



LOKA CONSULTING ENGINEERS PTY LTD

OFFICE: 14A, 8 AVENUE OF THE AMERICAS, NEWINGTON, NSW 2127

PHONE: 02 8065 9689

FAX: 02 8065 9690

MOBILE: 0404 142 063

EMAIL: info@Lceng.com.au

WEB: www.Lceng.com.au

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Waste Management Plan for 208 Victoria Road, Punchbowl, NSW

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Prepared by

LOKA CONSULTING ENGINEERS PTY LTD

Nermein Loka

BSC, ME, MIE (AUST), CPEng, NPER, RPEQ, APEC, IPEA

Senior Civil Engineer

Director

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1. Introduction

Loka Consulting Engineers Pty Ltd has been engaged by Design & Building Group to provide a Waste Management Plan for the site at 208 Victoria, Punchbowl, NSW located within Canterbury – Bankstown Council (refer to Figure 1.1).

A waste management plan is required for the proposed development to support the design during demolition, excavation, construction and service conditions, along with achieving the objectives to promote sustainable operation of the development. The development achieves the waste management objectives set out in the council codes as well as any statutory requirements. The details which will be addressed include:

- a description of the site and details of the development proposal;
- reuse, recycling and disposal of materials during demolition, excavation, construction and service conditions;
- a review of the design features of the proposed waste management system for compliance with relevant codes, standards and regulations; and
- identification of procedures for on-going waste management.



Figure 1.1: Subject site (Source: SIX Maps)



Figure 1.2: Subject site (Source: SIX Maps)

2. Property Description

The proposed new development will involve the demolition of a dwelling and the construction of an early childhood centre within a site area of approximately 1031m² with basement, ground floor and 1 upper level. Car parking is proposed on basement level with entry from Victoria Road. A total of 4 indoor play areas and 2 outdoor play areas are proposed on ground floor & first floor to accommodate 76 children.

The proposed development is bounded by:

- No. 115, 117 & 119 Augusta St on the East,
- Victoria Road on the West,
- No. 204-206 Victoria Rd on the North,
- No. 210 & 210A Victoria Rd on the South.

3. Project Proposal

Waste storage and transportation will be managed during demolition and construction stages as well as in service conditions. Waste produced from these stages will be reused or recycled as appropriate, or disposed using certified waste collection contractors.

The management of waste during service conditions of the development will involve the childhood centre manager maintaining waste storage and recycling area located on site, with the collection of general waste and recycling primarily involving a waste contractor. It is proposed that a total of **3 x 240L** garbage bins and **3 x 240L** recycling bins are provided. The childhood centre manager will transfer all the bins to kerb side where they will be collected by the private waste contractor.

4. Demolition and Excavation

Materials from the demolition stage shall be reused, recycled or disposed in accordance with the provisions outlined in this WMP and the requirements of the Protection of the Environment Operations (Waste) Regulation 2014.

Where possible, waste materials should be managed so most materials will be reused or recycled, with only a small proportion of waste going to landfill.

4.1 Asbestos

Prior to any demolition works, a suitably qualified inspector (an appropriate competent person) shall conduct a **Hazardous Building Materials inspection** including (Asbestos (ACM), Lead paint and lead dust, Polychlorinated Biphenyls (PCBs), Synthetic Mineral Fibres (SMF), Chlorofluorocarbons (CFC's) and Ozone Depleting Substance (ODS)) on the existing structures to be demolished. The inspector (an appropriate competent person) shall prepare of a **Hazardous Building Materials Survey Report**, in accordance with relevant Australian Standards and Work, Health and Safety Legislation. all hazardous materials identified at the site with risk assessment outlining material type, friability, location, extent, condition, and accessibility with photographic references of all identified items.

Asbestos is considered the most harmful material so if there are more than 10m² of asbestos and the presence of other hazardous materials, a licensed asbestos & hazardous materials remover shall conduct the removal and tipping.

In the latter case, the name, address and asbestos & hazardous materials license number of the remover, as well as the name and address of the licensed waste management facility where all asbestos & hazardous materials will be taken shall be informed to the council. All records covering the transport and tipping of any hazardous building materials or any asbestos contaminated materials must be maintained on site for the inspection of a Council officer or other Principal Certifying Authority.

Asbestos-contaminated soils must be wetted down. All asbestos waste must be transported in a part of the vehicle that is covered and leak-proof; and disposed of at a landfill site that can lawfully receive it. The project manager will ensure a unique consignment number is created and report

to EPA using Waste Locate if over 100 kilograms or 10 square meters of asbestos is being disposed of. No asbestos waste is disposed to general waste or recycle bin; or reuse, recycle or illegally dumped.

4.2 Managing Materials from Demolition

Table 1 below details the amount of material that is estimated to be produced from the demolition stage, as well as the planned reuse, recycling or disposal plans.

Table 1: Management of demolition materials

Materials on-site		Reuse and recycling		
Type of Material	Estimated on site waste of material ordered volume (m ³)	On-site How materials will be reused or recycled on-site	Off-site Contractor and recycling outlet (or appointed by private tractor)	Disposal Contractor and landfill site (or appointed by private tractor)
Timber	5-7%	Reuse for formwork, landscaping, shoring	Benedict Recycling 33-39 Riverside Rd. Chipping Norton	SUEZ Auburn Old Hill Link, Sydney Olympic Park NSW 2127
Concrete	3-10%	N/A	Benedict Recycling 33-39 Riverside Rd. Chipping Norton	SUEZ Auburn Old Hill Link, Sydney Olympic Park NSW 2127
Bricks/Pavers	5-10%	Clean & reuse for bricks in good condition used for internal walls	Benedict Recycling 33-39 Riverside Rd. Chipping Norton	Nil to landfill
Roof tiles	2-5%	Break up and use as fill, aggregate	Benedict Recycling 33-39 Riverside Rd. Chipping Norton	Nil to landfill
Plasterboard	5-10%	N/A	Benedict Recycling 33-39 Riverside Rd. Chipping Norton	SUEZ Auburn Old Hill Link, Sydney Olympic Park NSW 2127
Metals	2-5%	N/A	Benedict Recycling 33-39 Riverside Rd. Chipping Norton	SUEZ Auburn Old Hill Link, Sydney Olympic Park NSW 2127

4.3 Managing Materials from Excavation

Excavated materials from the Excavation stage shall be reused, recycled or disposed in accordance with the provisions outlined in this WMP and the requirements of the Protection of the Environment Operations (Waste) Regulation 2014.

Table 2: Management of Excavated materials

Materials on-site		Reuse and recycling		Disposal
Type of Material	Estimated volume (m ³) or area (m ²) or weight (t)	On-site How materials will be reused or recycled on-site	Off-site Contractor and recycling outlet (or appointed by private contractor)	Contractor and landfill site (or appointed by private contractor)
Excavated material	1500m ³	Reuse for backfilling and landscaping	Benedict Recycling 33-39 Riverside Rd. Chipping Norton	SUEZ Auburn Old Hill Link, Sydney Olympic Park NSW 2127

4.4 Site Operation and Management

The site operation will be managed to reduce waste creation and maximise reuse and recycling by setting waste management requirements in contracts with sub-contractors, on-going checks by supervisors on site and the use of clear signage at designated waste areas.

In addition, the project team leader will:

- Liaise with contractors to identify areas where they can reduce waste and reuse materials in their respective trades
- Meet local, state and federal waste minimisation legislation and environmental standards
- Prevent pollution and damage to the environment
- Protect the safety and health of the employees and the public

Waste will be separated and stored onsite for reuse and recycling through maintaining separate areas for sorted wastes with one area for recyclables and another area for waste going to landfill. Utilising selective deconstruction rather than straight demolition will ensure that good quality material can be reused or recycled.

5. Construction

Materials that are not used in the construction stage shall be reused, recycled or disposed in accordance with the provisions outlined in this WMP and the requirements of the Protection of the Environment Operations (Waste) Regulation 2014.

Where possible, waste materials should be managed so most materials will be reused or recycled, with only a small proportion of waste going to landfill.

5.1 Managing Waste Materials from Construction

Table 3 below details the amount of waste material that is estimated to be produced from the construction stage, as well as the planned reuse, recycling or disposal plans.

Table 3: Management of waste construction materials

Materials on-site		Reuse and recycling		
Type of Material	Estimated on site waste of material ordered volume (m ³)	On-site How materials will be reused or recycled on-site	Off-site Contractor and recycling outlet (or appointed by private tractor)	Disposal Contractor and landfill site (or appointed by private contractor)
Timber	5-7%	N/A	Benedict Recycling 33-39 Riverside Rd. Chipping Norton	SUEZ Auburn Old Hill Link, Sydney Olympic Park NSW 2127
Concrete	3-10%	Clean & reuse for landscaping	Benedict Recycling 33-39 Riverside Rd. Chipping Norton	SUEZ Auburn Old Hill Link, Sydney Olympic Park NSW 2127
Bricks	5-10%	Reuse for others projects	Benedict Recycling 33-39 Riverside Rd. Chipping Norton	Nil to landfill
Roof tiles	2-5%	Reuse for others projects	Benedict Recycling 33-39 Riverside Rd. Chipping Norton	Nil to landfill
Plasterboard	5-10%	N/A	Benedict Recycling 33-39 Riverside Rd. Chipping Norton	SUEZ Auburn Old Hill Link, Sydney Olympic Park NSW 2127
Metals	2-5%	N/A	Benedict Recycling 33-39 Riverside Rd. Chipping Norton	SUEZ Auburn Old Hill Link, Sydney Olympic Park NSW 2127
Others (e.g. generals, residue...)	2-3%	N/A	N/A	SUEZ Auburn Old Hill Link, Sydney Olympic Park NSW 2127

5.2 Construction Design and Management

Waste avoidance has been incorporated into the design by incorporating as much detail as possible within the design, and using pre-fabricated materials to ensure a reduction in waste generated on-site. Materials purchased will be checked against previously known quantities required to build similar projects, and adjusted as construction progresses for this particular project. Reduction in waste can also be achieved through the reuse of building materials in good condition from the demolition phase.

6. Management of Waste

6.1 Design Requirements

6.1.1 Waste production and storage per unit

Since Canterbury-Bankstown Council “Waste Management Guidelines” does not provide waste generation rate for childhood centre, the following from Penrith City Council is adopted:

- 80 litres/100m² floor area/day/week garbage
- 80 litres/100m² floor area/day/week recycling

The waste generated and required number of bins is shown in Table 4.

Table 4: Calculations for waste/recycling storage space required

Service type	Area (m ²)	Generated waste (L/week)
General waste	247.87	$(247.87/100) \times 80 \times 5 = 992$
Recycling (all types)		$(247.87/100) \times 80 \times 5 = 992$

6.1.2 Collection frequency and bins required

To service the generation of waste/recycling expected from the proposed development, the following number of bins and frequency of collection is outlined in the Table 5 below.

Table 5: Waste collection service requirements

Service type	Number of containers	Collection frequency
General waste	3 x 240L	Twice per week
Recycling (all types)	3 x 240L	Twice per week

6.2 Design Detail

6.2.1 Overall waste and recycling storage and servicing within the complex

Waste service will be provided by a private waste contractor. An enclosed waste and recycling storage area with a sliding door is proposed on the ground level outdoors. The bin storage area is approximately 3.35 m² which can accommodate all required bins of 2.6 m². However, bins shall be placed to allow sufficient manoeuvring.

The childhood centre manager will take responsibility for transportation of mobile bins to the kerbside where they will be collected by the private waste contractor. Bins shall be placed to minimise the impact on traffic on the road and not block access to driveways and pedestrian footpaths.

Bin storage area and transportation path are shown in Figure 6.1 below.

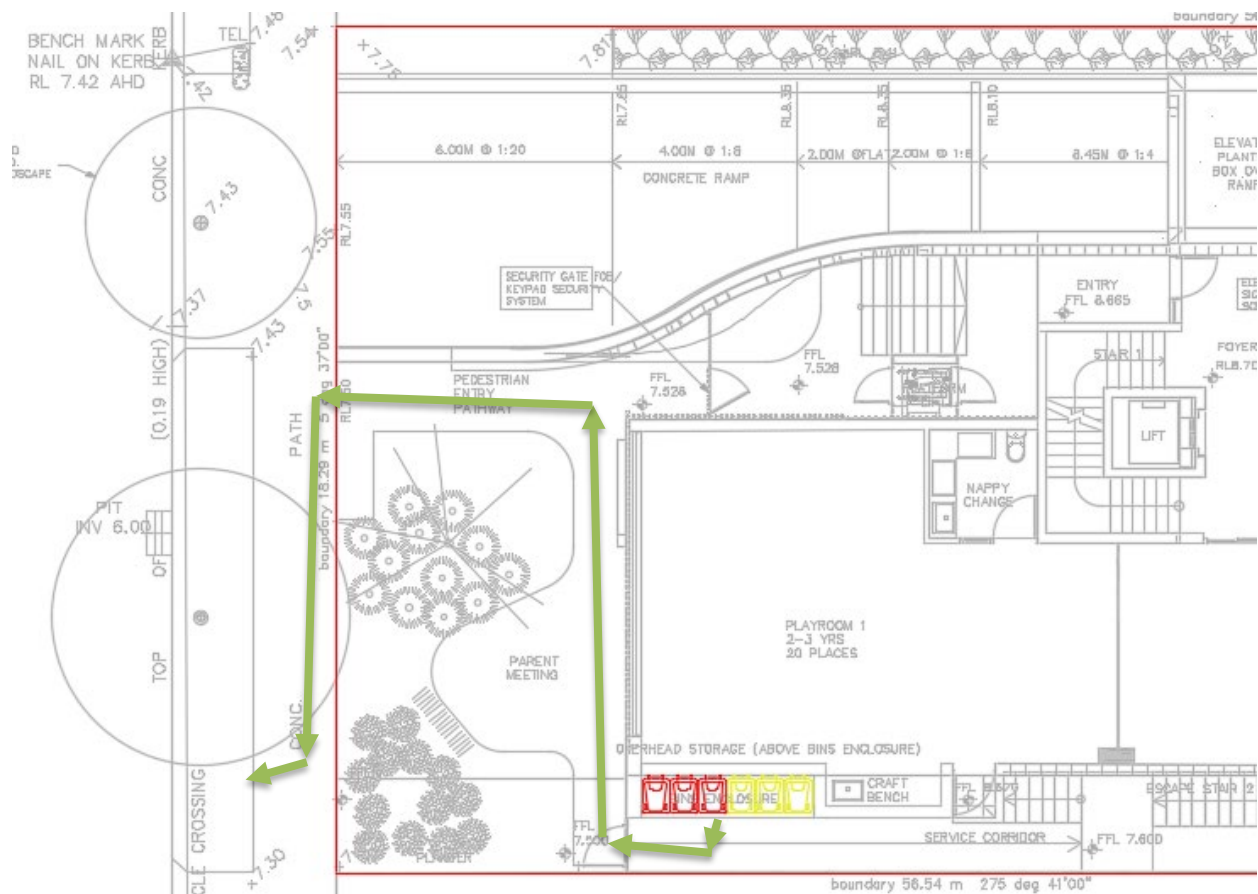


Figure 6.1 Proposed bin storage area and transportation path

The maximum number of bins are placed on the street frontage on the days when general waste & recycling are collected: **6** bins. The bin collection point is shown in Figure 6.2 below

- Building management/caretaker will take responsibility for the provision of bin servicing and transport as well as maintaining waste areas
- Storage is of adequate size to store the required number of bins
- Amenities are easily accessible to occupants, but not for non-occupants to discourage illegal dumping
- Ventilation complying with AS1668, with ventilation openings located close to ceiling and floor and away from windows of dwellings
- All lighting and electrical components will be built to comply with standards and building regulations

6.4 On-going Waste Management

The on-going management of waste on-site will be stipulated with conditions set out in the conditions presented to occupants before they use the facility. Nappies and other incontinence products cannot be recycled or composted. Soiled nappies and incontinence products should never be placed in the recycling or FOGO (food organics, garden organics) bins as they end up contaminating the recycling and composting process.

Disposable nappies should always be placed in general waste bin. The childhood centre manager is responsible to bag waste materials and deposit into bins at waste storage area; however, recycling materials must not be bagged. The childhood centre manager is responsible to clean waste and recycling storage area and the collection area at a regular interval of once a week.

Each indoor playing area & outdoor playing area will be supplied with a collection area suitable for one day's storage of waste and recycling.

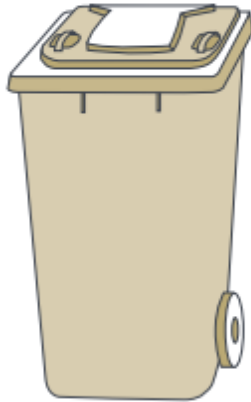
Signage and written information will be provided, so the occupants are aware of how to use and manage the waste and recycling services.

Appendix A – Signage used in waste storage areas



Appendix B – Indicative Bin Sizes

Mobile containers with a capacity from 80L to 360L with two wheels



Bin Type	80 Litre MGB	120 Litre MGB	140 Litre MGB	240 Litre MGB	360 Litre MGB
Height	870 mm	940 mm	1065 mm	1080 mm	1100 mm
Depth	530 mm	560 mm	540 mm	735 mm	885 mm
Width	450 mm	485 mm	500 mm	580 mm	600 mm

Source: Department of Environment & Climate Change NSW