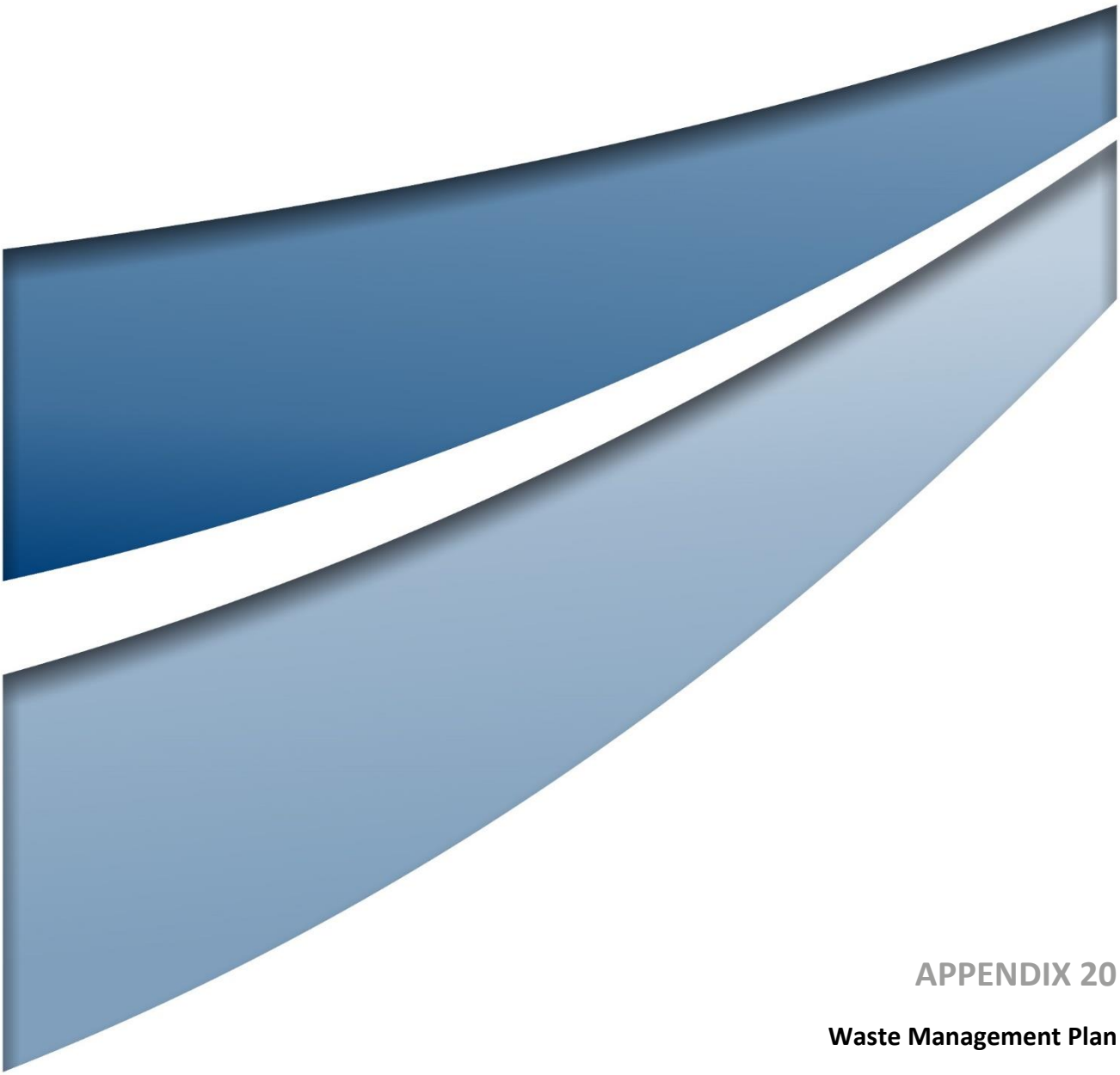

APPENDIX 20

Waste Management Plan

umwelt
Environmental & Social Consultants

lightsource bp

bp

WASTE MANAGEMENT PLAN

Gundary Solar Farm

FINAL

June 2024

WASTE MANAGEMENT PLAN

Gundary Solar Farm

FINAL

Prepared by
Umwelt (Australia) Pty Limited
on behalf of
Lightsource Development Services Australia Pty Ltd

Project Director: Malinda Facey
Project Manager: Marion O'Neil
Technical Director: Luke Bettridge
Technical Manager: Eva Tew
Report No. 22223/R14
Date: June 2024

This report was prepared using Umwelt's ISO 9001 certified Quality Management System.

Acknowledgement of Country

Umwelt would like to acknowledge the traditional custodians of the country on which we work and pay respect to their cultural heritage, beliefs, and continuing relationship with the land. We pay our respect to the Elders – past, present, and future.

Document Status

Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
Final	Luke Bettridge	20/06/2024	Malinda Facey	20/06/2024

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Appendices

1.0 Introduction

This Waste Management Plan (WMP) has been prepared by Umwelt (Australia) Pty Ltd (Umwelt) on behalf of Lightsource Development Services Australia Pty Ltd (Lightsource bp) to support the proposed Gundary Solar Farm (the Project).

Lightsource bp is seeking to develop the Project in the Southern Tablelands region of New South Wales (NSW), approximately 10 kilometres (km) southeast of Goulburn within the Goulburn Mulwaree Local Government Area (LGA). The location of the Project and its regional context is presented in **Figure 1.1**.

The Project includes the construction, operation, maintenance and decommissioning of an approximate 400 Megawatt peak (MWp) of solar photovoltaic (PV) generation with a Battery Energy Storage System (BESS) of up to 555 MWp / 1,570 Megawatt-hour (MWh) capacity (the Project). The Project further includes ancillary infrastructure, an onsite substation/switchyard and connection to an existing 330 kilovolt (kV) transmission line. Project access will be via the existing driveway at 961 Windellama Road via the Hume Highway. Intersection works on Windellama Road are proposed as part of the Project in order to upgrade the Project access to accommodate heavy vehicles.

The Project will be developed across five freehold lots and a small portion of Windellama Road (including the road reserve), covering an area of approximately 702 ha (the Project Area). The freehold lots are primarily used for grazing activities. The Project infrastructure will cover approximately 512 ha (the development footprint).

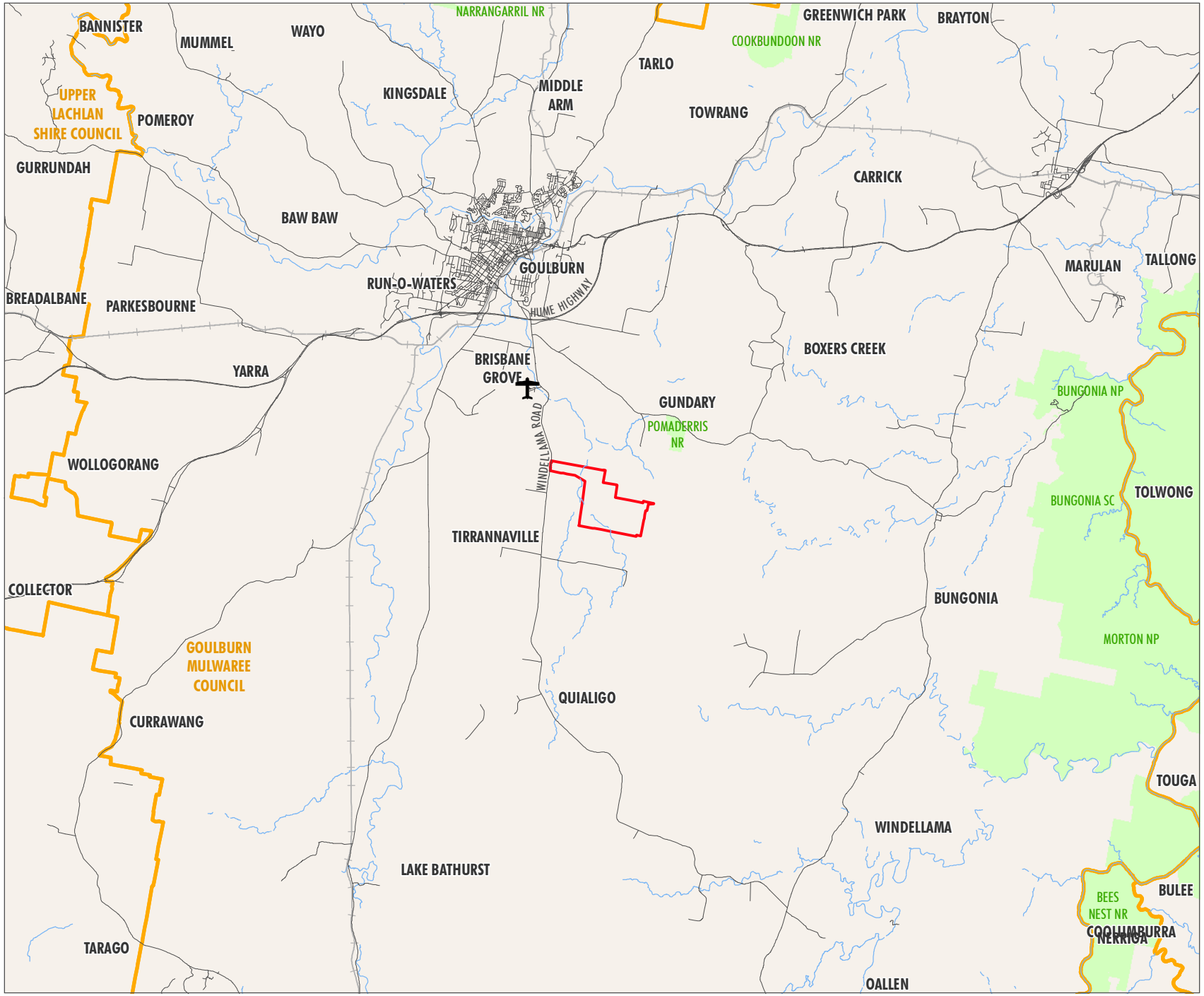
The Project is expected to operate for up to 40 years. After its operational life, the Project would either be decommissioned (by removing all infrastructure and returning the site to its existing land capability) or repurposed with new PV equipment subject to technical feasibility and planning consents.

The Project is a State Significant Development (SSD) under *State Environmental Planning Policy (Planning Systems) 2021* (Planning Systems SEPP) as the Project is development for the purposes of electricity generating works and the capital investment value of the Project is over $30 million. A development application (DA) for the Project is required to be submitted under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

This WMP has been prepared to demonstrate how the Project will operate in accordance with the relevant NSW legislation and guidelines relating to waste management to prevent or minimise the risk of environmental harm associated with the wastes generated by the Project.

FIGURE 1.1

Locality and Regional Context



Legend

- Project Area
- Goulburn Airport
- Local Government Area
- NPWS Estate
- Roads
- Railway
- Watercourses

0 2.5 5

Kilometers

Scale: 1:0 at A4
GDA 1994 MGA Zone 55

Image Source: ESRI Basemap (2023) | **Data Source:** NSW DFSI (2023)

1.1 Aims and Objectives

This WMP aims to identify all potential waste streams from all phases (construction, operation and decommissioning) of the Project.

The objective of the WMP is to provide the appropriate waste management measures, controls and waste monitoring requirements for the Project's generated waste.

1.2 Scope

This WMP has been prepared in accordance with the Secretary's Environmental Assessment Requirements (SEARs) issued on 10 November 2022 by the then Department of Planning and Environment (DPE) (now the Department of Planning, Housing and Infrastructure (DPHI)), as presented in **Section 2.3**, and the NSW Large-scale Solar Energy Guideline (DPE, 2022) (hereafter referred to as the Solar Energy Guideline). Other relevant waste legislation and guidelines that have been considered in the preparation of this WMP are outlined in **Section 2.0**.

This report identifies and discusses:

- Opportunities to avoid, reuse and recycle, in accordance with the waste hierarchy (**Section 4.1**).
- Waste streams that are likely to be produced across all phases (construction, operation and decommissioning) of the Project (**Section 3.3**).
- Classification of likely waste streams and quantification of waste to be generated, according to relevant NSW waste legislation (**Section 3.3**).
- Conceptual waste minimisation and management measures based on the waste hierarchy principles that are to be implemented over the life of the Project (**Section 4.1**).
- A description of the waste management system and disposal methods (**Section 4.2**).
- Requirements for the hauling/transport of the Project's waste (**Section 4.6**).
- An outline of ongoing regulatory reporting and waste tracking requirements (**Section 4.3–Section 5.0**).

1.3 Consultation

In accordance with the requirements of the Solar Energy Guidelines, Goulburn Mulwaree Council (GMC) has been consulted during the preparation of this WMP. The waste classifications and volumes estimated to be produced during the construction and operational phase of the Project were provided to GMC to determine whether the estimated waste volumes can be accepted by GMC waste facilities during the construction and operational phases of the project. Evidence of this consultation is provided in **Appendix B**.

As detailed in **Section 3.3.3**, the decommissioning waste volumes are expected to be refined during the life of the Project based on waste management practices at the time of decommissioning.

2.0 Statutory Framework

2.1 NSW Legislation

The management of waste at the Project is governed by NSW legislation. The key pieces of NSW legislation relating to waste management for the Project are:

- *Protection of the Environment Operation Act 1997* (POEO Act).
- Protection of the Environment Operations (Waste) Regulation 2014 (POEOW Regulation).
- *Waste Avoidance and Resource Recovery Act 2001* (WARR Act).
- *Work Health and Safety Act 2011* (WHS Act)
- *Dangerous Goods (Road and Rail Transport) Act 2008* (DGRRT Act).
- Dangerous Goods (Road and Rail Transport) Regulation 2014 (DGRRT Regulation).

In particular, the WARR Act describes the waste management hierarchy, which lists the preferred order in which waste management operations should be considered. The waste management hierarchy is discussed further in **Section 4.1**.

2.2 NSW Guidelines

The main NSW guidelines that relate to waste management for the Project are the:

- Waste Classification Guidelines Part 1: Classifying Waste (EPA, 2014) (WC Guideline).
- Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial facilities (EPA, 2012) (BP Guideline).
- Solar Energy Guideline.

2.3 Secretary's Environmental Assessment Requirements (SEARs)

The SEARs for the Project identify key issues and referenced guidelines that must be addressed in the Environmental Impact Statement (EIS).

The relevant requirements that relate to waste management are provided in **Table 2.1**.

Table 2.1 SEARs Relating to Waste

Key Issues	SEARs	Section Addressed
Waste	*-identify, quantify and classify the likely waste streams to be generated throughout all stages of the project, and describe the measures to be implemented to reduce waste generation, manage, reuse, recycle and safely dispose of this waste; and*	**Section 3.3** and **Section 4.0**
	-provide a waste management plan prepared in accordance with the Solar Guideline.	This document

2.3.1 Large-Scale Solar Energy Guideline 2022

The Solar Energy Guideline requirements that relate to waste management are provided in **Table 2.2**.

Table 2.2 Large-Scale Solar Energy Guideline 2022 Requirements

Guideline Section	Guideline Requirements	Section addressed in WMP
5.4 Waste management and circular design **5.4.3** Assessment	The EIS must include:	
	• identification of end markets for waste materials generated at each stage of the project	**Section 4.2**
	• evidence from local councils or facilities that the identified waste classifications and volume can be accepted at the appropriate stage of the project's life cycle	**Section 4.5**
	• consideration of circular design principles and strategies to mitigate impacts and reduce waste generation throughout all stages of the project (such as using recycled, reusable and low-impact raw materials where possible)	**Section 4.1**
	• end-of-life reuse, refurbishment and recycling strategies for PV panels and associated equipment that maximise high recovery methods.	**Section 4.1.3**
	The applicant should also consider appropriate mitigation measures that include:	
	• selecting manufacturers, distributors and installers of PV panels that are members of relevant product stewardship schemes	**Section 4.1.1**
	• selecting manufacturers and distributors of PV panels and associated infrastructure that minimise packaging and/or maximise the recyclable components of packaging	**Section 4.1.1**
	• separating waste streams on site prior to transport to waste management facilities	**Section 4.4**
	• ensuring all recyclable materials are sent to the appropriate recycling facilities and minimising waste sent to landfill	**Section 4.1**
	• consulting with local councils to ensure that impacts on local waste management facilities are minimised as far as practicable	**Section 4.1.1**
	• developing and implementing strategies that prioritise and maximise waste avoidance and reuse, including exploration of 'second-life' options	**Section 4.1**
	• selecting waste management providers that specialise in recycling end-of-life PV panels and associated infrastructure.	**Section 4.1.3**

3.0 Sources of Waste for the Project

3.1 Definition of Waste

The POEO Act defines 'waste' as:

> *"(a) any substance (whether solid, liquid or gaseous) that is discharged, emitted or deposited in the environment in such volume, constituency or manner as to cause an alteration in the environment, or*
>
> *(b) any discarded, rejected, unwanted, surplus or abandoned substance, or*
>
> *(c) any otherwise discarded, rejected, unwanted, surplus or abandoned substance intended for sale or for recycling, processing, recovery or purification by a separate operation from that which produced the substance, or*
>
> *(d) any processed, recycled, re-used or recovered substance produced wholly or partly from waste that is applied to land, or used as fuel, but only in the circumstances prescribed by the regulations, or*
>
> *(e) any substance prescribed by the regulations to be waste."*

A substance is not to be precluded from being waste for the purposes of the POEO Act merely because it is or may be processed, recycled, re-used or recovered.

3.2 Classification of Waste

As defined in Clause 49 of Schedule 1 of the POEO Act, waste can be classified into one of the following groups:

- **general solid waste (non-putrescible)** – glass, plastic, rubber, bricks, concrete, metal, paper and cardboard
- **general solid waste (putrescible)** – food waste, organics and animal wastes
- **hazardous waste** – contaminated soils
- **liquid waste** – wastewater effluent, fuels and lubricants
- **restricted solid waste**
- **special waste** – asbestos, waste tyres and clinical wastes.

In accordance with the EPA's WC Guideline (2014), the Project's likely waste streams have been classified in accordance with the six waste classes mentioned above.

3.3 Wastes Generated by the Project

Wastes from the Project will be generated from the construction, operation and decommissioning of the following infrastructure:

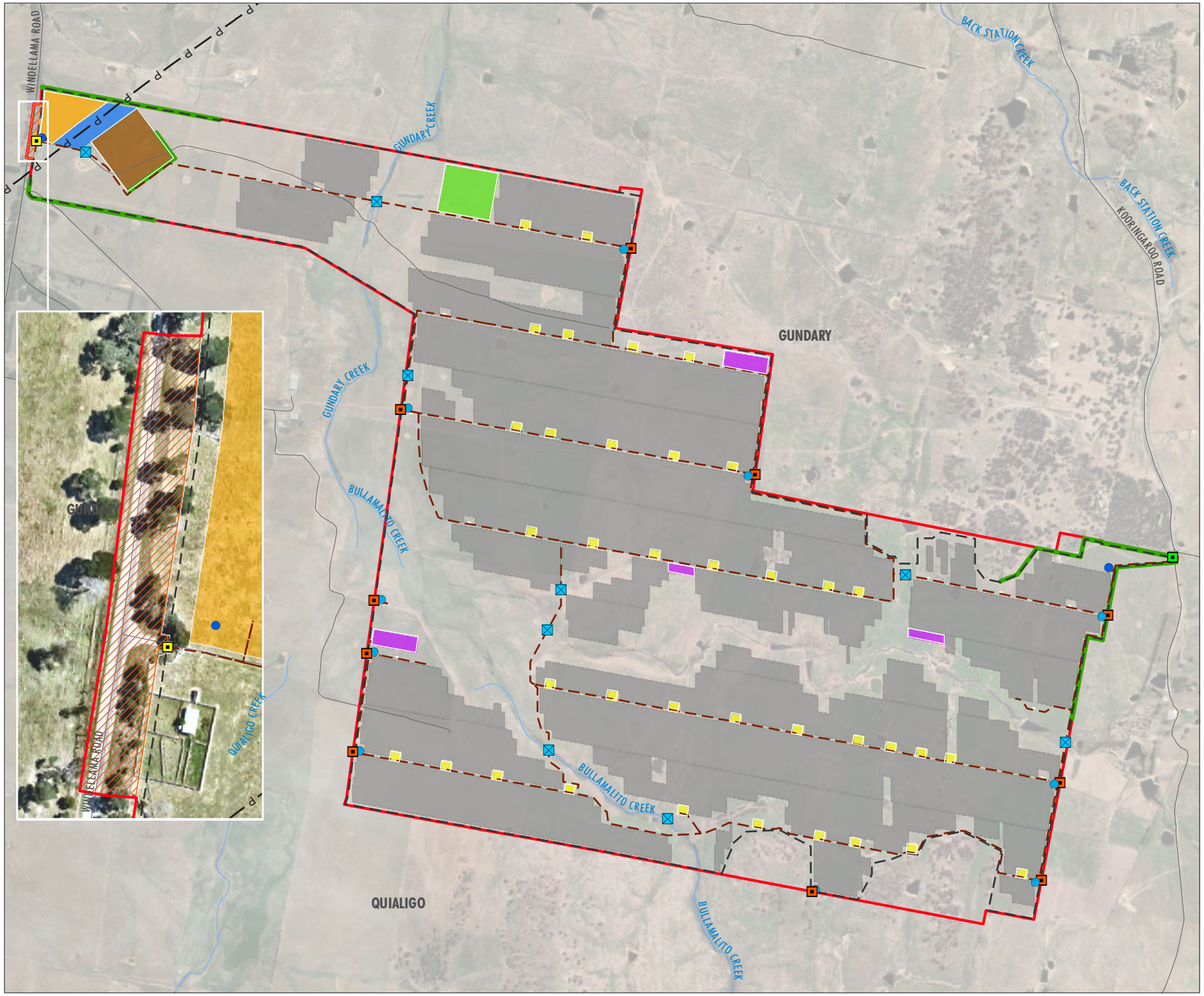
- Approximately 660,000 bifacial flat plate solar photovoltaic (PV) modules each generating approximately 610 watt (W) in single-axis tracking arrangement with a maximum height of 3 metres (m) above ground level, occasionally reaching up to 4 m depending on the topography.
- A centralised and/or de-centralised lithium-ion BESS with up to 555 MW / 1,570 MWh capacity to store energy generated by the Project.
- Onsite 33/330 kV substation and switchyard with underground electrical conduits and cabling leading from the solar panels into the substation yard, and overhead lines reaching above to the existing 330 kV transmission line providing an onsite grid connection.
- Internal and perimeter gravel access tracks, including a number of watercourse crossings (via culverts and bed level crossings) within the Project Area, where required, to manage existing surface water flows and access points.
- Temporary ancillary facilities, including a construction compound (including office amenities, parking and storage) and laydown areas.
- Permanent site office, operations and maintenance building with parking for the operations team.
- Primary access point from the existing driveway off Windellama Road, with proposed intersection works on Windellama Road to upgrade the existing driveway to accommodate heavy vehicles.
- Emergency access point proposed on the east, via the existing entrance off Kooringaroo Road.
- Perimeter security fencing with a 10 m Asset Protection Zone (APZ) and water tanks at both the primary access point and emergency access point.

A conceptual layout of the Project is provided in **Figure 3.1**. A description of the wastes that may be generated during the construction, operation and decommissioning phases of the Project are provided in **Section 3.3.1** to **Section 3.3.3**.

During the construction, operation and/or the decommissioning phase of the Project, a major natural event such as a flood or fire could occur and result in the Project's infrastructure being destroyed. Widespread damage of the Project's infrastructure could cause a large waste generation event for the Project. The flood risk and bushfire risk of the Project have been respectively assessed through Flood Risk and Impact Assessment and Bushfire Threat Assessment completed as part of the EIS. These assessments also identified a range of suitable management and mitigation measures to mitigate the flood and bushfire risk of the Project thereby mitigating the risk of a major waste generation event for the Project. Consultation with the Rural Fire Service (RFS) and Fire and Rescue NSW has been undertaken during the preparation of the Bushfire Threat Assessment as part of the EIS. Should the Project's infrastructure be destroyed due to a flood or bushfire event, Lightsource bp will utilise the waste management hierarchy from the WARR ACT (see **Section 4.1**) and will consult with the relevant agencies to correctly manage the large waste generation event.

FIGURE 3.1

Project Conceptual Layout



Legend

- Access Roads
- Security Fence
- Existing Transmission Line
- Roads
- Watercourses
- Watercourse / Bed Level Crossing
- Water Tank (40,000L)
- Water Tank (10,000L)
- Primary Access
- Emergency Access
- Emergency Gate
- Project Area
- Proposed Road Upgrade
- Solar Panels
- Landscaping Buffer (5m)
- Transgrid Line Works
- Centralised AC BESS
- Substation and O&M Facility Area
- Construction Compound Area
- Decentralised DC BESS
- Temporary Laydown Area

0 500 1,000

Metres

Scale: 1:0 at A4
GDA2020 MGA Zone 55

Image Source: ESRI Basemap (2023) | **Data Source:** NSW DFSI (2023)

3.3.1 Construction

Most of the waste to be generated by the Project will be produced during the construction and decommissioning phases. It is anticipated that construction and commissioning of the Project will take approximately 18 to 24 months. **Table 3.1** presents the waste streams identified as likely to be produced during the construction phase of the Project. **Section 4.2** defines the waste management strategies for each item below.

Table 3.1 Waste Streams Likely to be Produced During the Construction Phase

Waste Classification	Expected Waste Type	Estimated Volume (24 months) (m^3 unless otherwise specified)[1]	End Market/Facility
Green Waste	Green waste from site establishment and clearing of vegetation,	0	Processed onsite.
Hazardous Waste	Waste oils, lubricants and liquids and paints	100 L	Trucked to licensed waste facility
Liquid Waste (Sewage ablutions or portaloos)	Wastewater from sewage ablutions or portaloos	450	Trucked to licensed waste facility
General Solid Waste (Non-Putrescible) - Mixed	Plastic packaging, other plastics (PET), glass, empty cans	195	Goulburn Waste Management Centre.[2]
	Chemical drums, oil spill clean-up material, electronics and electrical infrastructure, recyclable and PPE.	195	Goulburn Waste Management Centre.
General Solid Waste (Non-Putrescible) – virgin excavated material waste	VENM/ENM	0	Reused onsite. If off-site disposal is required due to the presence of contaminants, the excavated waste will be transported by a licenced waste contractor to a licenced waste facility.
General Solid Waste – Non-Putrescible (Damaged Solar Panels)	Damaged solar panels	Unable to be estimated	Any solar panels damaged during construction / operations will be recycled.
General Solid Waste (Non-Putrescible) -Office	Recyclable waste (e.g. paper, glass, steel and aluminium cans)	5	Goulburn Waste Management Centre.[2]
General Solid Waste (Non-Putrescible) – Cardboard	Cardboard packaging.	3	Goulburn Waste Management Centre.[2]

[1] At this stage of the Project, the quantities of each waste stream listed in **Table 3.1** are only estimates for the construction phase of the Project. This WMP will be updated with the Project's approximate waste streams and quantities as soon as they are known.

[2] Recyclable quantities specified in the above table will be processed by GMC's recycling supplier at the time of construction.

Waste Classification	Expected Waste Type	Estimated Volume (24 months) (m^3 unless otherwise specified)[1]	End Market/Facility
General Solid Waste (Non-Putrescible) – Steel	Metal offcuts and damaged metal (ferrous and non-ferrous)	90	Goulburn Waste Management Centre.
General Solid Waste (Non-Putrescible) – Timber	Timber and packaging (including pallets)	45	Goulburn Waste Management Centre.
General Solid (Putrescible) – Office and Lunchrooms	Domestic Waste	120	Goulburn Waste Management Centre.

3.3.2 Operation

Given the minimal amount of moving parts and limited wear and tear of equipment, the operational waste streams generated by the Project will typically be low in comparison to the construction and decommissioning phases. The waste streams from the operational phase of the Project will be similar to those produced during the construction phase of the Project and will primarily be generated from maintenance activities and the presence of employees. However, the quantities of the majority of the waste streams are expected to be less due to the low maintenance requirements of the Project's site facilities. The anticipated operational lifespan of the Project is 40 years, after which time it will either be extended, refurbished to extend its life and improve generation or decommissioned.

Table 3.2 presents the waste streams identified as likely to be produced annually during the operation phase of the Project.

Table 3.2 Waste Streams Likely to be Produced Annually During the Operation Phase

Waste Classification	Expected Waste Type	Estimated Volume (m^3 per annum unless otherwise specified)[3]	End Market/Facility
Green Waste	Green waste from removal of vegetation as well as landscaping maintenance.	0	N/A
Hazardous Waste	Waste oils, lubricants and liquids and paints.	50 L p.a.	Trucked to licensed facility
Liquid Waste	Wastewater from sewage ablutions or portaloos.	185	Trucked to licensed facility
General Solid Waste (Non-Putrescible) – Mixed	Plastic packaging, other plastics (PET), glass, empty cans.	0.5	Goulburn Waste Management Centre[4].

[3] At this stage of the Project, the quantities of each waste stream listed in Table 3.2 are only estimates for the operation phase of the Project. This WMP will be updated with the Project's approximate waste streams and quantities as soon as they are known.

[4] Recyclable quantities specified in the above table will be processed by GMC's recycling supplier during operations.

Waste Classification	Expected Waste Type	Estimated Volume (m^3 per annum unless otherwise specified)[3]	End Market/Facility
	Chemical drums, oil spill clean-up material, electronics and electrical infrastructure, recyclable and PPE.	0.5	Goulburn Waste Management Centre[4].
General Solid Waste – Non-Putrescible (Damaged Solar Panels)	Damaged solar panels	Unable to be estimated	Any solar panels damaged during construction / operations will be recycled.
General Solid Waste (Non-Putrescible) – Office	Recyclable waste (e.g. paper, glass, steel and aluminium cans)	2.44	Goulburn Waste Management Centre.[4]
General Solid Waste (Non-Putrescible) – Cardboard	Cardboard packaging and paper.	0.27	Goulburn Waste Management Centre.[4]
General Solid Waste (Non-Putrescible) – Steel	Metal offcuts and damaged metal (ferrous and non-ferrous).	0.17	Goulburn Waste Management Centre.
General Solid Waste (Non-Putrescible) – Timber	Timber and packaging (including pallets).	0.17	Goulburn Waste Management Centre.
General Solid (Putrescible) – Office and Lunchrooms	Domestic Waste	1	Goulburn Waste Management Centre.

3.3.3 Decommissioning

During decommissioning, all above ground infrastructure and materials will be removed. Some fencing may remain at the request of the landowner. Underground cables buried at 500 mm depth and greater will be removed.

Table 3.3 presents the waste streams identified as likely to be produced during the decommissioning phase of the Project. The waste streams and volumes as detailed in **Table 3.3** below are indicative and based on the current estimate of waste volumes and current waste management technology. Waste streams and volumes will be developed and included in the revised management plans prior to the commencement of any decommissioning activities.

Table 3.3 Waste Streams Likely to be Produced During the Decommissioning Phase

Waste Classification	Expected Waste Type	Estimated Quantity[5]	End Market/Facility
Green Waste	Green waste from removal of vegetation as well as landscaping.	0 m^3	N/A
Hazardous Waste	Waste oils, lubricants and liquids and paints.	100 L	Goulburn Waste Management Centre.

[5] At this stage of the Project, the quantities of each waste stream listed in Table 3.3 are only estimates for the decommissioning phase of the Project. This WMP will be updated with the Project's approximate waste streams and quantities as soon as they are known.

Waste Classification	Expected Waste Type	Estimated Quantity[5]	End Market/Facility
Liquid Waste	Sewage ablutions or portaloos.	370 m^3	Trucked to licensed facility
General Solid Waste (Non-Putrescible) – Mixed (tonnes)	Solar Farm infrastructure (solar panels, inverters).	21,678.75 tonnes of panels	Licensed panel recycling facility[6]
General Solid Waste (Non-Putrescible) – Office	Recyclable waste (e.g. paper, glass, steel and aluminium cans)	5 m^3	Goulburn Waste Management Centre[7].
General Solid Waste (Non-Putrescible) – Cardboard	Carboard	0 m^3	N/A
General Solid Waste (Non-Putrescible) – Steel (if unable to be recycled) (tonnes)	Solar Farm infrastructure (steel posts, electrical cabling and security fencing)	29,090 tonnes of steel 10,909 tonnes of copper wiring	Goulburn Waste Management Centre.
General Solid Waste (Non-Putrescible) – Timber	Timber	0 m^3	N/A
General Solid (Putrescible) – Office and Lunch Rooms	Domestic Waste	120 m^3	Goulburn Waste Management Centre.

[6] The estimated decommissioning quantity of general solid waste (non-putrescible) mixed has been estimated using an estimate that each panel is approximately 28.9 kg.

[7] Recyclable quantities specified in the above table will be processed by GMC's recycling supplier at the time of decommissioning activities.

4.0 Waste Management

4.1 Waste Management Hierarchy of the WARR Act

Lightsource bp's Commitment to Sustainability (LSBP 2022) sets out a sustainability framework aligned to UN Sustainable Development Goals. The sustainability framework includes three key pillars: environment, energy and people. As part of the environmental pillar, Lightsource bp commit to improving circularity through waste management practices.

The WARR Act defines the waste and resource management hierarchy as the following precepts, listed in the preferred order in which waste and resource management operations should be considered for the Project:

- Avoid and reduction of waste (A).
- Re-use of waste (B).
- Recycling, processing or reprocessing waste (C).
- Recovery of energy (D).
- Disposal (E).

Lightsource bp will implement a waste hierarchy consistent with the WARR Act waste management hierarchy to manage the waste generated throughout the life of Project. A summary of the commitments made within this management plan and the responsibilities for the implementation of the waste management controls is included as **Appendix A**.

4.1.1 Avoidance and Reduction of Waste

Lightsource bp will endeavour to use products that generate minimal waste and avoid excess use through mistreatment or oversupply of products. Where possible, raw materials will be delivered in bulk form. Where bulk delivery is not feasible, consideration shall be given to the purchase of products based on minimalist packaging and use of biodegradable materials. Lightsource bp will consider the use of alternative products to reduce the generation of unnecessary waste wherever practicable. Lightsource bp will, wherever practicable, select manufacturers, distributors and installers of PV panels that are members of relevant product stewardship schemes.

4.1.2 Reuse of Waste

Consideration of the ability of materials to be reused will be given during the procurement process. For example, reusable and more durable materials that do not require as frequent replacement will be investigated. Lightsource bp will request that suppliers reuse packaging materials such as pallets, drums, and plastic and metal containers where practicable.

During the decommissioning phase of the Project, Lightsource bp will also endeavour to reuse the following materials[8]:

- Mounting system.
- Metals from posts, cabling, and fencing.
- Buildings and equipment such as the PCUs, transformers and similar components.

4.1.3 Recycling, Processing or Reprocessing Waste

Procurement of goods will also consider recycled alternatives such as recycled paper, batteries, timber products, printer cartridges etc. Lightsource bp will engage the services of licenced recycling contractors to recycle wastes such as waste oils, filters and batteries. Recyclable wastes will be separated and stored on-site prior to collection by licenced contractors.

Lightsource bp will engage the services of a licenced solar panel recycling contractor to manage the recycling of solar panels, through the life of the Project, if panels are damaged during construction or operations and in the decommissioning stage.

4.1.4 Recovery of Energy

If the option is available and feasible for the Project, waste timber from construction or decommissioning activities will be disposed of by a licenced waste contractor to a licenced facility where it can be utilised as an energy source or supplied to a licenced waste energy facility. This does not include any felled trees/ vegetation which will be re-used on site in accordance with the site Biodiversity Management Plan.

4.1.5 Disposal

Disposal is the least preferred option in the waste management hierarchy. This option will only be implemented by Lightsource bp when the waste management hierarchy options discussed in **Section 4.1.1** to **Section 4.1.4** have been exhausted and no other feasible alternatives are available. When required, the disposal will be carefully managed to minimise negative environmental consequences.

Off-site disposal options are described in **Section 4.5**.

4.2 Waste Streams and Management Strategies

Table 4.1 provides further detail on the waste streams likely to be produced during the construction, operation and decommissioning phases of the Project. Management Strategies for each waste stream have been developed in accordance with the Waste Management Hierarchy Principles of the WARR Act (refer to **Section 4.1**).

At this stage of the Project, the quantities of each waste stream listed in **Table 4.1** are only estimates for each phase of the Project. This WMP will be updated with the Project's approximate waste streams and quantities in further iterations of this WMP.

[8] If the items cannot be reused, they will be recycled. If the items cannot be reused or recycled, they will be disposed of in accordance with the applicable regulations and to the appropriately licensed waste facilities.

Table 4.1 Waste Streams Likely to be Produced by the Project

Waste Classification/ Waste Stream	Form (Solid/ Liquid/ Gas)	Source	Unit	Waste Generated (Y/N)			Management Strategies (Waste Management Hierarchy Level)[9]	Proposed Disposal Location
				Construction	Operations	Decommission		
Special Waste								
Nil								
Liquid Waste								
Sewage	Liquid	Construction and operation site offices	m^3	Y	Y	Y	Toilet facilities will be available for all onsite workers. During construction, temporary ablution blocks will be pumped out by a licenced contractor and transported to a sewage treatment plant for treatment and disposal (E). Once the Project is operational, toilet facilities will be connected to onsite septic tanks. Sewage from septic tanks will be pumped out by a licenced contractor and transported to a sewage treatment plant for treatment and disposal (E). The septic tanks will be installed and operated in accordance with Goulburn Mulwaree LGA requirements.	During construction, sewage will be periodically pumped out and transported off-site by a licenced contractor for treatment at a licenced facility. Once the Project is operational, sewage will be pumped out by a licenced contractor and transported to a sewage treatment plant for treatment and disposal.
Waste oil	Liquid	Project construction and maintenance workshop areas	L	Y	Y	Y	Collected and stored onsite then transported by a licenced regulated waste contractor to a regulated waste facility for recycling (C).	Waste oils and empty waste oil containers will be disposed of at a licenced regulated waste facility for recycling.

[9] Waste Management Hierarchy as defined in Section 3 of the WARR Act: (B) Re-use of waste. (C) Recycling, processing or reprocessing waste. (D) Recovery of energy (E) Disposal. The measures identified above will be implemented only once (A) Avoid waste and reduction waste measures have been exhausted.

Waste Classification/ Waste Stream	Form (Solid/ Liquid/ Gas)	Source	Unit	Waste Generated (Y/N)			Management Strategies (Waste Management Hierarchy Level)[9]	Proposed Disposal Location
				Construction	Operations	Decommission		
Paints (e.g. general paint and air dried insulating varnish)	Liquid	Project construction and maintenance workshop areas	L	Y	Y	N	Transported to a designated sealed and bunded storage area onsite for collection by a licenced regulated waste contractor and transported to a licenced regulated waste facility for treatment and disposal (E).	Paint waste will be disposed of at a licenced regulated waste facility for treatment and disposal.
Hazardous Waste								
Chemical Waste (e.g., onsite chemicals required for Project maintenance and operation)	Solid/Liquid/ Gas	Project construction and maintenance workshop areas	L	Y	Y	Y	Transported to a designated sealed and bunded storage area for collection by a licenced regulated waste contractor and transported to a licenced regulated waste receiver for treatment and disposal (E).	Miscellaneous chemicals will be disposed off-site by a licenced regulated waste contractor to a licenced waste facility.
Batteries (e.g., lead-acid or nickel-cadmium batteries)	Solid	Operation of portable electrical equipment (radios, phones, etc.) within the Project construction and maintenance workshop areas	each	Y	Y	Y	Segregation and storage within dedicated containers in a battery storage area for collection by a licenced regulated waste transport contractor to a licenced regulated waste facility for recycling (C) or disposal (E).	Batteries will be transported off-site by a licenced regulated waste contractor to a licenced waste facility for recycling or disposal.
Green Waste								
Nil								
Restricted Solid Waste								
Nil								

Waste Classification/ Waste Stream	Form (Solid/ Liquid/ Gas)	Source	Unit	Waste Generated (Y/N)			Management Strategies (Waste Management Hierarchy Level)[9]	Proposed Disposal Location
				Construction	Operations	Decommission		
General Solid Waste (Putrescible)								
Food waste and waste from litter bins that contain putrescible organic material	Solid	Kitchens Lunch rooms Office space Workshop areas	m^3	Y	Y	Y	Stored on site in general waste bins for regular transport off-site by a licenced waste contractor to a licenced waste facility (E).	General solid putrescible waste will be transported off-site by a licenced waste contractor to a licenced waste facility.
General Solid Waste (Non-Putrescible)								
Mixed	Solid	Maintenance workshops and plant maintenance activities	m^3	Y	Y	Y	Smaller metal items will be placed in scrap metal skips for collection by a licenced contractor. Larger metal items will be left in an accessible location where specific collection arrangements can be made. As far as practicable, all grease and oils are to be removed from metal items prior to placement in skips. A licenced contractor will remove all scrap metals for segregation at a licenced recycling facility (C). Where materials are at the end of their life, they will be collected by a licenced waste contractor and transported to a licenced waste facility for recycling (C) or disposal (E).	Recyclable waste will be transported off-site by a licenced recycling waste contractor to a licenced recycling waste facility. General solid non-putrescible waste will be transported off-site by a licenced waste contractor to a licenced waste facility.

Waste Classification/ Waste Stream	Form (Solid/ Liquid/ Gas)	Source	Unit	Waste Generated (Y/N)			Management Strategies (Waste Management Hierarchy Level)[9]	Proposed Disposal Location
				Construction	Operations	Decommission		
							Where items are contaminated with hydrocarbons or other prescribed chemicals, they will be classified in accordance with the EPA's WC Guideline, treated as required and disposed of at an appropriate licenced waste facility (E).	
Virgin excavated material (e.g., clay, gravel, sand, soil, or rock fines that have been excavated from areas that are not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial, mining or agricultural activities)	Solid	Construction excavation works required for Project infrastructure	m^3	Y	N	N	Virgin excavated material waste will be stockpiled within a designated area onsite and managed in accordance with the Project's Soil and Water Management Plan during all phases of the Project. If the condition of the excavated material is acceptable it will be reused directly on site (B). If the excavated material is contaminated with hydrocarbons and or chemicals, it will be classified in accordance with the EPA's WC Guideline, treated as required, and disposed of as regulated waste at an appropriate licenced waste facility (E).	If off-site disposal is required to the presence of contaminants, the excavated waste will be transported by a licenced waste contractor to a licenced waste facility.
Office	Solid	Office	m^3	Y	Y	Y	Where materials are at the end of their life, they will be collected by a licenced waste contractor and transported to a licenced waste facility for recycling (C) or disposal (E).	If off-site disposal is required, office waste will be disposed of by a licenced contractor to a licenced waste facility for recycling or disposal.

Waste Classification/ Waste Stream	Form (Solid/ Liquid/ Gas)	Source	Unit	Waste Generated (Y/N)			Management Strategies (Waste Management Hierarchy Level)[9]	Proposed Disposal Location
				Construction	Operations	Decommission		
							Where items are contaminated with hydrocarbons or other prescribed chemicals, they will be classified in accordance with the EPA's WC Guideline, treated as required and disposed of at an appropriate licenced waste facility (E).	
Cardboard	Solid	Construction and Operation phase of Project	m^3	Y	Y	N	Stored on site in recycling bins for regular transport off-site by a licenced waste contractor for recycling (C). Where items are contaminated with hydrocarbons or other prescribed chemicals, they will be classified in accordance with the EPA's WC Guideline, treated as required and disposed of at an appropriate licenced waste facility (E).	If off-site disposal is required, cardboard waste will be disposed of by a licenced contractor to a licenced waste facility for recycling or disposal.
Steel (steel and copper wiring)	Solid	Construction, Operation and Decommission phase of the Project	m^3	Y	Y	Y	Stored on site in recycling bins for regular transport off-site by a licenced waste contractor for recycling (C). Where materials are at the end of their life, they will be collected by a licenced waste contractor and transported to a licenced waste facility for recycling (C) or disposal (E).	If off-site disposal is required, steel waste will be disposed of by a licenced contractor to a licenced waste facility for recycling or disposal.

Waste Classification/ Waste Stream	Form (Solid/ Liquid/ Gas)	Source	Unit	Waste Generated (Y/N)			Management Strategies (Waste Management Hierarchy Level)[9]	Proposed Disposal Location
				Construction	Operations	Decommission		
							Where items are contaminated with hydrocarbons or other prescribed chemicals, they will be classified in accordance with the EPA's WC Guideline, treated as required and disposed of at an appropriate licenced waste facility (E).	
Timber	Solid	Delivery of materials Construction site Maintenance workshops and plant maintenance activities	m^3	Y	Y	N	Where materials are at the end of their life, they will be collected by a licenced waste contractor and transported to a licenced waste facility for recycling (C) or disposal (E). If the option is available and feasible for the Project, waste timber will be collected by a licenced waste contractor and transported to a licenced facility where it can be converted into energy (D).	Wood waste will be disposed of by a licenced contractor to a licenced waste facility for recycling or disposal. If the option is available and feasible for the Project, wood waste will be disposed of by a licenced waste contractor to a licenced facility where it can be utilised as an energy source.
Batteries (lithium ion)[10]	Solid	Energy Storage Facility[11]	each	N	Y	Y	Segregation and storage within dedicated containers in a battery storage area for collection by a licenced waste contractor to a licenced waste facility for recycling (C) or disposal (E).	Batteries will be disposed off-site by a licenced waste contractor to a licenced waste facility with demonstrated safe battery storage and

[10] Gundary Solar Farm will utilise the special provisions, packaging and labelling instructions of the Australian Dangerous Goods Code (Commonwealth of Australia, 2020) when the transport of lithium-ion batteries for recycling and disposal is required.

[11] The energy storage facility would be accompanied by Material Safety Data Sheets (MSDS) which detail the exact chemical composition and disposal/recycling requirements of facility components.

Waste Classification/ Waste Stream	Form (Solid/ Liquid/ Gas)	Source	Unit	Waste Generated (Y/N)			Management Strategies (Waste Management Hierarchy Level)[9]	Proposed Disposal Location
				Construction	Operations	Decommission		
							Waste batteries are to be stored: • with a statement of charge as low as possible (at least <25%) • where they are not subject to temperatures in excess of 60°C where the risk of thermal runaway starts (becomes critical at 100°C) • in storage that adequately protects batteries from mechanical damage (which could lead to internal short circuit and thermal runaway).	handling procedures for recycling or disposal.

4.3 Trackable Waste

Waste tracking for the Project will be undertaken in accordance with Part 4 of the POEOW Regulation. Lightsource bp will create and maintain an internal waste management register to track all non-hazardous waste that leaves the Project site. Lightsource bp will use the NSW EPA's online waste tracking system to track any of the Project's hazardous wastes that are mentioned in Schedule 1 of the POEOW Regulation. The NSW EPA's online waste tracking system will allow Lightsource bp to track hazardous wastes from the Project site through to the recycling/treatment/disposal location.

At this stage of the Project, it is expected that Lightsource bp will use the NSW EPA's online waste tracking system to track the following hazardous waste streams during the operational and decommissioning phases of the Project:

- Chemical Waste.
- Batteries (including lithium-ion batteries).

It is noted that lithium-ion batteries are regulated as a trackable waste by state governments due to their chemical properties and hazardous characteristics unless otherwise demonstrated by the waste consignor.

If transporting loads of waste lithium-ion batteries larger than 250 kg, the Project will follow relevant dangerous goods controls that apply under dangerous goods legislation such as the Australian Code for the Transport of Dangerous Goods by Rail and Road.

4.4 Collection and Storage

Designated waste collection areas will be incorporated into the Project's infrastructure areas. Waste produced at the Project will be collected and transported to designated Project areas where waste will be segregated into its correct waste classification in accordance with the EPA's WC Guideline (2014). The following will be stored at the designated waste collection areas:

- general solid waste (putrescible) (e.g. food waste and waste that contains putrescible organic material) will be collected in general waste bins
- general solid waste (non-putrescible) will be separated by waste stream and will then be stored in bunded areas or on bunded pallets
- hazardous and liquid waste (not including sewage) will be separated and stored in appropriate facilities (e.g. liquid wastes in bunds) for collection
- special waste (e.g. tyres) will be stored in a designated collection area with no grass or other flammable material within a 10 m radius.

Different forms of waste (i.e. chemicals , oils, batteries, etc.) will be stored on-site according to waste classification, taking into consideration health, hygiene and safety standards (e.g. segregation of non-compatible materials). For example, flammable or combustible liquid wastes will be stored at an on-site facility that is designed to meet the requirements of Australian Standard 1940:2004 *The Storage and Handling of Flammable and Combustible Liquids.*

Bins located within offices and workshops will be appropriately labelled to avoid cross-contamination and ensure separation of different waste streams. Bins will be emptied regularly into the relevant skip to keep vermin and pest numbers to a minimum.

The chemicals required for the operational phase of the Project will be stored in appropriately designed storages that comply with relevant Australian Standards and/or local, state or federal requirements.

Hazardous waste will be stored in a separate storage area to ensure that all hazardous waste is managed to prevent environmental harm.

4.5 Off Site Disposal

Lightsource bp will not receive or dispose of any waste at the Project site and as soon as practicable, Lightsource bp will remove all waste from the Project site. Lightsource bp consulted GMC regarding waste disposal options (refer to **Appendix B**). Waste from the Project will be transported and disposed of at the Goulburn Waste Management Centre, located at 100 Sinclair St, Goulburn NSW 2580 or at relevant licenced facilities as outlined in **Section 3.3**.

If an agreement regarding the disposal of waste from the Project cannot be reached between Lightsource bp and the GMC, Lightsource bp will find an alternate waste services provider that is appropriately licenced and suitable for the Project's waste disposal needs.

To manage the Project's lithium-ion battery waste, Lightsource bp will consult with the lithium-ion battery recycling facilities mentioned in **Table 4.2**. The majority of the lithium-ion battery waste for the Project will be produced during the decommissioning phase of the Project. Up to a year prior to the decommissioning of the Project, Lightsource bp will research the available lithium-ion battery waste disposal facilities in Australia to ensure that the Project is using the most current, suitable and appropriately licenced facility for the Project's lithium-ion battery waste disposal needs.

Table 4.2 Lithium-ion Battery Recycling Facilities in Australia (CSIRO 2021)

Company	Location	Capability
Envirostream Australia	VIC	Envirostream Australia collect waste lithium-ion batteries, discharge, disassemble, granulate to produce black mass then export the black mass to Korea for metal separation.
Neometals	WA	Neometals has been running a lithium refinery in Australia for many years. In the recent years, Neometals shifted its business away from lithium refining to lithium-ion battery recycling focusing on the European market where a significant volume of spent lithium-ion batteries requiring recycling will be sourced. Neometals has developed lithium-ion battery recycling process technology in collaboration with one of the largest German Engineering companies 'SMS Group'.
Lithium Australia	WA	Lithium Australia's battery recycling covers WA, QLD and VIC. Its battery recycling business includes collection, sorting, crushing, separating crushed battery materials and battery metal separation.
MRI eCycle	NSW, VIC, QLD, ACT	MRI eCycle recycle lead acid batteries as well as lithium batteries. Their process disassembles batteries from e-waste for recycling. They offer free collection and shipping including provision of "battery buckets" for residential and commercial consumers and also provision of e-waste bins for commercial waste collection.

4.6 Waste Haulage

In accordance with Clause 70 of the POEOW Regulation, all waste for the Project will:

- Be transported in a manner that avoids the waste spilling, leaking or otherwise escaping from any motor vehicle or trailer used to transport the waste.
- Be covered during transportation unless the waste consists solely of waste tyres or scrap metal.
- Be transported in motor vehicles and or trailers that are constructed and maintained so as to avoid the waste spilling, leaking or otherwise escaping from the motor vehicle or trailer.

5.0 Monitoring, Reporting and Improvement

The waste streams, quantities produced and implemented management practices will be recorded by Lightsource bp over the life of the Project. The following monitoring and reporting regarding waste generation and management will be undertaken:

- Monthly monitoring and recording of the quantities of waste being produced by the Project during the construction and decommissioning phases (**Table 4.1**).
- Quarterly monitoring and recording of the quantities of waste being produced by the Project during the operational phase (**Table 4.1**).
- Monitoring and recording of the quantities of waste transported off-site.
- Monthly compliance inspections of on-site waste storage facilities/areas and reporting of non-compliances.
- Annual audits of waste services contractors during construction and operations to ensure transportation and disposal of waste is being undertaken in accordance with legislative requirements.
- Employees will be required to notify employers immediately after the employee becomes aware of an incident that has the potential to threaten or cause material harm to the environment. This notification will be delivered verbally or in writing in accordance with Part 5.7 of the POEO Act. After becoming aware of an incident, Lightsource bp will notify the EPA of the incident via the EPA Environment Line on 131 555. The notification will identify:
    - The time, date, nature, duration and location of the incident.
    - The location of the place where pollution is occurring or is likely to occur.
    - The nature, the estimated quantity and the concentration of any pollutants involved, if known.
    - The circumstances in which the incident occurred (including the cause of the incident, if known).
    - The action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known.

Lightsource bp will utilise the monitoring data collected to assist in identifying potential improvements to waste management practices and seek to establish waste reduction targets where practical.

This WMP will be updated as required to ensure currency with the waste streams being generated by the Project and contemporary Project waste management strategies.

6.0 References

Australian Standard 1940:2004 *The Storage and Handling of Flammable and Combustible Liquids.*

CSIRO (2021) *Australian landscape for lithium-ion battery recycling and reuse in 2020.*

New South Wales Department of Planning and Environment (2022) *Large-Scale Solar Energy Guidelines 2022.*

New South Wales Environment Protection Authority (2012) *Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial facilities.*

New South Wales Environment Protection Authority (2014) *Waste Classification Guidelines Part 1: Classifying Waste.*

New South Wales Government (1997) *Protection of the Environment Operation Act 1997.*

New South Wales Government (2001) *Waste Avoidance and Resource Recovery Act 2001.*

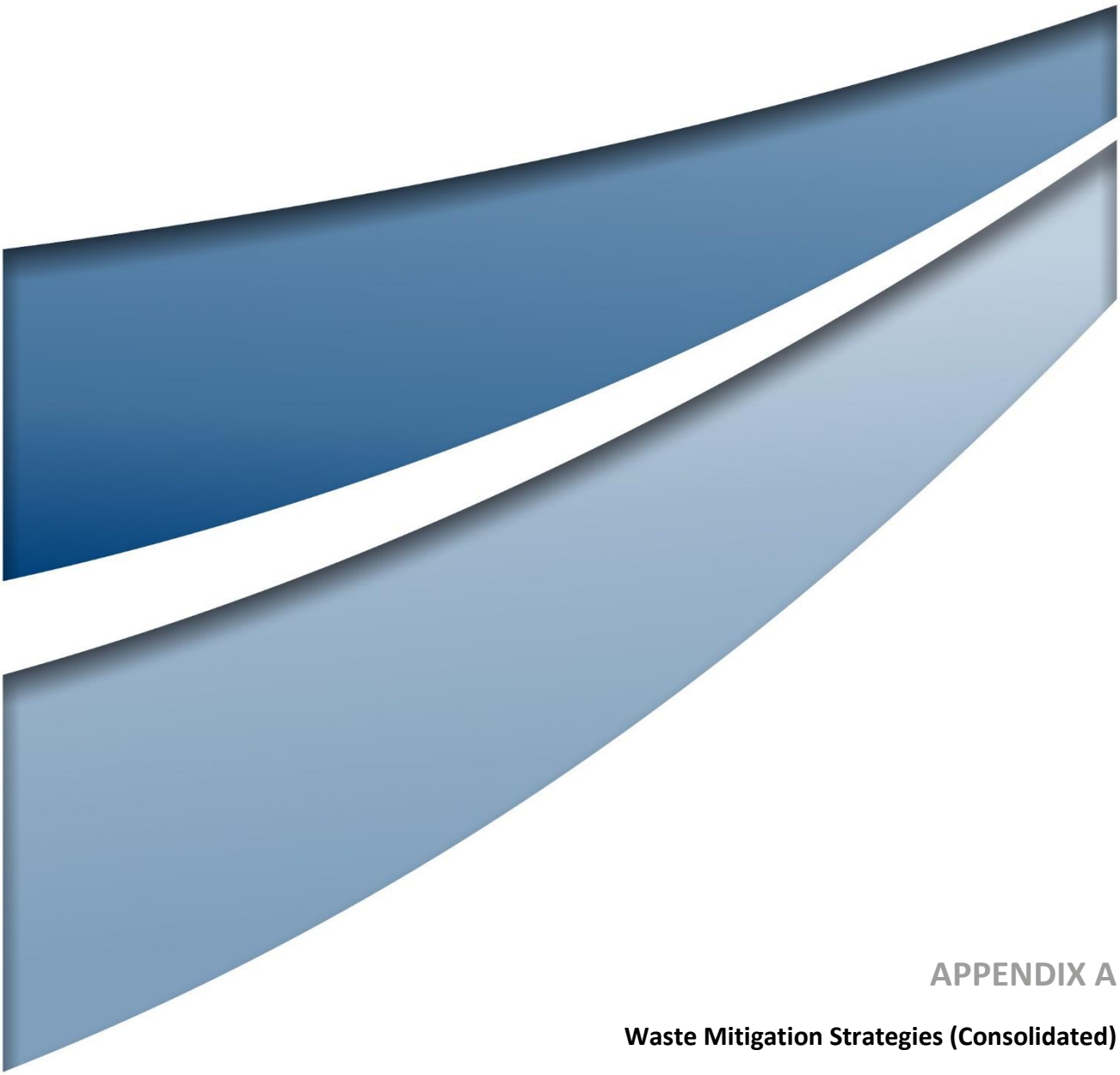
New South Wales Government (2008) *(Road and Rail Transport) Act 2008.*

New South Wales Government (2011) *Work Health and Safety Act 2011.*

New South Wales Government (2014) *Protection of the Environment Operations (Waste) Regulation 2014.*

Umwelt (2022) Lightsource bp: *Gundary Solar Farm Scoping Report 2022.*

Lightsource bp (2022) *Our Commitment to Sustainability November 2022.*



APPENDIX A

Waste Mitigation Strategies (Consolidated)

Table A.1 describes the waste mitigation and management measures for the development. From left to right, the columns of **Table A.1** describe:

- The 'Source': where the waste mitigation and/or management measure has been recommended for the development.
- The 'ID': a unique identifier for each mitigation strategy identified in this WMP.
- The 'Aspect': a high-level summary of what waste matter is being mitigated.
- The 'Mitigation / Management Measure': the actions that will be undertaken to reduce the waste impacts of the development, including a summary of any proposed techniques that will be used to implement the waste mitigation and/or management measures.
- The 'Development Phase': identifies what part of the development phase the waste mitigation and/or management measure will apply. A waste mitigation and/or management measure can apply to multiple development phases.
- The 'Responsible Party': identifies which group is responsible for implementing the applicable waste mitigation and/or management measure. The 'Personnel Responsible' column identifies the individual from the 'Responsible Party' who is to implement the waste mitigation and/or management measure. Numbers 1-4 have been used to represent which individual is responsible, as follows:

    1. LSbp Development Principal.
    2. Engineer, Procurement & Construction (EPC) Site Manager.
    3. EPC Health, Safety and Environment (HSE) Coordinator.
    1. Operations and Maintenance Contractor
    2. All Employees and Contractors.

- Note: for some mitigation measures, there is more than one 'Responsible Party' and 'Personnel Responsible'.
- The 'Timing/Frequency': describes when a waste mitigation and/or management measure is to be implemented.
- The 'Implementation Action': describes the procedures that show how the proposed techniques for the waste mitigation and/or management measures are practically being done within the development area.
- The 'Compliance Record': identifies the record that will be used to maintain compliance with the applicable waste mitigation and/or management measure.

Table A.1 Waste Mitigation Strategies for the Project

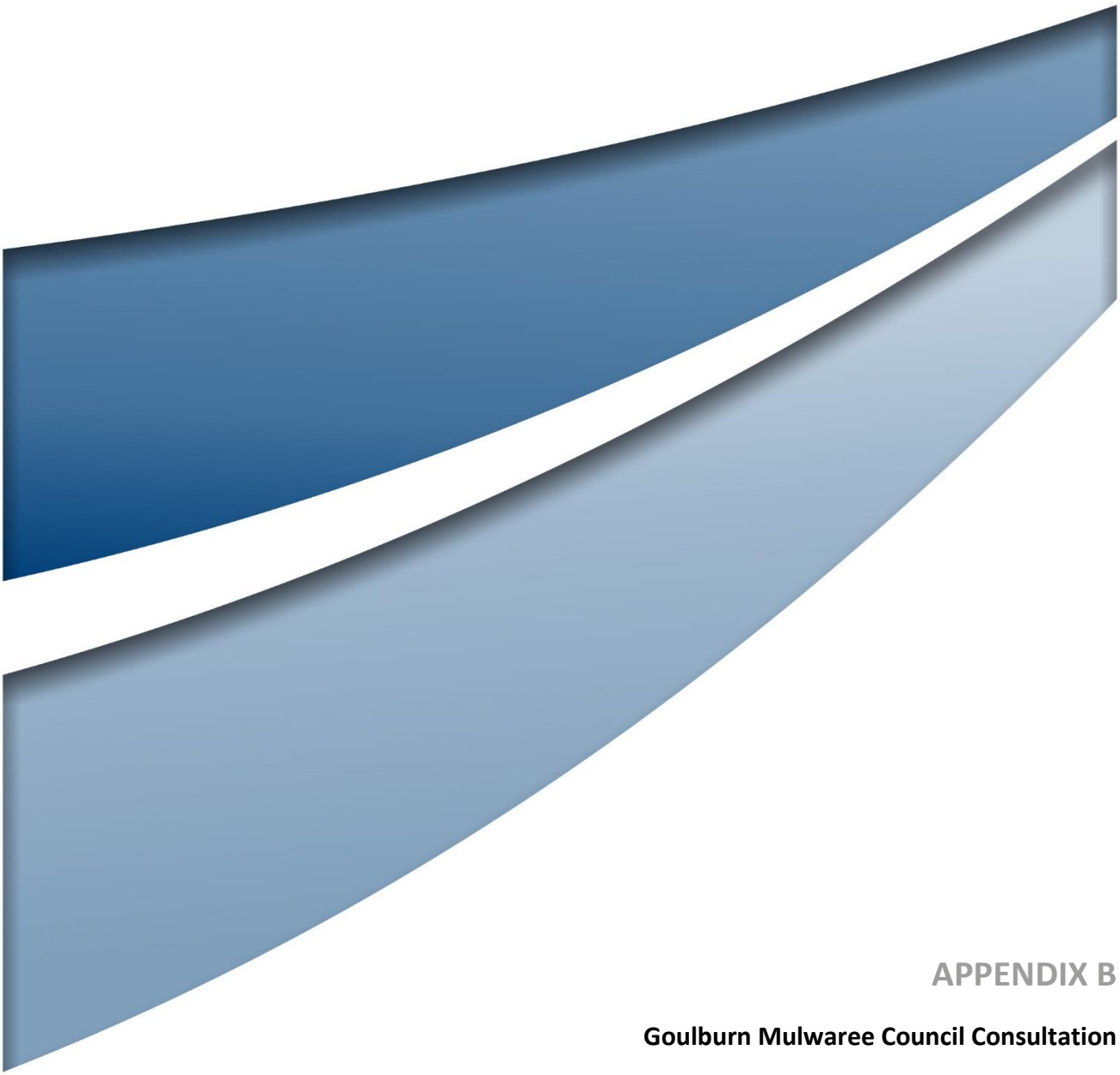
Source	ID	Mitigation Strategy	Development Phase			Responsible Party				Timing/Frequency	Implementation Action	Compliance Record
			Construction	Operations and Maintenance	Decommissioning	Principle (LSbp)	EPC Contractor	Operations and Maintenance Contractor	Personnel Responsible [1, 2, 3, 4, 5]			
Waste Management (General)												
SEARS (Application Number SSD-48225958	WMP 01	Identify, quantify and classify the likely waste streams to be generated throughout all stages of the project, and describe the measures to be implemented to reduce waste generation, manage, reuse, recycle and safely dispose of this waste.	✓	✓	✓	✓			1,2,3	Prior to Construction	This WMP	This WMP
SEARS (Application Number SSD-48225958	WMP 02	Provide a Waste Management Plan prepared in accordance with the Solar Guideline.	✓	✓	✓	✓			1	Prior to Construction	This WMP	This WMP
Waste Management (Resourcing)												
This Plan	WMP 03	Lightsource bp will endeavour to use products that generate minimal waste and avoid excess use through mistreatment or oversupply of products. Where possible, raw materials will be delivered in bulk form. Where bulk delivery is not feasible, consideration shall be given to the purchase of products based on minimalist packaging and use of biodegradable materials.	✓	✓	✓	✓	✓	✓	1,2,3, 4 & 5	All phases of the Project	**Section 4.1.1** of this WMP	Stocktake Inventory / Procurement Processes

Source	ID	Mitigation Strategy	Development Phase			Responsible Party				Timing/Frequency	Implementation Action	Compliance Record
			Construction	Operations and Maintenance	Decommissioning	Principle (LSbp)	EPC Contractor	Operations and Maintenance Contractor	Personnel Responsible [1, 2, 3, 4, 5]			
This Plan	WMP 04	Consideration of the ability of materials to be reused will be given during the procurement process. For example, reusable and more durable materials that do not require as frequent replacement will be investigated. Lightsource bp will request that suppliers reuse packaging materials such as pallets, drums, and plastic and metal containers where practicable.	✓	✓	✓	✓	✓	✓	1,2,3 & 4	All phases of the Project	**Section 4.1.2** of this WMP	Stocktake Inventory / Procurement Processes
Waste Management (Reuse)												
This Plan	WMP 05	During the decommissioning phase of the Project, Lightsource bp will also endeavour to reuse the following materials: • Mounting system. • Metals from posts, cabling, and fencing. • Buildings and equipment such as the PCUs, transformers and similar components.			✓	✓			1 & 5	Decommissioning Phase	**Section 4.1.2** of this WMP	Inventory List

Source	ID	Mitigation Strategy	Development Phase			Responsible Party				Timing/Frequency	Implementation Action	Compliance Record
			Construction	Operations and Maintenance	Decommissioning	Principle (LSbp)	EPC Contractor	Operations and Maintenance Contractor	Personnel Responsible [1, 2, 3, 4, 5]			
Waste Management (Recycling)												
This Plan	WMP 06	Procurement of goods will also consider recycled alternatives such as recycled paper, batteries, timber products, printer cartridges etc. Lightsource bp will engage the services of licenced recycling contractors to recycle wastes such as waste oils, filters and batteries. Recyclable wastes will be separated and stored on-site prior to collection by licensed contractors.	✓	✓	✓	✓	✓	✓	1, 2, 3, 4 & 5	All phases of the Project	**Section 4.1.3** of this WMP	Lightsource bp's Commitment to Sustainability (LSBP 2022) (or latest version)
Waste Management (Monitoring)												
This Plan	WMP 07	Monthly monitoring and recording of the quantities of waste being produced by the Project during the construction and decommissioning phases.	✓	✓	✓		✓	✓	2	Construction and Decommissioning phases	**Section 5.0** of this WMP	Waste Receipts and Waste Register
This Plan	WMP 08	Quarterly monitoring and recording of the quantities of waste being produced by the Project during the operational phase.		✓				✓	4	Operations Phase	**Section 5.0** of this WMP	Waste Receipts and Waste Register
This Plan	WMP 09	Monitoring and recording of the quantities of waste transported off-site.	✓	✓	✓		✓	✓	3 & 4	As Required	**Section 5.0** of this WMP	Waste Receipts and Waste Register

Source	ID	Mitigation Strategy	Development Phase			Responsible Party				Timing/Frequency	Implementation Action	Compliance Record
			Construction	Operations and Maintenance	Decommissioning	Principle (LSbp)	EPC Contractor	Operations and Maintenance Contractor	Personnel Responsible [1, 2, 3, 4, 5]			
Waste Management (Compliance)												
This Plan	WMP 10	Monthly compliance inspections of on-site waste storage facilities/areas and reporting of non-compliances.	✓	✓	✓		✓	✓	3 & 4	Construction, Operation and Decommissioning Phases	**Section 5.0** of this WMP	Environmental Inspections
This Plan	WMP 11	Annual audits of waste services contractors during construction and operations to ensure transportation and disposal of waste is being undertaken in accordance with legislative requirements.	✓	✓			✓	✓	3 & 4	Construction and Operation Phases	**Section 5.0** of this WMP	Procurement Processes
	WMP 12	Employees will be required to notify employers immediately after the employee becomes aware of an incident that has the potential to threaten or cause material harm to the environment. This notification will be delivered verbally or in writing in accordance with Part 5.7 of the POEO Act. After becoming aware of an incident, Lightsource bp will notify the EPA of the incident via the EPA Environment Line on 131 555. The notification will identify: • the time, date, nature, duration and location of the incident • the location of the place where pollution is occurring or is likely to occur	✓	✓	✓	✓	✓	✓	1,2,4,5	Construction, Operation and Decommissioning Phases	**Section 5.0** of this WMP	Incident Register

Source	ID	Mitigation Strategy	Development Phase			Responsible Party				Timing/Frequency	Implementation Action	Compliance Record
			Construction	Operations and Maintenance	Decommissioning	Principle (LSbp)	EPC Contractor	Operations and Maintenance Contractor	Personnel Responsible [1, 2, 3, 4, 5]			
		• the nature, the estimated quantity and the concentration of any pollutants involved, if known • the circumstances in which the incident occurred (including the cause of the incident, if known) • the action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known.										



APPENDIX B

Goulburn Mulwaree Council Consultation

From: [redacted]
To: Marion O'Neil
Cc: [redacted]
Subject: RE: 22223 - Gundary Solar Farm Estimated Waste Volumes - Goulburn Mulwaree Council Waste Facilities
Date: Wednesday, 13 March 2024 2:39:12 PM
Attachments: facebook_32x32_8478b8e0-7410-4da9-9e10-03d4022986f3.png
have_your_say_sig-01_0156f652-d87d-4b2c-a40f-5104a9d04ffd.png

Hi Marion
I have added a column identifying what waste can be disposed of and where.
Endeavour industries handle all Council recycling and they would accommodate the quantity suggested in your attached figures. Probably would need to contact Endeavour Industries prior to make suitable delivery times.

Waste Classification	Expected Waste Type	Disposal Location	Construction Phase (24 months) Estimated Quantity (m^3)	Operations Phase (30 years) Estimated Quantity (m^3 per annum)
General Solid Waste (Non-Putrescible) – Mixed	Plastic packaging, other plastics (PET), glass, empty chemical drums, oil spill clean-up material, electronics and electrical infrastructure, recyclable and PPE.	Yellow: Endeavour industries Recycling Goulburn (by prior arrangement) Green: Goulburn Waste Management Centre	390	1
General Solid Waste (Non-Putrescible) -Office	Recyclable waste (e.g. paper, glass, steel and aluminium cans)	Endeavour Industries Recycling Goulburn (by prior arrangement)	5	2.5
General Solid Waste (Non-Putrescible) – Cardboard	Cardboard packaging.	Endeavour Industries Recycling Goulburn (by prior arrangement)	3	0.3
General Solid Waste (Non-Putrescible) – Steel	Metal offcuts and damaged metal (ferrous and non-ferrous).	Goulburn Waste Management Centre	90	0.2
General Solid Waste (Non-Putrescible) – Timber	Timber and packaging (including pallets)	Goulburn Waste Management Centre Or Divall's Goulburn	45	0.2
General Solid (Putrescible) – Office and Lunchrooms	Domestic Waste	Green: Goulburn Waste Management Centre	120	1

Furthermore, we understand that Goulburn Waste Management Centre is undergoing construction to include a Community Recycling Centre (CRC) that is anticipated to accept

Waste Classification	Expected Waste Type	Construction Phase (24 months) Estimated Quantity (L)	Operations Phase Estimated Quantity (Litres per annum)
Hazardous Waste	Waste oils, lubricants, liquids and paints	2000 L	1000 L p.a.

The CRC will only accept household quantities of oils etc.

Commercial quantities of waste oil could be disposed of with a contractor, If yu do a google search there will be a number f options. Council is currently sourcing a supplier so we ae unable to provide a list of suppliers.
Paint should be taken to the ACT Paint Buy back centre. Something that is not offered here in Goulburn presently for commercial enterprises.

Please contact me if you require further information or assistance.
Regards
[redacted]

[redacted]

Goulburn Mulwaree Council acknowledge the traditional custodians of the land where the Goulburn Mulwaree Local Government operates today and pay our respects to Elders past, present and emerging.

From: Marion O'Neil <moneil@umwelt.com.au>
Sent: Thursday, March 7, 2024 12:37 PM
To: [redacted]
Cc: [redacted]
Subject: 22223 - Gundary Solar Farm Estimated Waste Volumes - Goulburn Mulwaree Council Waste Facilities

Good day [redacted]

Im reaching out to you to on behalf of Lightsource bp, who is the proponent for the proposed Gundary Solar Farm located approximately 10 km southeast of Goulburn.

More information on the project is available in the Scoping Report, at the following link – https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-48225958%2120221031T233213.337%20GMT

Umwelt has been engaged by Lightsource bp to manage the development approval process and prepare the EIS for the Project.

In line with the NSW Large-scale Solar Energy Guideline 2022, we are seeking input from Council on whether the estimated waste classification and volumes as outlined in Table 1 can be accepted at one or more of the following facilities:

- Goulburn Waste Management Centre (approximately 15 km north of the Project).
- Marulan Waste Management Centre (approximately 30 km northeast of the Project).
- Tarago Waste Transfer Station (approximately 55 km south of the Project).

Table 1 - Estimated Construction and Operations Waste Streams and Volumes

Waste Classification	Expected Waste Type	Construction Phase (24 months) Estimated Quantity (m^3)	Operations Phase (30 years) Estimated Quantity (m^3 per annum)
General Solid Waste (Non-Putrescible) - Mixed	Plastic packaging, other plastics (PET), glass, empty chemical drums, oil spill clean-up material, electronics and electrical infrastructure, recyclable and PPE.	390	1
General Solid Waste (Non-Putrescible) -Office	Recyclable waste (e.g. paper, glass, steel and aluminium cans)	5	2.5
General Solid Waste (Non-Putrescible) – Cardboard	Cardboard packaging.	3	0.3
General Solid Waste (Non-Putrescible) – Steel	Metal offcuts and damaged metal (ferrous and non-ferrous).	90	0.2
General Solid Waste (Non-Putrescible) – Timber	Timber and packaging (including pallets)	45	0.2
General Solid (Putrescible) – Office and Lunchrooms	Domestic Waste	120	1

Furthermore, we understand that Goulburn Waste Management Centre is undergoing construction to include a Community Recycling Centre (CRC) that is anticipated to accept hazardous and liquid waste. Could you please advise whether the CRC would be able to accept the estimated hazardous waste volumes identified in Table 2 below?

Table 2 - Estimated Construction and Operations Hazardous Waste Volumes

Waste Classification	Expected Waste Type	Construction Phase (24 months) Estimated Quantity (L)	Operations Phase Estimated Quantity (Litres per annum)
Hazardous Waste	Waste oils, lubricants, liquids and paints	2000 L	1000 L p.a.

If you require any further information regarding the above, please do not hesitate to contact me directly.

Regards,

Marion O'Neil
Senior Environmental Scientist

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m. **0417 595 928**
w. **www.umwelt.com.au**

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