



building + town planning + environmental consultancy

Basix Services

PO Box 595 Ballina NSW 2478

Phone: 0415 646 239 Facsimile: 02 8030 9105

Email: info@basixservices.com.au

Site Waste Management Plan

Proposal to construct a multi-unit mixed residential/hotel development

175 – 177 Cleveland Street

REDFERN NSW

Lot 1 in DP 724328 and Lot 1 in DP 1093304

Report 201/0481

Prepared for JPR Architects

Dated 01 September 2015

Page left intentionally blank

Document Control Sheet

Document and Project Details					
Document Title:	Site Waste Management Plan				
Author:	Duncan Hope				
Project Manager:	Duncan Hope				
Date of Issue:	01 September 2015				
Job Reference:	2015/0481				
Synopsis:	This document presents a waste management plan arising from a proposed multi-unit mixed residential/hotel development at 175 – 177 Cleveland Street, Redfern				
Client Details					
Client:	JPR Architects				
Primary Contact:	Mr. Yogesh Sane Phone: 02 9366 1133				
Document Distribution					
Version	Date	Status	Distribution – Number of copies		
			Client	Council	Other
0481-1	01/09/15	Draft	1 – e		
0481-2	01/09/15	Final	1 – e		
Document Verification					
Checked by:			Issued by:		

Disclaimer

This report was prepared for the purposes and exclusive use of the stated client to accompany an application to the City of Sydney Shire Council for the specified development application and is not to be used for any other purpose or by any other person or corporation.

The information contained in this report is based on independent research undertaken by Basix Services. To the best of our knowledge, it does not contain any false, misleading or incomplete information.

Basix Services Australia accepts no responsibility for any loss or damage suffered howsoever arising to any person or corporation who may rely on or use this report in contravention of the terms of this clause.

Page left intentionally blank

Contents

Document Control Sheet

Disclaimer

1	Introduction	2
1.1	<i>Summary</i>	2
2	Building Characteristics	3
2.1	<i>Proposed building description</i>	3
3	Purpose of the SWMMP	4
3.1	<i>Aims</i>	4
3.2	<i>Objectives</i>	4
3.3	<i>Legislative drivers</i>	4
4	Demolition phase	5
4.1	<i>General Outline</i>	5
4.2	<i>Waste Avoidance, Minimisation and Control Strategies</i>	5
5	Construction Phase	7
5.1	<i>General Outline</i>	7
5.2	<i>Waste Avoidance, Minimisation & Control Strategies</i>	7
6	Post Construction (operational) Phase	9
6.1	<i>Waste and recycling generation rates</i>	9
6.2	<i>Storage</i>	9
6.3	<i>Servicing (collection)</i>	11
6.4	<i>Garbage transport</i>	12
6.5	<i>Bulky waste</i>	13
6.6	<i>Green waste</i>	13
	Appendix A	14
	Appendix B	16

Page left intentionally blank

1 Introduction

This Site Waste Minimisation and Management Plan (SWMMP) Report has been prepared on behalf of the JPR Architects and should be read in conjunction with the plans encompassing Project No. : 2014067 prepared by JPR Architects.

The report summarises the waste minimisation and management practices intended to be implemented as part of the construction of a multi-storey unit residential development and its operational use.

1.1 Summary

The proponent proposes to demolish an existing industrial/commercial building with associated light infrastructure and then construct a multi-storey mixed residential/hotel unit building with associated basement car parking, a garbage room, and related earthworks and landscaping.

This report is an outline of the waste minimisation and management policies and procedures to be implemented by contractors during the demolition phase, construction phase and the property manager/owners corporation during the post construction (operational phase) of the development.

These policies and procedures will set a framework for all parties to minimise generation of residual (non-recyclable) waste, and to take advantage of the opportunities for re-use of waste materials by ensuring that efficient recovery and segregation measures for all waste materials are provided.

2 Building Characteristics

2.1 Proposed building description

The proposed development comprises two basement levels, primarily of car parking and storage, garbage room and seven upper levels of residential units, related earthworks and landscaping.

A summary of the proposed building is as follows:

- Parking for 28 cars in the basement level;
- Ground floor level and up to six upper levels consisting of a total of 78 Hotel suites, 29 Residential units and a commercial tenancy.

3 Purpose of the SWMMP

3.1 Aims

The aim of the SWMMP is to outline measures to minimise and manage waste and resource recovery during the demolition phase, construction phase and the post construction (operational) phase

The SWMMP will describe;

- Volume and type of waste and recyclables to be generated
- Storage and treatment of waste and recyclables on the development site
- Disposal of residual wastes and reprocessing options for recyclables
- Procedures for post construction (operational) management after handover of the development

3.2 Objectives

The objective of the SWMMP is to provide a planning system to effectively manage waste and resource recovery associated with this development, including;

- Promote improved project management
- Minimise waste generation
- Maximise reuse and resource recovery
- Minimise the environmental impacts associated with residual waste generated by this development
- Ensure the appropriate storage and collection of residual waste
- To ensure ongoing waste management systems are compatible with collection services offered by commercial waste transporters and the City of Sydney Council.

3.3 Legislative drivers

Table 1 Environmental Legislation specific to waste management

Legislation/Guidelines	Description
Protection of the Environment Operations Act 1997	This Act is the primary NSW environment protection legislation covering air, noise, water, land and waste management
Waste Avoidance and Resource Recovery Act 2001	Sets NSW framework for waste hierarchy and allows the preparation of waste strategies addressing specific waste streams and setting landfill diversion and resource recovery targets
Waste Avoidance and Resource Recovery Strategy 2007	Proposes priority areas for waste management and resource recovery. Details current targets
Council of the City of Sydney – Policy for Waste Minimisation in New Developments	Aims to facilitate sustainable waste management within the City of Sydney LGA in a manner consistent with ESD principles.
Model Waste Not DCP Chapter 2008 (DECC)	Provides a framework chapter for NSW LGA's to address Waste Not DCP
Better Practice Guide for Waste Management in Multi Unit Dwellings 2002 (Resource NSW)	Provides guideline for addressing waste management in medium or high density residential developments

4 Demolition phase

4.1 General Outline

4.1.1 Introduction

The management of the site will be the responsibility of the project manager, who will administer waste handling systems, as specified by the City of Sydney Council, Work Cover and as detailed in this report.

The demolition phase of this development is to comply with the aims and objectives outlined in Section 3 of this report.

The demolition phase involves the demolition of an industrial/commercial building, and associated light infrastructure, site clearing, and excavation.

4.2 Waste Avoidance, Minimisation and Control Strategies

In relation to site clearance and excavation activities, specialised waste disposal & treatment contractors will be selected who are appropriately licenced, and have demonstrated experience in maximising resource recovery. The following control strategies will be implemented during the demolition phase;

- All demolition will be conducted in accordance with requirements of the Workcover Authority and Australian Standard 2601-1991 *The demolition of structures*
- All asbestos, hazardous and/or intractable wastes are to be disposed of in accordance with the WorkCover Authority and Environmental Protection Authority
- Re-use excavated materials on-site and disposal of excess to an approved site
- All salvaged material will be removed manually; hydraulic excavators will remove the remainder
- Allocation of an assigned area within the development site to be identified for stockpiling of segregated recyclable materials (for materials to be re-used on-site) and for staging areas for transport to off-site re-processing facilities
- All skip and bulk bins will be located within the assigned area, clearly identified for each material, and not impeding on the footpath or road reserve
- Project manager to retain all weighbridge or re-processing facility dockets to ensure responsible disposal and recycling options are being employed by contractors
- All waste generated is to be documented and handled in accordance with Table 2 Demolition Volumes and Reuse/Recycling Potential
- At the excavation stage, the frontage to Woodburn Street will be utilised as the site access. The excavated material, not used on site, will be loaded onto trucks and transported to an approved landfill site or another suitable location.

Table 2 Demolition Volumes and Reuse/Recycling Potential

Materials	Document Volume (m ³)	On-Site	Off-Site	Disposal
Hardwood	15	Separated	Sold for re-use	Second hand supplier
Other Timber	10	Separated	Chipping for mulch/fuel	Green waste re-processing facility
Doors, Windows	5	Separated	Sold for re-use	Second hand supplier
Steel	14	Nil	To metal recyclers	Metal recycling
Downpipes, Gutters	1	Nil	To metal recyclers	Metal recycling
Ceramic Tiles	3	Cleaned and separated	Sold for re-use	Recycling facility/second hand supplier
Green Waste	0	Composted or mulched	Nil	Green waste re-processing facility
Concrete	22	Re-used as sub-base / fill	Concrete crushing	Quarry or landfill licenced to crush concrete
Bricks	88	Broken brick for fill. Whole bricks to be cleaned and salvaged	Recycling company	Quarry or landfill licenced to crush bricks/masonry. Or Second hand supplier
Plasterboard	5	Separated	Recycling company	Licenced re-processing facility. Or return to supplier
General Waste	5	Nil	Nil	Licenced waste facility
Other Wastes	4	Separated	Nil	Licenced waste Facility

5 Construction Phase

5.1 General Outline

5.1.1 Introduction

The management of the site will be the responsibility of the project manager, who will administer waste handling systems, as specified by City of Sydney Council, Work Cover and as detailed in this report.

The construction phase of this development is to comply with the aims and objectives outlined in Section 3 of this report.

The construction phase will involve car parking for 28 cars over two basement levels, lift motor, plant, service and garbage room and six upper levels consisting of a total of 78 hotel suites, 29 residential units and a commercial tenancy.

5.2 Waste Avoidance, Minimisation & Control Strategies

To reduce the amount of waste on site during construction of the development the following control strategies will be required of all contractors and/or personnel:

- Order materials to size
- Avoid over-ordering
- Order pre-cut or pre-fabricated materials
- Reduce packaging at source or products with minimal packaging
- Where possible materials to be re-used on site or shipped to recycler
- All salvaged material will be removed manually; hydraulic excavators will remove the remainder;
- Allocation of an assigned area within the development site to be identified for stockpiling of segregated recyclable materials (for materials to be re-used on-site) and for staging areas for transport to off-site re-processing facilities;
- All skip and bulk bins will be located within the assigned area, clearly identified for each material, and not impeding on the footpath or road reserve;
- Project manager to retain all weighbridge or re-processing facility dockets to ensure responsible disposal and recycling options are being employed by contractors;
- All waste generated is to be documented and handled in accordance with Table 2 Construction Volumes and Reuse/Recycling Potential

Table 2 Construction Volumes and Reuse/Recycling Potential

Materials	Document Volume (m ³)	On-Site	Off-Site	Disposal
Hardwood	4	Separated	Sold for re-use	Second hand supplier
Other Timber	10	Separated	Chipping for mulch/fuel	Green waste re-processing facility
Doors, Windows	0	Separated	Sold for re-use	Second hand supplier
Steel	3	Nil	To metal recyclers	Metal recycling
Downpipes, Gutters	0	Nil	To metal recyclers	Metal recycling
Ceramic Tiles	0	Cleaned and separated	Sold for re-use	Recycling facility/second hand supplier
Green Waste	8	Composted or mulched	Nil	Green waste re-processing facility
Concrete	6	Re-used as sub-base / fill	Concrete crushing	Quarry or landfill licenced to crush concrete
Bricks	4	Broken brick for fill. Whole bricks to be cleaned and salvaged	Recycling company	Quarry or landfill licenced to crush bricks/masonry. Or Second hand supplier
Plasterboard	12	Separated	Recycling company	Licenced re-processing facility. Or return to supplier
General Waste	5	Nil	Nil	Licenced waste facility
Other Wastes	2	Separated	Nil	Licenced waste Facility

Note: During construction, all waste materials will be separated and temporarily stored on-site. It is proposed all such materials will either be recycled or disposed of as per Table 2 Demolition Volumes and Reuse/Recycling Potential.

6 Post Construction (operational) Phase

The following assessment of waste volumes is an estimate only and will be influenced by building management, cleaning arrangements, individual tenant's attitude and obligation regarding waste disposal and recycling.

6.1 Waste and recycling generation rates

Waste and recycling generation rates are taken from City of Sydney's *Policy for Waste Minimisation and Management – Appendix B Waste and recycling generation rates for residential and commercial premises*.

Table 1 - Hotel Suite Generation Rates

Waste Type	Number of Beds	Waste generation rate	Waste generated	Frequency of Servicing	Bins Required
Garbage	78	5 L/bed/day 50 L/bed/day 10L/1.5m ² of dining area/day	2,730 L per week	weekly	3 x 1,000L Bins
Recyclables	78	50 L / 100m ² of bar and dining areas / day	Nil		

Table 2 - Residential Generation Rates

Waste Type	Number of Units	Waste generation rate	Waste generated	Frequency of Servicing	Bins Required
Garbage	29	80 L per week	2,320 L per week	Weekly	10 x 240L Bins
Recyclables	29	40 L per week	1,160 L per week	Weekly	5 x 240L Bins

Table 3 - Commercial Generation Rates

Waste Type	Area (m ²)	Waste generation rate	Waste generated	Frequency of Servicing	Bins Required
Garbage	44	80 L / 100 m2 per day	560 L per week	Weekly	1 x 1,000L Bins
Recyclables	44	Discretionary			

Hornsby Shire Council's *Policy for Waste Minimisation and Management* requires that a 1,100 L bin be provided for paper, cardboard and flattened removalist boxes.

6.2 Storage

The storage of residential waste will be within garbage and recycling rooms (waste room) located on the Ground / Level 1 as shown in the submitted plans and the below image.

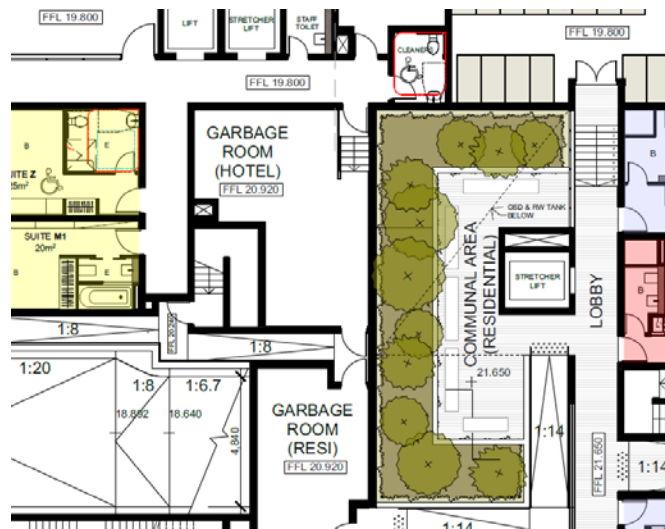


Figure 1 - Waste Room Location

This room shall be constructed in accordance with the provisions of the City of Sydney Council's Policy for *Waste minimisation in new development*, and at a minimum be of approved solid impervious material and shall be cement rendered internally to a smooth even smooth even surface covered at all intersections.

The ceiling of the waste room will be finished with a rigid smooth faced non-absorbent material capable of being cleaned. The walls, floor and ceilings of the garbage room shall be finished with a light colour.

A tap and drainage with connection to the sewer are to be provided within the garbage storage area. Hose cocks shall be protected or located so that they cannot be damaged. A hose of adequate length and fitted with a nozzle is to be connected to the hose cock to allow for adequate cleaning of the waste room and receptacles.

The room will be adequately ventilated, well lit, and appropriately signposted to distinguish paper/cardboards recycling bins from container recycling bins and residual waste (garbage) bins.

The size of the waste room will be sufficient to house the recommended number of mobile garbage bins for the development, as well as incorporating adequate clearance between each mobile garbage bin. The minimum sizes for the proposed bins are identified in Appendix B.

A close fitting and self-closing door openable from within the room must be fitted to the waste room. The waste room will be constructed so as to prevent the entry of vermin.

The waste room must be ventilated in accordance with the provisions of the Building Code of Australia (as in force at the time of construction) by either:

- Permanent unobstructed natural ventilation openings direct to the external air, not less than 5% of the floor area,
- Mechanical exhaust ventilation system exhausting at a rate of 5L/s.m² floor area, with a minimum rate of 100L/s min

The waste room will be provided with artificial light controlled by switches located both outside and inside the room.

Where storage and drainage racks are provided, they will be constructed of galvanised metal or other approved materials which are durable, impervious and non-corrosive.

Racks should be installed at least 50mm clear of walls with the lowest racks installed at least 300mm above the floor. Racks should be designed to prevent receptacles/containers placed thereon from coming in to contact with the walls.

Clear and easy to read "NO STANDING" and "DANGER" signs must be fixed to the external face of each waste and recycling room as appropriate. Clear and easy to read signs designating the storage of recyclables and general waste must be fixed to the internal walls as appropriate.

The location of the garbage room has been designed to be easily accessible to the residents of the proposed townhouses.

The garbage room will not affect the amenity of any adjacent properties and has been designed as an integrated part of the overall design.

6.3 Servicing (collection)

The property manager/owners corporation will ensure that all bins are prepared and presented within an allocated service area, before 6:00am on service day.

The design of the development allows for the garbage and recyclables to be transported to Waste collection point identified in the submitted plans, to allow for the City of Sydney and/or their contractor for pick-up.

The development has been designed so as to allow City of Sydney Council's waste management contractor to collect the garbage from the loading space without impacting on local traffic flow.

The site can be accessed from Woodburn Street, to ensure adequate distances to Cleveland Street are maintained. Adequate turning circles, including a swept path analysis, will be provided by the traffic consultant's report.

Whilst it is preferable for a waste truck to enter and exit the site in a forward direction, it is considered generally acceptable for a contractor truck to reverse into a site and exit in a forward direction.

The proposed design allows for service vehicles to enter the site in a reverse direction, park in the allocated waste collection point area while servicing the bins, then exit the site in a forward direction.

The site, driveway and loading area will accommodate rear and side loading waste contractor trucks.

The waste collection point area is to be generally level. The sections of driveway / access way that will be used by collection vehicles will be designed, as per Council's requirements, for a small rigid vehicle in accordance with the provisions of Australian Standard 2890.2-2002 *Parking facilities Part 2: Off-Street commercial vehicle facilities*.

Bins will be returned to the garbage rooms as soon as practicable following servicing.

6.4 Garbage transport

No garbage chutes are proposed as part of the development. All residents will be provided with a collection area in each unit to deposit waste and recyclable materials. Once this has been filled the resident will then transport the waste to the garbage room.

Each individual residential dwelling shall be no more than 75 metres from the nearest waste room. This distance should be shortened to 50 metres for aged or disabled residents.

Garbage is to be sorted prior to being emptied in to the relevant bins in the garbage room.

All equipment movements in the garbage room and from the garbage room to the loading space are to be managed by the building manager or custodial staff.

The waste caretaker shall be responsible for ensuring the waste rooms and related equipment are kept in a clean and working order.

The waste caretaker shall also ensure that the waste and recycling bins are provided in the waste collection point area on the relevant servicing days by the required times. Once serviced the bins are to be moved back to the main Waste room.

Occupational health and safety of bin transfers must be considered for larger bins (e.g. ability to safely move a bin that may weigh more than the person trying to move it).

Equipment such as motorised trolleys may be required depending on the gradient and transfer distances required. If a motorised trolley is required, allowance must be made for storage of the device.

6.5 Bulky waste

The development will employ a dedicated caged area for residents to temporarily store unwanted bulky items until suitable disposal/transport options can be arranged.

6.6 Green waste

The property manager/owners corporation may wish to purchase green waste mobile garbage bins to participate in this program. Alternatively the development will employ a garden contractor to manage green waste generated from the development.

Additionally Green waste can be added to the communal compost located on the site.

Appendix A

Signage for Garbage Rooms



**Drink Bottles,
Cans and Cartons**



Garbage



Compostables



Food Waste Only

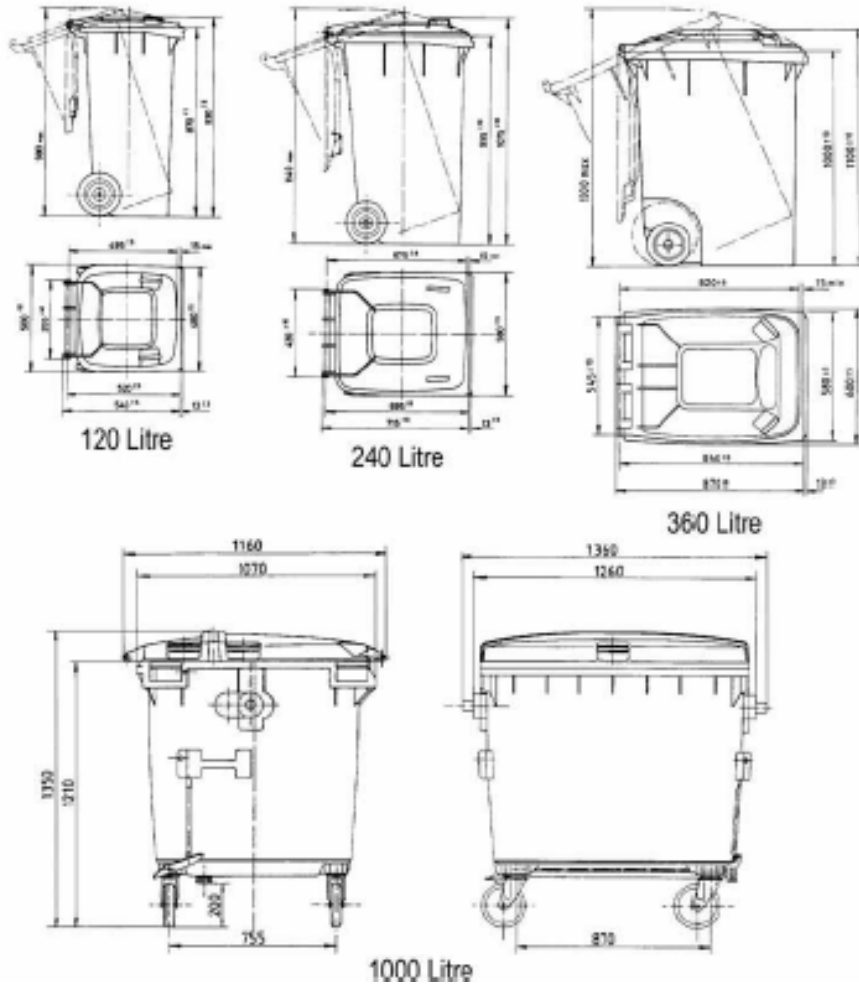


Paper & Cardboard

Appendix B

Waste Management Equipment

Bin Type	120L MGB	140L MGB	240L MGB	1000L MGB
Height	940 mm	1065 mm	1080 mm	1350 mm
Length	560 mm	540 mm	735 mm	1160 mm
Width	485 mm	500 mm	580 mm	1360 mm



Dimensions - Weights - Standards

■ Nominal volume:	660 litres
■ Net weight:	43 kg
■ Max. load:	265 kg
■ Permitted total weight:	310 kg

Measurements to be used as a guide only - variations will occur

