



Operational Waste Management Plan

Albert Street Office Development

At 101 Albert Street, Brisbane City



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4.				

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1 Introduction

1.1. Background

Colliers International Engineering & Design (TTMC), formerly TTM Consulting has been engaged to prepare an Operational Waste Management Plan (OWMP) to outline the operational waste management procedures for the operational phase of the development at the 101 Albert Street, Brisbane City. This OWMP will align with the requirements of Greenstar and provides the functionality to potentially achieve a 4-Star NABERS waste rating for Office in the future. A waste management plan prepared by TTM was part of the Approved Package.

This OWMP has been updated to reflect changes in design that will constitute a minor change submission.

1.2. Scope

The content of this plan is intended to provide information in reverse order to the typical movement of waste streams from disposal to collection. Information about refuse disposal and disposal points is given for each use area within the development. The items covered within the report are explained in Table 1.1.

Table 1.1: Scope Items

Item	Explanation
Refuse streams	Identification of refuse streams & anticipated development refuse volumes likely to be produced
Refuse separation	Recommendations for appropriate segregation methods for each refuse stream in accordance with Greenstar.
Refuse collections	Assessment of refuse collection vehicle (RCV) access and manoeuvring
Refuse storage	Detailed analysis of refuse storage facilities and design
Refuse transfer	Assessment of refuse transfer between refuse storage and collections areas
Refuse disposal	Recommendations for refuse disposal within the development
Refuse management equipment	Identification of recommended and optional refuse management systems and equipment
Refuse management operations	Recommendations for operational efficiency and ongoing management, including refuse minimisation, tenant education and safety
Building design	Recommendations for design of refuse management facilities

Detailed information including refuse calculations, site plans and drawings, recommended refuse management equipment and system specifications, common refuse signage as well as a list of terms and abbreviations are provided in the appendices.

The recommendations in this OWMP relate to the operational phase of the development and that the refuse rooms are suitably sized to accommodate the refuse generated and number of bins proposed based on proposed storage and collection methods. The refuse rooms will also accommodate all options for alternate equipment and disposal methods.

1.3. Sustainability Considerations

To support the development and operational sustainability goals, TTM has referred to Greenstar and NABERS tools to develop this Operational Waste Management Plan (OWMP). The plan satisfies requirements by providing the following information:

- Type and quantity of refuse materials to be generated during the occupancy of the proposed site.
- Refuse collection, storage, transfer, and disposal arrangements during occupancy of the completed development.
- Recommended operational requirements for the operational phase of the development, and design requirements for the building and refuse management facilities.

Table 1.2: Consideration Checklist

Responsible Resource Management		
Item	Requirement	Compliance / Comment
Collection of Waste Streams	The building must provide bins or storage containers to building occupants to enable them to separate their waste. These bins must be labelled and easy to access, and evenly distributed throughout the building. They must also allow for separating the following as a minimum: - General Waste going to landfill. - Recycling streams to be collected by the building's waste collection service including: - o Commingled Recycling ▪ Paper and Cardboard ▪ Plastic ▪ Glass - One additional waste stream identified by the project team. This may include collecting any of the following waste types: organics, e-waste, batteries etc. - The following additional waste streams have been considered and outlined in section 3. - o Sanitary Waste Bins - o E-Waste / Batteries / Lamps Etc - o Liquid and Hazardous Waste (pesticides) / Mercury containing items. These additional waste streams are unable to be quantified within this report, as the industry lacks available rates of generation, as they can vary significantly from building to building.	Complies – Details of refuse separation is provided within Section 3 of this OWMP
	Any other single waste stream (except food waste) that is expected to represent more than 5% of total annual operational waste and resources (by volume) must also be included.	Complies - Section 2 and Section 3

Item	Requirement	Compliance / Comment
Dedicated Waste Storage Area	A dedicated area, or areas, for the storage and collection of the applicable waste streams must be provided. The storage area must be sized to accommodate all bins or containers, for all applicable waste streams, for at least one collection cycle. The calculations used to demonstrate that the area provided is adequately sized to handle the recyclable waste streams specified must be based on: - Forecasted waste generated by occupants. - Collection frequency for each waste stream The storage area(s) must have efficient and safe access by collection vehicles. This includes driveway access to the building, appropriate height clearances, any onsite roads and loading docks, and the storage areas themselves providing safe and easy access for bins to be emptied into collection vehicles.	Complies – Refuse rooms are provided within the building. Can be seen in Section 2 Storage for the additional refuse streams as stated above and in, has been considered and nominated within the report. Can be seen in Section 2
	The calculations for waste generation rates must be based on figures outlined within third-party best practice guidelines.	Complies – City of Sydney's Guidelines for Waste Management in New Developments Refuse Generation Rates used for calculation of refuse as per Greenstar requirements. Section 2.1 and Section 2.2
	The storage area(s) must have efficient and safe access by collection vehicles. This includes driveway access to the building, appropriate height clearances, any onsite roads and loading docks, and the storage areas themselves providing safe and easy access for bins to be emptied into collection vehicles.	Complies - Swept paths have been provided. Can be seen in Section 2.5.
Waste Storage Area Requirements	Scales and system to accurately weigh and measure each waste stream being generated from each tenant or occupant.	Complies – Section 2.2 and Section 2.3.
Sign-off by Waste Specialist and/or Contractor	A waste specialist must sign-off on the designs to confirm they are adequately sized and located for the safe and convenient storage and collection of the waste streams identified.	A waste specialised has prepared this OWMP – Once constructed, an inspection should be conducted to confirm arrangements are as proposed within the OWMP.
Refuse Audit	A Waste specialist or NABERS Accredited Assessor – Waste, can be engaged to provide a refuse audit for the building. This can assist in reducing waste to landfill, improve recycling rates and provide targets.	Waste Auditor to be engaged after the commencement of operation

1.4. Site Location

The subject site is located at 83-109 Albert Street, Brisbane as shown in Figure 1.1. The property description is Lot 1 on SP318840, Lot 100 on SP321125 and Lot 31 on RP208866. Site access for RCVs is from Albert Street.



Figure 1.1: Site Location (Map View)

Source: Google Maps

1.5. Development Summary

Table 1.3 provides a summary of the development, including the refuse infrastructure areas as context for the refuse volume information provided in Section 2.

Table 1.3: Development Summary

Area	Description	Measure *
End of Trip	End of Trip Facilities – Upper Ground	337m ² GFA
	End of Trip Facilities – Level 1	485m ² GFA
Retail	Retail Ground	308m ² GFA
	Retail Ground	98m ² GFA
	Future Retail Level 1	50m ² GFA ⁺
Office Tower	Office – All Levels	58,184m ² GFA

* Areas and unit numbers relevant for refuse calculations only. All retail space has been calculated as food and beverage outlets.

+ Nominal GFA based on potential future retail for the purposes of accounting for maximum refuse volumes. Actual future kiosk tenancy size may differ however, is not expected to exceed 50m².

2 Refuse Management

This section provides the detailed refuse calculations and describes the arrangements for the collection, storage, transfer, and disposal of refuse within the development. This includes associated bin quantities, storage capacities, equipment details, collection frequencies and site access details.

2.1. Refuse Generation

The generation rates used for the calculation of the estimated volume of refuse produced have been applied based on rates required to achieve Greenstar compliance, these generation rates are sourced from the City of Sydney within 'The City of Sydney's *Guidelines for Waste Management in New Developments*'.

As noted by the Green Building Council of Australia, 'the City of Sydney's *Guidelines for Waste Management in New Developments*' is a recognised third-party best practice guideline that may be used to calculate waste generation rates and justify access arrangements. Alternative guidelines may be used provided they achieve similar or better outcomes.

Compaction has only been applied to the cardboard refuse stream via a cardboard baler to a 5:1 compaction ratio.

All volumes are calculated based on a 7 day per week operation for the retail tenancies and 5 day per week operation of the End of Trip facilities and Office areas.

It is important to note that the generation of refuse and bin calculations are based on rates provided to achieve a benchmark summary, and not specific to this site. Refuse generation varies from building to building and use to use and as such, it is recommended that a complete waste audit is completed within the first 6 months of operation to provide a baseline for waste generation and recycling throughout the development along with annual audits being conducted thereafter.

Once the initial audit has been conducted a new benchmark will be found and the potential refuse generated on site might vary from the tables and figures provided below.

Table 2.1: Waste Generation Rates

Type	Measure	General Waste	Food Waste	All Recycling
Food and Beverage Outlets (Retail Tenancies)	L / 100m ² / Day	100	100	500
End of Trip	L / 100m ² / Day	10	0	10
Office / Reception	L / 100m ² / Day	15	5	25

The collection frequencies in the table below have been provided as a baseline to accompany the refuse generation rates used to calculate bin requirements. This service frequency and bin requirements should be constantly re-assessed in conjunction with annual waste audits.

Table 2.2: Collection Frequency

Type	Collection Frequency
General Waste	3 collections per week
Food Waste	2 collections per week
Cardboard	3 collections per week
Commingled Recycling	3 collections per week
Secure Destruct Paper	Ad-hoc collection
Cooking / Liquid Oil*	Ad-hoc collection
E-Waste*	Ad-hoc collection (<i>as required</i>)
Batteries*	Ad-hoc collection
Pesticides*	Ad-hoc collection (<i>if required</i>)
Mercury Containing Items *	Ad-hoc collection (<i>if required</i>)

The production of items labelled with an “*” are not determined using the waste calculation table provided overleaf, as the industry lacks standardised rates of generation. These items are typically gathered and kept on-site until a sufficient quantity is accumulated, enabling an effective and economical collection service. It is not expected that other waste streams will be generated on-site that will represent more than 5% of the total refuse generated by the site.

Table 2.3: Refuse Calculations

Level	Description	Area	Measure	General Waste L/Week	% of Refuse	Food Waste L/Week	% of Refuse	Commingled Recycling L/Week	% of Refuse	Cardboard L/Week	% of Refuse	Secure Paper L/Week	% of Refuse
All Levels	End of Trip Facilities	822	GFA (m ²)	411	50%	0	0%	411	50%	0	0%	0	0%
	Retail – Food and Beverage	456	GFA (m ²)	3,192	14%	3,192	14%	6,384	29%	9,576	43%	0	0%
	Office Area	58,184	GFA (m ²)	43,638	33%	14,546	11%	29,092	22%	25,456	19%	18,183	14%
Total Weekly Volumes (L / Week)				47,241	30%	17,738	12%	35,887	23%	35,032	23%	18,183	12%
Volumes per Day (L / Day)				6,749		760		5,127		1,001		2,598	
Volumes per Collection (L / Collection)				20,246		3,041		15,380		3,003		7,793	
Collection and Equipment Details		Collections per Week		3		2		3		3		3	
		Storage Capacity		3 Days		4 Days		3 Days		3 Days		3 Days	
		Equipment Size		1100L		4000L		1100L		1100L		240L	
		Equipment Quantity Required		19		1		14		3		36 or 1 per office tenancy	

The composition of Secure Paper as a percentage of total recycling volume for use in calculations has been based on a standard generation rate. Secure destruct paper is performed as a bin to truck service to preserve the security of the bin contents and the space for the storage of bins is not required within the refuse room.

2.2. Refuse Bins and Equipment Requirements

Table 2.3 and below outlines the number of bins and additional equipment required for the development. As waste volumes may vary according to the development occupants' attitudes to waste disposal and recycling, bin numbers and sizes may need to be altered to suit the building operation. The table shows the maximum number of bins and equipment expected.

Table 2.4: Bin Requirements – Basement 1

Equipment	Equipment size	Quantity
General Waste	1100L	19
Commingled Recycling	1100L	14
Cardboard	1100L or Bales	3
Food Processing Unit and Tank	Up to a 4000L system	1
Soft Plastics Collection Unit	Bag Based Collection Stand	1
Cooking Oil	400L tanks or Bundled Pallets	1 or 2
Shelving for the storage of E-Waste or other larger items	Approx. 2400mm x 850mm	1
Cardboard Baler	Miltek A305 or Equivalent	1
Bin Scale System - Metering System - Scales - Computer / Operational System - Barcode / QR Codes	Scale System	1
Bin Wash Facility	2000mm x 2000mm	1

Table 2.5: Recommended Bin / Equipment Requirements – BoH Areas – Retail / Office

Equipment	Equipment size	Quantity
General Waste	20 - 60L – Retail 60L – Office Kitchen / Breakout Areas	1 / Tenancy – If required
Food Waste	6-20L Caddy Bins – Retail and Office	1 / Tenancy – If required
Commingled Recycling	20 - 60L – Retail 60L – Office Kitchen / Breakout Areas	1 / Tenancy – If required
Cardboard	20 - 60L – Retail 60L – Office Kitchen / Breakout Areas	1 / Tenancy – If required
Secure Destruction*	240L	36 or 1 per office level

Table 2.6: Refuse Management Equipment Purpose

Equipment	Purpose
General Waste Bins	General Waste bins from each tenancy are to be decanted into these 1100L bins. The bins are emptied by the collection contractor from this room. Bins from each tenancy are to be scanned and weighed by staff / cleaners / building management before being decanted.
Comingled Recycling Bins	Recycling bins from each tenancy are to be decanted into these 1100L bins. The bins are emptied by the collection contractor from this room. Bins from each tenancy are to be scanned and weighed by staff / cleaners / building management before being decanted.
Cardboard Bins	Cardboard bins from each tenancy are to be decanted into these 1100L bins. The bins are emptied by the collection contractor from this room. Bins from each tenancy are to be scanned and weighed by staff / cleaners / building management before being decanted.
Food Waste Processing System	Food waste caddy bins from each tenancy are to be decanted into the macerator. Caddy bins from each tenancy are to be scanned and weighed by staff / cleaners / building management before being decanted.
Cooking Oil	Bunded pallets or Tanks are provided for the storage of clean and dirty cooling oil.
Secure Destruct Paper Bins	These bins are provided within each office tenancy (where requested) for the collection and storage of secure paper items. These bins are barcoded and linked specific to each tenancy or level. Bins are weighed and scanned by building management before being placed for collection within the secure destruct room.
General Waste, Recycling and Cardboard – 20 - 60L bins	These bins are provided within the kitchen / breakout areas of the office and BOH areas of the retail outlets. Bins are barcoded and allocated to each tenancy for everyday use. These bins are scanned and weighed by building management staff and then decanted into the relevant equipment.
Food Waste Caddy Bins – 6 – 20L bins	Caddy bins provided in the kitchen / breakout areas of the office and BOH areas of the retail outlets. Bins are barcoded and allocated to each tenancy for everyday use. Bins are to be scanned and weighed before being decanted into the food processing equipment.
Bin Wash Area	Included with a hose this area is designed and drained to sewer to allow for cleaning of bins.
Bin Scale System	Bin scale and tracking system is used to scan and weigh each bin before being placed for collection or decanted into the respective equipment. This process is only completed by building management staff to ensure accuracy and to align with NABERS requirements.
Shelving	Shelving unit is provided to accommodate the storage of e-waste and other larger items before collection.

2.3. Refuse Room Requirements

The refuse room provided within the basement level 1 has been sufficiently sized to accommodate all of the bins and equipment required for storage and collection purposes. The refuse room is located so as to be conveniently accessed from the goods lift. Note, while architectural drawings depict a total of 33 x 1,100L bins, no changes to the room size or design are required to house the 36 x 1100L bins required as illustrated in Figure 2.1.

Each tenancy will be provided with bins barcoded / designated to a specific tenancy to allow for the weighing and tracking of refuse generated from each tenancy.

The main refuse room also has the following features in order to minimise odours, deter vermin, protect surrounding areas, and make it a user friendly and safe area:

- Doors wide enough to allow for the easy removal of the largest container to be stored.
- Adequate artificial lighting.
- Room is to be airconditioned / mechanically ventilated.
- Not located adjacent or within any habitable portion of a building or places used in connection with food preparation (including food storage).
- Permits unobstructed access for removal of the containers to the service point.
- Does not have any steps or lips.
- Is enclosed to ensure bins are not visible from a public place, neighbouring properties, passing vehicles or pedestrian traffic external to the site.
- Is of sufficient size to accommodate the bins with sufficient clearance around the combined bin area.
- Is positioned away from the entrances to shops or residential premises.
- The height of the bin storage area allows for waste bins to be opened and closed.
- The floors to be graded to fall to a drainage point.
- Drainage points connected to sewer in accordance with trade waste requirements.
- A hose cock provided inside the room for cleaning bins and the rooms.
- The walls, ceilings, floors, and equipment are to be designed and constructed of impervious material with a smooth finish to allow for easy cleaning.
- Each Waste stream shall be colour coded.
- Bin room walls and floor shall include extensive colour coding and super graphics to guide the use of space.

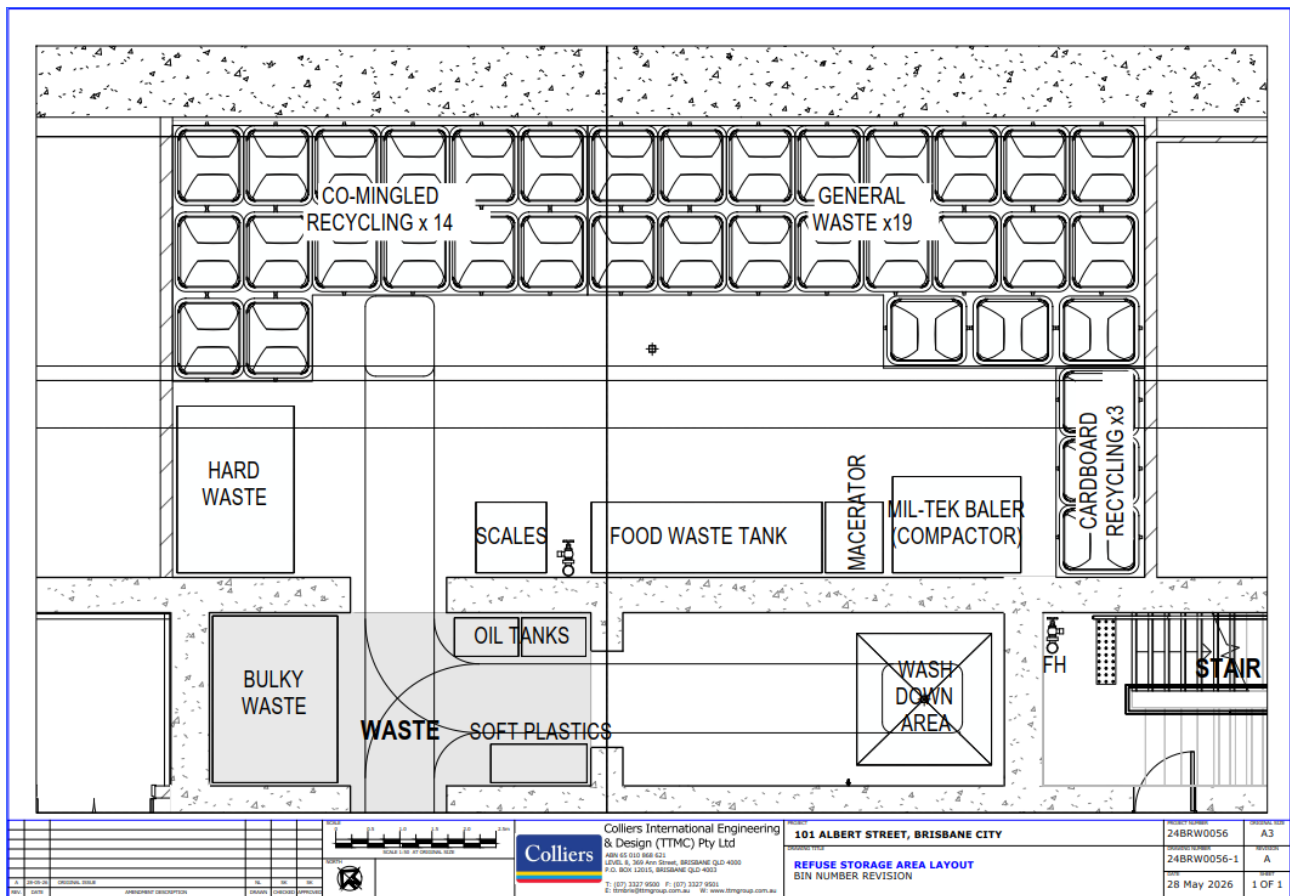


Figure 2.1: Basement 1 Refuse Room Layout

2.4. Refuse Transfer

Food and beverage / retail outlets will be responsible for transfer of refuse from their respective outlet to refuse room located on Basement 01. Facilities management cleaners will be responsible for the transfer of all bins and refuse from the office tower tenancies as well as the end of trip facilities to the Basement 01 level refuse room. The goods lift will be utilised for the vertical transfer of all refuse.

Refuse should be moved transferred to and from the respective rooms outside of peak hours for pedestrian / patron movements. For example, after restaurants close, early mornings prior to servicing, or during the workday when the majority of people will be inside. The vertical transfer of refuse should be undertaken via the use of the goods lift.

All refuse will be collected directly from the refuse room on Basement 01 by the collection contractor at the time of servicing. Alternatively, depending on collection contract arrangements, facilities staff may be required to relocate the bins requiring service to the loading zone prior to collection.

The refuse transfer path has been designed to allow for:

- The bins to be transferred via hard stand pathway.
- Allows bins to be easily manoeuvred.
- Does not impede traffic flow.
- Does not extend through any habitable parts of a building or food premises.
- Does not have any lips, stairs, or steps for bins to be manoeuvred easily.

2.5. RCV Arrangements and Bin Servicing Areas

All refuse servicing will occur utilising an MRV sized RCV. All RCV's will enter the site from Mary Street entry and navigate the driveway ramp to the loading area located on Basement 01. A single reverse manoeuvre will be performed to align the RCV within either MRV loading bay. Once the collection has been performed the RCV will exit the site in the return direction in a forward gear and exit the site back onto Mary Street.

The refuse room is located in close proximity to the loading bay to facilitate ease of access and servicing. The drivers will retrieve the respective refuse stream bins from the refuse room for service and return the bins once emptied.

Collection contactors perform risk safety assessments prior to the initial service of a site. During this inspection notes are taken on the site and how the vehicles enter and exit safely. Reversing is a standard requirement in most cases during the refuse collection service. Most vehicles are fitted with several cameras and audible reversing alert systems (reversing beepers) to assist in safe manoeuvring of vehicles and alerting people of their presence.

Times for refuse collection services can be negotiated with the preferred collection contractor to ensure availability of loading bays and to minimise disruption. Typically, refuse collection within the CBD area are generally between the hours of 10pm – 7am.

A loading dock manager or management system can be implemented to assist the site in limiting potential conflicts within the site loading dock and traversable areas.

The types of vehicles allocated, and demand will be subject to final inspection by the preferred collection contractor prior to the commencement of operation. The collection days and frequency form a part of the contract between building management and the preferred contractor and is agreed based on both the building and contractors' business requirements. The frequency and bin requirements calculated within the OWMP are intended to provide a baseline for the purposes of instigating services.

The bin servicing area / loading bay has been designed with the following features:

- Has sufficient access and clearance for the waste and recycling collection vehicles to service the bins, including no overhead obstructions.
- Allows bins to be serviced safely while minimising the impediment to vehicle movements.
- Is clearly separated from car parking bays, footpaths, and pedestrian access.
- Is devoid of stairs, lips or ramps and allows bins to be manoeuvred easily.
- Does not block the entry and exit to the property.
- Is not adjacent to a kitchen or eating area for public use.
- Is over 5m from any door, window or fresh air intake within the development or any adjoining site.

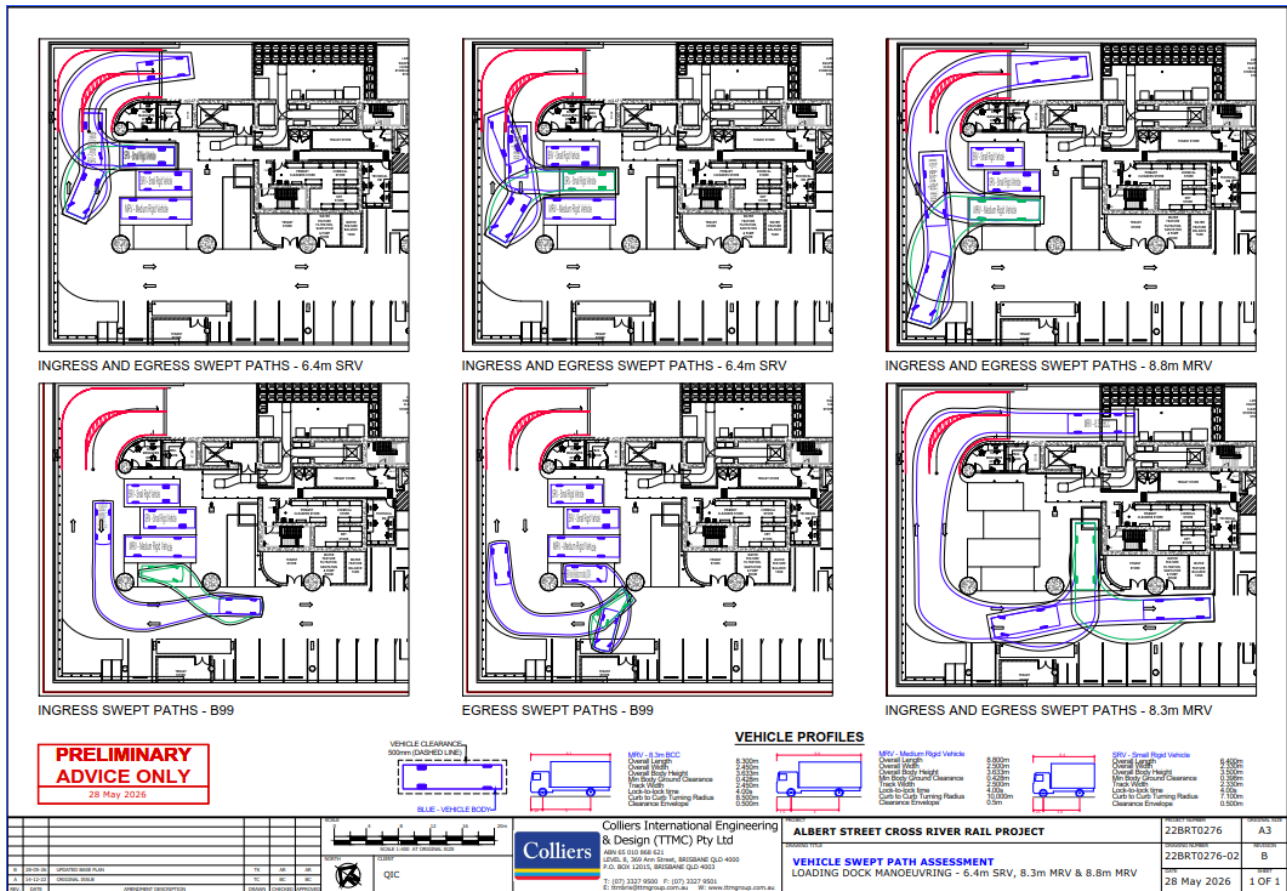


Figure 2.2: RCV Swept Path

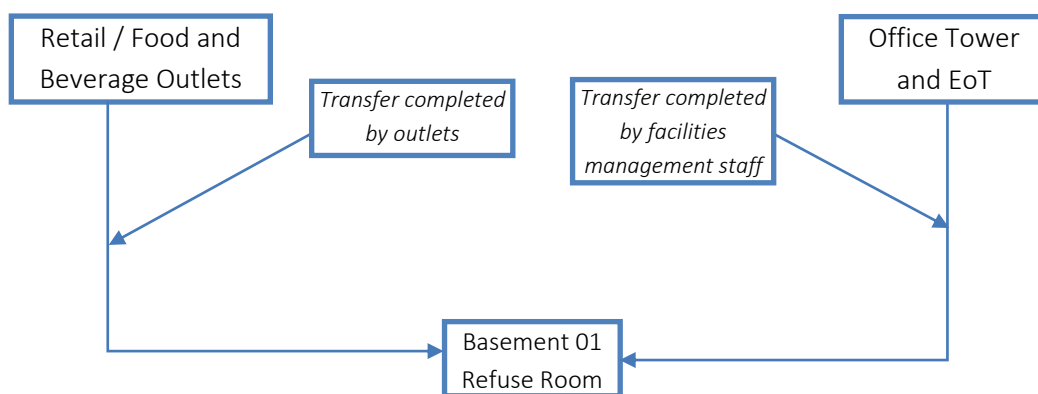
3 Recommended Operational Requirements

3.1. Refuse Management

The tables in this section summarise general recommended disposal arrangements for frequently generated and infrequently generated refuse for each use within the development. Section 3.1.1 describes the generated refuse streams.

The most effective way to maximise opportunities for recycling and resource recovery, reduce waste to landfill and provide a more sustainable development, is to separate refuse streams at the source of generation. IE: food prep areas are the best place to stop food waste from being disposed of into general waste by providing a container to capture the food waste, etc.

A simplified waste flow diagram is also provided with diagrams and indicative travel paths.



3.1.1 Immediate Refuse Disposal / Transfer Arrangements

Dedicated bins will be provided to each tenancy through the development for each separate refuse stream specific to each use.

Retail / food and beverage tenancies will have bins in the back of house areas for the retail / food and beverage tenancies. Bins can be ranging in size from 6-240L depending on the fit out requirements of the specific outlets.

Bins will be provided for the office tenancies in centralised bin stations with limited number of stations in each tenancy, under desk bins will be discouraged. Kitchen and tearoom / break-out facilities in each tenancy must have a food waste caddy to optimise collection of food organics.

Sufficient signage will be provided at each bin station, colour coded in accordance with AS 4123.7–2006 Mobile waste containers. After each day of operation or as required, refuse will be transferred by facilities staff / cleaners to the refuse room and decanted into the appropriate bulk bins. Further details are provided in Table 3.1.

Table 3.1: Disposal

Refuse Stream	Details
Office Towers	Disposal General Waste / Food Waste, Recycling and cardboard bins should be provided within each of the office / tenancy for the immediate disposal of refuse from these areas. These bins should be smaller 10 - 60L caddy bins. Secure Destruct Paper Bins may also be required in these areas. Transfer Throughout the day or as required, building management cleaning services contractors will collect the bins from these tenancies and scan and weigh the bins prior to decanting within the respective equipment or placement of bins within the refuse room.
Secure Destruct Paper	Disposal Secure destruct paper bins might be required within the office areas for the disposal of secure documents. Transfer As required, the collection contractor will attend the site and collect the bin directly from the office tenancy. The process will be a swap out of full bin for an empty bin for the specific tenancy.
Food and Beverage / Retail Outlets	Disposal Dedicated bins will be provided to each specific food and beverage or retail outlet, all bins will be barcoded and assigned to assist with refuse tracking requirements. It is important that outlet operators have bins for General Waste, Food Waste, Commingled Recycling and Cardboard bins within the BOH operation areas. It is recommended that the kitchens utilise smaller 20-80L caddy bins to store smaller amounts of food waste. Transfer Throughout the day or as required, staff / building management cleaning services contractors will collect the bins from these tenancies and scan and weigh the bins prior to decanting within the respective equipment or placement of bins within the refuse room.

Refuse Stream	Details
Cooking Oil	Disposal Cooking oil from fryers and other equipment should be disposed of thoughtfully, there is space allocated for the disposal of cooking oil within the waste compound. Most kitchen /catering outlets / companies will manage the cleaning of fryers and disposal of cooking oil. Transfer If required catering outlets and kitchens can transfer cooking oil directly to the waste compound for immediate disposal into the oil tanks provided within the waste compound.
Sanitary Waste / Toilet Bins	Disposal Sanitary waste bins will remain in place and serviced by an approved contractor. These bins are performed as a bin to truck service. Toilet bins – Bins placed within the toilet for paper towel, while paper toweling is recyclable and it is recommended this be disposed of with the commingled recycling. Care should be taken to ensure no contamination is within the bins when disposing of these bins. If any contamination is suspected, the bin should be disposed of as general waste Transfer Sanitary waste bins are generally serviced as an exchange in a bin to truck collection method. Bins will be exchanged and collected from their designated spot by the collection contractor.
E-Waste / Batteries, Lamps and Fluorescent Globes (mercury containing items)	Disposal Shelving has been provided within the refuse room for any E-Waste / batteries and lamps / fluorescent globes generated from the development. Tenants can contact building management who will assist with the collection of these items. Once a sufficient quantity is accumulated, a collection service will be arranged.
Liquid and Hazardous Waste	Specialist Contractors should be engaged for the removal of Liquid and Hazardous Wastes. These items should be stored within a locked cabinet in or near the Facilities / loading dock management areas to ensure they are safely stored and maintained prior to collection

3.1.2 Innovation / Future Improvements

As the waste industry will continue to innovate and look at future proofing waste management systems and processes as new technologies / processes are designed, it's important to have a close relationship with the collection contractor and perform annual waste audits to ensure any future systems and processes can be considered.

3.1.3 Refuse Audit

Refuse minimisation and resource recovery requires regular reviewing to ensure operationally, refuse management is on the right track to meet reductions of waste to landfill and sustainability targets. It is recommended that refuse weights and movements are noted from the commencement of operation. Scale systems are provided to ensure this is completed.

An external review should be conducted after the initial opening phase (within 6 months or once building reaches 80% occupancy) to provide a baseline to which further waste reduction / recycling targets can be set. Following this, audits should then be conducted every 12 months after the implementation of the plan and reviewed against the initial targets. Waste management related processes, procedures, and targets should be reviewed at the conclusion of each audit to allow for improvements.

Equipment requirements / volumes, and collection frequencies should also be reviewed to ensure a cost-effective and efficient operation is provided.

3.2 On-going Management

The following section outlines the on-going management requirements to ensure a safe and effective waste management system is implemented.

The tables below are not for assessment purposes, instead for the demonstration of required tasks during the operational phase of the development and therefore intentionally left blank.

3.2.1 General Management

Responsibilities must be assigned for all on-going refuse management operations. This is generally done by a building manager, staff and / or cleaners. The following are designed to help managing responsibilities and monitor the refuse operations in order to maintain efficient services and a safe environment.

Table 3.2: General Refuse Management Checklist

Objectives	Checked	Remarks
Organizing of weekly pick-ups for all refuse streams.		Liaise with private contractors and local council as required.
Regular spot checks are performed on equipment and bins		Checking for compliance and no contamination
Managing daily bin transfers between refuse storage / collection areas if required.		
Check bin fill levels and rotate / swap bins as required		

3.2.2 Cleaning and Maintenance

Regular cleaning and maintenance of all refuse management facilities is important to maintain a safe and hygienic environment for residents, visitors, staff and contractors.

Table 3.3: Cleaning and Maintenance Checklist

Objectives	Checked	Remarks
General cleaning of all refuse holding and transfer areas including - Refuse rooms and storage areas - Refuse bins - Refuse transfer areas including lifts and staircases - Any other refuse management equipment		Frequency depends on refuse generation and building operation.
Coordination of specialised cleaning contractors as required.		
Maintenance and servicing of refuse management equipment as per schedule.		Frequency depends on equipment and building operation.
Coordination of specialised equipment contractors as required.		

3.2.3 Refuse Minimisation

Refuse minimisation is an important part of any site operation. At a minimum, the following should be implemented. Additional refuse minimisation options can be found in *Appendix B*.

Refuse minimisation requires regular reviewing to ensure operational sustainability of refuse volumes, equipment, and economic feasibility. It is recommended that refuse weights and movements are noted and reviewed. An external review should be conducted after the initial opening, this initial audit will be conducted to provide a baseline for how and what is being disposed of correctly. Audits should then be conducted every 6-12 months after the implementation of the plan.

Table 3.4: Refuse Minimisation Checklist

Objectives	Checked	Remarks
Regular review of bin quantities / refuse stream.		
Consideration of further recycling and equipment.		
Encouraging refuse minimisation through education and signage (see below).		Education for all tenancies / outlets
Reduce refuse through continuous monitoring and review (see below).		
Initial Audit Conducted – After initial event		
Regular waste management audits – 6-12 months		

3.2.4 Education and Communication

On-going education is important to ensure tenancies continue to use the facilities as originally intended. All body corporate, facilities management and leasing contracts should contain clauses pertaining to waste management arrangements and use of any associate equipment.

Building management will ensure an ongoing recycling rate will be published, circulated and easily accessible such as via an e-newsletter, with the purpose of highlighting current rate and performance against benchmarked recycling rate target.

Table 3.5: Education and Communication Checklist

Objectives	Checked	Remarks
Communication of refuse management arrangements to staff and contractors as required.		
Consideration of promotional opportunities for any successes e.g. awards programs.		
Targets set for refuse separation for each tenancy/outlet		

3.2.5 Safety

Transferring refuse bins and using refuse management equipment are considered hazardous tasks. Therefore, contractors must ensure that a full risk assessment of equipment, surfaces and related gradients is complete. The contractor must provide procedural documentation to appropriate personnel prior to delivery of equipment and occupancy of the development.

Table 3.6: Safety Checklist

Objectives	Checked	Remarks
Abiding by all relevant occupational health and safety legislation, regulations and guidelines to ensure site safety for visitors, staff and contractors.		
Assessment of any manual handling risks and preparation of a manual handling control plan for waste and bin transfers.		
Provision of equipment manuals, training, health and safety procedures, risk assessments and personal protective equipment to staff / contractors in order to control hazards associated with all waste management activities.		

3.2.6 Signage

All receptacles, bins and other refuse management equipment will have adequate signage. Standard signage will be provided in and around waste collection and storage areas (see Appendix C).

Table 3.7: Signage Checklist

Objectives	Checked	Remarks
Ensuring compliance of signage with government local council regulations.		Use signage provided by Council, state or federal governments if available
Ensuring that labelling on bins, refuse room etc. is appropriate and clear and easy to read and updated if required.		

3.2.7 Monitoring and Review

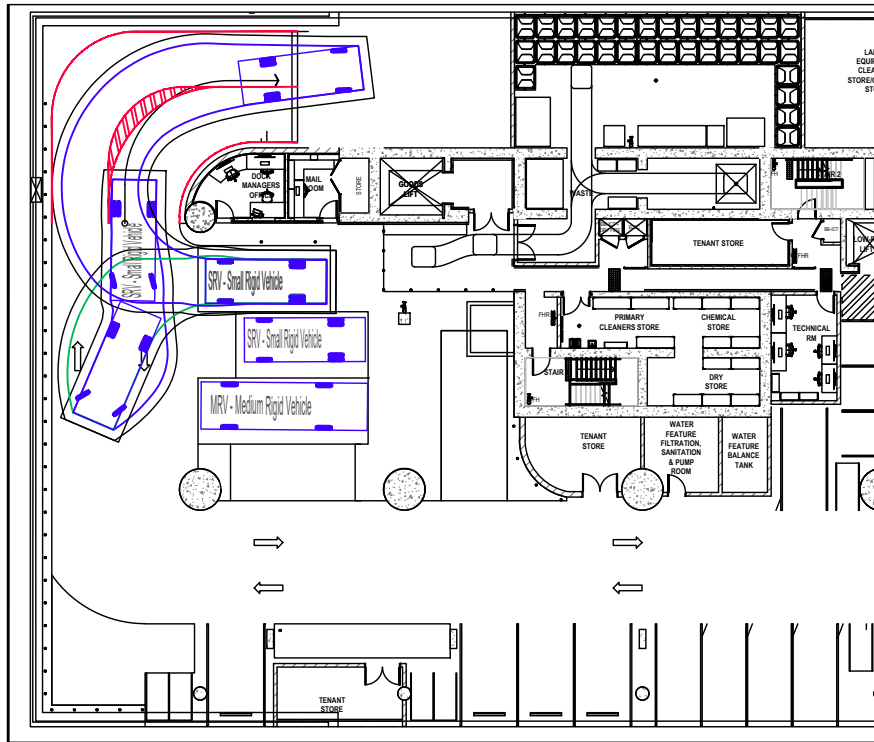
Regular monitoring and inspections of waste and related equipment and facilities from the development should be conducted by building management or designated staff for maintenance and sustainability.

Waste composition audits are recommended on routine (12 monthly) basis to identify potential improvements in the recycling process taking place. Audits may be undertaken by an external contractor or initially by visual inspection during on-site waste management handling activities. For example, cleaners may observe contents of waste receptacles when decanting caddies in larger bins and recording results, this method is less accurate than a comprehensive audit, however, gives immediate indicative results and may be undertaken on an ongoing basis.

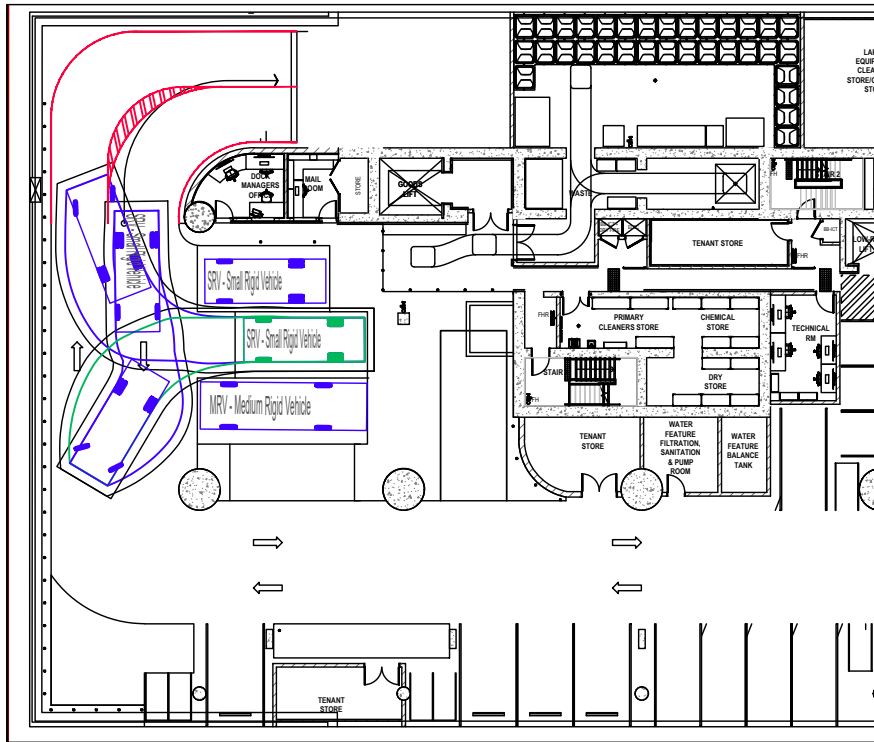
Table 3.8: Monitoring and Review Checklist

Objectives	Checked	Remarks
Continual monitoring of equipment uses and scheduling to ensure best operational outcomes.		
Regular review of refuse management equipment and facilities such as bin volumes, refuse storage capacities and stormwater management arrangements.		

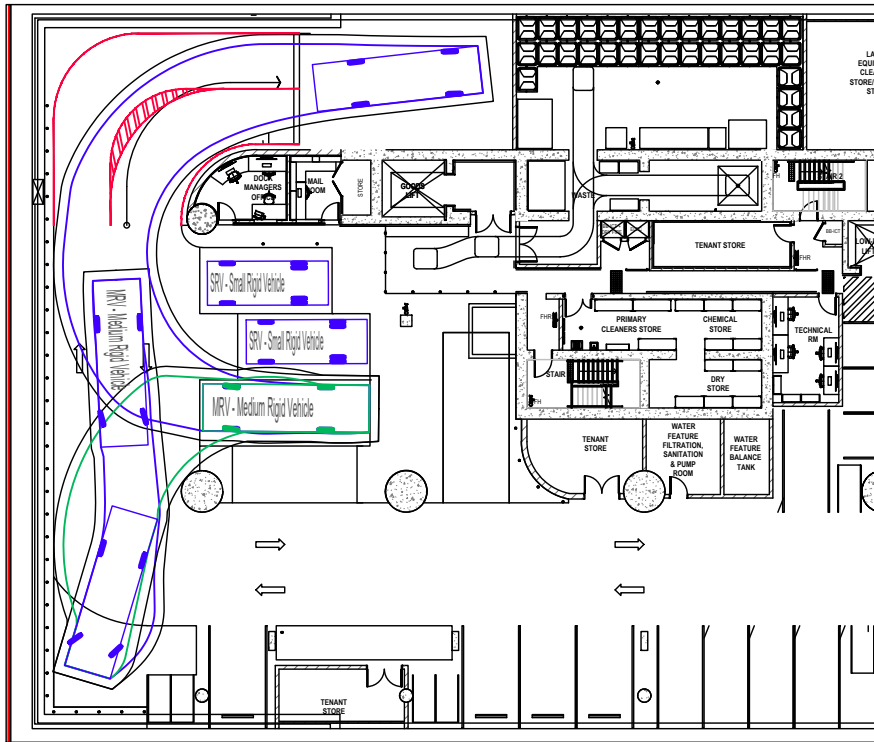
Appendix A Relevant Supporting Drawings



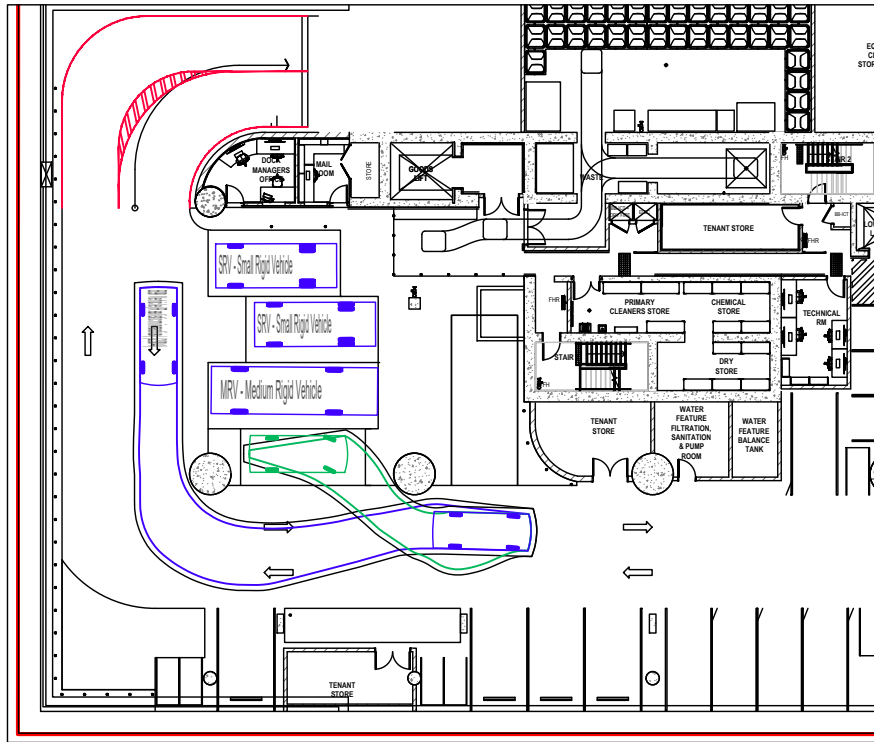
INGRESS AND EGRESS SWEEP PATHS - 6.4m SRV



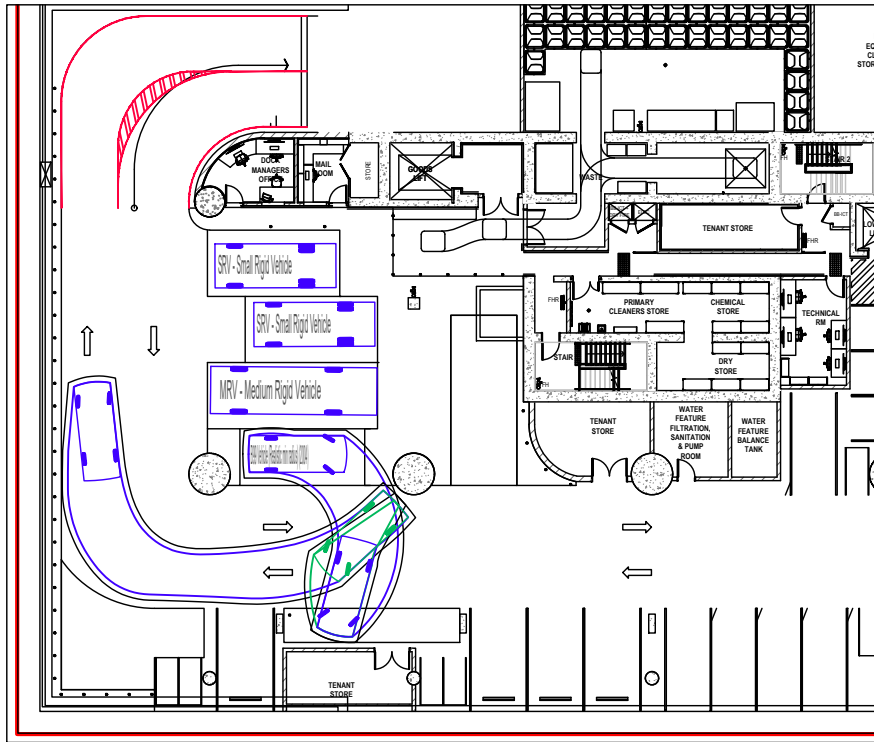
INGRESS AND EGRESS SWEEP PATHS - 6.4m SRV



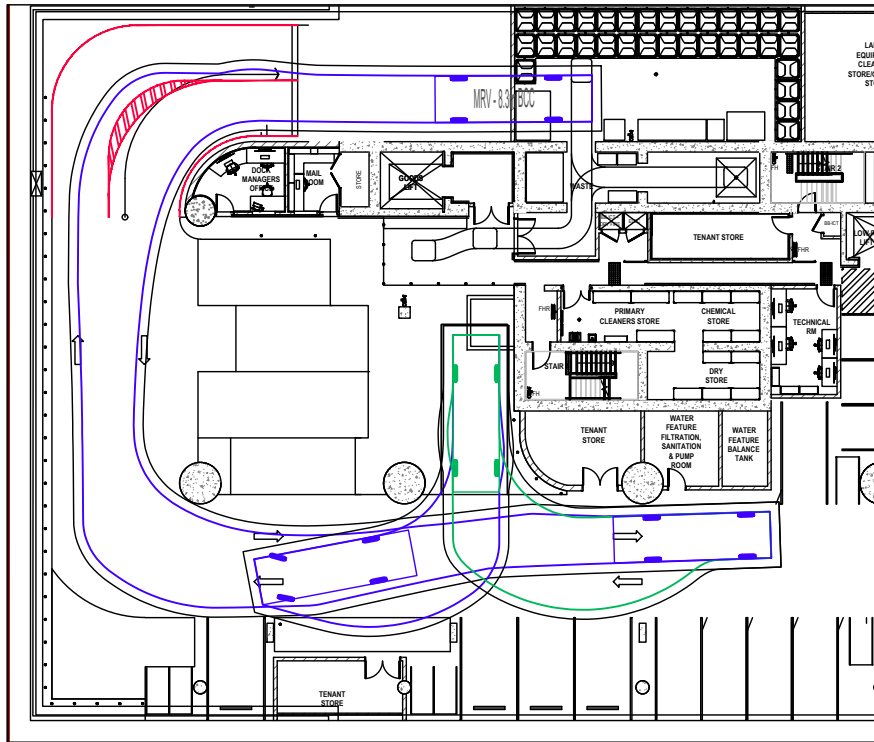
INGRESS AND EGRESS SWEEP PATHS - 8.8m MRV



INGRESS SWEEP PATHS - B99



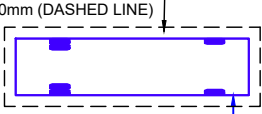
EGRESS SWEEP PATHS - B99



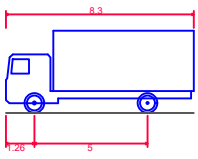
INGRESS AND EGRESS SWEEP PATHS - 8.3m MRV

**PRELIMINARY
ADVICE ONLY**
28 May 2026

VEHICLE CLEARANCE
500mm (DASHED LINE)

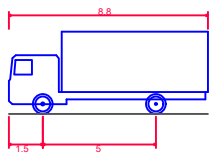


BLUE - VEHICLE BODY

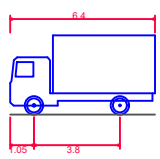


MRV - 8.3m BCC
Overall Length 8.300m
Overall Width 2.450m
Overall Body Height 3.633m
Min Body Ground Clearance 0.428m
Track Width 2.450m
Lock-to-lock time 4.00s
Curb to Curb Turning Radius 8.500m
Clearance Envelope 0.500m

VEHICLE PROFILES

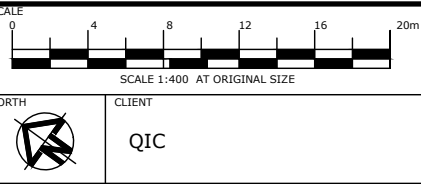


MRV - Medium Rigid Vehicle
Overall Length 8.800m
Overall Width 2.500m
Overall Body Height 3.633m
Min Body Ground Clearance 0.428m
Track Width 2.500m
Lock-to-lock time 4.00s
Curb to Curb Turning Radius 10.000m
Clearance Envelope 0.5m



SRV - Small Rigid Vehicle
Overall Length 6.400m
Overall Width 2.330m
Overall Body Height 3.500m
Min Body Ground Clearance 0.398m
Track Width 2.330m
Lock-to-lock time 4.00s
Curb to Curb Turning Radius 7.100m
Clearance Envelope 0.500m

REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED
B	28-05-26	UPDATED BASE PLAN	TK	AR	AR
A	14-12-22	ORIGINAL ISSUE	TC	BC	BC



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ALBERT STREET CROSS RIVER RAIL PROJECT
DRAWING TITLE
VEHICLE SWEEP PATH ASSESSMENT
LOADING DOCK MANOEUVRING - 6.4m SRV, 8.3m MRV & 8.8m MRV

PROJECT NUMBER 22BRT0276	ORIGINAL SIZE A3
DRAWING NUMBER 22BRT0276-02	REVISION B
DATE 28 May 2026	SHEET 1 OF 1

Appendix B Systems and Specifications

B.1 Typical Refuse Bins

Bin Types	Waste Streams	Examples	Information
Back-of-house bins	General waste, recycling, food waste, paper / cardboard		Various options and sizes available. Tenant to supply depending on preference and space available. Example: 60L multisort bins https://www.sourceseparationsystems.com.au/product/multisort
Caddy Bins	Food Waste		Example: https://pulpmaster.com.au/pulpmaster-caddy-system
60-80L bins	Glass		Dimensions approx. 500 x 460 x 640mm (L x W x H) (60L) 500 x 450 x 840mm (L x W x H) (80L) Example: http://wheeliebinonline.com.au/product/80-litre-wheelie-bin/
240L bins	General waste, paper, recycling, green waste		Dimensions approx. 740 x 580 x 1080mm (L x W x H) (dimensions may depend on contractor) Examples: http://www.justwheeliebins.com.au , http://wheeliebinonline.com.au
Compactor Bins (RORO)	General waste, Commingled Recycling		Volume reduction through refuse compaction Examples: Stationary compactor, range between 10000L to 35000L https://www.wastech.com.au/products/compactors Power Requirements: RCD PROTECTED 3 PHASES 415v / 20 AMP or 415V 32A

B.2 Typical Refuse Management Equipment

Systems	Waste Streams	Examples	Information
Bin Weighing Scales	All streams		Scales are used to capture all outgoing refuse weights for ongoing analysis of recycling rates. Examples https://www.osat.info/ https://bintracker.com.au/ <u>OSAT Requirements:</u> Power Requirement: 250V – 10amp outlet Network Requirements: 4G Network or Mid-strength signal WiFi (Cleaners scan QR Code, select a collection point from dropdown box and submit – Minimal data required)
Food Waste Processing, Storage and Disposal	Food waste / organics		Volume reduction and organics / food waste recycling through food waste separation and macerating Examples: Pulpmaster Food Processing and Storage https://pulpmaster.com.au Power Requirements: RCD PROTECTED 3 PHASES 415v / 20 AMP 5 PIN OUTLET - IP66 RATED
Glass bottle crushing	Glass (bottles)		Volume reduction of glass bottles by crushing Example: http://www.bottlecycler.com Power Requirement: Single Phase Standard GPO 240V Network Requirements: 4G Network or Mid-strength signal WiFi (Cleaners scan QR Code, select a collection point from dropdown box and submit – Minimal data required)

Systems	Waste Streams	Examples	Information
Cooking oil storage and recycling	Used cooking oil	 	Cooking oil recycling Example: https://www.cookers.com.au Cooking oil delivery, used oil collection and provision of required equipment
Bunded pallets	Liquid Waste	 	Spill containment, e.g. for waste cooking oil containers Example: https://www.tradeenviro.com.au/bunded-pallets https://www.materialshandling.com.au/products/bunded-pallet
Trolleys	General waste, recycling, food waste, paper / cardboard		Assisted manual transfer of refuse Examples: https://rubbermaidcommercial.com.au/products/waste-management/mega-brute https://www.materialshandling.com.au/products/deluxe-compact-cleaning-carts

B.3 Refuse Transfer and Disposal Methods

Method	Examples	Description
Manual transfer / disposal	   	Manual transfer is simply the process of physically carrying waste bags, food waste receptacles or recycling boxes and crates without assistance. From a safety perspective, this is acceptable for small quantities and initial disposal into refuse chutes, refuse compartments or, in the case of ground level activities, directly into the refuse storage room. • Waste material should be bagged prior to any transfer from apartments, suites, offices, back-of-house areas etc. to waste storage compartments or rooms. • Food waste should be placed in receptacles such as a caddy style bin or bucket which will not allow leakage during transfer. • Recycling material should be placed in boxes or crates prior to transfer. • Cardboard and paper items can be placed within another cardboard box for transfer. Examples: https://www.alamy.com
Assisted manual transfer	     	Assisted manual transfer includes the use of any wheeled container, wheelie bin or trolley with a capacity to carry refuse items with a combined weight of 20kg and above. The equipment bares the weight of the material, but it still requires physical force and or balance to move the bin or trolley. From a safety perspective, this type of equipment should be a minimum requirement for transfer of material greater than 20kg and when transferring between individual levels to the refuse storage room or loading areas. Use of enclosed or caged equipment will also eliminate 'litter or leakage trails' which can occur when using open or unsealed equipment. Examples: http://www.justwheeliebins.com.au, https://rubbermaidcommercial.com.au, https://www.materialshandling.com.au
Assisted transfer	  	Assisted transfer includes the use of any container with capacity to carry 20kg or more, pushed or towed by mechanical or electrical self-propelling equipment. Examples: http://ev.spacepac.com.au/categories/tugger, https://www.spacepac.com.au/product/wheelie-bin-aluminum-steel-trailers

B.4 Refuse Minimisation Options

Refuse Minimisation Options – Waste

Systems	Description
Food rescue	OzHarvest and Second Bite are food rescue organisations working throughout Australia. The organisation collects surplus foods from businesses (including Woolworths, Coles, Goodman Fielder and other smaller companies) and redistributes the foods to welfare agencies. They provide regular scheduled collections or ad-hoc / on call collections, and they have refrigerated vehicles. Other accepted items include fresh fruit and vegetables, tinned goods, cold meats and deli items, and readymade meals (which will only be accepted frozen). Where food rescue organisations are available, consideration may be given to suitable space for the temporary storage of food stuffs, including dry storage and the placement of a small fridge if cold room space is not available. There is no associated collections cost. Hence, it can be considered a zero-cost option for disposal of what would otherwise be food waste, and it supports the community at the same time.  Sources: www.ozharvest.org, www.secondbite.org
Composting	Food waste composting is an option of reducing the amount of general waste going to landfill where organic waste can create methane gas due to anaerobic digestion, which contributes to global warming. Systems of different scales exist from small benchtop composters for individual households or apartments to commercial size systems. Examples are shown below. The process usually involves breaking down organic food scraps through natural processes. This includes systems such as worm farms or composters where microbes break down the food waste, with or without the aid of compost additives. The composted products are rich in nutrients and good bacteria, and they can be added to flower bed or gardens. Most food wastes and other organic (garden) material can be composted including meat, fish, vegetables, fruit, dairy, coffee or wilted flowers. However, large bones, excessive liquids such as cooking oil or seafood shells should not be placed in the composters.  Sources: https://www.urbancomposter.com.au, https://closedloop.com.au/upcycling-products, https://www.feedtheorca.com

Systems	Description
Food waste separation and collection	When considering separation of organic food waste, the handling and potential for volume reduction should also be considered. As an example, the Pulpmaster system can be used to reduce the stored volume of food waste produced, and to prepare the material for re-use. Typically, the system is placed in proximity to sink areas in the kitchen, particularly where food preparation waste or plate scrapings can be easily disposed. This provides a fully sealed transfer system for storage and collection. Pulping systems can also be placed back-of-house spaces for restaurants and cafes or placed within a refuse room for centralisation to multiple users. Pulped food waste is pumped into holding tanks for storage and collection via a 50mm pipe and collected by a liquid vacuum tanker. The images below provide visual context of the connection from pulping machine to storage tank and the option for decanting 120L bins into the machine via a bin lifter and auger feed. The tank may be up to 20m away from the pulping machine. The distance is increased when including vertical drops from upper levels of the building. The storage tank may be up to 30m from a loading area, with the only requirement being a service pipe with camlock end connection placed within proximity of the loading area. Collections are completed by a vacuum tanker which may range in size depending on the size of the storage tanks and the distance of the tank from the loading area.  Source: http://pulpmaster.com.au

Systems	Description
Waste Conversion	Converting waste by reducing its volume and weight means less material to be disposed of, which results in fewer refuse collection vehicle kilometres. This allows cost savings in logistics and has a positive environmental effect due to less fuel used per amount of waste to be disposed. As an example, OMPECO provide a solution for converting general and medical waste into a sterilised, dehydrated ground material as shown below. The process involves loading the sterilisation chamber with waste material and crushing / shredding of the material by rotors to produce a fine ground. During the process, the material is heated by friction to 100°C which causes the moisture in the waste material to evaporate. After evaporation, the material is heated further to sterilisation or pasteurisation. The ground material is then cooled down to be unloaded from the converter. The final product has excellent long-term handling and storage properties, the it has up to 80% less volume and 50% less weight than the original waste material. It can be used in waste to energy systems as it is comparatively dry with a high calorific value.  Source: http://www.ompeco.com/italian/language/en/home-2/#
Waste compaction	Various compaction equipment exists for reducing the volume of (general) waste. As a result, less bins and / or fewer bin collections and service vehicle trips are required, which helps to reduce costs and environmental impact. Examples of typical waste compaction equipment include the following: • Under chute compactors can be installed in developments with waste chutes. This allows to compact waste material before it is discharged from the chute into the waste bins. • Bin presses can be used to annually compress waste material in bins of different sizes. • For public spaces, litter bins are available with a built-in compaction mechanism that reduces the volume of waste material in the bins. An innovative example is the solar compactor shown below. Energy produced by a solar panel on top of the bin is used to operate a fill level sensor and automated internal compaction mechanism, allowing up to eight times more waste to be stored in the bin before collection is required. In addition, notification about the fill level of the bins can be sent out in order to monitor bins and manage collection frequencies.  Sources: https://www.wastech.com.au/products/compactors,

Systems	Description
Charity donations	A good way of minimising waste is to reuse items that are still good to use. Several charity organisations exist that accept items such clothing, shoes, bedding, books, toys, furniture, kitchenware and other household items. The donated items must not be torn, damaged or broken. Electrical appliances such as white goods are usually not accepted. Common organisations operating in Australia include Saint Vincent de Paul Society (Vinnies) and Lifeline (see images below). Items can be placed into the organisations' charity / donation bins located in various public spaces such as near community or shopping areas. Alternatively, they can be dropped off at the organisations' shops during opening hours. Refer to https://www.lifeline.org.au or https://www.vinnies.org.au for further information. For larger developments and precincts where large amounts of donation items can be expected, the placement of charity bins within the development should be taken into consideration. 

Refuse Minimisation Options – Recycling

Systems	Description
Container deposit schemes	Container deposit / refund schemes are currently in place in several states in Australia. Various models exist including bottle return facilities and (automated) reverse vending machines. Residents, tenants, staff and cleaners should be encouraged to separate containers that qualify for the schemes from the waste or recycling streams, and return them to one of the return points. Storage space or dedicated bins within tenancies, apartments or communal areas should be provided. For larger developments or precincts where large amounts of empty containers are expected, consideration may be given to an on-site return point. The return points should be located near recycling bins so that cardboard boxes or plastic bags that have been used to transfer the empty containers to the return point can be disposed appropriately. This can prevent cluttering of the area around the return point. The images below show a typical return point and containers that commonly qualify for a deposit refund.    Sources: https://returnandearn.org.au, https://envirobank.com.au/bottle-and-can-recycling-queensland, https://www.containersforchange.com.au/how-it-works
Glass crushing	Bottle crushers can reduce back-of-house and refuse room storage volumes by up to 80%. The machines are quiet and efficient. The inclusion of a glass crusher may either be designed into bar or kitchen areas, placed in back-of-house areas, or a machine may take the place of an existing recycling bin within a refuse storage room. Scanners are also being developed for these machines for scanning of bottles prior to crushing to align with government bottle return schemes. The images below show a typical setting of a glass crusher in a bar.    Sources: http://www.insideenterprises.com.au/bottlecycler/index.html, http://www.bottlecycler.com

Appendix C Refuse Signage

C.1 Refuse Signage

Waste signage guideline are provided by the Queensland government:

<https://www.qld.gov.au/environment/pollution/management/waste/recovery/recycling/signage>.

General Refuse Signage



Other Refuse Signage



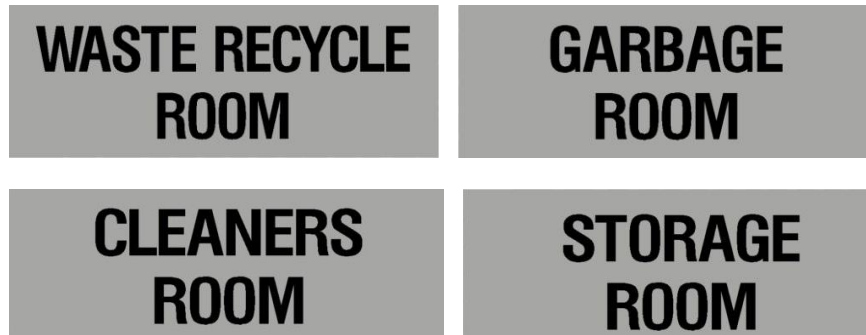
Colour coding as per AS 4123.7-2006

Mixed (Commingled) Recycling	PMS 108
General waste (landfill)	PMS 032C
Organics	PMS 15-0343
Paper and cardboard recycling	PMS Process Blue C
Soft Plastics	PMS 1655
Used Cooking Oil	Grey

C.2 Other Refuse, Facility and Safety Signage

Various signage including refuse area, safety and facility signage should be arranged through certified signage providers. Example signs can be found at <http://www.signblitz.com.au>, <https://www.wayout.com.au> or <https://www.smartsign.com>.

Example Refuse Room Signage



Example Facility Signage



Example Safety Signage



Appendix D Terms and Abbreviations

In this OWMP, a term or abbreviation has the following meaning unless indicated otherwise:

TERM	ABBREVIATION	DEFINITION
Equipment		
Bin (Refuse Bin)		A plastic or steel container for disposal and temporary storage of waste or recycling items. Various types and sizes exist for different items and purposes. Examples include residential unit bins, bulk bins, MGB, steely bins and specialised for medical waste or cigarette butts.
Bin Storage Area		An enclosed area designated for storing on-site refuse bins or a refuse compactor within the property.
Bulk Bin		A galvanized or steel bin receptacle that is greater than 360L in capacity generally ranging from 1.00m ³ to 4.50m ³ used for the storage of refuse that is used for on-site refuse collection.
Bulk Mobile Garbage Bin	Bulk MGB	A plastic (polypropylene) receptacle that is greater than 360L in capacity generally ranging from 660L to 1100L used for the storage of refuse.
Collection Point		An identified position where refuse bins are stored for collection and emptying. The collection point can also be the bin storage area.
Compactor		A receptacle that provides for the mechanical compaction and temporary storage of refuse. It allows to reduce bin numbers and collection frequency.
Composter		A container or machine used for composting specific food scraps and/or organic materials.
Food Waste Recycling System		Defined as a vacuum or pump-based system for shredding, macerating or pulping of food waste. The food waste is transferred through pressure (service) pipes to sealed liquid storage tanks.
Green Waste		All vegetated organic material such as small branches, leaves and grass clippings, tree and shrub pruning, plants and flowers.
Liquid Waste		Non-hazardous liquid waste generated by commercial premises should be connected to sewer or collected for treatment and disposal by a liquid waste contractor (including grease trap waste).
Mobile Garbage Bin	MGB	A plastic (polypropylene) bin or bins used for the temporary storage of refuse that is up to 360L in capacity and may be used in kerbside refuse collection or on-site collection.
Putrescible Waste		Putrescible waste is the component of the waste stream liable to become putrid and usually breaks down in a landfill to create landfill gases and leachate. Typically applies to food, animal and organic products.
Recycling		Recycling contains all material suitable for re-manufacture or re-use, e.g. glass bottles and jars; plastics such as PET, HDPE and PVC; aluminium aerosol and steel cans and lids; milk and juice cartons; soft drink, milk and shampoo containers; paper, cardboard, junk mail, newspapers and magazines.
Refuse		Refuse is material generated and discarded from residential and commercial buildings including general waste, recyclables, green waste and bulky items.
Refuse Storage Room		An area identified for storing on-site MGBs or Bulk Bins within the property.
Refuse Trolley		A cart on wheels that can be used to collect smaller quantities of refuse from different areas or rooms of a building or site, and wheel the collected refuse to a (bulk) bin storage area where it is disposed. Refuse trolleys are commonly used in hotels or offices.

TERM	ABBREVIATION	DEFINITION
Regulated Waste		Regulated waste is waste prescribed under legislation as regulated waste.
Transfer (Manual Transfer)		Manual transfer means physical transfer of refuse material and associated bulk bins or trolleys without assistance.
Waste		Waste is referred to as refuse material with the exclusion of recycling, green waste, hazardous waste, special waste, liquid waste and restricted solid waste.
Waste (General Waste)		General waste is generally referred to as material free of any actual or apparent contamination such as pathological / infectious, radioactive materials and / or hazardous chemical. Reporting use is for material considered to be free of food waste.
Wheelie Bin		A MGB of up to 360L, usually with 2 wheels for easy transfer. A common type is a 240L wheelie bin used for kerbside collection in many residential areas.
Measures		
Cubic Metre	m ³	Volume in cubic metre(s) related to refuse management equipment.
Ground Floor Area	GFA	The GFA of all storeys of a building is measured from the outside of the external walls or the centre of a common wall. It is commonly measured in square metres.
Kilogram	kg	Kilogram(s) related to refuse weight.
Litre	L	Litre(s) related to refuse volumes.
Square Metre	m ²	Square metre(s) related to refuse areas.
Ton	T	Ton(s) related to refuse weight.
Collection Vehicles		
Body Truck		A conventional heavy vehicle with a covered loading area. It is generally not specifically designed for emptying the content of bins into the truck during refuse collections, but can be used to carry entire (full) bins for servicing by bin swap-over.
Refuse Collection Vehicle	RCV	A vehicle specifically designed for collecting and emptying refuse bins and refuse compactors.
Rear-End-Loading Refuse Collection Vehicle	REL RCV	A truck specially designed to collect municipal solid waste and recycling, typically 240L wheelie bins to 1100L bulk bins, from rear loading mechanism and haul the collected waste to a solid waste treatment facility.
Tank Truck		An RCV that is specifically designed to collect liquid wastes such as waste cooking oil and food waste pulp. The waste is typically pumped from a waste storage tank into the truck via a hose. Liquid waste management equipment is often provided by the contractor who collects the waste and operates the truck.