

HANSEN YUNCKEN

---

# WASTE MANAGEMENT PLAN

DECEMBER 2008

## PROPOSED INDUSTRIAL DEVELOPMENT

LENORE LANE – ERSKINE PARK – SITE H-1  
*Speculative Warehouse*

---

PREPARED BY HANSEN YUNCKEN PTY. LIMITED.  
FOR SUBMISSION TO THE DEPARTMENT OF PLANNING





## TABLE OF CONTENTS

| SECTION                              | PAGE |
|--------------------------------------|------|
| 1.0 INTRODUCTION                     | 2    |
| 2.0 GENERATED WASTE VOLUMES          | 3    |
| 2.1 Warehouse                        |      |
| 2.2 Office/Administration Area       |      |
| 3.0 WASTE MANAGEMENT RECOMMENDATIONS | 5    |
| 3.1 Warehouse                        |      |
| 3.2 Office/Administration Area       |      |
| 4.0 WASTE EQUIPMENT RECOMMENDATIONS  | 7    |
| 4.1 Warehouse & Office Area          |      |
| 5.0 GARBAGE ROOMS & GARBAGE AREAS    | 9    |

## 1.0 INTRODUCTION

The waste management plan to follow pertains to the proposed industrial speculative development, located at Site H-1, Lenore Lane, Erskine Park. This waste management plan is an operational waste management plan and will address the operational phases of the development.

The plan outlines measures to achieve the following purposes:

- Avoid the generation of unnecessary waste;
- Minimising the quantities of wastes generated ending up as landfill;
- Recovering, reusing and recycling waste generated on site where possible;
- Compliance with any codes and policies that may apply to the development.

For the purpose of this report the proposed development will consist of two (2) primary sections as follows:

**1. Warehouse:**

Has an area with approximate nett lettable area of 13,035m<sup>2</sup>.

**2. Offices:**

Ancillary office areas for the administration of the off-site reserve, with approximate nett lettable area of 600m<sup>2</sup>.

Considering the size and scale of the development, it is proposed that tenants will store their waste in large waste bins located in convenient places on site around the development. This is due to the large sizes of bins being utilised and for ease of collection.

Each section of this development has been examined individually within this report; however, the waste management process must be effectively coordinated between the various sections for the system to work. The principles outlined in this Waste Management Report will be incorporated into the building design and submitted with the intended building application.

All figures and calculations are based on building areas as shown on architectural drawings. Calculations have been made using waste generation rates devised from industry guidelines and previous experience. All recommendations for waste facilities and equipment will be in compliance with Australian Standards, BCA and Penrith City Council *Controls for the Management and Minimisation of Waste*.

## 2.0 GENERATED WASTE VOLUMES

- ◆ This assessment of waste volumes is an estimate only and will be influenced by the building management and its employee's attitude to waste disposal and recycling.
- ◆ We have based our calculations on a six- (6) day working week. Figures could be affected, however, by unit occupancy rates.
- ◆ In calculating the waste generated for this site we have allowed for the maximum volumes as devised from industry guidelines and previous experience and using rates as listed by Penrith City Council.

### 2.1 Warehouse

Projected waste quantities during the operational phase of the warehouse section of the development are listed below. These calculations do not include areas such as car parking areas which will produce no waste. Waste source generation has been separated into general and recyclable waste.

#### General Waste:

| General Waste    |                          |             |                  |                      |                       |
|------------------|--------------------------|-------------|------------------|----------------------|-----------------------|
| Location         | Waste Generation Rate    | Floor Area  | Waste Generation | Collection Frequency | Waste Generation      |
| <i>Reference</i> | <i>L / 100sq.m / day</i> | <i>sq.m</i> | <i>L / day</i>   | <i>days</i>          | <i>L / collection</i> |
| Warehouse Area   | 10                       | 13,035      | 1,303            | 4                    | 5,032                 |

#### Recyclable Waste:

| Recyclable Waste |                          |             |                  |                      |                       |
|------------------|--------------------------|-------------|------------------|----------------------|-----------------------|
| Location         | Waste Generation Rate    | Floor Area  | Waste Generation | Collection Frequency | Waste Generation      |
| <i>Reference</i> | <i>L / 100sq.m / day</i> | <i>sq.m</i> | <i>L / day</i>   | <i>days</i>          | <i>L / collection</i> |
| Warehouse Area   | 10                       | 13,035      | 1,303            | 4                    | 5,032                 |

## 2.2 Office/Administration Area

Projected waste quantities during the operational phase of the offices section of the development are listed below. These calculations do not include areas such as car parking levels which will produce no waste. Waste source generation has been separated into general and recyclable waste.

### General Waste:

| General Waste    |                          |             |                  |                      |                       |
|------------------|--------------------------|-------------|------------------|----------------------|-----------------------|
| Location         | Waste Generation Rate    | Floor Area  | Waste Generation | Collection Frequency | Waste Generation      |
| <i>Reference</i> | <i>L / 100sq.m / day</i> | <i>sq.m</i> | <i>L / day</i>   | <i>days</i>          | <i>L / collection</i> |
| Office Area      | 10                       | 600         | 60               | 4                    | 240                   |

### Recyclable Waste:

| Recyclable Waste |                          |             |                  |                      |                       |
|------------------|--------------------------|-------------|------------------|----------------------|-----------------------|
| Location         | Waste Generation Rate    | Floor Area  | Waste Generation | Collection Frequency | Waste Generation      |
| <i>Reference</i> | <i>L / 100sq.m / day</i> | <i>sq.m</i> | <i>L / day</i>   | <i>days</i>          | <i>L / collection</i> |
| Office Area      | 10                       | 600         | 60               | 4                    | 240                   |

### 3.0 WASTE MANAGEMENT RECOMMENDATIONS

The following section will highlight the options available for management of the developments waste and the internal collection of the waste for storage in the waste containers until external collection occurs.

#### 3.1 Office Area

Commercial waste will be separated on site by the occupying tenants into the following streams using appropriate storage containers:

- General Waste (Garbage);
- Security Shredding Paper;
- Recyclable paper and containers (recyclable waste co-mingled)

It is recommended that the offices in the warehouse section of the development be responsible for their own in house storage of the waste material. Generally each desk in the office will be provided with an individual waste bin. What this bin will be used for will depend on the collection technique utilised. It is advisable that any non-recyclable material be stored separate from the recyclable material, especially the recyclable paper.

##### **General Waste**

Suitable collection containers are placed on each level of office. The cleaners will empty these containers into the larger collection containers for collection purposes. These containers will be conveniently located for ease of access around the development site and will be easily identified so that general waste is placed in the appropriate collection container.

##### **Recyclable Waste**

**Paper:** Due to the majority of waste from the office section of the development being predominantly paper, it is proposed that the individual waste bins allocated to each desk be used for its storage. The office cleaners will then empty these individual containers into the cardboard compactors to be supplied.

**-AND-**

**Glass/plastic:** Any glass and/or plastic recyclable material will be sorted from the general waste by the office cleaners who will then transport the recyclable material to the larger collection containers for collection purposes. These containers will be conveniently located for ease of access around the development site and will be easily identified so that recyclable waste is placed in the appropriate collection container.

Dedicated paper recycling bins both for general paper recycling and for security document storage will be provided adjacent to photocopying facilities

for easy access and to promote recycling by office staff. Any additional cardboard boxes shall be stored on each level and removed by cleaning staff as required. Cardboard boxes will need to be flattened by tenants to assist in transportation.

The warehouse area within the development will be provided with dedicated general waste and recycling containers located adjacent to the office areas for the disposal and storage of waste prior to collection.

### **3.2 Warehouse Area**

It is recommended that the warehouse area be responsible for their own in house storage of both general waste and recyclable material. Each afternoon or evening or as appropriate, the staff from the warehouse will transport the waste to the appropriate general and recyclable waste containers and place the waste in the containers provided for collection purposes. These containers will be conveniently located for ease of access around the development site and will be easily identified so that general and recyclable waste is placed in the appropriate collection container.

#### **General Waste**

Most of the non-recyclable material from the warehouse section will be predominantly trade waste. This should be stored in suitable containers in the warehouse until transported to the storage containers for collection purposes.

#### **Recycled Waste**

It is expected the warehouse section will produce mainly recyclable paper, cardboard, glass and plastic. These should be stored in suitable containers in the warehouse for transport to the collection containers located throughout the site.

Any recyclable waste generated by the warehouse (most likely cardboard boxes/paper) should be stored with any recyclable waste generated by the office section of the warehouse.

## **4.0 WASTE EQUIPMENT RECOMMENDATIONS**

The equipment required for waste handling will depend on the space allocated for storage and the associated number of collections. The following assumptions have been incorporated in the waste storage design for this development:

- The proposed bin sizes are only a recommendation. Consultation with proposed tenants should be undertaken in determining appropriate bin sizes and collection frequencies to suit their needs;
- The estimated waste volumes are based on industry guidelines therefore individual tenant waste requirements and generation rates may vary and the system should be monitored and varied to suit as required.
- Bin sizes listed are standard bins and will be available from the nominated private waste contractor engaged to manage the waste for the proposed development.

#### 4.1 Warehouse & Office Areas

##### **General Waste**

Based on the previously stated waste generation our recommendations for waste handling equipment are as follows:

*Collection Containers* – It is recommended that 4.5m<sup>3</sup> containers be utilised for the storage of general waste.

$$\begin{aligned}\text{Bins required} &= (\text{Waste Generated})/(\text{Bin Capacity}) \\ &= 5,272\text{L} / 4,500\text{L} \\ &= 2\end{aligned}$$

This size bin will adequately cover the storage requirements of general waste.

##### ***Qty Required – Two (2)***

##### **Recycled Waste**

Based on the previously stated recycled waste generation our recommendations for waste handling equipment are as follows:

*Collection Containers* - It is recommended that 4.5m<sup>3</sup> containers be utilised for the storage of recyclable waste.

$$\begin{aligned}\text{Bins required} &= (\text{Waste Generated})/(\text{Bin Capacity}) \\ &= 5,272\text{L} / 4,500\text{L} \\ &= 2\end{aligned}$$

This size bin will adequately cover the storage requirements of the recyclable waste.



***Qty Required – Two (2)***

## **5.0 GARBAGE AREAS & COLLECTIONS**



Due to the large scale of the development and the large storage containers to be utilised, the containers will be located in conveniently placed locations of the site. This method will aid in ease of collection as the site is easily accessible for large collection vehicles. Floor plans of the garbage containers and positioning will be included in the DA drawings submitted with the application. It is recommended that bins be positioned adjacent to administration/office area of the warehouse for ease of access by tenants.

Collection of waste generated by the warehouse development will occur from the various site locations of the proposed containers by a private contractor. On collection days, the collection vehicle would enter the development using the access driveway accessed from Templar Road and proceed to each of the various containers where the garbage would be collected.

Construction of all garbage areas is to meet all requirements set out in Penrith City Council *Controls for the Management and Minimisation of Waste*, BCA and Australian Standards.