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COMMERCIAL FACILITY, CARRINGTON
PRELIMINARY WASTE MANAGEMENT PLAN

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PRELIMINARY WASTE MANAGEMENT PLAN

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Document type	**Preliminary Construction Environmental Management Plan**
Report ref.	**318001066-008**
Description	**Ramboll was engaged by Port of Newcastle to prepare a Waste Management Plan (WMP) to describe how waste management will be undertaken at the proposed commercial development at 65 Denison Street and 46 Fitzroy Street, Carrington NSW**

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CONTENTS

TABLES

ACRONYMS AND ABBREVIATIONS

CEMP	Construction Environmental Management Plan
DA	Development Application
EHC Act	*Environmentally Hazardous Chemicals Act 1985*
EMP	Environmental Management Plan
ENM	Excavated Natural Material
EPA	Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPL	Environment Protection Licence
POEO Act	*Protection of the Environment Operations Act 1997*
POEO Waste Regulation	*Protection of the Environment Operations (Waste) Regulation 2005*
WHS	Workplace Health and Safety
WMP	Waste Management Plan

GLOSSARY

Council	Newcastle City Council
General Solid Waste (non-putrescible)	Includes: Wastes (other than special waste, liquid waste, hazardous waste, restricted solid waste or general solid waste (putrescible)) are pre-classified as 'general solid waste (non-putrescible)', e.g. Waste with a leachable fluoride level of less than 150mg/L Toxicity Characteristic Leaching Procedure (TCLP)
General Solid Waste (putrescible)	Includes: household waste that contains putrescible organics waste from litter bins collected by or on behalf of local councils; manure and night soil; disposable nappies; incontinence pads or sanitary napkins; food waste; animal waste; grit or screenings from sewage treatment systems that have been dewatered so that the grit or screenings do not contain free liquids; any mixture of the wastes referred to above.
Hazardous Waste	Includes: containers, having previously contained a substance of Class 1, 3, 4, 5 or 8 within the meaning of the Transport of Dangerous Goods Code; coal tar or coal tar pitch waste; lead-acid or nickel-cadmium batteries; lead paint waste arising otherwise than from residential premises or educational or child care institutions; any mixture of the wastes referred to above.
Liquid Waste	Includes: Any waste that 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 or is classified as liquid waste under an EPA gazettal notice.
Restricted Solid Waste	The highest classification of solid waste which must be chemically assessed.
Special Waste	Includes: clinical and related waste; asbestos waste; waste tyres; anything classified as special waste under an EPA gazettal notice.

1. INTRODUCTION

This preliminary Waste Management Plan (WMP) has been prepared by Ramboll Australia Pty Ltd on behalf of Port of Newcastle Operations Pty Limited as Trustee for the Port of Newcastle Operations Trust (Port of Newcastle) to support the development application (DA) for a proposed four-storey commercial development (the project) at Lot 33 DP 1078910 65 Denison Street and 46 Fitzroy Street, Carrington New South Wales (the site). This WMP provides for overarching principles of waste management that the Head Contractor of the development would adhere to during construction. This document does not constitute the final WMP but sets guidance for the development of a detailed waste management plan that will be produced by the appointed Head Contractor.

1.1 Objectives

The objectives of this WMP are to:

- prevent or minimise any adverse environmental impacts from waste generation.
- detail the controls to be implemented to mitigate waste impacts
- provide a mechanism to assess performance against regulatory requirements and impact assessment criteria
- provide commitments and strategies to maximise reuse and recycling of wastes
- establish requirements for the safe disposal of all wastes
- establish the roles and responsibilities of all personnel involved in waste management
- establish supervision, monitoring and reporting framework for the WMP.

1.2 Purpose and Scope

The purpose of the WMP is to:

- form part of the construction environmental management plan (CEMP) and operational plan of management, providing supplementary measures specific to waste management
- establish estimated waste generation rates, nominate operational waste storage areas, types and sizes of storage, frequency of collection and proposed collection methodology based on Newcastle Technical Manual Waste Management (City of Newcastle, 2012).

1.3 Regulatory Requirements

The WMP aims to comply with:

- *Protection of the Environment Operations Act 1997* (POEO Act)
- *Protection of the Environment Operations (Waste) Regulation 2005* (POEO Waste Regulation)
- *State Environmental Planning Policy No, 55: Remediation of Land* (SEPP 55).
- *Waste Avoidance and Resource Recovery Act 2001* and associated Regulations.
- *Waste Classification Guidelines* (EPA, 2014).

2. EXISTING ENVIRONMENT AND WASTE STREAMS

2.1 Site description and proposed use

The site is a largely vacant 8,684 square metre parcel of flat land with a concrete slab and security fencing remaining from previous development. There are two small grassed and gravel areas to the east and the west of the fence line.

2.2 Waste generation

2.2.1 Demolition and construction wastes

The demolition and construction activities at the site will generate the following key waste streams:

- Concrete: concrete and bricks will be generated during demolition of the concrete slab.
- Recyclable construction materials: materials such as steel and timber.
- Non-recyclable materials: materials such as plastics, plasterboard, fittings and other waste will be generated during demolition and construction.
- Green waste: landscaped and grassed areas within the site will be removed prior to commencing demolition.
- General waste: demolition personnel will generate waste such as food scraps, wrappings and office materials.
- Hazardous materials: an asbestos clearance for the site has been provided by HAZMAT in December 2017 (GHD, 2021), however there is the potential that inaccessible or previously unidentified hazardous materials (such as asbestos containing material associated with the concrete slab) may need to be managed during demolition.

2.2.2 Contaminated soils

Detailed site investigation found soils on site were below the adopted human health assessment criteria for commercial/industrial land use.

A hotspot (Borehole BH04) was identified on the eastern portion of the site with heavy metals (arsenic, copper, nickel and zinc) exceeding the Ecological Investigation Level (EIL) (GHD, 2021). Soils excavated from this area will not be stockpiled near waterways or sensitive areas.

Excavations around BH04 are therefore classified as hazardous waste and if required will be temporarily stored at the stockpile area with appropriate temporary containment to protect human health and the environment and further sampling would be required to potentially reduce the waste classification prior to offsite disposal.

2.2.3 Operational waste

- General waste including food scraps and organic materials generated from food consumption in both office premises and café.
- Paper, metals, glass, cardboard, and general recyclables
- Non-recyclable materials such as plastics and packaging.
- Liquid waste such as grease generated by cafe.

2.3 Waste Management

2.3.1 Waste Classification

Waste classification has been be undertaken in accordance with the *Waste Classification Guidelines* (EPA, 2014). Under the guidelines waste is classified into six classes:

- special waste
- liquid waste
- general solid waste (putrescible)
- general solid waste (non-putrescible)
- hazardous waste
- restricted solid waste

Any waste to be transported from the site for off site management will be sorted in accordance with its waste classification prior to removal to the licenced waste facility.

As discussed in **Section 2.2**, most of the waste anticipated to be generated during all phases of the project can be classified as general waste and can be re-used or recycled on site or disposed of or recycled off site.

2.3.2 Construction waste disposal

Waste would be managed with consideration to achieving accreditation under the Green Star Rating system. The estimated waste generation and disposal options for the construction stage of the project are outlined in **Table 2-1,** derived from NSW Department of Environment and Climate Change (NSW Department of Environment and Climate Change, 2008).

Table 2-1: Construction waste quantities and disposal options

Waste	Estimated quantity (t)	Estimated volume (m^3)	Re-use, recycling, and management options	
			On site	Off site
Excavation material	10	28	Reuse on site for filling	Summerhill Waste Facility
Green waste	3	8	Mulched for landscaping and composting	Summerhill Waste Facility
Concrete	200	566		Concrush or Summerhill Waste Facility
Brick and pavers	5	15	Can be cleaned for reuse or crushed for use in landscaping and driveways	Concrush or Summerhill Waste Facility
Pipe offcuts	<1	<3	Separated and colleted onsite	Return to supplier if possible or Summerhill Waste Facility
Untreated timber	<1	<3	Mulched for landscaping	Sent to secondhand timber suppliers
Tiles	1	3	Can be cleaned and reused or crushed for use in landscaping and driveways	Summerhill Waste Facility
Plastic, Plasterboard and fittings and packaging	2	5		Return to supplier or Summerhill Waste Facility
Metals	1	3	Use as part of new works	Metal recycling company such as Hunter Recyclers
Hazardous materials*	2*	5*		Disposed in accordance with relevant waste legislation administered by the EPA and relevant workplace health and safety legislation administered by SafeWork NSW and Australian Standard AS2601: 2001 - The Demolition of Structures.

* In-situ waste classification undertaken at the site reported all soils on site as General Solid Waste except for soils around BH04 (on the eastern portion of the site) which are currently classified as Hazardous Waste based on lead concentrations (GHD, 2021). Further testing of this area will provide for possibility to reduce this classification prior to disposal.

A concrete stockpile area will be progressively developed in the western part of the site as demolition progresses.

The excavated material around BH04 will be treated as hazardous material and will be stored with appropriate measure to protect human health and the environment. This includes:

- handling the material in accordance with SafeWork NSW standard procedures
- Stored on hardstand areas. Stockpiled materials with concentrations of heavy metals that are deemed to be of low leachability will be stored on open hard stand areas unless waste classification is reduced through further testing. The material will be stored in areas known to be free of overland water flows.

Remaining demolition material that cannot be recycled or processed for reuse will be stockpiled within the stockpile area. Permanent disposal of these materials will be offsite as described in **Table 2-1**.

2.3.3 Operational waste disposal

Based on typical waste generation rates for commercial premises (City of Newcastle, 2012), the operational phase of the project is expected to produce the quantities of waste set out in **Table 2-2.** The calculations are based on the total floor area of to be used as office space (4246m^2) and total floor area to be used as café (83m^2). Waste would be managed with the aim to achieve accreditation under the Green Star Rating system.
Grease generated by the operation of the café will be treated as liquid waste and captured in a grease trap. The grease trap will be emptied by a licenced contractor.

Table 2-2: Operational waste generating and disposal

	Recyclables (litres)		General Waste (litres)
	Paper/ cardboard	**Metals/ plastic/ glass**	
Amount generated per day – offices	400	24.6	424.6
Amount generated per day – café	55	55.6	553.3
Total per day	**455**	**80.2**	**977.9**
Amount generated per week – offices	2000	123	2123
Amount generated per week – café	275	278	2766.5
Total per week	**2275**	**401**	**4889.5**
Frequency of collections (per week)	1	1	2
Number and size of storage bins required	2 x 1100	1 x 660L	3 x 1100L

2.3.4 Transportation of waste

In both construction and operational phases of the project, waste can only be removed by a licenced waste contractor and transported to a licenced waste facility. A Waste Consignment Authorisation must be obtained, prior to transporting waste, for each type of waste to be disposed. The licenced waste contractor who removes the waste is responsible for completing the Waste Consignment Authorisation. Further details are provided in **Section 0**.

3. IMPLEMENTATION

3.1 Roles and Responsibilities

Key personnel responsible for implementation of this WMP are in **Table 3-1** and consistent with the overall CEMP and operational plan of management.

Table 3-1: Project Personnel and Environmental Management Responsibilities

Position	Responsibilities
CONSTRUCTION ACTIVITIES	
Port of Newcastle Project Manager	• Maintain ultimate responsibility for the implementation of the detailed WMP • Ensure any site workers and contractors engaged in activities at the site are inducted on the requirements of the WMP • Provide adequate resources and funding for the implementation of the WMP • Review effectiveness of the WMP following any incident or any other event that suggests the WMP is ineffective • Track all management of the revisions and amendments, and ensure amendments are communicated to all stakeholders
Head Contractor Site Manager	• Preparation of a detailed and project specific WMP in accordance with project approval, conditions of consent, this preliminary WMP and any other relevant authority requirements or policies • Ensure any site workers, contractors and consultants engaged in activities at the site are inducted on the requirements of the detailed CEMP • To ensure compliance to the requirements of the detailed WMP through surveillance and monitoring of contractors • Review effectiveness of the WMP following any incident or any other event that suggests the WMP is ineffective • Responsible for revisions and amendments to the WMP if site conditions change • Verify that the work of contractors on the project are undertaken in accordance with the final WMP, relevant environmental management plans, procedures and standards. • Provide appropriate training to contractors on the project regarding environment and community requirements and responsibilities • Review and approve the contractors' environmental management documentation prior to commencement of activities and inform contractors of changes to the WMP. • Develop and implement procedures for self-checking management compliance with Contractor's procedures and this WMP.
Contractor Work Health Safety and Environment (WHSE) Representative	• Provide advice on and assistance in implementation and monitoring of waste management and performance • Review and modify the WMP as directed by the Site Manager • Manage the mechanisms available for the community to receive information and to make enquiries or complaints about activities
Project Manager	• Make certain that any proposed works or changes to existing activities, that may have an impact on the environment or the community (including waste management), have the necessary legislative approval prior to the commencement of works • Make certain that the environmental aspects and issues, associated with proposed works or changes to existing activities, are adequately addressed in the WMP • Review and approve the detailed WMP • Facilitate implementation of the detailed WMP
Contractor staff and subcontractors	• Comply with the requirements of the WMP as it applies to their construction activities • Implement the environmental measures and actions as described in the WMP through supporting sub-plans and specific procedures that comply with this preliminary WMP.
Contractor Work Health Safety and Environment (WHSE) Representative	• Provide on site personnel with the necessary tools and training to enable effective implementation of the CEMP. • Implement and maintain an induction package to be provided to all personnel working at the project site, which will include information relevant to the environmental and community management (including waste management). • Undertake a weekly inspection of the demolition and construction activities at the site, for the duration of the project.

Position	Responsibilities
	• Maintain a record of personnel induction and training records.
Waste Removal Contractor	• Transport of waste in accordance with the POEO *Waste Regulation* and the *Waste Classification Guidelines.*
OPERATIONAL ACTIVITIES	
Building Manager	• Make all tenants aware of the requirements of the WMP and the waste facilities and management measures • Facilitate engagement and management of licenced waste contractors to service the premises • Undertake regular inspections of waste storage area and facilities to check waste is being managed appropriately • Organise replacement or repair of any damaged bins and maintenance of communal waste storage area, where required.
Building tenants	• Provide adequate waste storage in office premises for staff to separate and dispose of waste in accordance with the WMP • Separate and dispose of waste in accordance with WMP, signage and instructions in communal storage area • Dispose of waste in communal storage bins regularly and prior to routine removal by contractor • Encourage the use of recyclable materials and waste minimisation amongst staff as part of operations.
Café operator	• Provide adequate waste disposal and signage in the café for patrons to separate and dispose of waste • Separate and dispose of waste in accordance with WMP, signage and instructions in communal bin area • Grease trap will be regularly serviced, maintained and emptied by a licenced contractor.
Waste Removal Contractor	• Transport waste in accordance with the *Waste Classification Guidelines* and to a licenced waste facility.

3.2 Management Measures

Port of Newcastle will implement a number of controls to manage waste generation, handling, transportation and placement resulting from construction activities. The waste management mitigation measures to be implemented during construction are outlined in **Table 3-2** and operational measures in **Table 3-3**.

Table 3-2: Construction Waste Management Measures

Category	General Requirement
Waste management hierarchy and implementation	• All site personnel will be informed during the site induction of the and the measures to be implemented • Waste obligations and management measures to be communicated to personnel during site induction
Efficient resource use, waste avoidance and waste minimisation	• Where possible recyclable wastes generated during construction (at the site office) (paper and cardboard, cans and bottles) will be collected by a recycling contractor. Remaining wastes will be collected for disposal at a licensed waste management facility • Wherever reasonable and feasible, reuse or recycling opportunities for demolition and construction wastes will be investigated and implemented

Category	General Requirement
Waste Classification	• All wastes generated on site (whether transported off site for disposal or stockpiled on site) will be classified prior to removal from the site or transported to its stockpile location in accordance with the *Waste Classification Guidelines.*
Wastes transportation	• Waste will be removed from the site to a licensed facility by a licenced waste contractor and transported to a licenced waste facility • A Waste Consignment Authorisation must be obtained, prior to transporting waste, for each type of waste to be disposed of. The licenced waste contractor who removes the waste is responsible for completing the Waste Consignment Authorisation • Waste to be transported in accordance with the POEO Waste Regulation and the *Waste Classification Guidelines*
Importation of Waste	• Contractors are to ensure that no waste generated off site is to be imported to the site
Waste storage and stockpile/s	• The waste stockpile area will be maintained in an organised condition, with waste materials to be transported to and stockpiled in the designated storage area • Waste storage areas will be inspected as part of routine inspections • Any repairs or improvements to the storage conditions deemed necessary during these inspections will be immediately undertaken, and the source of the issue identified and addressed • Incompatible wastes will not be mixed and/or transported together on any vehicle used by the person to transport the waste • Wastes with high potential to become windblown (such as light plastics and paper) will be contained within waste bins and not stockpiled • Waste stockpiles will be covered if materials become windblown.
Recording transported waste	• The type of waste, location source and destination of each truck load of waste will be recorded

Table 3-3: Operational Waste Management Measures

Category	General Requirement
Waste management hierarchy and implementation	• Waste management measures to be communicated to tenants and visitors by signage throughout the premises including information about management and disposal of waste posted in the communal bin storage area.
Waste avoidance and waste minimisation	• Recyclable wastes generated during operation will be separated and stored in dedicated bins in waste storage area • Each premises will incorporate appropriate waste separate techniques prior to moving waste to communal storage area for collection • Wherever reasonable, café should incorporate reusable serve-ware or recyclable takeaway vessels
Waste storage	• Incompatible wastes will not be mixed. Waste will be classified and separated • Bins will be clearly marked with signage illustrating and listing the types of wastes appropriate for each receptacle
Waste removal	• Waste will be removed from the site to a licensed facility by a licenced waste contractor

4. MONITORING AND REVIEW

4.1 Monitoring

Monitoring of waste and record keeping will be undertaken during construction as follows:

- Inspections to monitor adequacy of controls implemented to manage environmental impacts.
- Quantity and type of waste generated, handled, stockpiled, processed or disposed of on and off site.
- Details of waste disposal including the quantity, tracking, handling, stockpiling, reuse/recycling and proposed strategies for confirming that waste treatment and/or disposal facilities can lawfully accept waste generated.
- The environmental controls and containment measures placed on waste storage areas will be inspected and maintained (if required) on a weekly basis and after rain and strong wind events.
- Undertake environmental inspections to assess compliance with the WMP.
- Record waste related incidents in the incident register and implement corrective actions.

4.2 Reporting

All internal and external environmental reporting requirements will be undertaken in accordance with the detailed CEMP.

Reporting will also be undertaken in accordance with relevant legislation, guidelines and notification requirements, as outlined in **Section 1.3**.

4.3 Non-conformances

Non-conformances will be resolved and recorded in accordance with the CEMP.

4.4 Review and Improvement

The Head Contractor is responsible for preparing and reviewing the detailed WMP to be implemented during construction of the project.

This preliminary WMP should be used as a guide for the overarching principles and recommendations for the management of waste. The detailed WMP will be completed in conjunction with the detailed CEMP to be prepared by the Head Contractor.

5. LIMITATIONS

This document is issued in confidence to Port of Newcastle for the purposes of informing waste generation and management procedures associated with the development and operation of a commercial building at 46 Fitzroy Street Carrington, NSW. It should not be used for any other purpose.

6. REFERENCES

City of Newcastle. (2012). *Newcastle Technical Manual Waste.*

GHD. (2021). *Report for Port of Newcastle Operations Pty Ltd - Denison Street Development - Detailed Site Investigation.*

NSW Department of Environment and Climate Change. (2008). *Waste Not DCP Chapter 2008.*