# Operation Waste Management Plan

## ST MARY'S FREIGHT HUB - SSD 7308


MARCH 2019

## Document Verification

Project Title: St Mary's Freight Hub - SSD 7308

| | |
|---|---|
| DP&E ID | SSD 7308 |
| Project Number: | 18-625 |
| Project File Name: | St Mary's OWMP |

| Revision | Date | Prepared by (name) | Reviewed by (name) | Approved by (name) |
|---|---|---|---|---|
| Draft | 12/12/19 | Nicola Smith | M Sutherland | Erwin Budde |
| Final | 01/03/19 | Nicola Smith | S McGrath | Erwin Budde |



NGH Environmental Pty Ltd (ACN: 124 444 622. ABN: 31 124 444 622)

www.nghenvironmental.com.au e: ngh@nghenvironmental.com.au

**Sydney Region**
18/21 mary st
surry hills nsw 2010 (t 02 8202 8333)

**Canberra - NSW SE & ACT**
8/27 yallourn st (po box 62)
fyshwick act 2609 (t 02 6280 5053)

**Brisbane**
suite 4, level 5, 87 wickham terrace
spring hill qld 4000 (t 07 3129 7633)

**Newcastle - Hunter and North Coast**
7/11 union st
newcastle west nsw 2302 (t 02 4929 2301)

**Wagga Wagga - Riverina and Western NSW**
suite 1, 39 fitzmaurice st (po box 5464)
wagga wagga nsw 2650 (t 02 6971 9696)

**Bega - ACT and South East NSW**
suite 1, 216 carp st (po box 470)
bega nsw 2550 (t 02 6492 8333)

# CONTENTS

## TABLES



## FIGURES

# ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| EP&A Act | *Environmental Planning and Assessment Act 1979* (NSW) |
| EPA | NSW Environment Protection Authority |
| NSW | New South Wales |
| NWQMS | National Water Quality Management Strategy |
| OEH | (NSW) Office of Environment and Heritage, formerly Department of Environment, Climate Change and Water |
| PN | Pacific National or future operator |
| POEO Act | *Protection of the Environment Operations Act 1997* |
| Resource | Resource covers energy, fuel, oil, water and other materials used for the construction of the project. |
| TEU | Twenty-foot Equivalent Unit, a measure of volume in units of twenty-foot long containers |
| WARR Act | *Waste Avoidance and Resource Recovery Act 2001* |
| WSUD | *Water sensitive urban design* |
| WMP | Waste Management Plan |

# 1 INTRODUCTION

## 1.1 CONTEXT

This Operation Waste Management Plan (OWMP) meets a requirement of the Secretary's Environmental Assessment Requirements (SEARs) for application number SSD 7308 for the St Mary's Freight Hub (the Project).

This OWMP has been prepared to address the requirements of the following:

- SEAR SSD 7308.
- All applicable legislation.

Requirement 14 of the SEARs regarding waste states:

- *Identify, quantify and classify the likely waste streams to be generated during construction and operation and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste. Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones, mechanical plant) for the site.*
- *A Waste Management Plan will need to be provided to address the construction and operational phases of the development*.

## 1.2 BACKGROUND AND PROJECT DESCRIPTION

The Project involves the construction and operation of an intermodal rail freight terminal at St Mary's in western Sydney. The project is called the St Mary's Freight Hub. It will facilitate an increase in the movement of import and export freight between Port Botany and western Sydney by rail. Thereby, reducing the heavy vehicle freight movements on the regional and state road network, including primary freight roads servicing Port Botany. The maximum operating capacity of the Project would be 300,000 Twenty-foot Equivalent Unit (TEU) annual throughput.

Activities involved at the St Mary's Freight Hub include container loading and unloading between trains and heavy vehicles, and transference to designated container storage areas by reach stackers and forklifts.

The site has three road frontages, Forrester Road, Lee Holm Road and Christie Street. The site is within an existing industrially zoned area with T1 Great Western Railway Line as the southern boundary.

The facility includes upgrades to rail infrastructure sidings for loading and unloading of freight trains, hardstand pavement areas, internal access roads, a wash bay and forklift repair bunded area, repair bay, an office building, fuel storage area, container shed, transport shed, car parking, utility services, signage and landscaping.

## 1.3 ENVIRONMENTAL MANAGEMENT SYSTEMS OVERVIEW

An overview of the environmental management systems for the project is outlined within the Introduction of the OEMP (Pacific National (PN) or future operator).

# 2 PURPOSE AND OBJECTIVES

## 2.1 PURPOSE

The purpose of this OWMP is to describe how PN or a future operator will manage waste during the operation of the Project.

## 2.2 OBJECTIVES

The key objective of the OWMP is to ensure that waste is minimised. To achieve this objective, PN or future operator, will:

- Ensure measures are identified and implemented to minimise waste and manage waste throughout the operation of the Project.
- Ensure the preferred waste management hierarchy of avoidance, minimisation, reuse, recycling and finally disposal is followed.
- Provide staff with an increased level of understanding and awareness of waste management issues.
- Ensure appropriate measures are implemented to comply with all relevant legislation and other requirements.

## 2.3 TARGETS

The following targets have been established for the management of waste impacts during the Project:

- Avoid the unnecessary production of waste during construction and operation through planning with a focus on waste.
- Minimise / reduce the quantities of resources to be used by avoiding duplication and waste.
- Achieve the waste re-use / recycling targets nominated in Table 6-1.
- Dispose of waste materials in accordance with legislative requirements.

# 3 ENVIRONMENTAL REQUIREMENTS

## 3.1 RELEVANT LEGISLATION AND GUIDELINES

### *3.1.1 Legislation*

Legislation relevant to this OWMP includes:

- *Protection of the Environment Operations Act 1997*
- *Environmental Planning and Assessment Act 1979*
- *Environmental Planning and Assessment Regulation 2000*
- *Protection of the Environment Operations (General) Regulation 2009*
- *Protection of the Environment Operations (Waste) Regulation 2014*
- *Waste Avoidance and Resource Recovery Act 2001* (WARR Act)
- *Contaminated Land Management Act 1997*
- *National Greenhouse and Energy Reporting Act 2007*
- *Environmentally Hazardous Chemicals Act 1985*
- *Dangerous Goods (Road and Rail Transport) Act 2008*
- *Dangerous Goods (Road and Rail Transport) Regulation 2014*
- *Energy Efficiency Opportunities Act 2006 (EEO Act)*

### *3.1.2 Guidelines and standards*

The main guidelines, specifications and policy documents relevant to this plan include:

- NSW Waste and Resource Recovery Strategy 2014-21 (EPA, 2014)
- NSW Government Resource Efficiency Policy (GREP)
- Waste Classification Guidelines (EPA 2014)

# 4 ENVIRONMENTAL ASPECTS AND IMPACTS

## 4.1 WASTE STREAMS AND RESOURCE USE

The following operational waste streams have been identified:

- Packaging materials associated with items delivered to site such as pallets, crates, cartons, plastics and wrapping materials.
- Wastes produced from the maintenance of various operational equipment including liquid hazardous wastes from cleaning, repairing and maintenance (fuels, oils, lubricants).
- Non-hazardous wastes generated through the use of worker's facilities such as toilets.
- General wastes including office wastes, scrap materials and biodegradable wastes.
- General waste from broken plant and machinery.
- Waste water collected from the repair bay.
- Vegetation from maintenance of the facility.
- Stormwater runoff from the site.

## 4.2 IMPACTS

The potential environmental impacts associated with the Project's waste generation include:

- Generation of domestic waste from personnel.
- Inappropriate disposal of hazardous waste.
- Generation or spread of contaminated waste e.g. groundwater or chemicals.
- Mixing of unusable waste with reusable or recyclable material, leading to disposal of materials that could have been reused or recycled.
- Water and soil pollution/contamination due to inadequate waste handling or treatment.
- Weed infestation from the uncontrolled dispersion of seeds during operation.
- Reduced visual amenity, vermin and odour of the area.
- Generation of vegetation waste from maintenance of the facility.

The mismanagement of waste streams has the potential to result in the following impacts:

- Excessive waste being directed to landfill.
- Misclassification of waste generated or stored onsite.
- Water pollution.
- Land contamination.
- Additional costs related to waste management.

# 5 WASTE MANAGEMENT

## 5.1 WASTE MANAGEMENT HIERARCHY

A waste management hierarchy (Figure 5-1) will be adopted for the Project including:

1. Unnecessary resource consumption will be avoided as a priority.
2. Generation of excess materials will be avoided as a priority.
3. Avoidance will be followed by resource recovery (including the reuse of materials, reprocessing, recycling, and energy recovery).
4. Disposal will only occur as a last resort in accordance with *Waste Avoidance and Resource Recovery Act 2001.*

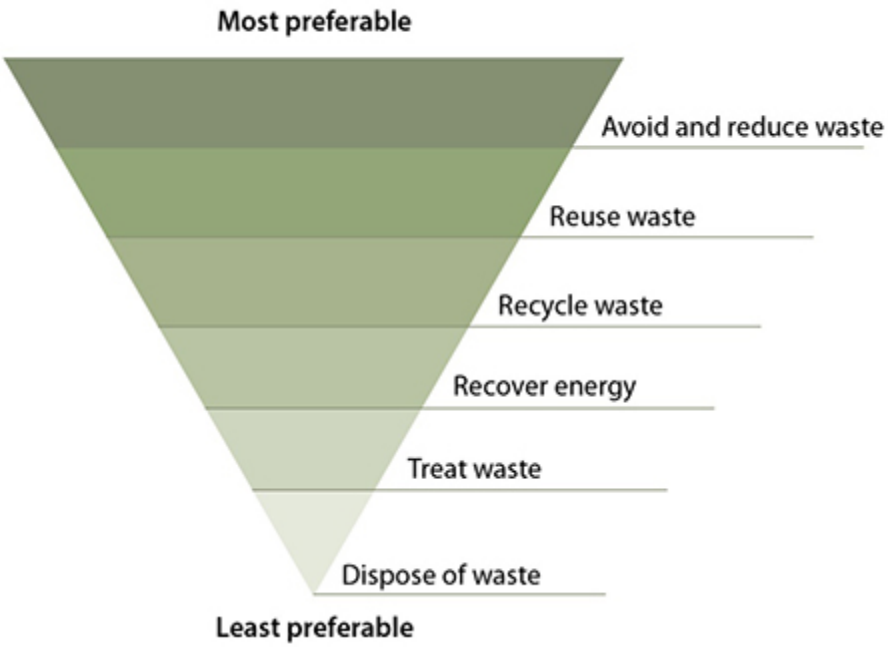


Figure 5-1 Waste hierarchy

### *5.1.1 Avoid and reduce waste*

The waste management hierarchy nominates avoidance of waste as the most important priority. During the Project, the following measures will be implemented to avoid creation of waste:

- Ensuring that the necessary planning is undertaken to enable efficient management of the delivery and storage of materials, so as to avoid spoilage of materials.
- Wherever possible, establishing agreements with suppliers for 'take back' arrangements for packaging/pallets/drums.
- Highlighting the minimisation of packaging as an important factor in the product procurement process.
- Ensuring correct types and quantities of materials are ordered, to avoid excess waste.
- Coordinating site activities to minimise waste through utilisation of unused materials.

- Employing trained plant and machinery operators to avoid damage to materials and to reduce wastage of consumables during plant and machinery operation and maintenance.
- Ensure that stored supplies are properly protected from the weather.

### 5.1.2 Reuse and recycling

Waste separation and segregation will be promoted on-site to facilitate reuse and recycling as a priority of the waste management program as follows:

- Waste segregation onsite – waste materials will be separated onsite into dedicated bins / areas for either reuse onsite or collection by a recycling contractor and transported to offsite facilities.
- Waste separation offsite – where wastes is deposited in one bin because space is not available for multiple bins the waste is to be sorted offsite by a waste contractor.
- Recycling of vegetative matter from routine maintenance will be recycled at an approved composting facility.
- Reuse recyclable packaging where practicable.

### 5.1.3 Waste handling and storage

Waste that is handled and stored onsite prior to onsite reuse or offsite recycling / disposal, will use the following measures:

- Liquid wastes are to be stored in appropriate containers in covered and bunded areas until transported offsite. Bunded areas will have the capacity to hold 110% of the liquid waste volume for bulk storage or 120% of the volume of the largest container for smaller packaged storage.
- Hazardous waste will be managed by appropriately qualified and licensed contractors, in accordance with the requirements of the *Environmentally Hazardous Chemicals Act 1985* and EPA waste disposal guidelines.
- All other recyclable or non-recyclable wastes are to be stored in appropriate covered receptacles (e.g. bins or skips) in appropriate locations onsite and contractors commissioned to regularly remove / empty the bins to approved disposal or recycling facilities.

Further details of the handling and storage of wastes generated by the Project are provided in Table 6-1.

### 5.1.4 Waste disposal

Waste disposal is to be in accordance with the *Protection of the Environment Operations Act 1997* and the *Waste Avoidance and Resource Recovery Act 2001*. Wastes that are unable to be reused or recycled will be disposed of offsite to an EPA approved waste management facility following classification (refer to Section 5.2). The waste contact list and locations of waste management / disposal facilities are included in Appendix A. Details of waste types, volumes and destinations are to be recorded in the Waste Management Register in Appendix B.

Where possible, wastes will be removed off-site by a licenced transporter to a recycling facility or will be disposed of at a licensed waste facility.

## 5.2 CLASSIFICATION OF WASTE

Where waste cannot be avoided, reused or recycled (as per Figure 5-1) it will be classified, and appropriate disposal will then occur. The classification of waste is undertaken in accordance with the NSW EPA's *Waste Classification Guidelines Part 1: Classifying Waste* (2014). This document identifies six classes of waste: Special, Liquid, Hazardous, Restricted Solid, General Solid (putrescible) and General Solid (non-putrescible). It describes a six-step process to classifying waste. That process is described below:

**Step 1: Is it 'special waste'?**

Establish if the waste should be classified as special waste. Special wastes are: clinical and related, asbestos, waste tyres. Definitions are provided in the guidelines.

Note: Asbestos and clinical wastes must be managed in accordance with the requirements of Clauses 42 and 43 of the Protection of the *Environment Operations (Waste) Regulation 2005*.

**Step 2: If not special, is it 'liquid waste'?**

If it is established that the waste is not special waste it must be decided whether it is 'liquid waste'. Liquid waste means any waste that has an angle of repose of less than 5° above horizontal or becomes free-flowing at or below 60° Celsius or when it is transported is generally not capable of being picked up by a spade or shovel.

Liquid wastes are sub-classified into:

- Sewer and stormwater effluent.
- Trackable liquid waste according to *Protection of the Environment Operations (Waste) Regulation 2014* Schedule 1 Waste to which waste tracking requirements apply.
- Non-trackable liquid waste.

**Step 3: If not liquid, has the waste already been pre-classified by the NSW EPA?**

The EPA has pre-classified several commonly generated wastes in the categories of hazardous, general solid waste (putrescibles) and general solid waste (non-putrescibles). If a waste is listed as 'pre-classified', no further assessment is required. Pre-classified wastes are identified in Part 3 of Schedule 1 of the POEO Act (Appendix D).

**Step 4: If not pre-classified, is the waste hazardous?**

If the waste is not special waste (other than asbestos waste), liquid waste or pre-classified, establish if it has certain hazardous characteristics and can therefore be classified as hazardous waste.

Hazardous waste includes items such as explosives, flammable solids, substances liable to spontaneous combustion, oxidizing agents, toxic substances and corrosive substances.

**Step 5: If the waste does not have hazardous characteristics, undertake chemical assessment to determine classification.**

If the waste does not possess hazardous characteristics, it needs to be chemically assessed to determine whether it is hazardous, restricted solid or general solid waste (putrescible and non-putrescible). If the waste is not chemically assessed, it must be treated as hazardous.

Waste is assessed by comparing Specific Contaminant Concentrations (SCC) of each chemical contaminant, and where required the leachable concentration using the Toxicity Characteristics Leaching Procedure (TCLP), against Contaminant Thresholds (CT).

**Step 6: Is the general solid waste putrescible or non-putrescible?**

If the waste is chemically assessed as general solid waste, a further assessment is available to determine whether the waste is putrescible or non-putrescible. The assessment determines whether the waste is capable of significant biological transformation. If this assessment is not undertaken, the waste must be managed as general solid waste (putrescible).

## 5.3 RESOURCE CONSERVATION

The Project team is dedicated to implementing resource conservation best practice and adopting energy efficient work practices. The Project will minimise consumption of:

- Fuel, oil and other consumables associated with the operation of plant and motor vehicles.
- On-site electricity.
- The energy efficiency and related carbon emissions will be considered in the selection of vehicle and plant equipment.

# 6 OPERATION

## 6.1 CLASSIFICATION OF POTENTIAL PROJECT WASTE STREAMS

The operation activities and types of wastes which may be generated during operation, are outlined within classifications in Table 6-1. This table acts as an example of how waste could potentially be classified and should not be used as a table of pre-classified waste. All waste onsite will need to be classified according to Section 5.2 of this plan.

Table 6-1 Classification of potential waste streams during operation.

| Operation Activity | Waste Type | Waste Classification | Approx. annual quantity | Proposed reuse/recycling/disposal methods | Receptacle/ storage | Reuse / Recycle Target |
|---|---|---|---|---|---|---|
| **Site sheds/ fuel storage areas/ repair bay/ equipment and plant maintenance** | Tyres | Special waste (pre-classified by the EPA) | 600 tyres | Resource recovery offsite - Reuse, recycling, reprocessing or energy recovery at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and the *Waste Classification Guidelines* (EPA, 2014). | Stockpile areas | 100% |
| | Drained oil filters, rags and oil-absorbent materials (ie. spill kit materials) that contain non-volatile petroleum hydrocarbons and do not contain free liquids. | General solid waste (non-putrescible)<br><br>(pre-classified by the EPA) | 6,000 pieces | Disposal offsite - at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and the *Waste Classification Guidelines* (EPA, 2014). | Stored in appropriate containers in bunded areas, prior to transportation offsite. | 0% |
| | Broken parts of plant and equipment – plastics, brake pads that contain non-volatile petroleum hydrocarbons and do not contain free liquids. | General solid waste (non-putrescible)<br><br>(pre-classified by the EPA) | 140 pieces | Disposal offsite - at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and the *Waste Classification Guidelines* (EPA, 2014). | Stored in appropriate containers in bunded areas, prior to transportation offsite. | 0% |
| | Broken parts of plant and equipment – scrap metal. | General solid waste (non-putrescible)<br><br>(pre-classified by the EPA) | Minimal quantities. | Resource recovery offsite - Reuse, recycling, reprocessing or energy recovery at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and the *Waste Classification Guidelines* (EPA, 2014). | Skip bins | 100%<br><br>Reconditioning or recycling of scrap metal. |

| Operation Activity | Waste Type | Waste Classification | Approx. annual quantity | Proposed reuse/recycling/disposal methods | Receptacle/ storage | Reuse / Recycle Target |
|---|---|---|---|---|---|---|
| | Containers, previously containing dangerous goods, from which residues have been removed by washing or vacuuming | General solid waste (non-putrescible)<br><br>(pre-classified by the EPA) | Dependent on contamination levels of vehicles and containers to be washed. | Resource recovery offsite - Reuse, recycling, reprocessing or energy recovery at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and the *Waste Classification Guidelines* (EPA, 2014). | Skip bins | 100% |
| | Liquid wastes - waste oil, coolants, lubricants. | Liquid waste (pre-classified by the EPA) | 6000 L | Resource recovery offsite - Reuse, recycling, reprocessing or energy recovery at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and the *Waste Classification Guidelines* (EPA, 2014). | Stored in appropriate containers in bunded areas, prior to transportation offsite. | 100% |
| **Wash bay** | Wastewater from bunded wash bay will contain hydrocarbons and sediment (including bound metals and hydrocarbons) from plant wash-down.<br><br>Sediment collected in sediment trap. | General solid waste (non-putrescible)<br><br>(pre-classified by the EPA) | Dependent on contamination levels of vehicles and containers to be washed. | Disposal offsite - at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and the *Waste Classification Guidelines* (EPA, 2014). | Stored in appropriate containers in bunded areas, prior to transportation offsite. | 0% |
| | Wastewater from bunded wash bay will contain hydrocarbons and sediment (including bound metals and hydrocarbons) from plant wash-down.<br><br>Water collected from coalescing plate separator. | Liquid waste. | 788 kL<br>(9 L/min system, operating for 4 hrs/day for 7 days/wk for 1 year). | Disposal via the Penrith City Council sewerage system with a trade waste agreement. | Sewerage systems | 0% |

| Operation Activity | Waste Type | Waste Classification | Approx. annual quantity | Proposed reuse/recycling/disposal methods | Receptacle/ storage | Reuse / Recycle Target |
|---|---|---|---|---|---|---|
| | Wastewater from bunded wash bay will contain hydrocarbons and sediment (including bound metals and hydrocarbons) from plant wash-down.<br><br>Oil collected from coalescing plate separator oil/water separator that meets Sydney Water standards for discharge into wastewater. | Liquid waste (pre-classified by the EPA) | Dependent on contamination levels of vehicles and containers to be washed. | Resource recovery offsite - Reuse, recycling, reprocessing or energy recovery at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and the *Waste Classification Guidelines* (EPA, 2014). | Stored in appropriate containers in bunded areas, prior to transportation offsite. | 100% |
| **Site compound and office operation** | Food waste | General solid waste (putrescible)<br><br>(pre-classified by the EPA) | 3.4 tonnes | Disposal offsite - at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and the *Waste Classification Guidelines* (EPA, 2014). | General solid waste bins/skips | 0% |
| | Sewerage from amenities | General solid waste (putrescible)<br><br>(pre-classified by the EPA) | 1.6 ML | Disposal via connection to the Penrith City Council sewerage system. | Sewerage system | 0% |
| | Paper, cardboard and plastic, glass, aluminium cans | General solid waste (non-putrescible)<br><br>(pre-classified by the EPA) | 62 tonnes | Resource recovery offsite - Reuse, recycling, reprocessing or energy recovery at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and the *Waste Classification Guidelines* (EPA, 2014). | Recycling bins | 100% |

| Operation Activity | Waste Type | Waste Classification | Approx. annual quantity | Proposed reuse/recycling/disposal methods | Receptacle/ storage | Reuse / Recycle Target |
|---|---|---|---|---|---|---|
| | Unwanted liquid chemicals | Liquid waste (pre-classified by the EPA) | Minimal quantities. | Disposal offsite - at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and the *Waste Classification Guidelines* (EPA, 2014). | Stored in appropriate containers in bunded areas, prior to transportation offsite. | 0% |
| **Green Waste** | Vegetation from routine maintenance of landscaped area. | General Solid Waste (non-putrescible)<br>(pre-classified by the EPA) | Minimal quantities. | Resource recovery offsite - reprocessing at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and the *Waste Classification Guidelines* (EPA, 2014). | Appropriate stockpile site prior to transportation offsite. | 100% |
| **Site stormwater management and discharge** | Stormwater from rooved areas (clean water). | - | 2244 $m^3$ (using decile 5 rainfall for Penrith Lakes AWS bom.gov.au) | Discharged into Penrith City Council's stormwater network or captured on site (e.g. rainwater tank, refer to SWMP). | Stormwater system. | 0% - 100% |
| | Runoff from working pavements and discharge to stormwater.<br>Water component. | - | 34,912 $m^3$ (using decile 5 rainfall for Penrith Lakes AWS bom.gov.au) | Runoff to be directed to and retained in the stormwater sediment basin with bio-retention. | Stormwater sediment basin. | 0% |

| Operation Activity | Waste Type | Waste Classification | Approx. annual quantity | Proposed reuse/recycling/disposal methods | Receptacle/ storage | Reuse / Recycle Target |
|---|---|---|---|---|---|---|
| | Runoff from working pavements and discharge to stormwater.<br>Sediment, grit, litter and gross pollutant component (contains no free liquids). | General Solid Waste (non-putrescible)<br>(pre-classified by the EPA) | 50 $m^3$ | Disposal offsite - at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and the *Waste Classification Guidelines* (EPA, 2014). | Removed directly by third party for disposal. | 0% |

## 6.2 ENVIRONMENTAL MITIGATION AND MANAGEMENT MEASURES

Specific measures and requirements to address SEAR SSD 7308 in relation to this Plan for operation are outlined in Table 6-2.

Table 6-2 Operation waste mitigation measures

| ID | Measure/Requirement | Where addressed/ plans needed | When to implement | Responsibility | Resource |
|---|---|---|---|---|---|
| **General** | | | | | |
| **WMO1** | Use the concept of the waste hierarchy to set priorities for the efficient use of resources, consistent with the objectives of the Waste Avoidance and Resource Recovery Act 2001 (NSW). | Section 5.1 | Operation | Project Manager<br>Environmental Site Representative (ESR) | Management and procurement policies. |
| **WMO2** | The Resource Management Hierarchy principles of the *Waste Avoidance and Resource Recovery Act 2001* (WARR) are to be adopted as follows:<br>1. Unnecessary resource consumption will be avoided as a priority.<br>2. Generation of excess materials will be avoided as a priority.<br>3. Avoidance will be as followed by resource recovery (including the reuse of materials, reprocessing, recycling, and energy recovery).<br>4. Disposal will only be undertaken as a last resort in accordance with Waste Avoidance and Resource Recovery Act 2001. | Section 5.1 | Operation | Project Manager<br>ESR | Annual review of waste measures and targets.<br>Set new annual targets and measures to reduce waste. |
| **WMO3** | Minimise the generation of waste from the Project activities, particularly those that are hazardous and non-recyclable. | Induction, internal training and disseminate information. | Operation | Supervisor | Annual review of waste measures and targets. |
| **WMO4** | Waste management measures from this WMP will be included in relevant EWMS to be developed prior to the commencement of specific activities. | | Operation | Supervisor | Management policies. |

| | | | | | |
|---|---|---|---|---|---|
| **WMO5** | All staff and subcontractors will undergo a site induction and ongoing toolbox talks that will detail waste minimisation and reuse management measures, including the requirements of the waste management hierarchy. | Induction/ training materials | Operation | Supervisor | Management policies. |
| **WMO6** | All waste will be treated in accordance with the relevant legislation and guidelines. | Section 3 | Operation | Project Manager | Management policies. |
| **WMO7** | Maintenance of plant and equipment on-site must be performed in accordance with site safety rules and within an appropriate servicing (bunded) area supported by immediately accessible spill controls and waste storage. | Weekly field inspections.<br>Maintenance and inspection reports. | Operation | Project Manager<br>Supervisor | Management policies, including WHS procedures. |
| **PROCUREMENT OF MATERIALS AND RESOURCES** | | | | | |
| **WMO8** | Procurement of materials will be planned and managed to avoid the over-ordering of products and minimise excess packaging. | | Operation | Project Manager<br>ESR | Procurement policies. |
| **WMO9** | Control quality of materials supplied to site to reduce re-work and problems due to quality. | | Operation | Project Manager<br>ESR | Procurement policies. |
| **WMO10** | Use recycled materials if the quality and costs are comparable. | | Operation | Project Manager<br>ESR | Procurement policies. |
| **MAINTAIN A TIDY SITE** | | | | | |
| **WMO11** | Maintain a clean and tidy workplace at all times free from debris and litter. | Induction, internal training and disseminate information.<br>Weekly field inspections. | Operation | Supervisor | Management policies, including WHS policies. |
| **WASTE RECEPTACLES/STORAGE** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| **WMO12** | Establish waste stations around the project site, including all bin types required for appropriate segregation of all waste types generated in the area. All bins should be clearly labelled including waste oil storage tanks.<br>Waste should be segregated. | Waste Tracking Register (Appendix C)<br>Weekly field inspections.<br>Daily Supervisor inspections. | Operation | Supervisor | Site plan of all waste storage area.<br>Waste management policy. |
| **WMO13** | Ensure waste skips and bins are not overflowing. Waste skips and bins that have lids should be closed at all times. Waste skips and bins with no lids shall be covered to prevent any windblown litter. | Weekly field inspections.<br>Daily Supervisor inspections. | Operation | Supervisor | Waste management policy. |
| **WMO14** | Waste storage areas are to feature appropriate controls to manage any associated environmental risks that may result from spillage / losses of wastes from storage bins or other containers. | Waste Tracking Register (Appendix C)<br>Daily Supervisor inspections. | Operation | Supervisor | Management policies. |
| **WMO15** | Adequate facilities must be provided to properly store and segregate all wastes generated from Project activities. These storage areas are to be located such that they enable the safe emptying and / or removal from site of the waste bins. | Daily Supervisor inspections. | Operation | Supervisor | Waste management policy. |
| **WMO16** | Liquid wastes are to be stored in appropriate containers in bunded areas until transported offsite. Bunded areas will have the capacity to hold 110% of the liquid waste volume for bulk storage or 120% of the volume of the largest container for smaller packaged storage. | | Operation | Supervisor<br>ESR | Waste management policy. |
| **WMO17** | Erect signs in your site compounds to encourage site personnel to minimise waste creation and dispose of waste correctly. | | Operation | Supervisor | Waste management policy. |

| | | | | | |
|---|---|---|---|---|---|
| **WMO18** | Comply with the POEO (Waste) Regulation 2014 (as amended) for monitoring and reporting the disposal of any hazardous, industrial and/or Group A (liquid waste). Obtain copies of licences or licence numbers (under the *Waste Avoidance and Resource Recovery Act 2001*) for transporters of industrial/hazardous waste, industrial/hazardous waste treatment facilities and waste disposal facilities prior to disposal of these wastes. | | Operation | Project Manager<br>ESR | Waste management policy. |
| **WASTE RECYCLING, REUSE** | | | | | |
| **WMO19** | All recyclable solid waste should be segregated for recycling purposes and volumes reported, where possible. | Induction, internal training and disseminate information.<br>Weekly field inspections. | Operation | Supervisor | Waste management procedures. |
| **WMO20** | Ensure there are a sufficient number of waste receptacles made available for general waste, recyclable waste and controlled waste. | Weekly field inspections | Operation | Supervisor | Waste management procedures. |
| **WASTE DISPOSAL OFFSITE** | | | | | |
| **WMO22** | Adequate storage for waste materials is to be provided on the site and this waste must be removed at regular intervals and not less frequently than once a week. | | Construction | Project Manager<br>Supervisor | Waste management procedures. |
| **WMO24** | A suitably licenced waste subcontractor will be used for the collection and transport of all non-domestic, retail and commercial wastes for either offsite processing and/or disposal at a licensed facility. Receipts for waste transfer and disposal must be checked to ensure all details are correct and retained for audit purposes. | Waste Tracking Register (Appendix C)<br>Waste Subcontractor Licence | Operation | Supervisor | Waste management policy. |

| | | | | | |
|---|---|---|---|---|---|
| **WMO26** | All noxious weeds and exotic plant species removed will be disposed of at a licensed landfill facility. | | Operation | Supervisor | Waste management policy. |
| **PUTRESCIBLE WASTE** | | | | | |
| **WMO27** | Where putrescible waste is encountered on site, notify the superintendent and Principal as soon as practicable.<br>Contain putrescibles and other waste encountered or generated to prevent odour emissions, the generation of windblown litter, and birds or animals spreading or disturbing the litter.<br>Any contaminated water associated with the waste is to be contained, extracted and treated prior to disposal. | | Operation | ESR<br>Supervisor | Waste management procedures. |
| **RECORD KEEPING AND REPORTING** | | | | | |
| **WMO28** | Maintain a Waste Management Register to record the type, amount and location of waste reused, recycled and disposed. The Waste Management Register must include the following details:<br>a) type of waste and its classification (according to the POEO Act and Waste Classification Guidelines).<br>b) quantities of waste measured in tonnes.<br>c) how and where the waste was reused, recycled or disposed.<br>d) date when the waste was reused, recycled or disposed.<br>e) name and waste transport licence (if applicable) of the transporter used. | Waste Tracking Register (Appendix C) | Operation | Project Manager | Waste management procedures. |
| **WMO29** | Obtain copies of licences or licence numbers (under the *Waste Avoidance and Resource Recovery Act 2001*), dockets, receipts and invoices for transporters of industrial/hazardous waste, industrial/hazardous waste treatment facilities and waste disposal facilities and provide these to the Principal, prior to disposal of these wastes. | Waste Tracking Register (Appendix C) | Operation | Project Manager | Waste management procedures. |

| | | | | | |
|---|---|---|---|---|---|
| **WMO30** | Maintenance records for the servicing of plant and equipment on-site must be readily available for inspection. | Maintenance and inspection reports. | Operation | Project Manager<br>Supervisor | Management policies. |
| **WMO31** | Review the authority of all waste facilities used, to ensure ongoing compliance with waste disposal regulations. | Internal / external audit. | Operation | Project Manager | Management policies. |
| **STORMWATER** | | | | | |
| **WMO33** | Ensure water discharged to stormwater from the stormwater detention basin to the north-west is of adequate water quality. | Water quality testing schedule.<br>Bi-annually or after significant events. | Operation | Project Manager<br>ESR | Management policies.<br>Penrith City Council WSUD policy.<br>NWQMS No. 7 |
| **WMO34** | De-silting the stormwater detention basin of sediment, grit, litter and gross pollutants. | Annually or when required. | Operation | ESR<br>External contractor | Management policies. |

# 7 COMPLIANCE MANAGEMENT

## 7.1 ROLES AND RESPONSIBILITIES

The Pacific National, or future operator, team's organisational structure and overall roles and responsibilities will be detailed prior to operation of the facility. The organisational structure will be detailed the Operational Environmental Management Plan (OEMP). Specific responsibilities for the implementation of environmental controls are detailed in Section 6.2 of this Plan.

## 7.2 TRAINING

All employees, contractors and staff working on site will undergo a site induction that includes waste management. The induction will address waste management including:

- Existence and requirements of this OWMP.
- Relevant legislation.
- Incident response, management and reporting.
- Requirements of the waste hierarchy.
- Waste/recycle storage requirements.
- Waste reporting requirements.
- Targeted training in the form of toolbox talks or specific training will also be provided to personnel with a key role in waste and energy management.

## 7.3 MONITORING AND INSPECTION

Waste monitoring requirements for the Project are outlined in Table 7-1.

Table 7-1 Waste monitoring requirements for the Project

| Monitoring requirement | Frequency | Responsibility | Reporting/ record |
|---|---|---|---|
| Track waste taken offsite to a licensed premise | When waste taken offsite. *Waste Register* to be updated regularly. | Project Manager | Waste Register |
| | When waste taken offsite to a waste facility. | Supervisor | Waste receipts/ dockets |
| | When EPA 'Trackable' waste taken offsite. | Supervisor | Transportation dockets |
| Inspections for litter, materials management unauthorised disposal of construction waste, contamination of waste streams and adequacy of capacity of waste receptacles (as part of | Weekly | Project Manager | Environmental Inspection Checklist |

| Monitoring requirement | Frequency | Responsibility | Reporting/ record |
|---|---|---|---|
| weekly environmental inspection). | | | |

## 7.4 COMPLAINTS

Complaints will be recorded and managed in accordance with PN's (or future operator) operational procedures, refer to OEMP.

## 7.5 AUDITING

Audits (both internal and external) will be undertaken to assess the effectiveness of environmental controls, compliance with this sub plan and other relevant approvals and guidelines.

## 7.6 REPORTING

Reporting requirements and responsibilities are documented in PN's (or future operator) procedures, refer to OEMP.

# 8 REVIEW AND IMPROVEMENT

## 8.1 CONTINUOUS IMPROVEMENT

Continuous improvement of this Plan will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives and targets for the purpose of identifying opportunities for improvement.

The continuous improvement process will be designed to:

- Identify areas of opportunity for improvement of environmental management and performance.
- Determine the cause or causes of non-conformances and deficiencies.
- Develop and implement a plan of corrective and preventative action to address any non-conformances and deficiencies.
- Verify the effectiveness of the corrective and preventative actions.
- Document any changes in procedures resulting from process improvement.
- Make comparisons with objectives and targets.

## 8.2 OWMP UPDATE AND AMENDMENT

Only the Project Manager, or delegate, has the authority to change any of the environmental management documentation.

A copy of the updated plan and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure.

# APPENDIX A PROPOSED WASTE FACILITIES

| Contractor/waste facility | Details | Contact details | Waste accepted | Waste recycled |
|---|---|---|---|---|
| **e.g. Cleanaway** | Cleanaway Blacktown Recycling Centre | 13 13 39 | Solid waste services | |
| **e.g. SUEZ** | SUEZ Seven Hills Resource Recovery Centre | 1300 651 116 (Seven Hills enquiries)<br>13 13 35 (General enquiries) | Solid waste services | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| ***Waste contractors subject to refinement following contract negotiations*** | | | | |

# APPENDIX B EXAMPLE WASTE REGISTER

| Waste Management Register | | | | | | | |
|---|---|---|---|---|---|---|---|
| Date/Time | Description (e.g. concrete, vegetation, asphalt) | Waste Classification | Quantity collected | Transporter | Facility to receive | Waste Use (reuse, recycle, stockpiled, disposed) | Invoice No / Tip docket Ref |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

# APPENDIX C LIST OF PRE-CLASSIFIED WASTE

**Part 3 Definitions**
**Division 1 Waste classifications**
**49 Definitions of waste classifications**

(1) In this Schedule:

general solid waste (non-putrescible) means waste (other than special waste, hazardous waste, restricted solid waste, general solid waste (putrescible) or liquid waste) that includes any of the following:

(a) glass, plastic, rubber, plasterboard, ceramics, bricks, concrete or metal,

(b) paper or cardboard,

(c) household waste from municipal clean-up that does not contain food waste,

(d) waste collected by or on behalf of local councils from street sweeping,

(e) grit, sediment, litter and gross pollutants collected in, and removed from, stormwater treatment devices or stormwater management systems, that has been dewatered so that it does not contain free liquids,

(f) grit and screenings from potable water and water reticulation plants that has been dewatered so that it does not contain free liquids,

(g) garden waste,

(h) wood waste,

(i) waste contaminated with lead (including lead paint waste) from residential premises or educational or child care institutions,

(j) containers, having previously contained dangerous goods, from which residues have been removed by washing or vacuuming,

(k) drained oil filters (mechanically crushed), rags and oil absorbent materials that only contain non-volatile petroleum hydrocarbons and do not contain free liquids,

(l) drained motor oil containers that do not contain free liquids,

(m) non-putrescible vegetative waste from agriculture, silviculture or horticulture,

(n) building cavity dust waste removed from residential premises, or educational or child care institutions, being waste that is packaged securely to prevent dust emissions and direct contact,

(o) synthetic fibre waste (from materials such as fibreglass, polyesters and other plastics) being waste that is packaged securely to prevent dust emissions, but excluding asbestos waste,

(p) virgin excavated natural material,

(q) building and demolition waste,

(r) asphalt waste (including asphalt resulting from road construction and waterproofing works),

(s) biosolids categorised as unrestricted use, or as restricted use 1, 2 or 3, in accordance with the criteria set out in the Biosolids Guidelines,

(t) cured concrete waste from a batch plant,

(u) fully cured and set thermosetting polymers and fibre reinforcing resins,

(v) fully cured and dried residues of resins, glues, paints, coatings and inks,

(w) anything that is classified as general solid waste (non-putrescible) pursuant to an EPA Gazettal notice,

(x) anything that is classified as general solid waste (non-putrescible) pursuant to the Waste Classification Guidelines,

(y) any mixture of anything referred to in paragraphs (a)–(x).

general solid waste (putrescible) means waste (other than special waste, hazardous waste, restricted solid waste or liquid waste) that includes any of the following:
(a) household waste containing putrescible organics,

(b) waste from litter bins collected by or on behalf of local councils,

(c) manure and nightsoil,

(d) disposable nappies, incontinence pads or sanitary napkins,

(e) food waste,

(f) animal waste,

(g) grit or screenings from sewage treatment systems that have been dewatered so that the grit or screenings do not contain free liquids,

(h) anything that is classified as general solid waste (putrescible) pursuant to an EPA Gazettal notice,

(i) anything that is classified as general solid waste (putrescible) pursuant to the Waste Classification Guidelines,

(j) a mixture of anything referred to in paragraphs (a)–(i).

hazardous waste means waste (other than special waste or liquid waste) that includes any of the following:
(a) anything that is classified as:
(i) a substance of Class 1, 2, 5 or 8 within the meaning of the Transport of Dangerous Goods Code, or

(ii) a substance to which Division 4.1, 4.2, 4.3 or 6.1 of the Transport of Dangerous Goods Code applies,

(b) containers, having previously contained:
(i) a substance of Class 1, 3, 4, 5 or 8 within the meaning of the Transport of Dangerous Goods Code, or

(ii) a substance to which Division 6.1 of the Transport of Dangerous Goods Code applies,

from which residues have not been removed by washing or vacuuming,

(c) coal tar or coal tar pitch waste (being the tarry residue from the heating, processing or burning of coal or coke) comprising more than 1% (by weight) of coal tar or coal tar pitch waste,

(d) lead-acid or nickel-cadmium batteries (being waste generated or separately collected by activities carried out for business, commercial or community services purposes),

(e) lead paint waste arising otherwise than from residential premises or educational or child care institutions,

(f) anything that is classified as hazardous waste pursuant to an EPA Gazettal notice,

(g) anything that is classified as hazardous waste pursuant to the Waste Classification Guidelines,

(h) a mixture of anything referred to in paragraphs (a)–(g).

liquid waste means any waste (other than special waste) that includes any of the following:
(a) anything that:
(i) has an angle of repose of less than 5 degrees above horizontal, or

(ii) becomes free-flowing at or below 60°C or when it is transported, or

(iii) is generally not capable of being picked up by a spade or shovel,

(b) anything that is classified as liquid waste pursuant to an EPA Gazettal notice.

restricted solid waste means any waste (other than special waste, hazardous waste or liquid waste) that includes any of the following:
(a) anything that is classified as restricted solid waste pursuant to the Waste Classification Guidelines,

(b) anything that is classified as restricted solid waste pursuant to an EPA Gazettal notice.

special waste means any of the following:
(a) clinical and related waste,

(b) asbestos waste,

(c) waste tyres,

(d) anything that is classified as special waste pursuant to an EPA Gazettal notice.

(2) Despite subclause (1), in this Schedule, any waste that is classified as one of the following classes of waste, in accordance with an immobilised contaminants approval granted under Part 10 of the Protection of the Environment Operations (Waste) Regulation 2014, is taken to be waste of that class:
(a) general solid waste (non-putrescible),

(b) general solid waste (putrescible),

(c) hazardous waste,

(d) restricted solid waste,

(e) special waste.