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St. Joseph's College Physical Education and Sports Precinct  
Project  
Preliminary Construction Management Plan

6 August 2018

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## 1 Introduction

This Preliminary Construction Management Plan (PCMP) outlines the methodologies and strategies anticipated for the construction of the Physical Education and Sports Precinct Project (PESPP) at St Joseph's College Hunter's Hill. This PCMP addresses construction related issues raised in the Secretary's Environmental Assessment Requirements dated 3<sup>rd</sup> January 2018, including;

- a) Major work phases to be completed, e.g. Demolition, Excavation, Construction etc.
- b) Routes to be used by construction vehicles.
- c) Provision for material and machinery to be stored on site.
- d) Truck movements associated with each phase of works.
- e) Management of construction activities and traffic to address public safety and protection.
- f) Dust, Noise and Vibration measures to minimise the effect on the students and local community.
- g) Effective stormwater and waste management to minimise construction delays.

### 1.1 Project Overview

The PESPP redevelopment is a plan to enhance the College's existing sports and cultural facility.

Planned works for PESPP comprise of:

1. Demolition of the following existing buildings (which are not heritage significant) near the intersection of Luke Street and Gladesville Road:
  - a. College Shop
  - b. Healy Gym and Maintenance Workshop
  - c. Outdoor Sports Courts
  - d. Workshop/Storage and Shed.
2. Construction of the Physical Education and Sports Precinct Project (PESPP) comprising the following facilities:
  - a. Lower Ground Floor: New car parking, maintenance workshops, storage, offices, amenities etc. A net increase of 55 car parking spaces is proposed (85 new spaces to be provided in the SCP basement less 30 at grade spaces to be removed)
  - b. Ground floor: Three indoor sports courts, amenities, kitchen and entry lobbies
  - c. First Floor: Void over sports courts, bench seating (180 seats), staff facilities, two general learning areas and foyer
  - d. Driveway entry to the PESPP (no new vehicular cross overs)
  - e. Landscaping and tree removal/replacement.
3. Construction of a new single storey building to accommodate the relocated Healy Gym in the north-western corner of the site near the intersection of Mary Street and Mark Street.
4. New kiosk substation and landscaping in the north-eastern corner of the site
5. Use of the completed works as an educational establishment.
6. Staging which would facilitate completion of the PESPP in up to two stages (noting that the entire project may be completed in one stage).

## 1.2 Site Description

The subject site is located within the College's Main Campus and is bounded by Mark Street, Mary Street, Gladesville Road, Luke Street and Ryde Road.

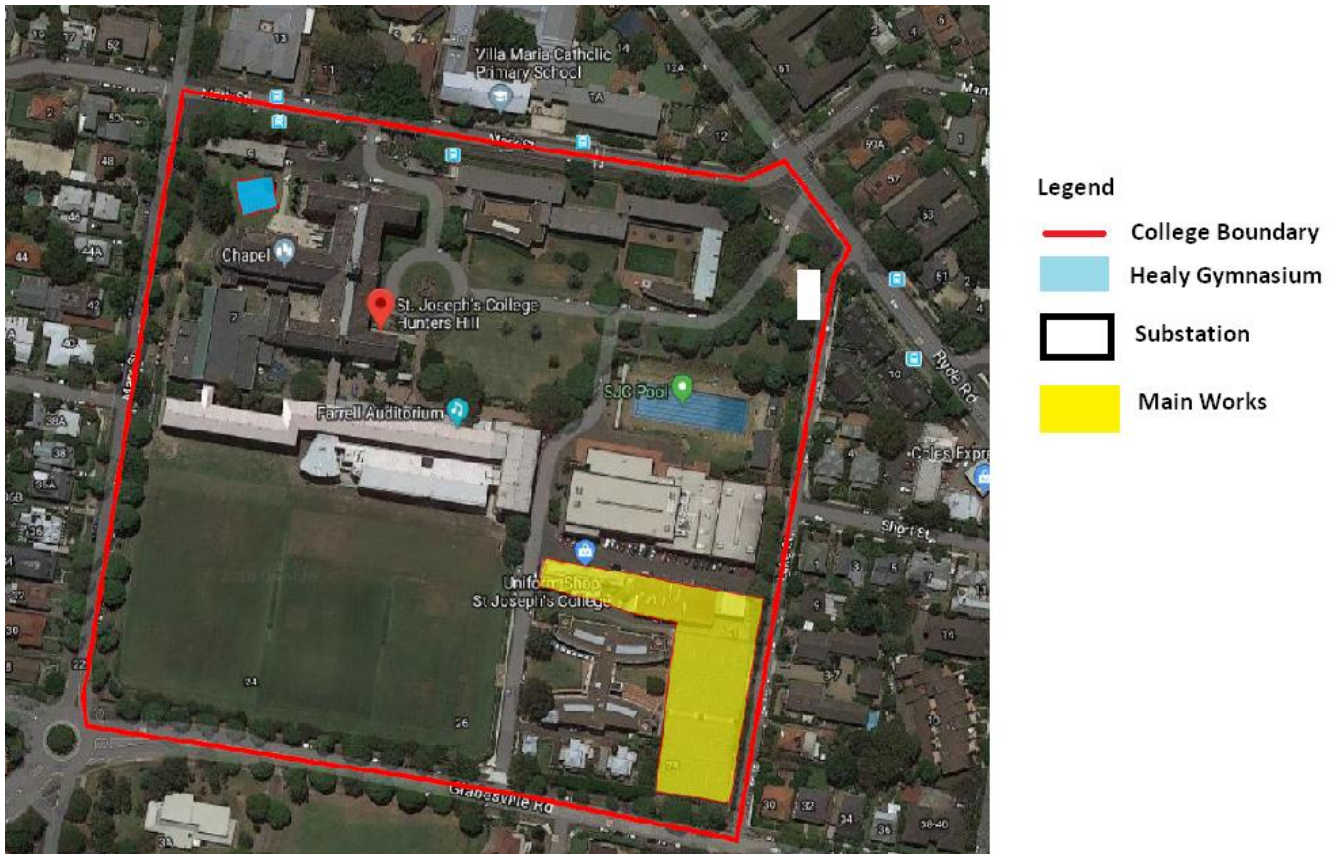


Figure 1. Existing Site

St Joseph's is one of Australia's leading independent Catholic schools. Founded in 1881, it caters for approximately 1100 students from years 7 to 12 with the vast majority of these students being boarders. Normal school hours are from 8 AM to 5 PM. Boarders stay on campus during school terms and travel home for school holidays. During school terms, the boarders use school facilities from 6 AM to 10 PM.

The campus covers an area of approximately 73,714m<sup>2</sup>. The site for main works of PESPP consists of the existing 4 Outdoor Basketball Courts, Old Arts Building, Healy Gymnasium and Maintenance Building. Detail and level survey for the site has highlighted the following services currently within the proposed construction zone:

- a) Telstra
- b) Sewer
- c) Water
- d) Gas

Consequently, demolition and construction of basement cannot occur until after these services are diverted. The Eastern and Southern side of four outdoor basketball courts is surrounded by a heritage listed sandstone wall on the College boundary.



Figure 2. Main Works Construction Area



Figure 3. Substation Location

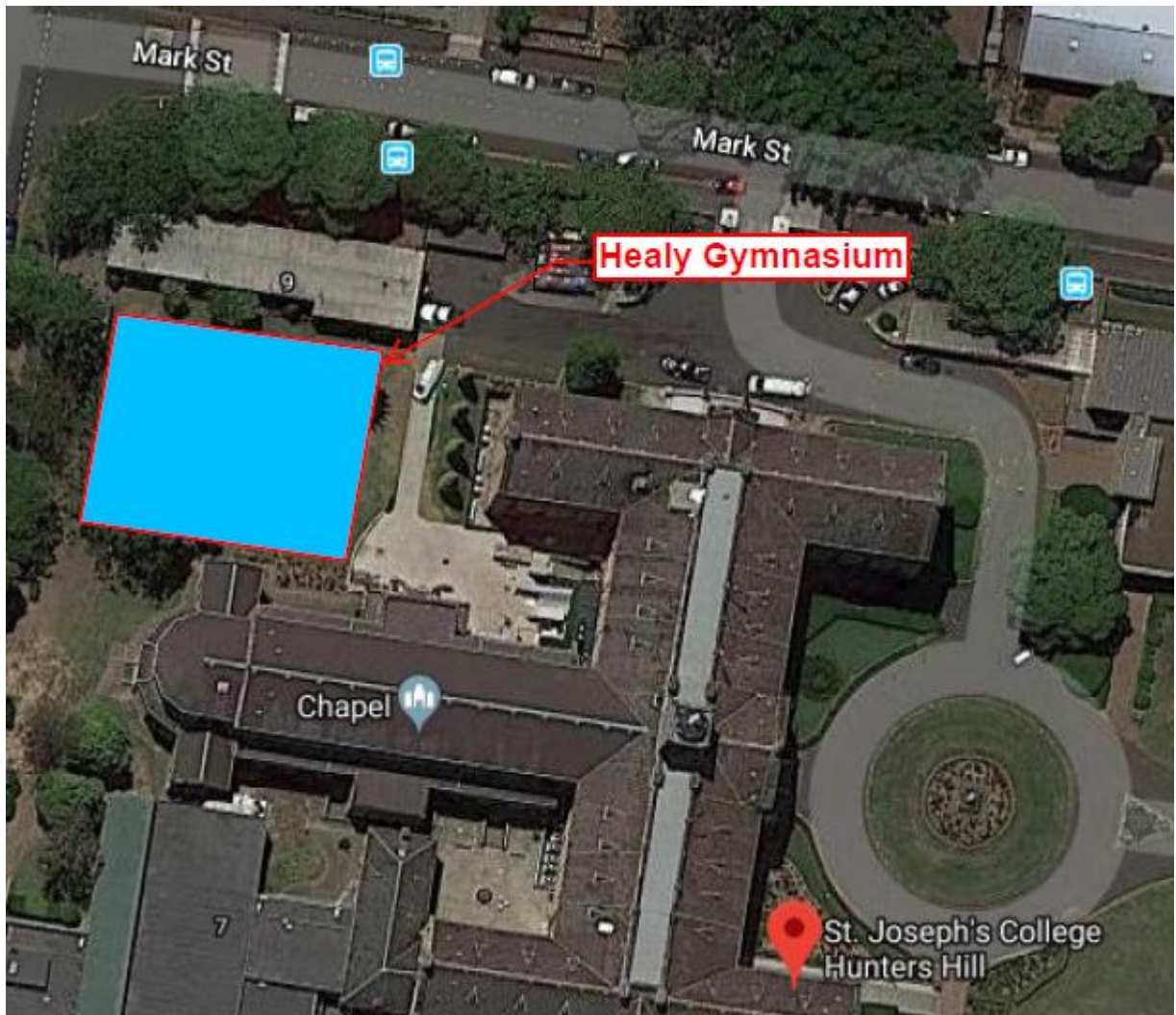


Figure 4. Healy Gymnasium Location

## 2 Construction Methodology

### 2.1 Major Work Phases

Construction activity will commence with site establishment, which will include:

- a) Erecting A – Class hoarding
- b) Signage
- c) Site security (Traffic Controller) and tree protection
- d) Lighting and gates to the project site boundary
- e) Installing site office and connecting to existing services

The site establishment will allow St Joseph's College ongoing operation during construction. It will allow the staff and students to carry out typical functions at all times.

After site establishment, major work phases for PESPP include:

- a) Establishment of Healy Gymnasium
- b) Demolition of outdoor sports courts
- c) Demolition of Old Arts Building, Healy Gym and Maintenance Workshop
- d) Construction of basement and indoor sports centre
- e) Construction of substation
- f) Pave and landscape southern side of Br. Emilian Hall

A detailed Construction staging and Methodology Plan will be developed by the Principal Contractor once appointed. It will be reviewed by the relevant authorities prior to commencing construction.

### 2.2 Work Method Statement

#### 2.2.1 Main Works

Following the site establishment, it is then proposed that:

- a) A float with demolition/excavation equipment will arrive at site and demolition will commence
- b) Prior to excavation, existing services under outdoor basketball courts will be diverted and connection made for temporary amenities
- c) Bulk excavation will progress as required by the structural sequence. Installation of ground anchors, shotcrete and strip drains will progress as the bulk excavation continues to the required RL of the basement
- d) Following the bulk excavation, detail excavation of footings and in ground services will be completed
- e) Columns and vertical walls will be formed and poured. Ground will be prepared for the basement floor slab. This will include, edge board formed, blinding material, vapour barrier, reinforcement fixing, in-slab services, pour the ground slab and saw cut any joints
- f) Subsequent formwork, reinforcement and pouring of suspended slab for ground floor will progress
- g) Other structural element such as Mezzanine seating for level 1 will follow
- h) Following the structural works, the roof and internal services and finishes to the new area can occur. Roof structure steel will be erected using mobile or fixed cranes (as determined by the Contractor) and positioned within the site. Material will be delivered and unloaded within the site

- i) Once the construction traffic is minimised the paving and landscaping to the southern side of Br. Emilian Hall can begin
- j) Upon completion of paving and landscaping, the Contractor can demobilise from site

### 2.2.2 Substation Works

- a) Site establishment
- b) Remove existing vegetation as approved and level the ground
- c) Excavate and install foundations. Trenches and in ground services will also be excavated during this stage
- d) Float with substation equipment (kiosk) will be delivered to the site
- e) Kiosk installation
- f) Install services (conduits) in the trenches
- g) Backfill trenches

### 2.2.3 Healy gymnasium

- a) Site Establishment
- b) Remove existing vegetation as approved and level the ground
- c) Excavate and install foundations
- d) Erect the framework, normally consisting of heavy metal girders and beams
- e) Install sheets of metal to form the roof and walls of the gymnasium
- f) Internal finishes and services installed

## 2.3 Hours of Operation/Programme

The proposed working hours for this project are as follows:

- a) Monday to Friday – 7:00am to 6:00pm
- b) Saturdays- 8:00am to 1:00pm
- c) Sundays and Public Holidays – No Work

Work outside these hours is expected to be limited to emergency works to ensure the safety of the site and College grounds.

## 2.4 Materials Handling Strategy

### 2.4.1 Major Works

Demolition and excavation materials removal from major works of PESPP will be undertaken via entry gate from Gladesville Rd as shown in Figure 6.



Figure 5. Site Access Route during demolition Phase

A designated traffic controller will be used to direct the construction traffic. During demolition stage truck and dog can enter the site and turn around at the outdoor basketball courts. However, during construction the trucks will have to reverse back to the site. Reversing will take place inside the school grounds. Trucks will enter and exit from Gladesville Rd in a forward direction. A designated spotter will be used to guide the reversing traffic.

Concrete agitators will use the same route for egress/ingress and it is proposed that a mobile concrete boom pump is established on site as required.

Delivery of structural elements and other material will occur in designated areas as specified in the appointed Contractors Construction Management Plan (CMP).



Figure 6. Site Access Route during Construction

#### 2.4.2 Substation Works

Vehicle access for the substation part of the works will be undertaken via entry gate from Ryde Road. A designated traffic controller at the main gate will be used to direct the traffic.

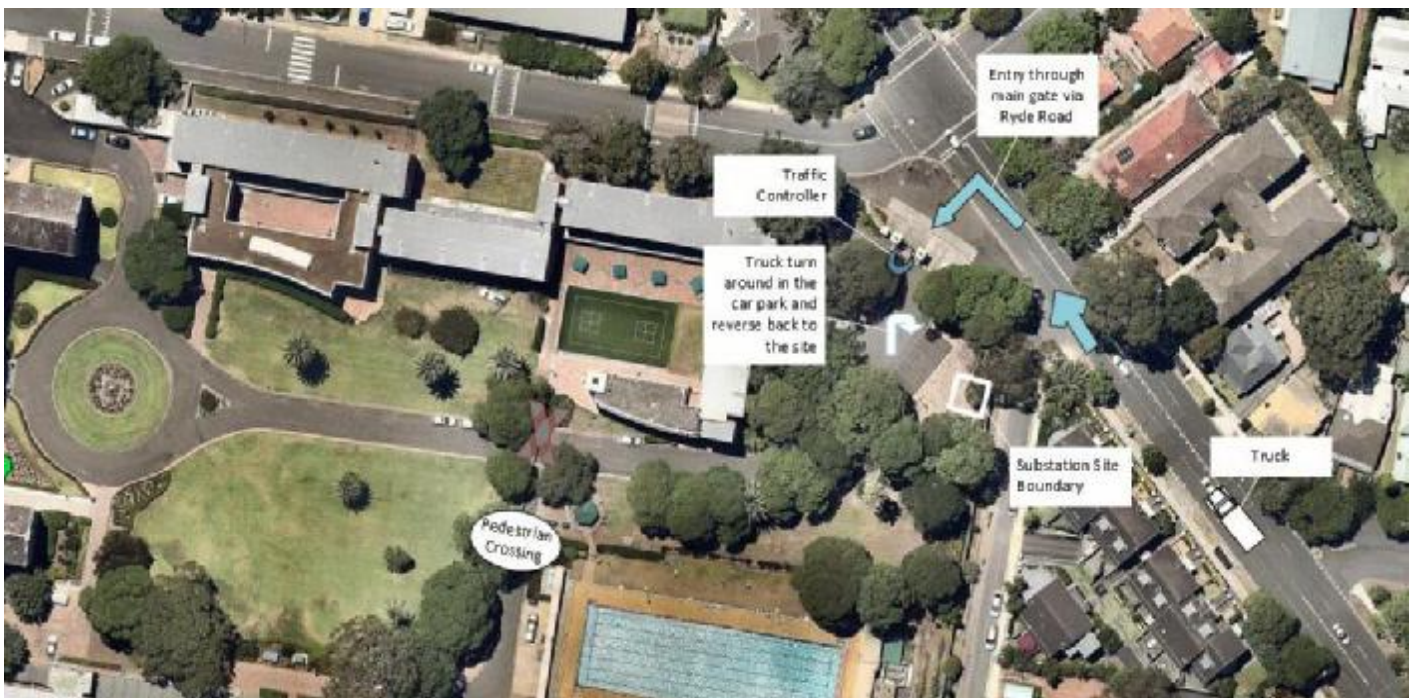


Figure 7. Site Access for substation works

Traffic movements for the construction of this substation will be light.

Delivery of the substation elements will occur in designated areas as specified in the appointed Contractors Construction Management Plan. Substation site boundary highlighted in Figure 8 does not show the trenches that will connect to the new indoor sports centre and Year 12 Boarding Houses. This will be highlighted by the Principal Contractor in their detailed Construction Management Plan once the detailed design for substation works is available. These works will be undertaken within the school boundaries.

### 2.4.3 Healy Gymnasium

Vehicle access during the construction of Healy Gymnasium will be undertaken via entry gate from Mark Street. Designated traffic controller at the main gate will be used to direct the traffic. Due to site limitations, it is recommended that a designated spotter is used to reverse the trucks towards the site. All reversing will be undertaken within school grounds.



Figure 8. Healy Gymnasium Site Access

Concrete agitators will use the same route and it is proposed that a mobile concrete boom pump is established on site as required.

Delivery of structural elements and other material will occur in designated areas as specified in appointed Contractors Construction Management Plan (CMP).

## 2.5 Cranage

It is intended that for main works a minimum of one tower crane or mobile crane is envisaged. The cranes would be in use following the bulk excavation and ground retention.

For the construction of substation and Healy gymnasium, a mobile crane with adequate lifting capacity is envisaged.

All cranage operations will take place within school grounds, with the possible exception of temporary establishment of a mobile crane within Luke Street, for the purpose of erection and removal of a tower crane if required.

## 2.6 Construction Workforce

At its peak, the project will generate approximately 75 construction jobs.

An indicative construction workforce histogram is attached in Appendix B.

## 2.7 Truck Movements

An indicative truck movement histogram is attached in Appendix A.

- a) Truck movements during excavation phase will be the highest. 24 trucks per day are expected during this phase.
- b) Building and façade works will see truck movements drop to an average of 17 trucks per day. On concrete pour days, up to 35 trucks are expected.

## 3 Environmental Management

### 3.1 Public Safety and Protection

A site-specific safety management plan and Safe Work Method Statement (SWMS) will be developed by the Contractor in consultation with all the relevant stakeholders. All works will be undertaken in accordance with the requirements of WorkCover NSW as well as the relevant standards and codes of practice to ensure the safety of personnel on and around the site.

Objectives for a Site Safety Plan include the following:

- a) maintain lost time injury reporting and review positive performance indicators
- b) report all incidents and near misses and develop corrective action plans
- c) conduct Senior Management and WH&S Group reviews
- d) develop required WH&S resources
- e) formalise regular senior management reviews of WH&S systems and implement relevant improvements
- f) continually develop WH&S systems, policies, procedures and WH&S Plans to comply with statutory requirements and industry best practice
- g) maintain an Audit Programme to comply with system's requirements
- h) ensure all corrective actions and Non-Conformances are closed out
- i) meet or exceed the requirements of AS 4801 certification and Federal Safety commission accreditation
- j) adopt a zero tolerance safety philosophy
- k) provide Safety Awareness and other appropriate WH&S training
- l) continue to implement ongoing induction procedures on all Projects
- m) hold regular Consultative Committee meetings, maintain minutes and record actions
- n) issue Safety Alerts to all staff and other stakeholders according to requirements
- o) conduct and record regular toolbox meetings on site

A Site Safety Plan would also outline the key responsibilities for achieving the above objectives. A statement of responsibilities by the Construction Contractor would identify who will be responsible for the following:

- a) undertake audits to ensure appropriate implementation of the WH&S Plan occurs
- b) coordinate WH&S training
- c) establish, implement and maintain procedures for controlling all relevant documents and data required
- d) implement WH&S matters in construction design and planning
- e) make all reasonable endeavours to ensure that the WH&S management system is established implemented and maintained on the Project
- f) monitor and constantly review risk management to the site
- g) ensure all Work Method Statements have been received on site prior to the commencement of work

The Site Safety Plan would also address the following requirements:

- a) *Working with Children* legislation and school policies. Working with Children Check recommended for supervisors and foreman.
- b) WH&S training – identification of WH&S training needs of all personnel, induction training, refresher training, attendance of WH&S committee personnel at consultation training etc
- c) incident management – identifies who will be available during and outside normal working hours to prevent, prepare for, respond to and recover from illness/ injury and incidents
- d) site safety rules – As a minimum will include induction and safety training, PPE, Site access and security, emergency procedures, illness and injury, protection of personnel and the public, work at elevated areas, safe working, hazardous materials and dangerous goods etc
- e) Safe Work Method Statements – All activities assessed as having WH&S risks require a SWMS to be prepared and implemented

Appropriate signage and traffic controllers will be placed along the entrance at Gladesville Road. The entry to the site will have a security guard to control entry of authorised personnel only.

Contractor will be required to develop an effective community consultation strategy. The strategy will be developed from the selected construction Contractors' previous experiences on similar projects and will deliver a useful communication system for the Project duration.

The consultation objectives will include the following:

- a) Establish and maintain relationships with key stakeholders
- b) Develop general public awareness and knowledge of the Project
- c) Ensure key stakeholders are kept informed and satisfied of, upcoming activities, Project status, impacts arising from unforeseen events and arrangements to mitigate the impact as needed
- d) Mitigate the impact of the construction activities on the surrounding areas
- e) Manage objections by understanding the main stakeholders' needs and take necessary actions for their effective management

The key stakeholders groups would include the following:

- a) Staff, students and parents of St Joseph's College
- b) Contractors, sub-contractors and suppliers
- c) The local Community
- d) Heritage and Environmental groups
- e) Interested local business groups and construction sites
- f) Pedestrians and users of the neighbourhood
- g) Government Authorities esp. Hunter's Hill Council and NSW Government
- h) Local utilities and services providers

After identifying and prioritising stakeholders' concerns and impacts, a stakeholder management plan can be created in order to notify key stakeholders, so as to keep them aligned with the project and avoid any misunderstandings.

Likely issues of concern to stakeholders may include the following:

- a) Containment of Noise and Dust
- b) Vibration caused from demolition, excavation and construction activities

- c) Environmental remediation
- d) Construction traffic
- e) Construction personnel
- f) Restrictions / alterations to pedestrian and traffic flow
- g) Protection of existing Sandstone wall around outdoor basketball courts
- h) Protection of existing trees

It is expected that the Construction Contractor will allocate liaison personnel particularly for communicating with stakeholders on planned works or activities that require explanation and solutions to alleviate issues that may arise during projects construction phase.

The stakeholder management process would typically involve the following:

- a) An initial consultation session held before the commencement of construction and letters of introduction sent to the surrounding properties, advising Project specifics, including commencement date, duration, contact details, site safety and public protection
- b) Contractor developed periodic reports issued to key stakeholders advising of imminent activities
- c) Regular communication and consultation with the relevant consent authority, or its designated representatives, in relation to the site management and impact on surrounding areas

### 3.2 Protection of Sandstone Wall and Trees

Hoardings or temporary fencing will be used to protect the heritage listed sandstone wall and trees. The hoarding will protect the wall from construction materials, debris and falling objects. Tree protection zones will be established around trees identified as being retained.

Options are being investigated to protect the sandstone wall where the new building is close to the boundary. Current option includes scaffolding over top of class B Hoardings.

### 3.3 Dust Control Measures

A detailed Air Quality Management Plan will be provided by the Contractor once appointed. This will be submitted to the Hunter's Hill Council prior to the commencement of works.

All demolition works will be undertaken by appropriately licenced and experienced Contractors, utilising the relevant codes of practice with regards to the generation of dust.

Regular daily monitoring will be undertaken throughout the construction phase and, mitigation measures will be undertaken on as-needs basis.

### 3.4 Stormwater Management Measures

A stormwater and Erosion Management Plan will be provided by the Contractor once appointed. This will be submitted to the Hunter's Hill Council prior to the commencement of works.

A sediment basin and site fence will be installed to the low side perimeter of the site as specified to prevent any spoil washing from the site. The drains and pits will be inspected regularly and maintained such that they remain effective.

A wheel wash bay will be established at the site's entrance to assist with preventing spoil from being deposited around school premises and adjoining roads.

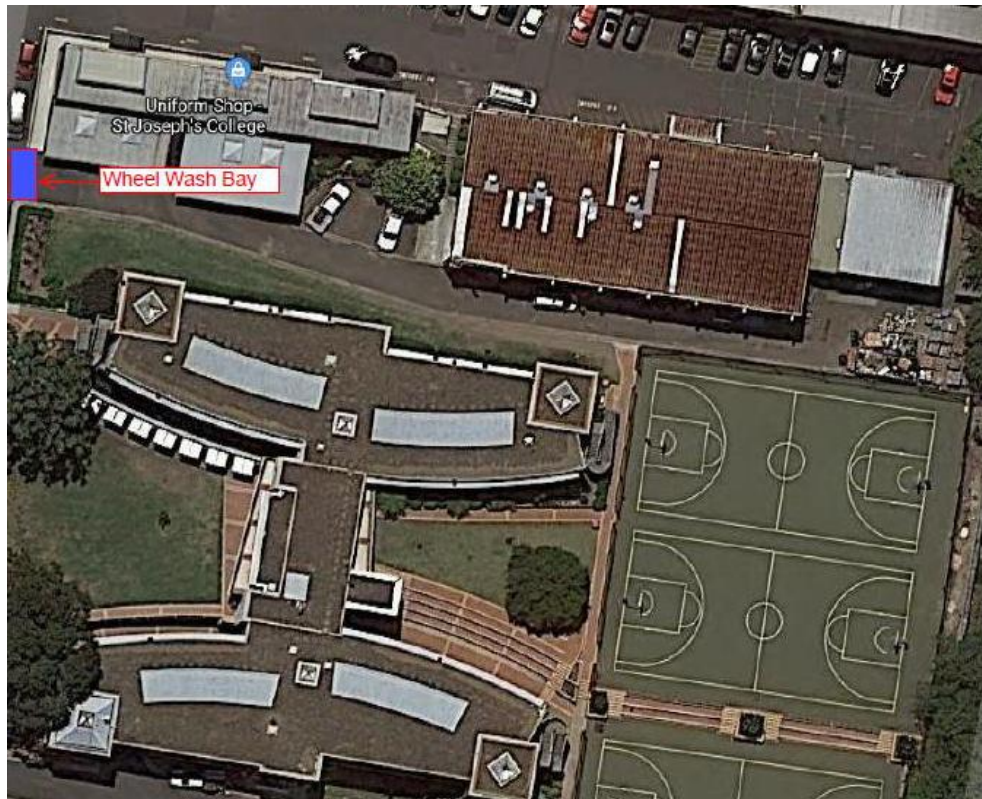


Figure 9. Wheel Wash Bay

### 3.5 Noise and Vibration Control Measures

Noise and vibration from the construction process may impact on students and surrounding residents. Vibration could also potentially affect the structural integrity of existing sandstone wall.

In order to help meet the noise and vibration requirements of the site, baseline testing will be carried out and existing operational levels identified. The identification of baseline levels will enable Contractors' methodologies to be specifically tailored to ensure benchmarks are not exceeded. Noise and vibration monitoring will be installed on site and monitored throughout the project.

The Contractor will provide a Construction Noise and Vibration Management Plan (CNVMP) once appointed. This will be submitted to Hunter's Hill Council prior to commencement of works.

Vibration and noise activities that will occur during construction include the following:

- a) saw cutting,
- b) excavation equipment
- c) hammer drills
- d) angle grinders
- e) air compressors

- f) generators
- g) concrete pumps
- h) diesel static crane

Noise mitigation strategies that could be employed include:

- a) excavation, piling, shoring and retention works will be undertaken primarily using non-percussive methods where achievable given geotechnical and structural conditions;
- b) plant used intermittently during construction activities such as, trucks, excavators, cranes, piling machines will be turned off in periods between works activities rather than left idling;
- c) plant and equipment selection to reduce noise where possible; plant and equipment fitted with silencers where possible;
- d) erection of temporary screens to control dust and noise emissions eg hoarding to the existing building as an acoustic barrier;
- e) vibration and noise awareness training for all site staff including subcontractors as part of general site induction and tool-box meetings;
- f) regular reviews of the program and construction methodologies to minimise the duration of noise-intensive works;
- g) Adhere to permitted working times with approved flexible working hours to avoid noisy work during sensitive hours and school days;
- h) acoustic testing of proposed methodologies.

### 3.6 Waste Management

A waste management will be prepared by the appointed Contractor and submitted to Hunters Hill Council. The Waste Management Plan is required to:

- a) minimise waste from site activities
- b) establish the site specific waste management requirements and improve efficiencies via waste separation, recycling and re-use measures
- c) hazardous materials – identification, separation, collection and disposal of environmental waste

The appointed Contractor will ensure that all generation, storage, treatment and disposal of waste are conducted in accordance with all relevant legislations. The main legislative requirements for PESPP redevelopment are:

- a) Waste Avoidance and Recovery Act, 2001
- b) Protection of the Environment Operations Act, 1997
- c) Work Health and Safety Act, 2011
- d) Future Redevelopment Consent Conditions

Contractor will appoint an environmental consultant to ensure waste material is classified in accordance with EPA guidelines.

The Contractor will provide skips primarily for metal, cardboard, concrete and masonry. Recyclables to be recovered are likely to consist of off cuts of materials such as stone, pipes, timber, steel, plasterboard, tiles and miscellaneous packaging.

The main goal will be to reduce the total volume of waste produced, which will be achieved by effective materials procurement, supply and management. Project Managers, Engineers, Builders and subcontractors will play a key role in achieving on-site waste reduction targets on a day-to-day basis.

## 4 College Operations During Construction

### 4.1 General

The College will maintain normal operations during construction by adopting appropriate construction management plans. The two nominated sites are adjacent to the external perimeter of the campus which allows separation for the daily functional needs to the College.

The impact on teaching and learning spaces is considered minimal and if required, the College is able to relocate classes and lessons to alternative locations within the campus, away from construction sites to mitigate the impact of noise issues.

### 4.2 Student / Staff Safety Management

As set out in the preceding sections of this plan, the main site and the temporary Healy Gymnasium site will be separated from school operations by appropriate hoardings, with security guards at site entrances and locked gates when the sites are not operational.

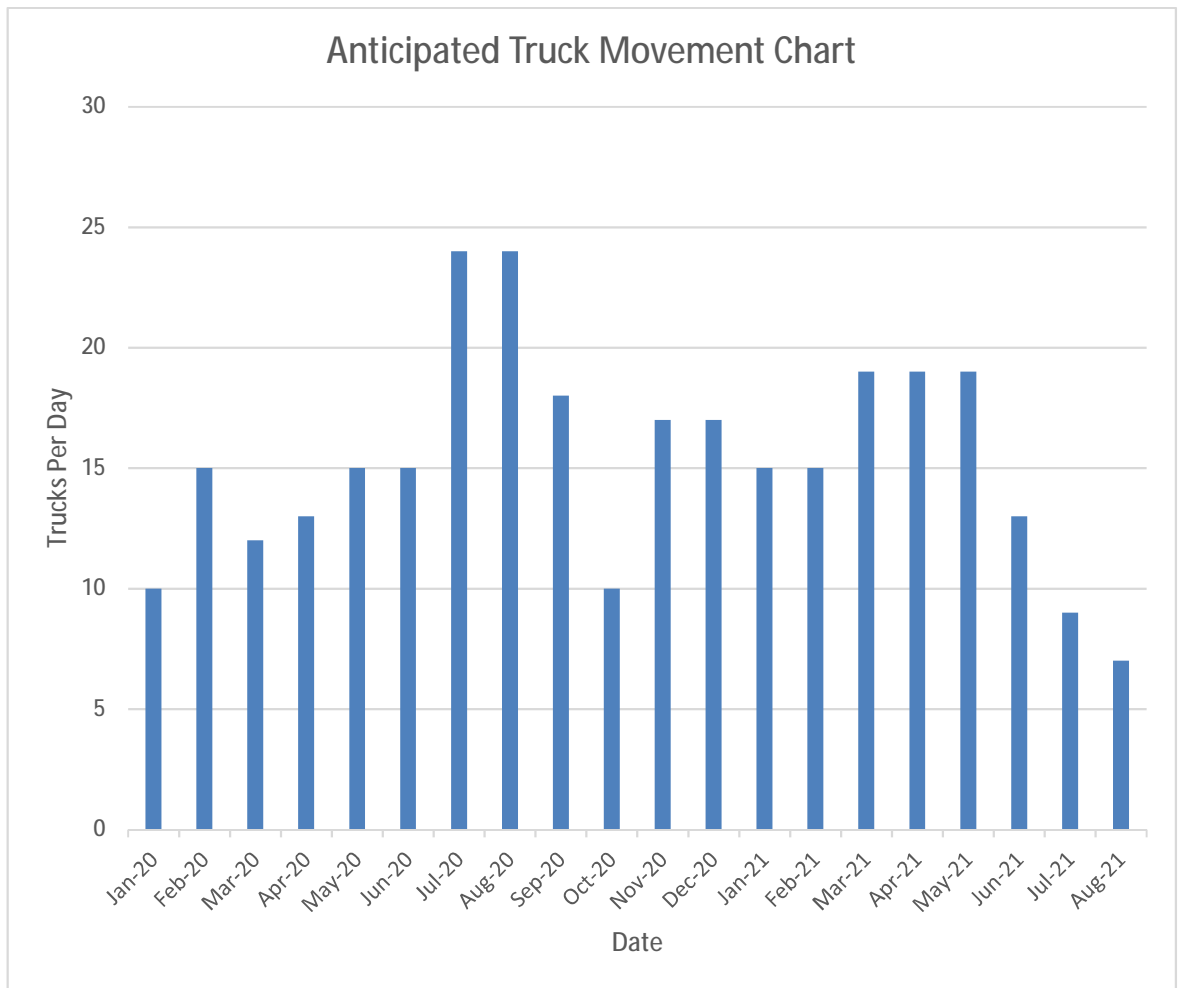
Potential risks to safety of students and staff will arise at interfaces between school operation and construction – i.e. around site entrances. This will be managed by separation of school operations / access points from construction access points, for example by the use of fencing to separate walkways from construction access as shown in Figure 5 above.

Another potential risk area is the impact of construction on the school's existing evacuation plans. The major concern in this respect, is the potential blocking of designated egress / evacuation paths by construction site hoardings or fencing. This will be managed by checking the planned location of hoardings against the existing school evacuation plans, and if necessary, adjusting the hoardings or evacuation plans to ensure that safe egress is maintained.

Similarly, the effect of construction on disabled access paths must be reviewed and if necessary, alternative temporary disabled access arrangements made.

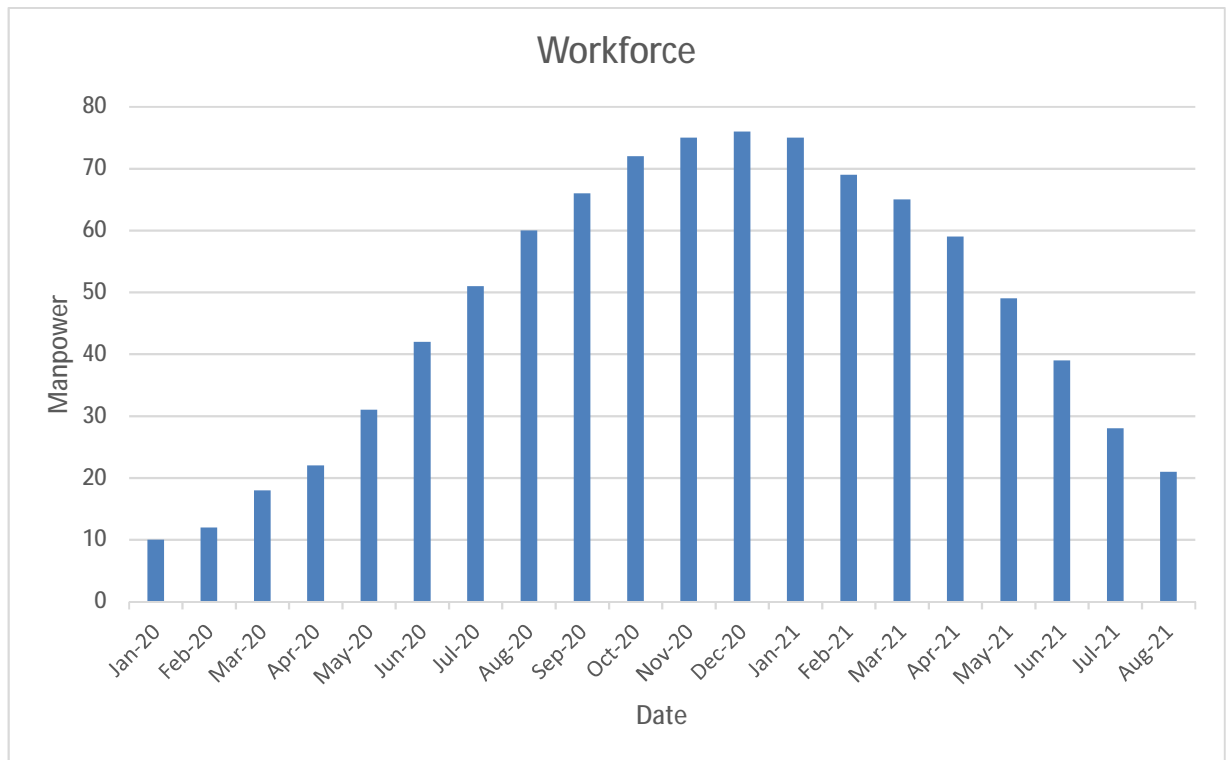
### 4.3 Alternative Arrangements During Construction

The PESP Project will be phased to ensure the existing Healy Gymnasium is retained and fully operational until the completion of the new gymnasium facility. To maintain normal basketball operations during the construction period the College is building two new basketball courts adjacent Mary Street and the College existing playing fields. The College will retain the use of the existing indoor court during and post construction and can extend operational hours if required. The College is also seeking cooperative arrangements with local schools to access further basketball courts.



## Appendix B

### Indicative Construction Workforce Histogram



## Appendix C

### Preliminary Construction Programme

