Narrabeen Education Precinct

Preliminary Construction Management Plan

JOHNSTAFF

Document Control

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1 Introduction

1.1 Purpose

School Infrastructure New South Wales (SINSW) proposes engaging a Head Contractor to undertake redevelopment of Narrabeen North Public School (NNPS) and Narrabeen Sports High School (NSHS) which constitute the Narrabeen Education Precinct development (the works). Upon engagement, the Head Contractor will be required to prepare a Construction and Environmental Management Plan (CEMP), which will detail the methodology for carrying out the works so as to minimise potential impacts of construction activities on teachers and students, neighbours and nearby residents, users of public footpaths and roads in the vicinity of the site, surrounding streets used to access the site and the environment.

This Preliminary Construction Management Report (PCMP) has been prepared by Johnstaff Projects Pty Ltd, on behalf of SINSW, for submission to Northern Beaches Council (Council) as supporting documentation for a Local Crown Development Application. The purpose of this PCMP is to outline the general construction management principles and controls to be implemented at the site.

1.2 Site information and Context

The subject sites are located at 6 and 10 Namona Street, North Narrabeen (referred to as the Narrabeen Education Precinct) and falls within the local government area of Northern Beaches Council. The Narrabeen Education Precinct has a total area of 9.84 hectares.

Narrabeen North Primary School (NNPS) is located on the northern side of Namona Street, North Narrabeen and is legally described as Lot 3 Deposited Plan (DP) 1018621. NNPS is surrounded by residential dwellings to the east, grassed sporting fields (Warriewood Valley Sportsground) to the north and Northern Beaches Indoor Sports Centre to the west. NNPS contains two (2) Binishell domes (Block A and Block B) which are identified as a local heritage item under the *Pittwater Local Environmental Plan 2014*. The two (2) Binishell Domes are listed as State significant on DoE's Section 170 Heritage and Conservation Register. The Double Binishell Dome (Block B) is listed on the State Heritage Register (SHR).

Narrabeen Sports High School (NSHS) is located on the southern side of Namona Street and is legally described as Lot 12 DP 1119562. NSHS is surrounded by Pittwater Road to the east, Pittwater Sports Centre to the south and Mullet Creek to the west.

Figure 1 – Aerial photo of the site outlining both school sites (Source: Nearmap)

2 Project Scope of Works

2.1 The Works

The following table sets out the project details.

Project Title	Narrabeen Education Precinct
Project Description	The proposed Narrabeen Education Precinct development includes redevelopment of Narrabeen North Public School (NNPS) and Narrabeen Sports High School (NSHS). The Public School and High School have been identified by the NSW Department of Education (DoE) as requiring upgrade works. The proposed development does not seek to increase staff or student numbers.
Scope of Work	The NNPS upgrade works include: • demolition of existing buildings (Blocks H and J); and • construction of three (3) new buildings; and • refurbishment of three (3) existing buildings (Blocks B, K and V). The NSHS upgrade works include: • addition of new two (2) storey extension to Building A; and • refurbishment of four (4) existing buildings (Buildings A, B, C and K).
Various Planning Pathways	The development works comprise of five (5) separate planning pathways including: • Tree Removal Development Application; • **Crown Development Application (DA)**; • Designated Development (DD); • Development without consent (REF); and • Exempt development.
Crown DA Scope	The works subject to Crown DA comprise of the following: • construction of new 2-storey Hall and Administration Building (NNPS); • new Covered Outdoor Learning Area (COLA) (NNPS); • Alterations and additions to Building A (Gymnasium) to create new stage for gymnasium and new two (2) storey addition comprising canteen, boys and girls changing rooms and staff room on the ground floor; and movement studio and two (2) new General Learning Spaces (GLS) on the first floor. Figures 2a and 2b on the following page indicates the proposed scope of work, highlighting the Crown DA works in orange.

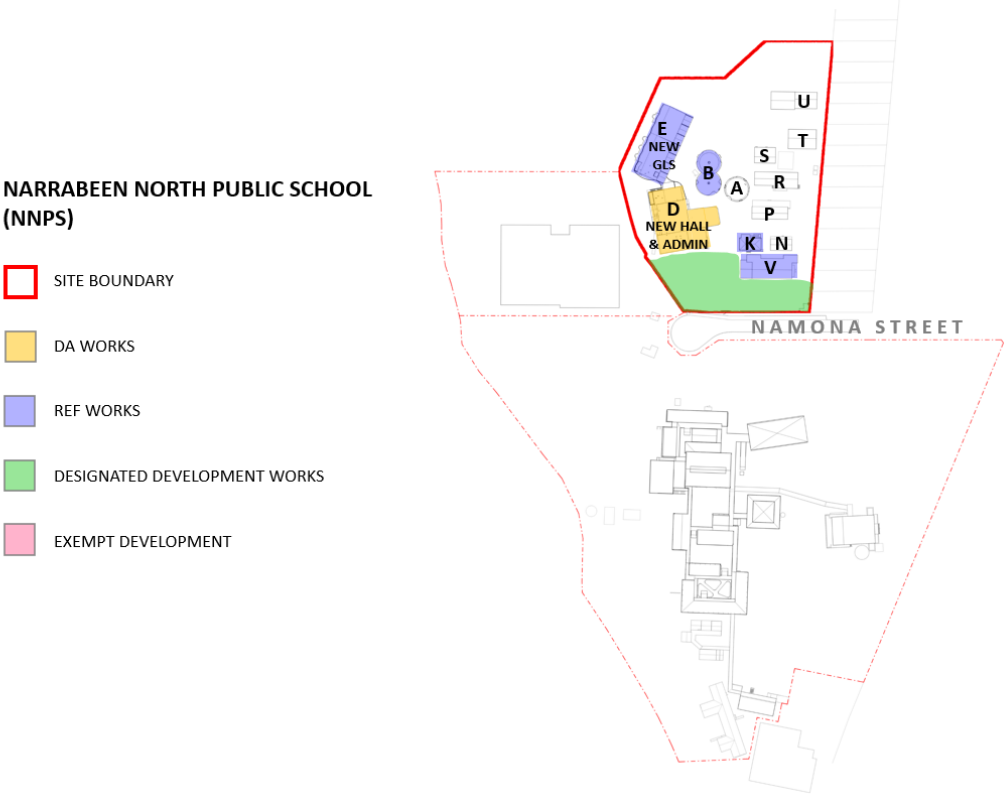


Figure 2a – Outline development proposal for Narrabeen North Public School (NNPS)

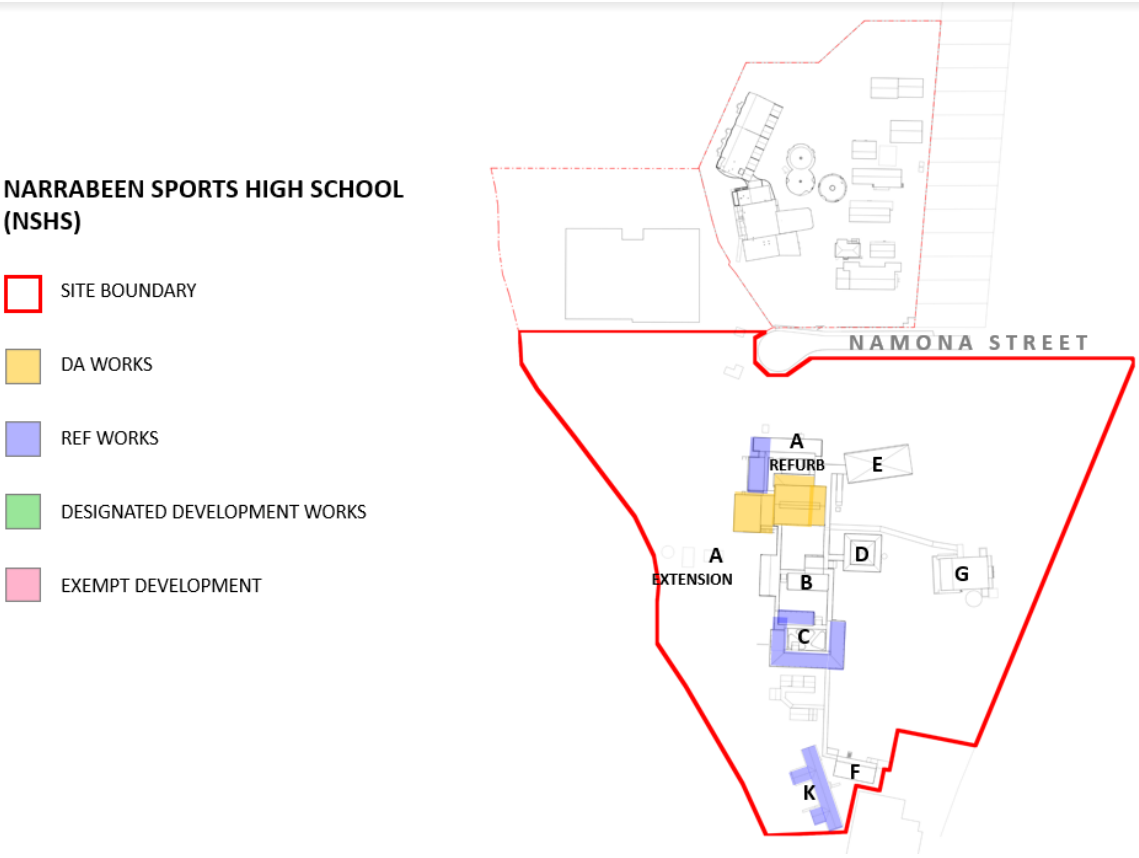


Figure 2b – Outline development proposal for Narrabeen Sports High School (NSHS)

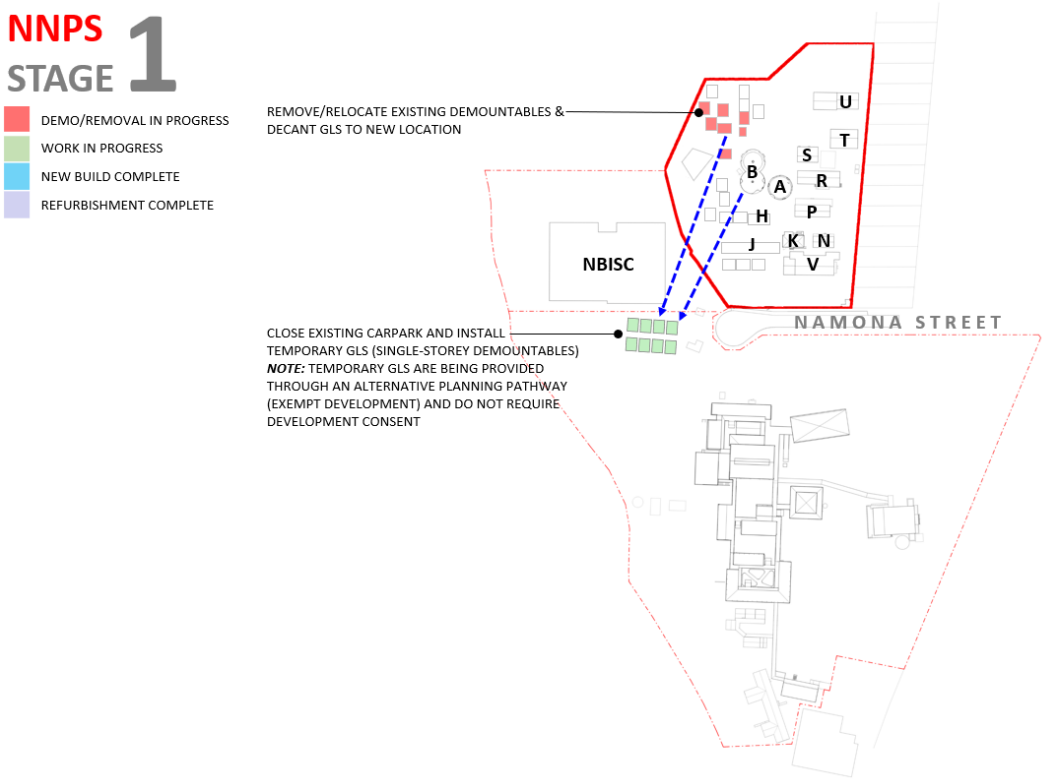
2.2 The Works Construction Staging

The project aims to maintain operational continuity for both schools, whilst deliver the project in a safe, effective, and efficient manner within a live operating environment. The installation and utilisation of temporary learning spaces and amenities are proposed to meet the school's enrolment demands during the construction period.

For NNPS, the works have been broadly divided into eight (8) stages as illustrated by Figure 3a on the following page.

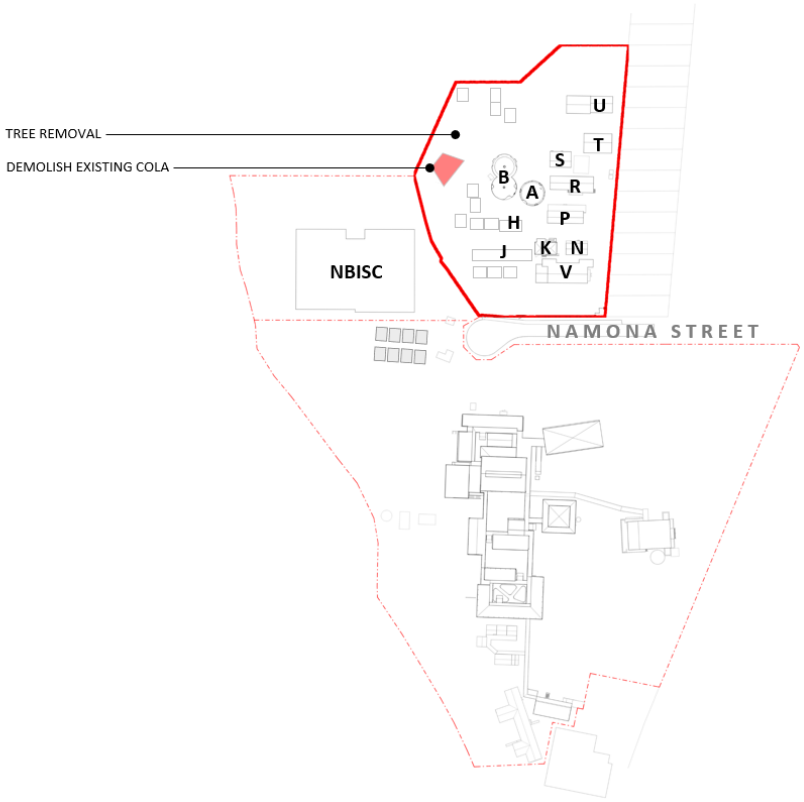
For NSHS, the works have been broadly divided into six (6) stages as illustrated by Figure 3b on the following page.

Figure 3a – NNPS proposed stages for construction works



NNPS STAGE 2

- DEMO/REMOVAL IN PROGRESS
- WORK IN PROGRESS
- NEW BUILD COMPLETE
- REFURBISHMENT COMPLETE

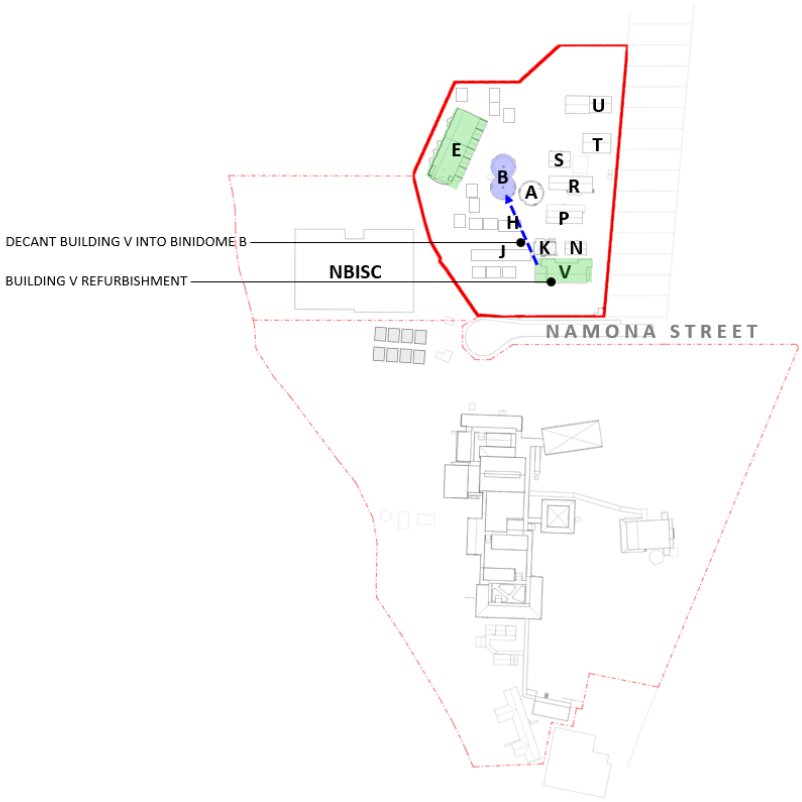


NNPS STAGE 3

- DEMO/REMOVAL IN PROGRESS
- WORK IN PROGRESS
- NEW BUILD COMPLETE
- REFURBISHMENT COMPLETE

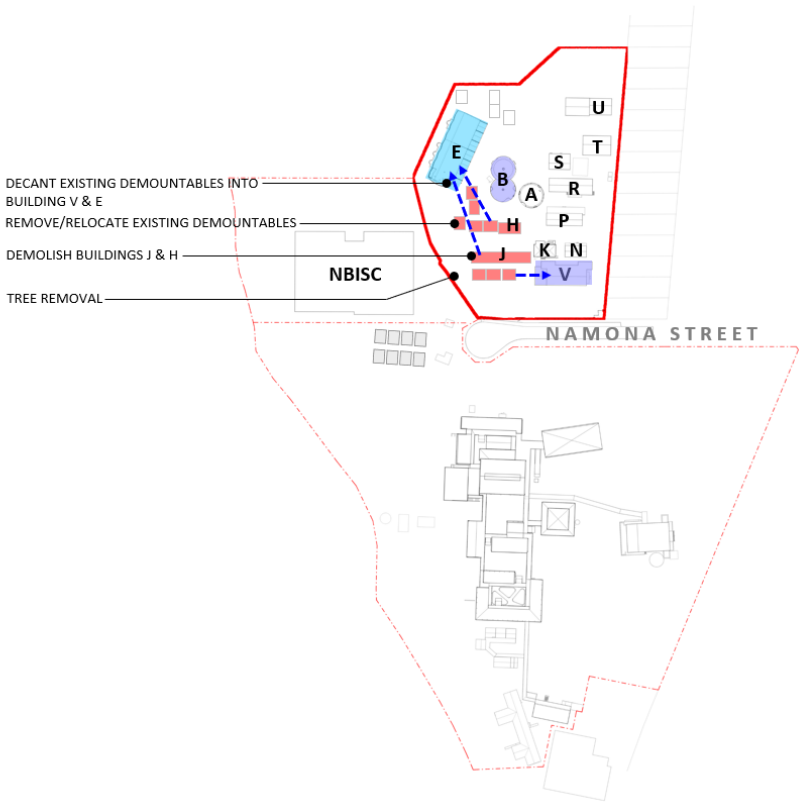
NNPS STAGE 4

- DEMO/REMOVAL IN PROGRESS
- WORK IN PROGRESS
- NEW BUILD COMPLETE
- REFURBISHMENT COMPLETE



NNPS STAGE 5

- DEMO/REMOVAL IN PROGRESS
- WORK IN PROGRESS
- NEW BUILD COMPLETE
- REFURBISHMENT COMPLETE

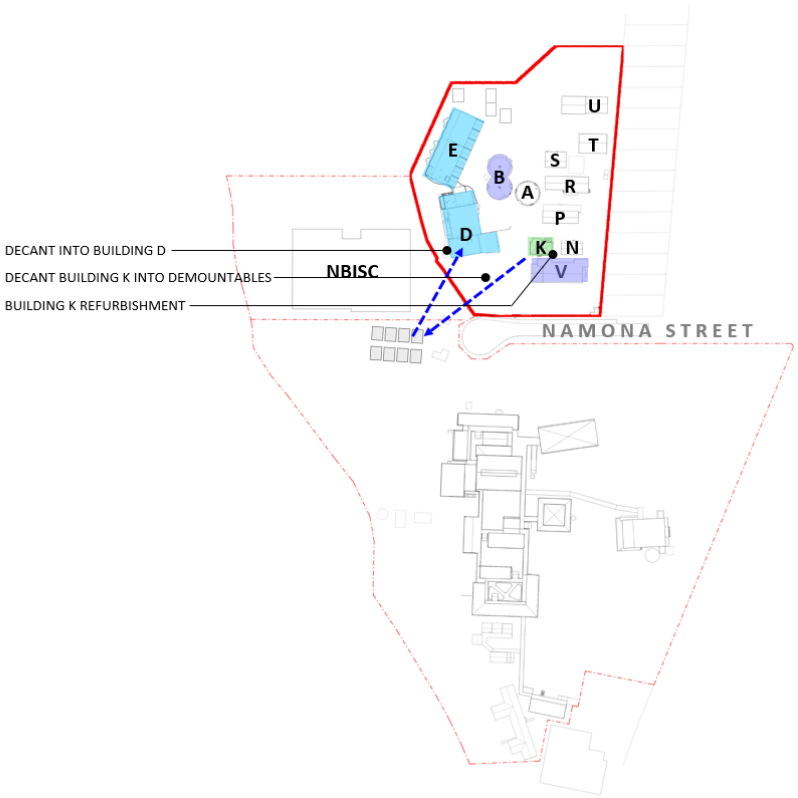


NNPS STAGE 6

- DEMO/REMOVAL IN PROGRESS
- WORK IN PROGRESS
- NEW BUILD COMPLETE
- REFURBISHMENT COMPLETE

NNPS STAGE 7

- DEMO/REMOVAL IN PROGRESS
- WORK IN PROGRESS
- NEW BUILD COMPLETE
- REFURBISHMENT COMPLETE



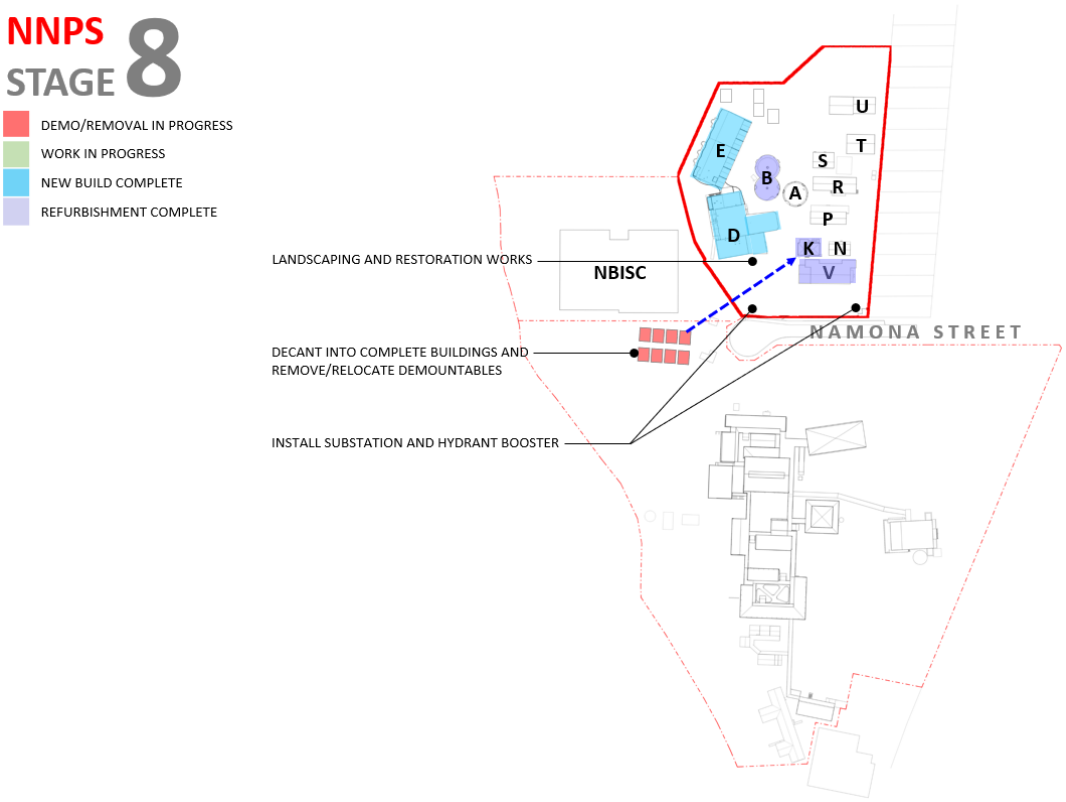
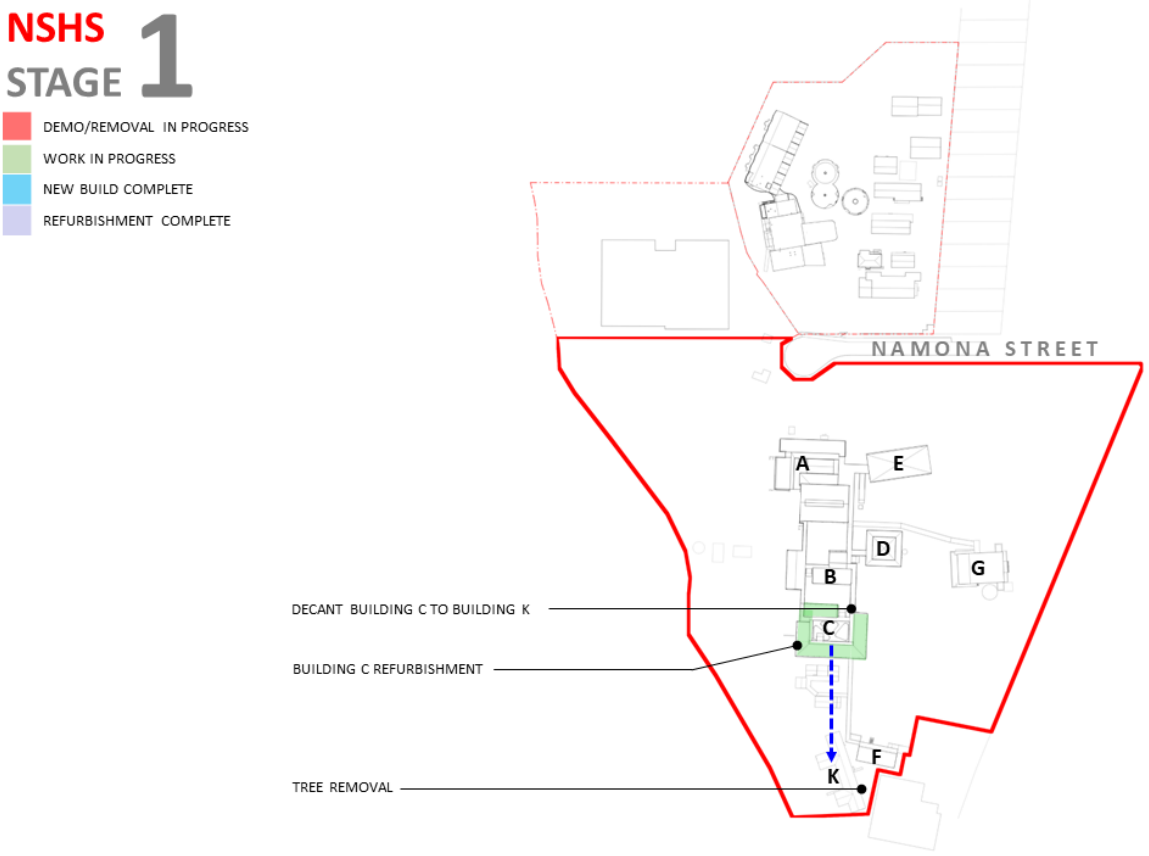
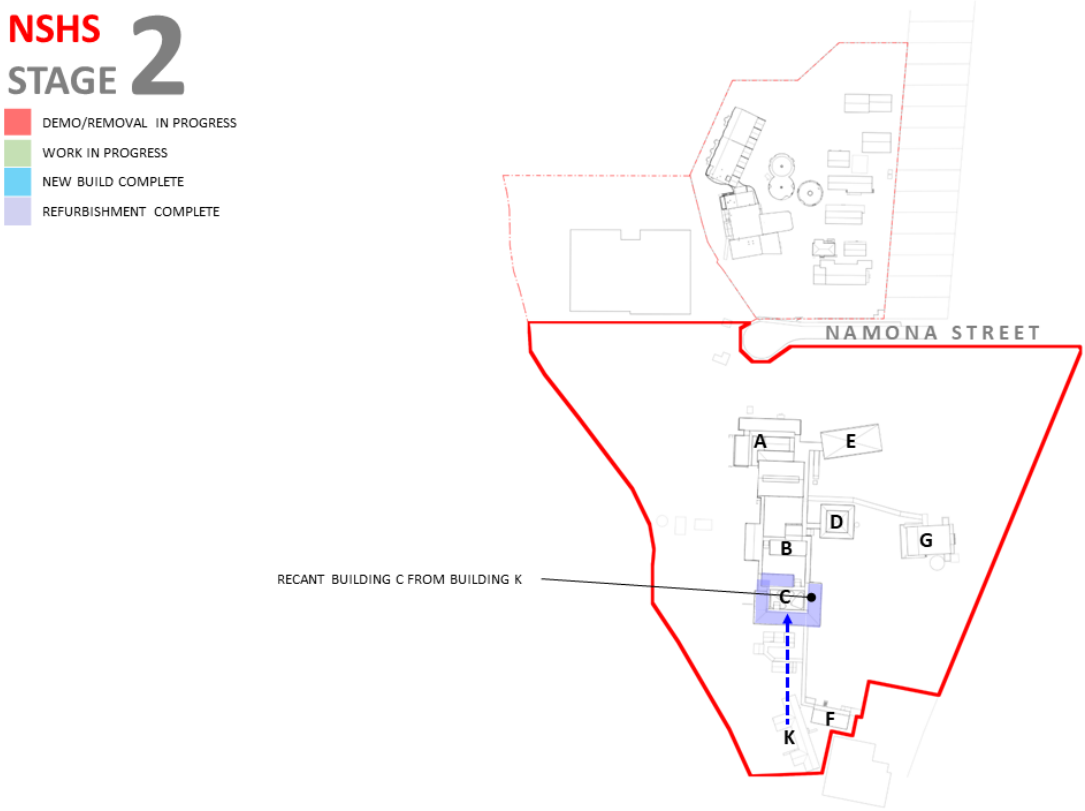

NNPS
STAGE 8
DEMO/REMOVAL IN PROGRESS
WORK IN PROGRESS
NEW BUILD COMPLETE
REFURBISHMENT COMPLETE
LANDSCAPING AND RESTORATION WORKS
NBISC
DECANT INTO COMPLETE BUILDINGS AND
REMOVE/RELOCATE DEMOUNTABLES
INSTALL SUBSTATION AND HYDRANT BOOSTER
NAMONA STREET
U
T
S
R
P
K
N
V
E
B
A
D

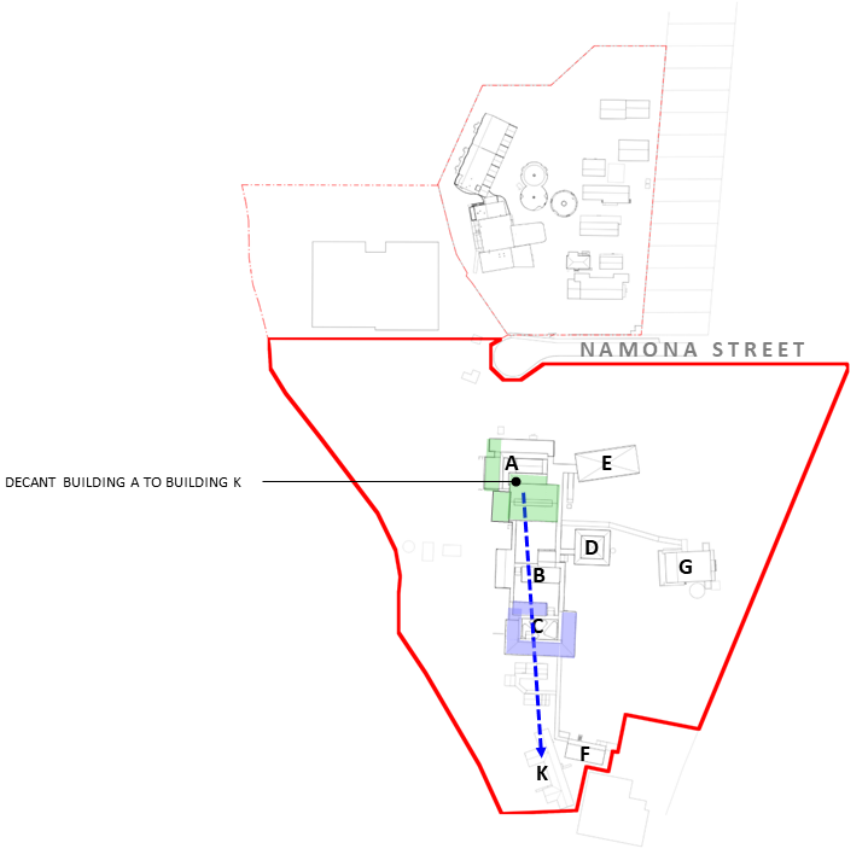
Figure 3b – NSHS proposed stages for construction works





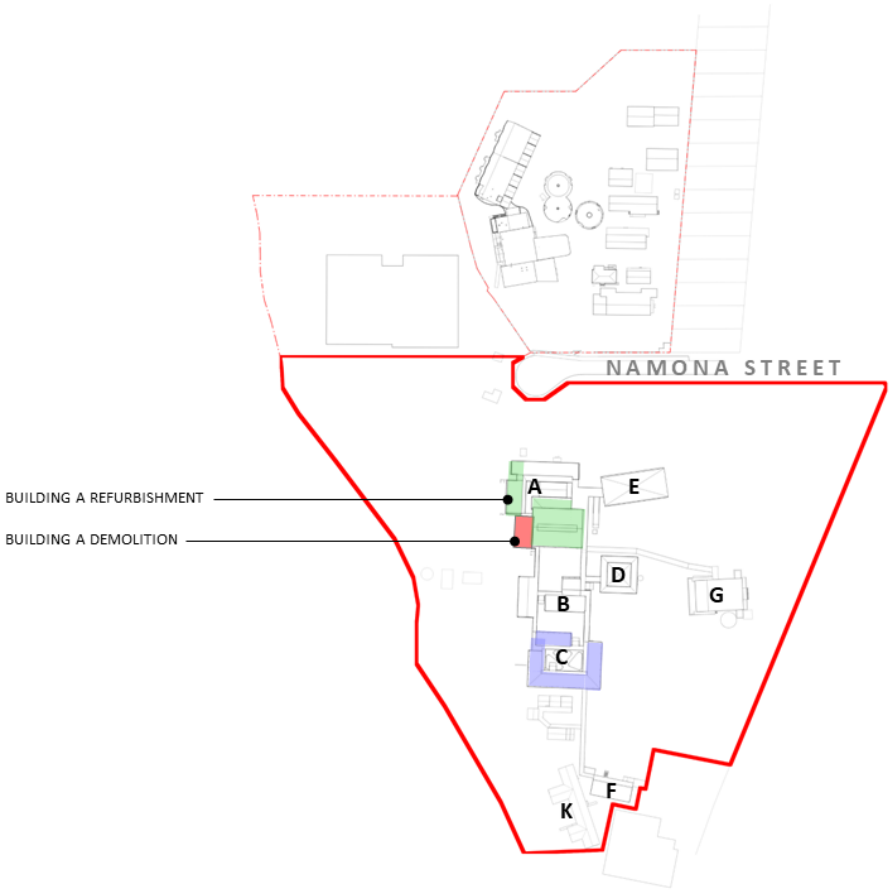
NSHS STAGE 3

- DEMO/REMOVAL IN PROGRESS
- WORK IN PROGRESS
- NEW BUILD COMPLETE
- REFURBISHMENT COMPLETE



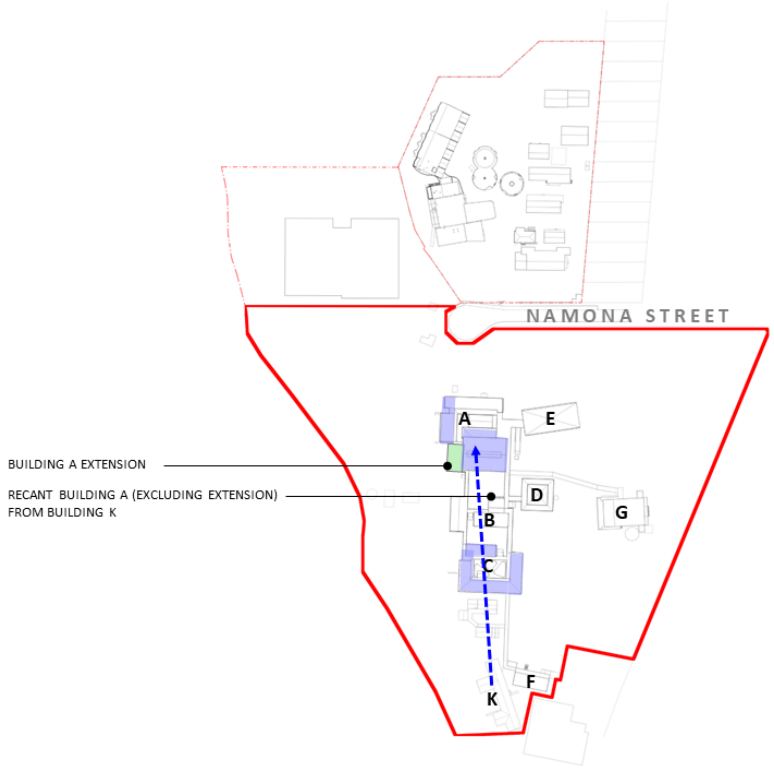
NSHS STAGE 4

- DEMO/REMOVAL IN PROGRESS
- WORK IN PROGRESS
- NEW BUILD COMPLETE
- REFURBISHMENT COMPLETE



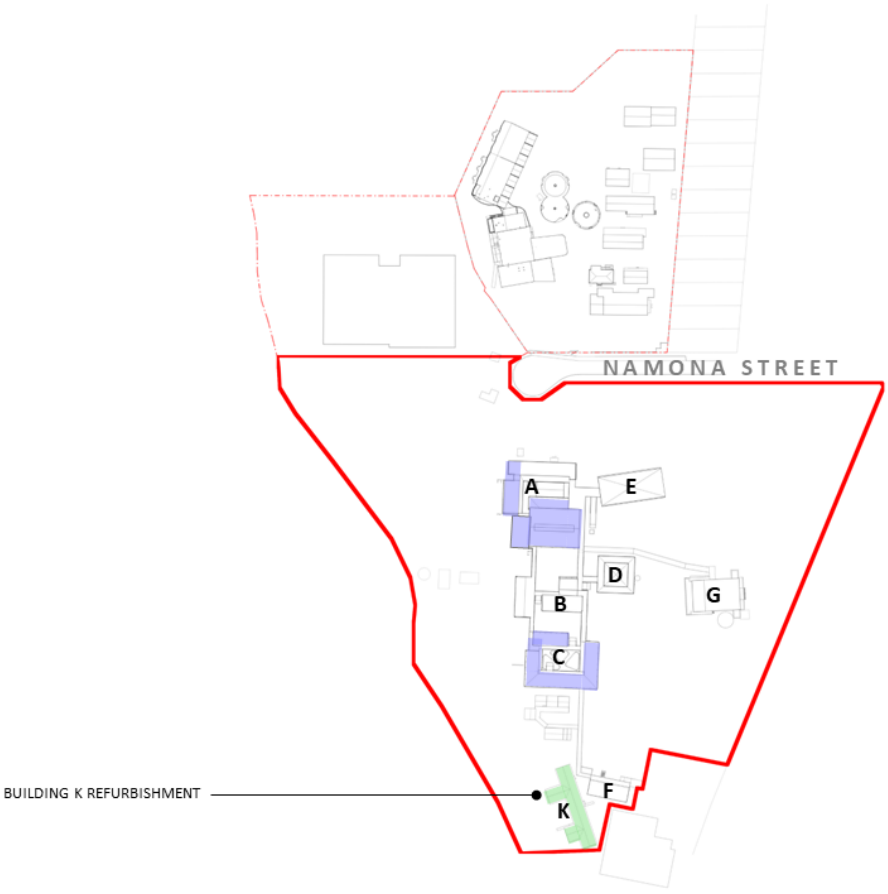
NSHS STAGE 5

- DEMO/REMOVAL IN PROGRESS
- WORK IN PROGRESS
- NEW BUILD COMPLETE
- REFURBISHMENT COMPLETE



NSHS STAGE 6

- DEMO/REMOVAL IN PROGRESS
- WORK IN PROGRESS
- NEW BUILD COMPLETE
- REFURBISHMENT COMPLETE



2.3 Construction Program

The following shows the indicative program milestone dates for the construction works.

Milestones for Narrabeen Education Precinct	Target Completion Date
Planning Approval Submission	September 2022
Site Establishment	February 2023
Proposed Construction Period	February 2023 to January 2024
Commencement of Operations	Day 1, Term 1, 2024

3 Responsibilities and Authorities

3.1 Roles and Responsibilities

Position	Responsibility
Project Manager	Comply with the group's WHS and Environmental Management Policies, Plans and Procedures. Ensure that safe work methods are adopted for all site activities. Participate in OHS meetings (i.e., toolbox talks etc). Participate in Safety Committee Meetings (i.e., meeting concluding safety walk). Ensure the appropriate safety equipment is worn by site personnel at all times. Identify and document potential risks to projects and develop effective control strategies to minimise risk. Understand the relevant project specifications and drawings. Monitor work against specifications to ensure the continuing quality and accuracy of work performed. Ensure construction works precede in accordance with all relevant contractual requirements. Management of construction progress and the successful completion of all nominated contracts. Ensure that quality levels are achieved in accordance with the contractual obligations, as well as the group's expectations. Ensure the timely processing of all progress claim valuations, variations, other relevant claims and subcontractor claims.
Head Contractor	Development of a formal Construction Environmental Management Plan prior to the commencement of Construction. The Construction Manager is responsible for the project's overall delivery. Complying with the group's OHS, Environmental, Quality, IR and Human Resources Management Systems. Ensuring construction works are completed in accordance with all relevant contractual requirements. Leading project teams to achieve desired project outcomes. Accepting full responsibility for the achievement of construction progress and the successful completion of all nominated contracts. Ensuring that quality levels are achieved in accordance with the contractual obligations, as well as the group's expectations. Ensuring that planning and scheduling of works occurs as required. Maximising the group's commercial position at each level and stage of the project. Development, review and submission of reports to the Project Manager as required. All other responsibilities as outlined in the relevant Position Description.
Forepersons / Sub Forepersons	Comply with the OHS and Environmental Management Policies, Plans and Procedures. Ensure that safe work methods are adopted by all parties in relation to all site activities. Participate in OHS meetings (i.e., toolbox talks etc). Complete site inductions in accordance with the group's requirements. Monitor work against specifications to ensure the continuing quality and accuracy of work performed. Notify the Project Manager/Construction Manager of any defects, mistakes, errors, contamination or variations identified. Ensure construction works proceed in accordance with all relevant contractual

	requirements. Ensure that quality levels are achieved in accordance with the contractual obligations, as well as the group's expectations. Undertake planning and scheduling of various works. Co-ordinate subcontractor/trade contractor works. Ensure correct set out for all building works. Provide Project Manager and or Construction Manager with regular reports on progress of building works.
Architect and Consultant Team	Manage and coordinate internal resources to support the requirements of the project. Facilitate client decisions to ensure coordination, deliverables and timing of outputs. Identify and manage commercial risk associated with design outputs and deliverables. Identify and manage risks related to safety in design. Assess and identify any gaps in consultant scopes and Agreements to confirm coordination across the design. Instigate and maintain standard preconstruction "management tools". Ensure Authorities obligations and requirements are being delivered in the design documents. Assist in the formulation of Ecological Sustainable Development (ESD) initiatives required to achieve project targets and obligations. Monitor ESD deliverables for incorporation in design outputs and construction obligations.

3.2 Project Organisation Chart

The Project Organisation Chart is provided below and outlines the key project groups and their relationships.

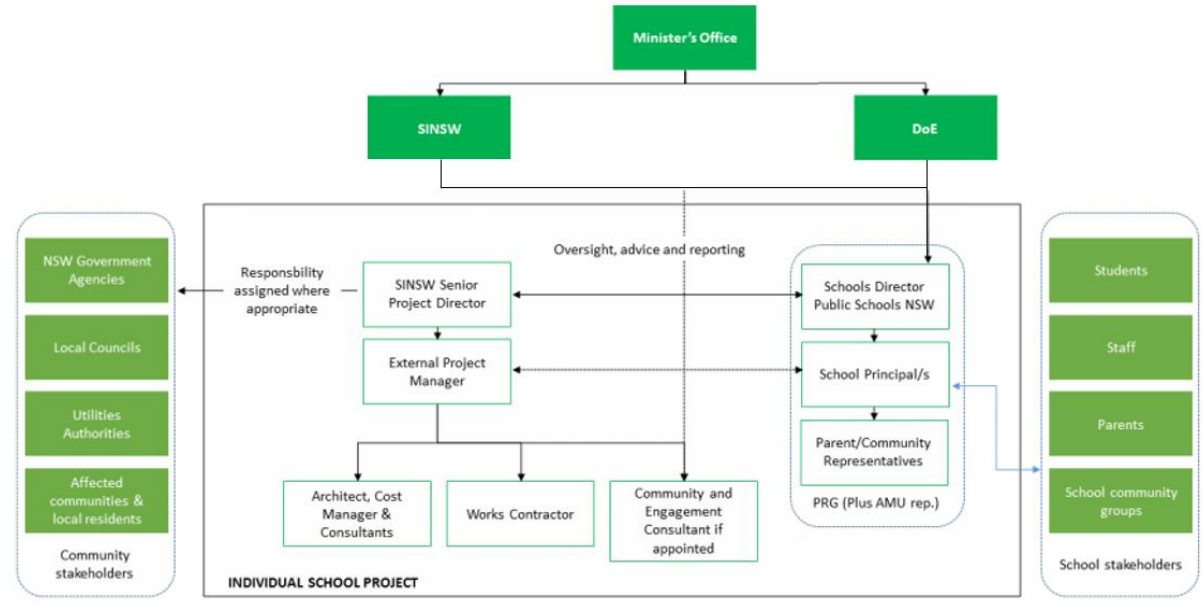


Figure 4 – Organisation Chart

3.3 Legislative Requirements

The works will be undertaken is accordance with Legislative Requirements including but not limited to:

- National Construction Code 2021 comprising the Building Code of Australia;
- Protection of the Environment Operations Act 1997 and Regulations;
- Environmentally Hazardous Materials Act 1985;
- Protection of the Environment Administration Act 1991 and Regulations;
- Work, Health & Safety Act 2017 and relevant codes of practice and standards;
- Australian Standard 2601-2001: Demolition of Structures;
- Environmental Planning and Assessment Act 1979;
- Heritage Act 1997;
- Local Government Act 1993; and
- National Parks and Wildlife Act 1974.

3.4 Utility Provider and Associated External Approvals

At various stages external approvals of components of the works will be required. This will include:

- Northern Beaches Council (water, sewer, traffic);
- Jemena (gas);
- Ausgrid (or local electricity provider);
- NSW Fire and Rescue;
- Transport for NSW (Roads and Maritime Services);
- Communication providers; and
- Other relevant utility providers.

The approach required to manage these various authorities will be dependent on the respective requirements, however prior coordination with SINSW will be necessary to ensure all approaches are aligned and coordinated with, early engagement will mitigate potential delays and identify potential issues ahead of time and contact consistency will be crucial.

In general, the following principles will be adopted for services shutdowns or when disconnecting services:

- Services impacts on the existing facility will be investigated with full coordination, development and input with the Client and all relevant Stakeholders;
- Impacts on the surrounding/adjacent site users will be kept to a minimum, which may result in ‘out of hours’ being required;
- All relevant Statutory Authorities will be consulted prior to the works commencing to ascertain lead times and correct termination locations;
- All terminations will be undertaken in accordance with SINSW requirements;

- All termination will be undertaken by suitably licensed contractors;
- A minimum of two weeks' notice is to be provided to any third party that will be impacted by any service disruption and disruption is to be minimised; and
- For locating and dealing with existing services, the Head Contractor is to comply with the requirements of GC21 Edition 2 Preliminaries (Existing Services).

4 Site Operations and Management

4.1 Prior to Commencement of Works

Prior to the commencement of the works, the Head Contractor will:

- ascertain all relevant project information, applicable Standards, Statutory requirements and Conditions, including all Authorities having jurisdiction over the works;
- obtain all relevant insurances, permits and approvals and pay all associated fees, including any outstanding Long Service Leave Levies;
- ensure a copy of the Crown DA is filed on site for reference throughout the works.

The Head Contractor will complete a dilapidation survey of existing infrastructure that may be impacted by the works, including covering roads, footpaths, and external areas of existing buildings located adjacent to the construction site. The resulting report will be provided as a pre-commencement record of the existing built works adjacent to the construction areas.

4.2 Works Areas

Prior to the commencement of the works, physical separation of the site from the street and the school will be established through Class A Hoarding or appropriate fencing. Temporary footpaths will be established where it is deemed required for public access. Site accommodation will be located within the site boundary to accommodate construction workers and site visitors.

4.3 Site Establishment

The Head Contractor will provide and maintain all necessary temporary facilities required for the safe and secure performance of the works, including, but not necessarily be limited to:

- first aid facilities;
- hoardings;
- storage compounds;
- site administration facilities;
- work sheds (including decontamination facilities where applicable) and changing areas for the use of the remediation contractor, all subcontractors and consultants;
- cranes;
- site amenities;
- temporary site sheds; and
- bins for rubbish generated by personnel;
- access equipment, including scaffolding, barriers, platforms, ladders, etc;
- construction plant; and
- emergency vehicle access.

The following table summarises the measures that will be implemented prior to commencement of the works at the site.

Item	Description
Control of site	Site control will ultimately be the responsibility of the Head Contractor.
Access	Access to the site will be controlled by the Head Contractor performing the works and the site will be off limits to all non-essential personnel. The public will not have access to this area of the site.
Supply of utilities	The installation and commissioning of all temporary site services (e.g., electricity, water, sewerage and telecommunications) required for the duration of the works will be installed to the requirements of the appropriate regulatory authorities. All approvals in respect to the installation, operation and eventual removal of temporary services will be obtained.
Contractor's facilities	All site accommodation and facilities required for the works will be established in conformance with relevant regulations and authority's requirements. Existing site infrastructure may be utilised for this purpose. Licensed persons in accordance with statutory requirements for the specialist activity in question will carry out all connections.

Site accommodation will be located within the site boundary to minimise any impact on the local community and site access will be controlled through appropriate security controls. Accommodation and amenities for the construction workforce will be provided in demountable site sheds. These site sheds will be erected, relocated and disestablished throughout the redevelopment to cater for fluctuating workforce demand and moving work areas. All site accommodation will be joined by covered walkways to ensure the workforce and office staff can move around the area and stay dry from any inclement weather. The site perimeter will be secure at all times with no unauthorised access permitted.

4.4 Public Safety and Amenity

Hoarding/fencing will be installed as required to optimise public safety and to prevent public access to, and maintain security of, the works. These measures may be staged throughout the works so as to minimise disruption to surrounding site users. The key issues to consider for Public Safety and Amenity include the following:

- Strictly controlling where construction will interface with the public;
- Selection of equipment and low impact construction methods to mitigate noise, dust and vibration impacts does not impact where possible.
- Regular construction risk assessment using the Interface Strategy principles to identify areas of potential interface that may affect business continuity;
- Undertake a holistic integrated system testing and commissioning process;
- Stakeholder notices / updates.

The project team understands the disruption the project will bring to the various stakeholders and the importance of communicating the construction programming the staff, pupils, pupils' families and public. The better the stakeholders understand of the timing and reasoning of the works, the more comfortable they will be with the temporary inconveniences.

A set of staging plans covering the works phases may be required, including:

- All site establishment items;
- Changed or modified egress paths;
- Pedestrian and vehicle circulation route changes;

- Temporary signage requirements;
- Upcoming changes to works areas including approximated program dates; and
- Projected completion and handover areas.

4.5 Construction Hours

Works are proposed to be generally undertaken between the hours of 7:00am and 5:00pm Monday-Friday and between 8:00am and 1:00pm on Saturdays.

In addition to regular working hours, there will be occasional periods when out of hours works will be necessary. This may include special deliveries, hoarding installation and removal, and services connections. Crane installation and removal may need to be undertaken over a weekend, utilising both Saturday and Sunday to minimise impacts on the surrounding areas.

Occasional night works, and works on Sundays or public holidays, would be required where dictated by authority requirements (such as road closures) or for worker or public safety (such as utilising cranes for special lifts and works around Namona Street).

Construction activities would be locally enclosed by hoarding or temporary fencing staged according to the works. Site vehicle access would be via temporary access points, as per the Preliminary Construction Traffic Management Plan (included in the Crown DA documentation).

The Head Contractor will determine the necessary out of standard construction works hours with SINSW, Transport for New South Wales (TfNSW), Transport Management Centre (TMC), and Northern Beaches Council to address the approvals and additional measures required prior to scheduling any out of hours works. This may include works such as the dismantling of hoardings, public domain works, service connections and other works that interface with the surrounding facilities.

Such permission may be sought where special requirements exist e.g., for oversized deliveries or works which need to be carried out when students are not present on the site.

4.6 Inductions

The project induction will train new workers on project specific safety and emergency procedures; however, the key focus will include interface controls, including:

- The requirements of the Crown DA and Conditions of Consent;
- Working hours;
- Traffic Management;
- Construction methodology;
- Disruptive Works Procedure: All workers will be made aware of their responsibilities towards understanding what constitutes disruptive works and understand the timeframes associated with preparing to carry out any such works; and
- Working Adjacent to Local Residential and Business Properties: All workers will be made aware of the need to ensure positive contractor behaviour at the approach and on site, including minimising disruptions to local parking and access; and

4.7 Materials Handling

Given the anticipated site constraints a detailed cranage analysis will need to be undertaken to determine the type, size, position and quantity of cranes required for the most efficient material handling solution for the project. Through this exercise the following selection criteria will be considered to all crane positions:

- Coverage for the site;

- Ability to service plantroom areas;
- Capacity for heaviest lifts;
- Minimal disruption to site roads and traffic flow;
- Minimal disruption to internal fit out;
- Ability to service all stages of project from chosen location;
- Redundancy in coverage to account for breakdown or emergency;
- Access to erect and dismantle of cranes.

A significant amount of space is required to sort the material to ensure the piece install is smooth and efficient. The site may utilise a forklift or telehandler to assist with unloading, general materials handling, and bins.

4.8 Managing Risks within an Operational School Environment

NNPS and NSHS will maintain operations throughout construction and as such there are key risks that will be present and need to be managed. The following activities through construction and development have the potential to impact on the surrounding stakeholders if not managed effectively and communicated proactively:

- Access and traffic management;
- Planning and management of any major shutdowns;
- Minimising and controlling disruptions;
- Protection of existing school assets;
- Emergency after-hours call-out;
- Hazardous material identification and removal;
- Items of Heritage significance;
- Items of Archaeological significance;
- Noise, dust and vibration control; and
- Out of hours work.

The Head Contractor will be required to prepare and implement various Management Plans that outline clear and concise communication channels for each area of interface works:

- Stakeholder Management Plan;
- Risk Management Plan;
- Disruptive Works Notification Procedure; and
- Construction Environmental Management Plan.

5 Environment Health and Safety

The Head Contractor will prepare and implement a comprehensive Environmental Management Plan (EMP) to ensure compliance with all relevant Statutory requirements and the requirements of the DoE. This plan will be developed in consideration of the following:

- Protection of Environmental Operations Act 1997;
- Protection of the Environment Operations (Noise Control) Regulation 2000;
- WHS Act 2011;
- Protection of the Environment Operations (Clean Air) Regulation 2002;
- Waste Avoidance and Resource Recovery Act 2001;
- Protection of the Environment Operations (Waste) Regulation 1996;
- Environmentally Hazardous Chemicals Act 1985; and
- Environmentally Hazardous Chemicals Regulation 1999.

The following sections outline the environmental management principles to be implemented.

5.1 Contamination

5.1.1 Contamination and Remediation

Douglas Partners Pty Ltd (Douglas Partners) undertook a detailed site (contamination) investigation (DSI) in March 2022 and identified asbestos impacts areas and building rubble (concrete, glass, plastic) in some sample locations. Additionally, Acid Sulphate Soils (ASS) were identified in the natural soil profiles across both school sites.

In accordance with the recommendations above, Douglas Partners prepared a Remediation Action Plan to be implemented during the construction phase of works. The proposed strategy for remediation of the contaminated fill material comprises of capping of asbestos impacted soils and off-site disposal of contamination in 'small isolated' areas. A validation report and long-term environmental management plan (EMP) is required to be prepared on completion of remediation activities. Douglas Partners are of the opinion that the site can be made suitable for the proposed works provided this RAP is implemented accordingly.

Having regard to the above, with the implementation of the proposed recommendations, the site can be made suitable for the proposed development having regard to the potential for contamination of the land.

5.1.2 Asbestos Containing Building Materials

A Hazardous Building Materials (HAZMAT) Survey has been prepared by Douglas Partners and provides an assessment for the presence of asbestos containing building materials at the site. Asbestos containing materials, SMF insulation, lead paint, and refrigerants were identified at the time of the inspection. Other areas suspected to contain such materials, has limited or no access available at the time of inspection.

Douglas Partners recommended that a destructive / intrusive HAZMAT survey is warranted prior to demolition, renovation, and/or maintenance work, and can generally only be conducted once the relevant building/area has been permanently vacated. Douglas Partners advised that the destructive / intrusive HAZMAT survey should be undertaken on a room-by-room and area-by-area basis to help ensure that all relevant HAZMAT have been identified. The additional management strategies outlined in this report will be implemented during the demolition and construction phase of works. Where any asbestos removal works are to be undertaken, it is to be carried out in accordance with an Asbestos Management Plan to be developed by the asbestos removal contractor.

5.1.3 Unexpected Finds

The stripping of surface soils may reveal the presence of fragments of asbestos sheeting or other unexpected contaminants with the potential to pose human health risks if not managed appropriately. If soil is encountered during the works which appears to be potentially contaminated and appears to be different from the soils otherwise encountered to date, or point sources of contamination such as buried drums or wastewater interceptors are encountered, the following procedures will apply:

- Any suspicious material/soil which have been excavated will be stockpiled on bunded, strong, impermeable plastic sheeting, protected from erosion and all seepage retained (divided into domains or stockpiles representing similar material types);
- Excavation works at that part of the site where the suspicious material (soil, asbestos containing material or physical find) was encountered will cease until an inspection is carried out by an appropriately qualified environmental consultant or its representative;
- Based on visual inspection, the environmental consultant will provide interim advice on construction health and safety, soil storage and soil disposal to allow other activities to proceed if possible; and
- Based on sampling and analysis of the material, the environmental consultant will provide advice based on a comparison of the laboratory test results to appropriate criteria relating to human health, potential environmental impacts and waste disposal.

In the context of the above, “suspicious” material would include, but is not limited to, oily materials or materials with unusual odours, drums, metal or plastic chemical containers, buried solid waste, ash, slag, coke or brightly coloured material etc.

Asbestos at the site would need to be managed through the implementation of an Asbestos Management Plan. Upon discovery of any suspected asbestos containing material (ACM) at the site, an Asbestos Management Plan will be implemented with the following actions to be taken immediately:

- stop all activities that may disturb the materials;
- inform the site operator of the discovery;
- suspend work until it has been determined whether the material in question contains asbestos; and
- physically quarantine the area with a signed barrier stating, “Danger Asbestos”.

5.2 Archaeology Material

An Aboriginal Cultural Heritage Assessment Report (ACHAR) has been prepared by Kayandel Archaeological Services (Kayandel) and provides an assessment archaeological potential for the site. Kayandel has assessed the archaeological potential of the site to be low in relation to the portions of the Subject Area where high levels of ground disturbance have occurred. It is therefore considered unlikely that the development will disturb any areas of cultural or aboriginal heritage. In the event that a heritage or archaeological item is discovered during the course of the works, works onsite will cease and the Office of Environment and Heritage will be contacted. The area will be isolated until advice is sought from a qualified Heritage Consultant prior to work recommencing.

5.3 Noise and Vibration

A Noise and Vibration assessment has been prepared by Acoustic Studio and generally outlines the controls that will be implemented to manage noise and vibration during construction. The existing local site users that would be most impacted by potential noise and vibration would be the residences adjacent to the school to the east. All practicable measures will be taken to reduce the noise and vibration arising from the works. Noise and vibration shall not exceed the limits set out by the NSW Environmental Protection Authority.

The report prepared by Acoustic Studio outlines a number of strategies to be implemented to manage construction noise and vibration. Additional considerations could include:

- Identifying demolition, excavation and construction noise and vibration sources or scenarios that require engineering controls or administrative management;
- Promoting a clear understanding of ways to identify and minimise noise and vibration from construction works;
- Focus on applying all feasible and reasonable work practices to minimise construction noise and vibration impacts;
- Providing flexibility in the selection of site-specific and reasonable work practices to minimise noise and vibration impacts;
- Allowing work to be carried out only within the approved standard hours and obtaining approval from all relevant Authorities for works required to be undertaken outside standard hours;
- Shutting or throttling equipment down such as generators, bobcats, cranes and the like whenever not in actual use; and
- Maintaining all plant and equipment in a proper and efficient manner to minimise noise emissions, including the replacement of engine covers, repair of defective silencing equipment and tightening of rattling components.

As part of the noise and vibration mitigation treatment for the project, the Head Contractor will be responsible for the checking of compliant maintenance regimes and Statutory supervision of all equipment. Proposed noise and vibration mitigation treatments will be included in the Head Contractor's CEMP.

5.4 Air Quality Management

Objectives for the project are to implement appropriate controls to suppress dust and other suspended particles in accordance with legislation, as well as management requirements minimising the generation of dust on the site and potential emission issues relating to plant and equipment. Strategies for air quality management includes:

- Clear definition of trafficable and material storage areas to prevent unnecessary vehicle movement into other areas;
- Use of water carts to dampen work areas and exposed soils to prevent the emission of excessive dust;
- Installation of a wheel shaker grid and/or wash down facilities at the vehicle egress point during excavation works;
- Ensuring trucks transporting materials to and from the site use covers to prevent windblown dust or spillage;
- Ensuring truck tailgate locking mechanisms are operational and in use;
- Periodic inspection of surrounding roads to ensure no construction contamination and initiation of road sweeping if required;
- Careful selection of materials for temporary road surfacing;
- Subcontractors to maintain equipment / machinery to ensure exhaust emissions comply with relevant legislation and guidelines;
- All waste material to be sorted, collected and removed from site (for recycling where possible); and

- Air quality monitoring.

5.5 Odour Control

The amount of odour generated by the works will be influenced by the extent of open excavation stockpiles, weather conditions and the quality of excavated material.

Odour management will address the following key issues:

- Location and cause of odour;
- Minimisation of odour and its source;
- Odour management response procedures; and
- Implementation of an odour monitoring regime.

If air quality is considered to be unsatisfactory, the Head Contractor will conduct appropriate works to rectify the ambient air quality to an acceptable standard within the shortest time practicable.

5.6 Vegetation Protection

The Head Contractor's CEMP will detail the measures that will be implemented to protect trees and vegetation being retained throughout the works. The Head Contactor will ensure areas of native Fauna are preserved through fencing and signage accordingly to avoid any damage and any conservation measures currently in place will be maintained.

The Head Contractor will also minimise the spread of weeds and grasses. This may include covering long-term stockpiles and bare areas with shade cloth or revegetating to minimise the establishment of weeds. Land clearing shall be minimal and staged to reduce the total area of cleared land at one time.

5.7 Sediment and Erosion Control

A Civil Engineering Design Report has been prepared by Enstruct Group Pty Ltd (Enstruct) and generally outlines the controls that will be implemented to manage sediment and erosion during construction. Any discharges from the site will be strictly controlled to ensure hazardous materials and contaminants are contained in accordance with the requirements of all relevant Authorities and guidance, particularly the "Blue Book" – Managing Urban Stormwater: Soils and Construction (Landcom, 2004).

The site will be continually cleaned of rubble to minimise possible sediment flow during rainfall periods. Stormwater kerbs and drainage lines will be fitted with silt barriers (or the like) to slow run-off and reduce erosion/discharge from the site. Silt barriers will be replaced when 30% of their capacity has been reached and other control equipment will be inspected and maintained, particularly during heavy rainfall periods, and replaced when no longer effective.

Stormwater grate inlets surrounding the site will be covered with geotextile fabric to allow water to enter into drains whilst retaining sediments.

All long-term soil stockpiles will be protected from wind and water erosion by coverage with anchored shade cloth or vegetation as well as being fitted with silt barriers (where appropriate). Sediment and leachate control measures must be incorporated for any stockpiled material to prevent sediment entering the stormwater system or from migrating off-site. Control measures will be established to prevent surface water run-off entering and leaving excavations and stockpile areas.

Control measures may include:

- temporary bunding or diversion drains;
- impermeable sheeting placed under and/or over stockpiles;
- silt fences/silt socks to surround stockpiles; and

- protection of existing drains with silt barriers/fencing.

These mitigation measures will be regularly inspected to ensure that they are in good condition and if necessary, upgraded where their performance is deteriorating.

5.8 Hazardous Materials

All hazardous materials (including subcontractors' materials) shall be registered by the Head Contractor and stored in an impervious Hazardous Materials Store which will be properly maintained to ensure that it has not deteriorated and remains effective.

A spillage kit (dry absorbent material – sand, saw dust or oil absorber) shall be on site and its location communicated. A licensed waste disposal contractor shall carry out transport and disposal of spillages.

The discovery of unexpected hazardous materials or contamination will be dealt with in accordance with Council, the NSW EPA and WorkCover requirements, in consultation with the project team members as required.

6 Construction Traffic Management

6.1 Construction Access and Vehicular Routes

A Preliminary Construction Traffic Management Plan (CTMP) for both school sites has been prepared by Ason Group and is provided with the Crown DA package of documents. This document is to be relied upon for the general construction traffic and pedestrian management and controls to be implemented through construction.

Construction vehicles are expected to approach and depart from the sites via Pittwater Road from the north or south. The anticipated vehicular ingress and egress routes are provided in Figures 5a and 5b below.

Figure 5a – Construction Vehicle Ingress and Egress Routes for NNPS

Figure 5b – Construction Vehicle Ingress and Egress Routes for NSHS

6.2 Construction Vehicles and Truck Movements

Vehicles that will access the site during the works will comprise Articulated Vehicles and Small-Heavy Rigid Vehicles. Proposed truck types to be used during the works include:

- Demolition material removal trucks;
- Spoil and excavation removal trucks.
- Concrete trucks
- Rigid delivery trucks; and
- Semi-trailers for large equipment and plant (subject to access).

All heavy goods such as machinery plants will be delivered outside of peak traffic hours and school peak hours. Applications for 'out of hours' works will be considered on a case-by-case basis. All out of hours applications will need to be approved by the relevant authority.

Delivery of construction materials would occur outside of road network peak hours in order to reduce the impact on the surrounding road network. The contractor will have to coordinate all deliveries with the school and ensure that no pedestrian and cyclist activity is occurring at the delivery sites.

Road network impacts by worker traffic to the site will be mitigated by the construction workers generally starting earlier and finish earlier than the commuter peak periods and would likely not coincide with the school or road network peak periods. Construction workers driving to sites in constrained parking environments will be encouraged to carpool, further reducing the impact on the road network.

The impact of construction traffic will be discussed once specific construction details are provided however vehicle volumes are expected to be low, in the order of 10-20 vehicles per day with approximately 10 vehicles in the busiest construction period. This usually occurs during concrete pours or the demolition phase. The traffic generation of this magnitude is less than the number of trips generated and assessed for the operational phase of the development and therefore the potential impacts are anticipated to be minimal.

6.3 Mitigation measures

Mitigation measures would be adopted during the construction phase to ensure traffic movements have minimal impact on surrounding land uses and the community in general, and would include the following:

- Truck loads would be covered during transportation off-site;
- Neighbouring properties would be notified of construction works and timing. Any comments would be recorded and taken into consideration when planning construction activities;
- All activities, including the delivery of materials would not impede traffic flow along local roads;
- Materials would be delivered, and spoil removed during standard construction hours;
- Avoid idling trucks alongside sensitive receivers; and
- Deliveries would be planned to ensure a consistent and minimal number of trucks arriving at site at any one time.

To manage driver conduct the following measures are to be implemented:

- All truck movements will be scheduled;
- Vehicles are to enter and exit the site in a forwards direction along the travel path shown on delivery maps; and

- Drivers are to give way to pedestrians and plant at all times.

Traffic Controllers will be used to stop traffic on the public street(s) to allow trucks to enter or leave the site. Where possible, vehicles must enter and exit the site in a forward direction. They must wait until a suitable gap in traffic allows them to assist trucks to enter or exit the site. The Roads Act does not give any special treatment to trucks leaving a construction site, the vehicles already on the road have right-of-way. Vehicles entering, exiting and driving around the site will be required to give way to pedestrians at all times.

6.4 Pedestrian and Traffic Safety

A majority of the works will be carried out within the compounds of the school. Pedestrians and cyclists will be diverted and controlled by traffic controllers as necessary when larger vehicles wish to access the site. They will control pedestrians as well as vehicles. Pedestrians and cyclists will be directed through appropriate fencing/hoarding within the school.

Pedestrian and cyclist routes past the site will be protected during construction where required. Fencing and/or hoarding in accordance with the relevant standards will be provided around the site to provide protection and prevent unauthorised access. Where works are required in the public domain, safe routes will be provided around the worksite, which will require a site-specific management plan.

7 Construction Waste Management Plan

A Construction Waste Management Plan (CWMP) will be developed by the Head Contractor prior to commencement of construction works on site. Periodic review of this CWMP will be undertaken to ensure continual compliance with environmental regulations and standards.

7.1 Waste Management / Recycling Principles

The main source of waste associated with the construction works would be demolished material (bricks, concrete, steel etc.) resulting from the demolition and refurbishment of existing buildings. It is likely that some excess building materials will be produced due to the construction work such as miscellaneous waste associated with packaging and transport of plant and equipment and various other manufactured items forming part of the augmentation works. Waste generated as a result of construction will be minimised, recycled, reused or recovered, where practical. The Head Contractor will be required to achieve compliance with the EPA guidelines.

The following measures are encouraged in the management and reduction of waste to minimise the loss of natural resources and landfill space:

- Emphasise the importance of recycling and waste reduction;
- Reduce the amount of waste material produced on the project by ensuring that only enough materials required to perform the works are ordered;
- Any excess materials from particular work areas are to be retained and incorporated into other work areas where practical;
- Encourage “just in time” delivery of construction materials (minimum storage on site) to reduce the potential of loss / waste due to damage prior to usage;
- Encourage the use of recycled materials where it is reasonably practical;
- Minimise the use of packaging materials and recycle packaging materials where possible;
- Waste concrete to be sent to a concrete recycling plant where possible; and
- Separate removed native vegetation from general construction waste, mulched and stockpiled for re-use.

7.2 Legislation

Relevant Waste management legislation and guidelines applicable to the project are listed below:

- NSW Environmental Planning and Assessment Act 1979
- NSW Environmental Planning and Assessment Regulation 2021
- NSW Protection of the Environment Operations Act 1997
- NSW Protection of the Environment Operations (General) Regulation 2021
- NSW Waste Avoidance & Resource Recovery Act 2001
- ISO 14001:2015 Environmental management systems - Requirements with guidance for use
- NSW Government Environmental Management System Guidelines (3rd Edition – 2013)

7.3 Non-Recyclable Waste

Non-recyclable waste will be disposed of at an EPA approved landfill or transfer station.

7.4 Waste Collection & Disposal

Appropriate waste bins are to be provided by the Head Contractor and made available to all site personnel. All site personnel shall be directed to place waste in the bins provided. This shall be included in the Site Induction. Dedicated waste collection points will be nominated with a waste management loading zone.

7.5 Hazardous Materials

When hazardous Materials are disposed off site, it should be classified in accordance with the EPA Waste Classification Guidelines (2014) and disposed of to a suitably licensed landfill. In dry and windy conditions, the stockpile would be lightly wetted and covered with plastic sheet whilst awaiting disposal.

7.6 Waste Reporting

Waste generation is to be monitored by the Head Contractor on a regular basis to ensure that the company's waste reduction objectives are achieved. Waste disposal quantities are monitored to ensure compliance. The Contractor will record waste disposal data.

7.7 Concrete Waste & Washout

Concrete trucks and pumps shall be washed out at designated locations. Washout of concrete pumps and AGI's in other areas will not be permitted. Washout shall be captured using membranes or other suitable means and allowed to set. Waste shall be placed in bins for disposal with site waste. Excess concrete shall be returned to the concrete plant for disposal or re-use.

7.8 Further Mitigation Strategies

Accurate written records are to be kept such as:

- Who transported the waste (company name, ABN, vehicle registration and driver details, date and time of transport, description of waste)
- Copies of waste dockets/receipts for the waste facility (date and time of delivery, name and address of the facility, it's ABN, contact person).
- The construction contractor to ensure that waste generated by the works is transported to a place that can lawfully accept it as per Section 143 of the Protection of the Environment Operations Act 1997.
- The removal of any asbestos containing material if found is only to undertaken by an appropriately licensed contractor as per WorkCover NSW requirements and current guidelines.
- All waste, including excess spoil be recycled where practicable.
- Trucks transporting spoil off site to be covered.
- The EPA is to be notified immediately of any pollution incidents or harm to the environment (as defined under Part 5.7 of the Protection of the Environment Operations Act 1997).
- The Waste management strategy for the project will operate over the design, procurement, and construction including fit out of the project. Refer table below.

Management Strategies
Design • Use of prefabricated components in design • Design for materials to standard sizes • Design for operational waste minimisation
Procurement • Select recycled and reprocesses materials • Components that can be reused after deconstruction
Pre-construction • Waste strategy to be revised and approved prior to construction
Construction on-site • Use the avoid, reuse, reduce, recycle principles • Minimisation of recurring packaging materials • Returning packaging to the supplier • Separation of recycling of materials off site • Audit & monitor the correct usage of bins • Audit and monitor the waste contractor

7.9 Estimated Waste Quantities

Demolition Phase

Refer to table below. Please note the quantities are estimates only.

Material Type	Estimated Volume	Treatment
Bricks, Concrete	75m^3	Recycling Outlet TBA
Metal	60m^3	Metal Recycling TBA
Timber	40m^3	Recycling Outlet or Landfill site TBA
General Waste	60m^3	Waste Depot, Recycling Outlet or Landfill site TBA
Total	910m^3	
Note: The disposal and waste depot are yet to be determined as the contracts have not been let, as such they have been listed as TBA.		

Construction Phase

Refer to table below. Please note the quantities are estimates only.

Material Type	Estimated Volume			Onsite Treatment	Offsite Treatment	
	Reuse	Recycle	Disposal	Proposed reuse and/or Recycling Method	Disposal/ Transport Contractor	Waste Depot, Recycling Outlet or Landfill Site
Metals		38m^3		Site bins	TBA	TBA
Bricks, Concrete, Tile		92m^3		Site bins	TBA	TBA
Timber			50m^3	Site bins	TBA	TBA
Cardboard		34m^3		Site bins	TBA	TBA
Plasterboard		8m^3		Site bins	TBA	TBA
Plastic, packaging			72m^3	Site bins	TBA	TBA
Pallets/cable drums	42 units			Separated and collected	TBA	TBA
Liquids			4m^3	Separated onsite	TBA	TBA
General waste			300m^3	Site bins	TBA	TBA
Subtotal	42 units	242m3	426m^3	Site bins	TBA	TBA
Total	668m^3					
Note: The disposal and waste depot are yet to be determined as the contracts have not been let, as such they have been listed as TBA.						

7.10 Further Waste Management Methods

The waste subcontractor will supply builder's waste bins for onsite collection and storage of general waste material. It is required that the waste facility will recycle a minimum of 80% of the material brought to their recycling depot. The individual recyclable waste streams are outlined below.

- Concrete;
- Bottles, Cans and Plastics;
- Bricks;
- Timber;
- Steel;

- Cardboard and white paper.

The following figure outlines the general principles for the prevention of waste.

Figure 6 – Waste Prevention Principles

Any removal of any waste from the project site shall be tracked using either the Head Contractor's site documentation (daily work books, etc.) or by any Authority's waste tracking forms when applicable. Inspections of waste disposal certificates and weighbridge dockets will be required to verify that waste has been appropriately disposed at NSW EPA approved sites and also to verify the quantity of waste removed from site.

Part 16 of the Regulations specify that if waste is transported from a premise, the waste generator must ensure that the waste is transported:

- to a waste facility that is licensed under the Act; or
- to a person carrying on mobile waste processing that is licensed under the Act; or
- to a place that can otherwise lawfully be used as a waste facility for that waste.

Part 6 also states that a person must not, in the course of business, transport by motor vehicle any waste that is generated in NSW (other than restricted solid waste) to any place in or outside of NSW, unless the place can lawfully be used for the disposal of that waste and one of the following applies:

- the place is 150 kilometres or less from the premises of origin of that waste; or
- the place is more than 150 kilometres from the premises of origin and is the closest or second closest to those premises of the places, in or outside New South Wales that can lawfully be used for the disposal of that waste.

7.11 Operational Waste Management Plan

An Operational Waste Management Plan (OWMP) has been prepared by Elephants Foot Consulting and identifies the different waste streams likely to be generated during the school's operational phase of the development, including:

- General Waste;
- Cardboard/Paper Recyclables; and
- Co-mingled Recyclables.

This OWMP is to be implemented during the operational phase of the school and outlines best practice waste management for the school (post works) including waste generation estimates, waste disposal and collection procedures.

8 Stakeholder Management

8.1 Consulting and Communicating

The planning and implementation of the works will be completed in accordance with all relevant requirements of Statutory Authorities, including:

- Northern Beaches Council;
- NSW Office of Environment and Heritage;
- NSW Environmental Protection Agency;
- Sydney Water;
- Transport for NSW (Roads and Maritime Services); and
- SafeWork NSW.

SINSW is also undertaking extensive ongoing consultation with the schools and the wider community to inform them and seek their feedback. The project will also provide appropriate core facilities to best practice teaching in line with the Department of Education's *Education Facilities Standards and Guidelines* (EFSG) and to facilitate 21st Century and Future Focused Learning objectives.

A Community Communication Strategy will be used to engage with stakeholders in relation to the construction works programme and managing complaints and enquiries. The potential for negative environmental and amenity impacts during construction, although over a relatively short duration, would be reduced though environmental management during construction, ongoing community engagement and provision of project information such as operating hours and traffic routes.

Due to the nature of the proposed construction works and the proximity of the site to the local community, appropriate mitigation measures and safeguards are required to avoid the potential for impacts such as:

- Noise and vibration generated during construction activities, affecting adjoining properties;
- Dust generated from construction activities, affecting adjoining properties; and
- Vehicles leaving the construction site depositing construction materials on public roads.

Existing properties directly affected by the construction program would be advised of works and provided with contact details, which would be supported by a community relations team providing:

- A contacts database for registering, managing and reporting complaints & enquiries;
- A contact number for enquiries & complaints;
- A website with a dedicated email address and feedback forms; and
- Specific information in the form of letters, fact sheets and newsletters for the local community.

The intent is for all works to be conducted within approved working hours; however, if works are expected to extend beyond these hours, appropriate stakeholders would be notified prior to these activities.

A Community Consultation Strategy would be implemented to maintain a good neighbour policy with surrounding businesses, residents, and special interest groups during construction.

8.2 Interaction with the Surrounding Community

The following actions will be implemented, which focus on minimising the impacts of construction activity to the community surrounding the site:

- Installation of Construction work zones and the monitoring and maintenance of such;
- Monitor compliance of the Preliminary Construction Traffic Management Plan and the safety and environmental controls to be listed in the CEMP or elsewhere;
- Clear display of contact details on the site temporary fencing for community information and contact in case of emergency;
- Make arrangements for the notification to surrounding properties of activities which may affect their amenity, including the provision of a 24-hour contact point; and
- Consultation and participation with the local community to address concerns and assess possible community initiatives.

8.3 Dispute resolution

The project team acknowledges the potential for disruption as a result of the works and proposes that a complaint procedure/complaint register be developed. Should a complaint or infringement occur, the following procedures will be adopted:

- All complaints and infringements are to be brought to the attention of the site manager immediately upon receipt;
- The Head Contractor shall verbally notify SINSW immediately, followed by written notification issued to SINSW by no later than COB of the day of the complaint/infringement (it is the responsibility of SINSW community engagement team to issue a formal response, not the Head Contractor);
- The site manager shall investigate the complaint and ensure appropriate action is taken to address the complaint or infringement within a suitable timeframe;
- A Community Contact Notification form shall also be completed for all complaints and enquiries; and
- A copy of this documentation is to be filed within the site office.

9 Workplace Relations

SINSW, Johnstaff and the Head Contractor are fully committed to providing safe working environment. A site Safety Management Plan (SMP) will be required to ensure that equipment, workplaces and practices comply with relevant regulations and standards. Regular and ongoing reviews of these standards will be conducted and where higher standards are practical and desirable, they will be adopted. In addition, the Head Contractor will:

- Provide adequate resources to satisfy this policy;
- Identify, control and reduce work related hazards and risks that may produce injury, illness or asset damage;
- Identify, quantify and control to safe levels, those chemicals and physical agents in the workplace capable of causing ill health;
- Promote environmental, health, safety and the welfare of employees and subcontractors while respecting the privacy of individuals;
- Provide information, instruction and training for employees to increase their personal understanding of workplace hazards, promote safe working practices and ensure subcontractors are aware of and satisfy these expectations.
- Consult employees and subcontractors in environmental, health and safety to reduce workplace hazards and risks;
- Consult with the project team, industry bodies and others in the development of appropriate standards, control strategies and monitoring techniques, which comply, with the requirements of statutory authorities; and
- Set short- and long-term goals in occupational health and safety management, and review performance against these goals.

A key tool in the management of safety on the project will be the continued improvement of the Head Contractor's Job Safety & Environment Analysis (JSEA) and/or Safe Work Method Statements (SWMS). These will include the following:

- A description of the work to be undertaken;
- An identification of the foreseeable hazards associated with the works; and
- A description of the hazard control measures to be used.

JOHNSTAFF