

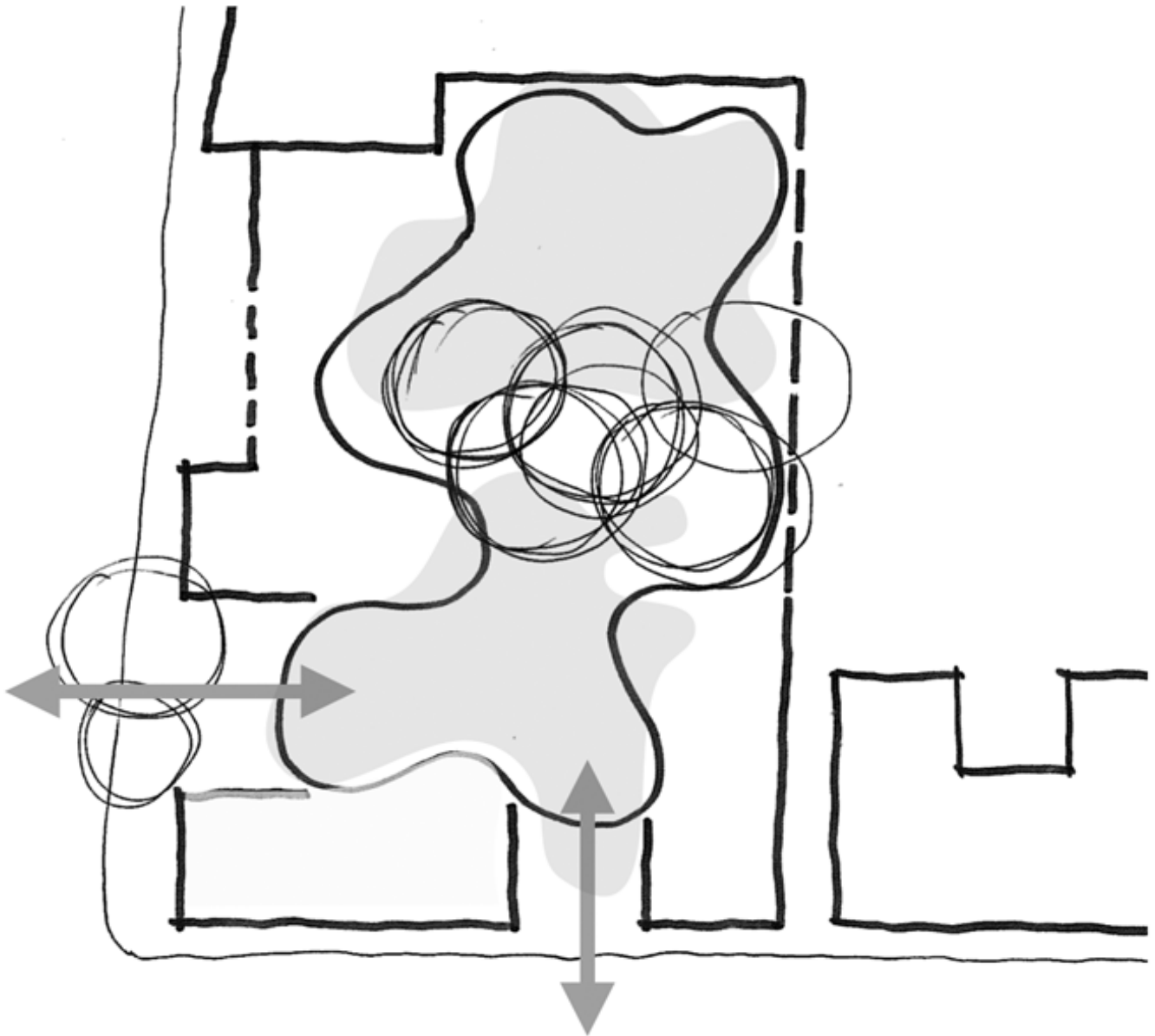
DARLINGTON PUBLIC SCHOOL REDEVELOPMENT

Appendix W — Operational Waste Management Plan

SSD-9914

Prepared by JBS&G

For NSW Department of Education





School Infrastructure NSW
Operational Waste Management Plan

Darlington Public School
Golden Grove Street, Darlington, NSW

22 April 2020

56243/129064 (Rev 1)

JBS&G Australia Pty Ltd

School Infrastructure NSW
Operational Waste Management Plan

Darlington Public School
Golden Grove Street, Darlington, NSW

22 April 2020

56243/129064 (Rev 1)

JBS&G Australia Pty Ltd

Table of Contents

1.	Introduction	1
1.1	Introduction and Purpose	1
2.	Legislation and Guidelines	2
2.1	Legislation.....	2
2.2	Guidelines.....	3
2.3	Council Requirements	4
3.	Waste Streams and Classification.....	5
3.1	EPA Waste Classification	5
3.2	Site Specific Waste Streams	6
4.	Waste Generation Quantities.....	7
4.1	Estimated Waste Quantities After Redevelopment Works.....	7
5.	Waste Management	8
5.1	Waste Hierarchy	8
5.1.1	Avoidance and Reduction of Waste	8
5.1.2	Reuse and Recycling.....	9
5.1.3	Treatment and Disposal	9
5.2	Waste Storage Systems	9
5.3	Waste Storage Areas	11
5.4	Waste Facilities Construction / Maintenance	11
5.5	Waste Movement.....	11
5.6	Waste Collection Point	11
5.7	Waste Collection Vehicle Movements	11
5.8	Waste Collection Hours	12
5.9	Waste Collection Contractor	12
6.	Ongoing Management	13
6.1	Roles and Responsibilities	13
6.2	Training and Awareness	14
7.	Monitoring and Reporting	15
8.	Limitations	16

List of Tables

Table 2.1: NSW Waste Legislation Summary	2
Table 2.2: NSW Guidance Summary	3
Table 3.1: Potential Waste Types and Classifications	6
Table 4.1: EPA (2012) Estimated Average Waste and Recycling Generation Rates	7

Table 5.1: Waste Storage System Options.....	10
Table 6.1: Roles and Responsibilities	13

List of Figures

Figure 1	Site Location
Figure 2	Site Layout

Appendices

Appendix A	Detailed Design Drawings
------------	--------------------------

1. Introduction

1.1 Introduction and Purpose

JBS&G Australia Pty Ltd (JBS&G) has been engaged on behalf of School Infrastructure NSW (SINSW, the client), to prepare an Operational Waste Management Plan (OWMP) for ongoing operations at Darlington Public School, following redevelopment (the site, **Figure 1**) with an area size of approximate 7,450 m². Darlington Public School is located on the corner of Golden Grove Street and Abercrombie Street, Darlington, within the City of Sydney Local Government Area. The school is adjacent to the University of Sydney Darlington Campus and within walking distance to Redfern and Macdonaldtown train stations. The site is legally described as Lot 100 in DP 623500 and Lot 592 in DP 7523049.

The State Significant Development (SSD) application seeks consent for demolition of existing school buildings and construction of a new part 2, part 3-storey building, increasing the school capacity from 230 to 437 students. The works also include replacement of the existing child-care facility (to the same capacity of 60 students), earthworks and landscaping. For a detailed project description refer to the Environmental Impact Statement (EIS) prepared by Ethos Urban.

The purpose of the OWMP is to ensure that the waste generated on site during operation of the school post redevelopment will be minimised to the extent practicable and provide documented procedures on how generated waste will be managed.

1.2 Scope

This OWMP has been developed to address the Secretary's Environmental Assessment Requirements (SEARs) issued by the NSW Department of Planning and Environment for application SSD 19_9914¹, dated 19 March 2019. **Table 1.1** presents the SEARs required to be addressed to support the SSDA:

Table 1.1: SEARS Requirements

SEARS Requirements	Report Section
Identify, quantify and classify the likely waste streams to be generated during construction and operation and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste.	Waste streams associated with the construction phase of the project is presented in Section 4 .
Identify and detail how any asbestos waste, lead-based paint and Polychlorinated biphenyls (PCBs) that may be encountered will be handled, transported and disposed.	Hazardous material handling, transport and disposal requirements are detailed in Section 5 and Table 5.1
Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones, mechanical plant) for the site.	Servicing arrangements are presented in Section 5 .
Assess, quantify and report on waste management in the context of the waste management hierarchy.	Waste Hierarchy is presented in Section 3.3 . Waste Management is detailed in Section 5 .

¹ Application Number SSD – 9914 Darlington Public School Redevelopment. Golden Grove Street, Darlington within City of Sydney. Department of Education. Secretary's Environmental Assessment Requirements, Section 4.12(8) of the Environmental Planning and Assessment Act 1979 Schedule 2 of the Environmental Planning and Assessment Regulation 2000 dated 19 March 2019 (SSD 9914)

2. Legislation and Guidelines

2.1 Legislation

This OWMP has been prepared in accordance with the requirements of the NSW *Waste Avoidance and Resource Recovery Act 2001*, and the NSW *Protection of the Environment Operations Act 1997* (POEO Act). These and other key legislation relevant to waste management at the site are provided in **Table 2.1**.

Table 2.1: NSW Waste Legislation Summary

Legislation	Purpose
<i>Protection of the Environment Operations Act 1997</i> <i>Protection of the Environment Operations (Waste) Regulation 2014</i> <i>Protection of the Environment Operations (General) Regulation 2009</i>	<p>The Act is the key piece of environment protection legislation administered by the NSW Environment Protection Authority (EPA). The object of the Act is to achieve the protection, restoration and enhancement of the quality of the NSW environment.</p> <p>The Act enables the Government to establish policy instruments for setting environmental standards, goals, protocols and guidelines.</p>
<i>Waste Avoidance and Resource Recovery Act 2001</i>	<p>The WARR Act promotes waste avoidance and resource recovery to achieve a continual reduction in waste generation, provides for development of a state-wide Waste Strategy, and introduces a scheme to promote extended producer responsibility for the life-cycle of a product. Objectives of the Act include:</p> <ul style="list-style-type: none"> • To encourage the most efficient use of resources and to reduce environmental harm; • To ensure that resource management options are considered against a hierarchy (see Section 3.3); • Provide for the continual reduction in waste generation; • To minimise the consumption of natural resources and the final disposal of waste; • To ensure that industry shares with the community the responsibility for reducing and dealing with waste; and • To assist in the achievement of the objectives of the <i>POEO Act</i>.
<i>Environmental Planning and Assessment Act 1979</i> <i>Environmental Planning and Assessment Regulation 2000</i>	<p>The Act and the Regulation provide the overarching structure for planning in NSW. They provide for a number of other statutory documents to support the planning structure, including State Environmental Planning Policies and Local Environmental Plans. The objectives include:</p> <ul style="list-style-type: none"> • The proper management, development and conservation of natural and artificial resources; and • To encourage ecologically sustainable development.
<i>Environmentally Hazardous Chemicals Act 1985 (NSW)</i>	<p>The Act provides for control of the effect on the environment of chemicals and chemical wastes. The EPA is responsible for administering this legislation, in partnership with other state government agencies.</p> <p>It is the primary legislation for specifically regulating environmentally hazardous chemicals throughout their life cycle. The Act sets out requirements for:</p> <ul style="list-style-type: none"> • Chemical Control Orders (CCOs) which are used to manage specified hazardous chemicals and chemical wastes; • Technology assessments, which ensure that premises treating or destroying chemicals are safe and appropriate for their purpose; and • Licensing of individuals or industries who manage chemicals that are subject to a CCO.
<i>Contaminated Land Management Act, 1997 and Regulation 2013</i>	<p>The Act establishes a process for investigating and (where appropriate) remediating land that the EPA considers to be contaminated significantly enough to require regulation.</p>

2.2 Guidelines

Guidance documents and policies considered in the preparation of this OWMP are included in **Table 2.2**.

Table 2.2: NSW Guidance Summary

Guideline	Purpose
NSW Environment Protection Authority (EPA) Waste Classification Guidelines 2014 (EPA 2014)	The Waste Classification Guidelines have been established by the NSW EPA to assist waste generators to classify wastes. Wastes are classified into groups that pose similar risks to environment and human health. Waste classifications are discussed further in Section 3 .
Building Code of Australia (BCA)	The BCA contains technical provisions for the design and construction of buildings and other structures, covering such matters as structure, fire resistance, access and egress, services and equipment, and energy efficiency as well as certain aspects of health and amenity.
NSW EPA's Waste Avoidance and Resource Recovery (WARR) Strategy 2014-21	The WARR strategy provides a framework for waste management for the state until 2021. Key targets include: <ul style="list-style-type: none"> • Avoid and reduce waste generation; • Increase recycling; • Divert more waste from landfill; • Manage problem wastes better; • Reduce litter; and • Reduce illegal dumping.
NSW EPA's Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities 2012	The guide provides advice to assist architects, developers, council staff and building managers to incorporate better waste management practice into the design, establishment, operation and ongoing management of waste services in commercial and industrial developments.
NSW Government Resource Efficiency Policy (GREP) 2019	The policy aims to reduce the NSW Government's operating costs and lead by example in increasing the efficiency of its resource use. The policy will continue to drive resource efficiency by NSW Government agencies in four main areas – energy, water, waste and air emissions from government operations. The GREP was introduced in 2014 and reviewed in 2018 to take into account implementation challenges, technology development and market trends. Local government, state-owned corporations, public trading enterprises and public financial enterprises are strongly encouraged to adopt this policy's approach.
How to manage and control asbestos in the workplace, SafeWork NSW Code of Practice, 2016 (NSW Government)	The Code of Practice is an approved code of practice under the <i>Work Health and Safety Act 2011</i> . It is only relevant where asbestos is present in the workplace. The code provides guidance on how to manage risks associated with asbestos and asbestos containing material at the workplace and thereby minimise the incidence of asbestos-related diseases such as mesothelioma, asbestosis and lung cancer.
How to safely remove asbestos, SafeWork NSW Code of Practice, 2016 (NSW Government)	The Code of Practice is an approved code of practice under the <i>Work Health and Safety Act 2011</i> . It is only relevant where asbestos requires removal. The code provides practical guidance on how to safely remove asbestos from all workplaces including structures, plant and equipment and should be read in conjunction with <i>How to manage and control asbestos in the work place</i> Code of Practice.
Australian Government Construction and Demolition Waste Guide, 2011	The aim of the guide is to help develop effective markets for materials diverted or derived from the construction and demolition waste stream.
Australian Government Sustainable Procurement Guide, 2018.	The guide aims to reduce the adverse environmental, social and economic impacts of purchased products and services throughout their life through considerations such as waste disposal and the cost of operation and maintenance over the life of the goods. The guide was developed to assist Australian Government purchasers to include sustainability considerations in all stages of the procurement process, from identifying the business need to disposal of goods.
Sampling Design Guidelines – Contaminated Sites. NSW EPA, 1995	The Sampling Design Guidelines were established by the NSW EPA to: <ul style="list-style-type: none"> • Encourage the use of a statistically based approach to the design and sampling for contaminated sites and the interpretation of these samples for assessing and validating contaminated sites; and • Provide a convenient summary of statistical methods.

2.3 Council Requirements

The Sydney Guidelines for Waste Management in a New Development (2012) details the requirements of ongoing waste management at a school as that consistent with a 'Commercial and Retail' development. Controls listed as part of the Sydney Guidelines for Waste Management to achieve waste minimisation and management objectives include the following:

- The school must provide a waste collection point that is level, free of obstructions and with sufficient height clearance to enable the safe mechanical pick-up and set down of bins.
- The location of the proposed waste and recycling collection point(s) is to be detailed on the development application (DA) plans.
- The size of storage areas and number of storage containers must be sufficient to handle and store the waste likely to be generated and stored on the premises between collections. The space is to be calculated using information in the Sydney Development Control Plan (Sydney DCP 2012²) and the requirements of storage spaces may differ depending on development details.
- All waste and recycling storage rooms and areas must be designed and constructed in accordance with the requirements of Sydney DCP (2012).
- In multi storey buildings, consideration must be given to the convenient transportation of waste and recycling from the various floors to the central/external waste storage area. Such transportation system may include a passenger or goods lifts, or a garbage chute system.
- Waste must be minimised through source separation of waste, reuse and recycling by ensuring appropriate storage and collection facilities.
- The development must incorporate convenient access for waste collection.
- Additional space must be provided for the storage of bulky wastes or green wastes where appropriate.
- Relevant details of waste storage, waste facility design and access thereto proposed as part of the development must be clearly illustrated on the plans of the proposed development accompanying the DA.
- All waste facilities must comply with the BCA and all relevant Australian Standards (AS).

² City of Sydney *Development Control Plan*. 2012. Found at:
<https://www.cityofsydney.nsw.gov.au/development/planning-controls/development-control-plans>

3. Waste Streams and Classification

3.1 EPA Waste Classification

The NSW EPA Waste Classification Guidelines (NSW EPA, 2014³) provide for the classification of wastes into groups that pose similar risks to the environment and human health, which are defined in the *Protection of the Environment Operations Act 1997*. Classes of waste described in the guideline are:

- Special waste
- Liquid waste
- Pre-classified waste, or wastes classified by chemical assessment as:
 - Hazardous waste
 - Restricted solid waste
 - General solid waste (putrescible)
 - General solid waste (non-putrescible).

Special Waste

Special wastes are wastes that pose specific regulatory requirements due to the risks of harm to the environment and human health. These wastes include clinical and related waste, asbestos waste, waste tyres, and anything classified as special waste under an EPA gazettal notice.

Liquid Waste

Liquid waste is classified as any waste (other than special waste) that meets the following criteria:

- has an angle of repose of less than 5 degrees above horizontal;
- becomes free-flowing at or below 60 degrees Celsius or when it is transported;
- is generally not capable of being picked up by a spade or shovel; and/or
- is classified as liquid waste under an EPA gazettal notice.

Pre-classified Waste (Hazardous, Restricted, General Solid – non-putrescible, General Solid – putrescible)

Where the waste is neither liquid nor special waste; the EPA has pre-classified other commonly generated waste types, as defined in Schedule 1 of the *Protection of the Environment Operations Act 1997*. This includes hazardous waste, restricted solid waste, general solid (putrescible) and general solid (non-putrescible) waste. Putrescible waste is the component of the waste stream that is liable to become putrid, and usually refers to vegetative, food and animal products.

A list of all currently gazetted waste classifications is provided on the EPA website⁴.

Waste Classified by Chemical Assessment (Hazardous, Restricted, General Solid – non-putrescible, General Solid – putrescible)

Where the waste does not fall into one of the above categories, chemical assessment of the material is required to finalise a waste classification as per the procedures outlined in detail in EPA (2014) and/or via consideration of General or Specific Waste immobilisation approvals as approved under the *Protection of the Environmental Operations (Waste) Regulation (2014)*.

³ Waste Classification Guidelines. Part 1: Classifying Waste. NSW Environment Protection Authority (EPA 2014)

⁴ www.epa.nsw.gov.au/waste/wastetypes.htm

3.2 Site Specific Waste Streams

Potential waste types and corresponding EPA classifications for the operation of Darlington Public School and associated facilities are summarised in **Table 3.1**.

Table 3.1: Potential Waste Types and Classifications

Waste Type	EPA Classification	Waste Stream
Paper including all types of recyclable paper but excluding paper towels, toilet paper and tissues.	General solid waste (non-putrescible)	Paper recycling
Cardboard, excluding waxed cardboard.	General solid waste (non-putrescible)	Cardboard recycling
Metals (steel, aluminium, stainless steel, and copper piping or wire)	General solid waste (non-putrescible)	Co-mingled recycling, specific recycling or general waste
Plastics (recyclables)	General solid waste (non-putrescible)	Co-mingled recycling
Plastics (non-recyclables)	General solid waste (non-putrescible)	General waste
Garden waste (grass clippings, tree pruning, chicken coop manure)	General solid waste (non-putrescible)	General waste or compost
Glass including bottles and containers.	General solid waste (non-putrescible)	Co-mingled recycling
Light bulbs, batteries, e-waste	Potentially hazardous waste	Specific recycling
General refuse such as food scraps and non-recyclable plastics.	General solid waste (putrescible) or General solid waste (non-putrescible)	General waste or compost

4. Waste Generation Quantities

4.1 Estimated Waste Quantities After Redevelopment Works

Based on communications with the client, it is anticipated that school will be able to accommodate approximately 415 students after the completion of proposed redevelopment works. As such, the quantities of waste generated are likely to increase due to increased facilities and potentially increased occupants. On this basis, it is appropriate to estimate indicative waste generation quantities for the site from published waste generation rates as per Table 16 in *Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities* (EPA 2012) and Section 3 of Sydney DCP (2012).

To derive indicative quantities of waste, the following assumptions have been applied as per the NSW EPA (2012):

- The future school buildings comprising classrooms, library, presentation rooms, school hall, staff and administrative offices have been assumed to be analogous to the “Primary Education” category as per NSW EPA (2012) and comprises an area of approximately 2,209m² (based on design drawings in **Appendix A**).
- The proposed canteen located on the ground floor has been assumed to be analogous to the “takeaway food shop” category as per NSW EPA (2012) and comprises an area of approximately 46 m² (based on design drawings in **Appendix A**).
- The site will operate on a five-day working week.

Table 4.1 summarises the waste generation rates based on EPA (2012).

Table 4.1: EPA (2012) Estimated Average Waste and Recycling Generation Rates

Premises Type	Average Waste Generation	Average Recycling Generation
Primary Education	7 L / 100 m ² / per day	0 L / 100 m ² / per day
Takeaway	175 L / 100 m ² / per day	685 L / 100 m ² / per day

As a conservative approach, the higher average waste and the lower recycling generation rates from the tables above have been adopted, thus it is estimated that the facility will produce approximately 1,176 litres of waste per week (5 working days) and 1,576 litres of recycling per week (5 working days).

It is considered that the estimates generated are adequately conservative. It is expected that actual waste quantities and composition will depend on the final activities of the site.

Strategies that will be implemented to minimise waste generation and maximise reuse and recycling are outlined in **Section 5**.

5. Waste Management

5.1 Waste Hierarchy

Waste management for the project will be undertaken in accordance with the waste hierarchy, which underpins the objectives of the *Waste Avoidance and Resource Recovery Act 2001*. The waste hierarchy shown below demonstrates preferred approaches to waste management to ensure sustainable development and use of resources.

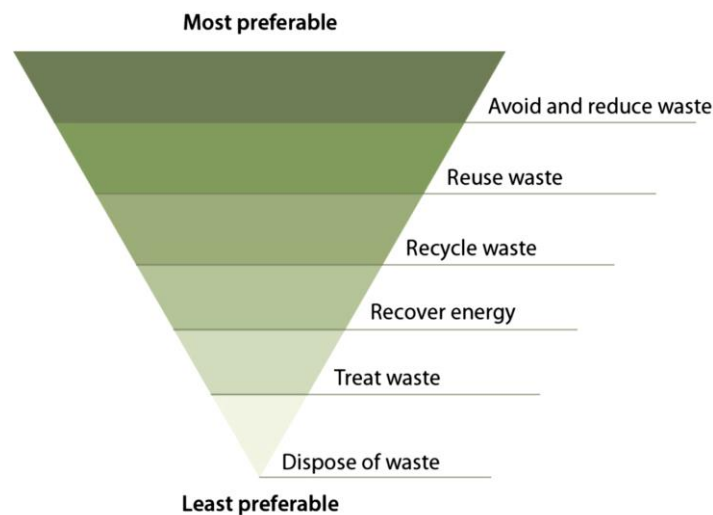


Figure 5.1: Waste Hierarchy

The hierarchy also aims to maximise efficiency and avoid unnecessary consumption of resources. This WMP seeks to implement the waste hierarchy to minimise waste disposal and promote waste reduction in order of preference:

- Reduce or avoid waste through selection of items and design.
- Reuse materials without further processing.
- Recycle and process waste for reuse as a new product.
- Recover energy through combustion of materials where acceptable and in accordance EPA regulations.
- Treat waste to stabilise the waste product for disposal or reuse.
- Dispose of waste when no other management options are appropriate.

This section describes waste management measures in line with the hierarchy.

5.1.1 Avoidance and Reduction of Waste

The ongoing site users will be required to minimise waste generation, and endeavour to reuse waste where available. Waste will be avoided through strategic selection of materials during purchasing which takes into account options which may reduce waste generation during ongoing operation of the site. This includes considering procurement of materials which use minimal packaging and are suitable for reuse. Selection of operational materials will also consider the use of recycled items where practicable.

Opportunities to avoid wastes generated by operation include:

- Develop a procurement policy which considers waste avoidance measures such as:

- Order site specific or prefabricated items where practicable to minimise surplus material.
- Consider packaging material provided by suppliers during purchasing and reduce this requirement where possible or consider returnable packaging.
- Material selection to consider recycled items.
- Refine waste stream estimates to ensure adequate on-site storage and waste segregation, and to inform future procurement policies.

5.1.2 Reuse and Recycling

Measures to separate waste streams will be implemented to maximize re-use and recycling. This includes segregating wastes into appropriate dedicated bins or areas for reclamation on site or transportation to a designated recycling facility.

Procedures to manage the reuse and recycling of waste materials during operation include:

- Incorporate waste management into site management procedures to promote reuse and/or recycling of materials.
- Ensure areas for waste segregation are easily accessible and clearly defined.
- Ensure staff are familiar with onsite waste storage areas for appropriate waste segregation.
- Consider opportunities for materials reuse and/or recycling where practicable.

5.1.3 Treatment and Disposal

Operational wastes may require treatment to stabilise them for appropriate disposal to reduce the risk of harm to human health or the environment. These materials may not be suitable for reuse or recycling and will be segregated and disposed of via a suitably qualified contractor for the waste stream.

Wastes will only be sent to landfill or disposal facilities where the prioritised management methods in the hierarchy cannot be implemented in a cost effective or practical manner. The site manager will liaise with the local council to determine appropriate disposal locations for potential waste streams.

Measures to manage the treatment and disposal of waste materials during operation include:

- Ensure wastes which cannot be reused or recycled and require disposal are clearly segregated from those which have the potential to be reused.
- Provision of segregated waste bins for each waste type.
- School operations and maintenance staff to be inducted into site waste management practices.
- Hazardous materials to be disposed of in accordance with the handling and disposal requirements of SafeWork NSW and NSW EPA.
- General wastes to be disposed of in accordance with local council requirements.

5.2 Waste Storage Systems

It is anticipated that 660L mobile garbage bins (MGBs) will be utilised within the waste storage area in the northern portion of the site next to the visitor and accessible carparks (as shown in **Appendix A**), however any combination of MGBs are suitable to use for waste streams so long as they meet the required volume of waste storage. Based on the proposed size of the waste bins, up to four 660L

MGBs would be adequate for the anticipated amount of waste and recycling per week as discussed in **Section 4.1** above and **Section 5.3** below. All waste is to be sorted and stored on site and not within a public place. **Table 5.1** presents options for potential waste storage systems.

Table 5.1: Waste Storage System Options

Waste	Quantity Generated Per Week	MGB System	Clearance Frequency
General Waste	1,176 L	1 X 1,100L or 2 X 660L or 4 X 240L or a combination of MGBs with 1,176 litres of storage.	Minimum of once per week
Recycling	1,576 L	2 X 1,100L or 2 x 660L or 6 X 240 L or a combination of MGBs with 1,576 litres of storage. To be divided between co-mingled, paper and cardboard streams.	Minimum of once per week

Waste areas and waste/recycling bins shall be clearly marked through appropriate signage and colour coding in accordance with Australia Standards. Each waste stream should be located within a designated area to prevent cross contamination of waste streams.

Small quantities of hazardous wastes may be generated (e.g. light bulbs, batteries, oil, chemicals or paint). Separate containers for the safe storage of these wastes in the waste storage areas will be provided where applicable, prior to removal offsite by an appropriately licensed contractor for recycling or disposal at a licensed facility.

Paper Recycling

Each desk, printing/copying area and classroom should be provided with an under-bench paper recycling bin. Cleaners will collect and empty the paper recycling bins into larger paper recycling MGBs for storage within the waste storage areas prior to transport to the loading dock and collection. Confidential document bins (if required) will be 240L MGBs and placed in nominated office areas and will be subject to collection as required by contractors.

Co-mingled Recycling

Central co-mingled recycling bins will be provided in the canteen area, sports grounds and/or open spaced play areas. Cleaners will collect and empty the co-mingled recycling into larger co-mingled recycling MGBs for storage within the waste storage areas prior to transport to the loading bay and collection.

Cardboard Recycling

Flattened cardboard will be placed within designated areas by staff. Cleaners will collect the flattened cardboard and place within larger MGBs for storage within the waste storage rooms prior to transport to the loading bay and collection. Where possible, cardboard should be returned to the supplier.

General Waste

General waste bins will be provided within classrooms, canteen, offices and open space playground areas. Cleaners will collect and empty general waste bins into larger general waste MGBs for storage within the waste storage areas prior to transport to the loading bay and collection.

E-waste

Specific recyclable wastes such as toner cartridges, light bulbs, batteries and e-waste should be securely stored within designated maintenance/storage rooms prior to being recycled as required.

5.3 Waste Storage Areas

One waste storage area is proposed to be placed in the northern portion of the site, adjacent Golden Grove Street, as shown in **Appendix A**. It is considered that the waste storage area is located in an appropriate location, on the ground level, within a locked room (to restrict student access) with suitable access to the road curb for collection via the waste contractor.

The dimensions of suitable 660L waste storage bins are approximately 1.4 m in length by 1.07 m width, with a total area of 1.5 m² per bin. A maximum of four 660L MGB have been calculated to be required based on conservative estimates of waste generation. As per Sydney DCP (2012) guidance, the area of a single 660 L MGB is approximately 1.5 m², meaning that four 660 L MGBs will occupy approximately 6.0 m² of the waste storage area. On this basis, a waste storage area of approximately 9 m² would be considered to be sufficiently sized for the proposed waste generation/storage requirements of the facility, based on the collection events of once per week.

5.4 Waste Facilities Construction / Maintenance

All waste facilities must comply with the Building Code of Australia (BCA) and all relevant Australian Standards (AS) in accordance with the requirements of Sydney DCP 2012.

5.5 Waste Movement

It is anticipated that staff and visitors will place general waste and recycling into small waste and recycling bins (paper and co-mingled) located in the offices, canteen, classrooms and open space playground areas. These small waste bins should be segregated as per the final waste streams. Waste will then be transported by cleaning contractors via the nominated egress corridors to the waste storage area and placed in the correct waste stream bins. Where waste is required to be transported from upper and lower levels to the waste storage area, this will be undertaken via the use of stair wells or service lifts located within the buildings.

5.6 Waste Collection Point

The curb of Golden Grove Street on the western boundary of the site has been nominated as the Waste collection point for the site. Appointed waste contractors shall bring waste from the designated waste storage area to the curb for collection at nominated times in accordance with the relevant waste contract. No waste vehicles will enter the site.

5.7 Waste Collection Vehicle Movements

The curb of Golden Grove Street has been nominated as the waste collection point to be used by waste collection vehicles. Waste collection vehicles will not enter the site as per the existing conditions for the site. Waste collection vehicles shall not obstruct access to adjacent premises, roadways or the footpath. In addition, waste collection must be carried out with due care for public safety including other road users, cyclists and pedestrians.

5.8 Waste Collection Hours

Collection of waste and recycling is anticipated to occur outside of school hours by an external contractor to minimise disturbance to the school and noting the sensitive nature of the site (i.e. students' safety).

It is a requirement that waste collection services are not undertaken outside of the hours of 6.00 am and 10.00 pm, Monday to Saturday and 8.00 am to 10.00 pm on Sundays, per the City of Sydney Waste Collection requirements⁵

5.9 Waste Collection Contractor

It is understood that a licensed waste contractor is currently engaged for the removal of waste from the facility. It is noted that the current contract is anticipated to be updated to allow for the increased capacity within a reasonable timeframe from issue of the occupation certificate.

The updated contract should also include provisions for the collection and recycling of all potential waste streams including batteries, electronics, light bulbs, smoke detectors and any other recyclable waste generated.

Upon actioning of the updated contract, written evidence of the amended contract with the licensed collector for waste and recycling collection shall be provided to the client and City of Sydney Council and held on site. The updated contract should include details on the method, timing and disposal of waste.

⁵ Waste Policy: Managing Waste in Public places. City of Sydney. 2020. Found at: https://www.cityofsydney.nsw.gov.au/data/assets/pdf_file/0007/194380/Waste-Policy-local-approvals-policy-for-managing-waste-in-public-places.pdf

6. Ongoing Management

This OWMP forms the basis of operational waste management on site for the Darlington Public School. It is a living document which will be reviewed and revised throughout the lifespan of the school. Review of the OWMP will provide for increased accuracy of waste generation estimates and to ensure appropriate onsite waste management in accordance with current and future waste management regulations.

Having suitable waste management systems in place is only one element of an effective waste management system at a “commercial” facility. Compliance by the administrative manager, staff, cleaning contractors and waste collection contractor is essential to ensure the efficacy of the system.

6.1 Roles and Responsibilities

It is expected that all personnel will commit to the OWMP and be responsible for their own actions in adhering to the waste management objectives.

An Administrative Manager will be the key person responsible for implementation of the OWMP and adherence to applicable legislation, guidelines, licensing and project conditions. The Administrative Manager will also be responsible for maintenance of the cleaning infrastructure such as the service doors, locks, lighting, signage, colour coding and repair/replacement of MGBs.

Cleaning contractors will be responsible for the transfer of waste to the MGBs and the transfer of the MGBs to the waste collection point. In addition, the cleaning contractor will be responsible for cleaning of the waste storage areas.

Table 6.1 below presents suggested responsibilities for waste management.

Table 6.1: Roles and Responsibilities

Role	Responsibility
Administrative Manager	<p>Ensuring staff (and students) are inducted into the OWMP and other applicable management plans.</p> <p>Responsible for undertaking procurement of operational materials in accordance with the waste management hierarchy.</p> <p>Segregation of waste streams where required to ensure appropriate use, treatment and/or disposal.</p> <p>Compliance with applicable environmental legislation and project conditions.</p> <p>Ensure environmental management plan(s) across the site are adhered to and accurate to site conditions.</p> <p>Undertake inspections to ensure compliance.</p> <p>Maintenance of waste-related signage, colour coding and MGBs.</p> <p>Security of waste storage areas during day to day business.</p> <p>Ensure no waste is placed on the public way.</p>
Cleaners	<p>Responsible for acting in accordance with the OWMP.</p> <p>Transfer of waste within the facility.</p> <p>Transfer of MGBs to the nominated waste collection point and return of MGBs to waste storage areas.</p> <p>Responsible for cleaning of waste storage areas.</p> <p>Security of waste storage areas (during working hours).</p> <p>Ensure no waste is placed on the public way.</p> <p>Informing the Administrative Manager of any waste management incidences.</p>
Staff	<p>Adherence to the OWMP.</p> <p>Placement of waste/recycling within correct bins.</p> <p>Notify manager/cleaning contractor when bins are overfull and require transport to the MGBs.</p> <p>Informing the Administrative Manager of any waste management incidences.</p>
Licensed Waste Collection Contractor	<p>Responsible for collection, disposal and/or recycling of waste in accordance with contract and relevant legislation and guidance.</p> <p>Provide feedback on actual volumes of waste and recycling collected to enable waste volume evaluation by Administrative Manager.</p>

6.2 Training and Awareness

All staff and contractors, including cleaning contractors, should undertake awareness training of the OWMP and site-specific waste management. This includes:

- Induction to the waste management hierarchy and use across the site.
- Details of responsibilities for waste management and key personnel.
- Site specific waste management practices such as:
 - Waste storage and stockpiling locations;
 - Waste disposal requirements;
 - Hazardous or special wastes; and
 - Record of waste disposal details and receipts.
- Knowledge of emergency response procedures and contacts.

Signage will be provided on site to ensure waste management measures are communicated across the site. Signage will highlight correct procedures for separating wastes where required, locations of bins and waste storage areas, labelling of designated bins, potential hazards associated with the waste streams and handling, and contact details should any issues be encountered.

Signage will be prepared and located on site in accordance with the Australian Standard (AS 1319) for safety signs, and the NSW EPA and Australian Standard for recycling signage.

7. Monitoring and Reporting

The following activities will be undertaken to inform future onsite waste management and to improve the efficiency in achieving the outcomes of the OWMP:

- Review of waste streams and waste quantities.
- Review the OWMP in light of any changes to operational activities or further information which may alter waste management practices.
- Undertake auditing of waste management across the site as a component of broader environmental site audits.
- Undertake visual inspections to ensure waste management controls are implemented and maintained across site.
- Undertake annual review of the OWMP to ensure information accurately reflects site activities, and to assist future waste management.

Where formal auditing, general inspections or incident reporting identify incorrect storage or disposal procedures, or maintenance or waste management issues, observations will be promptly reported to the Administrative Manager and recorded. The Administrative Manager will determine appropriate measures to rectify the issues in a timely manner.

8. Limitations

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only and has been based in part on information obtained from the client and other parties.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

JBS&G accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client or amended in any way without prior approval by JBS&G, and should not be relied upon by other parties, who should make their own enquiries.

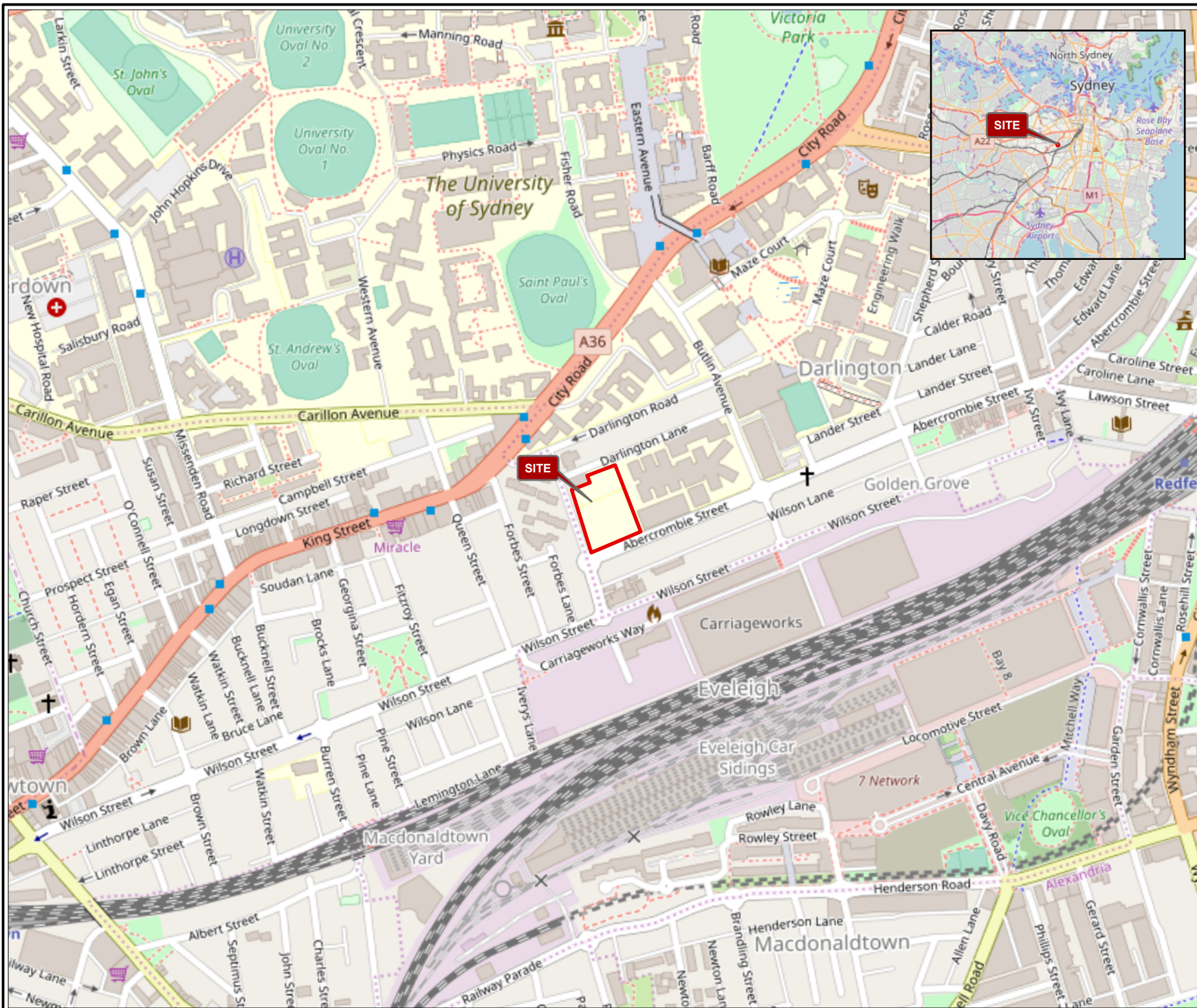
Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the regulatory requirements.

Limited sampling and laboratory analyses were undertaken as part of the investigations undertaken, as described herein. Ground conditions between sampling locations and media may vary, and this should be considered when extrapolating between sampling points. Chemical analytes are based on the information detailed in the site history. Further chemicals or categories of chemicals may exist at the site, which were not identified in the site history and which may not be expected at the site.

Changes to the subsurface conditions may occur subsequent to the investigations described herein, through natural processes or through the intentional or accidental addition of contaminants. The conclusions and recommendations reached in this report are based on the information obtained at the time of the investigations.

This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, JBS&G reserves the right to review the report in the context of the additional information.

Figures



Legend:
 Approximate Site Boundary



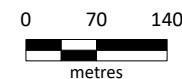
Job Number: 58181

Client: School Infrastructure

Version: R01 Rev A Date: 31/03/2020

Drawn By: AV Checked By: RL

Scale 1:7,500



Coord. Sys.

**417 – 445 Abercrombie Street
 Darlington, NSW**

SITE LOCATION

FIGURE 1



Legend:

Approximate Site Boundary



Job Number: 58181

Client: School Infrastructure

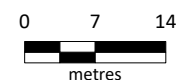
Version: R01 Rev A

Date: 31/03/2020

Drawn By: AV

Checked By: RL

Scale 1:750



Coord. Sys. GDA 1994 MGA Zone 56

**417 – 445 Abercrombie Street
Darlington, NSW**

SITE LAYOUT

FIGURE 2

Appendix A Detailed Design Drawings

NEIGHBOURING PROPERTY
UNIVERSITY OF SYDNEY

1

2

3

4

Bulk Waste Store
7.5 m²

CC.17
Comms
10.49 m²

EDB

CC.09
Laundry
5.2 m²

CC.04
Toilets
7.35 m²

CC.18
Indoor/Outdoor
Store
9.2 m²

FFL +36.830

Mech Plant
14.38 m²

Cold
Water
Pump
10 m²

Water Meter
3.75 m²

PV
Inverters

MSB

CC.10
Staff WC
11.04 m²

CC.12
Cleaner
1.45 m²

PAA
3.14 m²

CC.01
Preschool 1
65.19 m²

CC.08
Staff Room
17.47 m²

CC.11
Kitchen
19.06 m²

Circulation

PAA
3.12 m²

CC.02
Preschool 2
75.19 m²

CC.07
Office
9.66 m²

FFL +35.520

CC.15
Store
2.61 m²

CC.05
Toilets
12.53 m²

CC.14
Store
2.61 m²

CC.03
Preschool 3
75.5 m²

FFL 35.500

PAA
2.75 m²

Foyer

EMERGENCY PARKING
ONLY

+ 35.600

+ 35.50


© JBS&G

This document is and shall remain the property of JBS&G. The document may only be used for the purposes for which it was commissioned and in accordance with the Terms of Engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited

Document Distribution

Rev No.	Copies	Recipient	Date
A	1 x electronic copy	Carolyn Meddick Gardner Wetherill Associates	04/06/19
0	1 x electronic copy	Elizabeth Carpenter - fjmt Studio Daniel Luliano - Mace Australia	06/04/2020
1	1 x electronic copy	Elizabeth Carpenter - fjmt Studio Daniel Luliano - Mace Australia	27/04/2020

Document Status

Rev No.	Author	Reviewer	Approved for Issue		
		Name	Name	Signature	Date
A	Claudia Bennett	Matthew Bennett	<i>For Client Review</i>	<i>For Client Review</i>	04/06/19
0	Claudia Bennett	Matthew Bennett	<i>For Client Review</i>	<i>For Client Review</i>	06/04/2020
1	Claudia Bennett	Matthew Bennett	Matthew Bennett		27/04/2020

