St Columba's Lane Cove

(Residential Aged Care Facility at Corner of Centennial Ave and Figtree St, Lane Cove)

Operational Waste Management Plan

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1 Introduction

This Waste Management Plan (WMP) has been prepared on behalf of Uniting to accompany a Development Application for the St Columba's project.

The Plan has been developed with consideration of Lane Cove Council's and other Authority's requirements. It is intended to inform the design of the waste services by identifying the estimated waste profile for the development and providing the total area required by the recommended equipment/systems.

In doing so this Plan, which includes waste estimates and related management requirements, has been developed in accordance with the Lane Cove Council's *Lane Cove Development Control Plan 2009 (Part Q - Waste Management and Minimisation).*

The project involves upgrade of existing Residential Aged Care Facility. In relation to this waste management plan, the key components of the new development are:

- Aged Care Facility (142 beds);
- Ancillary spaces **–** admin office, multipurpose rooms, consult rooms, hair dresser room, dining areas; and
- Waste storage area (Basement level)

Waste audit and management strategies are recommended for new developments to provide support for the building design and promote strong sustainability outcomes for the building. All recommended waste management plans will comply with council codes and any statutory requirements.

To assist building management in achieving effective waste and recycling management, this waste management plan has three key objectives:

i. **to minimise the environmental impacts of the operations of the development** – this will be achieved by ensuring maximum diversion of waste from landfill; correct containerisation and transport of materials; correct segregation of materials into appropriate management streams; awareness among staff of waste avoidance practices.

ii. **to minimise the impact of the management of waste within the development on local residents** – this will be achieved by ensuring waste is managed so as to avoid odour and litter and collected during suitable times.

iii. **to ensure waste is managed so as to reduce the amount landfilled and to minimise the overall quantity generated** – this will be achieved by implementing systems that assist staff to segregate appropriate materials that can be recycled; displaying signage in all waste areas to remind and encourage avoidance and recycling to staff.

2 Waste Generation

2.1 Waste Streams

Based on the development profile, the following waste streams would be expected:

- General waste; and
- Commingled recycling

2.2 Waste Generation Estimates

Based on averages for quantity of waste generated and composition as determined by industry data (i.e. data/information provided by WACS' waste audits conducted in a broad range of sectors) as well as consideration of the waste generation rates as detailed by the Lane Cove Council's *Lane Cove Development Control Plan 2009 (Part Q - Waste Management and Minimisation)*, it is estimated that the entire development will generate a total of 9,960 litres of waste and recyclables per week.

The following table summarises the expected quantities of waste and recyclables generated for the development in terms of volume per week.

Table 1 – Waste/recycling generation

	L/week
General Waste	6,400
Commingled Recycling	3,560
Total	**9,960**

Note: The weights and volumes are based on correct segregation of waste and recyclables.

3 Waste Management Systems and Spatial Requirements

3.1 Waste Systems and Bin Requirements

The following tables show the recommended systems required to manage the estimated waste profile as detailed in the above table for the development. The systems refer to the basement waste storage system rather than the internal bins that may be used within the development.

Table 2 – Waste Systems

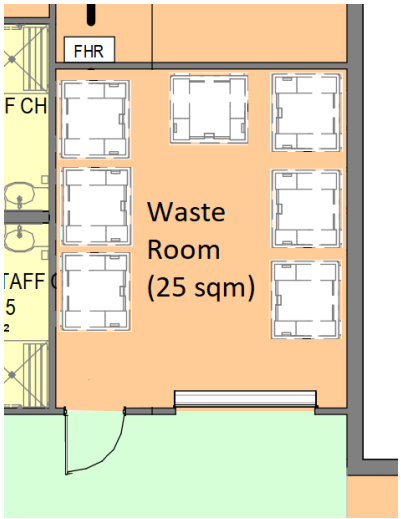
Waste Stream	Bin Size	No. of bins	Clearance (per week)	Capacity (Weekly)	Estimated Volume/Week
General waste	1,100 L	3	2	6,600	6,400
Recycling	1,100 L	4	1	4,400	3,560
TOTAL		**7**		**11,000**	**9,960**

Based on the estimates of waste generation and the number of bins required (with the collection schedule as noted), as well as allowing space for bin movement, the minimum size of waste storage area should be approximately **23 m²**.

3.2 Waste Storage area design

The following diagram illustrates the location of the main waste storage area on basement level

Diagram 1 – Main Waste Storage Area (Basement level)



The waste storage areas will be accessed by the appointed waste caretaker, staff and site cleaners via the lift.

The waste and recycling bins will be colour coded and clearly signed. Each stream will be located in a designated area. This will assist in easy identification of correct bins by cleaners and staff.

Photographs 1 & 2 - Examples of waste room colour coding

The waste storage area will contain the following to minimise odours, deter vermin, protect surrounding areas, and make it a user-friendly and safe area:

- Floor to be sealed with a two pack epoxy;
- Floor surface is flat and even;
- all corners coved and sealed 100mm up, this is to eliminate build-up of dirt;
- a water facility with hose cock must be provided for washing the bins;
- any waste water discharge from bin washing must be drained to sewer in accordance with the relevant water board;
- tap height of 1.6m;
- storm water access preventatives (grate);
- all walls painted with light colour and washable paint;
- equipment electric outlets to be installed 1700mm above floor levels;
- light switch installed at height of 1.6m;
- waste areas must be well lit (sensor lighting recommended);
- optional automatic odour and pest control system installed to eliminate all pest types and assist with odour reduction – this process generally takes place at building handover – building management make the decision to install;

- waste collection area must hold all bins – bin movements should be with ease of access;
- conform to the Building Code of Australia, Australian Standards and local laws; and
- childproofing and public/operator safety shall be assessed and ensured.

Occupational Health and Safety issues such as slippery floors in waste rooms and the weight of the waste and recycling receptacles will need to be monitored. Cleaners will monitor the bin storage area and will attend to all spills immediately, as they occur.

4 Waste Management Systems

The following summarises the recommended waste and recycling systems that will be implemented. These recommendations are based on Lane Cove Council requirements and systems implemented for similar developments.

4.1 Systems

All residential tenants, staff and building management/site caretakers (and contractors) will be briefed on the proper use of waste management systems. Recycling streams will be monitored and reported by site caretakers/building management, as it is imperative that they remain free of contamination to ensure compliance with the private waste contractor collection protocols. Staff will be encouraged to maximise the separation of general waste and mixed recyclables to aid the proper disposal of all materials.

Each aged care facility room will be designed to allow accommodation of one receptacle to collect waste and another to collect recycling, each with the capacity to store one day's worth of material. These receptacles will be emptied daily or as required by cleaning staff.

The floors of the aged care will be serviced by the aged care staff. All plates and food scraps will be collected on serving trolleys and transferred back to the main kitchen for disposal and cleaning. Food waste will be collected post meal times from the rooms and dining areas by the cleaning staff.

Waste storage areas (Bin holding area and main waste storage area) on basement level will be accessed by building management/site caretakers and cleaning staff. On collection day, it will be responsibility of site caretaker to transfer bins from bin holding area to main waste storage area. An appointed contractor will provide waste and recycling collection services. Waste collection vehicle will enter and exit the site in forward direction. Utilising an appointed contractor affords greater flexibility regarding collection schedules and the opportunity to, in consultation with the appointed waste contractor, reassess collection frequencies once in operation. See Appendix C for location of loading dock.

Clinical waste bins will be located within the dirty utility rooms on each floor and used by staff as required. This stream is collected by a specialist contractor and is likely to be collected directly from the floors upon request.

Any green waste produced onsite will be removed from the site and correctly disposed of by contractors.

In addition, other recycling systems such as e-waste; batteries; mobile phones etc. may be required on an ad-hoc basis. Systems for these streams will be available upon request from site management.

4.2 Clinical Waste

If clinical waste is generated, the volumes will be minimal. However, the following principles will apply for management of this waste stream. Sharps containers should be placed within "arms reach" of where the sharp is generated – then the full containers are located in utility rooms awaiting collection by healthcare facility staff and/or contractors.

These containers will range from 1.0 litre sharps containers through to 40 litre clinical waste drums – all meeting the required standard in terms of construction and colour coding etc. The actual number and sizes to be utilised will depend on the patient's conditions and discussions with the appointed clinical waste contractor.

According to the Industry "best practice" waste management manual (*Waste Management Association of Australia, Biohazardous Waste Industry Group, Manual for the Management of Biohazardous Waste, 7th edition, 2014*), storage can be a dedicated and purpose built room or mobile garbage bins – what is appropriate depends on the type of waste, volumes and servicing processes. For similar types of facilities, the provision of sharps containers is adequate to manage what clinical waste is generated. Should there be a need for additional containers, these can be obtained from the appointed contractor.

It is intended that as per normal practice for these types of facilities, that the appointed contractor will service the sharps containers/bins from their place of use within the facility and replace them at the same time with empty containers/bins.

5 Waste Stream Acceptance Criteria

5.1 Acceptance Criteria

General Waste:

General waste bins will be in 1100L MGB's. The lids and signage should be colour-coded red. The general waste stream does not include hazardous material (such as batteries, fluorescent light tubes, light bulbs and/or toner cartridges), recyclable material or electronic equipment such as computers, TVs and mobile phones.

Commingled (Mixed Recycling):

The comingled recycling system will be 1100L MGB's (Yellow lid) and should accept Disposable plastic bottles and containers from the kitchen, bathroom and laundry, aluminium and steel cans including aerosols, empty dry paint tins, glass bottles and jars, and foil-lined milk and juice cartons.

5.2 Bin Requirements

Containers located within the development for waste and recycling should be consistent. The following table outlines the colour coding that has been developed by Standards Australia.

Table 3: Standards Australia waste/recycling container colour coding

Waste Stream	Bin Body Colour	Lid Colour
Paper Recycling	Blue	Blue
Cardboard Recycling	Green	Blue
Food Organics	Burgundy	Burgundy
Commingled Recycling	Green	Yellow
Used Cooking Oil Recycling	NA	NA
General Waste	Green	Red

6 Staff Education

Staff will receive information regarding the waste collection systems including how to use the system, which items are appropriate for each stream and collection times. Appropriate signage and updated information will also be provided, as well as receiving feedback on issues such as contamination of the recycling stream or leakage of the recyclables into the general waste. The building management will have the responsibility for these tasks.

All waste receptacles will be appropriately signed and additional room signage is usually provided from most waste contractors during implementation of the waste contract. Examples of signage are included in Appendix B.

It is recommended that all signs should:

- Clearly identify the waste/recycling stream;
- Use correct waste/recycling stream colour coding;
- Identify what can and cannot be disposed of in the receptacle; and
- Include highly visual elements to accommodate for individuals with inadequate English literacy.

7 Ongoing Management

Having suitable systems in place is only one element of an effective waste management system. Compliance by all stakeholders is essential.

Prior to acceptance of the cleaning contract, the contractor will be required to demonstrate how the management of waste and recycling will be carried out so as to ensure that segregated materials are placed in the correct systems. This process will be agreed upon and a training program implemented by the cleaning contractor to ensure full understanding by all staff and building management/site caretakers.

In addition, building management/site caretakers will be responsible for managing any non-compliance issues they observe during their activities. This may include contamination of recycling, non-participation in the recycling system, or missing or damaged bins.

Waste and recycling contractors will be required to report actual volumes collected by stream so that site management can monitor performance and feed this back to stakeholders.

It is highly recommended that a basic reporting program be set up at the site which would include bin tally sheets that detail the number of bins collected and how full they are at the time of collection, in addition to communication procedures to allow waste contractors to provide feedback regarding contamination and leakage.

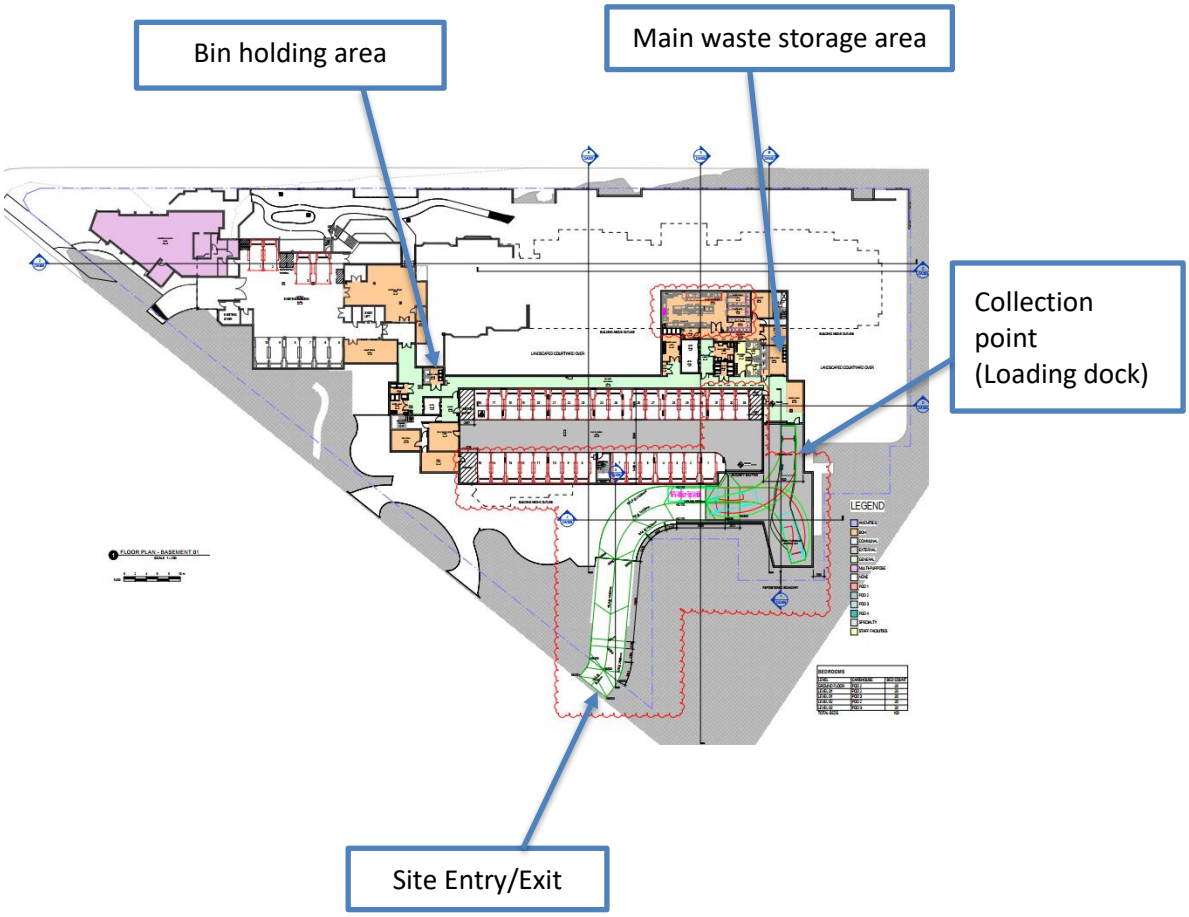
All Staff should be educated and made aware of any changes to the existing waste systems.

Appendix A – Bin Dimensions

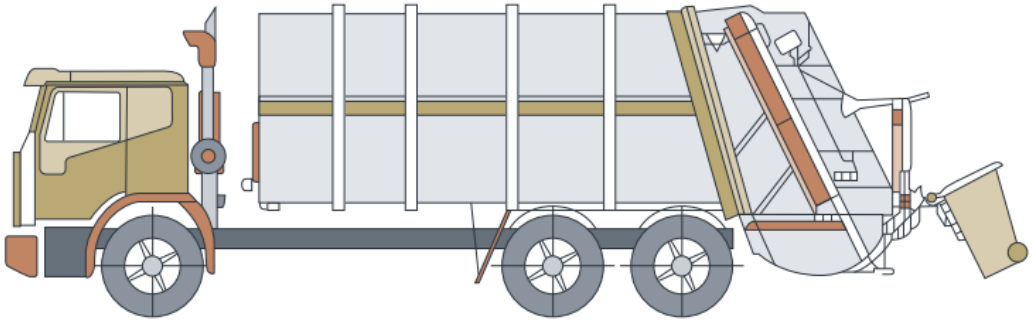
Bin Size	Dimensions (Width x depth)	Bin footprint
120 litre	480 x 545 mm	0.26 sqm
140 litre	535 x 615 mm	0.33 sqm
240 litre	585 x 730 mm	0.43 sqm
660 litre	1260 x 780 mm	0.98 sqm
1100 litre	1240 x 1070 mm	1.32 sqm
3 m3 bin	2020 x 1450 mm	2.93 sqm

Appendix B – Example Signage

Appendix C – Basement Floor Plan



Appendix D – Typical Rear Loading Collection Vehicle



Rear loading collection vehicle

Rear loading collection vehicle	
Length overall	10.24m
Width overall	2.5m
Operational height	3.5m
Travel height	3.5m
Weight (vehicle only)	12.4 tonnes
Weight (payload)	9.5 tonnes
Turning circle	18.0m