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# **WASTE MANAGEMENT PLAN**

**DECEMBER 2011**

## **AUSTRALIAN CATHOLIC UNIVERSITY**

**STRATHFIELD CAMPUS  
BARKER ROAD, STRATHFIELD**

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PREPARED FOR HASSELL  
FOR SUBMISSION TO DEPT. PLANNING & INFRASTRUCTURE



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## 1.0 INTRODUCTION

The waste management plan to follow pertains to the existing and new building development at the Australian Catholic University, Strathfield Campus located at the corner of Barker Road and South Street in Strathfield. This waste management plan is an operational waste management plan and will address the operational phases of the development. A Construction Waste Management Plan will need to be prepared by the contractor engaged for the construction stage 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 one (1) primary section as follows:

<b>University Campus:</b>	4 new development precincts: Learning Commons & Library, East, West and Central Precinct.
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The development is currently being serviced by a waste storage area located on Ground Floor off Barker Street. The existing nominated private waste contractor will be utilized for the collection of all waste generated by the existing and new developments.

All figures and calculations are based on building areas as advised by our client and shown on architectural drawings. Calculations have been made using typical waste generation calculation tables from Sydney City Council "Policy for Waste Minimisation in New Developments".

All recommendations for waste facilities and equipment will be in compliance with the Strathfield Council requirements for garbage storage area, facilities and receptacles. Design of all waste handling equipment and holding areas is to meet all Council Codes, BCA, Australian Standards and Statutory Requirements.

## 2.0 GENERATED WASTE VOLUMES

This assessment of waste volumes is an estimate only and will be influenced by the development's management and occupant's attitude to waste disposal and recycling.

We have based our calculations on a seven (7) day working week for the development.

### 2.1 University Campus

The waste generation rates and the waste generated for the commercial areas of the development are as follows:

#### 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>
Learning Commons & Library	10	6,700	670	Every 1	670
East Precinct	10	3,450	345	Every 1	345
West Precinct	10	3,660	366	Every 1	366

#### Recycling 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>
Learning Commons & Library	10	6,700	670	Weekly	4,690
East Precinct	10	3,450	345	Weekly	2,415
West Precinct	10	3,660	366	Weekly	2,562

### 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 area until external collection occurs.

#### 3.1 University Campus

It is recommended that each section of the development be responsible for their own in house storage of all waste material. Generally each section of the development will be provided with individual waste bins for the storage of waste. 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 at different points around the site. The cleaners will empty these containers into the larger collection containers for transport to the waste storage area for emptying.

##### **Recyclable Waste**

**Paper:** Due to the majority of waste from each section of the development being predominantly paper, it is proposed that the individual waste bins allocated to each section be used for its storage. The appointed cleaners will then empty these individual containers into the larger collection containers and transport the paper waste to the waste storage area.

**-AND-**

**Glass/plastic:** Suitable collection containers are placed throughout each section of the development. The cleaners will empty these containers into the larger collection containers for transport to the waste storage area.

At the end of the day or when appropriate, all waste will be transferred to the dedicated garbage collection area located on Ground Level off Barker Road.

#### 3.2 Medical Waste

A specialised contaminated medical waste contractor will be engaged to remove any contaminated medical waste as required and disposed of by means approved by the NSW EPA. Clinical waste must be stored in appropriately colour-coded containers, and clearly labelled according to the NSW Health Waste Management Guidelines for Health Care Facilities, 1998. At all times, there must be a clear physical separation of clinic and related wastes from garbage and recyclable waste.

### 3.3 External Collection of Waste

All waste will be collected by a nominated private waste collection vehicle. The vehicle will collect all waste from the garbage storage area located on Ground Level. Entry to the site for the collection vehicle will be off Barker Street utilising the service vehicle entry.

Collection of all general waste will be on a daily collection cycle. Collection of all recyclable waste will be on a weekly collection cycle.

It is recommended that the collection personnel be provided with security access to the designated collection room. Alternatively, the waste caretaker will need to be present to assist in the emptying of containers during collection periods.

### 3.4 Waste Caretaker

It is strongly recommended that a waste caretaker be employed to manage the garbage system of this development.

The caretaker's duties would include the following:

- ◆ Generally maintaining and cleaning the garbage area. (Recommended at least once per week)
- ◆ Due to the nature of the waste it is recommended that in addition to cleaning, the garbage areas be deodorised (**recommended at least once per week**).
- ◆ Sorting recycled waste into appropriate receptacles.
- ◆ Organising for both Garbage and Recycled Waste pick-ups as required.
- ◆ Assisting with the emptying of bins during collection.

### 3.5 Organic Waste

It is recommended that all organic waste be handled and managed by the personnel responsible for maintaining landscaped areas.

## 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.

### 4.1 University Campus

As advised by the client, there are currently 3 x 6 cubic metre skips located at the waste storage area off Barker Road. Two for general waste and one for paper recycling.

Due to the three (3) new buildings in the development the following is suggested utilising the previously calculated waste generated:

**One x 1100L Mobile Garbage Bin** alongside the existing 2 x 6 cubic metre skips are required for general waste. It is suggested that a **daily** collection cycle be used due to the large amount of waste produced by the development and to reduce storage requirements within the dedicated garbage area. For ease of collection, containers that can be transported through the development for collection of all waste would be preferable. It is recommended that **240L mobile garbage bins** be provided for storage of all waste prior to collection. However, the ACU and appointed waste contractor will determine the exact size of bins employed for this development and the frequency of collection required.

**One x 6 Cubic Metre Skip** alongside the existing 1 x 6 cubic metre skip is required for recycled waste. It is suggested that a **twice weekly** collection cycle be used due to the large amount of paper waste produced by the development and to reduce storage requirements within the dedicated garbage area. For ease of collection, containers that can be transported through the development for collection of all waste would be preferable. It is recommended that **240L mobile garbage bins** be provided for storage of all waste prior to collection. However, the ACU and appointed waste contractor will determine the exact size of bins employed for this development and the frequency of collection required.

The bin type and quantity requirements would be:

**General Waste:**

1381L generated per day = at least six (6) 240L bins.

**Recyclable Paper:**

4,834L generated weekly = at least twenty-one (21) 240L bins

**Mixed recyclable containers:**

4,834L generated weekly = at least twenty-one (21) 240L bins

The recommended bin numbers are only estimates and close monitoring of the amount of waste produced by the development in the early stages of operation will be required to determine the exact number of bins required and the frequency of collection to be employed.



## **5.0 GARBAGE AREA**

There is a designated garbage area for the storage of waste located on Ground Level off Barker Road, at proposed Gate 2.

Collection of all waste will be from the nominated garbage room will be by a private waste contractor. On collection days, the collection vehicle would enter the site using the service entry off Barker Road where the garbage would be collected from. All general waste will be collected on a daily collection cycle and recycling on a weekly cycle or as is deemed appropriate for the development. The private waste contractor engaged to perform the collection will employ a waste vehicle suitable for the development.

The garbage area is to have the following requirements:

- The floors of the garbage area shall be constructed of concrete at least 75mm thick or other impervious material, graded and drained to an approved connection to the sewer;
- The floor shall be finished to a smooth even surface coved at the intersection with walls and plinths;
- Waste areas or bins shall be constructed to prevent the entry of vermin;
- An adequate supply of hot and cold water shall be provided to all waste areas;
- Hose cocks shall be located and protected so they cannot be damaged and fitted with an adequate length of hose;
- There is adequate ventilation either natural or mechanical;
- The waste area shall be appropriately signposted e.g. for recycling bins.

All garbage stores within the development will be provided with the following facilities:

- Provision for storage for general and recyclable waste, as per above calculated bin quantities.
- Signage indicating sorting of waste for disposal in general and recyclable material collection bins.
- A common bin wash area with provision for hot and cold water and an adequate length of hose with a nozzle attachment. The floor is to be graded to an approved grated sump.