

Appendix B7: Waste and Energy Management Sub- Plan

CABRAMATTA LOOP PROJECT

ACKNOWLEDGEMENT TO COUNTRY

Fulton Hogan acknowledges the Cabrogal of the Darug Nation People as the Traditional Owners of the land we are working on, and pay our respect to their Elders past, present and emerging.

We recognise their deep connection to Country and value the contribution to caring for, and managing the land and water.

We are committed to pursuing genuine and lasting partnerships with Traditional Owners to understand their culture and connections to Country in the way we plan for and carry out the delivery of the Works.



Document control

This is an e-copy of the Plan and it interfaces with the other associated plans, which together describe the proposed overall project management system for the project.

The latest revision of this plan is available on the Fulton Hogan server. If any unsigned hard copies of this document are printed, they are valid only on the day of printing.

The revision number is included at the bottom of each page. When revisions occur, the entire document will be issued with the revision number updated accordingly for each owner of a controlled copy.

Attachments/Appendices to this plan are revised independently of this plan.

Revision History

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Glossary/ Abbreviations

Term/ abbreviation	Definition
ARTC	Australian Rail Track Corporation
CEMP	Construction Environmental Management Plan
CoA	The Minister's conditions of approval for the CSSI.
Construction Boundary	Has the same meaning as the definition of the term in the Project approval: The area required for project construction as described in the documents listed in Condition A1 .
CSSI	Critical State Significant Infrastructure, as described in Schedule 1 of the project approval, the carrying out of which is approved under the terms of the project approval.
DPI	NSW Department of Primary Industries
DPIE	NSW Department of Planning, Industry and Environment
DPIE EES Group	Environment, Energy and Science Group of DPIE
DPIE Water Group	Water Group of DPIE and the National Resources Access Regulator
Ecologically sustainable development	Using, conserving and enhancing the community's resources so that the ecological processes on which life depends are maintained and the total quality of life now and in the future, can be increased (Council of Australian Governments, 1992).
EIS	Environmental Impact Statement
ENM	Excavated Natural Material, as defined in <i>The excavated natural material exemption</i> .
EPA	NSW Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPL	Environment Protection Licence under the POEO Act
ER	Environmental Representative for the CSSI
ESCP	Primary Erosion and Sediment Control Plan
EWMS	Environmental Work Method Statement
HP	Hold Point: a point in the construction or verification process beyond which work may not proceed without receiving authorisation from the appropriate party.
Minister, the	NSW Minister for Planning and Public Spaces
NA	Not applicable
Non-compliance	Failure to comply with the requirements of the Project Approval or any applicable license, permit or legal requirements.
Non-conformance	Failure to conform to the requirements of project system documentation including this PCEMP or supporting documentation.
OEH	Office of Environment and Heritage
OEMS	Operational Environmental Management System
PESCP	Progressive Erosion and Sediment Control Plans
Planning Secretary, the	Has the same meaning as the definition of the term in the Project approval: Planning Secretary of DPIE (or nominee, whether nominated before or after the date on which the project approval was granted)

Term/ abbreviation	Definition
Planning Secretary's approval or agreement, the	Has the same meaning as the definition of the term in the Project approval: A written approval or agreement from the Planning Secretary (or nominee)
POEO Act	<i>Protection of the Environment Operations Act 1997 (NSW)</i>
Project, the	Cabramatta Loop
Project approval, the	The Minister's approval for the CSSI.
Publicly Available	Has the same meaning as the definition of the term in the Project approval: To be made available on the website required under Condition B10 of the project approval.
RAP	Reclaimed asphalt pavement
Relevant council(s)	Has the same meaning as the definition of the term in the Project approval: Any or all as relevant, Fairfield City Council or Liverpool City Council.
RMM	Revised Mitigation Measure
SWMP	Soil and Water Management Plan
TCLP	Toxicity Characteristics Leaching Procedure
TfNSW	Transport for NSW
VENM	Virgin Excavated Natural Material, as defined in Schedule 1 of the <i>Protection of the Environment Operations Act 1997</i> .
WARR Act	Waste Avoidance and Resource Recovery Act 2001
WEMP	Waste and Energy Management Sub-Plan
Work	Has the same meaning as the definition of the term in the Project approval: Any physical work for the purpose of the CSSI including construction and low impact work.
WRAPP	Waste Reduction and Purchasing Policy

1. Introduction

1.1. Purpose

This Waste and Energy Management Sub-Plan (WEMP) describes how Fulton Hogan will minimise the amount of waste for disposal and manage energy use during construction of the Cabramatta Loop Project (the project) to reduce environmental harm and climate change impacts caused by greenhouse gas emissions.

This WEMP has been prepared to detail how Fulton Hogan will comply with the project approval, and implement and achieve relevant performance outcomes, commitments and mitigation measures specified in the EIS as amended by the Submissions Report (also known as 'Revised Mitigation Measures' (RMM)) during construction of the project. Additionally, this WEMP has been prepared to address the requirements of ARTC Technical Specification and Works Description (TSWD) Appendix 04 Additional Environmental Requirements and Environment Protection Licence (EPL) Number 3142 (held by ARTC for railway activities – railway infrastructure operations) to the extent that it applies to Fulton Hogan's activities.

For the avoidance of doubt, the CEMP (including this WEMP) relates to the construction phase only. Detailed design environmental requirements will be addressed as part of the detailed design phase, separate to the CEMP approvals process. Detailed design is generally completed about six months after CEMP approval. In addition, operational environmental requirements will be met during the operational phase (upon the completion of construction) and addressed in the Operational Environmental Management System (OEMS) required under CoA D1

1.2. Background

Chapter 19 of the EIS assessed the extent and magnitude of potential impacts of construction and operation of the project on waste management in terms of waste generation and resource use.

The EIS identified the various waste streams that would be generated during the construction of the project based on desktop assessment, including but not limited to topsoil, green waste, rubbish and debris, waste from vehicle/plant equipment maintenance, sleepers, metal, timber posts, muds, spoil, wood, concrete, metal, plastic, ballast, food scraps, paper and cardboard, and wastewater from amenities. It also identified opportunities to avoid, reduce and recycle waste.

Chapter 21 of the EIS assessed the extent and magnitude of potential impacts of construction and operation of the project provides to climate change risk in terms of climate change and greenhouse gases emissions.

The EIS identified fuel and electricity consumption during construction activities, fuel used in the delivery of materials, plant and equipment, construction personnel commuting and fuel and electricity consumption during operations as potential sources of emissions. It also identified opportunities during design to reduce the impacts.

1.3. Structure of WEMP

This WEMP is part of Fulton Hogan's environmental management framework for the project and is supported by other documents, such as the Waste Register and Environmental Work Method Statements. The review and document control processes for this WEMP are described in Chapters 11 and 12 respectively of the CEMP.

1.4. Consultation for Preparation of the WEMP

In accordance with CoA C4, no government agency or council consultation is required during the preparation of this WEMP.

Ongoing consultation will be undertaken during detailed design and construction of the project as required by the environmental documents. This will be subject to a separate consultation process to that required for preparation of this WEMP.

2. Objectives, Targets and Environmental Performance Outcomes

2.1. Objectives

The key objective of the WEMP is to ensure that waste for disposal and energy use are minimised. To achieve this objective, Fulton Hogan will undertake the following:

- Ensure measures are identified and implemented to minimise waste, manage waste and conserve energy throughout the construction of the project
- Ensure the preferred waste management hierarchy of avoidance, minimisation, reuse, recycling and finally disposal is followed
- Ensure appropriate measures are implemented to address and comply with all relevant legal and other requirements as described in Chapter 3 of this WEMP, including the CoA and RMM outlined in Table 2 and Table 3 respectively.

2.2. Targets

The following targets have been established for the management of waste and energy consumption during the project:

- Avoid the unnecessary production of waste where practical to do so
- Dispose of waste materials in accordance with legislative requirements
- Minimise / reduce the quantities of resources to be used
- Minimise / reduce energy consumption
- Achieve the waste re-use/ recycling targets nominated in Table 4.

2.3. Environmental Performance Outcomes

The construction-related environmental performance outcomes relevant to this WEMP are listed in Table 1. A cross reference is also included to indicate where the environmental performance outcome is addressed in this WEMP in terms of how it will be implemented and achieved.

Table 1: Environmental Performance Outcomes Relevant to Waste and Energy Management

Key Issue (as listed in Table 22.5 of the EIS)	Environmental Performance Outcome	How implemented and achieved
Waste	Suitable spoil will be recycled and reused	Section 6.1 Section 6.1.2 Section 6.4 Chapter 7 mitigation measure ID WEMM1, WEMM13.
	Off-site waste re-use will be managed in accordance with relevant NSW EPA resource recovery exemptions and requirements.	Section 6.3 Section 6.4
	Waste will be disposed of at appropriately licensed facilities.	Section 6.1.4 Section 6.4

3. Legal and Other Requirements

3.1. Legislation

Legislation relevant to waste and resources management includes:

- *Protection of the Environment Operations Act 1997*
- *Protection of the Environment Operations (General) Regulation 2009*
- *Protection of the Environment Operations (Waste) Regulation 2005*
- *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*
- *Energy Efficiency Opportunities Act 2006 (EEO Act).*

Relevant provisions of the above legislation are explained in the Register of Legal and Other Requirements included in Appendix A1 of the CEMP.

3.2. Guidelines and Standards

The main guidelines, standards and policy documents relevant to this WEMP include:

- Waste Avoidance and Resource Recovery Strategy 2007 (DECC, 2007)
- Waste Reduction and Purchasing Policy (RTA, 2009)
- Waste Classification Guidelines (EPA, 2014),
- Best Practice Waste Reduction Guidelines for the Construction and Demolition Industry - tools for Practice (Natural Heritage Trust, 2000).
- Resource Efficiency Policy (State of NSW and OEH, 2014).

3.3. Conditions of Approval

The CoA relevant to this WEMP are listed in Table 2. A cross reference is also included to indicate where the condition is addressed in this WEMP or other project management documents.

Table 2: Conditions of Approval Relevant to WEMP

CoA No.	Condition Requirements	Document Reference
PART C - CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN		
C5	The CEMP Sub-Plans must state how:	
(a)	the environmental performance outcomes identified in the documents listed in Condition A1 as modified by these conditions will be achieved;	Section 2.3
(b)	the mitigation measures identified in the documents listed in Condition A1 as modified by these conditions will be implemented;	Through the implementation of this WEMP (in particular refer to Section 3.4).
(c)	the relevant terms of this approval will be complied with; and	Through the implementation of

CoA No.	Condition Requirements	Document Reference
		this WEMP (in particular refer to Part E Waste CoA cross references below).
(d)	issues requiring management during construction (including cumulative impacts), as identified through ongoing environmental risk analysis, will be managed.	Chapter 5 second paragraph Chapter 7
C6	Details of all information requested by an agency to be included in a CEMP Sub-plan as a result of consultation, including copies of all correspondence from those agencies, must be provided with the relevant CEMP Sub-Plan .	Section 1.4
C7	Construction must not commence until the CEMP and all CEMP Sub-Plans have been approved by the ER and must be implemented for the duration of construction. Where construction of the CSSI is staged, construction of a stage must not commence until the CEMP and sub-plans for that stage have been approved by the ER.	CEMP (main section) Sections 1.4 and 2.2
PART E - WASTE		
E57	<p>Waste generated during construction and operation must be dealt with in accordance with the following priorities:</p> <p>(a) waste generation must be avoided and where avoidance is not reasonably practicable, waste generation must be reduced;</p> <p>(b) where avoiding or reducing waste is not possible, waste must be re-used, recycled, or recovered; and</p> <p>(c) where re-using, recycling or recovering waste is not possible, waste must be treated or disposed of at a waste management facility or premise lawfully permitted to accept the materials or in accordance with a Resource Recovery</p>	<p>Waste generation during operation will be addressed in the OEMS required under CoA D1 as detailed in Section 1.1 last paragraph.</p> <p>Section 6.1 Section 6.1.1 Chapter 7 mitigation measure ID WEMM1, WEMM4, WEMM5.</p> <p>Section 6.1 Section 6.1.2 Section 6.4 Chapter 7 mitigation measure ID WEMM6 – WEMM18.</p> <p>Section 6.1 Section 6.1.4</p>

CoA No.	Condition Requirements	Document Reference
	Exemption or Order issued under the <i>Protection of the Environment Operations (Waste) Regulation 2014</i> (NSW), or to any other place that can lawfully accept such waste.	Section 6.3 Section 6.4 Appendix B

3.4. Revised Mitigation Measures

Relevant construction-related RMM from the Submissions Report are listed in Table 3. A cross reference is also included to indicate where the measure is addressed in this WEMP or other project management documents.

Table 3: Revised Mitigation Measures Relevant to WEMP

ID no.	Revised mitigation measure	Document reference
Waste generation and recycling		
C12.1	A recycling target of at least 90 per cent will be adopted for the project. Where possible and fit for purpose; materials will be reused within the project before off-site reuse or disposal options are pursued	Section 6.4
Waste Management		
C12.2	A waste management procedure will be prepared and implemented as part of the CEMP. It will include measures to minimise the potential for impacts on the local community and environment, including those listed in Table 19.5 [of the EIS].	WEMP, particularly Chapter 6
Waste Segregation		
C12.3	A waste segregation bin scheme will be included in the CEMP and will include locations of segregated bins within compounds, to facilitate segregation and prevent cross contamination.	Section 6.1.2 Chapter 7 mitigation measure ID WEMM8, WEMM11, WEMM12, WEMM16 WEMM19.
Materials		
C12.4	Material quantities will be recorded to monitor usage during each stage of construction.	Chapter 7 mitigation measure ID WEMM4
Waste and Spoil Management		

ID no.	Revised mitigation measure	Document reference
C12.5	Spoil will be managed in accordance with the spoil management hierarchy provided in Table 19.3 [of the EIS].	Section 6.1 Section 6.4, Table 4 under 'Earthworks' Chapter 7 mitigation measure ID WEMM13.
C12.6	A reusable spoil target of 90 percent will be adopted for the project. Where possible and fit for purpose, spoil will be beneficially reused within the project before off-site reuse or disposal options are pursued.	Section 6.4, first paragraph and Table 4 under 'Earthworks'
C12.7	Construction waste will be minimised by accurately calculating materials brought to the site and limiting materials packaging.	Chapter 7 mitigation measure ID WEMM4, WEMM5, WEMM7
C12.8	All waste will be assessed, classified, managed and disposed of in accordance with the <i>Waste Classification Guidelines</i> (EPA, 2014a) and waste would be managed in accordance with <i>The Australian Rail Track Corporation excavated material order 2019</i> .	Section 6.2 Section 6.3 Section 6.4
C12.9	Waste segregation bins will be located at various locations within the project area, if space permits, to facilitate segregation and prevent cross contamination.	Section 6.1.2 Chapter 7 mitigation measure ID WEMM8, WEMM11, WEMM12, WEMM16, WEMM19
Emission of Greenhouse Gases		
C14.1	<p>The CEMP will include the following requirements:</p> <ul style="list-style-type: none"> ▪ All plant and equipment used during the construction works will be regularly maintained to ensure fuel efficiency. ▪ Sustainable procurement practices will be adopted where feasible ▪ Plant and equipment will be switched off when not in constant use and not left idling. 	<p>Chapter 7 mitigation measure ID WEMM22</p> <p>Chapter 7 mitigation measure ID WEMM1, WEMM4, WEMM21 - WEMM24, WEMM26</p> <p>Chapter 7 mitigation measure ID WEMM25</p>

ID no.	Revised mitigation measure	Document reference
	<ul style="list-style-type: none">Air conditioning and lights in site compound buildings will be turned off when not in use.	Chapter 7 mitigation measure ID WEMM25
	<ul style="list-style-type: none">Energy efficient vehicles or equipment will be selected where available.	Chapter 7 mitigation measure ID WEMM21, WEMM26

4. Existing Environment

This Chapter provides a brief summary of the various construction activities, potential waste streams and sources of energy use during construction of the project as identified in the EIS.

Further information on the existing environment, is provided in the EIS Chapter 19 (Waste) and Chapter 21 (Climate Change and greenhouse gas).

4.1. Construction Activities, Waste Streams and Energy Use

As identified in Section 19.2.1 of the EIS (p19.1), the project has the potential to generate waste from the following activities:

- New track/ track realignment
- Road works
- Drainage
- Retaining walls
- New bridges
- Noise and retaining walls
- Embankment along Jacquie Osmond Reserve
- Other

Waste streams associated with construction of the project would likely include (EIS p 19.6-19.7):

- Green waste from the removal of trees, shrubs and ground cover that are unable to be mulched and reused within the project
- Topsoil
- Waste from vehicle/ plant equipment maintenance
- Rail sleepers
- Waste metal/ timber posts
- Waste muds
- Spoil
- Contaminated spoil (if encountered)
- Waste wood and concrete
- Waste metal
- Waste concrete (from existing kerbs, pathways, panels not reused)
- Waste ballast
- Wastewater and sewage from amenities.
- Food waste, wastewater, paper and cardboard, and plastic and glass from site compound operation

The following sources of construction related energy use/ consumption (fuel and electricity) have been identified:

- Fuel use for mobile and stationary plant and equipment
- Fuel use for employee/construction personnel commuting
- Fuel use for transport/ delivery of plant and equipment to site
- Electricity use at site compounds.

5. Environmental Aspects and Impacts

The key construction activities and the associated potential sources of waste and energy consumption are identified through a risk management approach. The consequence and likelihood of each activity's impact on the environment has been assessed to prioritise its significance. The results of this risk assessment are included in Appendix A3 of the CEMP.

Ongoing environmental risk analysis will be undertaken during construction through regular inspections, monitoring and auditing as described in Chapter 8. This will ensure that issues requiring management (including cumulative impacts) are appropriately managed.

6. Waste Management

6.1. Waste Management Hierarchy

The *Waste Avoidance and Resource Recovery Act 2001* ensures that resource management options including for spoil, are considered against a hierarchy of:

- Avoidance of unnecessary resource consumption
- Resource recovery (including reuse, recycling, reprocessing, and energy recovery), and
- Disposal.

Refer to Figure 1 for the waste hierarchy provided by the EPA in the *NSW Waste Avoidance and Resource Recovery Strategy 2014-21, 2014*.

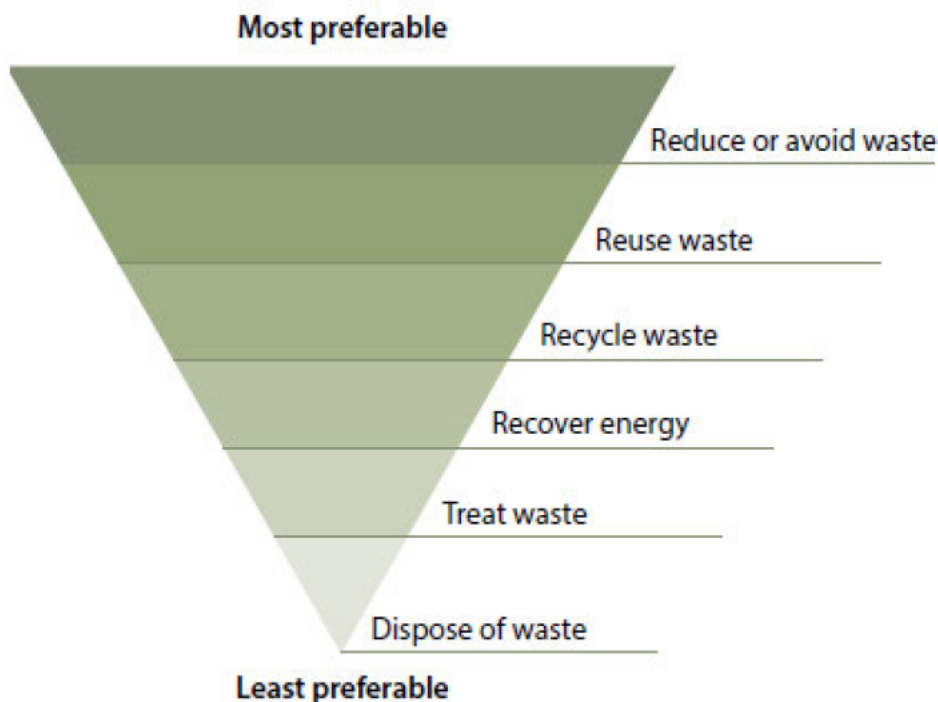


Figure 1: The Waste Hierarchy

The approach to the steps in the waste hierarchy most relevant to the project is briefly described below.

6.1.1. Reduce or Avoid Waste

Reducing or avoiding the generation of waste is of primary importance to the project. The following approach will be adopted:

- Consider construction options that have a higher waste reduction capacity than alternatives.
- Order material/ goods with minimal packaging or request suppliers to remove packaging from site.
- Accurately estimate materials required to minimise wastage of product.
- When possible material generated onsite will be reused.

6.1.2. Reuse and Recycle Waste

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

- Segregate waste onsite – waste materials, including spoil and demolition waste, will be separated onsite into dedicated bins/ areas for either reuse onsite or collection by a waste contractor and transported to offsite facilities. Locations of segregated bins will be determined onsite subject to safety assessment, including pedestrian and heavy vehicle considerations.
- Separate waste offsite – wastes will be deposited into one bin where space is not available for placement of multiple bins, and the waste will be sorted offsite by a waste contractor. Location of bin will be determined onsite subject to safety assessment, including pedestrian and heavy vehicle considerations.
- Where feasible and reasonable, secondary waste material will be used in construction. Refer to Table 4 for details on waste types that may be reused on site, and
- Implement measures for reducing demand on water resources as described in Chapter 6 of the SWMP mitigation measure ID SWMM24, SWMM41 and SWMM42.

6.1.3. Handling and Storage of Waste

Where waste is required to be handled and stored onsite prior to onsite reuse or offsite recycling/ disposal, the following measures will apply:

- Spoil and mulch will be stockpiled onsite in allocated areas, where appropriate, and mitigation measures for dust control and surface water management will be implemented in accordance with the AQMP and the SWMP.
- Topsoil will be stockpiled in allocated areas and protected from degradation and erosion so that it retains its productivity and can be beneficially reused on the project site. Mitigation measures for dust control and surface water management will be implemented in accordance with the AQMP and the SWMP respectively.
- Liquid wastes will 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
- Hazardous waste will be managed by the appropriately qualified and licensed contractors, in accordance with the requirements of the *Environmentally Hazardous Chemicals Act 1985* and the EPA waste disposal guidelines, and
- All other recyclable or non-recyclable wastes will be stored in appropriate covered receptacles (e.g. bins or skips) in appropriate locations onsite and subcontractors commissioned to regularly remove / empty the bins to approved disposal or recycling facilities.

6.1.4. Disposal of Waste

Waste disposal will 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 appropriately licensed waste facility following classification (refer to Section 6.2). Appendix A outlines the waste facilities in the vicinity of the project that may be utilised during construction. Details of waste types, volumes and destinations will be recorded in the Waste Register provided in Appendix B.

6.2. Waste Classification

Where waste cannot be avoided, reused or recycled it will be classified and appropriate disposal will then occur. The classification of waste will be undertaken in accordance with the *NSW EPA 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), and describes a six step process to classifying waste.

The general classification principles are as follows:

- If a special waste is mixed with another waste, the waste must be managed to meet the requirements of both the special wastes and the other class of waste.
- If asbestos waste is mixed with any other class of waste, all of the waste must be classified as asbestos waste.
- If liquid waste is mixed with hazardous or solid waste and retains the defined characteristics of liquid waste, it remains liquid waste.
- Two or more classes of waste must not be mixed in order to reduce the concentration of chemical contaminants. Dilution is not an acceptable waste management option.
- Where practicable, it is desirable to separate a mixture of wastes before classifying them.

6.3. Waste Exemptions

Clause 51 of the *Protection of the Environment Operations (Waste) Regulation 2005* enables the EPA to grant exemptions to the licensing and payment of levies for the land application or use of waste.

The EPA has issued general resource recovery orders (orders) and general resource recovery exemptions (exemptions) for a range of commonly recovered, high volume and well characterised waste materials that allow their use as fill or fertiliser at unlicensed, off-site facilities. These are general gazette orders and exemptions that do not require approval but, all conditions of an order and exemption must be met for the reuse of the resource recovery waste to be lawful. A full list of the current general orders and exemptions is available on the [EPA website](#). If the resource recovery waste intended for re-use does not appear in this list, an application can be made to the EPA for a specific order and exemption to be granted. It is noted that ARTC already holds a specific order ('*The Australian Rail Track Corporation excavated material order 2020*') and exemption for excavated material ('*The Australian Rail Track Corporation excavated material exemption 2020*').

Orders and exemptions may be used for the following materials during construction of the project:

- Excavated natural material
- Excavated public road material
- ARTC excavated material
- Mulch
- Reclaimed asphalt pavement
- Recovered aggregate
- Slag (blast furnace)
- Stormwater
- Treated drilling mud.

6.4. Classification of Potential Waste Streams from the Project

The construction activities and types of wastes that may be generated during construction are outlined in Table 4. This table also identifies preferred reuse, recycling and disposal methods for each waste stream. A recycling target and reusable spoil target of at least 90 per cent will be adopted for the project in accordance with the requirements of RMM C12.1 and RMM C12.6 respectively.

Waste classification was determined based on the six step process provided in the *EPA Waste Classification Guidelines Part 1: Classifying Waste* (2014). For additional information on the six steps, refer to Section 6.2 of this WEMP.

Table 4: Potential Waste Streams and Resource Use Management Strategy

Aspect	Waste Type	Waste Classification	Approx. Volume/ Quantity ¹	Proposed environmental management reuse/ recycling/ disposal strategy	Reuse / Recycle Target	Comments
Geotechnical investigations and surveys	Drilling mud (that has been dewatered)	Subject to chemical assessment (if material is to be taken offsite)	46 m ³	<p>Reuse onsite – Reincorporate drilling mud into the works.</p> <p>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 <i>Waste Classification Guidelines</i> (EPA, 2014).</p> <p>Reuse offsite – Apply treated drilling mud to land at unlicensed premises where there is full compliance with the treated drilling mud order and exemption.</p> <p>Disposal offsite - at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and the <i>Waste Classification Guidelines</i> (EPA, 2014).</p>	90%	<p>In order for an exemption to apply, all the conditions of the exemption must be met. These conditions include, but are not limited to, sampling and testing requirements, chemical thresholds, use restrictions and record keeping requirements.</p> <p>The 'Approved Notice under Section 143' form must be completed where material is taken offsite to unlicensed premises in accordance with Section 143(3A) of the POEO Act.</p> <p>In the event that disposal offsite is required, this will occur at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and the <i>Waste Classification Guidelines</i> (EPA, 2014)</p>
	Drilling fluid (vegetable based)	Liquid waste (pre-classified by the EPA)	15,600 L (600L /drill hole x 26 holes)	Recycling onsite – recycle back into drill hole.	100%	In the event that disposal offsite is required, this will occur at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and the <i>Waste Classification Guidelines</i> (EPA, 2014)
Demolition, including of structures	Concrete, bricks, ceramics	General solid waste (non-putrescible)	1,200 m ³	Reuse onsite - If suitable, crush and use as backfill/ road base.	100%	In order for an exemption to apply, all the conditions of the exemption must be met. These conditions include, but

Aspect	Waste Type	Waste Classification	Approx. Volume/ Quantity ¹	Proposed environmental management reuse/ recycling/ disposal strategy	Reuse / Recycle Target	Comments
		(pre-classified by the EPA)		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 <i>Waste Classification Guidelines</i> (EPA, 2014) Reuse offsite – Apply concrete to land at unlicensed premises where there is full compliance with the recovered aggregate order and exemption.		are not limited to, sampling and testing requirements, chemical thresholds, use restrictions and record keeping requirements. The 'Approved Notice under Section 143' form must be completed where material is taken offsite to unlicensed premises in accordance with Section 143(3A) of the POEO Act.
	Asphalt	General solid waste (non-putrescible) (pre-classified by the EPA)	110 tonnes	Reuse onsite - If suitable, use as backfill/ road base or for access roads. 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 <i>Waste Classification Guidelines</i> (EPA, 2014). Reuse offsite – Apply asphalt to land for road making activities, building, landscaping and construction works at an unlicensed premises where there is full compliance with the recovered aggregate order and exemption. Disposal offsite – disposal at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and the <i>Waste Classification Guidelines</i> (EPA, 2014)	100%	As above. In addition, coal tar asphalt must be disposed of to a licensed landfill and is not to be re-used for any purpose, including reincorporation as fill in subsurface road layers (RMS Environment Technical Direction ETD 2015/021 "Coal tar asphalt handling and disposal") Under no circumstances should asphalt containing coal tar be re-used to manufacture new asphalt (RMS Environment Technical Direction ETD 2015/021 "Coal tar asphalt handling and disposal")

Aspect	Waste Type	Waste Classification	Approx. Volume/ Quantity ¹	Proposed environmental management reuse/ recycling/ disposal strategy	Reuse / Recycle Target	Comments
	Waste metal	General solid waste (non-putrescible) (pre-classified by the EPA)	50 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 <i>Waste Classification Guidelines</i> (EPA, 2014).	100%	Nil.
	Glass	General solid waste (non-putrescible) (pre-classified by the EPA)	2 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 <i>Waste Classification Guidelines</i> (EPA, 2014).	100%	Nil.
	Timber	General solid waste (non-putrescible) (pre-classified as 'building and demolition waste' by the EPA)	5 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 <i>Waste Classification Guidelines</i> (EPA, 2014).	100%	Nil.
	Plasterboard	General solid waste (non-putrescible) (pre-classified by the EPA)	0 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 <i>Waste Classification Guidelines</i> (EPA, 2014).	100%	Nil.
	Asbestos	Special waste (Asbestos)	0 tonnes	Disposal offsite – disposal at an appropriately licensed waste facility in	0%	Asbestos waste will be handled in accordance with the Fulton Hogan

Aspect	Waste Type	Waste Classification	Approx. Volume/ Quantity ¹	Proposed environmental management reuse/ recycling/ disposal strategy	Reuse / Recycle Target	Comments
		(pre-classified by the EPA)		accordance with the premises' Environment Protection Licence and the <i>Waste Classification Guidelines</i> (EPA, 2014)		<p>Work Health Safety Management Plan. If asbestos waste is encountered, SafeWork NSW licensed asbestos removalists will be engaged to handle, manage and remove the waste.</p> <p>Note - Only bonded asbestos may be received at some premises. There may also be limits on the quantity of asbestos that can be stored on some premises at any time.</p>
Clearing and grubbing	Green waste - native weed-free vegetation (branches, loppings, tree trunks, tree stumps)	General solid waste (non-putrescible) (pre-classified by the EPA as 'garden waste')	1.5 ha	Reuse onsite – Reuse mature tree trunks/ coarse woody debris/ felled habitat trees and root balls. Refer to the FFMP for further details. Alternatively, mulch and stockpile for use onsite during landscape planting and in conjunction with soil erosion and sediment control measures.	100%	Follow the Weed Management Plan in the FFMP.
	Topsoil	Subject to chemical assessment (if material is to be taken offsite)	1,500 m ³	<p>Reuse onsite - stockpile onsite to retain productivity for later reuse in landscaping, ensuring topsoil is weed-free.</p> <p>Reuse offsite – Apply topsoil to land at unlicensed premises where there is full compliance with the excavated natural material order and exemption.</p> <p>Disposal offsite – disposal at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and</p>	100%	<p>In order for an exemption to apply, all the conditions of the exemption must be met. These conditions include, but are not limited to, sampling and testing requirements, chemical thresholds, use restrictions and record keeping requirements.</p> <p>The 'Approved Notice under Section 143' form must be completed where material is taken offsite to unlicensed premises in accordance with Section 143(3A) of the POEO Act.</p>

Aspect	Waste Type	Waste Classification	Approx. Volume/ Quantity ¹	Proposed environmental management reuse/ recycling/ disposal strategy	Reuse / Recycle Target	Comments
				the <i>Waste Classification Guidelines</i> (EPA, 2014)		If reuse is not feasible disposal offsite will occur at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence.
	Green waste - weeds	General solid waste (non-putrescible)	Unknown at this stage	Isolate weeds and either: encapsulate by deep burying onsite; leave weeds to decompose; manage noxious weeds in accordance with Department of Primary Industries requirements and relevant legislation; or dispose of weeds offsite at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence as directed by the Environment Manager/ EC.	0%	Nil.
Earthworks	Excess uncontaminated spoil	Subject to chemical assessment (if material is to be taken offsite)	360 m ³	<p>Reuse onsite – Reuse material unsuitable for construction in alternative foundation treatments or use it to create the embankment at Jacquie Osmond Reserve, or use it to flatten road side batters, or for track formation for example.</p> <p>Reuse offsite – Apply material to land as engineering fill or for use in earthworks at an unlicensed premises where there is full compliance with the excavated natural material order and exemption.</p> <p>Reuse offsite – Manage material in accordance with The Australian Rail Track Corporation excavated material order and exemption.</p>	100%	<p>In order for an exemption to apply, all the conditions of the exemption must be met. These conditions include, but are not limited to, sampling and testing requirements, chemical thresholds, use restrictions and record keeping requirements.</p> <p>The '<i>Approved Notice under Section 143</i>' form must be completed where material is taken offsite to unlicensed premises in accordance with Section 143(3A) of the POEO Act.</p> <p>If reuse is not feasible disposal offsite will occur at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence.</p>

Aspect	Waste Type	Waste Classification	Approx. Volume/ Quantity ¹	Proposed environmental management reuse/ recycling/ disposal strategy	Reuse / Recycle Target	Comments
				Disposal offsite – disposal at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and the <i>Waste Classification Guidelines</i> (EPA, 2014)		
	Contaminated spoil/ soil	Subject to chemical assessment	0 m ³	Reuse onsite – Reuse onsite following remediation and relevant NEPM testing as required. Disposal offsite - at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and the DECCW <i>Waste Classification Guidelines</i> (EPA, 2014).	90%	For soil remediation using landfarming, refer to the NSW EPA Guidelines: ' <i>Best Practice Note: Landfarming</i> ' (April 2014). Refer to SWMP Appendix E Unexpected Contaminated Land and Asbestos Finds Procedure as needed.
	Acid sulfate soils	Subject to chemical assessment	0 m ³	Reuse onsite – Manage and reuse on site where possible in accordance with the <i>Waste Classification Guidelines: Part 4: Acid sulfate soils</i> (EPA, 2014). Undertake NEPM testing as required prior to reuse. Disposal offsite - at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and the <i>Waste Classification Guidelines</i> (EPA, 2014).	100%	Refer to SWMP Appendix C Acid Sulfate Soil Management Procedure. Refer to SWMP Appendix E Unexpected Contaminated Land and Asbestos Finds Procedure as needed.
	Virgin excavated natural material (VENM)	General solid waste (non-putrescible) (pre-classified as by the EPA)	0 m ³	Reuse onsite – Balance cut and fill earthworks, where possible, to optimise reuse on the project. Reuse offsite – Apply material to land at an unlicensed premises.	100%	The ' <i>Approved Notice under Section 143</i> ' form must be completed where material is taken offsite to unlicensed premises in accordance with Section 143(3A) of the POEO Act.

Aspect	Waste Type	Waste Classification	Approx. Volume/ Quantity ¹	Proposed environmental management reuse/ recycling/ disposal strategy	Reuse / Recycle Target	Comments
Road and bridge construction	Steel (e.g. reinforcing)	General solid waste (non-putrescible)	35 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 <i>Waste Classification Guidelines</i> (EPA, 2014).	100%	Nil.
	Conduits and pipes	General solid waste (non-putrescible)	7.5 tonnes	Reuse onsite - Crush and reuse onsite as backfill or road base where compliant with contract specifications. 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 <i>Waste Classification Guidelines</i> (EPA, 2014). Disposal offsite - at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and the <i>Waste Classification Guidelines</i> (EPA, 2014).	90%	Nil.
	Timber (e.g. formwork, fencing)	General solid waste (non-putrescible) (pre-classified as 'building and demolition waste' by the EPA)	75 m ³	Reuse onsite - If suitable. 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 <i>Waste Classification Guidelines</i> (EPA, 2014).	90%	Nil.

Aspect	Waste Type	Waste Classification	Approx. Volume/ Quantity ¹	Proposed environmental management reuse/ recycling/ disposal strategy	Reuse / Recycle Target	Comments
	Packaging materials, including pallets, wood, plastic, cardboard and metals	General solid waste (non-putrescible)	65 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 <i>Waste Classification Guidelines</i> (EPA, 2014).	100%	Nil.
	Concrete	Subject to chemical assessment (if material is to be taken offsite)	2,300 m ³	Reuse onsite – Crush and reuse onsite as backfill or road base where compliant with contract specifications. 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 <i>Waste Classification Guidelines</i> (EPA, 2014). Reuse offsite – Apply concrete to land for road making activities, building, landscaping and construction works at an unlicensed premises where there is full compliance with the recovered aggregate order and exemption. Disposal offsite – disposal at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and the <i>Waste Classification Guidelines</i> (EPA, 2014)	100%	In order for an exemption to apply, all the conditions of the exemption must be met. These conditions include, but are not limited to, sampling and testing requirements, chemical thresholds, use restrictions and record keeping requirements. The 'Approved Notice under Section 143' form must be completed where material is taken offsite to unlicensed premises in accordance with Section 143(3A) of the POEO Act. If reuse is not feasible disposal offsite will occur at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence.
Erosion and sediment control maintenance	Geotextile	General solid waste (non-putrescible)	1 tonne Avoid use of geotextile	Disposal offsite - at an appropriately licensed waste facility in accordance with the premises' Environment	0%	Nil.

Aspect	Waste Type	Waste Classification	Approx. Volume/ Quantity ¹	Proposed environmental management reuse/ recycling/ disposal strategy	Reuse / Recycle Target	Comments
			where practicable	Protection Licence and the <i>Waste Classification Guidelines</i> (EPA, 2014)		
	Sediment/ sludge collected from sediment basins/ bottom of trench or tank (e.g. once they reach capacity)	General solid waste (non-putrescible)	25 m ³	Reuse onsite - Mix with existing spoil and reuse onsite. Disposal offsite - Place in a shallow pit lined with heavy duty plastic sheeting to dry out (evaporation pit). Once the sludge has dried out sufficiently to allow it to be spaded this waste can be disposed offsite.	90%	Nil.
	Sediment fence and sandbags	General solid waste (non-putrescible)	75 tonnes	Reuse onsite where possible based on condition, or dispose offsite at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and the <i>Waste Classification Guidelines</i> (EPA, 2014).	10%	Nil.
Site compounds/ equipment maintenance	Tyres	Special waste (pre-classified by the EPA)	10 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 <i>Waste Classification Guidelines</i> (EPA, 2014).	100%	Nil.
	Drained oil filters, rags and oil-absorbent materials (i.e. spill kit materials) that only contain non-volatile	General solid waste (non-putrescible) (pre-classified by the EPA)	2 tonnes	Disposal offsite - at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and the <i>Waste Classification Guidelines</i> (EPA, 2014).	0%	Nil.

Aspect	Waste Type	Waste Classification	Approx. Volume/ Quantity ¹	Proposed environmental management reuse/ recycling/ disposal strategy	Reuse / Recycle Target	Comments
	petroleum hydrocarbons and do not contain free liquids.					
	Containers, previously containing dangerous goods, from which residues have been removed by washing or vacuuming	General solid waste (non-putrescible) (pre-classified by the EPA)	1 tonne	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 <i>Waste Classification Guidelines</i> (EPA, 2014).	100%	Nil.
	Waste oil	Liquid waste (pre-classified by the EPA)	1,500 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 <i>Waste Classification Guidelines</i> (EPA, 2014).	100%	Nil.
Site compound and office operation	Food waste	General solid waste (putrescible) (pre-classified by the EPA)	368 tonnes	Disposal offsite - at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and the <i>Waste Classification Guidelines</i> (EPA, 2014).	0%	Nil.
	Waste water and sewage from amenities	General solid waste (putrescible)	351,000 L	Disposal offsite - at an appropriately licensed waste facility in accordance with the premises' Environment	0%	Nil.

Aspect	Waste Type	Waste Classification	Approx. Volume/ Quantity ¹	Proposed environmental management reuse/ recycling/ disposal strategy	Reuse / Recycle Target	Comments
		(pre-classified by the EPA)		Protection Licence and the <i>Waste Classification Guidelines</i> (EPA, 2014).		
	Rubbish, paper, cardboard and plastic, glass, aluminium cans	General solid waste (non-putrescible)	168 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 <i>Waste Classification Guidelines</i> (EPA, 2014).	100%	Nil.
	Electrical waste	General solid waste (non-putrescible)	0.2 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 <i>Waste Classification Guidelines</i> (EPA, 2014).	100%	Nil.
	Unwanted liquid chemicals	Liquid waste	200 L	Disposal offsite - at an appropriately licensed waste facility in accordance with the premises' Environment Protection Licence and the <i>Waste Classification Guidelines</i> (EPA, 2014).	0%	Nil.

7. Environmental Mitigation Measures

Specific mitigation measures to address waste and resources impacts are outlined in Table 5.

Table 5: Waste and Energy Mitigation Measures

ID	Mitigation Measure	Timing		Responsibility
		PC ¹	C ²	
GENERAL				
WEMM1	Adopt and promote the waste hierarchy (reduce or avoid waste, reuse waste, recycle waste, recover energy, treat waste, dispose of waste).	✓	✓	Environmental Manager Procurement Manager
WEMM2	Keep site free of litter and maintain good housekeeping.		✓	Foreman
WEMM3	Do not cause, permit or allow waste generated outside the project to be received at the project for storage, treatment, processing, reprocessing, or disposal on the project, except as expressly permitted by a licence under the <i>Protection of the Environment Operations Act 1997</i> (POEO Act), if such a licence is required in relation to that waste.		✓	Foreman
REDUCE OR AVOID				
WEMM4	Calculate precise estimates prior to placing orders. Record the totals of materials brought onto site.	✓	✓	Project Engineers
WEMM5	Implement, where possible, agreements with suppliers to return excess construction materials or packaging for future reuse. When available bulk or minimal packaging options will be used when purchasing materials.	✓	✓	Contracts Manager
RESOURCE RECOVERY (REUSE, RECYCLE)				
WEMM6	Establish a list of preferred suppliers for waste management services (e.g. waste oil recyclers, metal recyclers, etc.).	✓	✓	Contracts Manager Environmental Manager
WEMM7	Include in waste contractor subcontract agreements requirements to comply with statutory requirements, report quantities, types, dates and destination of material removed from site.	✓	✓	Contracts Manager
WEMM8	Classify all wastes generated on the site during construction in accordance with the EPA <i>Waste</i>		✓	Site/ Project Engineers

ID	Mitigation Measure	Timing		Responsibility
		PC ¹	C ²	
	<i>Classification Guidelines (2014)</i> prior to transporting waste off site.			
WEMM9	Obtain and provide receipts/dockets for waste removed from site to the Environmental Coordinator.		✓	Foreman
WEMM10	Record all waste removed from site in the Waste Register.		✓	Environmental Coordinator
WEMM11	Provide appropriate facilities to ensure that materials for recycling are separated from materials that are to be disposed of as wastes. Ensure facilities are labelled for the various waste streams to ensure easy recognition and to also prevent cross contamination of waste streams.		✓	Project Manager
WEMM12	Collect and store waste oil in suitable containers and store in a bunded area until collected for recycling. Ensure permanent bunded storage areas are covered.		✓	Superintendent
WEMM13	Reuse excavated spoil generated onsite where possible, considering the following options: <ul style="list-style-type: none"> ▪ Track formation/ construction ▪ Construction of embankment at Jacque Osmond Reserve ▪ Flattening of road batters ▪ Alternative foundation treatments 		✓	Foreman
WEMM14	Reuse waste material generated onsite where possible, including topsoil and mulch. For example, keep topsoil that is not contaminated by noxious weeds in stockpiles for later spreading on fill batters and other areas.		✓	Foreman
WEMM15	When transporting waste to the premises other than EPA-licensed waste management facilities, ensure these premises can lawfully accept this waste; obtain a copy of the completed and signed 'Approved Notice under Section 143' form from the landholder to confirm this prior to transporting material to the premises.		✓	Foreman Environmental Coordinator
WEMM16	Provide paper and cardboard recycling bins/boxes in all site offices. All paper waste to be sent to recycling facility. Encourage all staff to separate paper waste.		✓	Receptionist Environmental Coordinator
WEMM17	Use recycled products in construction to reduce demand on resources, where the use of the material is cost and performance competitive and ARTC' specifications allow it. This may include the use of fly ash and slag within		✓	Project / Site Engineer

ID	Mitigation Measure	Timing		Responsibility
		PC ¹	C ²	
	concrete mixes; re-use of existing pavement; recycled steel; guideposts and/ or signage.			
WEMM18	Set printers at the site office to default to double sided and black and white printing. Encourage all staff to minimise paper use through use of electronic media, re-use of paper etc. Refill or return printer cartridges for recycling.		✓	Receptionist
DISPOSAL				
WEMM19	Store construction wastes which cannot be recycled in clearly labelled waste bins/ skips onsite. The skips will be collected by a licensed waste contractor on a regular basis and transported to a licensed landfill.		✓	Superintendent
WEMM20	Ensure portable toilets are emptied regularly to prevent overflows and effluent is disposed of in accordance with the EPA <i>Waste Classification Guidelines</i> (2014). Connect toilets at the site compound to the sewerage network where feasible.		✓	Superintendent
	WEMM6-WEMM10 above also apply.			
ENERGY USE/ CONSUMPTION (FUEL, OIL AND POWER)				
WEMM21	Use alternative fuels and energy efficient plant, equipment and vehicles where feasible and reasonable to reduce greenhouse gas emissions, through consultation with subcontractors and suppliers.	✓	✓	Procurement Manager
WEMM22	Service/ maintain all plant and vehicles, including trucks entering and leaving the site, and construction equipment in accordance with the manufacturer's specification to comply with all relevant legislation and to ensure it is operating efficiently		✓	Procurement Manager Foreman
WEMM23	Procure locally produced goods and services where feasible and cost effective to reduce transport fuel emissions. Where possible, ensure materials are delivered as full loads.	✓	✓	Procurement Manager
WEMM24	Consider the procurement of renewable energy technologies (e.g. solar photovoltaic, wind power) for power generation onsite	✓	✓	Procurement Manager Project Manager
WEMM25	Turn machinery, vehicles, air conditioning and lights off when not in use.		✓	Subcontractors Foreman

ID	Mitigation Measure	Timing		Responsibility
		PC ¹	C ²	
				Office staff
WEMM26	Ensure construction equipment, plant and vehicles are appropriately sized for the task.	✓	✓	Procurement Manager Project Manager

¹ PC means pre-construction; ² C means construction

8. Compliance Management

8.1. Roles and Responsibilities

Fulton Hogan's Project Team organisational structure and overall roles and responsibilities are outlined in Section 4.1 of the CEMP. Specific responsibilities for the implementation of environmental controls are detailed in Table 5 of this WEMP.

8.2. Training

All employees, subcontractors and utility staff working on site will undergo site induction and toolbox training relating to waste and energy use management issues, including:

- existence and requirements of this WEMP
- relevant legislation
- waste reporting requirements
- requirements of the waste hierarchy
- waste/ recycling storage requirements
- waste disposal responsibilities
- waste facilities that may be used during construction
- energy efficient best practices
- waste handling requirements and details of the types of wastes that are intended for on-site reuse
- waste classification prior to waste leaving site
- waste records required
- unexpected finds

Targeted training regarding EPLs, records and the Waste Classification Guidelines (EPA, 2014) will be provided to staff who have responsibility relating to these.

Further details regarding staff induction and training are outlined in Chapter 5 of the CEMP.

8.3. Complaints

Complaints will be recorded and addressed in accordance with Section 6.2.3 of the CEMP and the Communication Strategy (CS).

8.4. Inspections and Monitoring

Regular inspections and monitoring specific to waste and energy use will be undertaken during construction in accordance with Table 6. General requirements and responsibilities in relation to inspections and monitoring are documented in Sections 8.1 and 8.2 of the CEMP respectively.

Table 6: Monitoring and Inspection

Monitoring details	Record	Responsibility	Frequency
Track waste taken offsite to a licensed premises	Waste Register	Environmental Manager	When waste taken offsite. Waste Register to be updated regularly.
	Waste receipts/ dockets	Foreman	When waste taken offsite to a waste facility.

Monitoring details	Record	Responsibility	Frequency
	Transportation dockets	Foreman	When EPA 'trackable' waste taken offsite.
Track waste taken offsite to an unlicensed premises (e.g. VENM, ENM)	'Approved Notice under Section 143' form completed.	Environmental Manager/ Project Engineer	Prior to transporting waste offsite to an unlicensed premises.
	Waste Register	Environmental Manager	When waste taken offsite. Waste Register to be updated regularly.
Inspections for litter; materials management; unauthorised disposal of construction waste (illegal dumping); contamination of waste streams; adequacy of capacity of waste receptacles; indications of inefficient plant operation (as part of weekly environmental inspection).	Environmental Inspection Checklist	Environmental Manager	Weekly

8.5. Auditing

Auditing (both internal and external) will be undertaken to assess the effectiveness of environmental mitigation measures, compliance with this WEMP, ARTC specifications and other relevant approvals, permits and licences. Auditing requirements are detailed in Section 8.4 of the CEMP.

8.6. Reporting

General reporting requirements and responsibilities are documented in Chapter 9 of the CEMP.

8.7. Non-conformances

Non-conformances will be dealt with and documented in accordance with Chapter 10 of the CEMP.

9. Review and Improvement of WEMP

The WEMP will be reviewed to ensure compliance with legislative requirements and its suitability and effectiveness for the project.

The review may be in the form of:

- A formal management review
- A second party audit, and/or
- An inclusion as a separate item at a site meeting.

The Environmental Manager may review and update the WEMP more regularly where:

- Significant changes in construction activities occur
- Where targets are not being achieved, or
- In response to audits and non-conformance reports.

Any changes to the WEMP will be approved by the ER and made in accordance with the process outlined in Section 1.6 of the CEMP.

Appendix A: Potential Waste Facilities

Table A1: Potential Waste Facilities

EPL holder name	Premises	Scheduled activity	EPL No.	Waste type as per license	Contact
Boral Recycling Pty Ltd	Boral Recycling Widemere 38 Widemere Road Wetherill Park NSW 2164	Resource recovery Waste storage	11815	General waste Other types of waste	1300 723 999
Cleanaway Resourceco RRF Pty Ltd	Resourceco 35-37 Frank Street Wetherill Park NSW 2164	Resource recovery Waste storage	20937	General waste Other types of waste	1300 696 733
D & N Rubber Refinery Pty Ltd	D&N Rubber Refinery 66 Victoria Street Smithfield NSW 2164	Resource recovery Waste storage	21142	Tyres	0405 543 197
Suez Recycling and Recovery Pty Ltd	Wetherill Park Resource Recovery Facility 20 Davis Road Weitherill Park NSW 2164	Waste Processing (non-thermal treatment) Waste Storage	4548	Hazardous Restricted solid Liquid Clinical and related waste Asbestos waste General waste Office and Packaging	131 335

Appendix B7: Waste and Energy Management Sub-Plan

Cabramatta Loop Project



EPL holder name	Premises	Scheduled activity	EPL No.	Waste type as per license	Contact
				Waste VENM Other types of waste	
Veolia Environmental Services (Australia) Pty Ltd	Horsley Park Resource Recovery Facility Wallgrove Road Horsley Park NSW 2175	Resource recovery Waste storage	20339	General waste Other types of waste	13 29 55
Veolia Environmental Services (Australia) Pty Ltd	Horsley Park Waste Management Facility Wallgrove Road Horsley Park NSW 2175	Composting Waste Disposal (application to land) Waste Processing (non-thermal treatment)	11584	Waste Asbestos waste Waste tyres General solid waste (non-putrescible)	13 29 55

Appendix B: Water Register (example)

Table B1: Water Register (Example)



Waste Register

Cabramatta Loop Project

Notes

1. In accordance with the EPA 'Waste Classification Guidelines' (2014) which can be accessed at: <http://www.epa.nsw.gov.au/resources/wasteregulation/140796-classify-waste.pdf>
2. Where a facility has a weighbridge installed, records of all waste entering the facility should be based on the quantities (in tonnes) recorded by the weighbridge.
3. Reuse occurs when a material is used again for the same or similar use with no reprocessing. Reusing a product more than once in its original form reduces the waste generated and the energy consumed, which would have been required to be recycled.
Recycling involves processing waste into a similar non waste product consuming less energy than production from raw materials. Recycling spares the environment from further degradation, saves landfill space and saves resources that were used to originally make the material. eg. mulching cleared vegetation for reuse in landscaping.

DATE	WASTE DESCRIPTION (choose one of the 23 materials from the drop down list on each row)	WASTE CLASSIFICATION ¹ (choose one of the 6 materials from the drop down list on each row)	TOTAL QUANTITY ²	UNITS (e.g. tonnes)	INTENDED END USE ³ (choose one of the 3 options from the drop down list on each row)	RECEIVAL FACILITY	TRANSPORTED BY	DOCKET OR INVOICE NUMBER	WASTE TRANSPORT VEHICLE NUMBER	REFERENCE IN ENVIRONMENTAL SAMPLING REGISTER (eg. if monitoring carried out to demonstrate compliance with Resource Recovery Exemption OR to classify waste)	COMMENTS