

Project Name:	Old Kings School – Waste Management Plan – Main Works
Project Number:	30011784
Report for:	tonkin zulaikha greer architects

PREPARATION, REVIEW AND AUTHORISATION

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Main Works Waste Management Plan – Old Kings School, O’Connell Street Parramatta, NSW

For: tonkin zulaikha greer architects

15 APRIL 2016

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1 INTRODUCTION

1.1 Purpose

This document is a Waste Management Plan (WMP) for the proposed Main Works Development Application supporting works associated with the redevelopment of various buildings that currently form the Old Kings School, O'Connell Street Parramatta, NSW (the site) as well as for the operational phase.

This WMP is a "Live Reference Document", requiring continuous updating throughout the development and operational phases.

1.2 Development Background

The site is bordered by O'Connell Street to the west and Marist Place to the east. The southern boundary of the site adjoins Parramatta River, and takes in part of the public riverside walk. The section of the site to which this Main Works WMP refers is the built up area as indicated in Figure 1 below.

Figure 1 – Existing Site Layout



The site covers an area of approximately 2.47 ha and comprises the lots identified as follows:

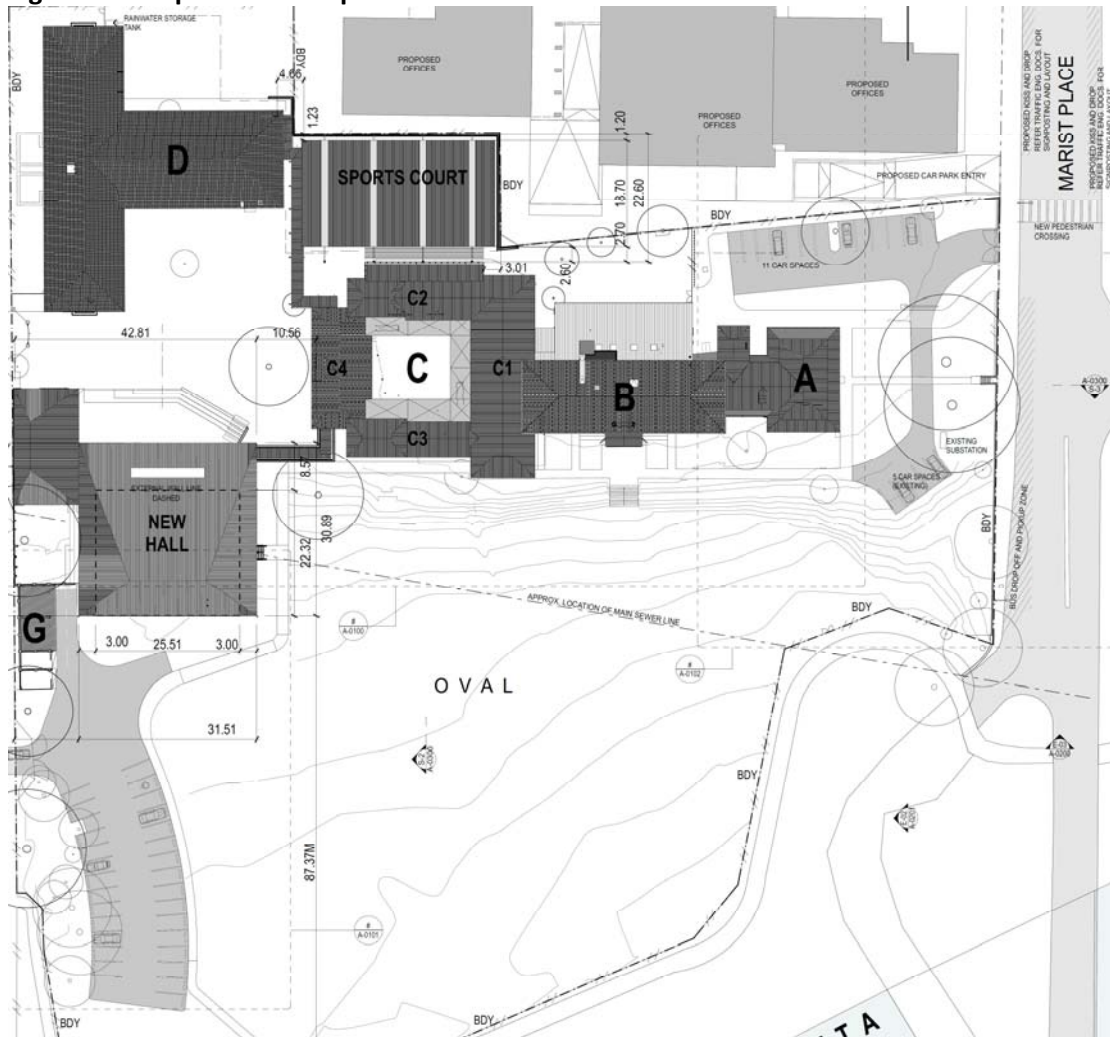
- Lot 1 DP 1112822 (located to the east and incorporating buildings A and B); and
- Lot 6 DP 1182647 (located to the south and northwest and incorporating buildings C Group, D, E, F G Group, and H).

SMEC understand that the site was occupied by the Kings School until 1964, when it was sold to the NSW Department of Health and became the Marsden Rehabilitation Centre, which remained its use until 2002.

The Department of Education and Communities (DEC) proposes to develop a new primary school with a capacity for 1,000 students at the site. A detail design has been prepared for the development of the site involving, as indicated in **Figure 2**, the:

- full reverse construction of Buildings H, F, E and some buildings in Building C and G Groups. This is occurring under the Early Works package and Early Works Development Application;
- under this SSD:
 - o partial reverse construction and refitting/refurbishment of some buildings in Building C and G Groups, and Buildings A, B, and D;
 - o the construction of a new Hall at the location of Buildings G and H; as well as
 - o landscaping.

Figure 2 – Proposed Development Works



The proposal involves the adaptive re-use of the buildings on the site of Old Kings School Parramatta as a new primary school to cater for 1000 students known as the O'Connell Street Public School. The school has been commissioned by the Department of Education and Communities (DEC) and is due to open in July 2017 and once complete will be the largest public commissioned primary school in NSW

The Main Works package is summarised as follows:

- Removal of floor covers where required
- Removal of remaining surplus elements from building
- Removal of underground storage tanks and associated piping

- Management of contaminated soils around the boiler house, around Building D, south of current Building F, the open area between current buildings C, D, E, and F
- General lead internal/external paint system management
- Rebuild/adjustments to Buildings A, B, C, D, and G
- Construction of a performance hall, offices, amenities, covered walkways, sports field, carparks
- Upgrading of building services, and installation of rainwater tanks

This Main Works WMP is a “Live Reference Document”, requiring continuous updating throughout the development.

1.3 Hazardous Materials

Hazardous Building Materials (HBM) were encountered in all buildings to varying extent as outlined in SMEC Advice “Hazardous Building Assessment, Early Works, Old Kings School”, 22 Jan 2016. HBM encountered, with the exception of some lead paint systems and non-accessible SMF insulation materials were removed as part of the Early Works.

1.4 Objective

The objectives of this Main Works WMP are to outline waste management actions that:

- will minimise the generation of waste during any remaining reverse construction and construction phases at the venue;
- comply with regulatory requirements and industry best practice; and
- satisfy NSW EPA and Parramatta City Council requirements in relation to waste management processes at the site during the Main Works and operational phases.

Specifically, the WMP is required to ensure that waste:

- generation is minimised through a range of measures during redevelopment planning and works;
- does not pose unacceptable risks to human health and the environment;
- is managed in accordance with relevant federal, state and council waste management policies and guideline documentation;
- waste disposal is appropriately documented and recorded; and
- is avoided (where possible) through avoidance, beneficial reuse of materials on/off site, and recycling.

1.5 Roles and Responsibilities

This WMP has been prepared for all parties involved with site redevelopment works including those involved in regulation, design and reverse construction.

Implementation of this Main Works WMP is the responsibility of the site owner, contractors involved in site redevelopment works, and on-going operations.

Table 1 below outlines the responsibilities for the implementation of this Main Works WMP. These responsibilities do not replace any other regulatory responsibilities of the parties in relation to development work at the site.

Table 1 – Main Works WMP Responsibilities

Party	Responsibilities
tonkin zulaikha greer architects / DEC	▪ Audit implementation and compliance with this Main WMP ▪ Ensure the requirements of the Main Works WMP are incorporated into conditions of development consent ▪ Maintain controlled copies of this Main Works WMP ▪ Approve changes to the Main Works WMP
Site Owner/ Waste Manager	▪ Ensure any tender documentation, scope of works, design briefs, contract documents, and other relevant documents developed in relation to development works at the site include Main Works WMP specific requirements ▪ Proactively seek to enhance waste management practices ▪ Ensure all parties engaged in relation to site redevelopment works and on-going operation clearly understand this Main Works WMP and what is required to comply with the Main Works WMP
Contractors/ Tenants	▪ Comply with this Main Works WMP ▪ Proactively seek to enhance waste management practices

1.6 Limitations

This report has been prepared for tonkin zulaikha greer architects on behalf of the DEC and is not intended to be used by third parties. The purpose of the report is to provide a Waste Management Plan (WMP) for the proposed redevelopment and ongoing operations at the Kings School, corner of Victoria Road and O'Connell Street and Marsden Streets, Parramatta NSW.

In compiling the Main Works WMP, particular reliance has been placed on data provided by tonkin zulaikha greer architects and their consultants. As this Main Works WMP provides a review of previous findings, it is subject to all of the limitations of previous reports. This document has been prepared in good faith and no responsibility can be accepted for inaccuracies contained in the information provided by tonkin zulaikha greer architects or their consultants. The quantities contained within the Main Works WMP are indicative quantities which are provided as preliminary estimates only and are not to be relied upon as accurate estimations of quantities.

2 REGULATORY FRAMEWORK

2.1 Overview

The Main Works WMP has been prepared with reference to a number of federal, state and local government guidelines and policy documents. This section provides an overview of the regulatory framework documentation referenced for the preparation and implementation of the Main Works WMP.

2.2 Relevant Policy, Guidelines and Information

2.2.1 *Protection of the Environment Operations Act 1997 (POEO Act)*

The POEO Act aims to reduce risks to human health and prevent the degradation of the environment by the use of mechanisms that promote pollution prevention, the elimination of harmful wastes, the reduction in the use of materials, and the re-use, recovery and recycling of materials. Regulatory mechanisms such as the waste and environment levy help drive waste avoidance and resource recovery by providing an economic incentive to reduce waste disposal and stimulate alternative waste technologies.

2.2.2 *Parramatta City Council Waste Management Plan*

The purpose of this document is to encourage consideration of efficient waste minimisation and resource recovery for deconstruction, construction and ongoing facility management in relation to new developments.

Specifically the objectives of this policy are:

- Waste minimisation and resource recovery –
 - To avoid waste through design and ordering correct material quantities.
 - To encourage improved environmental outcomes through increased source separation of materials.
 - To ensure more efficient management of waste and recyclable materials.
 - To maximise reuse and recycling of building construction materials.
- Safety – to ensure safe practices for storage, handling and collection of waste and recycling;
- Pollution prevention – to prevent stormwater pollution that may occur as a result of poor waste storage and management practices;
- Ecologically Sustainable Development (ESD) – to promote the principles of ESD through resource recovery and recycling leading to a reduction in the consumption of finite natural resources;
- Hygiene – to ensure health and amenity for residents, visitors and workers in the City Of Parramatta; and
- Noise minimisation – to minimise noise during use by residents and collection of waste and recyclables.

2.2.3 Protection of the Environment Operations (Waste) Regulation 2014

Part 7 Transportation and management of asbestos waste stipulates the requirements relating to the transportation, disposal, re-use or recycling of any type of asbestos waste.

In particular the regulation states that bonded asbestos material must be securely packaged at all times and that friable asbestos material must be kept in a sealed container.

In this clause: "**bonded asbestos material**" means any material (other than friable asbestos material) that contains asbestos and "**friable asbestos material**" means any material that contains asbestos and is in the form of a powder or can be crumbled, pulverised or reduced to powder by hand pressure when dry.

2.2.4 Waste Avoidance and Resource Recovery Act 2001

The Waste Avoidance and Resource Recovery Act 2001 aims to encourage the most efficient use of resources and to reduce environmental harm in accordance with the principles of ecologically sustainable development.

The objectives of the Act (as defined in section 3) are as follows:

- to encourage the most efficient use of resources and to reduce environmental harm in accordance with the principles of ecologically sustainable development,
- to ensure that resource management options are considered against a hierarchy of the following order:
 1. avoidance of unnecessary resource consumption,
 2. resource recovery (including reuse, reprocessing, recycling and energy recovery),
 3. disposal,
- to provide for the continual reduction in waste generation,
- to minimise the consumption of natural resources and the final disposal of waste by encouraging the avoidance of waste and the reuse and recycling of waste,
- to ensure that industry shares with the community the responsibility for reducing and dealing with waste,
- to ensure the efficient funding of waste and resource management planning, programs and service delivery,
- to achieve integrated waste and resource management planning, programs and service delivery on a State-wide basis,
- to assist in the achievement of the objectives of the Protection of the Environment Operations Act 1997.

The term 'waste' is defined in the Act to have the same meaning as in the Protection of the Environment Operations Act 1997.

2.2.5 New South Wales EPA – Waste Classification Guidelines, Part 1: Classifying Waste 2014

The guidelines should be used by waste generators to classify the wastes they produce. Classification helps those involved in the management, treatment and disposal of waste to ensure the environmental and human health risks associated

with it are managed appropriately and in accordance with the Protection of the Environment Operations Act 1997 (the POEO Act) and its associated regulations.

Under the POEO Act it is an offence to supply false or misleading information to another person, including information about the type, classification, characteristics, composition or quantity of the waste, among other things. Significant penalties apply (s.144AA).

The guidelines set out a six step process for classifying waste. The six waste classes used are:

1. Special waste
2. Liquid waste
3. Hazardous waste
4. Restricted solid waste
5. General solid waste (putrescibles)
6. General solid waste (non-putrescibles)

2.2.6 *NSW EPA - Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities, December 2012*

This guide provides advice to help 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. This guide covers the many different situations in which waste and recyclable materials are generated, stored and collected in and from commercial and industrial buildings.

The key objectives of this guide are to: increase the consideration of waste management early in the building design process

- make collection of recyclables more efficient and effective
- improve waste minimisation and collection
- increase convenience for occupants and building managers
- increase the yield and quality of recyclable material
- reduce contamination in recyclable material.

This guide outlines the main issues to be considered when designing a waste management system for five main types of commercial development, including:

- office buildings
- non-food retail outlets – hardware, variety stores, department stores
- food retail outlets – cafes, restaurants, clubs, takeaway stores
- group retail centres – shopping centres, malls, plazas
- hospitality and accommodation – hotels, motels.

2.2.7 *Council of the City of Sydney - Policy for Waste Minimisation in New Developments 2005*

This policy provides considerable technical guidance on quantities for operational premises.

The purpose of this policy is to encourage efficient waste minimisation and resource recovery for deconstruction, construction and ongoing facility management in relation to new developments.

Specifically the objectives of this policy are:

- Waste minimisation and resource recovery –
 - To avoid waste through design and ordering correct material quantities.
 - To encourage improved environmental outcomes through increased source separation of materials.
 - To ensure more efficient management of waste and recyclable materials.
 - To maximise reuse and recycling of building construction materials.
- Safety – to ensure safe practices for storage, handling and collection of waste and recycling;
- Pollution prevention – to prevent stormwater pollution that may occur as a result of poor waste storage and management practices;
- Ecologically Sustainable Development (ESD) – to promote the principles of ESD through resource recovery and recycling leading to a reduction in the consumption of finite natural resources;
- Hygiene – to ensure health and amenity for residents, visitors and workers in the City Of Sydney; and
- Noise minimisation – to minimise noise during use by residents and collection of waste and recyclables.

2.2.8 WorkCover New South Wales, *WORKING WITH ASBESTOS*, 2008

This document provides information relating to the safety guidelines and requirements for work involving asbestos.

Specifically the guide provides information relating to the following:

- Information regarding health hazards associated with asbestos
- Standards required to adequately and safely perform any asbestos work
- Guidelines and requirements - work involving asbestos in buildings and structures
- Legal obligations for asbestos removal work

2.2.9 Australian Government National Occupational Health and Safety Commission, *CODE OF PRACTICE FOR THE SAFE REMOVAL OF ASBESTOS 2ND Edition [NOHSC:2002 (2005)]*

The purpose of this code of practice is to provide advice for the safe removal of asbestos and asbestos-containing materials (ACM) from buildings and structures, plant and equipment, and vehicles.

This code of practice covers the safe removal of ACM from workplaces.

2.2.10 Australian and New Zealand Environment and Conservation Council, *IDENTIFICATION OF PCB-CONTAINING CAPACITORS*, 1997

The purpose of the information booklet is to provide electricians and electrical contractors with information for the identification, hazards, safe handling and disposal requirements associated with PCB containing capacitors.

2.2.11 Safe Work Australia, National Standard for Synthetic Mineral Fibres [NOHSC: 1004 (1990)] and National Code of Practice for the Safe Use of Synthetic Mineral Fibres [NOHSC:2006(1990)]

The purpose of this National Code of Practice for the Safe Use of Synthetic Mineral Fibres is to provide a safe and healthy workplace by outlining safe work practices and general responsibilities when handling synthetic mineral fibres (SMF).

2.2.12 CODE OF PRACTICE, HOW TO MANAGE AND CONTROL ASBESTOS IN THE WORKPLACE, DECEMBER 2011. Safe Work Australia.

The purpose of this National Code of Practice is to provide guidance on how to manage and control asbestos in the workplace. It is an approved code of practice under section 274 of the Work Health and Safety Act (the WHS Act).

3 WASTE MANAGEMENT PROTOCOLS

3.1 Waste Management during remaining Reverse Construction

The waste management strategy proposed for any remaining reverse construction during the Main Works phase of the project is presented in **Appendix A**.

3.2 Waste Management during Construction

The waste management strategy proposed for the construction phase of the project is presented in **Appendix B**.

3.3 Waste Management during Operation

The waste management strategy proposed for the operational phase of the venue is presented in **Appendix C**.

3.4 Management of Special Wastes

This section outlines the hazardous materials previously identified onsite. Whilst such materials were removed as part of the Early Works program, as a precautionary measure, management controls and procedures are provided below in case such materials are encountered during Main Works.

Table 2 below provides a quick reference guide to waste management controls for hazardous materials potentially contained within the buildings and general waste management onsite.

Table 2 – Waste Management Controls

Item	Management Control
Management of Asbestos	Asbestos removal works (any potential areas not yet identified) should be conducted by a suitably licensed contractor. All work procedures should be devised to minimise and control the release of dust that may contain asbestos fibres. Procedures include but are not limited to: • putting in place security, signs and barriers. • preparation activities, including: - minimising the number of people present; - using the correct tools; - using personal protective equipment, including disposable coveralls and either a disposable half face or filter type particulate respirator, class P1 or P2, in accordance with AS 1715; and - decontamination materials. • use of non-powered hand tools to reduce dust generation. • minimise breakage of ACM and immediate seal exposed broken surfaces. • use a suitable vacuum cleaner fitted with High Efficiency Particulate Air (HEPA) filters to contain the release of asbestos fibres. • methods for removing ACM, which include: - wet spray method (most preferred); and

Item	Management Control
	- dry removal method (least preferred). • progressively cleaning work area during active periods, and at the end of each working day. • installation of air monitoring procedures. • appropriate bagging, covering, removal, transportation and disposal of ACM at the appropriate licensed waste facility.
Lead Paint (removal)	It is recommended that a suitably qualified contractor be engaged to perform any works associated with lead paint. Recommended methods for the removal of lead paint include: • wet scraping and wet sanding. Care should be taken to prevent contamination of surrounding areas, potentially through the use of impermeable drop sheets. • on-site chemical stripping. Suitable for most surfaces including timber and steel. However, the residue from the chemical stripping process may penetrate the substrate and create hazardous surface. • off-site chemical stripping. Involves removing components and sending them to a stripping establishment where the removal process is carried out. This method is limited to removable components. • removal by heat gun and scraper. The process requires high degree of care and personal protection.
Lead Paint (stabilisation/encapsulation)	Management controls for the stabilisation/encapsulation of lead paint include but are not limited to: • preparation of a register that defines areas containing lead paint. The register should be constantly updated; • informing contractors about the presence of lead paint. Any work carried out on site that has the potential to disturb the lead based paint (including repairs, repainting, or remodelling activities) should be undertaken in ways that isolate the area and reduce lead-laden dust as much as possible. The affected area should to be stabilised to ensure that the remaining lead paint is kept encapsulated. • dry sanding, burning, compressed air cleaning or blasting should be avoided. • the site should be inspected frequently for signs of deterioration of the lead-free top coats. Any leaks, peeling paint, or evidence of conditions that may generate lead dust should be identified and corrected immediately.
Capacitors and other electrical equipment	SMEC recommends that any capacitors identified as potentially containing PCB as per the "Identification of PCB-Containing Capacitors" Information Booklet issued by the Australian and New Zealand Environment and Conservation Council (ANZECC 1997) should be removed and disposed appropriately by a suitably qualified person.
Roof Cavity or General Dust	The potential remains within older buildings for dust to contain harmful elements. Any disturbance of the roof cavity, ceiling lining or roofing structure should take into consideration that roof cavity (if present) or general dust could contain elevated concentrations of Lead, PAHs, metals, OCPs or asbestos and appropriate work health and safety / OHS precautions should be taken. Further testing of dust and removal by specialist dust removal contractor (if appropriate) should be considered.
Synthetic Mineral Fibres (SMF)	SMEC recommends that any SMF should be removed and disposed appropriately by a suitably qualified person in accordance with Safe Work Australia, National Standard for Synthetic Mineral Fibres [NOHSC: 1004 (1990)] and National Code of

Item	Management Control
	Practice for the Safe Use of Synthetic Mineral Fibres [NOHSC:2006(1990)].
Contaminated Soils no ground works are proposed as part of the Main Works DA	Soil management will be covered by Soil and water management plans.
Disposal of waste (offsite)	All waste generated at the site should be disposed of at the appropriate licensed waste facility. All waste movement (transportation and disposal) records should be retained and documented by the appointed contractor. All waste disposed of offsite to a licenced landfill should be classified in accordance with <i>New South Wales EPA – Waste Classification Guidelines, Part 1: Classifying Waste 2014</i> prior to leaving the site.

3.5 Contingency Planning

3.5.1 Offsite Waste/Material Disposal

All necessary arrangements relating to the handling, transportation, re-use, recycling, and disposal (including waste classification) should be undertaken where possible prior to redevelopment works. This will enable the efficient removal of any waste/material requiring offsite disposal.

3.5.2 Handling of Unexpected Finds

Appropriate professional advice should be sought immediately, should previously unidentified waste/materials of a harmful or contaminating nature be identified during site redevelopment works.

4 RECORD KEEPING REQUIREMENTS

4.1 Hazardous Building Material Register

Any person with management or control of a facility/workplace must ensure a HBM register is prepared and kept at the facility/workplace. The HBM register must be maintained, to ensure the information in the register is up-to-date.

The HBM Register is a summary of inspections carried out on a property. The register should contain the following information as a minimum:

- Section 1 – Working documents including a drawing, detailed location schedules with specific and general notes.
- Section 2 – Work Access Procedures – management forms which need to be completed when working with or exposed to HBM.
- Section 3 – A Hazard Management Plan.
- Section 4 – HBM training information.
- Section 5 – Reference to any applicable NSW state legislation and glossary of terms.
- Section 6 – Information on any sampling process, criteria and limitations of sampling and laboratory analysis.

Contractors should be aware that previously unidentified HBM may be encountered in the building when carrying out demolition, excavation, building works, or accessing ceiling, confined spaces in inaccessible or inconspicuous areas.

Prior to reverse construction or refurbishment work starting, contractors must review the HBMs register for the site and ensure all HBMs are identified and removed.

4.2 Offsite Waste Disposal Documentation

In accordance with the Protection of the Environment Operations (Waste) Regulation 2014 the following records must be kept in relation to offsite waste disposal:

- A consignor of waste must keep copies of each waste transport certificate, required to be completed by the consignor, for a period of at least 4 years (Clause 54).
- A transporter of waste must retain copies of each waste transport certificate, required to be completed by the transporter, for a period of at least 4 years (Clause 55).

Each waste classification and authorised waste receiver document should also be retained as proof of appropriate offsite disposal of any waste from the site.

4.3 Hazardous Materials Register (if required)

Following the building refurbishment the hazardous materials register should be updated and maintained for the site. The register should detail the location and condition of all hazardous materials remaining at the site. Inspections should be conducted on a regular basis and the hazardous materials register updated accordingly. Any works identified/required as a result of the inspections should be undertaken immediately. The hazardous materials register should be made available to any site occupant or contractor that may come into contact with hazardous materials remaining onsite.

7.4 Operational Record Keeping

Waste collection events will be recorded by the Waste Manager (or person responsible) recording collection event, waste type, and waste level in container [eg.25% full, 50%, etc.]. The records will assist in future waste audits. Such audits have the aim to identify minimisation opportunities, and quantify minimisation efforts.

APPENDIX A: WASTE/MATERIAL MANAGEMENT REMAINING REVERSE CONSTRUCTION PHASE

NOTE 1: THE QUANTITY ESTIMATES ARE APPROXIMATE ONLY AND ARE NOT TO BE USED FOR PRICING/TENDERING PURPOSES

APPENDIX AA: Building A - Waste/Material Management Remaining Reverse Construction Phase

Building A - To be finalised by contractor				
Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
Natural Material – Soils	TBD	Manage under standard Construction Soil and Water Management Plan	Minimise off-site disposal. Manage in accordance with regulatory requirements Contractor: TBA Facility: TBA	If material is deemed unsuitable for onsite reused it should be classified in accordance with Waste Classification Guidelines and disposed of at an appropriate landfill Contractor: TBA Facility: TBA
Green Waste	Minimal	Plants to be reused onsite where possible. Remaining plant material to be reused elsewhere or made available for recycling/ mulch/composting	NA	Nil to landfill
Bricks (external & internal brickwork)	Minimal	If possible, bricks should be cleaned and reused on site	Bricks that cannot be reused will be recycled off-site. Contractor: TBA Facility: TBA	Nil to landfill
Tiles and Porcelain (toilets, urinals, sinks, walls and other various tiled areas etc.)	Minimal	Broken tiles may be re-used as drainage fill on site where possible	Material that cannot be reused on site will be recycled off-site. Contractor: TBA Facility: TBA	Nil to landfill

Building A - To be finalised by contractor				
Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
Concrete, Masonry (Internal walls, stairs, and other concreted areas)	Minimal	Concrete may be re-used as drainage fill on site where possible	Concrete that cannot be reused on site will be recycled off-site. Contractor: TBA Facility: TBA	Nil to landfill
Timber - plywood, stud walls, battens, skirting, doors, stairs etc.	Minimal	NA	Timber will be transported to a timber recycling yard where possible. Contractor: TBA Facility: TBA	Timber that cannot be recycled will be disposed at an appropriate waste facility Contractor: TBA Facility: TBA
Plasterboard (Various internal areas)	100	NA	Clean plaster board will be transported to a soil conditioning yard where possible. Contractor: TBA Facility: TBA	Plaster Board that cannot be recycled will be disposed at an appropriate waste facility Contractor: TBA Facility: TBA
Metals	Minimal	NA	All steel materials will be separated transported to a metal recycling yard Contractor: TBA Facility: TBA	Nil to landfill
Asbestos Containing Material (ACM)	Removed during Early Works Minimal	NA	NA	To be removed by licenced contractor and disposed at appropriate licensed waste facility Contractor: TBA Facility: TBA
Light fittings containing PCB capacitors (if any)	Removed during Early Works nil	NA	NA	NA

Building A - To be finalised by contractor				
Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
Glass	100	NA	Glass will be segregated from other material where possible, and recycled. Contractor: TBA Facility: TBA	Nil to landfill
Plastics, PVC tubing, electrical wiring etc.	minimal	NA	Such materials will be segregated from other material where possible, and recycled. Contractor: TBA Facility: TBA	Material that cannot be recycled will be disposed at an appropriate waste facility Contractor: TBA Facility: TBA
Cardboard/Paper	Minimal	NA	Cardboard will be segregated from other material and recycled where possible. Contractor: TBA Facility: TBA	Cardboard that cannot be recycled will be disposed at an appropriate waste facility Contractor: TBA Facility: TBA

APPENDIX AB: Building B - Waste/Material Management Reverse Construction Phase

Building B - To be finalised by contractor				
Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note1} [m ²]	ON-SITE	OFF-SITE	
Natural Material – Soils	TBD	Manage under standard Construction Soil and Water Management Plan	Minimise off-site disposal. Manage in accordance with regulatory requirements Contractor: TBA Facility: TBA	If material is deemed unsuitable for onsite reused it should be classified in accordance with Waste Classification Guidelines and disposed of at an appropriate landfill Contractor: TBA Facility: TBA
Green Waste	Minimal	Plants to be reused onsite where possible. Remaining plant material to be reused elsewhere or made available for recycling/ mulch/composting	NA	Nil to landfill
Bricks (external & internal brickwork)	Minimal	If possible, bricks should be cleaned and reused on site	Bricks that cannot be reused will be recycled off-site. Contractor: TBA Facility: TBA	Nil to landfill
Tiles and Porcelain (toilets, urinals, sinks, walls and other various tiled areas etc.)	50	Broken tiles may be re-used as drainage fill on site where possible	Material that cannot be reused on site will be recycled off-site. Contractor: TBA Facility: TBA	Nil to landfill
Concrete, Masonry (Internal walls, stairs, and other concreted areas)	50	Concrete may be re-used as drainage fill on site where possible	Concrete that cannot be reused on site will be recycled off-site. Contractor: TBA Facility: TBA	Nil to landfill
Timber - plywood, stud walls, battens,	150	NA	Timber will be transported to a timber recycling yard where possible.	Timber that cannot be recycled will be disposed at an appropriate waste facility

Building B - To be finalised by contractor				
Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note1} [m ²]	ON-SITE	OFF-SITE	
skirting, doors, stairs etc.			Contractor: TBA Facility: TBA	Contractor: TBA Facility: TBA
Plasterboard (Various internal areas)	950	NA	Clean plaster board will be transported to a soil conditioning yard where possible. Contractor: TBA Facility: TBA	Plaster Board that cannot be recycled will be disposed at an appropriate waste facility Contractor: TBA Facility: TBA
Metals	Minimal	NA	All steel materials will be separated transported to a metal recycling yard Contractor: TBA Facility: TBA	Nil to landfill
Asbestos Containing Material (ACM)	Minimal	NA	NA	To be disposed of at appropriate licensed waste facility Contractor: TBA Facility: TBA
Light fittings containing PCB capacitors (if any)	Minimal	NA	NA	NA
Glass	50	NA	Glass will be segregated from other material where possible, and recycled. Contractor: TBA Facility: TBA	Nil to landfill
Plastics, PVC tubing, electrical wiring etc.	5 m ³	NA	Such materials will be segregated from other material where possible, and recycled. Contractor: TBA Facility: TBA	Material that cannot be recycled will be disposed at an appropriate waste facility Contractor: TBA Facility: TBA

Building B - To be finalised by contractor				
Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note1} [m ²]	ON-SITE	OFF-SITE	
Cardboard/Paper	Minimal	NA	Cardboard will be segregated from other material and recycled where possible. Contractor: TBA Facility: TBA	Cardboard that cannot be recycled will be disposed at an appropriate waste facility Contractor: TBA Facility: TBA

APPENDIX AC: Building C - Waste/Material Management Remaining Reverse Construction Phase

Building C - To be finalised by contractor				
Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
Natural Material – Soils	TBD	Manage under standard Construction Soil and Water Management Plan	Minimise off-site disposal. Manage in accordance with regulatory requirements Contractor: TBA Facility: TBA	If material is deemed unsuitable for onsite reused it should be classified in accordance with Waste Classification Guidelines and disposed of at an appropriate landfill Contractor: TBA Facility: TBA
Contaminated Soil	TBD	Manage as per environmental management plan	Manage as per environmental management plan	Manage as per environmental management plan
Green Waste	Minimal	Plants to be reused onsite where possible. Remaining plant material to be reused elsewhere or made available for recycling/ mulch/composting	NA	Nil to landfill
Bricks (external & internal brickwork)	Minimal	If possible, bricks should be cleaned and reused on site	Bricks that cannot be reused will be recycled off-site. Contractor: TBA Facility: TBA	Nil to landfill
Tiles and Porcelain (toilets, urinals, sinks, walls and other various tiled areas etc.)	Minimal	Broken tiles may be re-used as drainage fill on site where possible	Material that cannot be reused on site will be recycled off-site. Contractor: TBA Facility: TBA	Nil to landfill
Concrete, Masonry (Internal walls, stairs, and other concreted areas)	Minimal	Concrete may be re-used as drainage fill on site where possible	Concrete that cannot be reused on site will be recycled off-site. Contractor: TBA Facility: TBA	Nil to landfill

Building C - To be finalised by contractor				
Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
Timber - plywood, stud walls, battens, skirting, doors, stairs etc.	50	NA	Timber will be transported to a timber recycling yard where possible. Contractor: TBA Facility: TBA	Timber that cannot be recycled will be disposed at an appropriate waste facility Contractor: TBA Facility: TBA
Plasterboard (Various internal areas)	250	NA	Clean plaster board will be transported to a soil conditioning yard where possible. Contractor: TBA Facility: TBA	Plaster Board that cannot be recycled will be disposed at an appropriate waste facility Contractor: TBA Facility: TBA
Metals	25	NA	All steel materials will be separated transported to a metal recycling yard Contractor: TBA Facility: TBA	Nil to landfill
Asbestos Containing Material (ACM)	Minimal	NA	NA	To be disposed of at appropriate licensed waste facility Contractor: TBA Facility: TBA
Light fittings containing PCB capacitors (if any)	Nil	NA	NA	To be disposed of at appropriate licensed waste facility Contractor: TBA Facility: TBA
Glass	Minimal	NA	Glass will be segregated from other material where possible, and recycled. Contractor: TBA Facility: TBA	Nil to landfill

Building C - To be finalised by contractor				
Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ³]	ON-SITE	OFF-SITE	
Plastics, PVC tubing, electrical wiring etc.	5 m ³	NA	Such materials will be segregated from other material where possible, and recycled. Contractor: TBA Facility: TBA	Material that cannot be recycled will be disposed at an appropriate waste facility Contractor: TBA Facility: TBA
Cardboard/Paper	Minimal	NA	Cardboard will be segregated from other material and recycled where possible. Contractor: TBA Facility: TBA	Cardboard that cannot be recycled will be disposed at an appropriate waste facility Contractor: TBA Facility: TBA

APPENDIX AD: Building D - Waste/Material Management Remaining Reverse Construction Phase

Building D - To be finalised by contractor				
Materials On site		Destination		
Indicative total only		Reuse and Recycling		
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
Natural Material – Soils	TBD	Manage under standard Construction Soil and Water Management Plan	Minimise off-site disposal. Manage in accordance with regulatory requirements Contractor: TBA Facility: TBA	If material is deemed unsuitable for onsite reused it should be classified in accordance with Waste Classification Guidelines and disposed of at an appropriate landfill Contractor: TBA Facility: TBA
Contaminated Soil	TBD	Manage as per environmental management plan	Manage as per environmental management plan	Manage as per environmental management plan
Green Waste	Minimal	Plants to be reused onsite where possible. Remaining plant material to be reused elsewhere or made available for recycling/ mulch/composting	NA	Nil to landfill
Bricks (external & internal brickwork)	25	If possible, bricks should be cleaned and reused on site	Bricks that cannot be reused will be recycled off-site. Contractor: TBA Facility: TBA	Nil to landfill
Tiles and Porcelain (toilets, urinals, sinks, walls and other various tiled areas etc.)	100	Broken tiles may be re-used as drainage fill on site where possible	Material that cannot be reused on site will be recycled off-site. Contractor: TBA Facility: TBA	Nil to landfill

Building D - To be finalised by contractor				
Materials On site		Destination		
Indicative total only		Reuse and Recycling		
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
Concrete, Masonry (Internal walls, stairs, and other concreted areas)	50	Concrete may be re-used as drainage fill on site where possible	Concrete that cannot be reused on site will be recycled off-site. Contractor: TBA Facility: TBA	Nil to landfill
Timber - plywood, stud walls, battens, skirting, doors, stairs etc.	800	NA	Timber will be transported to a timber recycling yard where possible. Contractor: TBA Facility: TBA	Timber that cannot be recycled will be disposed at an appropriate waste facility Contractor: TBA Facility: TBA
Plasterboard (Various internal areas)	500	NA	Clean plaster board will be transported to a soil conditioning yard where possible. Contractor: TBA Facility: TBA	Plaster Board that cannot be recycled will be disposed at an appropriate waste facility Contractor: TBA Facility: TBA
Metals	Minimal	NA	All steel materials will be separated transported to a metal recycling yard Contractor: TBA Facility: TBA	Nil to landfill
Asbestos Containing Material (ACM)	Minimal	NA	NA	To be disposed of at appropriate licensed waste facility Contractor: TBA Facility: TBA
Light fittings containing PCB capacitors (if any)	Nil	NA	NA	NA

Building D - To be finalised by contractor				
Materials On site		Destination		
Indicative total only		Reuse and Recycling		
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
Glass	250	NA	Glass will be segregated from other material where possible, and recycled. Contractor: TBA Facility: TBA	Nil to landfill
Plastics, PVC tubing, electrical wiring etc.	25 m ³	NA	Such materials will be segregated from other material where possible, and recycled. Contractor: TBA Facility: TBA	Material that cannot be recycled will be disposed at an appropriate waste facility Contractor: TBA Facility: TBA
Cardboard/Paper	Minimal	NA	Cardboard will be segregated from other material and recycled where possible. Contractor: TBA Facility: TBA	Cardboard that cannot be recycled will be disposed at an appropriate waste facility Contractor: TBA Facility: TBA

APPENDIX AE: Building E - Waste/Material Management Remaining Reverse Construction Phase

Building E - To be finalised by contractor				
Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
Natural Material – Soils	TBD	Manage under standard Construction Soil and Water Management Plan	Minimise off-site disposal. Manage in accordance with regulatory requirements Contractor: TBA Facility: TBA	If material is deemed unsuitable for onsite reused it should be classified in accordance with Waste Classification Guidelines and disposed of at an appropriate landfill Contractor: TBA Facility: TBA
Contaminated Soil	TBD	Manage as per environmental management plan	Manage as per environmental management plan	Manage as per environmental management plan
Green Waste	Minimal	Plants to be reused onsite where possible. Remaining plant material to be reused elsewhere or made available for recycling/ mulch/composting	NA	Nil to landfill
Concrete, Masonry (Internal walls, stairs, and other concreted areas)	100	Concrete may be re-used as drainage fill on site where possible	Concrete that cannot be reused on site will be recycled off-site. Contractor: TBA Facility: TBA	Nil to landfill
Metals USTs/piping etc.	2 x 25,000 USTs	NA	Recycle as per regulatory requirements Contractor: TBA Facility: TBA	Nil

APPENDIX AF: Building F - Waste/Material Management Remaining Reverse Construction Phase

Building F - To be finalised by contractor				
Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
Natural Material – Soils	TBD	Manage under standard Construction Soil and Water Management Plan	Minimise off-site disposal. Manage in accordance with regulatory requirements Contractor: TBA Facility: TBA	If material is deemed unsuitable for onsite reused it should be classified in accordance with Waste Classification Guidelines and disposed of at an appropriate landfill Contractor: TBA Facility: TBA
Contaminated Soil	TBD	Manage as per environmental management plan	Manage as per environmental management plan	Manage as per environmental management plan

APPENDIX AG: Building G - Waste/Material Management Remaining Reverse Construction Phase

Building G - To be finalised by contractor				
Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
Natural Material – Soils	TBD	Manage under standard Construction Soil and Water Management Plan	Minimise off-site disposal. Manage in accordance with regulatory requirements Contractor: TBA Facility: TBA	If material is deemed unsuitable for onsite reused it should be classified in accordance with Waste Classification Guidelines and disposed of at an appropriate landfill Contractor: TBA Facility: TBA
Contaminated Soil	TBD	Manage as per environmental management plan	Manage as per environmental management plan	Manage as per environmental management plan
Timber - plywood, stud walls, battens, skirting, doors, stairs etc.	Minimal	NA	Timber will be transported to a timber recycling yard where possible. Contractor: TBA Facility: TBA	Timber that cannot be recycled will be disposed at an appropriate waste facility Contractor: TBA Facility: TBA
Plasterboard (Various internal areas)	Minimal	NA	Clean plaster board will be transported to a soil conditioning yard where possible. Contractor: TBA Facility: TBA	Plaster Board that cannot be recycled will be disposed at an appropriate waste facility Contractor: TBA Facility: TBA
Glass	Minimal	NA	Glass will be segregated from other material where possible, and recycled. Contractor: TBA Facility: TBA	Nil to landfill
Plastics, PVC tubing, electrical wiring etc.	Minimal	NA	Such materials will be segregated from other material where possible, and recycled. Contractor: TBA Facility: TBA	Material that cannot be recycled will be disposed at an appropriate waste facility Contractor: TBA Facility: TBA

Building G - To be finalised by contractor				
Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
Cardboard/Paper	Minimal	NA	Cardboard will be segregated from other material and recycled where possible. Contractor: TBA Facility: TBA	Cardboard that cannot be recycled will be disposed at an appropriate waste facility Contractor: TBA Facility: TBA

APPENDIX AH: Building H - Waste/Material Management Reverse Construction Phase

Building H - To be finalised by Contractor				
Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
Natural Material – Soils	TBD	Manage under standard Construction Soil and Water Management Plan	Minimise off-site disposal. Manage in accordance with regulatory requirements Contractor: TBA Facility: TBA	If material is deemed unsuitable for onsite reused it should be classified in accordance with Waste Classification Guidelines and disposed of at an appropriate landfill Contractor: TBA Facility: TBA
Contaminated Soil	TBD	Manage as per environmental management plan	Manage as per environmental management plan	Manage as per environmental management plan

1. Waste management requirements will be stipulated in contracts with sub-contractors. On-going checks by site supervisors will be conducted.
2. Staff working onsite will be trained in the types of materials that can be reused and/or recycled.
3. Selected areas are to be deconstructed and materials separated in to reuse, recycling and waste categories.
4. All procedures for waste disposal should be actioned prior to deconstruction where practical.
5. Disposal locations will be recorded.
6. All records for the offsite disposal of materials should be retained as proof of appropriate offsite disposal of any waste from the site.

APPENDIX B: WASTE MANAGEMENT CONSTRUCTION PHASE

NOTE 1: THE QUANTITY ESTIMATES ARE APPROXIMATE ONLY AND ARE NOT TO BE USED FOR PRICING/TENDERING PURPOSES

APPENDIX BA: Building A - Waste/Material Management Construction Phase

Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ³]	ON-SITE	OFF-SITE	
Natural Material – Soils (Lift Pit, rainwater tank etc.)	20m ³	Reuse onsite if possible (assuming excavated material is VENM)	If contamination is suspected (via either visual or olfactory methods) material will be need to be tested and classified by a suitably qualified professional. Contractor: TBA Facility: TBA	If material is deemed unsuitable for onsite reused it should be classified in accordance with Waste Classification Guidelines and disposed of at an appropriate landfill Contractor: TBA Facility: TBA
Green Waste	5	Order appropriate quantities. Minimise wastage.	NA	Nil to landfill
Bricks	Minimal	Re-use demolition bricks if possible otherwise order appropriate quantities. Minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill

Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
Tiles	100	Order appropriate quantities. Minimise wastage.	Re-use on other project where possible. Segregate from other waste and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Glass	15	Order appropriate quantities. Minimise wastage.	Segregate from other waste and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Concrete, Masonry	5	Order appropriate quantities. Minimise wastage.	Segregate from other waste and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Timber	20	Order appropriate quantities to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Plasterboard	200	Order appropriate quantities to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
CFC/FC sheeting	15	Order appropriate quantities to minimise wastage.	Segregate from other waste. Re-use on other projects where possible, or and transport to recycling facility where possible. Contractor: TBA	Nil to landfill

Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
		Reuse cut-offs on site where possible	Facility: TBA	
Metal	5t	Order appropriate quantities, lengths to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Cardboard	Minimal	NA	Segregate from other waste. Transport to textile recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Rubber	Minimal	Order appropriate quantities to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill

APPENDIX B2: Building B - Waste/Material Management Construction Phase

Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
Natural Material – Soils (Lift Pit, rainwater tank etc.)	100m ³	Reuse onsite if possible (assuming excavated material is VENM)	If contamination is suspected (via either visual or olfactory methods) material will be need to be tested and classified by a suitably qualified professional. Contractor: TBA Facility: TBA	If material is deemed unsuitable for onsite reused it should be classified in accordance with Waste Classification Guidelines and disposed of at an appropriate landfill Contractor: TBA Facility: TBA
Green Waste	10	Order appropriate quantities. Minimise wastage.	NA	Nil to landfill
Bricks	20	Re-use demolition bricks if possible otherwise order appropriate quantities. Minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Tiles	150	Order appropriate quantities. Minimise wastage.	Re-use on other project where possible. Segregate from other waste and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Glass	20	Order appropriate quantities. Minimise wastage.	Segregate from other waste and transport to recycling facility where possible. Contractor: TBA	Nil to landfill

Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
			Facility: TBA	
Concrete, Masonry	10	Order appropriate quantities. Minimise wastage.	Segregate from other waste and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Timber	30	Order appropriate quantities to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Plasterboard	300	Order appropriate quantities to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
CFC/FC sheeting	20	Order appropriate quantities to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Metal	10t	Order appropriate quantities, lengths to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill

Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
Cardboard	Minimal	NA	Segregate from other waste. Transport to textile recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Rubber	Minimal	Order appropriate quantities to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill

APPENDIX B3: Building C - Waste/Material Management Construction Phase

Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
Natural Material – Soils (Lift Pit, rainwater tank etc.)	200m ³	Reuse onsite if possible (assuming excavated material is VENM)	If contamination is suspected (via either visual or olfactory methods) material will be need to be tested and classified by a suitably qualified professional. Contractor: TBA Facility: TBA	If material is deemed unsuitable for onsite reused it should be classified in accordance with Waste Classification Guidelines and disposed of at an appropriate landfill Contractor: TBA Facility: TBA
Green Waste	10	Order appropriate quantities. Minimise wastage.	NA	Nil to landfill
Bricks	30	Re-use demolition bricks if possible otherwise order appropriate quantities. Minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Tiles	300	Order appropriate quantities. Minimise wastage.	Re-use on other project where possible. Segregate from other waste and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Glass	40	Order appropriate quantities. Minimise wastage.	Segregate from other waste and transport to recycling facility where possible. Contractor: TBA	Nil to landfill

Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
			Facility: TBA	
Concrete, Masonry	30	Order appropriate quantities. Minimise wastage.	Segregate from other waste and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Timber	50	Order appropriate quantities to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Plasterboard	450	Order appropriate quantities to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
CFC/FC sheeting	100	Order appropriate quantities to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Metal	10t	Order appropriate quantities, lengths to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill

Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
Cardboard	Minimal	NA	Segregate from other waste. Transport to textile recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Rubber	Minimal	Order appropriate quantities to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill

APPENDIX B4: Building D - Waste/Material Management Construction Phase

Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
Natural Material – Soils (Lift Pit, rainwater tank etc.)	200m ³	Reuse onsite if possible (assuming excavated material is VENM)	If contamination is suspected (via either visual or olfactory methods) material will be need to be tested and classified by a suitably qualified professional. Contractor: TBA Facility: TBA	If material is deemed unsuitable for onsite reused it should be classified in accordance with Waste Classification Guidelines and disposed of at an appropriate landfill Contractor: TBA Facility: TBA
Green Waste	10	Order appropriate quantities. Minimise wastage.	NA	Nil to landfill
Bricks	60	Re-use demolition bricks if possible otherwise order appropriate quantities. Minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Tiles	350	Order appropriate quantities. Minimise wastage.	Re-use on other project where possible. Segregate from other waste and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Glass	60	Order appropriate quantities. Minimise wastage.	Segregate from other waste and transport to recycling facility where possible. Contractor: TBA	Nil to landfill

Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
			Facility: TBA	
Concrete, Masonry	60	Order appropriate quantities. Minimise wastage.	Segregate from other waste and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Timber	100	Order appropriate quantities to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Plasterboard	500	Order appropriate quantities to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
CFC/FC sheeting	150	Order appropriate quantities to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Metal	10t	Order appropriate quantities, lengths to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill

Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
Cardboard	Minimal	NA	Segregate from other waste. Transport to textile recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Rubber	Minimal	Order appropriate quantities to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill

APPENDIX B5: Building G - Waste/Material Management Construction Phase

Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
Natural Material – Soils (Lift Pit, rainwater tank etc.)	10m ³	Reuse onsite if possible (assuming excavated material is VENM)	If contamination is suspected (via either visual or olfactory methods) material will be need to be tested and classified by a suitably qualified professional. Contractor: TBA Facility: TBA	If material is deemed unsuitable for onsite reused it should be classified in accordance with Waste Classification Guidelines and disposed of at an appropriate landfill Contractor: TBA Facility: TBA
Green Waste	10	Order appropriate quantities. Minimise wastage.	NA	Nil to landfill
Bricks	15	Re-use demolition bricks if possible otherwise order appropriate quantities. Minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Tiles	5	Order appropriate quantities. Minimise wastage.	Re-use on other project where possible. Segregate from other waste and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Glass	5	Order appropriate quantities. Minimise wastage.	Segregate from other waste and transport to recycling facility where possible. Contractor: TBA	Nil to landfill

Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
			Facility: TBA	
Concrete, Masonry	25	Order appropriate quantities. Minimise wastage.	Segregate from other waste and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Timber	3	Order appropriate quantities to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Plasterboard	15	Order appropriate quantities to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
CFC/FC sheeting	10	Order appropriate quantities to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Metal	2t	Order appropriate quantities, lengths to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill

Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
Cardboard	Minimal	NA	Segregate from other waste. Transport to textile recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Rubber	Minimal	Order appropriate quantities to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill

APPENDIX B6: Hall - Waste/Material Management Construction Phase

Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
Natural Material – Soils (Lift Pit, rainwater tank etc.)	300m ³	Reuse onsite if possible (assuming excavated material is VENM)	If contamination is suspected (via either visual or olfactory methods) material will be need to be tested and classified by a suitably qualified professional. Contractor: TBA Facility: TBA	If material is deemed unsuitable for onsite reused it should be classified in accordance with Waste Classification Guidelines and disposed of at an appropriate landfill Contractor: TBA Facility: TBA
Green Waste	25	Order appropriate quantities. Minimise wastage.	NA	Nil to landfill
Bricks	30	Re-use demolition bricks if possible otherwise order appropriate quantities. Minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Tiles	15	Order appropriate quantities. Minimise wastage.	Re-use on other project where possible. Segregate from other waste and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Glass	15	Order appropriate quantities. Minimise wastage.	Segregate from other waste and transport to recycling facility where possible. Contractor: TBA	Nil to landfill

Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
			Facility: TBA	
Concrete, Masonry	30	Order appropriate quantities. Minimise wastage.	Segregate from other waste and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Timber	15	Order appropriate quantities to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Plasterboard	50	Order appropriate quantities to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
CFC/FC sheeting	30	Order appropriate quantities to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Metal	8t	Order appropriate quantities, lengths to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill

Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ²]	ON-SITE	OFF-SITE	
Cardboard	Minimal	NA	Segregate from other waste. Transport to textile recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Rubber	Minimal	Order appropriate quantities to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill

APPENDIX B7: General Site - Waste/Material Management Construction Phase

Materials On site		Destination		
Indicative total only		Reuse and Recycling		Disposal
Type of Material	Estimated Qty ^{note 1} [m ³]	ON-SITE	OFF-SITE	
Natural Material – Soils Landscaping	500m ³	Reuse onsite if possible (assuming excavated material is VENM)	If contamination is suspected (via either visual or olfactory methods) material will be need to be tested and classified by a suitably qualified professional. Contractor: TBA Facility: TBA	If material is deemed unsuitable for onsite reused it should be classified in accordance with Waste Classification Guidelines and disposed of at an appropriate landfill Contractor: TBA Facility: TBA
Green Waste - Landscaping	150	Order appropriate quantities. Minimise wastage.	NA	Nil to landfill
Bricks- Landscaping	5	Re-use demolition bricks if possible otherwise order appropriate quantities. Minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Concrete, Masonry – food paths/driveways	5	Order appropriate quantities. Minimise wastage.	Segregate from other waste and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill
Timber - Lanscaping	15	Order appropriate quantities to minimise wastage. Reuse cut-offs on site where possible	Segregate from other waste. Re-use on other projects where possible, or and transport to recycling facility where possible. Contractor: TBA Facility: TBA	Nil to landfill

1. Waste management requirements for the construction phase will be stipulated in contracts with sub-contractors.
 2. On-going checks by site supervisors will be conducted.
 3. Staff working onsite will be trained in the types of materials that can be reused and/or recycled.
 4. Material ordered as close to size as possible to minimise cut-off/wastage.
 5. Material will be segregated and separate containers for recycling.
 6. Disposal locations will be recorded.
 7. All records for the offsite disposal of materials should be retained as proof of appropriate offsite disposal of any waste from the site.
-

APPENDIX C: WASTE MANAGEMENT OPERATIONAL PHASE

The principles of the WMP for the operational phase are described below.

General Strategy: The overall strategy is to provide a waste management system that:

- Minimises the generation of waste through avoid-reduce-reuse-recycle policies;
- Will provide the opportunity to educate students in waste management and resource recovery, set an example;
- Meets DEC, PCC, and regulatory guidelines;
- Is 'hands on' but safe, (students/staff segregate their wastes into different receptacles at source (where it is generated: yard, inside, office, workshops, tea rooms, ...));
- Provides flexibility to be adapted to future developments in management practices (dedicated spaces rather than built in fixtures); and
- Is cost effective (CAPEX/OPEX)

System Components:

- Purchasing policies, education programs ;
- Internal Bins (eg. 30L) at source (two or three bin system for most areas, potentially more bins in kitchen and office areas);
- Special Bins for special purposes (eg. workshop, kitchen, ...);
- Waste Storage Area for 770L Waste Storage Bins (Wheelie Bins) in/adjacent to Building G. Approximately 26m² of storage space are required for bin storage, which is readily accommodated through Building G;
- About 12x 770L Wheelie Bins would be required to service the projected waste/recyclables generation;

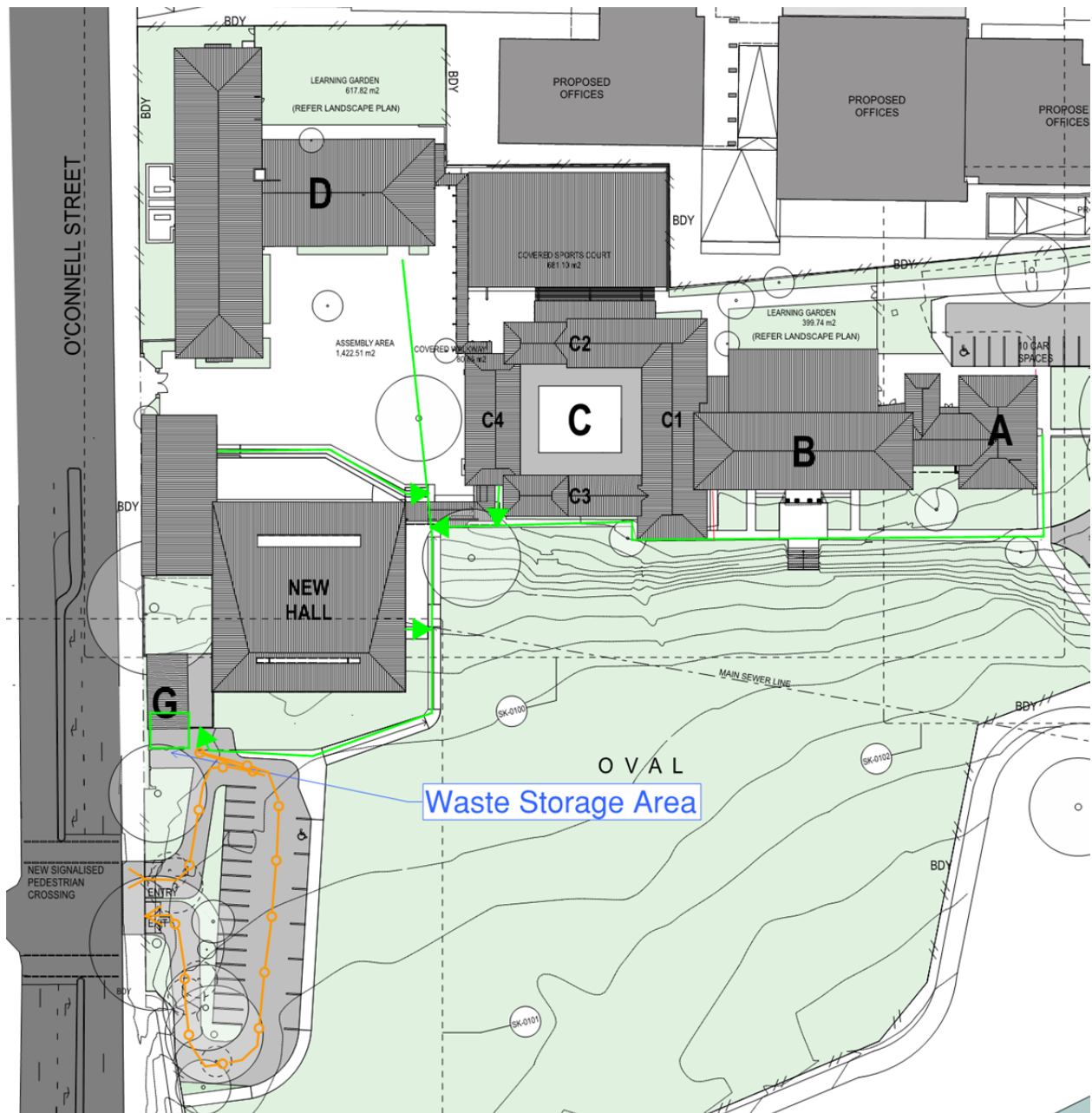
A general waste management scheme and calculations are provided in **Table 3** and **Figure 3** below respectively.

The Segregation & Collection Process

1. Waste is placed by staff/students into separate Internal Bins (paper/cardboard, other recyclables comingled, remaining general waste. Food waste from kitchens and generally may be collected separately once a separate food waste collection service is in place;
2. From the Internal Bins the material is transferred to external 770L Roller Bins located at Building G in the assigned External Bin Enclosures by cleaning staff at the end of every day;
3. On collection day, bins containing materials will be placed in the Collection Area by cleaning staff from where they will be emptied by a suitable vehicle, outside student attendance times, twice per week.

Note: access to the collection areas has to be designed to allow commercial collection vehicles to enter and exit safely.

Figure 3 – General Waste Management Scheme



Truck Turning Circle

Sizes of rear loading compactor truck for the collection of waste and recyclables with suitable capacity to service this site 2x per week range from about 6.4m (3.5m wheel base) to longer than 15m.

Waste Storage Containers

Based on the use of a small truck, 770L Wheelie Bins (Width 1.4 x Depth 0.8m) are proposed as storage containers. An image is provided below.



Estimated Bin Numbers

Indicative quantities of waste storage bins are estimated in **Table 3** below.

Table 3 – Estimated Bin Numbers

Table 3 - Estimated Bin Numbers								
	Building A	Building B	Building C		Building D	Building F	New Hall	
Bin Type	Mixed Waste							
Active area	460	1400	1700	600	2427	300	950	
Generation type	Normal	Normal	Normal	Intense	Normal	Normal	Intense	
Rate, L/100m ² /day	10	10	10	80	10	10	80	
Volume, L/day	46	140	170	480	243	30	760	
Days per week	5	5	5	5	5	5	3	
Weekly volume, L	230	700	850	2400	1214	150	2280	7,824
Weekly pickup, event								2
Required storage volume, L								3,912
Container capacity, L								770
Required containers, mixed waste								5.1
Adjusted number of mixed waste containers								6.0
Bin Type	Recycle							
Active Area	460	1400	1700	600	2427	300	950	
Generation type	Normal	Normal	Normal	Intense	Normal	Normal	Intense	
Rate, L/100m ² /day	10	10	10	80	10	10	80	
Volume, L/day	46	140	170	480	242.7	30	760	
Days per week	5	5	5	5	5	5	3	
Weekly volume, L	230	700	850	2400	1213.5	150	2280	7824
Weekly pickup, event								2
Required storage volume, L								3912
Container capacity, L								770
Required containers, recycle								5.1
Adjusted number of recyclables containers								6.0
Storage Area								
Container foot print, m ²	1.5	0.9						1.35
Mixed waste footprint								8.10
Recycle waste footprint								8.10
Initial total footprint								17.55
Manoeuvring area	50%							8.78
Total Storage Area								26.33