PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2023/1468

Date: 19 September 2024

Queensland Government

Operational Waste Management Plan

Proposed Mixed-Use Development

At Carseldine Urban Village, Fitzgibbon PDA

On behalf of De Luca Corporation

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1 Introduction

1.1. Background

TTM Consulting has been engaged by De Luca Corporation to prepare an OWMP to support the proposed mixed-use development located at Carseldine Urban Village within the Fitzgibbon Priority Development Area (PDA). It is understood that a Development Application will be lodged with Economic Development Queensland (EDQ) and is required to satisfy the requirements of the Brisbane City Council (BCC) Refuse Planning Scheme Policy.

1.2. Scope

The content of this OWMP is intended to provide information in reverse order to the typical movement of waste streams from disposal to collection. The reverse order provides context for refuse collection, storage, and transfer. Information on refuse disposal and collection points is given for each use within the development.

The recommendations in this report relate to the operational phase of the development only. Additional requirements for refuse management during or after demolition or construction phases are not included and require a dedicated plan.

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 refuse volumes likely to be produced
Refuse separation	Recommendations for appropriate segregation methods for each refuse stream
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 site plans and drawings, specified and recommended refuse management equipment, common refuse signage as well as a list of terms and abbreviations are provided in the appendices.

The provisions outlined in this OWMP are considered appropriate for this type of development. It is noted that the refuse storage areas are suitably sized to accommodate the refuse generated and number of bins proposed based on the storage and collection methodologies outlined herein.

1.3. Regulatory Considerations

1.3.1. Council's Refuse Planning Scheme

The plan satisfies BCC's and subsequently EDQ's 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.

As a mixed-use development, TTM has referred to BCC requirements as outlined in the Refuse PSP under section 2, 3, 4 and 5 as these sections relate to Residential and Non-residential Uses. Table 1.2 demonstrates the refuse management items addressed to align with the BCC's Refuse PSP requirements. This also meets the acceptable outcomes described with AO2, AO63.1 and AO63.2 of the Centre or mixed use code.

Table 1.2: OWMP Compliance Checklist

BCC SC6.26 Refuse Planning Scheme Policy		
Item	**Requirement**	**Compliance / Comment**
Section 2 – General Requirements		
(1)	A written design proposal for waste collection is to be provided giving full details of the proposed solution, bin sizes, number of bins and the storage and collection areas, frequency of collection and the refuse collection vehicle size. Table 1 provides the dimensions and types of bins. Table 3 provides the specifications and types of collection vehicles.	Details provided in this OWMP.
(2)	The collection of refuse is to be considered during the planning phase of development. This includes the physical manoeuvring area for the refuse collection vehicle and the bin storage areas and collection points. Access for other road users including pedestrians, cyclists, motorists and other service providers (e.g. postal) is to be maintained.	Considerations provided within this OWMP.
(3)	The type of refuse service that is to be used (domestic or commercial) is identified, including whether the refuse collection vehicle is to be front loading, side loading or rear loading (sufficient height must be available).	Domestic and commercial refuse collected by rear loading RCV.
(4)	Uses with high trip-end densities provide a transport impact assessment report in accordance with the Transport, access, parking and servicing planning scheme policy with an assessment of refuse storage and collection included.	Refer to Traffic engineering documentation for details.
(5)	Where a Refuse Collection Vehicle (RCV) is required to manoeuvre from an on-site position, allow an additional 500mm clearance for vehicle turning dimensions (swept paths) and servicing. Three clear swept path lines must be demonstrated for the RCV, namely wheel path, vehicle body path and 500mm clearance path.	Refer to Traffic engineering documentation for details.
(6)	The waste collection system is to achieve the following outcomes: a. both the customer and service provider can access the bin storage area and collection point conveniently; b. the location, design and operation of the bin storage and collection system do not have unreasonable adverse acoustic, odour or visual impacts on the development, surrounding properties or the streetscape;	Complies Complies – Collection service will be undertaken wholly on site.

	c. the supply and servicing of either mobile garbage bins or bulk bins or refuse compactors complies with the requirements of this planning scheme policy. *Note— Where alternative waste servicing solutions are proposed, advice may be sought directly from Council's waste service area prior to lodgement of the development application.*	Complies
Section 3 - Access and Manoeuvrability		
(1)	The manoeuvring of the refuse collection vehicle is undertaken in a safe and efficient manner, without detrimental impacts to pedestrian amenity or safety, Council or private infrastructure or the function of the road network.	Refer to Traffic engineering documentation for details.
(2)	For multiple dwelling development accessed via a local, neighbourhood, district or suburban road, the refuse collection vehicle may enter the site in a reverse gear in a single movement.	Complies – Reverse entry manoeuvre proposed.
(3)	For multiple dwellings development accessed via an arterial road, or where the refuse collection vehicle cannot reverse onto the site in a single movement, the refuse collection vehicle must enter and leave the site in a forward gear.	N/A
(4)	For development (other than a multiple dwelling) accessed via an arterial, suburban, district or minor road adjacent to an intersection with a major road, the refuse collection vehicle must enter and leave the site in a forward gear.	N/A
(5)	Where refuse collection is from an on-site position, the area trafficked by the refuse collection vehicle must comply with requirements under the Transport, access, parking and servicing planning scheme policy including a minimum aisle/carriageway width of 6.5m wide. *Note—Service area design standards, including maximum gradients, minimum aisle widths, minimum vertical clearance and bay design are contained in the Transport, access, parking and servicing planning scheme policy.*	Complies – Refer to Traffic engineering documentation for details.
(6)	For detached dwellings on rear lots, pavements/carriageways trafficked by a refuse collection vehicle have a minimum width of 5.5m.	N/A
(7)	All entry and exit points are of a width and design that allows for sufficient ingress and egress for the refuse collection vehicle, including a minimum 6.5m crossover which is free from overhead projections inclusive of gardens or trees.	Complies
(8)	To maximise safety, the distance required for refuse collection vehicles to reverse on-site is minimised. Where on-site turnaround of the refuse vehicle cannot be achieved, the bin storage area and collection point is located within 20m of the street frontage.	Complies
(9)	Turnaround facilities for a refuse collection vehicle exist or are provided for where involving staged subdivision developments or where development is located on a no through road. Turning and manoeuvring facilities for refuse collection vehicles are provided to meet design requirements for the vehicles identified in Table 3.	N/A
(10)	Subdivision layouts are to provide for the safe and efficient operation and manoeuvring of a side-lift loading refuse collection vehicle. Layouts that require a refuse collection vehicle to reverse more than 20m are to be avoided. Where the provided transport network results in a stub road for a proposed future road connection, interim turnaround facilities must be provided in compliance with the Transport, access, parking and servicing planning scheme policy and the Infrastructure design planning scheme policy.	N/A
(11)	Adequate lift clearances are provided to overhanging trees and wires in accordance with Table 3.	Complies – Min. 3.6m provided
(12)	The required vertical and horizontal clearances are provided for the service to operate safely and efficiently. Operational clearance dimensions are shown in Table 3 for various types of collection arrangements.	Complies
(13)	Access for a refuse collection vehicle to the collection point is maintained at all times.	Complies
(14)	Where non-residential development is proposing to use an alternative design vehicle other than those named in Table 3, written confirmation from the proposed licensed waste collection contractor giving full details of the bin size and the refuse collection vehicle size must be provided.	N/A

(15)	In instances where the gradient of the on-site manoeuvring area is greater than 5% (1:20), the pad that the collection vehicle will stand on while accessing refuse bins at the collection point, is to have a maximum gradient of 2% (1:50). *Note—Access arrangements, including maximum gradients are contained in the Transport, access and parking planning scheme policy*.	N/A
Section 4 - Residential Refuse Collection		
(1)	Residential development must be serviced by Council or their appointed collection contractor. *Note—For the purpose of this section residential development is defined as Dual occupancy, Dwelling house, Dwelling unit and Multiple dwelling.*	Complies
(2)	Residential development is to provide sufficient capacity for 240L of refuse and 240 or 360L of recycling per dwelling, allowing for one collection per week. *Note—Council offers an optional user paid 240L green waste service. Where this service is to be utilised additional capacity must be designed for.*	3 services per week proposed in line with 'Refuse requirements for development in Brisbane'
(3)	Residential development is to utilise kerbside collection where the locations for both the bin storage area and kerbside collection point can be appropriately accommodated in accordance with section 4.1. *Note—This applies to kerbside collection from a dedicated road frontage and from an internal circulation road where it can accommodate a refuse collection vehicle.*	N/A – Greater than 10 dwellings, kerbside not proposed.
(4)	On-site collection must be provided for in the following cases: a. the development cannot accommodate external (fronting public road) kerbside collection; or b. the development comprises greater than 10 dwellings; or c. where the road verge is not properly shaped to the standard 1:50 gradient and a minimum of 2.5m wide or where the longitudinal road gradient is greater than 1:10.	Complies
(5)	Refuse and recycling collection for a mixed use development ensures residential and commercial bins are stored separately with separate access to each.	Complies
Section 4.1 - Kerbside Collection (MGB's) – Greater than 10 dwellings, kerbside collection not proposed		
Section 4.2 – On-site Collection (Bulk Bins) – This section applies to Residential services		
(1)	In accordance with section 4, development will avoid adverse impacts to residents, pedestrians and roads users by providing sufficient capacity to achieve one collection per week while ensuring sufficient refuse and recycling capacity is provided to meet the needs of residents.	3 services per week proposed in line with 'Refuse requirements for development in Brisbane'
(2)	An on-site dedicated pedestrian route is provided and is separate from the required vehicle manoeuvring area to ensure pedestrian safety is protected. The pedestrian route is to provide access from the site's frontage to the development and will have a minimum width of 1.2m.	Complies
(3)	Bulk bins of 1.1m^3 or less are positioned so that collection personnel do not have to move them more than 5m. If a gradient is evident, speed bumps are provided to stop bulk bins from rolling away from the collection point. *Note—Standard design arrangements, including gradients are contained in the Transport, access and parking planning scheme policy*.	Refuse room positioned within 5m of the RCV. Not feasible to position all bins within 5m of the RCV without compromising serviceability.
(4)	Bulk bins of 1.5m^3 or more are positioned so that front-lift refuse vehicles can drive directly to the container without relocating the bulk bin. If this cannot be achieved due to physical constraints, then the bulk bins are not moved more than 3m from the storage area to the collection point.	N/A – 1.1m^3 Bins proposed.

(5)	The storage areas for bulk bins are: a. contained in a roofed and wholly screened enclosure or room of sufficient size for the bulk bin quantity required; b. easily accessible for residents and for the required servicing of bins; c. screened from neighbouring properties to mitigate odour, amenity and noise; d. of a design to mitigate the harbourage of vermin or attraction of scavenging animals; e. provided with natural or temperature-controlled ventilation if in an enclosed room; f. of a design which maintains a minimum internal vertical clearance of 2.1m; g. kept clear of obstructions, such as fixed bay separators, that impede the ability to change from existing bin sizes or which otherwise limit future refuse collection options; h. are not to contain other amenities such as air-conditioning compressors, hot water systems or electrical hubs. *Note—Where screening is utilised to form part or all of a refuse storage area, the screening is to have a maximum of 25% openings, with a maximum opening dimension of 50mm, and are to be permanently fixed, durable and maintainable.* *Note—Allow for at least an additional 0.5m clearance surrounding each container, or for the storage of multiple bins, 1.5m clearance around the combined bin area (whichever is lesser).*	Complies
(6)	Best practice may include allowing additional space for the storage of extra containers to separately store either organic waste or other recyclables in the future.	Sufficient space provided for anticipated refuse volumes.
(7)	If a refuse or recycling chute is provided: a. it is to be constructed to allow refuse to fall into the centre of the bin; b. it is to have a door / lid to ensure clean changeover of bins; c. the chute room must be of suitable size to allow for an additional bin/s to remain under the chute discharge/s at all times; d. separate chutes and bulk bins are to be used for each waste stream; e. the room containing the chute and bin or compactor excludes all but authorised personnel; f. design best practice may include developments greater than 15m (3 storeys) in height utilising twin chutes or single chute dual stream technology with openings on each residential floor to enable chute disposal of both refuse and recycling.	Complies
(8)	Environmental best practices may also include the installation of a trapped waste connection to the sewer system.	Sewer connected drainage point provided.
Section 5 – Non-Residential Refuse Collection		
(1)	Non-residential development is to provide sufficient capacity to achieve low-frequency servicing in line with Table 2.	Service frequency aligned with residential collection frequency.
(2)	Refuse generation rates for specific uses are provided in Table 4. These figures are to be used to calculate the refuse and recycling capacity required. *Note—Where a refuse generation rate is not defined in Table 4, the applicant is responsible for providing evidence in support of the refuse generation proposed.*	Complies
(3)	Sufficient information is provided to demonstrate that refuse collection can occur in an efficient and safe manner on site without adverse impact on amenity (acoustic, odour or visual impacts) and pedestrian and vehicular traffic.	Complies – Services are performed in the designated loading area.

(4)	This information may include evidence from a refuse collection contractor to demonstrate that collection will occur outside normal service/delivery or business times, where seeking permission to allow a refuse collection vehicle to use service bays or parking spaces on the site for access.	N/A – Commercial contractor engagement hasn't been completed at this stage as this site is undergoing development assessment.
(5)	Bulk bins of 1.1m3 or less are positioned so that collection personnel do not have to move them more than 5m. If a gradient is evident, speed bumps are provided to stop bulk bins from rolling away from the collection point. *Note—Standard design arrangements, including gradients, are contained in the Transport, access, parking and servicing planning scheme policy.*	Complies
(6)	Bulk bins of 1.5m3 or more are positioned so that front-lift refuse collection vehicles can drive directly to the container without relocating the bulk bin. If this cannot be achieved due to physical constraints, then the bulk bins are not moved more than 3m from the storage area to the collection point.	N/A – 1.1m^3 bins proposed.
(7)	The storage area for refuse bins are: a. contained either within a building or a roofed and wholly screened enclosure of sufficient size for the bin quantity required. Table 1 provides the bin types and dimensions; *Note—Where screening is utilised to form part or all of a refuse storage area, the screening is to have a maximum of 25% openings, with a maximum opening dimension of 50mm, and are to be permanently fixed, durable and maintainable.* b. easily accessible for occupants and for the required servicing of bins; *Note—Allow for at least an additional 0.5m clearance surrounding each container, or for the storage of multiple bins, 1.5m clearance around the combined bin area (whichever is lesser).* c. screened from neighbouring properties to mitigate impacts from odour, amenity and noise; d. of a design to mitigate the harbourage of vermin or attraction of scavenging animals; e. provided with natural or temperature-controlled ventilation if in an enclosed room; f. of a design which maintains a minimum internal vertical clearance of 2.1m; g. kept clear of obstructions, such as fixed bay separators, that impede the ability to change from existing bin sizes or which otherwise limit future refuse collection options; h. are not to contain other amenities such as air-conditioning compressors, hot water systems or electrical hubs.	Complies
(8)	Best practice may include allowing additional space for the storage of extra containers to separately store either organic waste or other recyclables in the future.	Sufficient space provided for anticipated refuse volumes.
(9)	Where disposal of industrial or commercial liquid waste by discharge to a road tanker, the road tanker is to be wholly on-site during collection.	Complies – Bins are stored within the building and in an enclosed area.

1.4. Site Location

The site is located within the Fitzgibbon PDA and is known as Lot 5003.

The site has frontages on Plaza Place and Meander Street. All vehicular access will occur via Meander Street.

Figure 1.1: Site Location

Source: Fitzgibbon Urban Development Area Development Scheme, Map 1 Fitzgibbon Urban Development Area

1.5. Development Summary

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

Table 1.3: Development Area Summary

Level	Description	Measure *
Ground	Retail 05a	91.79m^2
	Retail 05b	95.57m^2 GFA
	Retail 05c	69.83m^2 GFA
Level 1 - 7	Residential Apartments	98 Units
Total		**257.19m^2 GFA**
		98 Units

* Areas relevant for refuse calculations only and may differ to total GFA that include areas that do not specifically produce waste such as lobbies and corridors.

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 the associated bin quantities, storage capacities, equipment details, collection frequencies and site access details.

2.1. Refuse Calculations

The refuse volumes utilised for the calculation of residential refuse storage are based on Brisbane City Council's standard rated entitlement. The entitlement is unchanged from the freestanding dwelling rate regardless of dwelling size. The rated entitlement applied to refuse calculations below is a requirement for development consent and not reflective of actual refuse generation.

The generation rates used for the calculation of non-residential refuse produced have been applied based on rates prescribed by Brisbane City Council to achieve compliance. It should be noted that these rates are standardised generation rates and not site specific however, give an estimation on the maximum potential waste generation.

A residential collection frequency of 3 times per week has been established for both general waste and commingled recycling in line with BCC's 'Residential (on-site bulk) service frequency and compaction requirement' guidelines.

A non-residential collection frequency of 3 days per week has been established as an accepted 'performance solution' for BCCs 'low-frequency servicing' requirement and aligns with the residential collection frequency.

Table 2.1: Refuse Generation Rates Utilised

Generation Rate	Applied To	Measure	General Waste	Combined Recycling	Days of Operation
Residential Dwelling	All Residential Units	L / Unit / Week	240	240	N/A
Food and Beverage Outlet <150m^2	All Retail Tenancies	L / 100m^2 / Day	300	200	7

Table 2.2: Residential Refuse Calculations

Description		Quantity	Measure	General Waste L/Week	Comingle Recycling L/Week
Residential Apartments		98	Units	23,520	23,520
Total Weekly Compacted Volumes (L / Week)				**7,840**	**N/A**
Volumes per Day (L / Day)				**1,120***	**3,360**
Volumes per Collection (L / Collection)				**2,613**	**7,840**
Collection and Equipment Details	Collections per Week			3	3
	Storage Capacity			3 Days	3 Days
	Equipment Size			1100L	1100L
	Equipment Quantity Required			3 + 1	7 + 1

*Compaction ratio of 3:1 used for calculation purposes

Table 2.3: Non-residential Refuse Calculations

Description		Quantity	Measure	General Waste L/Week	Comingle Recycling L/Week
Retail 05a		92	GFA (m^2)	1,932	1,288
Retail 05b		96	GFA (m^2)	2,016	1,344
Retail 05c		70	GFA (m^2)	1,470	980
Total Weekly Volumes (L / Week)				**5,418**	**3,612**
Volumes per Day (L / Day)				**774**	**516**
Volumes per Collection (L / Collection)				**1,806**	**1,204**
Collection and Equipment Details	Collections per Week			3	3
	Storage Capacity			3 Days	3 Days
	Equipment Size			1100L	1100L
	Equipment Quantity Required			2	1

2.2. Refuse Bins and Equipment Requirements

Table 2.3 and Table 2.4 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 / Storage Equipment Requirements

Component	Refuse Stream	Bin / Equipment - Type or Size	Bin / Equipment Required
Residential	General Waste	1100L	3 + 1 to remain beneath chute during servicing
	Commingled Recycling	1100L	7 + 1 to remain beneath chute during servicing
Non-Residential	General Waste	1100L	2
	Commingled Recycling	1100L	1

Table 2.5: Additional Equipment

Component	Description	Quantity	Capability / Specification
Residential	Single Refuse Chute with Diverter System	1	Provides disposal for general waste and commingled recycling within a single refuse chute. Access points on each habitable residential level. Min. 600mm diameter chute recommended for recyclable materials.
	Integrated Chute Discharge Compactor	1	For use with general waste only. If required, will achieve an average compaction ratio of 3:1. *Elephants Foot Ceiling Mounted Chute Compactor used for architectural design purposes. Comparable model may be installed.*
Non-residential	Refuse / Cleaners Trolleys	TBD	Used to assist in the manual transfer of refuse to the bulk bins for disposal where other transfer methods are not employed.
	Used Cooking Oil Storage	TBD (If required)	Portable storage tank stored BOH. Required for food and beverage tenancies using fry vat equipment.

2.1. Refuse Storage, Access and Rotation Requirements

All refuse will be stored within bulk bins housed within dedicated refuse storage areas. Separate storage is provided for residential and non-residential uses. All refuse storage and servicing areas are provided on Ground Level.

Each enclosure is sufficiently sized to accommodate all of the bins and equipment required for each use outlined in Table 2.4 and Table 2.5.

Residential refuse storage is separated into 2 co-located storage areas; a chute discharge room located beneath the termination of the chute penetration and adjoining residential refuse storage room. The chute discharge room will house the diverter chute discharge, general waste compaction equipment and bins required to remain beneath the chute at all times.

The residential refuse storage room provides storage for all remaining residential bins required between collection services and is positioned directly accessible to the RCV loading area.

Building management / caretaker will be responsible for the rotation of bins beneath the chute discharge and rotation of bins between storage areas as required to maintain disposal capacity beneath the chute discharge. Access to the chute discharge room is restricted to building management or approved personnel only via the restricted distribution of keys / fobs and signage.

All refuse generated by the non-residential uses will be stored within the retail refuse room. The retail refuse storage enclosure is provided separately to the residential refuse storage room and directly adjoining the RCV loading area. A consolidated waste storage strategy is proposed where all non-residential uses within the development share the use of the communal bulk bins within a single storage area for optimal efficiency in servicing cost and to control the number of RCV movements within the shared loading area.

Table 2.6 outlines the refuse storage area design criteria addressed in order to minimise odours, deter vermin, protect surrounding areas, and make it a user-friendly and safe area.

Table 2.6: Refuse Storage Area Design Requirements

Positioning Considerations
Positioned in immediate proximity of the designated loading point
Is in a purpose-built storage room which is vermin proofed and used solely for the storage of refuse leaving the site only.
Not located adjacent to or within any habitable portion of a building or place used in connection with food preparation (including food storage).
Is positioned away from entrances to shops or residential premises
Is over 5m from any door, window or fresh air intake within the development or any adjoining site.
Visual Amenity Considerations
Is enclosed on all sides except for the access points to ensure bins are not visible from a public place, neighbouring properties, passing vehicles or pedestrian traffic external to the site.
Is designed to minimise their visual impact on the surrounding areas.
Functional Design Considerations
Is of sufficient size to accommodate the bins with sufficient clearance around the combined bin area
Doors / shutters wide enough to allow for the easy removal of the largest container to be stored.
Permits unobstructed access for removal of the containers to the service point.
The height of the bin storage area allows for waste bins to be opened and closed.
Does not have any steps or lips.
Adequate artificial lighting.
Be fire rated and ventilated in accordance with the National Construction Code – Building Code of Australia.
Bin Washing and Room Cleaning Considerations
A hose cock provided inside the room for cleaning bins and the enclosures.
The walls, ceilings, floors and equipment are to be designed and constructed of impervious material with a smooth finish to allow for easy cleaning.
The floors to be graded to fall to a drainage point.
Drainage points connected to sewer in accordance with trade waste requirements.
Roofed and designed to prevent entry by rainwater.

Figure 2.1 below shows a potential configuration for the residential refuse storage area and non-residential holding area in context to the servicing area on Ground Level. The configuration and size of each enclosure is provided to ensure the majority of bins are either directly accessible or can be easily rotated for servicing.

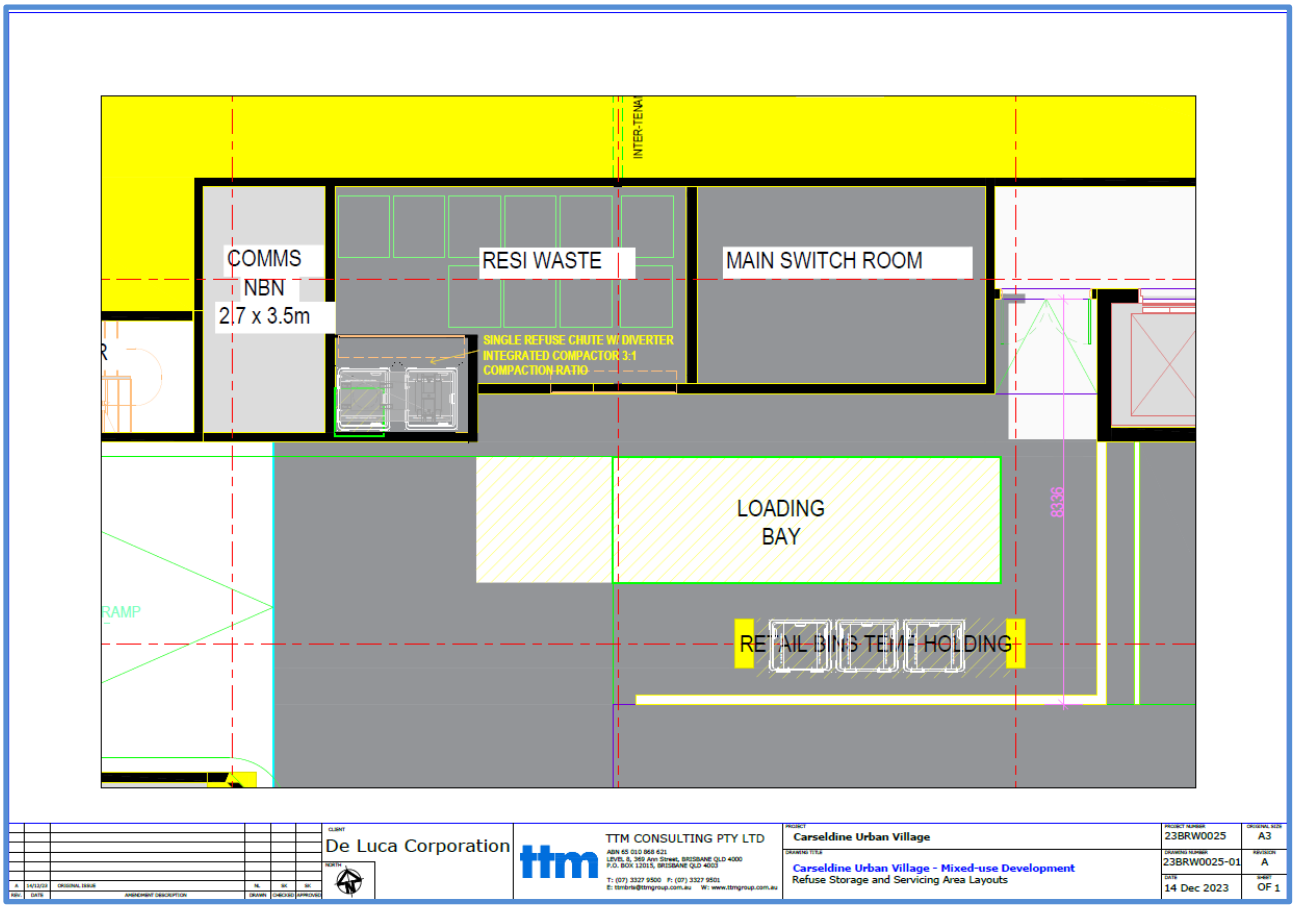


Figure 2.1: Potential Refuse Storage Area Layout

Source: Architectus, Conrad Gargett, Project: The Village Carseldine, Drawing: 5003 - Ground Floor, Drawing Number: SK – AR – DR – DA 121 Rev: J – TTM edit

2.3. Refuse Transfer

Residents will transfer all refuse vertically for disposal via the single refuse chute fitted with diverter system for general waste and recyclable materials.

Either designated tenancy staff or cleaners will transfer all refuse generated from the non-residential tenancies to the retail refuse room directly.

The collecting contractor will collect all bins directly from the residential refuse room or non-residential temporary storage area, manoeuvre to the RCV lifting mechanism and return after service.

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 premise
Does not have any lips, stairs or steps for bins to be manoeuvred easily.

2.4. RCV Arrangements and Bin Servicing Areas

All refuse will be collected by Rear Loading RCV. Council's appointed collecting contractor will be responsible for the collection of all residential refuse. All non-residential refuse will be collected by private contractor. However, the non-residential tenancy operators may elect to use engage Council's appointed collecting contractor under commercial contract arrangement and align service days during residential servicing to reduce vehicle movements.

All RCV's will perform a single reverse manoeuvre to enter the site via the driveway crossover on Meander Street. RCV's will stop to algin the rear of the RCV with the respective storage point to reduce bin transfer distance to within 5m and stand in the designated RCV loading area immediately adjoining the refuse storage areas for service. Once the collections service is complete, RCV's will exit site onto Meander Street in a forward gear.

All refuse will be collected directly from the respective refuse storage area directly adjacent the RCV loading area. Once the bins have been serviced, they will be returned to the respective refuse storage area where building management staff / cleaners will clean the bins as required for everyday use.

All vehicular movements within the shared loading area will be managed by site operators under an operational management plan to reduce instances of conflict in movements when vehicles are required to remain on site for periods greater than 15 minutes.

Figure 2.2 below depicts the RCV swept path for a full-sized rear loading RCV as specified in the Refuse PSP. Further details on service vehicle access and on-site manoeuvring can be found in the traffic report submitted with the development application submission.

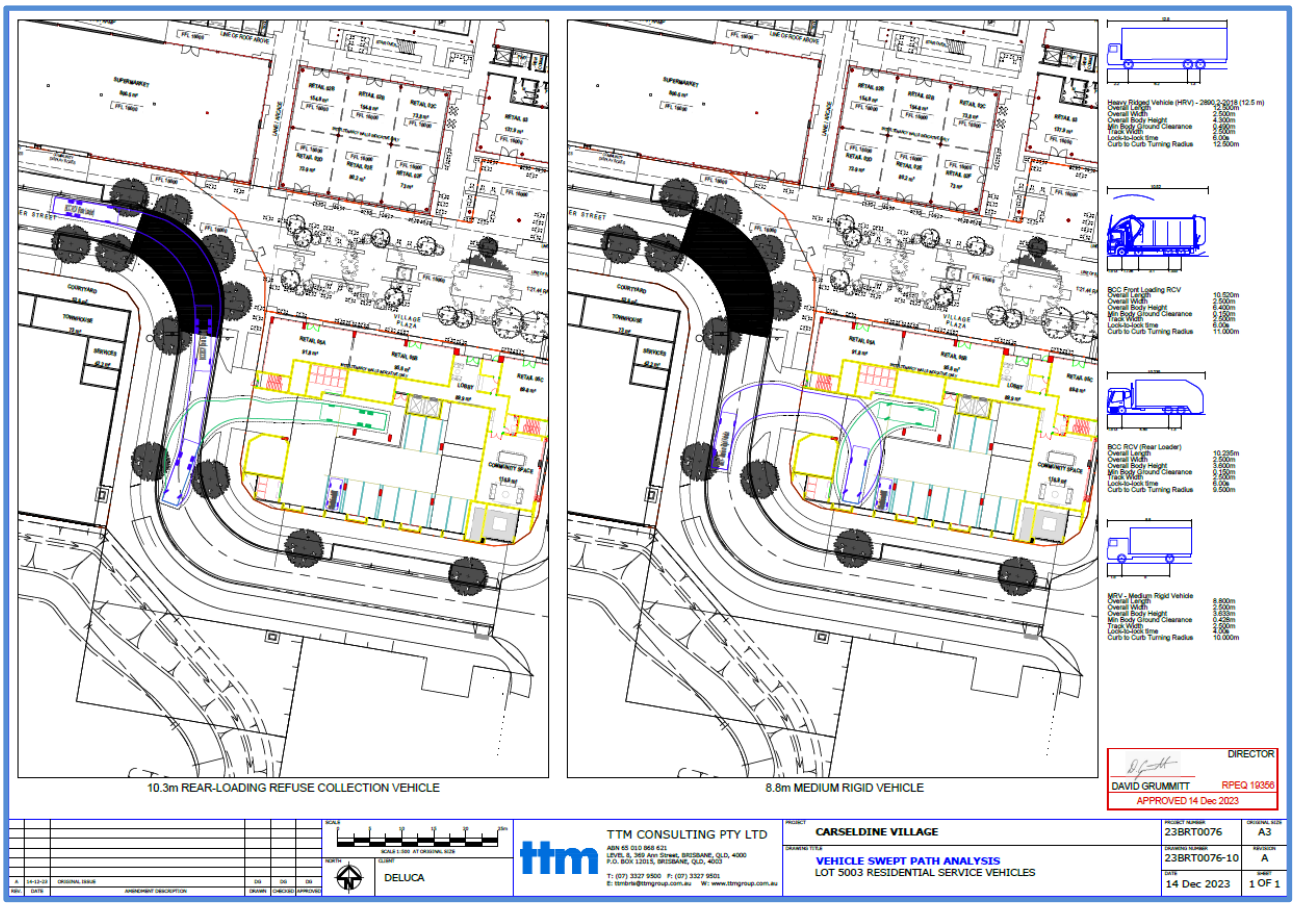


Figure 2.2 RCV Swept Path

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 during servicing.
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.
Is screened sufficiently to minimise the view of bins from neighbouring properties or passing vehicles and pedestrian traffic external to the site.
Is positioned away from entrances to shops or residential premises.

3 Recommended Operational Requirements

3.1 Ongoing Operational Requirements

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 frequently generated refuse streams that are generated in high volumes for any given period require significant capacity for storage prior to collections. Section 3.1.2 describes infrequently generated refuse streams that are generated in relatively low volumes, and where minimal provisions for storage can be easily managed by collection frequency.

3.1.1. Frequently Generated Refuse

Table 3.1: Disposal of Frequently Generated Refuse (General Waste)

Refuse Stream	Disposal Details
WASTE	
General Waste	Residential Space for bins to store one day's worth of generated refuse will be provided in each residential apartment. Each day or as required, all refuse will be transferred by residents to the refuse chute access hopper on each habitable residential level. The refuse chute will discharge directly into the general waste bulk bin stored in the chute discharge room. Residents will have access to the refuse room, lifts will be utilised for the vertical transfer of all materials not suitable for chute disposal. Waste bins should always be lined with bags and the bags tied before removal. Operationally, general waste should weigh approximately 3 kg or less and does not exceed the dimensions of the chute hoppers. Waste bins should be accompanied by a commingled recycling bin in order to facilitate separation of general waste and recycling. Receptacles will be placed in all communal areas where refuse will be generated such as recreation and wellness facilities for collection and storage of at least one day of general waste. Bin quantities will be determined during the operational phase. A recycle bin will be positioned wherever a general waste bin is positioned to maximise recovery. Building management will assist with the disposal of all refuse generated in communal areas. Non-Residential Tenancy operators will be required to provide receptacles for each separate refuse stream in a sufficient quantity to hold one days' worth of refuse. After each day of operation or as required, refuse will be transferred by staff / cleaners to the non-residential refuse room and decanted into the appropriate bulk bins. The number of and location of bins required will be determined during tenancy fit out and careful consideration should be given to the placement and types of bins to optimise source separation. Food & beverage tenancy waste will be captured by bins up to 90L in volume that will be placed within the kitchen or back-of-house area to meet the design or layout criteria of the cafe or restaurant operators.
Organic (Food) Waste	Separating organic or food waste from general waste is recommended for all uses to reduce the total amount of general waste produced. Separation may be considered and begin at any stage during the operational phase of the development. Caddy bins or bins no larger than 60L should be used in high volume situations such as commercial kitchens, for disposal of food waste. The bins are then transferred to the refuse room for collection. The content is then decanted in bulk bins or processing equipment provided within the refuse enclosure. While BCC does not currently offer a food organics collection service to multiple unit dwellings, commercial options are available at additional cost.

Table 3.2: Disposal of Frequently Generated Refuse (Recyclable Materials)

RECYCLING	
Comingled, including • glass • aluminum • steel cans • tins • cardboard • semi rigid plastics	**Residential** Items for recycling must not be bagged and disposed in loose form. This can be done by decanting the materials from the individual receptacles directly into the chute hoppers. The refuse chute will discharge directly into the commingled recycling bulk bin stored in the chute discharge room via the diverter chute system. Residents will have access to the refuse room, lifts will be utilised for the vertical transfer of all recyclable materials not suitable for chute disposal. Receptacles will be placed in all communal areas where refuse will be generated for collection and storage of at least one day of commingled recycling. Bin quantities will be determined during the operational phase. **Non-Residential** Commingled recycling from tenancies such as food and beverage outlets including restaurants, takeaways, cafés can be captured by bins up to 90L that will be placed within the kitchen or back-of-house area to meet the design or layout criteria of the café or restaurant operators.
	Container deposit / refund schemes are currently in place in Queensland. Various models exist including bottle return facilities and (automated) reverse vending machines. Occupants should be encouraged to separate containers that qualify for the schemes from the waste or recycling streams and send back to a return point.

3.1.2. Infrequent Waste

Table 3.3: Disposal of Infrequently Generated Waste

Refuse Stream	Disposal Details
Hard Waste / Bulky Goods	Hard waste collections will be coordinated in line with BCC's hard waste collection arrangements for residential uses, and hard waste / bulky goods moved to the loading or a designated area for removal prior to collection. When storing bulky goods in a loading area, it is recommended that items are placed on a pallet for efficient loading via a pallet jack or forklift onto the RCV. Non-residential uses will utilise bulk bins provided for bulky waste disposal or make other coordinated collection arrangements where items are unsuitable for bulk bin disposal or where significant volumes are generated such as during tenancy refits.
Organic (Garden) Waste	Green waste will be produced on an ad hoc and largely weather dependent basis from surrounding landscaped areas or potted plants. Green waste will be removed by the designated maintenance contractor. The engaged contractor will be required to send this material to a composting or resource recovery facility rather than to a landfill. Interim storage in not provided.
Hazardous Waste (paints, batteries and cartridges) **Electronic Waste**	Building management will assist tenancies in making arrangements for the disposal of specialised or hazardous waste and electronic waste such as recycling of toner cartridges and batteries as required. Please refer to local and QLD government websites for disposal options. Batteries are highly volatile and must be disposed of separately and never in the general waste or commingled recycling bins. TTM recommend a communal disposal point is provided by site management and located in a communally accessible point. This includes all hazardous, electronic or liquid waste and any paint or chemicals as required and requested. Hazardous waste must be handled with due care, separated and securely stored for collection by a specialist waste contractor. Please refer to local and QLD government websites for further information.

3.2. On-going Management

The tables below are not assessable as part of the development application instead for the demonstration of required tasks during the operational phase of the development and therefore intentionally left blank.

Responsibilities have to be assigned for all on-going refuse management operations. This is generally done by a building manager, staff and / or cleaners. The following lists (Table 3.4 to Table 3.10) are designed to help managing responsibilities and monitor the refuse operations in order to maintain efficient services and a safe environment.

Table 3.4: General Refuse Management Checklist

Objectives	Checked	Remarks
Organise temporary additional bins or collections to cater for additional waste generated during initial resident move in. (Commercial service required).		
Organising of weekly pick-ups for all refuse streams.		Liaise with BCC and private contractors as required.
Managing daily bin transfers between tenancies and storage / collection areas if required.		
Check bin fill levels and rotate / swap bins for convenient access as required		

3.2.1. Safety

Transferring refuse bins and using 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 occupancy of the development.

Table 3.5: Safety Checklist

Objectives	Checked	Remarks
Abiding by all relevant occupational health and safety legislation, regulations and guidelines to ensure site safety for residents, 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.		

3.2.2. 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 and should be colour coded in accordance with AS 4123.7 – 2006 Mobile waste containers (see *Appendix C*).

Table 3.6: Signage Checklist

Objectives	Checked	Remarks
Ensuring compliance of signage with government local council regulations.		Use signage compliant with colours as noted in *AS 4123.7–2006 Mobile waste containers – Part 7: Colours, markings and designation requirements*
Ensuring that labelling on bins, refuse room etc. is appropriate and clear and easy to read and updated if required.		

3.2.3. 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 3.7: 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 • Refuse chutes and hopper doors • 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 as per manufacturers recommendation and warranty requirements.

3.2.4. Refuse Minimisation

Refuse minimisation is an important part of any site operation, it is strongly recommended that building operations staff are actively involved in encouraging and assisting occupants to follow the refuse hierarchy. At a minimum, the following should be implemented. Guidance on additional refuse minimisation options can be provided during the operational phase of the development by external review.

Refuse minimisation required 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 is usually conducted 12 to 18 months after the implementation of the plan.

Table 3.8: Refuse Minimisation Checklist

Objectives	Checked	Remarks
Regular review of material quantities to avoid over-ordering.		
Consideration of secondary and recycled materials where possible.		
Encouraging refuse minimisation through education and signage (see below).		
Reduce refuse through continuous monitoring and review (see below).		

3.2.5. Education and Communication

On-going education is important to ensure people continue to use the facilities as originally intended and to avoid ongoing contamination of recoverable refuse streams. Management from each tenancy should be involved in education of staff and encouraging participation in recycling activities. All leasing contracts should contain clauses pertaining to waste management arrangements and waste diversion targets.

Table 3.9: Education and Communication Checklist

Objectives	Checked	Remarks
Communication of refuse management arrangements to residents, staff and contractors as required.		
Consideration of promotional opportunities for any successes e.g. local shopping partnerships / discounts.		

3.2.6. Monitoring and Review

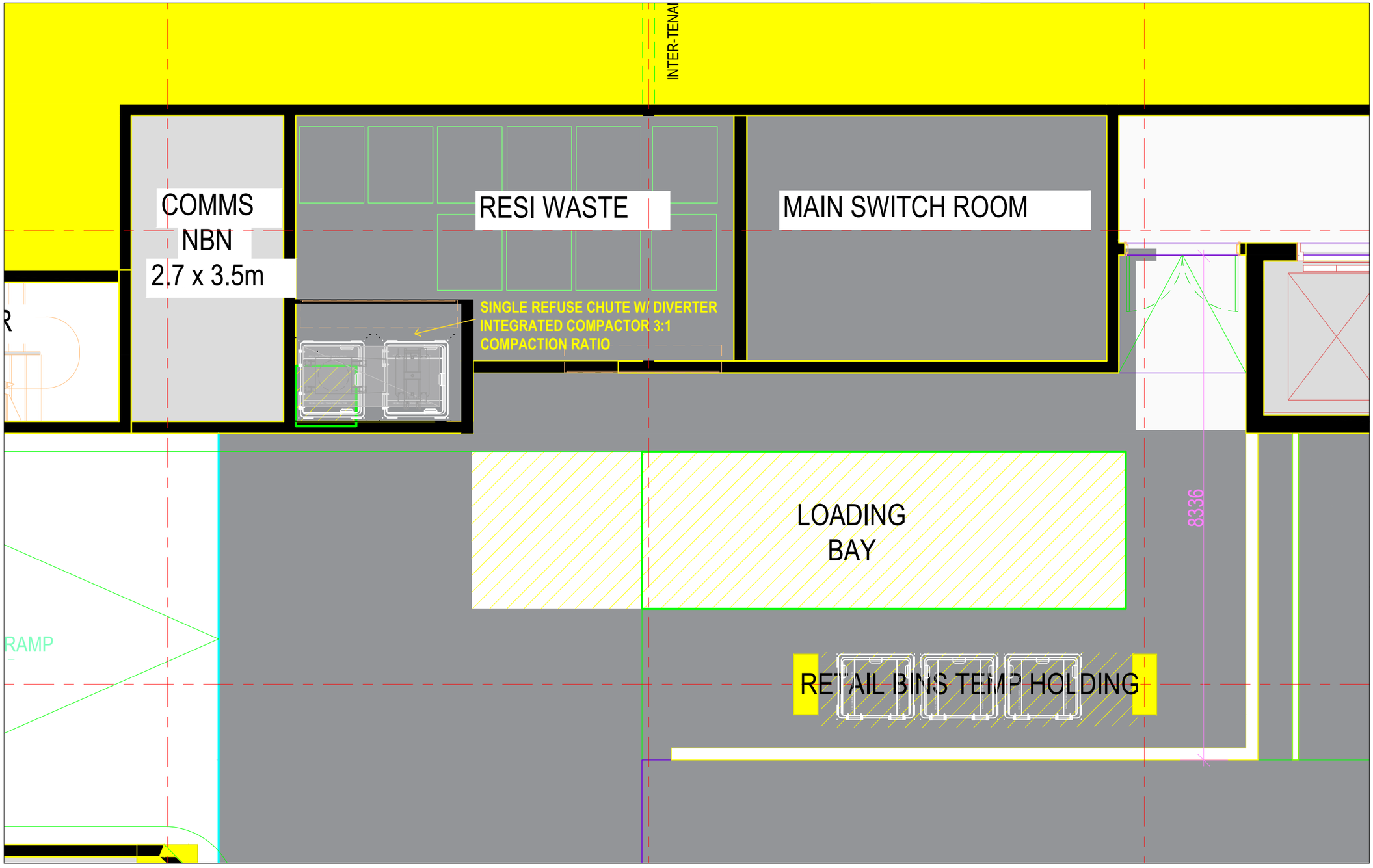
Regular monitoring and inspections of waste and related equipment and facilities from the development should be conducted by building management or designated staff or maintenance and sustainability.

Waste composition audits are recommended for non-residential uses on a routine (12 monthly) basis to identify potential improvements in the recycling processes taking place. Audits may be undertaken by external contractor or internally by visual inspection during on-site waste management handling activities. For example, cleaners or staff members 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 actionable results and may be undertaken on an ongoing basis.

Table 3.10: 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.		
Regular review of recycling rate target to target continual improvement.		Amend as required
Review service frequency and methodology on 6 monthly intervals with collecting contractor.		
Update and amend OWMP based on review outcomes.		

Appendix A Site Plans, Drawings and Swept Path Analysis



REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED
A	14/12/23	ORIGINAL ISSUE	NL	SK	SK

CLIENT
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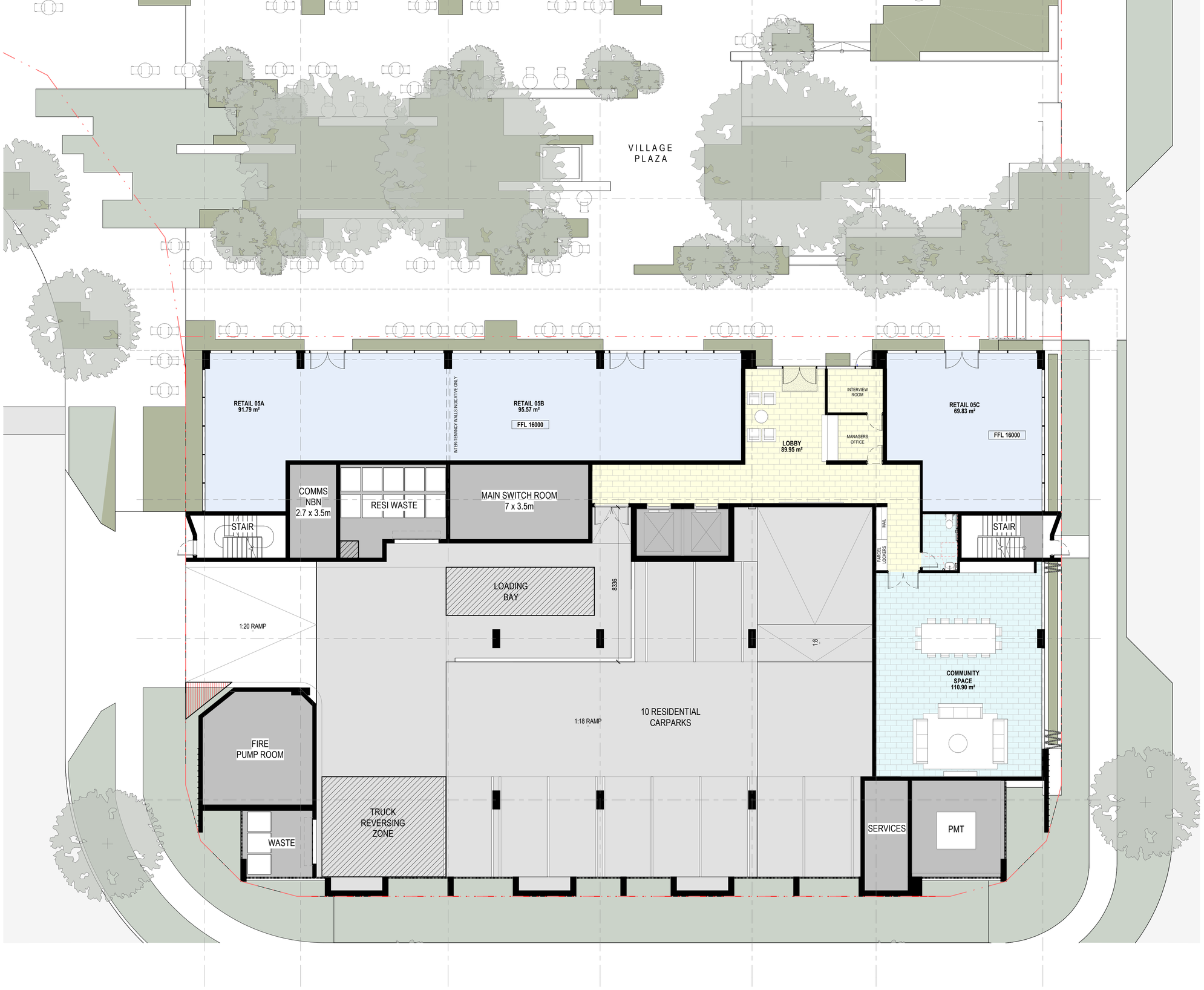
PROJECT
Carseldine Urban Village

DRAWING TITLE
Carseldine Urban Village - Mixed-use Development
Refuse Storage and Servicing Area Layouts

PROJECT NUMBER	ORIGINAL SIZE
23BRW0025	A3
DRAWING NUMBER	REVISION
23BRW0025-01	A
DATE	SHEET
14 Dec 2023	OF 1



architectus™ Conrad Gargett

We acknowledge the Traditional Custodians of the land on which this project is sited, and pay respects to their Elders past, present and emerging.

Revision

REV	DESCRIPTION	DATE	APP.
C	Issued For Information	19/10/2023	KL
D	Issued For Information	24/10/2023	KL
E	Issued For Information	14/11/2023	KL
F	EDQ Issue	21/11/2023	KL
G	Issued For Information	05/12/2023	KL
H	Issued For Information	07/12/2023	KL
J	DA Issue	12/12/2023	KL

Client

DELUCA

Project

THE VILLAGE CARSELDINE

Drawing

5003 - GROUND FLOOR - 1-100

PRELIMINARY

A1 Scale 1 : 100

Project No. 23.0159

Revision J

Number SK - AR - DR - DA 121

Details

0 mm 40 80 mm

architectus™ Conrad Gargett

We acknowledge the Traditional Custodians of the land on which this project is sited, and pay respects to their Elders past, present and emerging.

Revision

REV	DESCRIPTION	DATE	APP.
B	Issued For Information	20/09/2023	KL
C	Issued For Information	24/10/2023	KL
D	Issued For Information	14/11/2023	KL
E	EDQ Issue	21/11/2023	KL
F	Issued For Information	05/12/2023	KL
G	Issued For Information	07/12/2023	KL
H	DA Issue	12/12/2023	KL

Client
DELUCA

Project
THE VILLAGE CARSELDINE

Drawing
5003 - LEVEL 1 - 1-100

PRELIMINARY

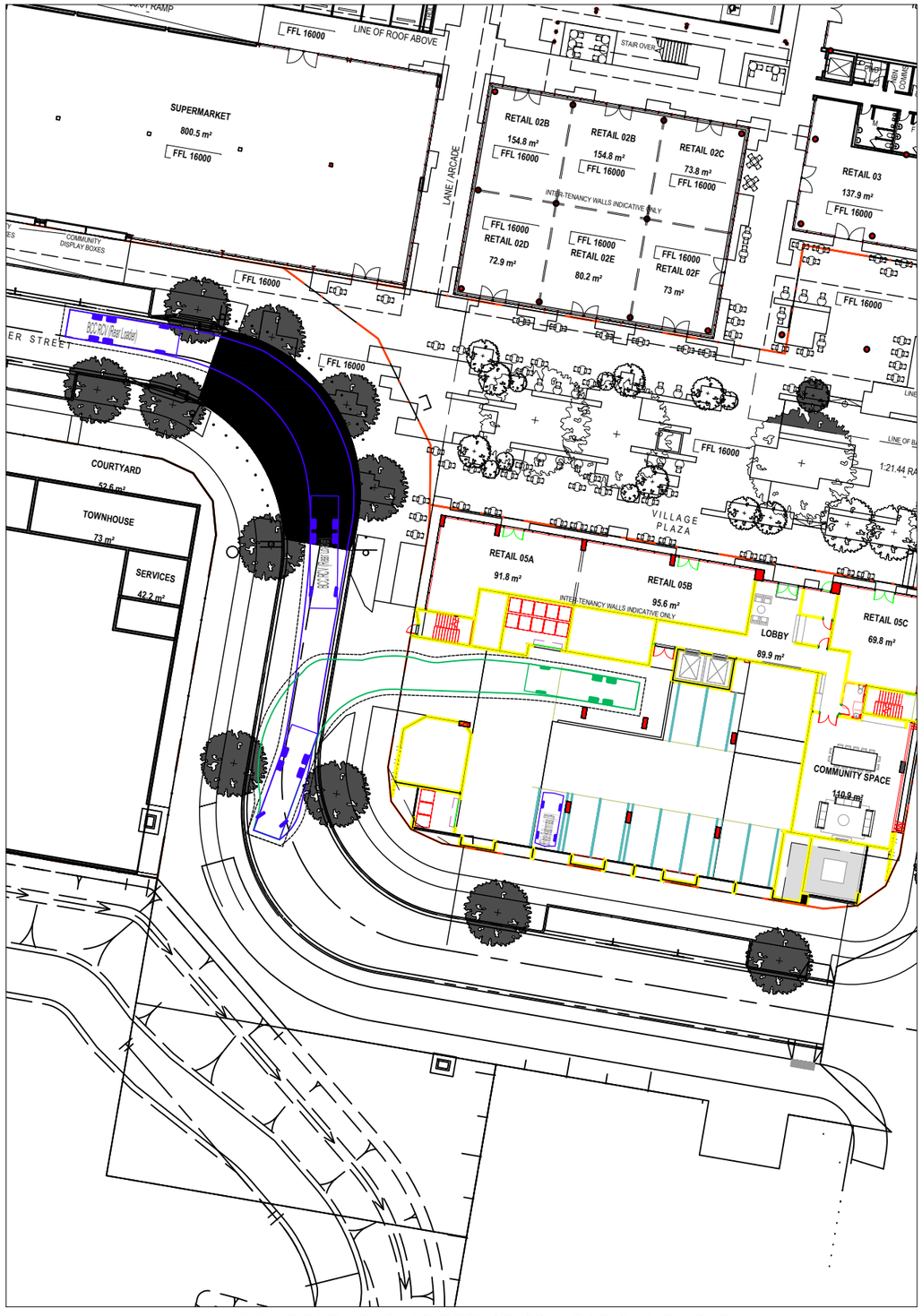
A1 Scale 1 : 100
Project No. 23.0159
Revision H

Number SK - AR - DR - DA 122

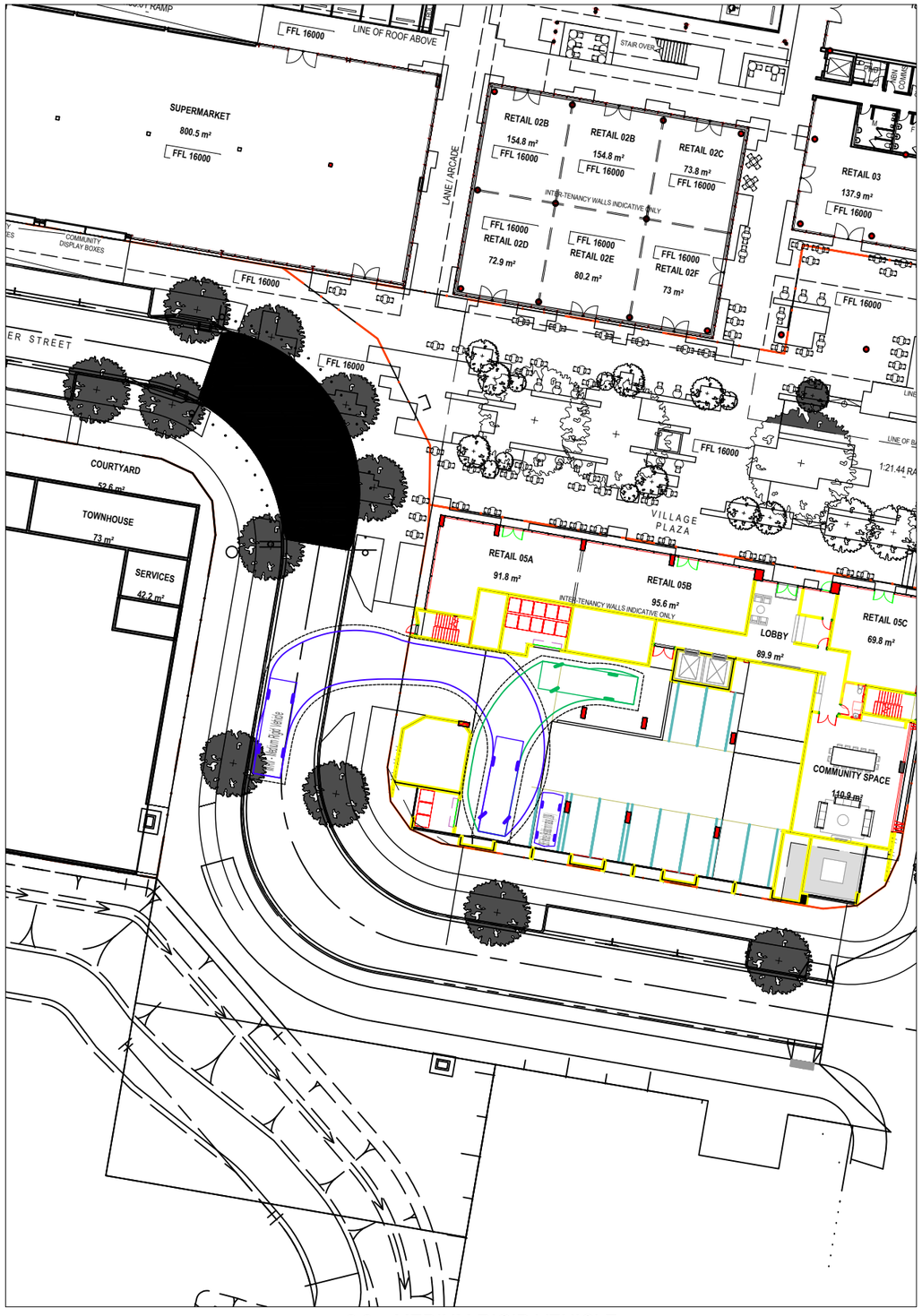
Details

Nominated Architect : Lawrence Tsaldo NSWARB Reg. 10255.
Nominated Architect : Ray Brown NSWARB Reg. 6359.

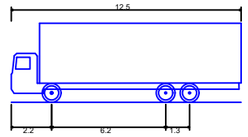
0 mm 40 80 mm



10.3m REAR-LOADING REFUSE COLLECTION VEHICLE

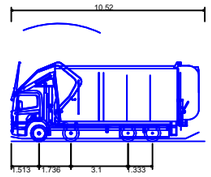


8.8m MEDIUM RIGID VEHICLE



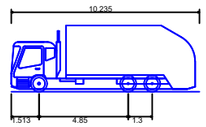
Heavy Ridged Vehicle (HRV) - 2890.2-2018 (12.5 m)

Overall Length	12.500m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.490m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m



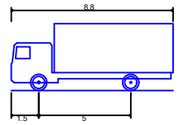
BCC Front Loading RCV

Overall Length	10.520m
Overall Width	2.500m
Overall Body Height	6.400m
Min Body Ground Clearance	0.150m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	11.000m



BCC RCV (Rear Loader)

Overall Length	10.235m
Overall Width	2.500m
Overall Body Height	3.600m
Min Body Ground Clearance	0.150m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	9.500m



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

DIRECTOR

DAVID GRUMMITT RPEQ 19356

APPROVED 14 Dec 2023

REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED
A	14-12-23	ORIGINAL ISSUE	DG	DG	DG

SCALE 0 5 10 15 20 25m

SCALE 1:500 AT ORIGINAL SIZE

NORTH

CLIENT

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PROJECT
CARSELDINE VILLAGE

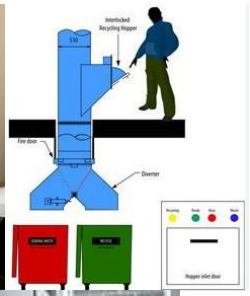
DRAWING TITLE
VEHICLE SWEPT PATH ANALYSIS
LOT 5003 RESIDENTIAL SERVICE VEHICLES

PROJECT NUMBER	23BRT0076
ORIGINAL SIZE	A3
DRAWING NUMBER	23BRT0076-10
REVISION	A
DATE	14 Dec 2023
SHEET	1 OF 1

Appendix B Systems and Specifications

B.1 Specified Refuse Management Equipment

The table below provides contextual examples of the equipment specified within this OWMP and is not intended to provide an exhaustive list of all potential options of the required equipment.

Bin Types	Waste Streams	Examples	Information
Residential unit bins	General waste and recycling	 	Various options and sizes. Built and standalone bin available. Examples: https://www.bunnings.com.au
Commercial 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
1100L bins	General waste, recycling, paper / cardboard	 	Dimensions approx. 1070 x 1240 x 1330mm (L x W x H) (dimensions depend on contractor) Examples: http://www.justwheeliebins.com.au, https://www.australianwaste management.com.au
Diverter Chute system	General waste, recycling, food waste	  	Refuse disposal in multi-storey buildings through refuse chutes: options include single chute for waste only, single chute with diverter system or dual chute for disposal of waste and recycling Examples: https://www.wastech.com.au /products/chutes https://www.elephantsfoot.com.au /products/chutes

Bin Types	Waste Streams	Examples	Information
Chute Discharge Compaction	General waste	 	Compactors designed for integration with the refuse chute to minimise the volume of general waste. Examples: https://www.elephantsfoot.com.au/products/compactors/carousel-linear https://wastech.com.au
Refuse / Cleaners Trolleys	All Streams	 	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
Portable Cooking Oil Storage	Used Cooking Oil	 	Cooking oil recycling Example: https://www.cookers.com.au Cooking oil delivery, used oil collection and provision of required equipment

Appendix C Refuse Signage

C.1 Refuse Signage

All waste stream signage used should be colour coded to be compliant with *AS 4123.7–2006 Mobile waste containers – Part 7: Colours, markings and designation requirements.*

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

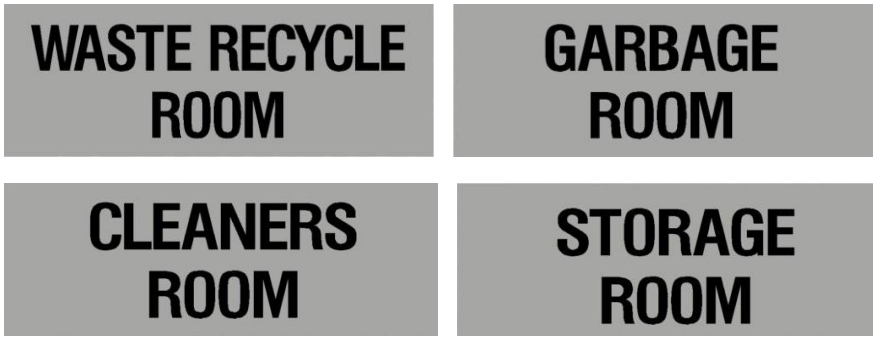
Colour coding as per AS 4123.7-2006

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 1.00m³ to 4.50m³ 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 Tolley		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.
Regulated Waste		Regulated waste is waste prescribed under legislation as regulated waste.

TERM	ABBREVIATION	DEFINITION
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.