19-29 The Corso, Manly, NSW, 2095

Operational Waste Management Plan

August 2022

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1 Introduction

This Waste Management Plan (WMP) has been prepared by Waste Audit and Consultancy Services ('Waste Audit') for Iris Capital for the proposed development at 19 - 29 The Corso, Manly, NSW 2095, to provide guidance on expected operational general waste and recycling volumes; storage area requirements; bins and equipment; site and contractor handling and collection practices, and management systems and responsibilities.

In calculating total operational volumes of general waste and recycling, we have considered all areas and functions of the development that will produce general waste and recycling as a guide to calculating future volumes of materials within the commercial tenancy.

2 Tenancy Breakdown

The proposed development will consist of the following area types that will produce operational general waste and recyclable items; areas such as wash closets, storage rooms and external seating spaces that produce only minimal and/or infrequent quantities have been excluded from calculations. The following provides a breakdown of each of the tenancies floor area and the final amount.

Ground Floor (Bottle shop, sports bar & gaming area): 270.94m^2

Level 1 (Dining Area): 166.07m^2

Food & Beverage Total: 437.01m^2

2.1 Expected Materials Streams

The development is expected to produce the following operational materials streams:

Material Stream	Tenancy Type
General Waste	All Tenancies
Mixed Recycling	All Tenancies

Each of these streams will require different operational management practices depending on the type of tenancy. Recommended systems are detailed in Section 6 of this report. In preparation for this report, we have taken generation rates from the North Sydney's Commercial & Mixed-Use

Development Waste Management Plan 2013 guide.

3 Operational General Waste & Recycling

The table below show daily volumes of materials that will be generated by the development, based on standard generation rates for different types of food and beverage tenancies, such as restaurants and bars,

In preparing this plan, we have also taken into consideration *North Sydney's Development Control Plan 2013.*

General waste, and recycling from the commercial food and beverage tenancy will be stored within a waste storage area in the Basement. It is recommended small service bins be located within the waste generating spaces, such as the sports bar, gaming area, dining, and kitchen area. Upon reaching full capacity, these smaller service bins can be transferred to the main bin room in the Basement at the end of each day.

The tables below show expected volumes of materials, numbers and sizes of bins, collection frequencies, and storage area requirements and the current bin number and existing practice. Total bin footprints include 20% space allowance between bins for access and handling within storage areas.

3.1 General Waste & Recycling - Bins & Servicing Frequencies

Table 1 below shows the bin numbers, sizes, and collection frequencies for the food and beverage tenancies. The waste generation rates have been applied to floor areas where food waste generation will be high. These are the kitchen, and bar service areas, indoor dining areas and recreation area such as the gaming area. The bin sizes shown are in liters; total bin footprints are in square metres. Bin footprints include an additional 20% allowance for space between bins and movement within the storage room.

Table 1: Retail Food and Beverage Tenancy Generation Rates

Total Bins Required	Bins		Collection/ Week	Weekly Capacity (L)	Weekly Generation (L)	Footprint (m^2)
	Size	No				
General Waste	240	2	5	2,400	1,878	1.0
Mixed Recycling (Paper & Cardboard)	240	1	5	1,200	765	0.5
Mixed Recycling (Bottle)	240	1	5	1,200	765	0.5
TOTAL		**4**	**5**	**4,800**	**3,408**	**2.0**
Existing bin footprint		**21**				**10.7**
Total Bin Space Required						**12.7**

Table 2: Existing Bins in the Basement Garbage Room and Bin Capacity

Existing Estimated Bin Capacity	Bins		Collection/ Week	Daily Capacity (L)
	Size	No		
General Waste	240	5	5	857
MR (Bottles)	240	8	5	1,371
MR (Paper)	240	8	5	1,371
Total Estimated Capacity		**21**		**3,600**

Table 3: Existing number of bins presented for collection.

Existing Estimated Bin Capacity of Collected Bins	Bins		Collection/ Week	Daily Capacity (L)
	Size	No		
General	240	3	5	514
MR (Bottles)	240	2	5	343
MR (Paper)	240	4	5	686
Total Estimated Collection		**9**		**1,543**
Total Remaining		**12**		**2,057**

Table 2 shows the existing number of bins within the Garbage Room in the Basement of The Ivanhoe Hotel buildings. These bins already service 27 The Corso. These bins are collected daily. The number of bins presented is 12 as per Table 3, which indicates that not all the bins reach full capacity upon collection and there are 9 additional bins that remain. These should be sufficient to meet the estimated bin numbers required in Table 1.

The existing footprint is 10.7m^2. Based on the bin sizes, bin numbers, and the recommended collection frequencies, the proposed main waste storage room size of 13.89m^2 will have adequate space to store and maneuver additional 1-2 bins if required for the refurbished commercial tenancy.

For all the refurbished food and beverage tenancy, the mixed recycling waste has been divided as per current practice, with 50% of the paper waste being transferred into blue recycling bins and 50% of the bottle waste being disposed in yellow recycling bins. General waste will remain undivided and continue to be taken to landfill.

Upon reaching full capacity the bins will be presented for collection on Market Place by the building management team. In line with current practice, the bins will be transferred for collection overnight and align with North Sydney Council's requirements for bin collection occurring out of business hours.

4 Storage Areas: General Requirements

Commercial & Mixed-Use Developments in the North Sydney Council area must be provided with a garbage storage and/or holding bay facility of sufficient size to accommodate all waste from the building.

Waste facilities may be:

- A combined storage and holding bay located within 2 metres of the street alignment or public access
- Or garbage storage area at any other location on the site, provided there is a temporary holding bay located within 2 metres of the street alignment or public access.

Garbage and recycling bins must be placed within 1.5 metres from the entrance of a combined storage and holding bay or temporary holding bay, with 2 metre direct access from the street frontage to the bins. Waste contractors should not have to climb steps or enter doors to access bins.

Communal on-site waste storage, recycling and collection points must be provided for each development site.

- Separate waste storage facilities must be provided where a development contains a mixture of both residential and commercial uses. Access to these separate storage areas is to be restricted to their respective users.
- A garbage storage area should be located within 2m of the street or laneway boundary.
- Notwithstanding the above point, a garbage storage area may be located anywhere on a site, but only if a garbage collection area, capable of accommodating all of the required bins for the entire development is located within 2m of the street or laneway boundary.
- Garbage storage facilities should not be located in conjunction with the main pedestrian entrances to a building.
- Garbage bins stored in a collection facility should be located within 3m of the facility's entrance.
- Convenient access for on-site movement and collection should be provided.
- More than one communal on-site waste storage and recycling area should be provided on large or steep sites, or where there is more than one Council collection point.
- Garbage storage areas must be screened from streets and laneways to discourage the illegal dumping of rubbish and unsightly mess visible to pedestrians.
- Garbage storage areas must be located and managed to avoid causing a nuisance from smells, insects or animals.
- Sufficient space must be provided to accommodate any on-site treatment facilities (e.g. compaction) proposed to be incorporated.
- Garbage storage areas should be adequately protected from inclement weather. Where appropriate, the area should be enclosed or undercover.
- Storage areas must be well ventilated and drained to a lawfully approved sewerage system.
- The area allocated must accommodate any privately arranged collection (e.g. daily or weekly, etc. collections).
- Source separation must be provided within the garbage storage area to maximise recycling and reduction of waste sent to land fill.
- Food and drink premises and any other premises involved in the storing of perishable goods are required to:
    - Provide specialised containment for food scraps;
    - Arrange regular/daily collection of food scraps; and
    - Provide refrigerated garbage rooms where large volumes of perishables (such as seafood) and infrequent collection is proposed.

All waste and recycling containers will be clearly differentiated through appropriate signage and colour coding to reflect the materials contained, with each stream located in a designated area within storage room, with large and clear signage to assist in easy identification by users, as shown in Appendix C. Other best practice standards for storage and handling areas include:

- Line markings showing the loading area and positions of bins within the storage room
- Highly visible signage as shown in Appendix C.

4.1 General Waste & Recycling - Bin Transfer & Collection

Currently there are 5x240L general waste bins, 8x240L paper recycling bins and 8x240L bottle recycling bins. Out of these only 3x240L general waste bins, 4x240L paper recycling and 2x240L bottle recycling bins are presented for collection. As per Table 1 requirements, 2x240L general waste bins, 1x240L paper and 1x240L bottle waste bins will be required for the new refurbishment. Therefore, the remaining number of bins will be sufficient to service the new refurbishment.

As per Section 4.1.1 internal bins are recommended to be distributed on the Ground Floor and Level 1 (Appendix A, Figure 1 and 2). Upon reaching full capacity, these can be transferred into their designated 240L bins by way of transfer through the service lift and into the basement's Garbage Room (Appendix A, Figure 3). From here, the 240L bins will be transferred up to Ground Floor via the service lift and placed on Market Place kerbside for collection outside of business hours as per existing practice (Appendix A, Figure 4).

4.1.1 Internal Bins

It is recommended that all internal functional spaces of the development are equipped with 3-stream bin hubs for:

- Paper & Cardboard Recycling
- Bottle Recycling
- General Waste

Bins should be situated in areas which effectively service a group bars and gaming areas, with no bins under tables or gaming equipment; this improves cleaning staff efficiencies by reducing the number of bins that require collection and reduces the number of bin liners required.

Examples of bins that are commonly used in food and beverage settings are also shown below. Differently coloured bin liners (general waste-black; paper-clear; commingled-blue) are recommended to assist cleaning staff to distinguish the different streams and enable them to identify contamination, prior to final disposal in the bins in the central storage room.

For areas with bins kept within housings or pull-out drawers in kitchens and central areas, care must be taken to ensure these systems are well designed and provided with clear signage to foster proper separation. An example of best practice drawer design is shown below which provides for two or three streams (paper recycling, commingled recycling, and general waste).

5 Operational Waste Management Systems

Tenancy	Material Streams	Collection, Storage, & Management Processes
Commercial Food Waste	General Waste Mixed Recycling (Bottle, Metal, Paper & Plastic Containers)	Building contractors, tenancy staff and cleaners will collect all materials from the refurbished food and beverage tenancy's internal service bins as they reach full capacity. These will be transferred to the Basement Garbage Room and disposed within allocated 240L bins. The 240L bins will be collected nightly from the Basement Garbage Room upon reaching full capacity 5 days a week as per existing collection practice. The building's private waste contractor will be responsible for transporting the waste from the Basement to Ground Floor, where it will be transferred to the back and presented on Market Place for kerbside collection, outside business hours. Cleaning staff will maintain the organisation and cleanliness of the bin storage room and the collection area.
	Cooking Oil	Used cooking oil recycling will be collected by retail tenants and taken to the Garbage Room as required for decanting into a sealed container of the type shown in Appendix D.

6 Waste Contractor Requirements

To achieve and maintain best practice, the site's waste contractor will be required to demonstrate high standards of service and be able to comply with the following requirements:

- Reliable and efficient servicing, and meeting all agreed schedules
- Vehicle fleets fitted with suitable onboard bin weighing technology
- Suitably sized collection vehicles to be able to access the building's waste collection zone
- Maintaining accurate and comprehensive tracking systems for all materials collected
- Working with the site to achieve continuous improvements in recovery rates
- Providing detailed monthly and annual reports on diversion and financial outcomes
- Maintaining current details of all processing facilities used

7 Tenant & Stakeholder Education

For the new systems to be successful an intensive education program will be required for the development's commercial tenants. Tenants will be given appropriate instructions on disposal of waste, with signage and instructions stationed in each chute disposal room across each floor.

Cleaners and building managers will be a key element in the effectiveness of the new systems and as such, relevant procedures will need to be written into contract specifications, including requirements for monitoring contamination of recycling streams and condition of bins and other equipment, and providing users with feedback on ongoing systems performance.

8 Ongoing Management & Reporting

Following implementation of the new systems, a monthly performance reporting system, based on the Better Buildings Partnership (BBP) *Operational Waste Guidelines*, should be instituted. This will ensure the continued success of the site's waste minimisation initiatives, accurate tracking of performance, and cost-effective waste removal.

Specific performance clauses and KPIs in contracts will ensure that all service providers actively participate in the waste reduction program for the site and meet on a monthly basis to resolve performance issues and identify new opportunities for diversion and avoidance.

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

Appendix A: General Waste & Recycling Storage

The drawings below show proposed bin pathways to the storage rooms from the various food retail locations.

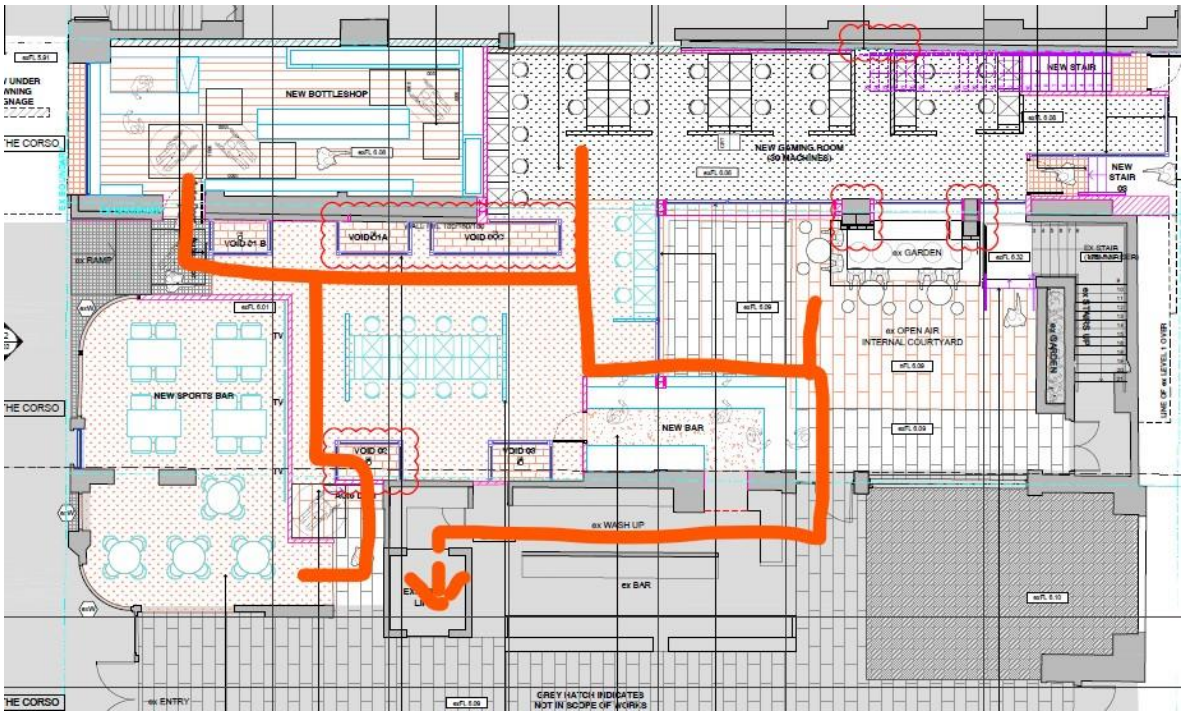


Figure 1: Ground Floor internal service bins waste transfer pathway through to the service lift leading to the Basement.

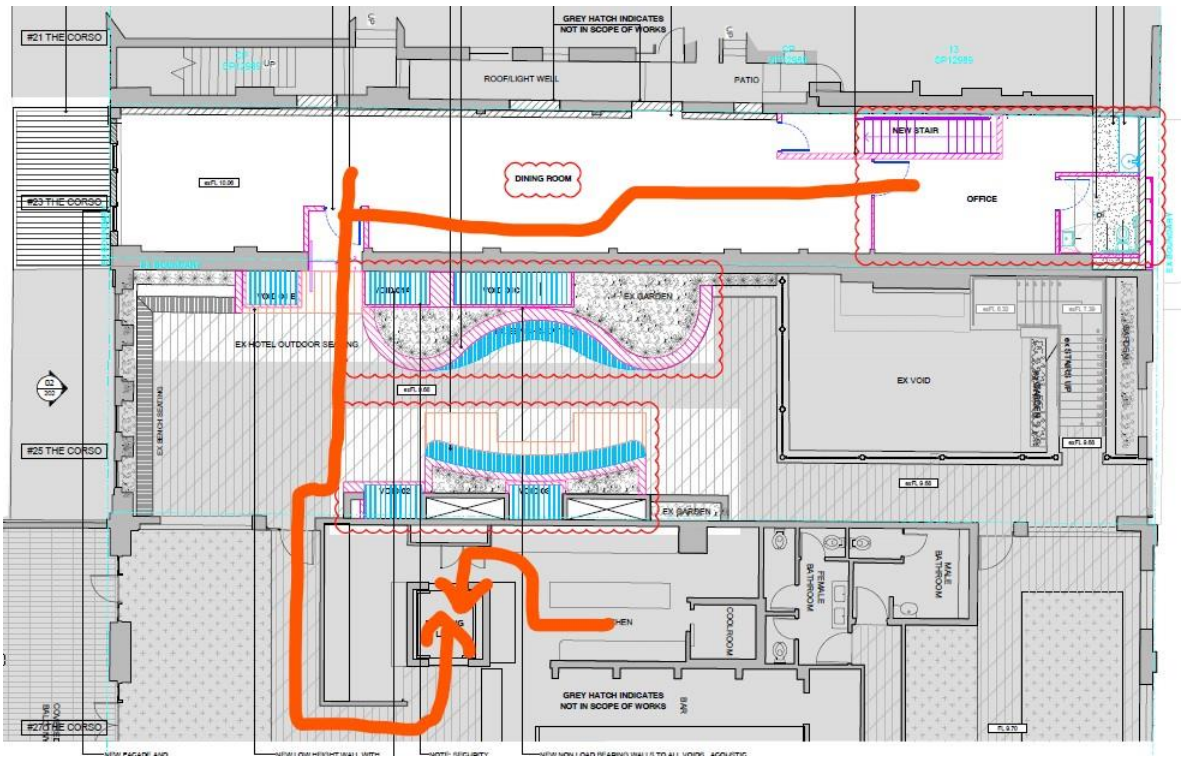


Figure 2: Level 1 waste transfer pathway of internal service bins, from potential waste generation areas, leading to the Basement Garbage Room.

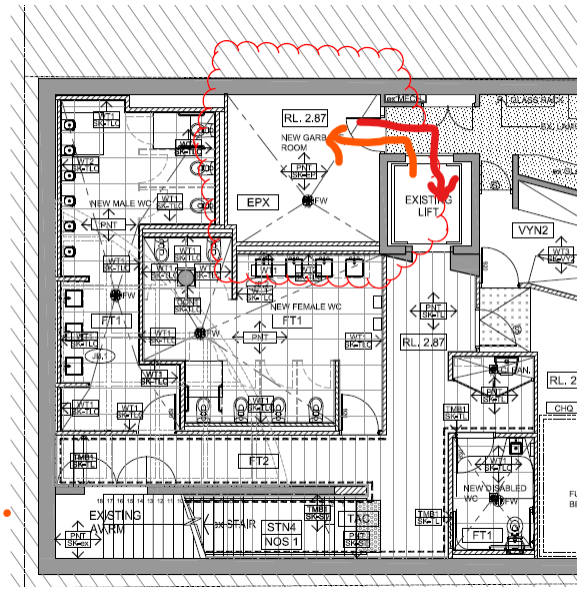


Figure 3: Indicates the waste transfer pathway from Ground Floor and Level 1 being stored within the Garbage Room within the Basement. The red arrow indicates the bin movement pathway of the 240L bins, from the Garbage Room to the Ground Floor and out to Market Place upon reaching full capacity.

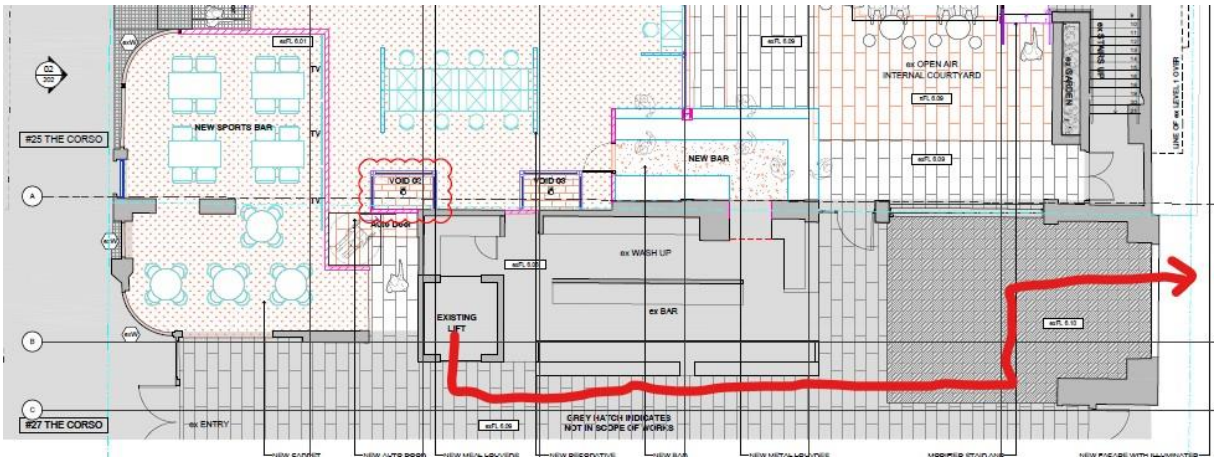
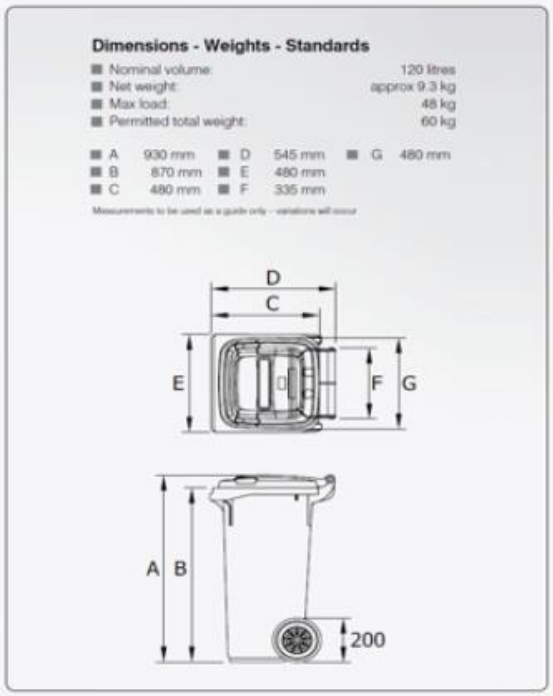


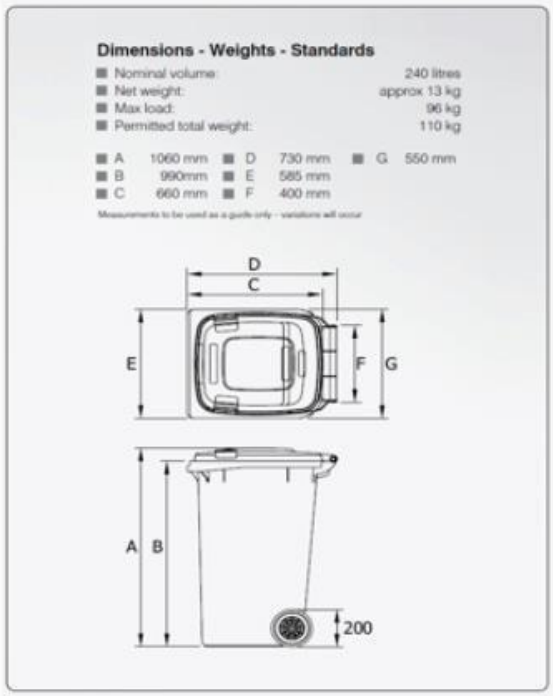
Figure 4: Red arrow indicates 240L bin movement pathway from Basement to Ground Floor and out to Market Place for collection after hours.

Appendix B: Bin Specifications

120-litre MGB



240-litre MGB



660-litre MGB

1100-litre MGB

Appendix C: Storage Area Design & Signage

The photographs below show examples of good practice in this regard:

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The signage examples below are for illustration purposes only. Actual signage should include suitable site-specific branding.

Appendix D: Waste Cooking Oil Storage

The photograph below shows a typical storage unit with wheeled caddy for collection of waste oil from individual retail tenancies: