitive activities are undertaken within 20 m of any buildings. If necessary, typical peak and RMS vibration velocity levels associated with particular plant items / processes can be measured in all 3 orthogonal directions. Where possible, extraneous events should be excluded from the results, or highlighted in accompanying notes. This can be conducted using vibration loggers which would practically be located as close to the foundation of the

sensitive building as possible, facing the vibration source. In addition, attended measurements are to be undertaken to confirm the event being measured and to conduct specific VDV / RMS / peak velocity measurements to confirm a transfer function from outside to inside. These measurements are to confirm that the VDV goals are being achieved and as such need to be conducted in the middle of the floor within the typically worst impacted receiver. Given the difficulty in obtaining acess for such measurements and inconvenience to the occupants, up to 1hr for these attended measurements would be sufficient.

In all cases, monitoring must be conducted with equipment that holds current calibration certificates and that can simultaneously measure in all three orthogonal directions and measure the dominant frequency. The time of day, duration and weather shall be noted as well as the contribution from construction activities.

Vibration monitoring of vibration intensive construction activities will be conducted by a qualified acoustic consultant at locations representative of nearby receivers.

The results of measurements will be documented along with comparison with goals, any recommendations for mitigation or remodeling.

In the event of appreciable vibration levels arising, measures would be put in place to reduce vibration to within acceptable levels. Such measures may include reducing hammer size, changing operational settings, using other plant in lieu of hydraulic hammers or a combination of these.

10 SUMMARY OF MITIGATION MEASURES

10.1 Noise Control Measures

The noise and vibration mitigation measures to be implemented by the building contractor are summarised in **Table 10-1**.

Table 10-1: Noise and Vibration Mitigation Measures

Item	Description
Construction Hours	Works will be carried out within the approved construction hours.
Deliveries	Deliveries will be carried out within the approved construction hours.
Exams	No noisy work should be carried out during exam periods, as detailed in section 8.1.2
Site Layout	Where possible, plant and equipment will be located and orientated to direct noise away from sensitive receivers.
Quietest Suitable Equipment	Plant and equipment will be selected to minimise noise emission, where possible, whilst maintaining efficiency of function. Residential grade silencers may be fitted, and all noise control equipment will be maintained in good order.
Reversing Alarms	Mobile plant and trucks operating on site for a significant portion of the project will have reversing alarm noise emissions minimised where possible, recognising the need to maintain occupational safety standards. Alternatives to standard reversing alarms are to be considered.
PA System	No public address system will be used at this site.
Vibration Buffer Zones	General safe working distances for vibration intensive activities are described in section 6. Monitoring is recommended to confirm these buffer zones at locations where buildings are closest.
Vibration Monitoring	If required, vibration monitoring will be carried out where any vibration intensive activities are required to be carried out within the established buffer zones, or where there is considered to be a risk that vibration levels may exceed the relevant structural damage criteria.
Truck Noise (off site)	All trucks regularly used for the project are to have mufflers and all noise control equipment will be maintained in good working order. Trucking routes will use main roads, where feasible.
Community Liaison	A programme of community liaison and complaint response will be implemented when required.

11 CONCLUSION

This CNVMP assesses the potential for noise and vibration impacts that may result to surrounding residences and school buildings from the construction of the Meriden DaCA building.

The potential for impacts from the proposed works has been assessed against the relevant standards and guidelines detailed in Section 4.

Sections 8, 9, and 10 of this report specifically outline measures to mitigate and manage noise (and vibration) impacts during construction.

12 STATEMENT OF LIMITATIONS

This report entitled Meriden School Design and Creative Arts Building Construction Noise and Vibration Management Plan was prepared by RWDI Australia Pty Ltd ("RWDI") for Meriden School ("Client"). The findings and conclusions presented in this report have been prepared for the Client and are specific to the project described herein ("Project"). The conclusions and recommendations contained in this report are based on the information available to RWDI when this report was prepared. Because the contents of this report may not reflect the final design of the Project or subsequent changes made after the date of this report, RWDI recommends that it be retained by Client during the final stages of the project to verify that the results and recommendations provided in this report have been correctly interpreted in the final design of the Project.

The conclusions and recommendations contained in this report have also been made for the specific purpose(s) set out herein. Should the Client or any other third party utilize the report and/or implement the conclusions and recommendations contained therein for any other purpose or project without the involvement of RWDI, the Client or such third party assumes any and all risk of any and all consequences arising from such use and RWDI accepts no responsibility for any liability, loss, or damage of any kind suffered by Client or any other third party arising therefrom.

Finally, it is imperative that the Client and/or any party relying on the conclusions and recommendations in this report carefully review the stated assumptions contained herein and to understand the different factors which may impact the conclusions and recommendations provided.

13 Construction Soil and Water Management Plan – Consultation Records (Strathfield Council)

Koleena Ng

From: Strathfield Municipal Council <council@strathfield.nsw.gov.au>
Sent: Monday, 7 August 2023 10:05 AM
To: Koleena Ng
Cc: Nick Zambounis; Alice Lu
Subject: RE: Meriden School DaCA - CC1 - Construction Soil and Water Management Plan

Hi Koleena,

I have spoken to Council Engineer Heath who advises the proposed Construction Soil and Water Management Plan is considered to be satisfactory.

Regards,

Hala Gourani | *Administration Officer*
P +612 9748 9659
65 Homebush Rd, Strathfield NSW 2135
www.strathfield.nsw.gov.au

From: Koleena Ng <koleena_ng@buildcorp.com.au>
Sent: Thursday, August 3, 2023 1:13 PM
To: Strathfield Municipal Council <council@strathfield.nsw.gov.au>
Cc: Nick Zambounis <nicholas_zambounis@buildcorp.com.au>; Alice Lu <alice_lu@buildcorp.com.au>
Subject: Meriden School DaCA - CC1 - Construction Soil and Water Management Plan

Good Afternoon,

As part of the Conditions for Construction Certificate 1 for the Meriden School Design and Creative Arts (DaCA) development at 28 Redmyre Rd, Strathfield, the Construction Soil and Water Management Plan is to be prepared in consultation with Strathfield Council.

Can you please review the attached which has been developed by our Structural and Civil Engineer and confirm this is acceptable. Your review and acceptance are required for Buildcorp to satisfy the below condition highlighted in green.

C20. The Applicant must prepare a Construction Soil and Water Management Plan (CSWMSP) and the plan must address, but not be limited to the following:

(a) be prepared by a suitably qualified expert, in consultation with Council;

(b) measures to ensure that sediment and other materials are not tracked onto the roadway by vehicles leaving the site;

(c) describe all erosion and sediment controls to be implemented during construction, as a minimum, in accordance with the publication Managing Urban Stormwater: Soils & Construction (4th edition, Landcom 2004) commonly referred to as the 'Blue Book';

(d) provide a plan of how all construction will be managed in a wet-weather events (i.e. storage of equipment, stabilisation of the site);

(e) detail all off-Site flows from the site; and

(f) describe the measures that must be implemented to manage stormwater and flood flows for small and large sized events up to the 1 in 100-year ARI.

Regards,
Koleena

Koleena Ng
Site Engineer
Buildcorp Contracting NSW
Tel: 02 9565 0000Mob: 0410 830 657

Acknowledgement of Country: Buildcorp acknowledges the Traditional Owners of the lands on which we work, live, and learn.
We honour their connection to the land, waters, and sky, and pay our respects to Elders past, present, and emerging, as we walk
together on Country in the spirit of reconciliation.

New South Wales	Level 4, 10 Mallett Street, Camperdown NSW 2050	Tel 02 9565 0000
Queensland	Level 8, 189 Grey Street, South Brisbane QLD 4101	Tel 07 3139 0800
Victoria	Level 18, 627 Chapel Street, South Yarra VIC 3141	Tel 03 9975 8800

Find us on

Buildcorp Foundation: Help us give even more together to tackle the spectrum of our mental health crisis.

END OF DOCUMENT