Waste Management Plan

Tyrex Australia Pty Ltd

(formerly D&N Rubber Refinery Pty Ltd)

Tyre Recycling Facility

68 to 70 Victoria Street Smithfield, 2614, NSW, Lots 9/10, DP 239868

EQUILIBRIUM

1 Bruce Street,
Kensington, VIC 3031
+61 3 9372 5356

194 Varsity Parade,
Varsity Lakes QLD 4227
+61 4 04 899 961

Web - equil.com.au
Email - info@equil.com.au

Table of Contents

Tables and Figures

Client:	Tyrex Australia Pty Ltd
Client contact	Zafar Mahmood
Date	August 2024
Prepared by	T Bubb
Reviewed by	L Bernoth

1 Introduction

As a recycler, Tyrex Australia's (Tyrex) core business is to reduce waste tyres going to landfill. In this way the company acts to meet the objectives of the NSW Waste Avoidance and Resource Recovery Act 2001 and align with the NSW waste hierarchy (refer Figure 1 below).

In this context most of what is considered as waste (end-of-life tyres) is feed stock for the Tyrex recycling operations. Rubber products from the Tyrex facility are used by a range of industries, including adhesive manufacturers and the road construction industry.

In the context of this waste management plan, end-of-life tyres (EOLT) and tyred derived products are considered by Tyrex as valuable materials for recycling, and are not wastes.

The site adheres to a storage management plan for the allocating quantity and storage of:

- End of Life Tyres - the primary stock material.
- Tyre Shred – Tyres cut into smaller pieces, 50mm to 150mm in size
- Rubber crumb – primary product and highest volume material through recycling EOLTs.
- Steel wire – secondary product material from the recycling process is stored in skip bins.

The recycling operations at the site do not require any form of chemicals or other potentially hazardous materials for EOLT processing.

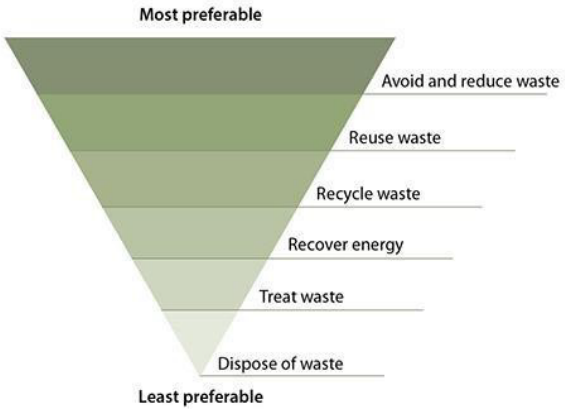


Figure 1 NSW Waste Hierarchy

The primary rubber crumb product is used domestically in the manufacturing process for several different products, including, but not limited to: Asphalt and bitumen roads, tile adhesive; synthetic turf underlay; and rubber matting.

2 Waste Types

Waste streams at the site will include:

- General waste – where office waste, lunchroom waste, and non-hazardous waste is deposited to a site skip bin. The skip bin is routinely serviced by a waste contractor.
- Waste oil – where waste lubricant oil from equipment maintenance is collected in drums. Waste oil drums are routinely collected by a waste service provider.
- Oily Rags – generated through maintenance activities and equipment cleaning, and stored in drums for routine collection by a waste service provider.
- Co-mingled recycling – the site is currently investigating options for collection of co-mingled recycling streams (paper, cardboard, plastics, etc) from the site.

2.1 Waste Categories

Table 1 provides an overview of Tyrex's potential waste, classification and avenues of disposal.

For each waste identified in the table below, scheduled waste collections are performed by licensed waste service providers.

Table 1 Overview of waste types produced by Tyrex

Waste Type	Waste Form	Classification / Description	End-of-life
Office Waste	Solid	General solid waste (non-putrescible)	Currently landfill, will review for recycling
Lunchroom Waste	Solid	General solid waste (putrescible)	

Other General Waste	Solid	General solid waste (non-putrescible)	
Waste Oil	Liquid	Liquid Waste	Managed by waste service contractor
Oily Rags	Solid	General solid waste (non-putrescible)	Managed by waste service contractor
Plastics	Solid	General solid waste (non-putrescible)	Currently landfill, will review for recycling
Cardboard	Solid	General solid waste (non-putrescible)	
Paper	Solid	General solid waste (non-putrescible)	
Aluminium cans	Solid	General solid waste (non-putrescible)	
Wooden Pallets	Solid	General solid waste (non-putrescible)	
Electronic waste, including office equipment at end of life, batteries	Solid	E-waste	Recycling and return schemes. E.g., B-cycle, E-waste collection, Mobile Muster.

The above waste materials fall into four categories for management which include:

- Hazardous/legislated

- Re-use
- Recycling
- Landfill

2.2 Hazardous material best practice storage

Certain measures are required by the NSW EPA to ensure appropriate storage and handling of liquid wastes. These include the consideration of:

- Where the waste will be stored
- Measures in place to prevent pollution
- Further requirements due to the nature of the stored substance

Liquid wastes stored on site for collection by a licensed service provider adhere to these requirements in order to prevent pollution to the environment.

Oily rags generated on site will be contained separately from other waste streams, and collected using by an appropriately licenced waste service provider.

See table 2 in section 3.2 below for further information on hazardous material storage.

2.3 Re-use

The operations re-use materials wherever possible, examples including:

- Office paper – double sided printing
- Storage pallets – used multiple times before end of life

2.4 Recycling

Currently the site generates minimal recycling waste e.g., plastics, paper and cardboard, and beverage containers. The site will review opportunities to introduce co-mingled recycling for the operations.

2.5 Landfill

All landfill waste streams are placed in general waste bins for collection, and aggregated into the site general waste skip bin (as outlined in table 1 above).

3 Legislative requirements

3.1 Disposal, Storage and Collection

3.1.1 Liquid Wastes

Under the Protection of the Environment (Waste) Regulation 2014, Waste oil (J120) is required to be tracked. Under the regulation, there is no responsibility on the generator of the waste and the responsibilities fall onto the consignor, transporter and receiver.

Tyrex will ensure a licensed waste service provider is contracted to provide collection of waste oil.

3.1.2 Other wastes

The POEO Act sets out the requirements for waste generators in how they store and dispose their waste. The Act specifies that the waste generator holds the responsibility for the proper management of waste, including the final disposal.

In this case, Tyrex is therefore responsible for all of the waste produced on site and should ensure its proper management and end-of-life disposal.

Tyrex engages only with licensed waste service providers for the collection of wastes produced on site to ensure proper end-of-life disposal.

3.2 Hazardous and/or Trackable Waste

Potentially hazardous materials that will be stored on-site include:

- LPG cylinders - fuel for mobile plant.
- Gas cylinders - oxygen, carbon dioxide, acetylene stored on site
- Oil – hydraulic oil for mobile plant maintenance.
- Cleaning fluids – small quantities of general aqueous based cleaning products used for maintenance purposes.

Site management and mitigation measures are displayed in table 2 below in accordance with NSW EPA guidance and requirements.

Table 2. Site management and mitigation measures

Identified Hazardous	Control Measures
Hydraulic oil	In accordance with the NSW Hazardous waste storage and processing guidance, all waste hydraulic oil will be handled in the following manner: 1. Oil drums stored on bunded pallets / bunded area cabinet undercover to prevent rainwater infiltration. 2. Oil drums stored within the warehouse, providing protection from drums being carried off site (in the unlikely event of flooding). 3. Routine inspections, observations and audits conducted to monitor and verify correct storage.
Chemical cleaning fluid released to the environment.	1. Aqueous based cleaning fluids stored in bunded area/designated cabinet undercover to prevent rainwater infiltration. 2. Storage is within the warehouse, providing protection from containers being carried off site (in the unlikely event of flooding). 3. Routine inspections, observations and audits conducted to monitor and verify correct storage.
LPG cylinders	1. LPG cylinders stored under cover in a lockable storage area. 2. Routine inspections, observations and audits conducted to monitor and verify correct storage.
Gas cylinders released to the environment.	1. Gas cylinders stored undercover, chained securely to ensure fixed into position. 2. Routine inspections, observations and audits conducted to monitor and verify correct storage.

4 Waste management

4.1 Waste Generation, Disposal, Storage, Access and Collection

Waste lubricant oils and oily rags are generated as waste of the tyre processing operation. Waste oil lubricant becomes waste once it has been used on the equipment and oily rags become waste as a process of wiping down equipment that uses oil.

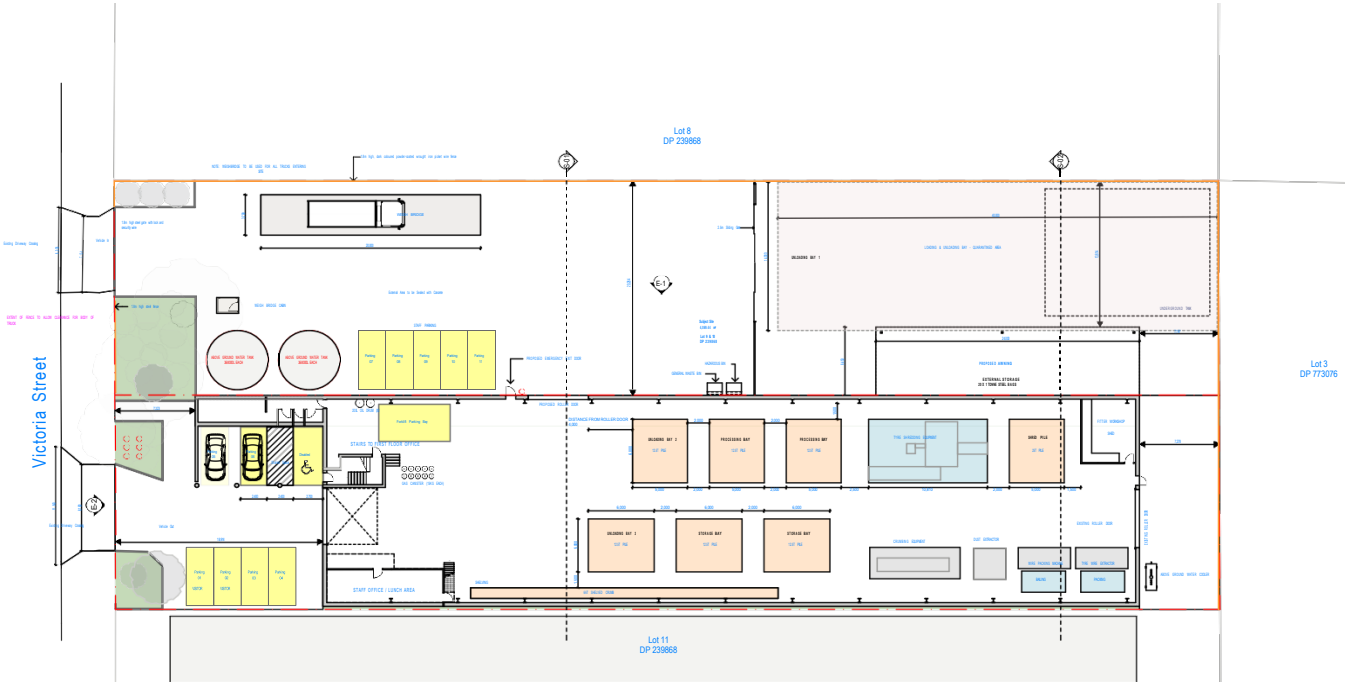
Both waste products are collected in separate drums and stored on site in a designated location. The waste oil and oily rags are collected in drums at the point that it becomes waste, and they are no longer used once they are assigned as waste. The drums that this waste is stored in are 200L drums, and there is a maximum of two on site at any given time.

Waste oil is stored in accordance with the NSW EPA's hazardous waste storage and processing guidance and the standards within it.

All other waste that is generated on site is designated as general waste for disposal. General waste bins are placed around the office, breakrooms and warehouse where employees can dispose of any generated waste.

General waste bins around the site are routinely emptied in the general waste skip bin, as shown in figure 2 below.

All general waste produced on site is stored in skip bin where it awaits collection by a licensed waste service provider. The skip bins used are $6m^3$ and have dimensions of 6mL, 1.7mW and 1.2mH.



PLANZONE DESIGNS
1300 823 059 | planzone.design | info@planzone.design

BUILDING DESIGNERS

PROPOSAL
Change of Use to Tyre Recycling Facility

ADDRESS
68 Victoria Street Smithfield

LGA
Fairfield City Council

CLIENT
Zafar Mahmood

PROJECT NO.
230729

DRAWING TITLE
Tyre Storage Plan

DRAWN BY
KK (BDAA No. 6433) (BDAA No. 6433)

REVISION NO.
15

SCALE
1:300

DRAWING NO.
A.10

Rev #	Revision Name	Date
10	CLIENT REVIEW - AWNING	23/08/2023
11	CLIENT REVIEW - UPDATE	25/08/2023
12	TRAFFIC SWEPT PATH	4/10/2023
13	Floor Plan Update	3/11/2023
14	RFI Updates	6/06/2024
15	Design Updates	3/09/2024

See the accompanying traffic management plan for a more detailed explanation of traffic movement on site.

4.2 Signage

The area where the general waste skip bins are located will have clear signage designating the area as a general waste storage location. Accompanying that, the skip's themselves will have clear signage illustrating them as general waste bins and Hazard waste bins.

The area where waste oil drums will be stored, will be signed as a designated storage location for such drums and only those drums will be stored in that location so that no other materials are contaminated.

4.3 Waste maintenance and reduction strategies

Tyrex will encourage employees on site to dispose of their waste correctly and reduce their waste where applicable.

As there is no current infrastructure for the storage and disposal of recyclable waste, to better align with the waste hierarchy displayed in figure 1, Tyrex will endeavour to explore options for collecting recyclable waste produced on site.

Current waste storage areas will be maintained to allow safe storage and access to collection, as well as to ensure signage is visible and in suitable condition.

5 Monitoring and Review

This Waste Management Plan will be monitored and reviewed every two years or if there is a significant change in operations to ensure that it meets the regulatory requirements and is achieving the intended goals of safely and effectively managing the waste produced on-site by Tyrex. When the Waste Management Plan is reviewed, any updates will be saved in a new version, with later versions being archived.

Walkthroughs of the site will be conducted on a regular basis to ensure the waste management system is functioning in alignment with this plan.

Tyrex will be responsible for undertaking the monitoring and review of the Waste Management Plan. If it's identified that the plan is no longer applicable, a waste audit should be carried out to identify any improvements and/or modifications to the current waste management system.