Parramatta East Public School Upgrade

30-32 Brabyn Street,

North Parramatta NSW

Integrated Water Management Plan

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Contents

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1.0 Executive Summary

This Integrated Water Management Plan (IWMP) evaluates the environmental impacts and outlines water management strategies for the proposed upgrades to Parramatta East Public School (PEPS), located in North Parramatta. The upgrade, driven by the NSW Department of Education, aims to replace outdated facilities and meet increasing educational demands in the Collet Park precinct and North Parramatta area.

Key Environmental Considerations

- **Flood Risk**: The site is unaffected by major flooding events; however, minor overland flows will be managed through stormwater design features like grassed swales.
- **Soil and Groundwater**: The geotechnical investigation revealed shallow fill and silty clay over sandstone bedrock.
- **Vegetation**: While some trees will be removed, retention will be prioritised where possible.

Water Management Strategies

- **Stormwater Infrastructure**: A stormwater management system featuring a pit and pipe network, a 20kL rainwater tank and a 170m³ On-Site Detention (OSD) tank will manage stormwater runoff, reduce flow rates, and treat water before discharge.
- **Water Quality Enhancements**: Devices such as gross pollutant traps and Ocean Protect stormfilters will significantly reduce pollutants.
- **Water Efficiency**: Proposed measures include rainwater reuse for landscaping and toilet flushing.

Construction Phase Controls

Erosion and sediment control measures, such as silt fences, dust suppression, and revegetation, will be implemented to mitigate environmental impact during construction.

Compliance and Sustainability

This IWMP demonstrates compliance with regulatory standards and incorporates Water Sensitive Urban Design (WSUD) principles, ensuring environmentally sustainable outcomes. The plan effectively addresses stormwater management, water conservation, and environmental protection, supporting the NSW Department of Education's goal to provide sustainable educational facilities.

2.0 Introduction

This Integrated Water Management Plan has been prepared by Woolacotts on behalf of the NSW Department of Education to assess the potential environmental impacts that could arise from the Parramatta East Public School (PEPS) upgrade (the Activity) at 30-32 Brabyn Street, North Parramatta (the site). The Activity is proposed by the NSW Department of Education to meet the growth in educational demand in Collet Park precinct, and the broader North Parramatta area.

This report has been prepared to provide input into the Integrated Water Management aspects of the proposed activity.

3.0 Summary of The Activity

The activity comprises upgrades to PEPS to provide replacement teaching facilities in place of the existing temporary and permanent facilities that are no longer fit for purpose, involving the following works:

- Site preparation and required earthworks;
- Demolition of existing Buildings C, D, E and F, and associated structures including adjacent ramps and walkways;
- Construction of the following:
  - A new 3-storey school building (referred to as Block R) including teaching spaces, library/administration, and staff/student amenities;
  - Upgrade of soft and hard landscape and playground areas;
  - A new at-grade parking area;
  - Formalised waste area, with access being retained from Gaggin Street;
  - Public Domain Works with upgrades to the pedestrian access south of the school, and new kiss and ride zone on Albert Street East;
  - Entrance and School logo signage along the Northern Albert Street East frontage of Block R;
- Refurbishment works to existing buildings;
- Removal of trees as required and retention where possible; and
- Installation and augmentation of services and infrastructure as required.

Refer to the Review of Environmental Factors prepared by Ethos Urban for a full description of works.

4.0 Site Description

The site is located at Brabyn Street within the City of Parramatta Local Government Area. Parramatta East Public School is located in the suburb of North Parramatta, within the City of Parramatta Local Government Area (LGA). The site is approximately 1.5km northeast of the Parramatta CBD, and 24km west of the Sydney CBD.

The site currently comprises a single lot to make up Parramatta East Public School, referred to as Lot 100, DP1312418, and the land is owned by the Minister for Education and Early Learning.

The site has an area of approximately 1.782Ha, is of an irregular shape, and is bounded by Brabyn Street to the West, Albert Street East to the North, and Gaggin Street/Webb Street to the East. The project area is contained within the site and represents where the proposed works will be undertaken, with an area of approximately 1.492Ha.

An aerial image of the site and project area is shown at Figure 1 below.

Figure 1 – Aerial Image of The Site
(SOURCE DOCUMENT: *Nearmap*).

5.0 Significance of Environmental Impacts

Based on the identification of potential issues, and an assessment of the nature and extent of the impacts of the proposed activity, it is determined that:

- The extent and nature of potential impacts are low and will not have significant impact on the locality, community and/or the environment.
- Potential impacts can be appropriately mitigated or managed to ensure that there is minimal impact on the locality, community and/or the environment.

6.0 Existing Conditions

The site contains a number of existing buildings along the northern boundary, eastern boundary, and western boundary, a number of demountable teaching spaces in the southwest corner of the site, and an existing car park at the southwest corner of the site. There is a large existing paved sports court in the northern part of the site, and it is surrounded by the existing buildings within the site. Refer to Figure 2 below for the existing site plan.

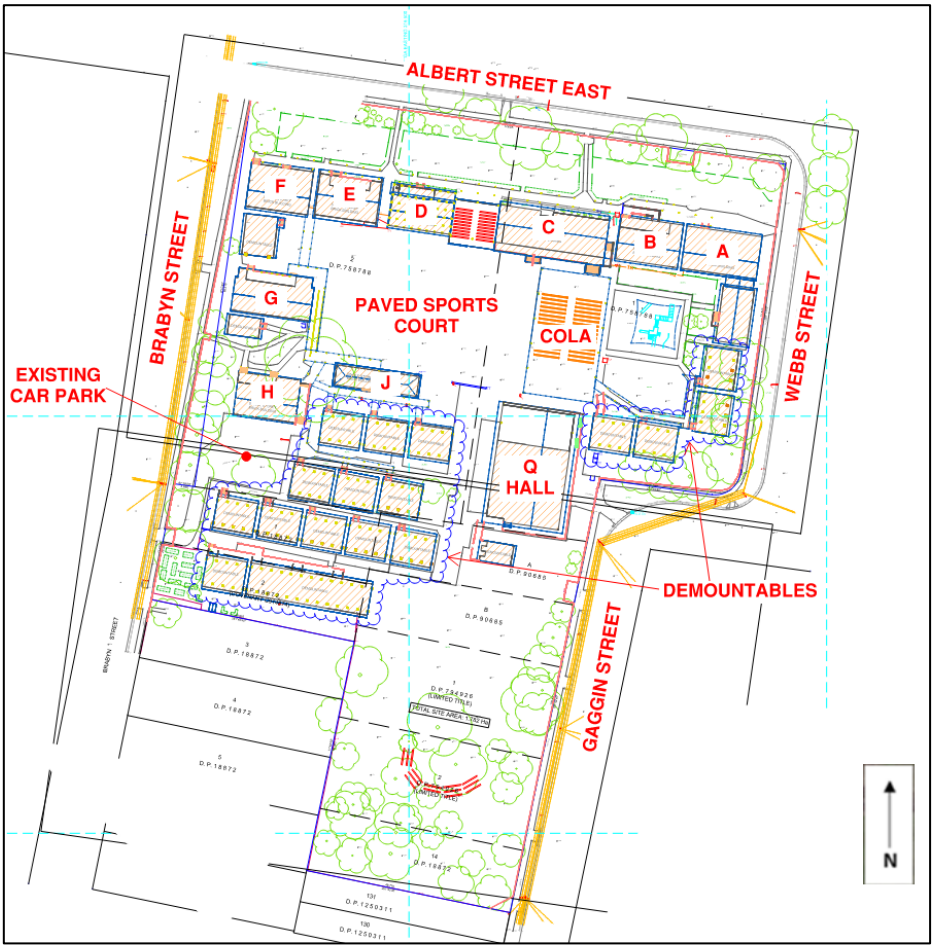

Figure 2 – Existing Site Plan

(Source: Digital Survey Solutions Utility Mapping, Job Reference: A2545, Drawing No. A2545-Detail, Sheet 1 of 3)

The site slopes from the north towards the south at a grade of approximately 5%-6%.

7.0 Proposed Activity

The proposed activity involves the demolition of existing buildings, the removal of existing demountable teaching spaces, the construction of a new building (Block R), a new staff carpark, a new waste storage area, associated landscape areas, and earthworks / remediation. The proposed activity also includes refurbishing existing buildings. Refer to Figure 3 below for the proposed site plan.

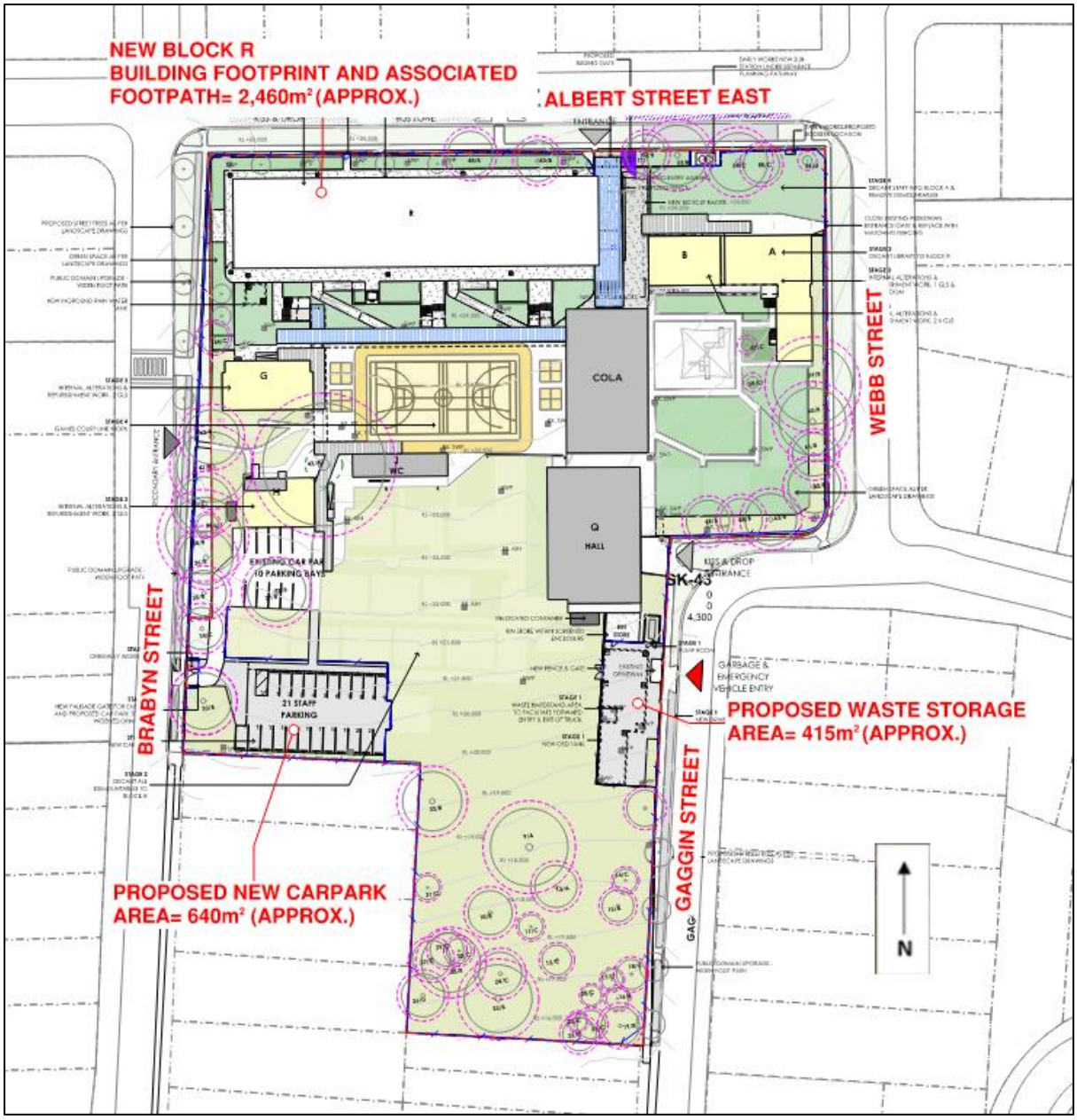

Figure 3 – Proposed Site Plan

(Source: JHD Architects, Job No. 1291, Sheet No. PEPS-JDH-ZZ-XX-DR-A-0012, Revision J)

8.0 Integrated Water Management Plan

8.1 Existing Environment

8.1.1 Catchment Hydrology

The Parramatta River Flood Study (Reference number: 59916074/304600102, dated 13th June 2024) shows that the site is not impacted by riverine flooding from the Probable Maximum Flood (PMF) event *(Note: The PMF is the largest flood that could conceivably occur at a particular location. The PMF defines the extent of the floodplain)*. Riverine flooding occurs when heavy rainfall causes the water levels in a river to rise and escape the main channel. Refer to Figure 4 below for the PMF extent near the site.

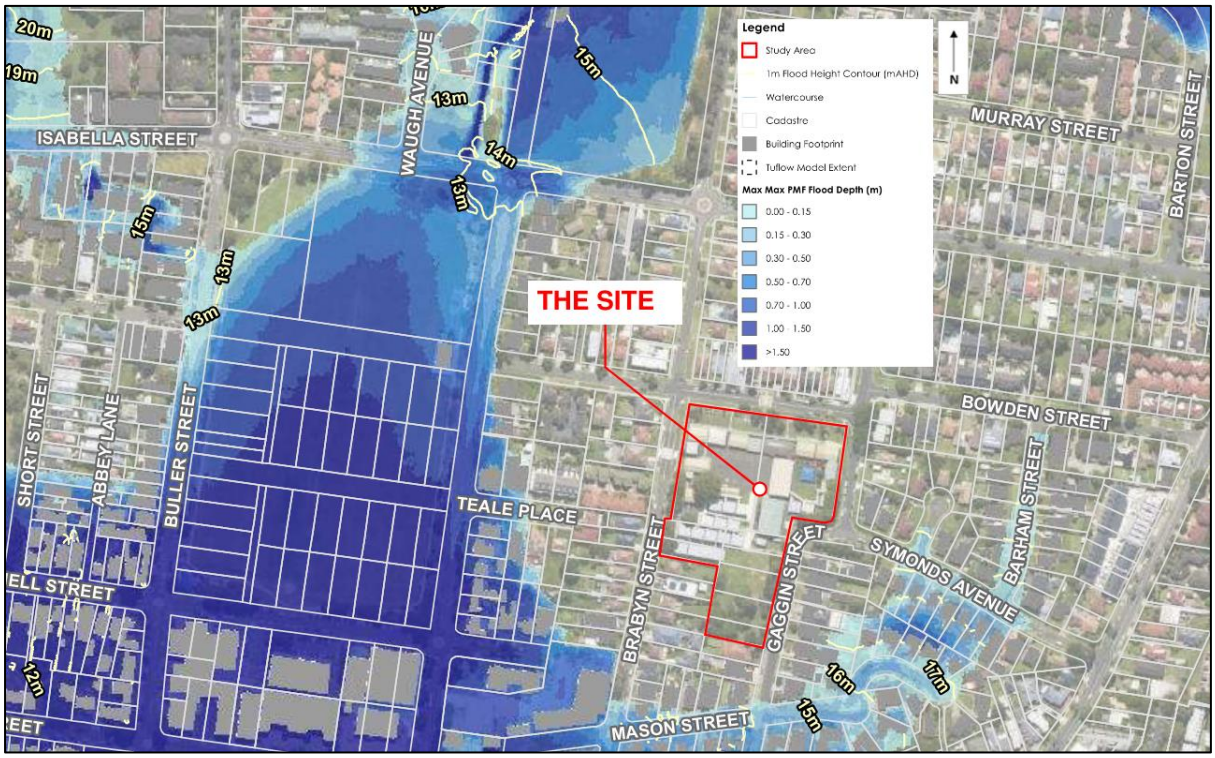

Figure 4 – Probable Maximum Flood Extent

(Source: The Parramatta River Flood Study (Reference number: 59916074/304600102, dated 13th June 2024)

Upon review of the existing topographic information around the site, the site is not impacted by overland flow flooding from the upstream catchments of the site. Refer to Figure 5 below for the overland flow path plan.

The proposed new activity may be affected by minor local overland flow within the site and overland flow paths such as grassed swales will be provided to divert stormwater to the downstream pit/pipe network before discharging into the Council drainage system.

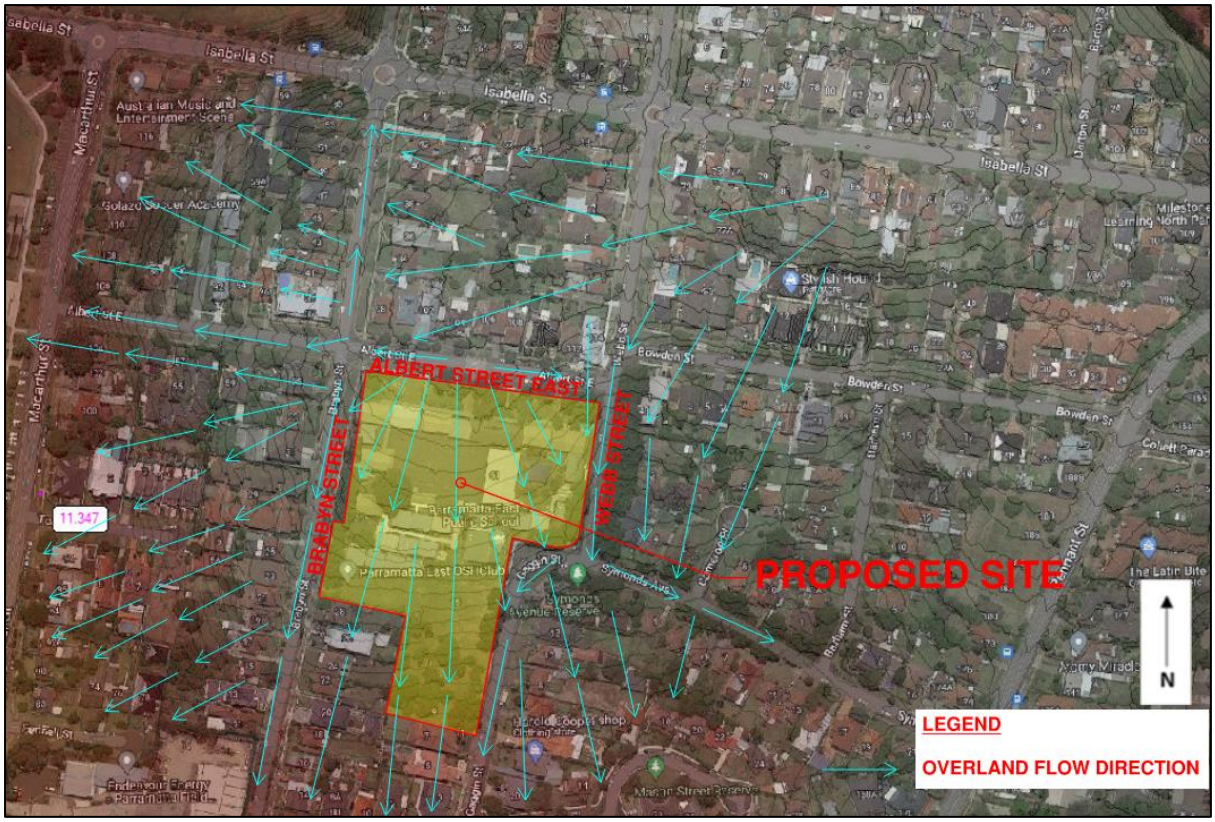

Figure 5 – Overland Flow Path Plan

8.1.2 Soil Conditions

The site contains a generalised profile comprising relatively shallow fill overlying residual silty clay which transitions to weathered sandstone bedrock at depths ranging from 1.0m to 2.2m. The bedrock generally comprises sandstone, although bands of siltstone and laminate were encountered within the profile.

For further information on the soil profile, refer to the Geotechnical Engineering Report (Reference number: 35073LTrpt, dated February 2025) prepared by JK Geotechnics.

A Detailed Site Investigation (DSI) report has been produced by JK Environmental (E35073BR2rpt.Rev5 JKG Revised DSI Report, dated 28 February 2025) noting that friable and non-friable asbestos has been detected in various locations requiring remediation in accordance with the Remediation Action Plan (RAP) provided by JK Environmental (E35073BR2rpt3.Rev4-JKG Revised RAP Report, dated 28 February 2025).

8.1.3 Vegetation Cover

The northern portion of the site is covered by existing buildings, concrete pavements, asphaltic concrete pavements, and landscape areas. There are a number of existing trees on the eastern, northern and western boundaries.

The southeastern portion of the site is currently covered by trees and typically short grass.

A number of existing trees on the northern boundary will be removed for the construction of Block R building and all the existing trees in the other areas will be retained. The vegetation in the southern portion of the site will be retained.

8.1.4 Ground Water

During geotechnical investigations undertaken by JK Geotechnics, groundwater was measured within the monitoring wells at depths of 3.2m and 4.2m below existing ground surface levels. Long-term monitoring will be required to confirm groundwater levels.

For further information on the groundwater conditions, refer to the Geotechnical Engineering Report (Reference number: 35073LTrpt, dated February 2025) prepared by JK Geotechnics.

8.1.5 Site Constraints

The existing stormwater pits within the site are shallow and the existing pipes do not have sufficient capacity to convey stormwater from the proposed activity to the downstream Council's stormwater assets.

The site has only one single stormwater discharge location on the mid-eastern boundary. This single discharge location is an existing Council stormwater pit within Webb Street and there are several existing buildings / demountables and large trees along the eastern boundary. New stormwater pipes cannot traverse underneath the existing buildings / demountables, and through tree roots for direct connection to the existing Council's stormwater pit within Webb Street. As a result, the proposed stormwater network for Block R and associated landscape areas is connected to the street kerb and gutter within Gaggin Street.

8.1.6 Water Quality Conditions

The site has historically been used for education purposes. The geotechnical investigation indicates that the site has relatively shallow filling overlying residual silty clay which transitions to weathered sandstone bedrock.

The water quality in the existing discharge locations will be typical of an urban environment, with the main pollutants consisting of litter, oils/ grease from roadways, and existing soil condition pollutants described above.

Several contamination assessments have been conducted for the project, and it has been confirmed that no known groundwater contamination exists within the site.

8.2 Site Stormwater Discharge

The proposed stormwater drainage network for the site consists of a below-ground pit and pipe network collecting runoff from the roof, paved areas and landscape areas. This network has been sized for the 1% AEP storm event.

The roof area is directed to a below-ground 20kL rainwater tank located in the garden area at the southwest corner of the new Block R building. Overflow from the rainwater tank discharges via a stormwater pipe to an On-site Detention (OSD) tank located in the new waste storage area on the southeast side of the site.

The OSD tank contains water quality devices that treat the stormwater runoff before it is discharged into the Council's street drainage system at the street kerb on the eastern side of Gaggin Street.

8.3 Objectives and Performance Standards

8.3.1 Water Consumption

The total water consumption (potable water)demand shall be offset through the use of latest technology water saving devices (subject to the project requirements) such as:

- Dual flush toilets
- Flow limited taps
- Hose tap irrigation for landscaping

In addition to this, a rainwater collection and reuse tank is proposed to collect clean rainwater for toilet flushing and irrigation of landscaping subject to project requirements.

9.0 Water Sensitive Urban Design Measures

9.1 Rainwater Reuse

It is proposed to provide a rainwater collection and reuse to collect clean rainwater for toilet flushing and irrigation of landscaping subject to project requirements.

The proposed 20m^3 rainwater tank for reuse will reduce the demand for potable water.

9.2 On-Site Retention/Detention

It is proposed to provide one below-ground on-site detention tank to limit post-development flows leaving the site to predeveloped conditions. Refer to the Stormwater Management Report by Woolacotts for further information on the below-ground on-site detention tank.

9.3 Erosion and Sediment Control

During construction, erosion and sediment control measures will be provided in accordance with the requirements of "Managing Urban Stormwater Soils and Construction, 4th Edition (Blue Book)". These measures will include silt fences on the low side of the site, silt traps at stormwater pits. Dust control measures will also be provided.

Other measures to be provided on site during construction include construction exits for all vehicles leaving the site, and revegetation of the site as soon as practicable. Erosion control measures must be inspected and maintained after each rain event and at intervals not exceeding two weeks.

9.4 Stormwater Quality / Treatment

The quality of stormwater runoff from the site will be improved using WSUD principles such as:

- Grassed swales
- Open turf areas

- All grated inlet pits will have gross pollutant traps, to remove gross pollutants prior to site discharge
- Collection, reuse, and bypass of clean roof water (subject to project requirements)
- Ocean Protect stormfilter system consisting of 12x690mm PSorb cartridges

The above proposed treatment devices are incorporated within the system design to achieve an overall reduction in annual pollutant loads as summarised below:

- 45% reduction in Total Nitrogen (TN)
- 65% reduction in Total Phosphorus (TP)
- 85% reduction in Total Suspended Solids (TSS)
- 90% reduction in Gross Pollutants

Refer to the *Stormwater Management Report* by Woolacotts for further information on the proposed WSUD measures for this site.

10.0 Conclusion

This Integrated Water Management Plan demonstrates a comprehensive approach to managing potential environmental impacts, ensuring compliance with relevant standards, and promoting sustainability through innovative design and construction practices.

The inclusion of water-sensitive urban design principles, efficient stormwater management systems, and erosion control measures ensures that the activity minimizes its environmental footprint. The integration of features such as rainwater reuse, on-site detention, and pollutant reduction mechanisms underscores the commitment to water conservation and quality improvement.

Through the consideration of site constraints and the application of targeted mitigation strategies, the project effectively balances developmental priorities with environmental responsibility. The outcome is a sustainable and adaptable educational facility that enhances the learning experience while fostering alignment with community values and environmental goals.

11.0 Mitigation Measures

Table 2.0 – Mitigation Measures			
Risk and Hazard	Impact	Mitigation Measure	Significance After Mitigation
Failure of on-site stormwater management system.	Flooding within the site and nuisance to the facility users. Polluted stormwater being discharged to natural waterways including rivers and ocean.	A stormwater asset maintenance manual shall be prepared prior to the issue of Occupation Certificate to maintain the on-site stormwater system regularly.	Not significant