



Waste Management Plan

Albion Park

Shellharbour City Council

Prepared by:

SLR Consulting Australia

SLR Project No.: 660.V30219.000000

20 February 2024

Revision: 1.0

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
660.30219.0000	20 February 2024	Drew Williams	Rob Dwyer	Rob Dwyer



Table of Contents

1.0 Introduction	1
1.1 Objective	1
1.2 Review of the Waste Management Plan	1
2.0 Development Description	2
2.1 Overview of the Proposed Development	2
2.1.1 Objectives of the proposed development.....	2
2.2 Activity Location	3
2.3 Activity - Construction and Operation	3
3.0 Better Practice Waste Management and Recycling	6
3.1 Waste Management Hierarchy	6
3.2 Benefits of Adopting Better Practice	6
4.0 Waste Legislation and Guidance.....	8
4.1 Secretary's Environmental Assessment Requirements (SEARs).....	8
4.2 Shellharbour Development Control Plan 2013.....	8
4.2.1 Potentially Contaminated Land.....	8
4.2.2 Objectives	9
4.3 Illawarra Shoalhaven Regional Plan 2041	9
4.4 Other Legislation and Guidance	10
5.0 Site Preparation and Construction Waste	11
5.1 Construction	11
5.2 Waste Stream and Classifications	11
5.2.1 Waste Quantities	13
5.3 Waste Avoidance	14
5.4 Re-Use, Recycling and Disposal	14
5.5 Waste Segregation, Storage and Servicing	15
5.5.1 Waste Segregation and Storage.....	15
5.5.2 Waste Storage Areas	15
5.5.3 Waste Servicing and Record Keeping	16
5.5.4 Waste Servicing and Transport	16
5.6 Contaminated and Hazardous Waste	16
5.7 Signage.....	17
5.8 Site Inductions.....	17
5.9 Monitoring and Reporting	18
5.10 Mitigation Measures	18



5.11 Roles and Responsibilities 19

6.0 Operational Waste Management21

6.1 Estimated Quantities of Operational Waste21

Tables in Text

Table 1: SEARs Requirements and Where Addressed..... 8

Table 2: Legislation and Guidance 10

Table 3: Potential Waste Types and Their Management Methods..... 12

Table 4: Mitigation and Management Measures 18

Table 5: Suggested Roles and Responsibilities 19

Figures in Text

Figure 1 Regional Context 4

Figure 2 Activity Area..... 5

Figure 3: Waste Management Hierarchy..... 6

Figure 4: Examples of NSW EPA Labels for Waste and Skip Bins..... 17



1.0 Introduction

SLR Consulting Australia Pty Ltd (SLR) has been commissioned by Shellharbour City Council to prepare a Waste Management Plan (WMP) for Tripoli Way Extension at Albion Park. This WMP provides a high-level overview of the likely waste that will be generated during construction and operation of the site. This WMP has been developed in accordance with the SEARs requirements, relevant legislation and as well as best practice principles for waste management.

1.1 Objective

The principal objective of this Waste Management Plan (WMP) is to provide a high-level overview and identify all potential wastes likely to be generated at the Development site during the site construction and operational phases, including a description of how waste should be handled, processed, and disposed of, or re-used, in accordance with relevant legislation and guidance as outlined in **Section 4.0**.

The objectives of this Waste Management Plan are to:

- Identify, quantify, and classify the likely waste to be generated during construction and operation.
- Describe measures to be implemented to minimise, reuse, recycle and safely dispose of this waste.

1.2 Review of the Waste Management Plan

This WMP is not a static document. It is a working document that requires review and updating to ensure ongoing suitability for the proposed on-going operations at the site.

This WMP will be reviewed and updated:

- To remain consistent with waste and landfill regulations and guidelines.
- If changes are made to site waste and recycling management.
- To take advantage of new technologies, innovations and methodologies for waste or recycling management.



2.0 Development Description

2.1 Overview of the Proposed Development

Shellharbour City Council (Council) propose to develop the Tripoli Way Extension (TWE) at Albion Park, which would traverse and extend Tripoli Way and The Expressway running north parallel to the north of Tongarra Road/Illawarra Highway (the Activity) /. Construction and operation of the Activity encompasses the full length of the existing Tripoli Way, connecting with Tongarra Road/Illawarra Highway at the intersection with Broughton Avenue at the western extent and continuing east to connect Terry Street/Illawarra Highway. A plan showing the regional location of the Activity is shown in Error! Reference source not found..

Once constructed the primary function of the Activity will be to alleviate the impacts of traffic growth along Tongarra Road, ease traffic congestion within the Albion Park town centre, increase the safety of roads within Albion Park and provide a valuable addition to the transport network.

The Activity is permitted without consent under the State Environmental Planning Policy (Transport and Infrastructure) 2021 (Transport and Infrastructure SEPP), with Council required to prepare an Environmental Impact Statement (EIS) for the Activity to ensure all environmental and social matters are appropriately considered under Part 5, Section 5.7 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) with Council being both the proponent and the determining authority.

Council has engaged SLR Consulting Australia Pty Ltd (SLR) to prepare this EIS. The EIS has been prepared to address the EIS requirements of the Secretary of the NSW Department of Planning and Environment (DPE), known as the Secretary's Environmental Assessment Requirements (SEARs). The SEARS are dated 2 December 2022 and are contained in Appendix A. The EIS has also been prepared in accordance with the Environmental Planning and Assessment Regulation 2021 (EP&A Regulations).

2.1.1 Objectives of the proposed development

The primary objective of the Activity is to alleviate traffic impacts through the Albion Park Tow Centre. In addition, the Activity aims to:

- Increase traffic flow efficiency.
- Provide a carriageway along the route that is not inundated during a storm event up to and including the 20-year ARI flood event.
- Provide reliable travel times.
- Increase the level of service of intersections.
- Improve road safety.
- Minimise private property acquisition.
- Minimise impacts on existing utilities.
- Minimise environmental impacts.

The proposed site location is in **Figure 1**.



2.2 Activity Location

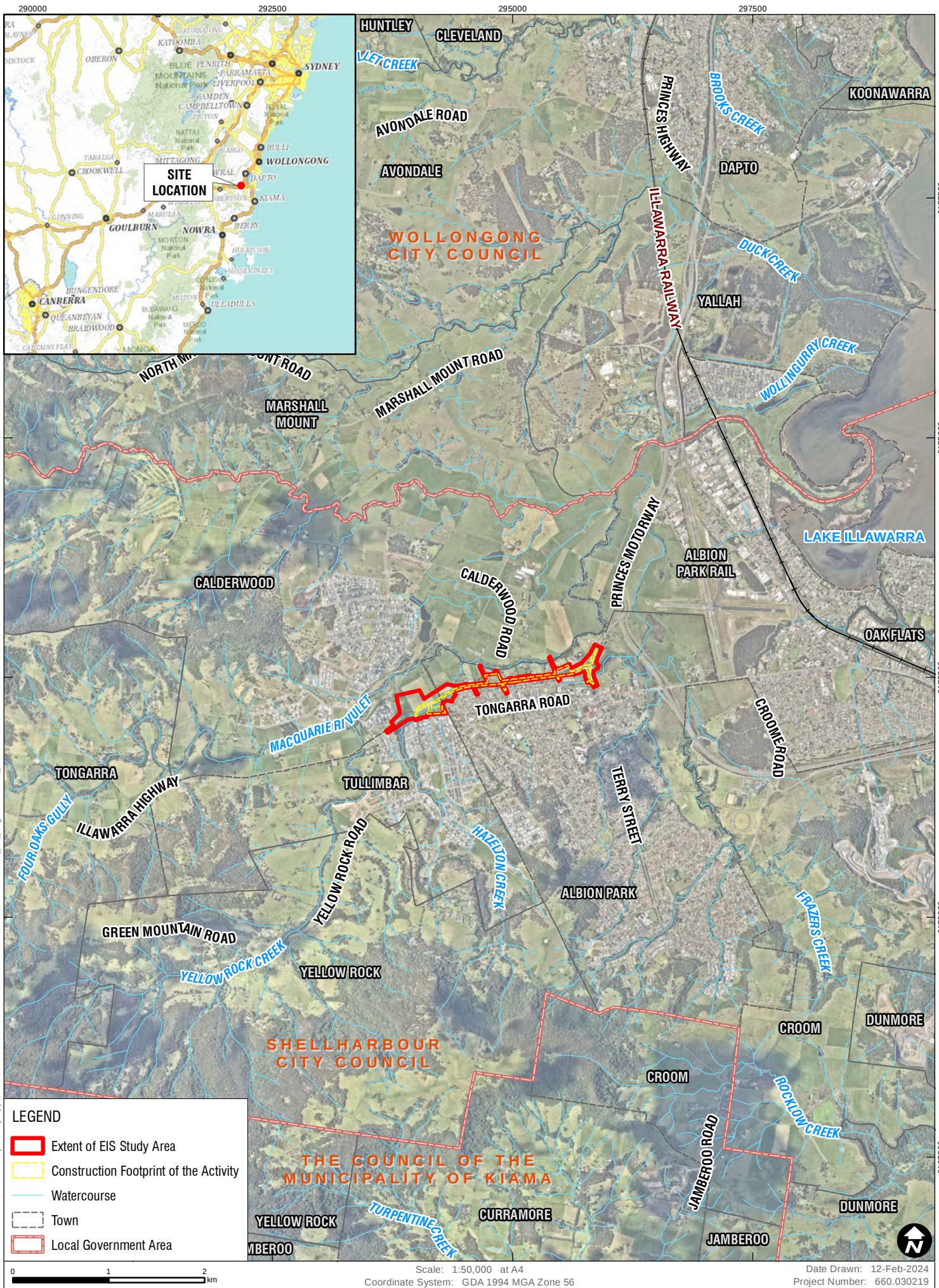
Tripoli Way is a local road located in Albion Park in the Shellharbour City Council Local Government Area (LGA) in NSW. Tripoli Way runs east to west in its current state, which provides access to residential dwellings situated between Hamilton Road and Calderwood Road. Currently Tripoli Way consists of two separate main sections which are separated by residential lots. A plan showing the location and footprint of the Activity boundary is shown in **Figure 2**.

2.3 Activity - Construction and Operation

The proposed development comprising of:

- Road widening of the existing Tripoli Way formation to allow four (4) travel lanes (two in each direction) for the section of Tripoli Way east of Calderwood Road to Terry Street.
- Construction of a new section of Tripoli Way west of the intersection with Calderwood Road, consisting of two (2) travel lanes (one in each direction) to the existing Broughton Avenue / Illawarra Highway roundabout. Construction of this new section will include a bridge crossing Hazleton Creek. The bridge will have an overall length of approximately 52m and three-span in order to cross the creek and minimise impacts to flood depths and velocity.
- Works on Hamilton Road to the north and south where it intersects with Tripoli Way.
- Works on Calderwood Road to the north and south where it intersects with Tripoli Way.
- Construction of a 2.5 metre (m) shared path on the northern side of the alignment (entire length), a 1.5m footpath on the southern side for a section of the alignment, kerb and gutter, a minor and major stormwater drainage network and water treatment devices would also be installed as part of the upgrade.
- Three signalised intersections from Calderwood Road to Terry Street, with the potential for future signalisation of the Broughton Avenue intersection from existing roundabout.
- Drainage works consisting of a formalised stormwater pit and pipe network and open swales to ensure sufficient drainage capacity for a 20-year average recurrence interval (ARI) storm event.
- Associated street lighting and landscaping.
- Operation of the TWE.





LEGEND

- Extent of EIS Study Area
- Construction Footprint of the Activity
- Watercourse
- Town
- Local Government Area

0 1 2 km

Scale: 1:50,000 at A4
Coordinate System: GDA 1994 MGA Zone 56

Date Drawn: 12-Feb-2024
Project Number: 660.030219

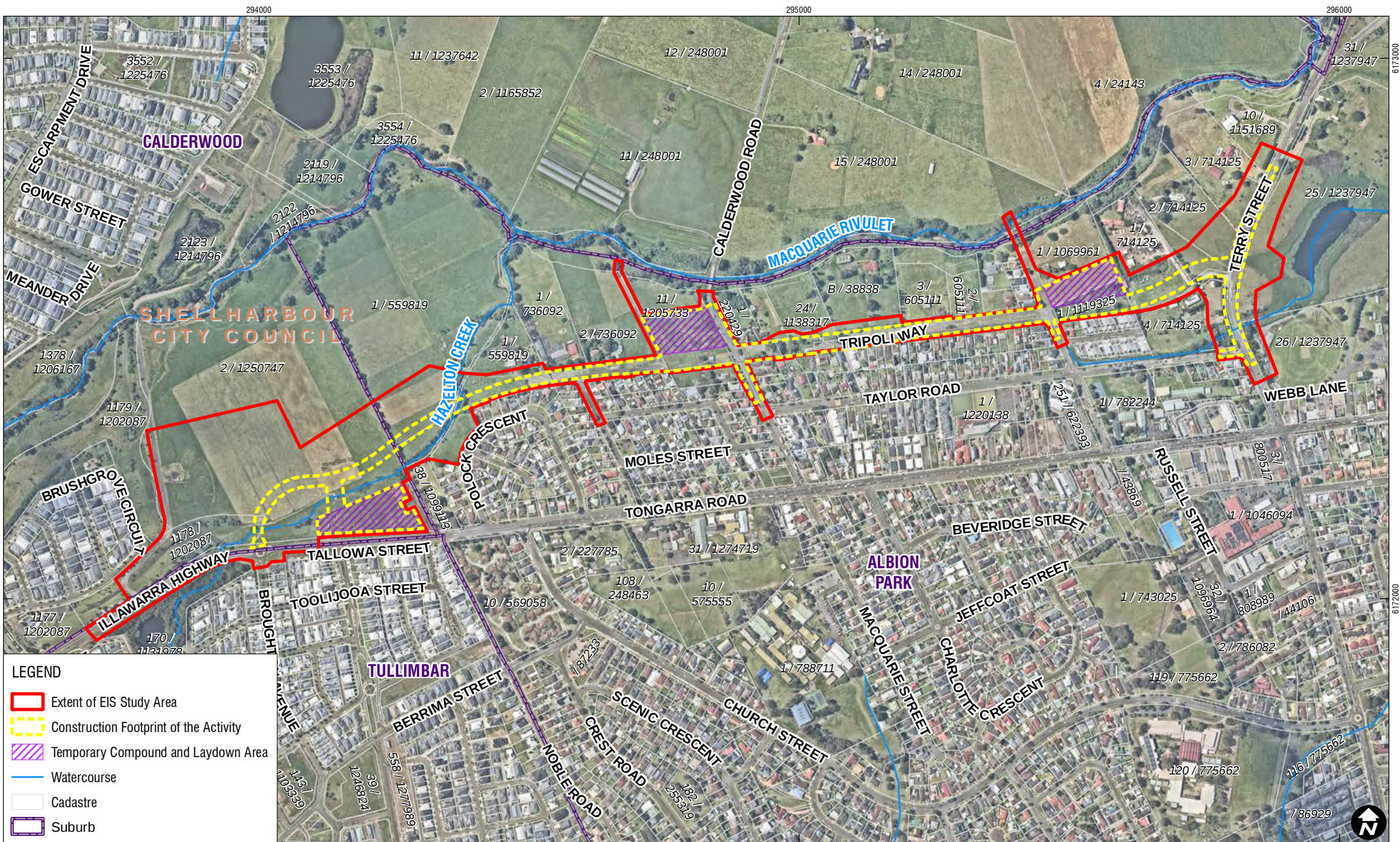
Sheet Size : A4

Data Source: NearMap December 2023



Regional Context Plan

FIGURE 1



0 200 400 m

Scale: 1:9,000 at A4
Coordinate System: GDA 1994 MGA Zone 56

Data Source: December 2023

Date Drawn: 12-Feb-2024
Project Number: 660.v30219.00000.0270

**LOCAL CONTEXT
AND ACTIVITY AREA**

FIGURE 2

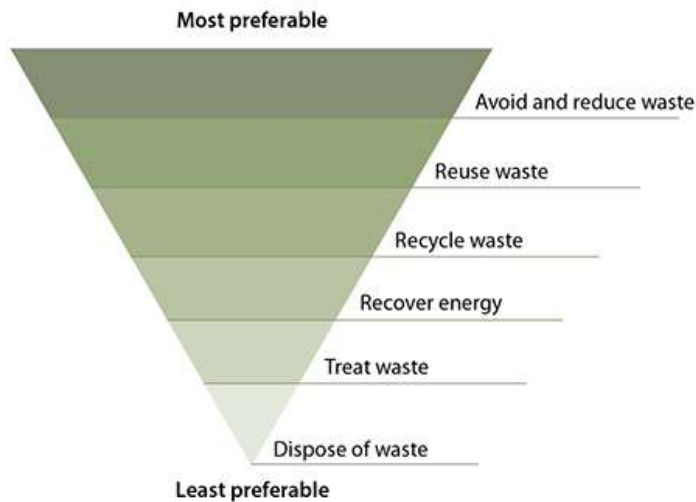


3.0 Better Practice Waste Management and Recycling

3.1 Waste Management Hierarchy

This WMP has been prepared in line with the waste management hierarchy shown in **Figure 3**, which summarises the objectives of the *Waste Avoidance and Resource Recovery Act 2001*.

Figure 3: Waste Management Hierarchy



The Waste hierarchy is:

- **Avoidance** including action to reduce the amount of waste generated by households, industry and all levels of government.
- **Resource** recovery including re-use, recycling, reprocessing and energy recovery, consistent with the most efficient use of the recovered resources.
- **Disposal** including management of all disposal options in the most environmentally responsible manner.

3.2 Benefits of Adopting Better Practice

Adopting better practice principles in waste minimisation offers significant benefits for organisations, stakeholders, and the wider community. Benefits from better practice waste minimisation include:

- Improved reputation of an organisation due to social and environmental responsibility.
- Lowered consumption of non-renewable resources.
- Reduced environmental impact, for example, pollution, from materials manufacturing and waste treatment.
- Reduced expenses from lower waste disposal.



- Providing opportunities for additional revenue streams through beneficial reuse.



4.0 Waste Legislation and Guidance

4.1 Secretary's Environmental Assessment Requirements (SEARs)

SEARs 1739 relevant to this study and where they are addresses are listed in **Table 1** below.

Table 1: SEARs Requirements and Where Addressed

Relevant SEARs Requirements	Report Section Where Addressed
Waste Management – including: Details of waste management practices including handling, transport, identification, disposal, receipt, stockpiling, reuse and quality control.	Section 5
Types and estimated volumes of waste generated on the site.	Section 5.2 CEMP (external)
The measures that would be implemented to ensure that the proposed development is consistent with the aims, objectives and guidelines in the NSW Waste Avoidance and Resource Recovery Strategy 2014-2021.	Section 4.4 Section 5

4.2 Shellharbour Development Control Plan 2013

The Shellharbour Development Control Plan 2013 (DCP) is divided into 6 parts consisting of 38 chapters plus appendices.

'Part 3: Provisions applying to various types of uses' applies various types of current use and development within the LGA. Part 3, Chapter 15 refers to waste minimisation and management with the following objectives:

- To maximise reuse and recycling of demolition and construction materials and materials from subdivision.
- To ensure storage and collection of waste is designed and managed having appropriate regard to space, location amenity and ongoing management of waste management facilities.
- To ensure waste management systems are compatible with collection services.
- Ensure developments provide adequate space for kerbside collection services.
- To minimise potential adverse impacts relating to the management of waste on the amenity adjoining properties and within the development.
- To minimise the amount waste being deposited in landfill.
- To provide information to applicants on how to prepare a Waste Management Plan.

The DCP's objectives of waste management are reflected in this WMP and will be made consistent in the CEMP.

4.2.1 Potentially Contaminated Land

- Contaminated land can have major economic, legal, and planning implications for the community. Contamination can limit land use potential or increase costs for



developers and councils. Their investigation and clean-up is important to protect human health and the environment.

- Although contaminated sites may occur anywhere, they are typically clustered in areas which have been used for heavy industry, mining, chemically intensive agriculture and the storage of chemicals, petroleum-based products, or waste products, for example, from flaking of lead-based paints, use of contaminated fill, or excessive pesticide use.

4.2.2 Objectives

Objectives are to:

- Consider the likelihood of contamination upfront in the planning and development process.
- Ensure the planning decision-making considers all relevant information relating to the likelihood of site contamination.
- Ensure that any proposed development on an identified contaminated site will not result in any unacceptable levels of risk to human health or the environment.
- Avoid inappropriate restrictions on the development of known or potential contaminated sites.
- Ensure site investigations and remediation work is carried out in a satisfactory manner and where appropriate is subject to independent validation and site audit certification by contaminated site remediation experts.
- Ensure Council Exercises its functions relating to the assessment of known or potentially contaminated sites with a reasonable standard of care and due diligence.

4.3 Illawarra Shoalhaven Regional Plan 2041

The Regional Plan details 30 'Objectives' and nine 'Actions' for the Illawarra-Shoalhaven region that aim to protect and enhance the region's assets and plan for a sustainable future. Specifically, Objective 16 aims to promote the support for a circular economy; "The region can benefit economically, socially and environmentally from waste resources by reusing, repairing, sharing and recycling waste."

Further in Objective 30; "The Illawarra Shoalhaven Joint Organisation coordinates the Regional Waste Avoidance and Resource Recovery Strategy 2017-2021 on behalf of the four councils. This aims to provide a coordinated approach to waste and landfill and improve waste management across the region". It is evident that the Regional Plan has a focus on waste reduction in landfill and maximisation of recycle and re-use initiatives across multiple sectors.



4.4 Other Legislation and Guidance

The legislation and guidance outlined in **Table 2** below should be referred to during the site preparation, construction, and operational phases of the Project.

Table 2: Legislation and Guidance

Legislation and Guidance	Objectives
Local Legislation and Guidelines	
Shellharbour City Council Local Strategy Planning Statement	The Shellharbour City Local Strategic Planning Statement (LSPS) outlines a vision for the future of the Shellharbour City LGA in regard to land use goals and land use strategy. It provides publicly available guidance and details on which Council can base planning decisions and drive future land use planning and management of key areas of growth over the next 20 years within the LGA, including: • Economic. • Social. • Environmental. The Planning Statement aims to communicate a proactive understanding of the future changes that will shape Shellharbour City's future and create positive community outcomes for the area.
Albion Park Town Centre Plan	The Albion Park Town Centre Plan was developed to provide guidance for developments within Albion Park Town Centre for inclusion in the Shellharbour Development Control Plan (DCP), development guidance provided in the plan include (but not limited to): • Development appearances. • Integration of public and private domains. • Parking and transport provisions. • Public area designations.
Shellharbour Local Environmental Plan 2013	Local Environmental Plans (LEPs) provide a framework to guide planning decisions within a specific LGA. Through prescribing land zoning and development controls LEPs allow Councils to guide land use. Council LEPs may list heritage items that are of local heritage significance.
State and National Legislation and Guidelines	
Protection of the Environment Operations Act 1997	Focuses on environmental protection and provisions for the reduction of water, noise, and air pollution and for the storage, treatment, and disposal of waste. The POEO Act establishes the NSW environmental framework and determines whether environmental protection licences (EPL) are required. Schedule 1(35) of the POEO Act defines a rural road construction greater than 5km in length or the extraction or processing of more than 50,000 tonnes of material as a scheduled activity and thus requiring an EPL.
Protection of the Environment Operations (Waste) Regulation 2014	Provides for resource recovery exemptions that may be used without seeking approval from the EPA provide the waste generators, processors and consumer fully comply with the conditions. The Resource Recovery Exemption: "excavated public road material that is, or is intended to be, applied to land within the road corridor for public road material exemption 2014" under Part 9, Clauses 91 and 92 of the Protection of the Environment Operations (Waste) Regulation 2014, is relevant to this project.



Legislation and Guidance	Objectives
NSW Waste Avoidance and Resource Recovery Strategy 2014-2021.	Provides clear directions for a range of priority areas over the next seven years and aligns with the NSW Government's waste reforms in NSW 2021: A plan to make NSW number one.

5.0 Site Preparation and Construction Waste

5.1 Construction

All waste generated during construction activities would be managed in accordance with the POEO Act, POEO (Waste) Regulation 2014, Waste Avoidance and Resource Recovery Act 2014-2021 and applicable resource recovery orders and exemptions.

Fill material considered unsuitable to remain on site would be classified in accordance with the NSW EPA Waste Classification Guidelines (2014) and disposed of at an appropriately licenced facility. Waste classification would be carried out by a suitably qualified and experienced environmental professional and could be done so while the materials are in-situ (in ground) or ex-situ (stockpiled). Surplus materials may also be suitable for re-use offsite subject to satisfaction of an NSW EPA Resource Recovery Exemption / Order and appropriate classification.

Materials requiring import to site during construction must be geotechnically suitable and have been classified in accordance with and to the satisfaction of an NSW EPA Resource Recovery Exemption/ Order. The materials that are considered suitable for importation as fill during construction would require appropriate supporting documentation (i.e., evidence of classification). appropriate tracking and material validation at receipt of the site to satisfy quality control.

All waste will stored in appropriate bins and areas within the ancillary facilities areas shown in Error! Reference source not found..

Wastes are not expected to be generated during the operational phase of the project with the exception of surficial litter, debris and materials lost from vehicles as unsecured loads. It is anticipated that the quantities of waste would be minimal and would be managed by Council during routine maintenance activities such as road-site litter picking and cleaning of gross pollutant traps.

5.2 Waste Stream and Classifications

The site preparation and construction of the Development is likely to generate the following broad waste streams:

- Green waste generated during tree removal and vegetation clearing. Green waste will be reused where possible a mulch or alternately sent to a composting facility. Weed species would be separated and disposed of in line with the Biosecurity Act 2015 recommendations.
- Waste road material from the decommissioning of the existing roadways.
- General construction litter.
- Waste oils and other materials from the maintenance of construction machinery may also be produced in relatively small quantities.



- Redundant erosion and sediment control materials including sediment fencing, stakes, hay bales and socks.
- Butter Factory Demolition – Old industrial farm style infrastructure (timber, concrete, steel, aluminium, masonry etc.).

A summary of potential waste types generated from site preparation and construction activities, along with their waste classification and proposed management methods, is provided in **Table 3** below.

For further information on how to classify a waste type refer to the NSW EPA (2014) *Waste Classification Guidelines*¹. Further information on managing site preparation and construction waste is available from the NSW EPA website.

Table 3: Potential Waste Types and Their Management Methods

Waste Types and Activities	NSW EPA Waste Pre-Classification	Avoidance and Reuse	Storage and Collection	Recycling/Disposal
Soil from earthworks spoil to prepare the access road, construction laydown areas	General solid (non-putrescible) waste	Onsite reuse of topsoil for landscaping of the site	Separate materials requiring offsite recovery	
Grasses, roots, and associated topsoil (green waste)	General solid (non-putrescible) waste	Onsite reuse of topsoil for landscaping of the site	Stored in bins of other contained area	Waste that can't be recycled on site will be sent for recovery.
Construction waste - heavy from asphalt, concrete, bricks from the installation of foundations, and mechanical and electrical plant and equipment	General solid (non-putrescible) waste	Cleaned for reuse as footings, broken bricks for internal walls, crushed for landscaping or driveway use Recycled offsite and used for road base, fill sand or new bricks Onsite reuse of any materials of heritage significance	Separate materials requiring offsite recovery stockpile waste for reuse on site.	Dispose waste that cannot be reused on site at a licensed facility Recyclable materials will be reused onsite or sent to licensed facility for recycling
Construction waste – metal from ferrous metal off-cuts, mainly from operations and maintenance building and stormwater management infrastructure construction	General solid (non-putrescible) waste	Recycle scrap metal	Separate, stockpile, reuse on site Separate materials requiring offsite recovery	Dispose waste that cannot be reused on site at a licensed facility Recyclable materials will be reused onsite or sent to licensed facility for recycling

¹ Available online from <https://www.epa.nsw.gov.au/your-environment/waste/classifying-waste/waste-classification-guidelines>



Waste Types and Activities	NSW EPA Waste Pre-Classification	Avoidance and Reuse	Storage and Collection	Recycling/Disposal
Construction waste – light from timber, packaging, glass, plastic, rubber, plasterboard, and ceramics	General solid (non-putrescible) waste	Pallets to be returned to the supplier, if possible. Appropriate procurement processes to avoid ordering and delivery of excess materials and supplies	Offsite timber recycling, chip for landscaping, sell for firewood Treated: reused for formwork, bridging, blocking, propping or second-hand supplier Untreated: reused for floorboards, fencing, furniture, mulched second-hand supplier. Remainder to landscape supplies. Reused for similar projects Separate materials requiring offsite recovery	Dispose waste that cannot be reused on site at a licensed facility Recyclable materials will be reused onsite or sent to licensed facility for recycling
Waste oils, fuels, lubricants, and chemicals	Hazardous waste	Conduct refuels and maintenance activities away from receptors, signage/labelling, on-site spill kits, adhere to site Spill Management Plan	Dangerous Goods Containers, waste drums, other appropriate storage	Transport to comply with the transport of Dangerous Goods Code, spill kits consistent with Australian Standards.
Paper, cardboard and co-mingled recycling	General solid waste (non-putrescible)	Procurement of products delivered in reusable or returnable containers	Separation and storage of recyclables in designated bins in waste storage area	Collected by licensed contractor and taken to offsite licensed material recovery facility
General waste generated by on-site staff activities	General solid waste (putrescible)	-	Store in closed bins for transport to disposal	Collected by a licensed contractor and disposed of at landfill
Sewage and greywater from washdown activities and staff amenities	Liquid waste	Wastewater treatment plant	Portable amenities or on-site amenities	Transported off-site or direct to treatment plant

5.2.1 Waste Quantities

While the final types and quantities of site preparation and construction waste material would be confirmed during the final design stage, it is predicted that 90 per cent would be diverted from landfill either by being reused on site or recovered or recycled off site.



A comprehensive list waste quantities associated with the construction works will be provided as part of the Construction Environmental Management Plan.

5.3 Waste Avoidance

Consideration will be given to the following best practices for avoiding waste during the construction phase:

- The use of recycled steel.
- Preferentially using paints and adhesives with low volatile organic compound content.
- Using low formaldehyde wood products, post-consumer reused timber and/or Forest Stewardship Council certified timber.
- Using fittings and furnishings that have been recycled, are made from, or incorporate recycled materials and have been certified as sustainable or environmentally friendly by a recognised third-party certification scheme.
- Preferentially using building materials, fittings and furnishings that have longer life and better re-use and/or recycling potential.

Reduce packaging waste by:

- Returning packaging to suppliers where possible and practicable.
- Purchasing in bulk.
- Requesting cardboard or metal drums rather than plastics.
- Requesting metal straps rather than shrink wrap.
- Using returnable packaging such as pallets and reels.
- Ensure subcontractors are informed of and implement site waste management procedures.

5.4 Re-Use, Recycling and Disposal

Effective management of materials and construction and demolition waste, including options for reuse and recycling where applicable and practicable, will be conducted. Only waste that cannot be cost effectively reused or recycled will be sent to landfill or appropriate disposal facilities.

The construction contractor should implement the following with respect to re-use, recycling and disposal of site preparation and construction waste:

- Provide separate waste bins for recyclable and non-recyclable general wastes.
- Retain material cut-offs for re-use where applicable.
- Retain used crates and pallets for storage purposes unless damaged.
- Return packaging to suppliers where possible or practicable.
- Recycle or dispose of solid waste timber, brick, concrete, tiles, asphalt, and rock, where such waste cannot be re-used on-site, to a site lawfully able to accept it.

Some of the potential waste recycling and disposal facilities located close to the project site are listed in **Table 4**.



5.5 Waste Segregation, Storage and Servicing

5.5.1 Waste Segregation and Storage

Waste materials produced from site preparation and construction activities will be separated at the source and stored separately on-site. It is anticipated that there will be enough space on-site for separate storage, for example, separate skip bins or appropriately managed stockpiles, of the following waste types:

- Bricks, concrete, and scrap metal.
- Metal and steel, in a condition suitable for recycling at metal recycling facilities.
- Timber.
- Glass.
- Hardstand rubble.
- Uncontaminated excavation spoil if present.
- Contaminated excavation spoil if present.
- Hazardous waste if present.
- Paper and cardboard.
- General co-mingled recycling waste.
- Non-recyclable general waste.

If there is insufficient space on-site for full separation of waste types, the site manager, or equivalent role, should consult with the waste and recycling collection contractor to confirm which waste types may be co-mingled before removal from the site.

5.5.2 Waste Storage Areas

Waste storage areas will be accessible and allow sufficient space for storage and servicing requirements. The storage areas will also be flexible in order to cater for change of use throughout the project. Where space is restricted, dedicated stockpile areas will be delineated on the site, with regular transfers to dedicated skip bins for sorting.

All waste placed in skips or bins for disposal or recycling will be adequately contained to ensure that waste does not fall, blow, wash or otherwise escape from the site. Waste containers and storage areas will be kept clean and in a good state of repair. Applicable weather protection measures should be considered for storage spaces.

In accordance with good practice waste management, areas designated for waste storage will:

- Allow unimpeded access by site personnel and waste disposal contractors.
- Consider environmental factors which could potentially cause an impact to the waste storage, such as slope, drainage and the location of watercourses and native vegetation.
- Allow sufficient space for the storage of garden waste and other waste materials on-site.



- Employ adequate environmental management controls to prevent off-site migration of waste materials and contamination from the waste. For example, consideration of slope, drainage, proximity relative to waterways, stormwater outlets and vegetation.
- Consider visual amenity, safety, and accessibility in their selection.
- Not present hazards to human health or the environment.

Waste storage areas will be stipulated in the Construction Environmental Management Plan (CEMP).

5.5.3 Waste Servicing and Record Keeping

The Site Manager or equivalent role will:

- Arrange for suitable waste collection contractors to remove any construction waste from site.
- Ensure waste bins are not filled beyond recommended filling levels.
- Ensure that all bins and loads of waste materials leaving site are covered.
- Maintain waste disposal documentation detailing, at a minimum:
 - Descriptions and estimated amounts of all waste materials removed from site.
 - Details of the waste and recycling collection contractors and facilities receiving the waste and recyclables.
 - Records of waste and recycling collection vehicle movements, for example, date and time of loads removed, licence plate of collection vehicles, tip dockets from receiving facility.
 - Waste classification documentation for materials disposed to off-site recycling or landfill facilities.
- Ensure lawful waste disposal records are readily accessible for inspection by regulatory authorities such as Liverpool Council, SafeWork NSW or NSW EPA.
- Remove waste during approved hours.

If skips and bins are reaching capacity, removal and replacement will be organised as soon as possible. All site-generated building waste collected in the skips and bins will leave the site and taken to a site lawfully able to accept them.

5.5.4 Waste Servicing and Transport

The frequency of the waste removal will, in most cases, be dictated by the quantities of material being deposited into each of the dedicated skip bins. All skips leaving the site will be covered with a suitable tarpaulin to ensure that the spillage of waste from the skips while in transit is eliminated. All waste removal from site will be within construction hours stipulated within the Environmental Impact Statement.

5.6 Contaminated and Hazardous Waste

Contaminated materials including fill materials and soils should be assessed by an appropriately qualified and experienced environmental consultant for remediation and management options.



Potential contamination during operation would be limited to potential surface water run-off that may contain low-level hydrocarbon impact, which is typical of normal vehicle operation (minor leaks of lubricants and fuels, maintenance practices, spills, or accidents).

All asbestos and other hazardous waste must be handled according to appropriate legislation and regulation including the *Work Health and Safety Regulation 2011* and disposed of in accordance with the SafeWork NSW and relevant EPA requirements.

5.7 Signage

Standard signage will be posted in all waste storage and collection areas. All waste containers will be labelled correctly and clearly to identify stored materials.

Signs approved by NSW EPA for labelling of waste materials are available online and should be used where applicable. A selection of the EPA's signs is shown in **Figure 4**.

Figure 4: Examples of NSW EPA Labels for Waste and Skip Bins



5.8 Site Inductions

All staff, including sub-contractors and labourers, employed during the site preparation and construction phases of the Development will undergo induction training regarding waste management.

Induction training will cover, as a minimum, an outline of the WMP including:

- Legal obligations and targets.
- Emergency response procedures on-site.
- Waste priorities and opportunities for reduction, reuse, and recycling.
- Waste storage locations and separation of waste.
- Procedures for suspected contaminated and hazardous waste.
- Waste related signage.
- The implications of poor waste management practices.
- Responsibilities and reporting, including identification of personnel responsible for waste management and individual responsibilities.



5.9 Monitoring and Reporting

The following monitoring practices are to be undertaken to improve demolition and construction waste management and to obtain accurate waste generation figures:

- Conduct waste audits of current projects where feasible.
- Note waste generated and disposal methods.
- Look at past waste disposal receipts.
- Record this information to track waste avoidance, reuse, and recycling performance and to help in waste estimations for future waste management plans.
- Records will be maintained for all waste quantities that are recycled, reused, or removed by a contractor. All demolition and construction waste dockets will be kept which show which facility received the material for recycling or disposal.
- Daily visual inspections of waste storage areas will be undertaken by site personnel and inspection checklists and logs recorded for reporting to the site manager or equivalent role on a weekly basis or as required. These inspections will be used to identify and rectify any resource and waste management issues.

Waste audits should be carried out by the site contractor or equivalent role to gauge the effectiveness and efficiency of waste segregation procedures and recycling and reuse initiatives. Where audits show that the above procedures are not carried out effectively, additional staff training will be undertaken, and signage will be re-examined.

5.10 Mitigation Measures

Table 4 summarises the key mitigation measures to address the potential environmental impacts from waste generated through site preparation and construction works.

Table 4: Mitigation and Management Measures

Ref.	Potential Impact	Proposed Mitigation Measure	Responsibility	Timing
WM1	Waste Material including green waste, construction waste and general litter generated during construction	A Waste Management Plan will be prepared and implemented as part of the CEMP. The Plan will outline: • Compliance with the resource management hierarchy principles. • Measures and controls to monitor and minimise waste generation. • Lawful handling and disposal of unavoidable waste. • The plan will be prepared in accordance with the RMS Environmental Procedure - Management of Wastes on Roads and Maritime Services Land (2014), the NSW Waste Classification Guidelines (2014) and relevant RMS Waste Fact Sheets. • Unsuitable fill material and all other waste streams must be classified in accordance with the NSW EPA Waste Classification Guidelines (2014) and	Contractor Construction Environmental Manager	Pre-construction



Ref.	Potential Impact	Proposed Mitigation Measure	Responsibility	Timing
		disposed of at an appropriately licensed facility. - Any excess excavated soil, spoil, green waste or general waste will be loaded into trucks and disposed of at Dunmore Recycling and Waste Disposal Depot. - Quantities of expected waste materials.		
WM2	General domestic waste is expected to be generated during construction activities	- General waste and recycling bins will be provided at the site ancillary sites and throughout project areas for the duration of construction. - Ancillary sites and work areas will be maintained, kept free of rubbish, and cleaned up at the end of each working day. - Important to prevent material to enter the nearby waterways and stormwater outlets.	Contractor Construction Environmental Manager	Construction
WM3	Waste oils other materials from the maintenance of construction machinery may be generated.	- Any uncontrolled spills of waste oils, fuels and other materials will be contained using a spill kit and managed by an environmental professional. All waste generated as a result of uncontrolled spills and maintenance will be managed in accordance with the protocol in Safeguard WM1. - Spills and uncontrolled releases of fluids and dangerous goods must be managed in accordance with a procedure specified in the CEMP and government regulators (i.e., NSW EPA) notified as required.	Contractor Project Manager Construction Environmental Manager	Pre-construction Construction

5.11 Roles and Responsibilities

All personnel have a responsibility for their own environmental performance and compliance with all legislation. It will be the responsibility of the site manager, or equivalent role, to implement the WMP, and the responsibility of employees and subcontractors to ensure that they comply with the WMP at all times.

Suggested roles and responsibilities for waste management at the site are provided in **Table 5**. Where possible, a construction environmental manager, or equivalent role, should be appointed for the site preparation and construction work. An equivalent construction environmental manager role is defined to be a person dedicated to overseeing the environmental compliance and performance of a development. Where a construction environmental manager is not appointed, responsibilities in **Table 5** for the construction environmental manager will become those of the site manager.

Table 5: Suggested Roles and Responsibilities

Role	Responsibilities
Project Manager	- Ensuring plant and equipment are well maintained. - Ordering only the required amount of materials.



Role	Responsibilities
	- Keeping materials segregated to maximise reuse and recycling. - Ultimately responsible for coordinating routinely checking waste sorting and storage areas for cleanliness, hygiene and safety issues, contaminated waste materials, and also ensuring that all monitoring and audit results are well documented and carried out as specified in the WMP.
Construction Environmental Manager or equivalent	- Ensuring staff and contractors are aware of site requirements for waste management. - Establishing separate skips and stockpiles and recycling bins for effective waste segregation and recycling purposes. - Developing or identifying, and using, local commercial opportunities for re-use of materials where re-use on-site is impractical. - Facilitate correct waste collection. - Engage suitable waste collection and disposal contractors. - Approval of off-site waste disposal locations and checking licensing requirements. - Arranging for the assessment of potentially hazardous or contaminated materials. - Arranging for appropriate contaminated waste management and approval of off-site waste transport, disposal locations and checking licensing requirements. - Monitor and maintain site environmental controls. - Monitoring, inspection, and reporting requirements.
Contractor	- Adhere to all measures outlined in the Waste Management Plan and Construction Environmental Management Plan. - Report any spills or waste observations to the Construction Environmental Manager.

Daily visual inspections of waste storage areas may be delegated to other on site staff. All contractors will be responsible for ensuring that their work complies with the WMP through the project induction and contract engagement process. It is the responsibility of the Site Manager to notify the relevant regulatory authorities of the appointment of waste removal, transport, or disposal contractors.

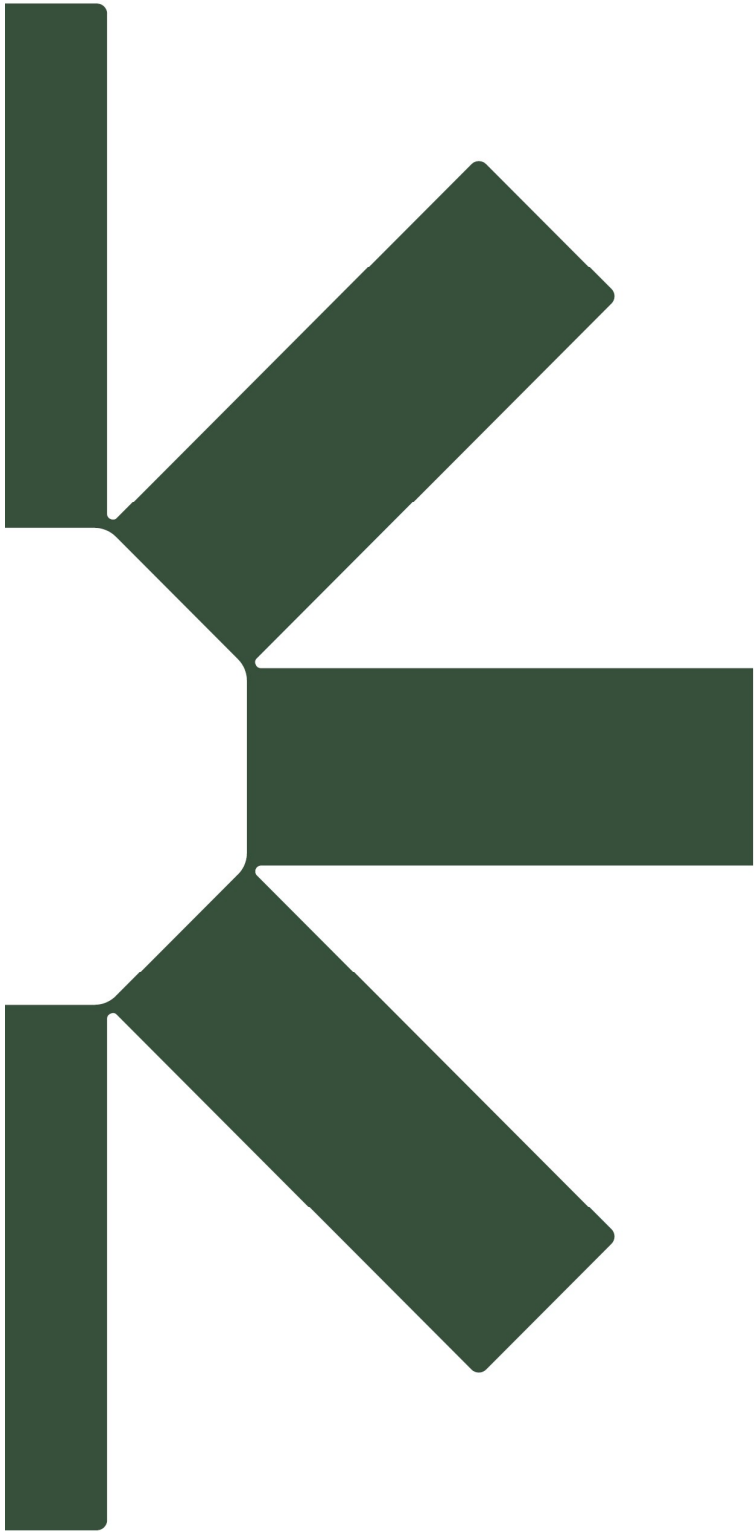


6.0 Operational Waste Management

6.1 Estimated Quantities of Operational Waste

Wastes are not expected to be generated during the operational phase of the project with the exception of surficial litter, debris and materials lost from vehicles as unsecured loads. It is anticipated that the quantities of waste would be minimal and would be managed by Council during routine maintenance activities such as road-site litter picking and cleaning of gross pollutant traps.





Making Sustainability Happen