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Waste Minimisation and Management Plan
Rutherford Tyre Recyclers Pty Ltd
Rutherford Tyre Recycling Facility

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We declare that:
This Waste Minimisation and Management Plan contains all available information that is relevant to the environmental assessment of the development, activity or infrastructure to which the statement relates, and the information contained in this plan is neither false nor misleading.

Report version	Authors	Date	Reviewer	Approved for issue	Date
DRAFT v1	V.Wilson	04/06/24	Dr. M.Jackson	Dr. M.Jackson	05/06/2024
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1. Introduction

1.1. Background

Rutherford Tyre Recyclers Pty Ltd proposes to develop and operate a small tyre recycling facility at 9 Burlington Place, Rutherford, NSW 2320 (Site).

The Site contains a single storey industrial shed that will have minor alterations to create a larger, fully enclosed industrial shed on site. This industrial shed will be used for tyre crumb rubber production and rubber mats /tiles production using mechanical plant and equipment. A weighbridge will be installed on the hardstand area near the access point of the Site. All operations will occur inside the shed, with a loading bay area to be located outside the industrial shed to ensure efficient loading and unloading of materials on Site. The lot has a total area of ~1,655m^2.

Rutherford Tyre Recyclers currently operate a tyre retailing and fitting business called Tyres & More, with this Proposal allowing expansion into tyre recycling, with approximately 4,500 tonnes of tyres recycled per year at the tyre recycling facility. The proposed development will enable the receival, processing and recycling of tyres from Tyres & More and other tyre retailers in the region. Currently tyres in this region are transported out of the Hunter Valley for processing and recycling and so this Proposal will provide a local solution for beneficial tyre recycling by developing local tyre recycling infrastructure.

A new Whole Tyre Processing Plant will be purchased to produce crumb rubber on-site, with an additional Rubber Tile Press purchased to process some of the crumb rubber produced on-site into rubber mats or rubber tiles. Noise pollution will be mitigated by all operations occurring inside the industrial shed, with fire safety measures adhered to, particularly for the storage of whole tyres.

This Waste Minimisation and Management Plan (WMMP) supports the development application to make alterations to the existing industrial shed and operate a tyre recycling facility on the Site.

1.2. Scope and Objectives

This WMMP assesses how waste will be dealt with in the most environmentally sustainable way and contains the following information:

- Relevant legislation and guidelines for waste management for the Facility;
- The systems, procedures and initiatives proposed to address the management of waste materials generated during operation of the Facility;
- Safeguards, mitigation measures and monitoring to manage waste impacts during demolition, construction and operation;
- Roles and responsibilities of those involved in the design and implementation of waste management controls; and
- An effective monitoring, auditing and reporting framework to assess the effectiveness of the controls implemented.

The Proposal will involve the following works:

- Building works to enclose the open awning towards the rear of the Site, removing the dividing wall and installing two roller doors. These amendments will create a larger, fully enclosed industrial shed on Site;
- Change of use for the existing shed from storage to a tyre recycling facility;
- Installation of a waste tyre recycling production line;
- Installation of a rubber tiles production line;
- Installation of a 9m portable above ground weighbridge located near the Site entrance;

- Line marking of one loading bay and overnight parking for two heavy rigid vehicles (HRVs);
- Internal storage area to store delivered whole used tyres;
- Internal storage area to store recovered materials from tyre recycling and rubber mats/tiles produced on-site; and
- Additional fire protection measures, including installation of:
  - Fire extinguishers;
  - Three fire hydrants;
  - A windsock to assist Fire & Rescue NSW to determine the prevailing wind direction in the unlikely event of a fire;
  - Full firewater containment bunding around the site;
  - Stormwater isolation valve (to contain firewater in the unlikely event of a fire);
  - Carbon dioxide alarms;
  - Storage areas 3m clear from roof; and
  - Manual call points in clearly visible locations. These small red boxes are linked to the fire alarm system to allow occupants to trigger the alarm manually in the event of a fire.

The proposed development will commit to environmental sustainability, waste avoidance and reduction practices. The proposed development will also increase and expand recycling infrastructure in the Hunter Valley Region and will help meet the waste targets under the NSW Government's *Waste and Sustainable Materials Strategy 2041: Stage 1 – 2021-2027.*

This WMMP will become a sub plan to the overall Environmental Management System (EMS) for the Facility.

1.3. The Site

The Site is located at 9 Burlington Place, Rutherford (Lot 3005 / DP1040568) within Maitland City Council area. The Site is located in an E4 General Industrial zone and is adjacent to RE2 Private Recreation zoned lands at the south-east corner. An aerial view of the nearby area is shown in Figure 1.1 and a close up aerial view is shown in Figure 1.2.

The entire lot is 1,655m^2 in area. The Site has one existing shed, an open awning, a concrete sealed hardstand and a small amount of landscaping located at the front and back of the site. The existing shed is ~290m^2, with a ~35 m^2 office attached, as well as two bathrooms, an office and a foyer. The existing shed will be used as the tyre recycling facility. A total of 5 car park spaces are available on site.

The Site is located at a distance of ~875m from the nearest R1 residential zone and separated by a strip of RE1 Public Recreation zone. The RE2 Private Recreation zone to the south-east corner of the Site is developed as Oak Tree Retirement Village and is at a distance of approximately 257m. The nearest water courses are two intermittent tributaries of Stony Creek are located at a distance of ~220m and ~225m from the eastern boundary of the site. Stony Creek flows west-east at a distance of ~720m to the South of the Site.

With the Site located approximately 257m from Oak Tree Retirement Village, this will likely trigger designated development under Clause 45(4)(f) of Schedule 3 of the *Environmental Planning and Assessment Regulation 2021*. This is considered a designated development because of potential impacts the Proposal could have in relation to noise and air quality for residents of the retirement village.

The Proposal is characterised as a resource recovery facility that is permissible under the *Maitland Local Environmental Plan* 2011.

Figure 1.1. Aerial view of the nearby region in Rutherford. Approximate site boundaries are shown in red.

Date	Revision	Drawn By	Site description	Jackson Environment and Planning Pty Ltd	Client	Rutherford Tyre Recyclers Pty Ltd
10/10/2023	Revision A	V. Wilson	9 Burlington Place Rutherford NSW 2320 (Lot 3005 / DP1040568)	Strategy | Infrastructure | Compliance | Procurement A: Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060 E: admin@jacksonenvironment.com.au T: 02 8056 1849 W: http://www.jacksonenvironment.com.au	Project	Rutherford Tyre Recycling Facility WMMP
					Title	General Locality
					Scale	Not to Scale
					Source	Nearmap

Figure 1.2. Close up aerial view of the lot, 9 Burlington Place, Rutherford. Approximate site boundaries are shown in red.

Date	Revision	Drawn By	Site description	Jackson Environment and Planning Pty Ltd	Client	Rutherford Tyre Recyclers Pty Ltd
10/10/2023	Revision A	V. Wilson	9 Burlington Place Rutherford NSW 2320 (Lot 3005 DP1040568)	Strategy | Infrastructure | Compliance | Procurement A: Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060 E: admin@jacksonenvironment.com.au T: 02 8056 1849 W: http://www.jacksonenvironment.com.au	Project	Rutherford Tyre Recycling Facility WMMP
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2. Planning and Legislative Requirements

2.1. State Legislative Requirements

The key sources of waste management regulation in New South Wales include:

- The *Protection of the Environment Operations Act* 1997, which provides enforcement provisions, a licensing framework and other tools to protect human health and environment from the inappropriate use of waste;
- The *Protection of the Environment Operations (Waste) Regulation* 2014, which includes thresholds for environment protection licences, and outlines the waste levy system;
- The *Protection of the Environment Operations (Clean Air) Regulation* 2022, which provides regulatory measures to control emissions from various sources including industry;
- The *Waste Avoidance and Resource Recovery Act* 2001, which sets the waste hierarchy and the *NSW Waste Avoidance and Resource Recovery Strategy*;

The requirements for classifying, handling and disposing of particular types of wastes is defined in the *EPA Waste Classification Guidelines*.

2.1.1. Protection of the Environment Operations Act 1997

The *Protection of the Environment Operation Act* 1997 (POEO Act) prohibits any person from causing pollution of waters, or air and provides penalties for air, water and noise pollution offences. Section 48 of the Act requires a person to obtain an Environment Protection Licence from the NSW Environment Protection Authority before carrying out any of the premise-based activities described in Schedule 1 of the Act.

Schedule 1, Part 1 (34) of the Act lists 'Resource recovery' including 'recovery of waste tyres' as an activity. 'Recovery of waste tyres' *means the receiving of waste tyres from off site and their processing, otherwise than for the recovery of energy.*

A Resource Recovery activity is declared to be a scheduled activity if it meets the following criteria:

> *"…if the premises are in the regulated area—*
>
> *(a) involves having on site at any time more than 1,000 tonnes or 1,000 cubic metres of waste, or*
>
> *(b) involves processing more than 6,000 tonnes of waste per year if the premises are outside the regulated area-*
>
> *(a) involves having on site at any time more than 2,500 tonnes or 2,500 cubic metres of waste, or*
>
> *(b) involves processing more than 12,000 tonnes of waste per year."*

Schedule 1 of the Act (Clause 42) details "Waste Storage" as an activity. Waste storage means the receiving from off site and storing (including storage for transfer) of waste.

A waste storage activity is declared to be a scheduled activity if it meets the following criteria:

> *(c) more than 5 tonnes of waste tyres or 500 waste tyres is stored on the premises at any time (other than in or on a vehicle used to transport the tyres to or from the premises);*

The Proposal will trigger the requirement for an EPA license because the waste storage activity will exceed 5 tonnes of waste tyres stored on the premises at any time. The Proposal will be under the limit for resource recovery and so not require an EPA license for this part of the Proposal.

2.1.2. Protection of the Environment Operations (Waste) Regulation 2014

During 2013-14 the EPA carried out an extensive review and consultation process on NSW's waste regulatory framework. The result was the *Protection of the Environment Operations (Waste) Regulation* 2014 (the Waste Regulation).

The Waste Regulation improves the EPA's ability to protect human health and the environment and paves the way for a modern and fair waste industry in NSW. The EPA rolled out the new rules stipulated under the Waste Regulation in stages over 2014-2017.

These changes include amended thresholds for environment protection licences and reforms to the waste levy system.

The Waste Regulation is supported by the Waste Levy Guidelines. These guidelines specify how to measure waste to calculate waste levy liability, the deductions waste operators can claim, and the EPA's requirements for records, surveys and reports. All licensed processing, disposal, recycling and storage facilities within the metropolitan levy area or regional levy area are subject to the levy system.

As the Proposal is considered a scheduled waste facility, a weighbridge is required under Clause 36 of the Waste Regulation. A 9m portable above ground weighbridge will be located near the site entrance.

2.1.2.1. Integrated Waste Tracking Solution

It is a requirement under the *NSW Environmental Protection Authority* for all waste tyres to be tracked when they are transported. A new tracking system was introduced on 19 September 2023, with the Integrated Waste Tracking Solution replacing the previous WasteLocate. Clauses 76 and 79 of the *Protection of the Environment Operations (Waste) Regulation* 2014 states that the information must be provided to the EPA when consigning, transporting or accepting tyres with a total weight of more than 200 kilograms, or 20 or more tyres, in any single load.

This Proposal will transport tyres with a weight of more than 200 kilograms and so will track waste tyre movements using the Integrated Waste Tracking Solution.

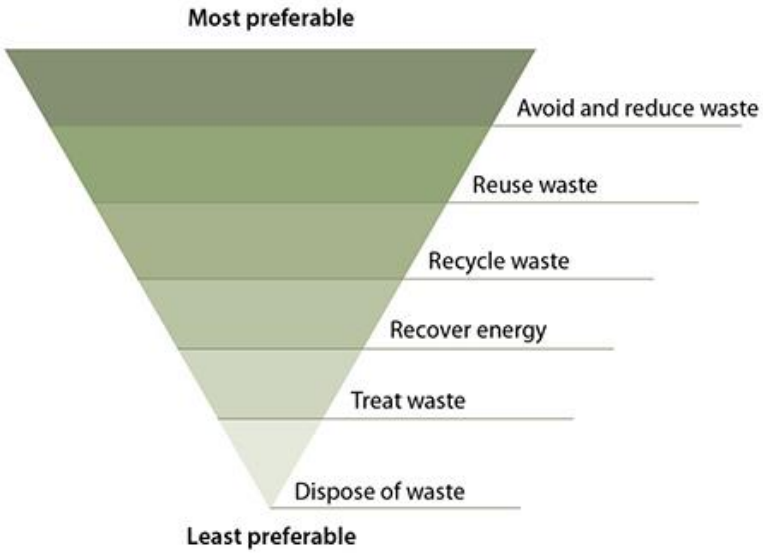
2.1.3. Waste Avoidance and Resource Recovery Act 2001

To support the efficient use of resources in NSW, a waste hierarchy has been established by the NSW Government in the *Waste Avoidance and Resource Recovery Act* 2001. The waste hierarchy sets out preferred actions in a 'hierarchy' from most preferred to least preferred to minimise the impact of waste on the environment and public health. The waste hierarchy actions (from most preferred to least preferred) are outlined as follows:

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

The waste hierarchy has been established to guide the appropriate management of waste in NSW by the community, councils, businesses and the NSW Government. The waste hierarchy is underpinned by Ecologically Sustainable Development principles as defined in the *Protection of the Environment Operations Act* 1997. The waste hierarchy is summarised in Figure 2.1.

Figure 2.1. The waste hierarchy as published in the *NSW Waste Avoidance and Resource Recovery Strategy 2014-2021*.



The waste hierarchy has guided the development of this plan.

2.2. NSW Environmental Planning Instruments and Policies

2.2.1. SEARs Compliance

The Planning Secretary's Environmental Assessment Requirements (SEARs) were received on 29 September 2023. Table 2.1 outlines the waste management related requirements for the proposed tyre recycling facility.

Table 2.1. SEARs requirements for the Proposed Tyre Recycling Facility.

Secretary's Environmental Assessment Requirements	Description of SEARs Requirement	EIS Section where this requirement is addressed
Waste Management	Details of the type, quantity and classification of waste to be received at the site;	Refer to Section 4.3.1 and Table 4.2.
	Details of the resource outputs and any additional processes for residual waste;	Refer to Section 4.3.2.
	Details of waste handling including, transport, identification, receipt, stockpiling and quality control; and	Refer to Section 3.1, Section 3.2.1, Section 4.3.4 and Section 4.3.6
	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 Sustainable Materials Strategy* 2041.	Refer to Section 2.3.1.

2.2.2. Maitland Development Control Plan 2011

The *Maitland Development Control Plan* 2011 (*Maitland DCP* 2011) came into effect on 16 December 2011, is in accordance with the provisions of the *Environmental Planning and Assessment Act,* 1979 and associated Regulations. It is consistent with the provisions of the *Maitland Local Environmental Plan* 2011 (*Maitland LEP* 2011). All relevant aspects of the *Maitland DCP* 2011 have been considered in preparing the WMMP for the proposed development.

The purpose of the *Maitland DCP* 2011 is to provide detailed provisions for development within the Maitland LGA. These provisions supplement the legal framework contained in the *Maitland LEP* 2011.

The aims of the *Maitland DCP* 2011 are:

(a) To provide a detailed planning document that outlines requirements for development which meets community expectations and addresses the key environmental planning issues of the Local Government Area; and

(b) To identify certain development as advertised development and to detail public notification requirements in accordance with Section 3.43 of the *Environmental Planning and Assessment Act* 1979.

2.2.2.1. Environmental Guidelines

It is a requirement under the *Maitland DCP* 2011 for the preparation of a Site Waste Minimisation and Management Plan (WMMP) for all types of development, inclusive of industrial development. The objectives of this chapter are:

- To minimise resource requirements and construction waste through reuse and recycling and the efficient selection and use of resources.
- To encourage building designs, construction and demolition techniques in general which minimise waste generation.
- To assist applicants in planning for sustainable waste management, through the preparation of a site waste minimisation and management plan. This plan is to be completed in the planning stages of a development.
- To facilitate effective waste minimisation and management for development in a manner consistent with the principles of ESD.

Table 2.2 provides an overview of the waste management requirements outlined in the *Maitland DCP* 2011, with the relevant sections within this WMMP mentioned.

Table 2.2. *Maitland Development Control Plan* 2011 waste management requirements.

Chapter	Maitland DCP Requirement	WMMP Section where this requirement is addressed
1.1 (a)	A SWMMP (WMMP) outlines measures to minimise and manage waste generated during demolition and construction processes, as well as the ongoing use of the site. The WMMP it to nominate the following:	This plan.
	• The volume and type of waste and recyclables to be generated;	Refer to Section 4.1, Section 4.2 and Section 4.3.
	• The storage and treatment of waste and recyclables on site;	Refer to Section 4.1, Section 4.2 and Section 4.3.
	• The disposal of residual waste and recyclables; and	Refer to Section 4.1, Section 4.2 and Section 4.3.
	• The operational procedures for ongoing waste management once the development is completed, including the nominated waste management service provider.	Refer to Section 4.3.
1.2	When implementing the WMMP, the applicant must ensure:	
	• Roads, footpaths, public reserves and street gutters are not used as places to store demolition waste or materials of any kind;	Refer to Section 4.1.
	• Any material moved offsite is transported in accordance with the requirements of the *Protection of the Environment Operations Act* 1997 and relevant Regulations;	Refer to Section 2.1.2.1 and Section 3.2.5.
	• Waste is only transported to a place that can lawfully be used as a waste facility, and by contractors who are aware of the legal requirements of the disposal of waste;	Refer to Table 4.1, Table 4.2 and Table 4.4.
	• Generation, storage, treatment and disposal of hazardous, offensive or special waste (including asbestos) is conducted in accordance with relevant waste legislation and relevant agencies;	Refer to Section 2.1.2.1 and Section 3.2.5.

Chapter	Maitland DCP Requirement	WMMP Section where this requirement is addressed
	• Evidence of compliance with any specific industrial waste laws and protocols, such as the *Protection of the Environment Operations Act* 1997 and relevant Regulations.	Refer to Section 2.
	• Materials which are to be disposed of and those which are to be reused/recycled are to be separated through the demolition and construction process; and	Refer to Section 4.1 and Section 4.2.
	• Materials that have existing reuse or recycling markets should not be disposed of in landfill when possible.	Refer to Section 4.1, Section 4.2 and Section 4.3.
1.3	The following waste generation rates shall apply: Type of Premises / Waste Generation / Recycling Generation Offices / 10L / 100m² floor area /day / 10L / 100m² floor area /day	Refer to Section 4.3.6 and Table 4.4.
2.1	Demolition of Buildings and Structures	
	(a) An area shall be allocated for the storage of materials for use, recycling and disposal, giving consideration to slope, drainage, location of waterways, stormwater outlets, vegetation and access and handling requirements;	Refer to Section 4.1.
	(b) Waste and recycling materials are to be separated; and	Refer to Section 4.1.
	(c) Measures are to be implemented to prevent damage, minimise health and order risks, and windborne litter.	Refer to Section 4.1.
3.1.	Construction of Buildings and Structures	
	(a) An area shall be allocated for the storage of materials for use, recycling and disposal, giving consideration to slope, drainage, location of waterways, stormwater outlets, vegetation and access and handling requirements. Signage is to be incorporated into this area in order for the clear definition of the space;	Refer to Section 4.2.
	(b) Waste and recycling materials are to be separated. Signage shall clearly indicate which bins or disposal units are for waste and those for recycling;	Refer to Section 4.2.
	(c) Measures are to be implemented to prevent health and odour risks, and windborne litter; and	Refer to Section 4.2.
	(d) The use of prefabricated components and recycled materials should be considered when possible.	Refer to Section 4.2.
4.3	Industrial Development (Operational Phase)	
	(a) The waste area should provide separate containers for the separation of general waste from recyclables; and	Refer to Section 4.3 and Table 4.4.
	(b) If Council is not the provided waste contractor, then a valid contract with a licensed waste facility is to be kept by the premises or the body corporate managing the site for the collection of waste and recyclables.	Refer to Section 4.3 and Table 4.4.

2.3. Strategic Drivers

2.3.1. NSW Waste and Sustainable Materials Strategy 2041

NSW Waste and Sustainable Materials Strategy 2041: Stage 1 – 2021-2027 outlines the actions NSW will take over the next six years – the first phase of the strategy – to deliver on a set of long-term objectives. The strategy is by $356 million in funding to help deliver priority programs and policy reforms, including:

- Phasing out problematic single-use plastic items;
- Financial incentives for manufacturers and producers to design out problematic plastics;
- Having government agencies preference recycled content and invest in research and pilots for recycling innovation;

- Introducing tighter environmental controls for energy from waste in NSW, with further consideration of planning and infrastructure needs underway;
- Mandating the source separation of food and garden organics for households and selected businesses; and
- Incentivising biogas generation from waste materials.

Specific targets focus on the environmental benefits and economic opportunities in how we manage our waste, and includes the following:

- Reduce total waste generated by 10% per person by 2030;
- Have an 80% average recovery rate from all waste streams by 2030;
- Significantly increase the use of recycled content by governments and industry;
- Phase out problematic and unnecessary plastics by 2025;
- Halve the amount of organic waste sent to landfill by 2030;
- Reduce litter by 60% by 2030 and plastics litter by 30% by 2025; and
- Triple the plastics recycling rate by 2030.

To complement this strategy, NSW also released the following documents:

- *NSW Plastics Action Plan*, which sets out how we will phase out problematic plastics, tackle litter from plastic items like cigarette butts, and support innovation and research; and
- *NSW Waste and Sustainable Materials Strategy: A guide to future infrastructure needs*, which sets out the investment pathway required for NSW to meet future demand for residual waste management and recycling.

Rutherford Tyre Recyclers proposes to recycle tyres into crumb rubber, helping to avoid the landfill disposal of tyres, and will contribute to the NSW recycling targets. The activity is aligned with the *NSW Waste and Sustainable Materials* Strategy and will contribute to maximising the use of current infrastructure for a larger throughput. Crumb rubber recycling has an average recycling rate of 98%, higher than the 80% recovery rate goal for 2030.

2.3.2. NSW Waste and Sustainable Materials Strategy: A Guide To Future Infrastructure Needs

The *NSW Waste and Sustainable Materials Strategy: A guide to future infrastructure needs* is a supplement to the NSW Waste and Sustainable Materials Strategy 2041. The guide outlines the emerging needs in NSW's waste and circular economy infrastructure network. The needs have been grouped by material types with a focus on materials commonly found in municipal solid waste (MSW) and commercial and industrial (C&I) waste streams. Significant gaps exist in our system for the reprocessing of some of these materials that have historically been exported for processing.

The guide sets out how the NSW Government will support the development of new infrastructure through facilitating infrastructure, e.g., through planning activities; investing in high priority projects; strategically planning for infrastructure with local communities; and aligning policy and regulation with the Strategy. The three key areas of focus, based on extensive analysis of material flows, current and planned capacity and proposed policy changes, are residual waste, organics and plastics.

The guide specifically addresses the current market, processing capacity, throughput and future needs, and the opportunities and challenges associated with processing of plastics, organics, glass, paper and cardboard, and tyres. The guide identifies a deficit of approximately 85,000 to 100,000 tonnes per annum (tpa) in the State's current tyre processing capacity, with a lack of local markets for tyre-derived products being a major challenge for the industry. However, a ban on export of whole tyres will come into effect in December 2021 should produce opportunities to address the significant processing deficit by developing new and existing local applications.

The proposed development for a tyre recycling facility will directly support the goal to increase local tyre recycling capacity.

2.3.3. The National Waste Policy 2018

The 2018 National Waste Policy was developed to provide a framework for a national approach to waste management, recycling and resource recovery, helping the country move towards a circular economy. The five overarching principles for waste management set out in the policy are:

- Avoid waste;
- Improve resource recovery;
- Increase use of recycled material and build demand and markets for recycled products;
- Better manage material flows to benefit human health, the environment and the economy; and
- Improve information to support innovation, guide investment and enable informed consumer decisions.

Supporting the policy is the *National Waste Policy Action Plan 2019* (the Plan). The Plan recognises the need to build a local market for the processing and reuse of problem wastes, ensuring Australia takes responsibility for its' waste production and moving toward a circular economy. Transforming problem wastes into high value materials will support job creation, build a more sophisticated industry, and provide positive environmental and community wellbeing outcomes. The Plan presents the targets and actions to implement the policy and aims to address impediments to a circular economy in Australia. The targets are:

1. Ban the export of waste plastic, paper, glass and tyres commencing in the second half of 2020;
2. Reduce total waste generated in Australia by 10% per person by 2030;
3. 80% average resource recovery rate from all waste streams following the waste hierarchy by 2030;
4. Significantly increase the use of recycled content by governments and industry;
5. Phase out problematic and unnecessary plastics by 2025;
6. Halve the amount of organic waste sent to landfill by 2030; and
7. Make comprehensive, economy-wide and timely data publicly available to support better consumer, investment and policy decision.

Whilst directly supporting the targets of the new waste policies, Rutherford Tyre Recycling will also demonstrate the importance of small-scale tyre processing facilities in improving the network of recycling infrastructure within NSW.

2.3.3.1. Council of Australian Governments Waste Export Ban

In 2019, the Council of Australian Governments (COAG) agreed to establish a ban on the export of waste plastic, paper, glass and tyres and take steps to build Australia's recycling and waste processing industries. The schedule for implementation commences on 1 January 2021 with the banning of export of unprocessed glass. From 1 December 2021 the export of whole used tyres, including baled tyres will be banned. As a result, there is a need to significantly improve Australia's capacity to process waste tyres.

2.3.4. NSW EPA Waste Classification Guidelines

The *NSW EPA Waste Classification Guidelines* 2014[1] cover the classification of waste into groups that pose similar risks to the environment and human health. There are several waste categories, with this WMMP dealing with special wastes (waste tyres), general solid waste (putrescible) and general solid waste (non- putrescible).

[1] NSW EPA (2014). Waste Classification Guidelines, Part 1: Classifying Waste. Accessed online: https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/wasteregulation/140796-classify-waste.pdf?la=en&hash=604056398F558C9DB6818E7B1CAC777E17E78233.

Used tyres are described as 'special waste' because it is recognised that this material can have potential environmental impacts if not managed correctly and so unique regulatory requirements are in place to minimise risk of harm to the environment and human health.

2.3.5. Fire and Rescue NSW – Guideline for Bulk Storage of Rubber Tyres[2]

The Fire & Rescue NSW guidelines (the Guidelines) for the bulk storage of rubber tyres provides guidelines for managers of any new facility which intends to store new or used tyres and related subsidiary products. It is a requirement that all facilities storing more than 5 tonnes or 500 waste tyres or processing more than 5,000 tonnes of waste tyres per year, are required to hold an environment protection licence issued by the NSW Environment Protection Authority.

The Proposal will trigger the requirement for an EPA license because the waste storage activity will exceed 5 tonnes of waste tyres stored on the premises at any time. The Proposal will be under the limit for resource recovery and so not require an EPA license for this part of the Proposal.

All tyres will be stored inside the existing unsprinklered shed. The designated tyre storage area is located towards the back of the shed. The building floor area is approximately 673m^2 meaning the Proposal does not trigger requirements for the building to have a sprinkler system or smoke and heat vents, as per Section 7.1 of the Guidelines:

> *"Buildings which have a floor area of 2,000m^2 or more and contain more than 20 tonnes of tyres should have a sprinkler system complying with AS 2118.1.*
>
> *Buildings which have a floor area of 2,000m^2 or more and contain more than 10 tonnes of tyres should have smoke and heat vents complying with specification E2.2c of the BCA (Volume one).*
>
> *Individual tyre stacks within buildings or structures should not exceed 3.7m in height and 30m^2 in area.*
>
> *Stored tyres must remain at least 1m clear in all directions from the underside of the building's roof or ceiling, roof structural members, lights (includes light fixtures) and sprinkler heads.*
>
> *A minimum clearance of 1m must be maintained along paths of travel to required exits and firefighting equipment (e.g. hose reels, extinguishers, hydrants). The paths of travel must be kept clear and unobstructed at all times."*

Additionally, Section 7.2 of the Guidelines outlines the requirements of unsprinklered buildings:

> *"A minimum clearance of 3m should be provided between stacks in an unsprinklered building.*
>
> *A minimum clearance of 3m should be provided between tyre stacks and any building structural member in an unsprinklered building."*

The two storage areas, one for whole tyres and the other for recovered products, will not exceed a maximum height of 3.7m and or a floor area of 30m^2. A minimum clearance of 3m is also provided between stacks given the building is unsprinklered. Given these restrictions, the maximum storage dimensions for the Proposal are a maximum of 24m^2 in area and 3.5m in height.

[2] NSW Government (2014). *Fire & Rescue NSW – Guideline for bulk storage of rubber tyres.* Available online: https://www.fire.nsw.gov.au/gallery/files/pdf/guidelines/rubber_tyres.pdf (Last accessed 11 January 2024).

3. Project Description

Rutherford Tyre Recyclers Pty Ltd are seeking approval to establish a tyre recycling facility within an existing shed located at 9 Burlington Place, Rutherford (Lot 3005 / DP1040568). The operation can be defined as a 'resource recovery facility'.

The Site covers an area of 1,655m^2, with a ~290m^2 existing shed (and awning) on the site that has a ~35m^2 office attached on the eastern side of the shed. The Site is supported by an outdoor concrete hardstand area with access to the Site from Burlington Place via a driveway. The driveway provides access to the outdoor hardstand which has access to the shed, open awning and office.

The existing shed requires minimal alterations as part of the development. This will involve enclosing the existing open awning at the back of shed, removing the dividing wall and installing two roller doors, creating a larger, fully enclosed industrial shed on Site. The industrial shed will have an area of ~638m^2. The two new roller doors will allow access into the industrial shed. A 9m above ground weighbridge will be installed on the hardstand area close to the access point of the Site. All vehicles will enter the Site from Burlington Place via the access driveway. To exit the Site, vehicles will reverse into the industrial shed via the roller doors of the industrial building and exit the Site onto Burlington Place. Site plans are shown in Figure 3.3, with Appendix 1 also showing the vehicle swept paths.

The following features will be included in the building:

- Waste Tyre Recycling Production Line;
- Rubber Tiles Production Line;
- Whole Tyre Storage Area;
- Crumb Rubber Storage Area;
- Storage of rubber tiles and mats within Crumb Rubber Storage Area.

All operations will occur inside the industrial shed. A loading area will be located outside between the front and middle roller doors of the industrial shed. Tyres will be offloaded by hand and brought into the shed to be placed in The Whole Tyre Storage Area.

The site office and staff amenities are located towards the western site boundary close to the site entrance, attached to the existing shed.

No tyres or residual materials will be stored outside on the hardstand area.

3.1. Proposed Site Works

The following site works are proposed in this development application:

- Building works to enclose the open awning towards the rear of the Site, removing the dividing wall and installing two roller doors. These amendments will create a larger, fully enclosed industrial shed on Site;
- Change of use for the existing shed from storage to a tyre recycling facility;
- Installation of a waste tyre recycling production line;
- Installation of a rubber tiles production line;
- Installation of a 9m portable above ground weighbridge located near the Site entrance;
- Line marking of one loading bay and overnight parking for two heavy rigid vehicles (HRVs);
- Internal storage area to store delivered whole used tyres;
- Internal storage area to store recovered materials from tyre recycling and rubber mats/tiles produced on-site; and
- Additional fire protection measures, including installation of:

- Fire extinguishers;
- Three fire hydrants;
- A windsock to assist Fire & Rescue NSW to determine the prevailing wind direction in the unlikely event of a fire;
- Full firewater containment bunding around the site;
- Stormwater isolation valve (to contain firewater in the unlikely event of a fire);
- Carbon dioxide alarms;
- Storage areas 3m clear from roof; and
- Manual call points in clearly visible locations. These small red boxes are linked to the fire alarm system to allow occupants to trigger the alarm manually in the event of a fire.

3.2. Main Uses and Activities

3.2.1. Incoming Used, Whole Tyres

The Site will receive an average of 7.5 tonnes per day – approximately 4,500 tonnes per annum – of used whole tyres for recycling on-site. Rutherford Tyres Recycling will receive incoming waste tyres from Tyres & More (a business also operated by Rutherford Tyre Recyclers) and other tyre retailers in the region. No other material will be received on-site. Due to the method of collection of waste tyres, there is virtually no contamination present in the received loads. An average of 18 vehicle movements (9 inbound and 9 outbound) will be generated by the Site per day. This includes up to 5 staff vehicles as well as two 7.5 tonnes medium rigid vehicle (MRV) truck deliveries.

All incoming whole tyre deliveries are delivered onto site by a 7.5 tonnes MRV via the driveway access from Burlington Place. The MRV will proceed to the 9m above ground weighbridge to be weighed before proceeding to the loading area. At the loading area, tyres will be unloaded via hand and brought straight inside the industrial shed and stacked in the Whole Tyre Storage Area. This has a maximum storage area space of 24m^2.

The tyres are then processed on-site via the Waste Tyre Recycling Production Line.

3.2.2. Vehicle Access and Loading Bay Area

All vehicles will access the site from Burlington Place via the driveway access point on the western boundary of the Site. Vehicles will proceed onto the hard stand before being weighed on the 9m above ground weighbridge located near the Site access point. Once weighed, the truck will proceed forward to the designated loading bay area where whole tyres will be unloaded and stacked in the Whole Tyre Storage Area located within the industrial shed. The truck will then be backloaded with products produced on-site. Once loaded, the truck will proceed to manoeuvre forward, reverse back through the industrial shed roller doors, turn left and proceed forward to the weighbridge. After the truck has been weighed, it will exit the Site via the access driveway onto Burlington Place in a forward direction. All tyres on site will be recycled into crumb rubber, with some crumb rubber being used to create rubber tiles and mats on-site.

3.2.3. Waste Tyre Recycling

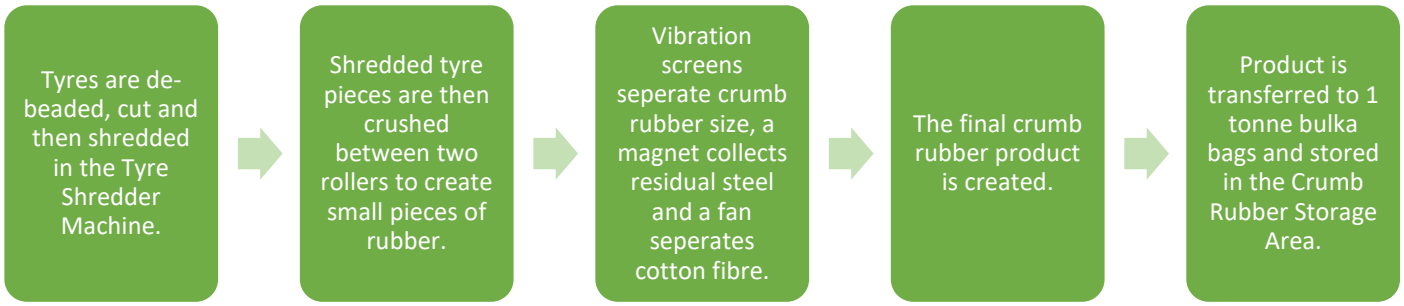
All operations will occur within the industrial shed. The Waste Tyre Recycling Production Line has an efficiency of 98% and consists of seven steps to produce crumb rubber from whole, used tyres.

The first step involves the tyre de-beader to remove the metal wiring from inside the tyre. The tyre is then cut into a long rubber strip using the tyre strip cutter before being placed onto a conveyor belt and loaded into the whole tyre shredder. The next stage involves crushing the rubber blocks into mesh rubber powder using the double roller rubber breaker. A vibration screen is then used to separate the different sized pieces of crumb rubber.

The Waste Tyre Recycling Line produces crumb rubber, residual steel and residual cotton from the whole tyres. These are separated by material type and stored in the Crumb Rubber Storage Area at the eastern end of the industrial shed.

The Crumb Rubber Storage area has a maximum storage space of 24m^2. All rubber tiles and mats produced on-site will be stored on pallets in this storage area to a maximum height of 3.5m. Figure 3.1 provides an overview of this process.

Figure 3.1. The waste tyre recycling process that will occur on Site.



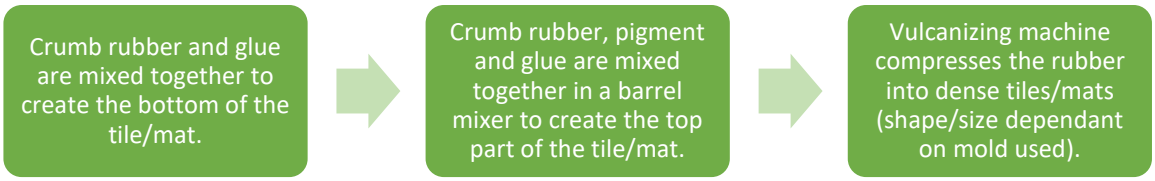
3.2.4. Rubber Tiles Production

Rubber tiles and rubber mats are produced on-site using a small thermal-moulding process that converts crumb rubber into rubber matting or rubber tiles. The crumb rubber produced on-site is the material used for rubber tiles production.

The first step involves mixing the rubber crumb with glue to create the bottom of the rubber tile. The top part of the rubber tile involves mixing rubber crumb, pigment and glue together in a barrel mixer. A vulcanizing machine is used to create vulcanized rubber tiles by compressing the rubber into dense, ultra durable, non-porous rubber tiles.

The rubber tiles and mats will also be stored in the Crumb Rubber Storage area to await being taken off-site. Figure 3.2. provides an overview of this process.

Figure 3.2. The rubber tiles production process that will occur on Site.



3.2.5. Transfer of Tyres and Residual Materials from Site

The MRV will be loaded with recycled material produced on site prior to leaving. All vehicles leave the site by reversing into the middle roller door of the industrial shed and proceeding to exit in a forward direction onto Burlington Place. Prior to leaving the Site, the MRV will be weighed on the weighbridge to track the amount of waste being removed from site.

This Proposal will transport tyres with a weight more than 200 kilograms and so will track waste tyre movements using the Integrated Waste Tracking Solution to be compliant with Clauses 76 and 79 of the *Protection of the Environment Operations (Waste) Regulation* 2014.

3.3. Operating Hours

The proposed operating hours for this development are 5am to 6pm on weekdays, 8am to 1pm on Saturdays and closed on Sundays and Public Holidays. A breakdown of the weekly operation is as follows:

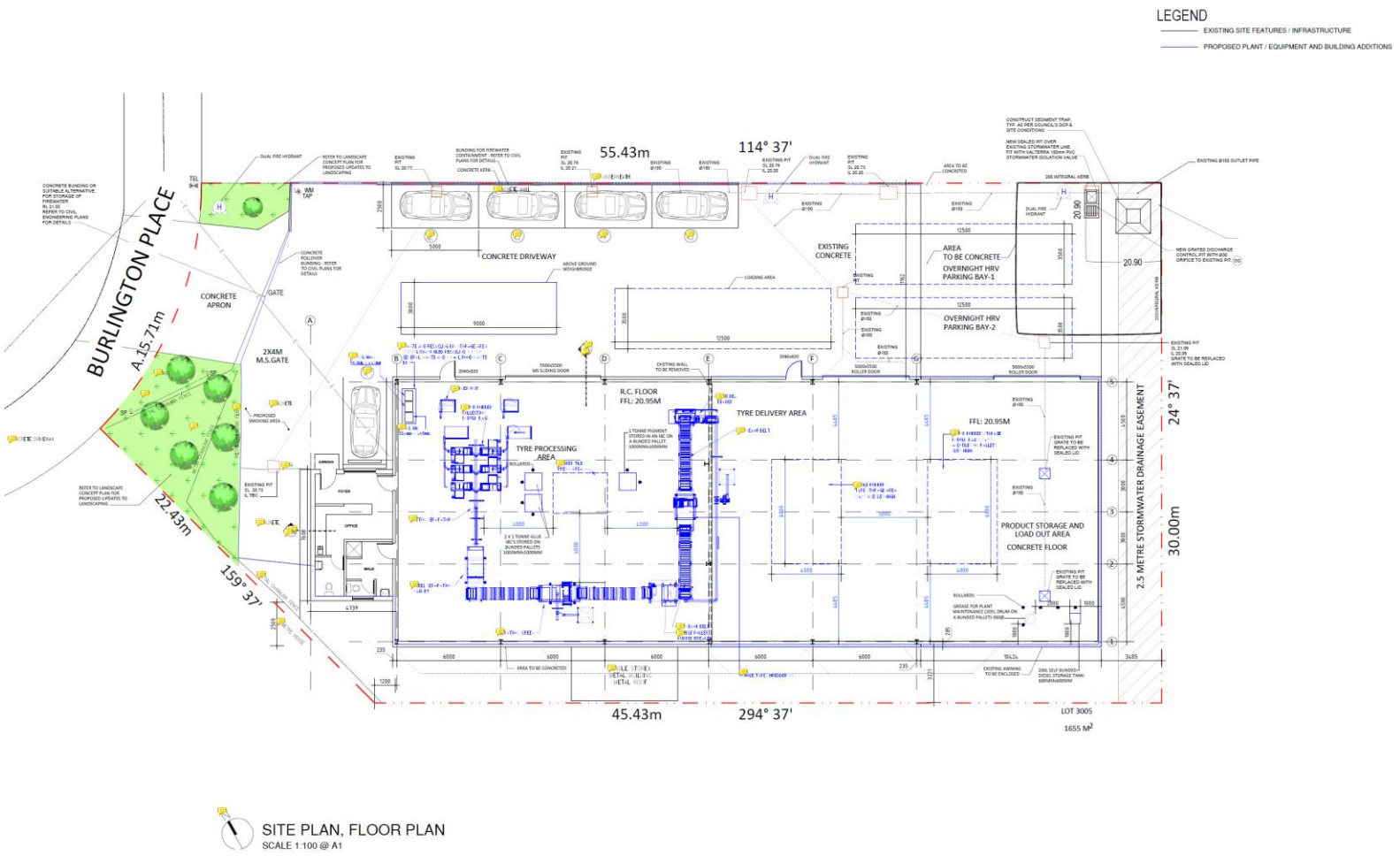
- Crumb Rubber Production

  - Monday – Friday: 5am – 6pm
  - Saturday: 8am – 1pm
  - Sunday & Public Holidays – Closed
- Tyre Delivery
  - Monday – Friday: 7am – 6pm
  - Saturday: 8am – 1pm
  - Sunday & Public Holidays – Closed

These operating hours have been proposed to enable the utilisation of off-peak electricity rates, with electricity necessary to drive the tyre recycling production line. As part of the proposed operating hours for crumb rubber production fall within 'nighttime' period (between 5am – 7am period), a noise study assessment has been conducted to demonstrate that the crumb rubber production does not exceed noise criteria as per the NSW EPA's *Noise Policy for Industry* (2017)[3].

[3] NSW (2017) Noise Policy for Industry (2017). Internet publication: https://www.epa.nsw.gov.au/your-environment/noise/industrial-noise/noise-policy-for-industry-(2017)

Figure 3.3. Proposed site layout (see Attachment 1 for high resolution plans).



Date	Revision	Drawn By	Site description	Jackson Environment and Planning Pty Ltd		Client	Rutherford Tyre Recyclers Pty Ltd
10/10/2023	Revision A	V.Wilson	9 Burlington Place Rutherford NSW 2320 (Lot / 3005 DP1040568)	Strategy | Infrastructure | Compliance | Procurement A: Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060 E: admin@jacksonenvironment.com.au T: 02 8056 1849 W: http://www.jacksonenvironment.com.au		Project	Rutherford Tyre Recycling Facility WMMP
						Title	Site concept layout plan
						Scale	1:100
						Source	Jackson Environment and Planning

4. Waste Management

Waste management practices outlined below address the economic, environmental and safety imperatives during the operational phase of the facility. These enhanced management practices also produce triple bottom line benefits including financial efficiencies, and a safe work site.

The benefits of the management practices outlined in the plans will be realised from the outset by both the business and the broader community in the form of reduced costs of disposal, reduced costs of legal liability and common good through:

- Maximising recovery of resources;
- Exercising due diligence for safe disposal of waste; and
- Providing a safe worksite.

4.1. Demolition Phase

The proposal will require minor demolition works to remove one dividing wall between the existing shed and open awning to allow for a larger, fully enclosed industrial shed to be built. Waste will consist of concrete post footings and metal sheeting. Table 4.1 details the estimated volume of each waste type to be generated, with an overall recycling rate of 98% expected. All waste will be placed directly into skip bins and taken for off-site recycling to an appropriate licensed facility.

There will be one 10m^3 skip bin for both the concrete and metal sheeting because cross contamination risks are minimal, and these materials will be sent to the same recycling facility. Two 120L bins will be used to collect any litter on site during construction and food waste from staff meals during this time too. All bins will have lids to ensure all waste is secured and odour minimised. There will be no demolition waste or materials of any kind stored on roads, footpaths, public reserves or street gutters. Figure 4.1 demonstrates the location of the waste collection area where bins will be placed to collect waste during the Demolition phase. Considerations were made to slope, drainage, waterways, stormwater outlets, vegetation, access and handing, with the location chosen in Figure 4.1 deemed most suitable.

Table 4.1. Breakdown of the waste from the demolition phase.

Waste Type	Waste Identified	Waste Description	Disposal Method	Suggest Receiving Facility	Volume (Tonnes)	Volume of bin(s) required	Recycling rate
General Solid Waste (non-putrescible)	Concrete	Concrete footings from existing dividing wall	Off-site recycling	Newcastle Recycling Pty Ltd Environment Protection Licence 20585	5	10m^3 skip bin	100%
	Metal Sheeting	Colourbond metal sheet wall panels	Off-site recycling	Newcastle Recycling Pty Ltd Environment Protection Licence 20585	1		100%
	Litter and residual waste	Non-recyclable rubbish from across site	Off-site disposal	Mount Vincent Road Waste Landfill Facility	0.1	120L bin	0%

Waste Type	Waste Identified	Waste Description	Disposal Method	Suggest Receiving Facility	Volume (Tonnes)	Volume of bin(s) required	Recycling rate
				Environment Protection Licence 6116			
General solid waste (putrescible)	Food waste	Staff meals	Off-site disposal	Awaba Waste Disposal Facility Environment Protection Licence 5873	0.1	120L bin	100%
TOTAL Amount of waste generated (tonnes)						6.2	
TOTAL Amount of waste recycled (tonnes)						6.1	
Overall recycling rate						98%	

Figure 4.1. Aerial view of the Site with the waste collection area during the demolition and construction phases shown in green.

Date	Revision	Drawn By	Site description	Jackson Environment and Planning Pty Ltd		Client	Rutherford Tyre Recyclers Pty Ltd
11/10/2023	Revision A	V. Wilson	9 Burlington Place Rutherford NSW 2320 (Lot 3005 DP1040568)	Strategy | Infrastructure | Compliance | Procurement A: Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060 E: admin@jacksonenvironment.com.au T: 02 8056 1849 W: http://www.jacksonenvironment.com.au		Project	Rutherford Tyre Recycling Facility
						Title	General Locality
						Scale	Not to Scale
						Source	Nearmaps

4.2. Construction Phase

The Proposal will require minor construction works to enclose the existing open awning and install two roller doors to create a large, fully enclosed industrial shed on-site. There are no construction works required for the installation of the new crumb rubber plant, rubber tile press or internal storage areas.

Construction will require some excavation for the placement of wall posts and panels. Each post hole is expected to extend to a depth of approximately 1.7m and require the excavation of approximately 0.5m^3 of soil. The total number of post holes will be dependent on the width of the pre-cast panels to be used, but it is anticipated that approximately 6 post holes will be required, with a total excavation volume of 3m^3 of soil. All excavated material will be transported to an appropriate licensed facility for disposal.

The Proposal will also involve an extension of the existing concrete hardstand and the construction of two small new stormwater below ground pits. Very little soil disturbance will occur as a result of conducting these works. Any minor amount of soil removed during the paving and installation of these pits will be tested and classified in accordance with EPA's *Waste Classification Guidelines*.

The materials used in the construction of the metals walls are modular and are delivered to site pre-measured and cut which reduces construction time, costs and minimises waste.

The waste generated during the construction phase is expected to be similar to that generated during the demolition phase due to a similar scale in work and type of materials used. Table 4.2 provides a breakdown of the waste expected to be generated during the construction phase, with a receiving facility suggested provided. The expected recycling rate during the construction phase is 99%. Figure 4.1. shows the location of the waste collection area, which is the same location as during the Demolition phase. This location has been chosen due to the flat location, being away from vegetation, drainage and waterways and additionally allows easy access both for storing waste but also navigation of waste during this phase. Signage will clearly indicate which waste type belongs in each bin to ensure recyclable and non-recyclables materials are kept separate and cross-contamination risks minimised. All bins will have lids closed at all times to prevent any waste being blown out of the bin and to minimise odour.

Residual waste will be collected in a separate bin and regularly removed from the site for disposal in a licensed landfill. Other recovered materials will be sent to EPA licenced recycling facilities in the region. All soil will be tested and validated prior to disposal in accordance with the EPA's *Waste Classification Guidelines*, refer to Section 3.2.3.

Table 4.2. Breakdown of expected waste to be generated during the Construction Phase.

Waste Type	Waste Identified	Waste Description	Disposal Method	Suggest Receiving Facility	Volume (Tonnes)	Volume of bin(s) required	Recycling rate
General Solid Waste (non-putrescible)	Concrete	Waste concrete from footings	Off-site recycling	Newcastle Recycling Pty Ltd Environment Protection Licence 20585	5	5m^3 skip bin	100%
	Metal Sheeting	Colourbond metal sheet wall panels	Off-site recycling	Newcastle Recycling Pty Ltd Environment Protection Licence 20585	1	5m^3 skip bin	100%
	Soil	Soil from installation of stormwater pits and new hardstand footings	Off-site recycling	Newcastle Recycling Pty Ltd Environment Protection Licence 20585	1.65	5m^3 skip bin	100%
	Litter and Residual Waste	Non-recyclable waste from across site	Off-site disposal	Mount Vincent Road Waste Landfill Facility Environment Protection Licence 6116	0.1	120L bin	0%
General solid waste (putrescible)	Food waste	Staff meals	Off-site disposal	Awaba Waste Disposal Facility Environment Protection Licence 5873	0.1	120L bin	100%
TOTAL Amount of waste generated (tonnes)					7.85		
TOTAL Amount of waste recycled (tonnes)					7.75		
Overall recycling rate					99%		

4.3. Operational Phase

The site operations generate little waste. Whole waste tyres are the only form of waste brought to the site and are received directly from tyre retailers. As the tyres are separated from other waste types at the source, there is virtually no contamination in the loads brought to site.

4.3.1. Materials Received On Site

The only materials to be received on site will be used whole tyres, with these sourced from Tyres & More, a company also operated by Rutherford Tyres Recyclers, and other tyre retailers in the region. The Facility will recycle a maximum of 4,500 tonnes of waste tyres per annum.

4.3.2. Products Recovered

The facility will recycle an expected 98% of all incoming tyres (4,411 tonnes per annum). The remainder of the waste received will be disposed at a lawful landfill (90 tonnes per annum).

The following products are produced through the recycling process:

- Crumb Rubber – crumbs can be produced in various sizes to suit different uses, e.g. soft-fall in playgrounds, asphalt production;
- Steel – steel is removed from tyres either using the bead removal machine or magnetically during the crumb rubber process. Recovered steel is sent to steel manufacturers; and

- Cotton – Cotton is recovered from inside the rubber tyre. Recovered cotton will be sent to a material recycler and manufactured into glue products.

The processing of waste tyres generates very small amounts of residual waste. Crumb rubber production can recover and recycle 98% of the tyre, with the remaining 2% going to licensed landfill.

The Facility will also operate a Rubber Tile Press to produce rubber tiles and matting using some of the crumb rubber produced on-site. Refer to Table 4.1 for a breakdown of products recovered on-site.

4.3.3. Quality Specifications and Standards for Manufactured Products

Manufacturing products to meet the EPA's Resource Recovery Orders under the *Protection of the Environment Operations (Waste) Regulation* 2014 is critical to ensure all products can be used in a manner lawfully that protects human health and the environment. Supply of recovered tyres for the application to land for use in civil engineering structures and road making activities is subject to the requirements of *The Recovered Tyres Order* 2014 and *The Recovered Tyres Exemption* 2014.

4.3.4. Waste Storage, Identification and Stockpile Heights

There will be two storage areas located within the industrial shed, both towards the eastern side of the Site. The Whole Tyre Storage Area is used for storing the incoming used whole tyres and has a maximum storage capacity of 24m^3 and a stacking height maximum of 3.5m to be in line with the *NSW Fire and Rescue 2014 Fire Safety Guideline – Guideline for Bulk Storage of Rubber Tyres*[4] for an unsprinklered building. Additionally, tyres will be stored with at least 1m clearance in all directions from the underside of the building's roof or ceiling, roof structural members and lights (including light fixtures).

The Crumb Rubber Storage Area is used for the crumb rubber produced from tyre recycling and has a maximum storage capacity of 24m^3. Crumb rubber will be stored in 1 tonne bulka bags. The rubber tiles and rubber matting produced on-site will also be stored in this storage area on pallets to a maximum height of 3.5m, as well as residual waste from the recycling process. Refer to Appendix 2 for a diagram with tyre storage restrictions from *NSW Fire and Rescue 2014 Fire Safety Guideline – Guideline for Bulk Storage of Rubber Tyres.*

The material waste classification has been completed in line with the *NSW EPA Waste Classification Guidelines – Part 1: Classifying Waste*[5]. Refer to Table 4.3. for additional information about waste storage and waste classification.

[4] NSW Fire & Rescue 2014 Fire Safety Guideline - Guideline for bulk storage of rubber tyres. Accessed online: https://www.fire.nsw.gov.au/gallery/files/pdf/guidelines/rubber_tyres.pdf

[5] NSW EPA Waste Classification Guidelines – Part 1: Classifying Waste. Accessed online: https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/wasteregulation/140796-classify-waste.pdf?la=en&hash=604056398F558C9DB6818E7B1CAC777E17E78233

Table 4.3. Breakdown of material type, estimated quantities and storage information.

Flow of material	Materials	Type of material	Waste Classification	Estimated tonnes per annum	Maximum storage at any one point in time (m^3)	Maximum storage at any one point in time (tonnes)	Storage Area	Type of storage
Input	Whole Tyres	Input material	Special Waste	4,500	84	25.2	Whole Tyre Storage Area	Stacked tyre storage area
Output	Crumb Rubber	Output material	Not applicable	4,057.2	36.75	36.75	Crumb Rubber Storage Area	1 tonne bulka bags
Output	Recovered Steel	Output material	Not applicable	266.4	5.25	2.63	Crumb Rubber Storage Area	1 tonne bulka bags
Output	Cotton	Output material	Not applicable	88.2	5.25	1.827	Crumb Rubber Storage Area	1 tonne bulka bags
Output	Residual Waste	Output material	General solid waste (non-putrescible)	88.2	5.25	1.827	Crumb Rubber Storage Area	1 tonne bulka bags
Output*	Rubber Pavers	Output material	Not applicable	415	15.75	12.6	Crumb Rubber Storage Area	Stacked on Pallets
Output*	Rubber Matting Material	Output material	Not applicable	415	15.75	12.6	Crumb Rubber Storage Area	Stacked on Pallets
Total				**4,500 t**	**168 m^3**	**93.43 t**		

*Output uses crumb rubber, a material produced on-site.

There will also be the storage of various additional materials on site for the operational activities to occur. This includes the storage of diesel, grease, pigment and glue. All of these materials will be stored within the industrial shed. Diesel will be stored in a 200L self-bunded diesel storage tank and grease will be stored in a 205L drum on a bunded pallet, both located in the south-eastern corner of the site. The glue and pigment associated with the rubber tiles press production are stored either side of the rubber tile press. 1 tonne of pigment is stored in an IBC on a bunded pallet and 2x 1 tonne of glue is stored in an IBC on a bunded pallet.

4.3.5. Maximum Authorised Waste Quantities and Storage Quantities

The *Protection of the Environment Operation Act* 1997 (POEO Act) prohibits any person from causing pollution of waters, or air and provides penalties for air, water and noise pollution offences. Section 48 of the Act requires a person to obtain an Environment Protection Licence from the NSW Environment Protection Authority before carrying out any of the premise-based activities described in Schedule 1 of the Act.

Schedule 1, Part 1 (34) of the Act lists 'Resource recovery' including 'recovery of waste tyres' as an activity. 'Recovery of waste tyres' *means the receiving of waste tyres from off site and their processing, otherwise than for the recovery of energy.*

A Resource Recovery activity is declared to be a scheduled activity if it meets the following criteria:

"…if the premises are in the regulated area—

(a) involves having on site at any time more than 1,000 tonnes or 1,000 cubic metres of waste, or

(b) involves processing more than 6,000 tonnes of waste per year if the premises are outside the regulated area-

(a) involves having on site at any time more than 2,500 tonnes or 2,500 cubic metres of waste, or

(b) involves processing more than 12,000 tonnes of waste per year."

Schedule 1 of the Act (Clause 42) details "Waste Storage" as an activity. Waste storage means the receiving from off site and storing (including storage for transfer) of waste.

A waste storage activity is declared to be a scheduled activity if it meets the following criteria:

(c) more than 5 tonnes of waste tyres or 500 waste tyres is stored on the premises at any time (other than in or on a vehicle used to transport the tyres to or from the premises);

The Proposal will trigger the requirement for an EPA license because the waste storage activity will exceed 5 tonnes of waste tyres stored on the premises at any time. The Proposal will be under the limit for resource recovery and so not require an EPA license for this part of the Proposal. A 9m weighbridge will be installed onsite to accurately track the quantity of incoming tyres to ensure that the authorised amount and annual limits are not exceeded.

4.3.6. Waste and Recycling Measures - Office Operations

The office operations associated with the Facility will generate waste from office administration and personnel activities (e.g., staff meals). Whilst waste generation from these activities is considered minor, they need to be appropriately managed to ensure that waste is minimised and recycled in accordance with the waste hierarchy in the NSW Government's *Waste Avoidance and Resource Recovery Act* 2001.

The operation will generate minimal waste as part of the office operations. However, a full co-mingled recycling system is used to separate waste. Co-mingled recycling and general waste is stored in 120 litre wheelie bins in the uncovered yard. This waste is collected and taken to licensed receiving facilities, refer to Table 4.4.

It is noted that the *Maitland* DCP 2011 provide office waste generation rates to be used in the WMMP, however these are outdated and do not reflect the current waste recycling figures achievable today. The provided waste generation rate of 10L / 100m^2 floor area /day for both waste and recycling generation would result in a recycling rate of 50%, with no consideration given to food waste as a separate, recyclable stream. Given this, the waste generation and recycling estimates are calculated using the *NSW EPA Disposal-based audit* 2015[6]. Overall, it is estimated that the office operations will recycle approximately 98.1% of all waste generated. Refer to Table 4.4 for the waste calculation breakdown as well as information about separate bins for the separation of recyclable and non-recyclable material.

4.3.7. Incident Management – Spills

The spills most likely to occur onsite are oils and fuel. To better manage a spill incident, Spill Response Kits will be kept on-site at various clearly identified locations in easily accessible areas. A Safety Data Sheet (SDS) (will be completed as

[6] NSW EPA, 2015. Disposal-based audit: Commercial and industrial waste stream in the regulated areas of New South Wales. Accessed online: https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/warrlocal/150209-disposal-audit.pdf

part of the site Operational Environmental Management Plan) will be placed within sight and near spill kits. The SDS will have clear instructions on spill response management – clean up and disposal.

A Pollution Incident Response Management Plan will be developed for the site (as part of the site Operational Environmental Management Plan) and will be followed in the event of a large spill.

4.3.8. Non-conforming Waste

Due to the nature of the waste received on site, non-conforming waste types are rarely brought to site and generally involve very minor contamination within acceptable waste tyre loads.

Tyres are stacked by hand into trucks (flatbed trucks with metal cage sides) at the tyre recycling retailer and then brought directly to the Site. Tyres are then unloaded by hand and stacked in the Whole Tyre Storage Area. Minor contamination, such as packaging materials, may be caught between tyres and can easily be removed by hand during unloading and disposed of in the Site's residual waste skip bin.

In the event a load of waste tyres with significant contamination is brought to the site, a Procedure for non-conforming waste (to be part of the site Operational Environmental Management Plan) will be followed.

4.3.9. Residual Waste

Residual waste on site occurs from employee personal waste, general office waste, minor contamination in incoming tyre loads (e.g. plastic packaging materials) and residual tyre waste that is not able to be recycled. Personal and office waste will be disposed of to a registered waste collection service, as specified in Table 4.4. All residual waste is collected in a bulka bag, stored in the Crumb Rubber Storage Area and collected by a contracted, licensed waste collection service. The residual waste will be periodically removed to a licensed waste disposal facility as required.

Table 4.4. Waste and recycling measures for waste generated by office operations.

Key Waste Stream	Volume of waste generated per day per 35m^2 floor area (for offices) (m^3)	Weekly waste generation (based on a 6-day working week and office floor area of 35m^2) (m^3)	Density (t/m^3)	Estimated tonnages per year (tonnes)	Segregation Areas / Containers	Reuse / Recycling / Disposal Method	Waste Type (NSW EPA Pre-classified Waste)	Suggested Receiving Facility	Recycling rate (%)
Co-mingled recycling: plastic / glass containers / metal cans / paper and cardboard	0.01	0.06	0.7	2.1	120L Recycling Bin (serviced weekly)	Off-site recycling	General waste (non-putrescible)	Newcastle Recycling Pty Ltd Environment Protection Licence 20585	100%
General waste (non recyclable residual waste)	0.003	0.001	0.8	0.04	120L General Waste Bin (serviced fortnightly weekly)	Off-site disposal	General waste (non-putrescible)	Mount Vincent Road Waste Landfill Facility Environment Protection Licence 6116	0%
Food waste	0.006	0.0002	0.6	0.06	60L Food Bin	Off-site recycling	General waste (putrescible)	Awaba Waste Disposal Facility Environment Protection Licence 5873	100%
Waste generated (tonnes per year)				2.2					
Waste recycled (tonnes per year				2.16					
Overall recycling rate				98.1%					

5. Environmental Risk Assessment

A risk assessment has been undertaken to identify the level of risk that operational activities may present to waste management.

The following points summarise the key activities identified in the risk assessment relevant to waste management for operation of the Facility:

- Litter (e.g. food waste, packaging) from site amenities reaching local waterways;
- Dust from crumb rubber production leaving the site;
- Leakage of vehicles duration loading and unloading;
- Fuel and oil spills during operational plant and equipment maintenance; and
- The location and storage of waste on site prior to reuse or disposal.

5.1. Environmental Control Measures

Table 5.1 provides the environmental control measures and safeguards implemented to minimise waste generated operation of the facility.

Table 5.1. Environmental control measures.

Control Measures and Safeguards	Timing	Responsibility
Waste management and minimisation will form part of the induction program (which includes environmental due diligence training). All personnel will be trained in the requirements of this document including minimising wastes, recognising which types of materials are recyclable and their obligations to use recycling facilities provided on site.	Prior to starting on site / Ongoing	Operations Manager
Clearly assign and communicate responsibilities to ensure that all personnel are aware of their responsibilities in relation to the waste management plan	Prior to starting on site / Ongoing	Operations Manager
Engage and educate personnel on how the various elements of the waste management plan will be implemented	Prior to starting on site / Ongoing	Operations Manager
Specific locations for waste management (e.g., recycling bin locations, stockpile locations) to be signposted appropriately.	Weekly checks	Operations Manager
Processing and hardstand areas will be adequately managed to prevent sediment runoff and dust generation.	Daily	Operations Manager
Spill kit to be present on site in the case of any fuel leaks of plant and equipment	Ongoing	Operations Manager
Segregated waste disposal containers for the collection and recycling/disposal of all waste streams generated during operations will be provided onsite. Waste disposal containers will have clear signage and instructions for use to avoid cross-contamination. No rubbish shall be disposed of on site.	Daily	Operations Manager
Waste will be disposed to an appropriate licensed facility. A Waste Management Register of all waste collected for disposal and / recycling, including amounts, data and time and details and location of disposal will be maintained at all times.	Daily	Operations Manager
All waste being transported off site must be covered. The transportation must be appropriately licensed to carry that material.	Daily	Operations Manager
Storage of all tyres and tyre products will be stores in line with requirements of the Fire & Rescue NSW – Guideline for bulk storage of rubber tyres.	Daily	Operations Manager

Control Measures and Safeguards	Timing	Responsibility
Any hazardous materials will be managed and handled by an appropriately licensed contractor and transported for disposal to a licensed facility approved site.	As required	Operations Manager
Any material contaminated by spills i.e. fuel, oil, lubricants etc., including empty fuel, oil and chemical containers, will be stored in a sealed secure container within a bunded area and will be transported to a waste disposal site approved by the NSW EPA to accept such material.	Daily	Operations Manager
Incompatible wastes will not be mixed.	Daily	Operations Manager
Storage areas would be located away from waterways and the stormwater system.	Daily	Operations Manager
Biodegradable products will be used wherever practicable.	Daily	Operations Manager
Regular collection of wastes will ensure air emissions are at a satisfactory level. Inappropriate waste and wastewater management systems will be regularly inspected and audited.	Daily	Operations Manager
Conduct regular litter patrols to ensure litter is effectively controlled on site.	Daily	Operations Manager
Daily housekeeping to include sweeping and dust removal around crumb rubber plant to minimise offsite movement of dust	Daily	Operations Manager

6. Training

All employees, contractors and other staff working on site will undergo site induction training (which includes environmental due diligence training) and environmental training in relation to waste management issues. The induction will address:

- This WMMP;
- Relevant legislation;
- Waste minimisation strategies;
- Waste recognition and recycling;
- Available recycling facilities; and
- Energy and water minimisation measures.

Records would be kept of all personnel undertaking the site induction and training, including the contents of the training, date and name of trainer/s.

Key staff will undertake more comprehensive training relevant to their position and/or responsibility. This training may be provided as “toolbox” training or specific training tailored by the Operation Manager.

7. Monitoring and Review

7.1. Inspections and Monitoring

Regular monitoring will be undertaken to track waste management on site. This will be through a series of formal and informal inspections at regular intervals, refer to Table 7.1 for additional information.

Table 7.1. Waste monitoring and review schedule.

Activity	Resources	Responsibility	Frequency
Daily Site inspections (work area)	Site Diary	Operations Manager	Daily Issues recorded in Site Diary (by exception)
Weekly Environmental Inspection	Environmental Site Inspection Checklist	Operations Manager	Weekly
Waste removal activities off site	Monthly Register for Waste Materials	Operations Manager	Monthly

7.2. Auditing

Audits will be undertaken to assess the effectiveness of environmental controls and compliance with this plan and other relevant guidelines.

A schedule for internal audits providing frequencies and responsibilities is to be determine by the Operations Manager as appropriate.

7.3. Environmental Management Review

The effectiveness and proper implementation of the WMMP will be reviewed every twelve months or sooner as necessary. Review will be undertaken by the management team. The review will comprise:

- Reviewing the results of audits;
- Evaluation of the system, which improvements and corrective actions will be sought; and
- Evaluation of the operation of the WMMP.

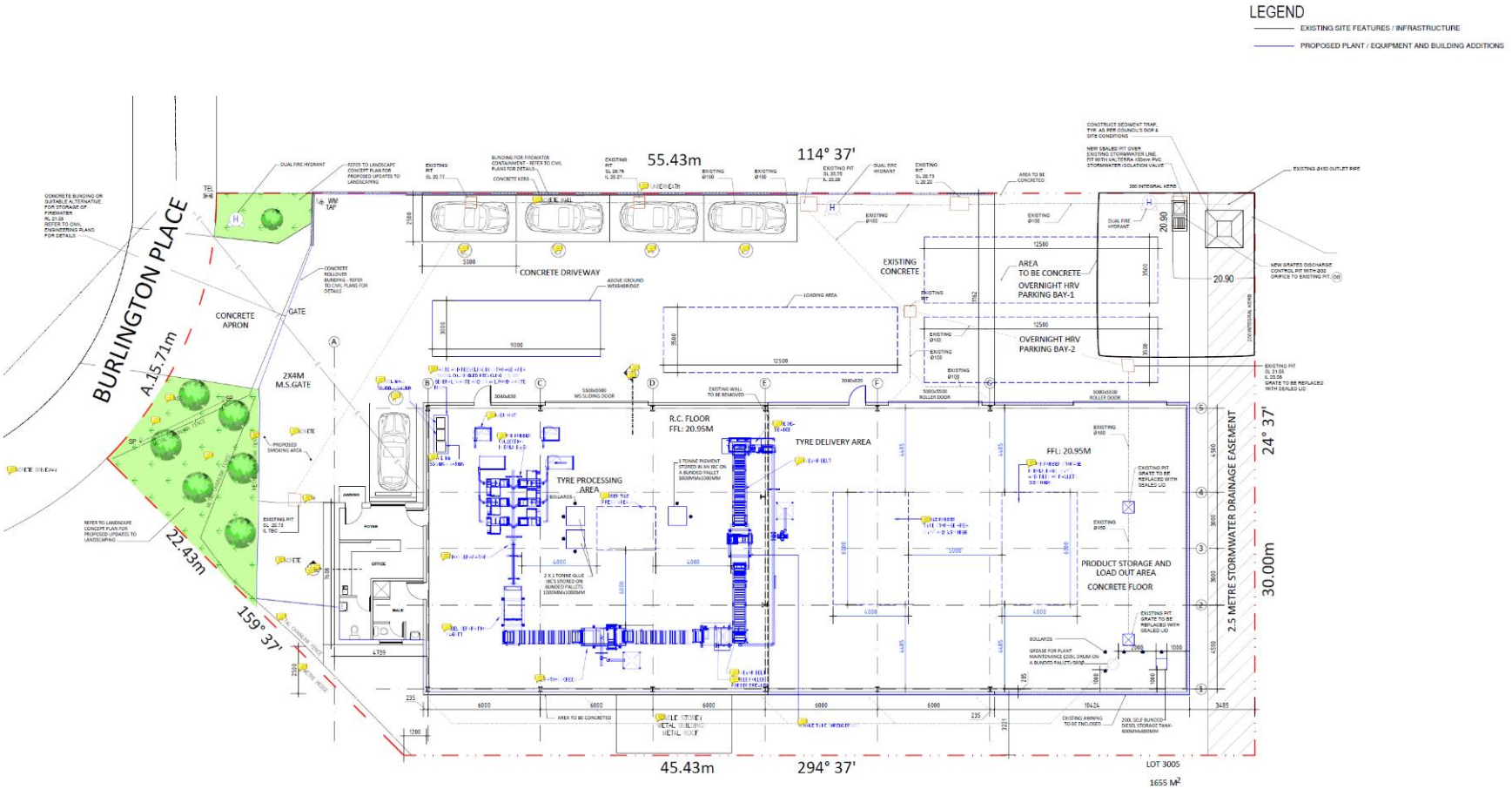
7.4. Continual Improvement

Continual improvement of this WMMP will be achieved by the continual evaluation of environmental management performance against environmental policies, objectives and targets for the purpose of identifying opportunities for improvement. The continual improvement process will:

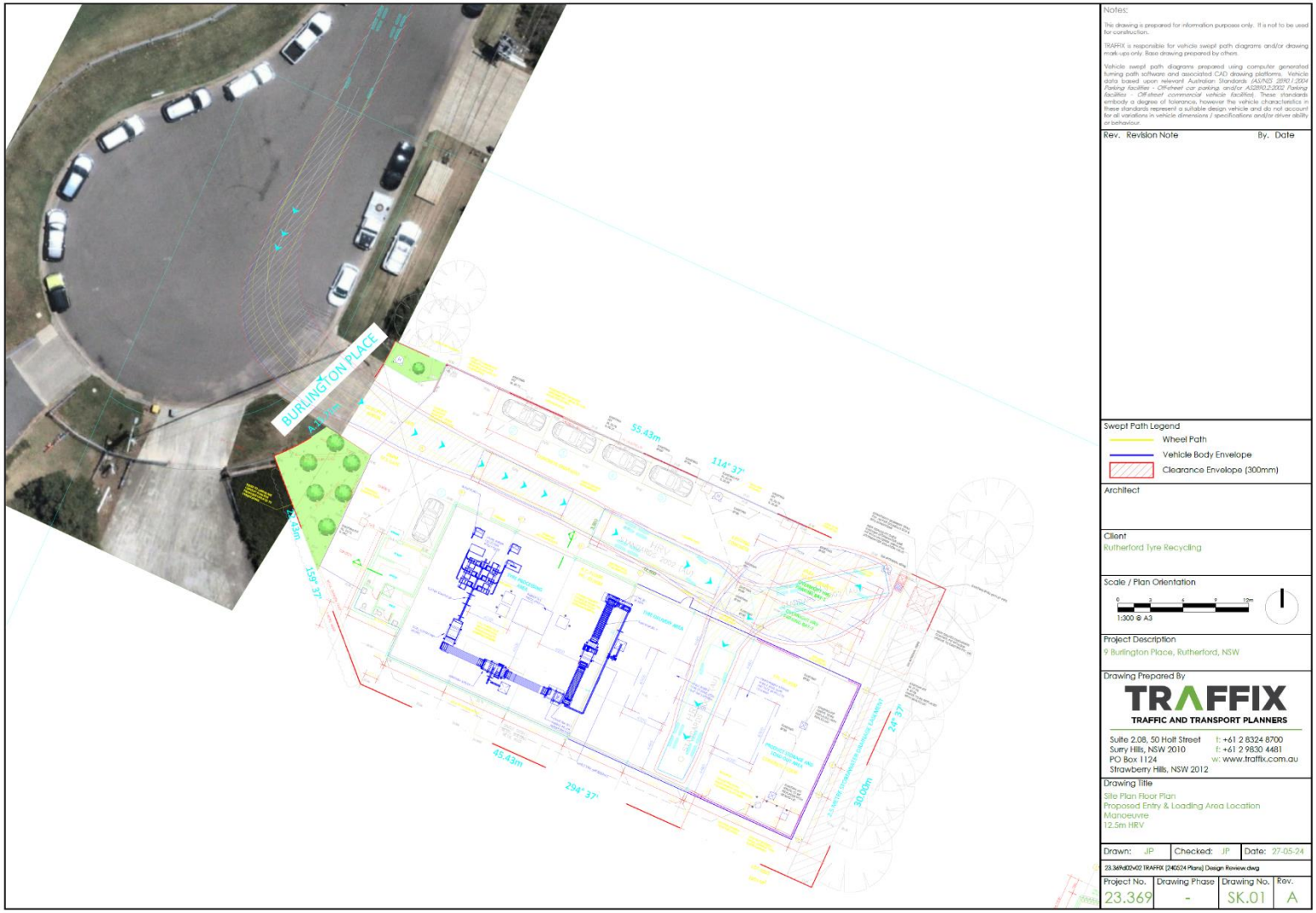
- At least monthly (or as incidents / non-conformances occur):
    - Determine the root cause or causes of non-conformances and deficiencies;
    - Develop and implement a plan of corrective and preventative action to address non-conformances and deficiencies and
    - Verify the effectiveness of the corrective and preventative actions.

Outcomes of these reviews shall be documented and retained for the duration of the project.

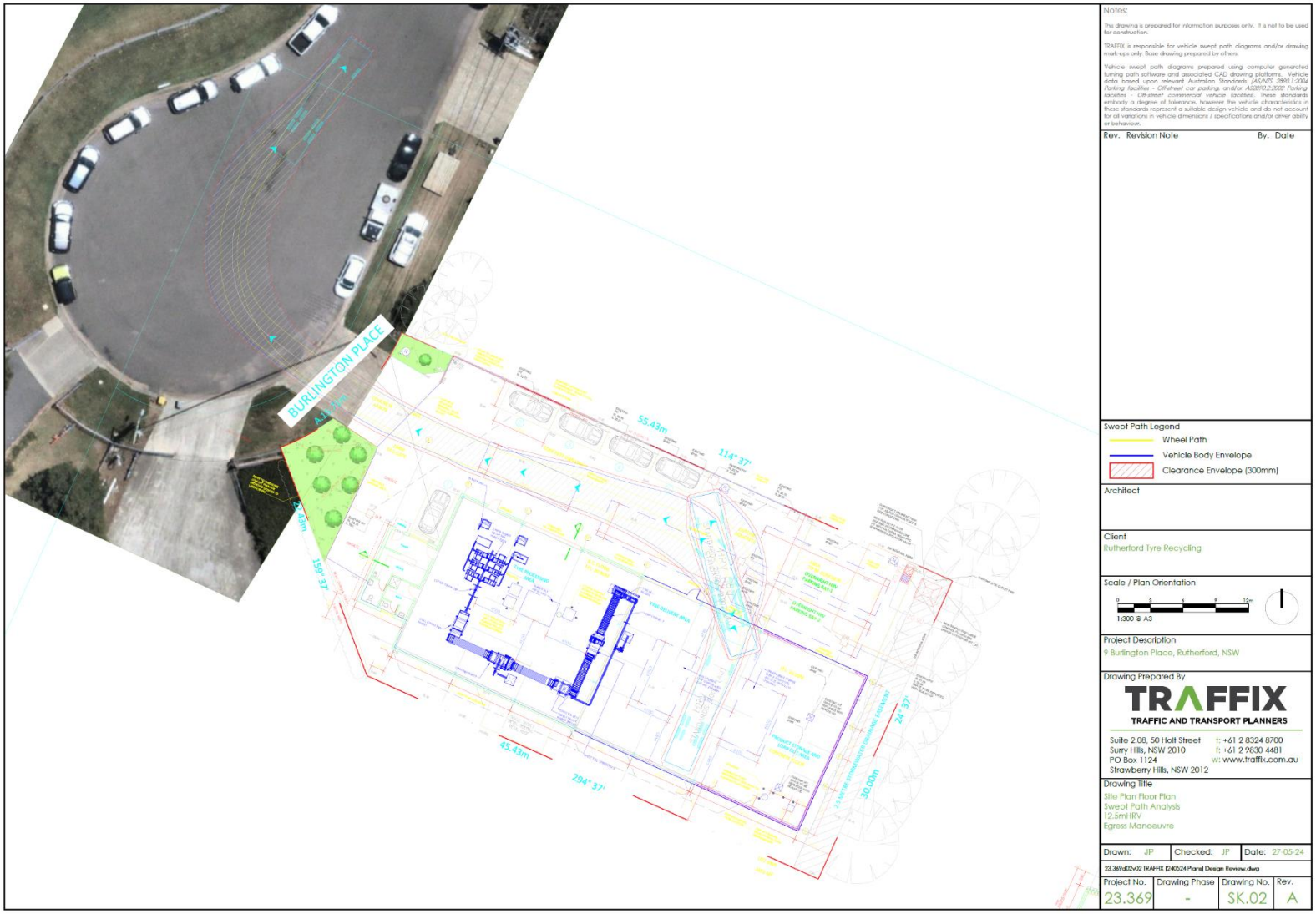
Appendix 1 – Site Plans Including Truck Turning Paths



Swept path showing a truck (delivering tyres or removing waste) entering the Site in a forward direction.



Swept path showing vehicle (picking up waste or transporting product off site) exiting the site in a forward direction.



Appendix 2 - Unsprinklered Buildings Tyre Clearance Diagram