Operational Waste Management Plan

Proposed Residential Townhouse Development

At 53 Seventeen Mile Rocks Road (Oxley Priority Development Area)

On Behalf of Honeycombes Property Group

About TTM

For 30 years, we've been at the centre of the Australian development and infrastructure industry. Our unique combination of acoustics, data, traffic and waste services is fundamental to the success of any architectural or development project.

We have over 50 staff, with an unrivalled depth of experience. Our industry knowledge, technical expertise and commercial insight allow us to deliver an exceptional and reliable service.

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Revision Record

No.	Author	Reviewed/Approved	Description	Date
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3.				

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1 Introduction

1.1 Background

TTM Consulting has been engaged by Honeycombes Property Group to prepare an Operational Waste Management Plan (OWMP) to support the proposed residential townhouse development located within the Oxley Priority Development Area (PDA) at 53 Seventeen Miles Rocks Road, Oxley. The development site is located at 10 Honeyeater Circuit Oxley. It is understood that a Development Application will be submitted to Economic Development Queensland (EDQ).

Whilst the application will be submitted to EDQ, it is noted that the site is located within the Brisbane City Council local government area. As such, where relevant this development has been assessed against the respective provisions of the Brisbane City Council Planning Scheme 2014.

1.2 Scope

The content of this OWMP is intended to provide information on the typical movement of waste streams from generation to collection. Information on refuse management is given for both dwellings with individual bins and commercial uses.

The proposed development consists of various townhouse lots for residential use, with a community centre and café located within the development for commercial purposes.

The development is also designed to align with the Envirodevelopment Technical Guidelines specified in the Songbird Master Plan, for sustainable housing.

Table 1-1: Scope Items

Item	Description
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
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, 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 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.

1.3 Regulatory Considerations

1.3.1 Council's Refuse Planning Scheme

This plan has been prepared to align with BCC's refuse requirements of SC6.26 Refuse Planning Scheme Policy, v29. As this development is a mixed-use site, TTM has referred to BCC requirements as outlined in the Refuse PSP under section 2, 3, 4, and 5 as these sections are related directly to residential uses and commercial uses.

Table 1-2: Planning Scheme 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.	Complies – specified in this report
(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.	Complies - consideration given
(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).	Complies – Side-loading RCV used for both residential and commercial aspects of the development. Council and private contractor proposed.
(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.	See traffic report
(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.	Complies – See Section 2.5, RCV Arrangements
(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; 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.	Complies

(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.	N/A – forward-in forward-out 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.	Complies
(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.	Complies
(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, 6.5m width maintained
(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, 6.5m width maintained
(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 – RCV can navigate the site in a wholly forward gear.
(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.	Complies
(11)	Adequate lift clearances are provided to overhanging trees and wires in accordance with Table 3.	Complies
(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 – council design vehicle proposed
(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.*	Complies

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 – Council contractor proposed for residential
(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.*	Complies
(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.*	Complies
(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 – kerbside collection from internal roadway proposed
(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)		
(1)	The number and location of mobile garbage bins presented for kerbside collection does not negatively impact on streetscape character, pedestrian and vehicular movement and safety or access for other service providers and utilities (e.g. bus stops).	Complies
(2)	Kerbside collection points for lots with road frontage are to be accommodated on the footpath frontage of the subject site. Each dwelling's collection point is to comprise of a minimum of 2 areas, each with a minimum area of 0.81m^2 (i.e. 0.9m x 0.9m) to accommodate mobile garbage bins. These areas can be located together or separately. *Note—Where 360L mobile garbage bins are utilised, the required minimum area is to be increased to 1.3m^2 (i.e. 1.14m x 1.14m).*	Complies – 240L bins proposed, 0.81m^2 accommodated per bin
(3)	If a rear lot, the frontage is to include an additional truncated area/s to provide sufficient space for the servicing of mobile garbage bins. These truncated collection points are to avoid obstructing any driveway and are to be of sufficient width to accommodate the required number of mobile garbage bins to prevent bin placement encroaching onto neighbouring frontages.	N/A
(4)	Collection points are not located: a. in a way that obstructs the use or safety of any driveway; b. within 10m from the tangent point of the kerb radius of a non-signalised intersection or 20m from the tangent point of the kerb radius of a signalised intersection; c. within 10m from the tangent point of the kerb radius of a roundabout; d. on arterial road frontages; e. on verges where the adjacent traffic lane is less than 3m wide; f. 9m before and 1.5m after a bus stop marker sign; g. in any other no stopping zone; h. within the dripline (canopy) of a street tree where the operational height clearance identified in Table 3 cannot be demonstrated.	Complies

(5)	Where collection is from an internal private road, it is preferred that mobile garbage bins are placed in front of each dwelling. If there are short no through roads off the main internal circulating road, sufficient level areas are to be provided beside the main internal circulating road (near the intersection) for a collection point for the mobile garbage bins required for those dwellings. *Note—Internal roads that are to be used by refuse vehicles must meet minimum width requirements.*	Complies – presentation points provided for trafficable Townhouses
(6)	The storage area for mobile garbage bins: a. if contained within the lot: can accommodate 2 areas of 0.81m² (i.e. 0.9m x 0.9m) and is outside the dwelling inclusive of attached garages; or b. if located within a common area or viewable from a common area or the public realm: are located in an external roofed and wholly screened enclosure that allows adequate access for residents to all bin(s) and for the bins to be manoeuvred for servicing; or c. if stored in an enclosed room (other than within a dwelling); are provided with natural or temperature controlled ventilation. *Note—Where 360L mobile garbage bins are utilised, the required minimum area is to be increased to 1.3m² (i.e. 1.14m x 1.14m).* *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.*	Complies
(7)	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.	Complies
(8)	For mobile garbage bins, if it is necessary to wheel them to a collection point from a bin storage area: a. the distance does not exceed 50m; b. the mobile garbage bin transfer path is free of steps or other obstructions and does not exceed a 1:14 grade.	Complies
(9)	Environmental best practices may also include the installation of a trapped waste connection to the sewer system.	Complies – Townhouses will have adequate bin wash facilities
Section 4.2 – On-site Collection (Bulk Bins) – This section applies to Residential services (N/A kerbside proposed)		
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.	Complies – Once per week proposed in alignment with residential
(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
(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
(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.	N/A – 240L and 360L proposed

	Note—Standard design arrangements, including gradients, are contained in the Transport, access, parking and servicing planning scheme policy.	
(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 – 240L and 360L 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.	Complies
(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.	N/A

1.4 Site Location

The Oxley PDA site is located at 53 Seventeen Mile Rocks Road with the subject site located at 10 Honey Eater Circuit, Oxley. The development is formally described as Lot 302 on plan SP326512, as depicted in Figure 1.1.

The site has a primary road frontage on Whipbird Place, which will be named Honeyeater Circuit once fully constructed. All vehicular access will occur via the constructed driveway adjoining Whipbird Place/Honeyeater Circuit.

Figure 1-1: Site Location
Source: Nearmap, Image Dated 03/06/2024

1.5 Development Summary

The proposed development intends to provide a residential townhouse community consisting of 34 individual dwellings, as well as a community facility with a commercial café. A residential amenity pool area is also incorporated into the development.

Note, as the site is designed at a master plan level only the GFA identified for the community facility is approximate only, to assist in adequate refuse storage planning, final GFA may differ.

Table 1-3 provides an overview of the waste generating areas of the development.

Table 1-3: Development Summary

Type	Description	Measure *
Residential	Townhouses	34 Dwellings
Commercial †	Clubhouse / Lounge	80m² GFA
	Café	35m² GFA
	Meeting Room	25m² GFA
Total		**140m² GFA Total**

* Areas including numbers relevant for refuse calculations only.

† Commercial GFA's have been rounded up to account for a worst-case scenario regarding waste generation.

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 for contractors.

2.1 Refuse Requirements

The section below details all refuse requirements for both the residential and commercial aspects of the development.

2.1.1 Residential Refuse Requirements (Townhouses)

Individual mobile garbage bins (MGBs) will be provided for each Townhouse (TH). Bins will be provided in line with council's standard waste collection. All TH's will be provided with 1 x 240L MGB for general waste, 1 x 240L bin for commingled recycling. A single 20L compost bin for food waste will also be included for each townhouse. 20L food waste bins will be managed by residents where required.

Opt-in green waste bins for garden organics can also be provided for residents at an additional waste charge. More information provided in section 3.1.

Table 2-1: Residential Refuse Requirements

Refuse Stream	Bin / Equipment - Type or Size	Bins Required	Collection Frequency
General Waste	240L*	1	Once per week
Commingled Recycling	240L*	1	Once per fortnight
Food Waste	20L	1	N/A

*Storage for 240L provided. As waste volumes may vary according to the development occupants' attitudes to waste disposal and recycling, bin sizes may need to be altered on a per dwelling basis to suit individual dwelling, or occupants needs.

2.1.2 Commercial Refuse Requirements (Community Facility)

Generation rates sourced from Brisbane City Council have been applied to the calculation of commercial refuse generated as demonstrated in Table 2-2.

Table 2-3 illustrates the calculations conducted to determine the bin requirements for all commercial facilities included in the development proposal. Bin requirements for the commercial facilities have been included in Table 2-4.

A collection frequency of once per week has been established for all refuse streams. It is assumed all commercial facilities will be open for use 7 days per week.

Table 2-2: Brisbane City Council Provided Generation Rates

Generation Rate	Applied To	Measure	General Waste	Combined Recycling
Food and Beverage – Under 150m²	*Café*	L / 100m² / Day	300	200
Office	*Meeting Room*	L / 100m² / Day	10	20
Community *(no kitchen)*	*Community/Lounge Areas*	L / 100m² / Day	10	20

Table 2-3: Commercial Refuse Calculations

Description	Quantity	Measure	General Waste L/Week	Commingle Recycling L/Week
Café	35	GFA (m²)	735	490
Meeting Room	25	GFA (m²)	18	35
Lounge	80	GFA (m²)	56	112
Total Weekly Volumes (L / Week)			**809**	**637**
Volumes per Day (L / Day)			**116**	**91**
Volumes per Collection (L / Collection)			**809**	**637**
Collection and Equipment Details		Collections per Week	**1**	**1**
		Storage Capacity	7 Days	7 Days
		Equipment Size	240	360
		Equipment Quantity Provided	3	2

Table 2-4: Commercial Refuse Requirements

Type	Refuse Stream	Bin / Equipment - Type or Size	Bins Required
Community Facility	General Waste	240L	3
	Commingled Recycling	360L	2

2.2 Refuse Storage

The refuse storage requirements for each component of the development are addressed below.

2.2.1 Residential Refuse Storage (Townhouses)

All refuse will be stored within stream separated Mobile Garage Bins (MGBs) located externally at grade of each dwelling site for everyday use. The residents of each townhouse will be required to store all bins within the townhouse site boundary and behind a partition to be obscured from public view. Side access for several townhouses has been maintained so that residents can efficiently transport MGB's to kerbside. Bins will be stored in the front yard of any townhouse where side access has not been maintained, adequately screened from public view. As per the Design Guidelines, this partition is generally constructed of aluminium.

The Community Manager will assist in the education of residents on the correct storage of bins as required. The refuse storage areas provided for each townhouse are sufficiently sized to accommodate all 2 x 240L refuse bins required.

Small quantities of food waste will be stored in individual 20L compositing bins in each townhouse, specific for personal use.

The pool building will be considered as a residential amenity facility for the purposes of the development. Residents will be responsible for the removal of any waste generated within the pool area and will be required to transfer waste into their own bins at their individual dwelling.

2.2.2 Commercial Refuse Storage (Community Facility)

Master plan drawings include an individual refuse storage room/enclosure to house all bins outlined in Table 2-4. Bins will be positioned throughout the community facility and will be transferred to the waste room for storage until collection. Figure 2-1 depicts the commercial refuse storage room found on the architectural plans.

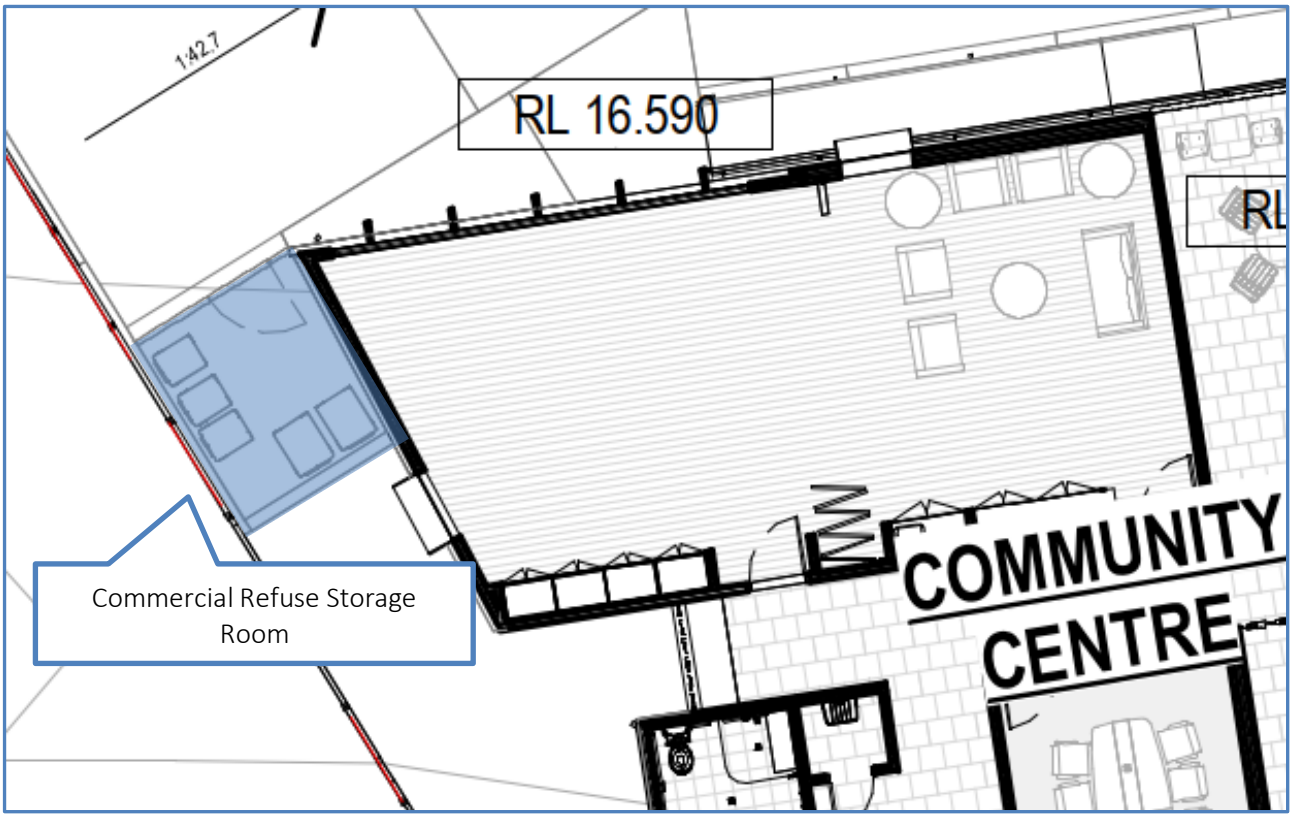

Figure 2-1: Commercial Refuse Storage
Source: Arqus Design, Oxley Residential Development, 54 Seventeen Mile Rocks Road, Site Plan – Communal Open Space, A1-1-01, Issue I, 29/02/2024.

2.2.3 Refuse Storage Design Criteria

The design of all storage points and enclosures within the development site will incorporate the following features in order to minimise odours, deter vermin, protect surrounding areas, and make it a user-friendly and safe area:

- Gates wide enough to allow for the easy removal of the largest container to be stored.
- Adequate artificial lighting.
- Not located adjacent to or within any habitable portion of a building or place 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 screened on all sides 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 as far away as practical from entrances to adjoining residential premises.
- A hose cock readily accessible for the cleaning of bins.
- Adjoins a grassed or permeable surface for the cleaning of bins.
- The surrounding surfaces are to be designed and constructed of impervious material with a smooth finish to allow for easy cleaning.
- Is designed to minimise their visual impact on the surrounding areas.
- Is naturally ventilated.

2.3 Refuse Transfer

The refuse transfer arrangement is consistent for both residential and commercial aspects of the development. Kerbside servicing of 240L and 360L bins is proposed and outlined below.

2.3.1 Residential Refuse Transfer (Townhouses)

The collecting contractor will collect all correctly presented MGB's directly from the designated collection point on the kerbside for each townhouse. No transfer is required by the collecting contractor to service bins under the proposed kerbside arrangement.

The refuse transfer arrangement for each townhouse is consistent with typical free-standing residential developments. The residents of each dwelling will be responsible for the transfer of bins from the dwelling's refuse storage area to the kerbside prior to the scheduled service. After service, residents will be responsible for returning bins to the storage point of each dwelling for cleaning as required and everyday use.

The Community Manager will be responsible for educating and assisting residents with the correct presentation of bins on the kerbside to ensure bins are presented with adequate spacing between bins and obstructions. The collecting contractor will collect bins directly from the kerbside, no transfer is required by the collecting contractor.

Townhouses on stub roads, that are inaccessible by contractor (i.e. 4B, 5B, 6C, 18D and 19D) will be required to transfer bins to a constructed bin pad. It will be up to community management to educate residents and ensure transferral duties are adequately maintained. Bin pads and transfer pathways are depicted in Figure 2-2 and 2-3. Residents that are required to cross the internal roadway should transfer bins during low-traffic periods to ensure their own safety. Additionally, traffic calming devices are included in the form of speed bumps and a lowered speed-limit to further ensure the safety of all pedestrians crossing the street.

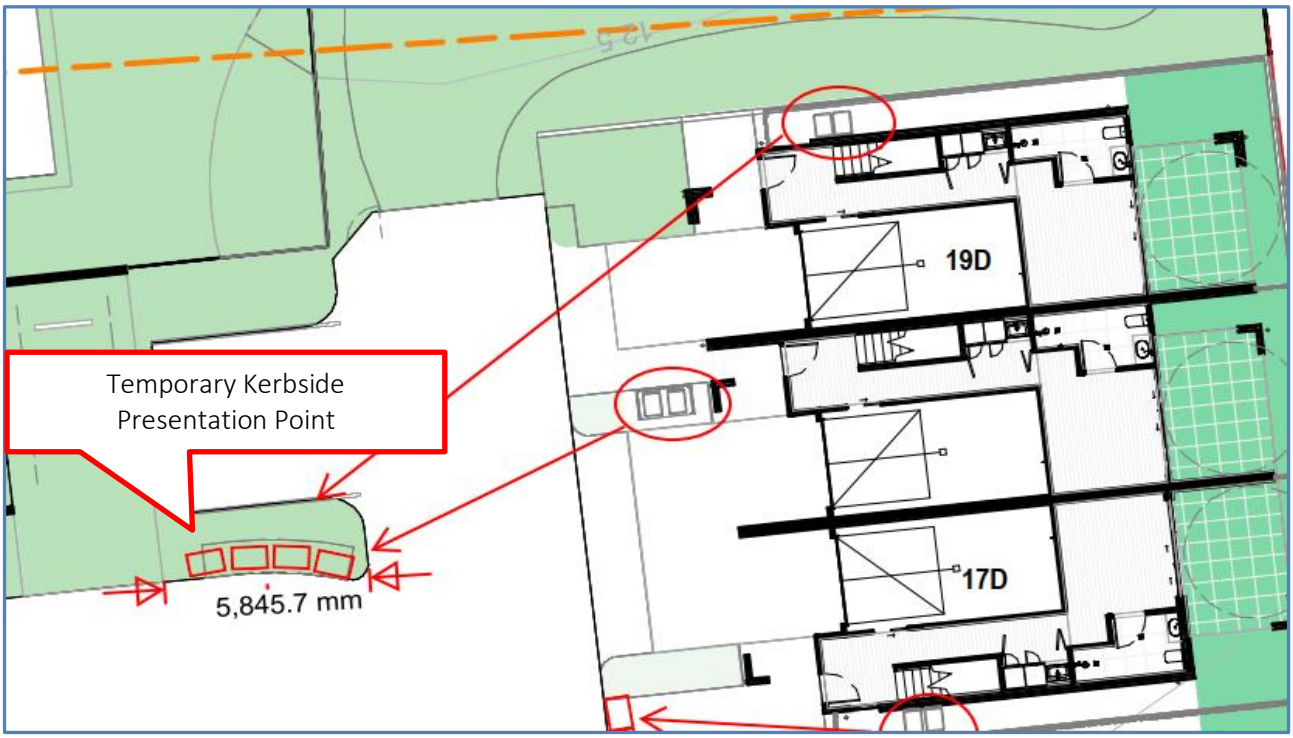

Figure 2-2: Kerbside Transfer – TH 18D and 19D
Source: TTM Markup

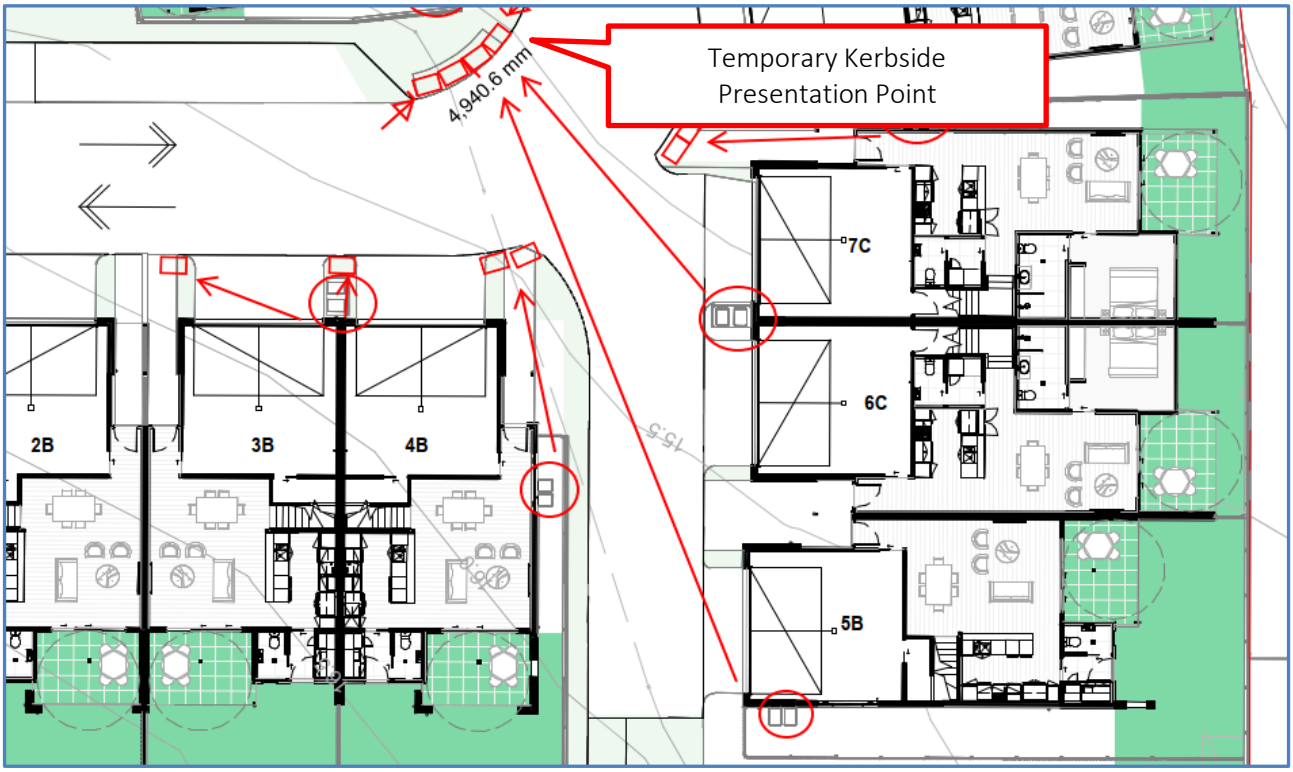

Figure 2-3: Kerbside Transfer – TH 4B, 5B and 6C
Source: TTM Markup

The refuse transfer path has been designed to allow for:

Refuse Transfer Design Criteria
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.

2.3.2 Commercial Refuse Transfer (Community Facility)

As required, the cafe tenancy staff will transfer all MGBs from within the refuse disposal / temporary storage room to the kerbside for collection. Figure 2-4 illustrates the indicative transfer path for servicing.

All refuse will be transferred and decanted via manual transfer methods for final disposal.

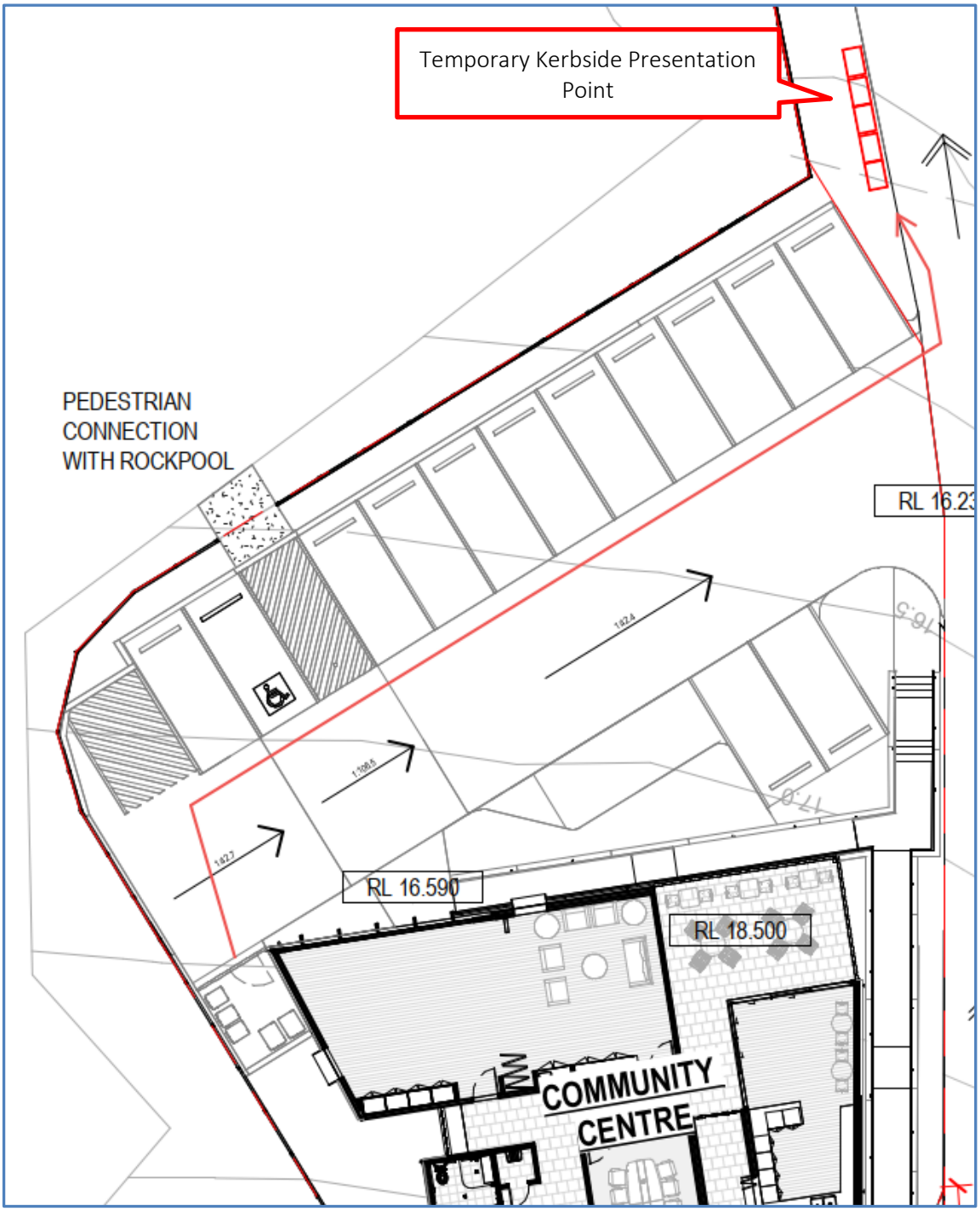

Figure 2-4: Kerbside Transfer – Clubhouse
Source: TTM Markup

2.3.3 Kerbside Presentation Points

Figure 2-5 illustrates the indicative kerbside presentation points of each townhouse throughout the entire development. A minimum frontage of 0.9m per bin has been maintained to allow for efficient kerbside servicing with a side-loading mechanism.

A copy of the drawings is available in appendix A.

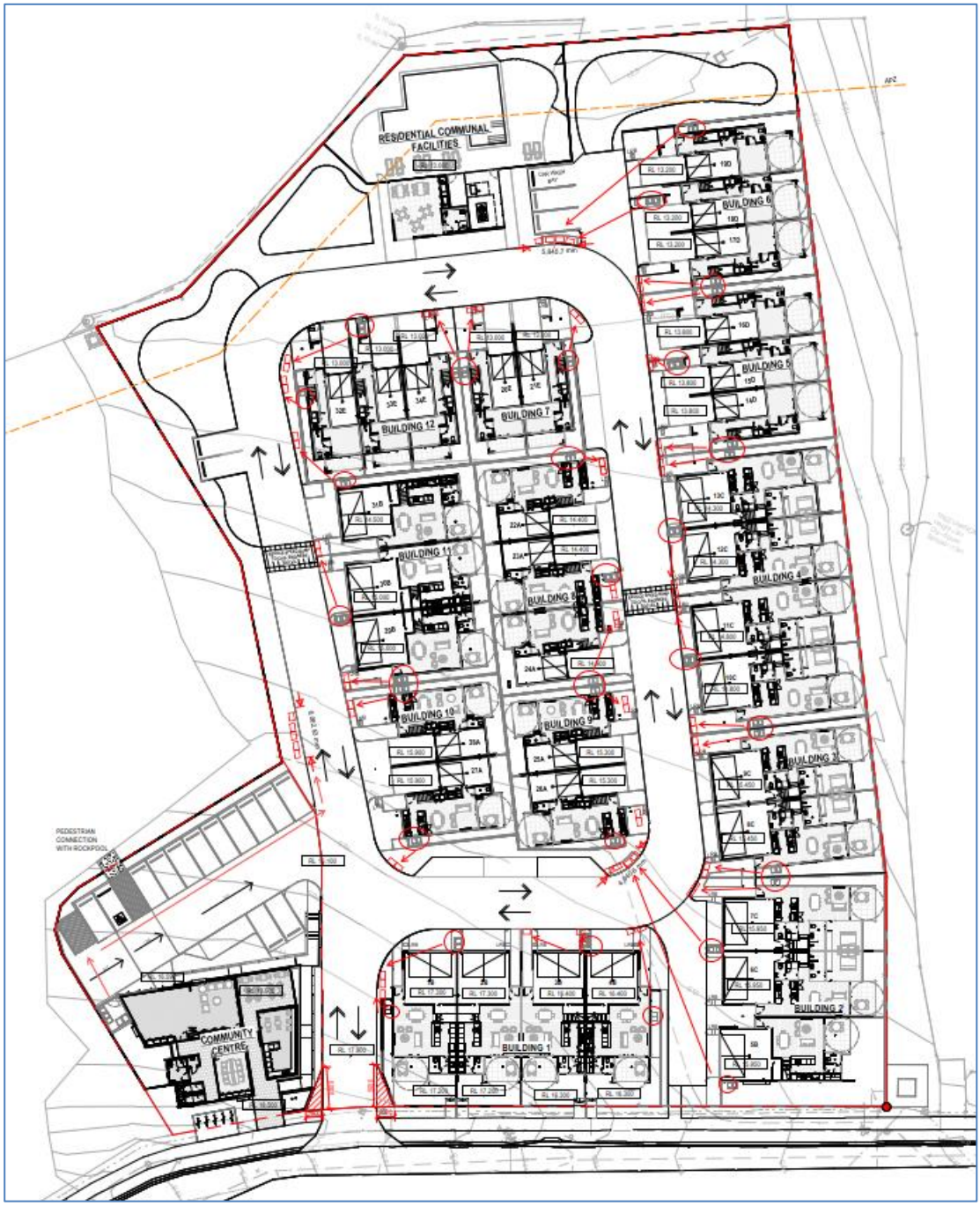

Figure 2-5: Kerbside Presentation Locations – Site Wide
Source: TTM Markup

2.4 RCV Arrangements

All MGB's, including the townhouses and Community Facility will be collected by a councils appointed collections contractor. Side Loading RCV's circulate the development's internal road network in a forward gear, performing a reverse turn manoeuvre within the intersection to circulate the development in the opposite direction, allowing for the servicing of both sides of the road. Minimal reversing is required.

RCV's will collect all bins correctly presented to the kerbside in front of each dwelling or within the designated presentation points.

Figure 2-5 depicts swept paths for site access and circulation via council's sideloading RCV.

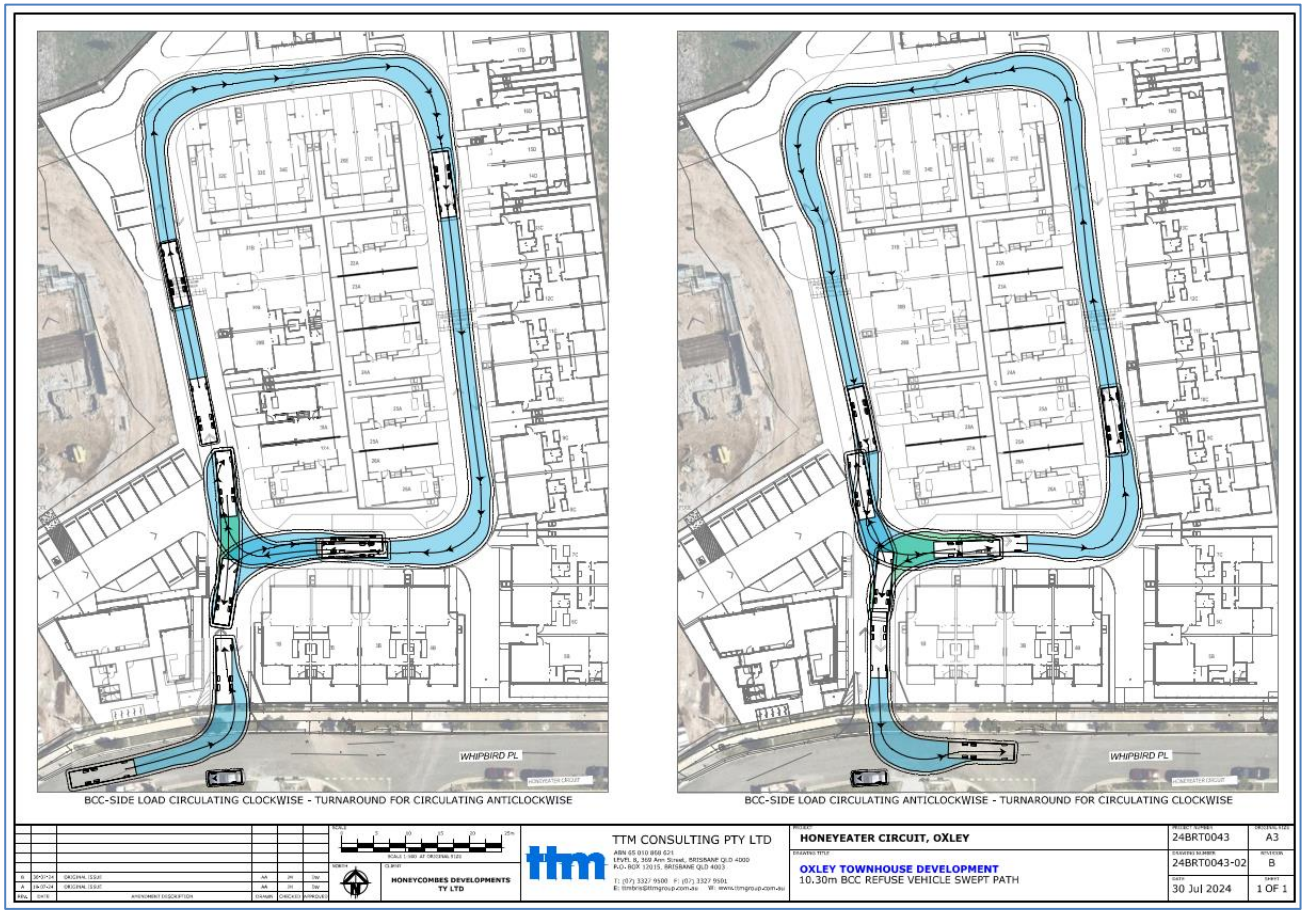

Figure 2-6: RCV Service Path
Source: TTM

3 Recommended Operational Requirements

3.1 Refuse Disposal

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 and require capacity for storage prior to collections. Section 3.1.2 describes the infrequently generated refuse streams that are generated in relatively low volumes, and where minimal provision for storage can be easily managed by collection frequency.

3.1.1 Frequently Generated Refuse

Occupants will provision bins of a sufficient quantity for each residential dwelling to store at least one days' worth of generated refuse within the dwelling. Each day or as required, all refuse will be transferred by residents to the MGB's provided for that dwelling. Further details are provided in Table 3.1.

Table 3-1: Disposal of Frequently Generated Waste

Refuse Stream	Disposal Details
WASTE	
General Waste	Townhouses Waste bins should always be lined with bags and the bags tied before removal. Operationally, general waste should weigh approximately 3 kg or less to reduce manual handling load when transferring refuse for disposal. Residents will have receptacles within their individual dwelling for collection and storage of at least one day of general waste. Bins are typically placed under the kitchen sink and accompanied by a commingled recycling bin in order to facilitate separation of general waste and recycling. Community Facility The Community Facility will contain various communal receptacles for residents and visitors to decant all general waste into. These bins will be housed in the refuse disposal room and subsequently collected by building management and decanted in the MGB's located within the clubhouse enclosure as required.
Organic (Food) Waste	Keeping in line with the Enviro-development Technical Standards included in the Songbird Masterplan, organic food waste will be managed via individual composting bins in each townhouse, usually located in back yard gardens or underneath kitchen sinks. *See appendix B for more information.*
Organic (Garden) Waste	Garden waste produced by the extensive landscaped areas throughout the development will be removed by the designated landscape maintenance contractor. The contractor will be required to transport all vegetive waste to a local organic recycling processor immediately. Communal garden waste storage will be left up to the discretion of the community manager. The Body Corporate may consider arrangements where the landscape maintenance contractor removes, and transports garden organics waste generated by residents to organics recycling processor as part of commercial arrangement. BCC also offer an opt-in Green Waste recycling collection service at an additional waste charge for residents.

RECYCLING	
Comingled, including. • glass • aluminium • steel cans • tins • cardboard • semi rigid plastics	Items for recycling must not be bagged and disposed in loose form. This can be done by decanting the materials from the individual receptacles into the MGB. Residents will be responsible for organising disposal of bulky recyclables too large for MGB disposal. Residents will have receptacles within their individual dwelling for collection and storage of at least one day of recycling. Recycling bins are typically placed under the kitchen sink next to the general waste bin. Recycling bins will usually be used for all recycling materials (commingled recycling). However, residents are encouraged to make use of the container refund scheme and separate eligible containers from the commingled recycling material. **Community Facility** The community facility will contain communal receptacles that will be transferred to the refuse storage room at the end of each day. Building management should encourage residents to take advantage of container deposit / refund schemes as well.
	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 3-2: Disposal of Infrequently Generated Waste

Refuse Stream	Disposal Details
Hard Waste / Bulky Goods	BCC offers a 'kerbside large collection item' service for bulky items and hard waste unsuitable for 240L MGB's. This collection service is carried out to each suburb in Brisbane on a specific week of the year. The collection service for the suburb of Oxley commences the week on the 19th of August 2024. For more information, go to https://www.brisbane.qld.gov.au/clean-and-green/rubbish-tips-and-bins/rubbish-collections/kerbside-large-item-collection-service to further coordinate bulk collections for each year.
Green Waste	BCC offer an 'opt-in' green waste service at an additional waste charge for residents. Bulk garden waste can be broken down by hand and disposed of into individual garden waste bins. Green waste will be produced from surrounding landscaped areas or potted plants on an ad-hoc and largely weather dependent basis. Green waste too large or bulky for 240L MGB's will be removed by the Community Manager / Caretaker or designated landscape maintenance contractor when generated, the provision of interim storage will be up to the discretion of the community manager. The engaged contractor will be required to send this material to a composting or resource recovery facility rather than to a landfill.
Hazardous Waste (paints, batteries and cartridges) **Electronic Waste**	Where applicable, occupants usually make their own arrangements for the disposal of specialised or hazardous waste and electronic waste such as recycling of toner cartridges and batteries. Please refer to Council and QLD government websites for disposal options. It is an expectation that the Community Manager assist with disposal of 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 provided 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 Community Manager or caretaker. The following lists (Table 3-3 to Table 3-9) are designed to help managing responsibilities and monitor the refuse operations in order to maintain efficient services and a safe environment.

Table 3-3: General Refuse Management Checklist

Objectives	Checked	Remarks
Consider temporary additional bulk bins or collections to cater for additional waste generated during initial tenant move in.		May also be required for high resident turnover events.
Organising of weekly pick-ups for all refuse streams.		Liaise with Council and private contractors as required.
Monitor bin transfers between refuse storage / collection areas if required.		
Monitor bin presentation of residents to ensure compliance with council requirements.		

3.2.1 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 3-4: 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 3-5: Signage Checklist

Objectives	Checked	Remarks
Ensuring compliance of signage with government local council regulations.		Use signage provided by collections contractor if available
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 visitors, staff, and contractors.

Table 3-6: Cleaning and Maintenance Checklist

Objectives	Checked	Remarks
General cleaning of all refuse holding and transfer areas including • Refuse bins and storage areas, • Refuse transfer areas including paths and driveways, • Any other refuse management equipment.		Frequency depends on refuse generation and building operation.
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 the Community Manager is actively involved in encouraging and assisting residents 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 requires regular reviewing to ensure operational sustainability of refuse volumes, equipment, and economic feasibility.

Table 3-7: Refuse Minimisation Checklist

Objectives	Checked	Remarks
Encourage regular review of grocery quantities to avoid over-ordering and food waste.		
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. Community Manager should be involved in the education of residents and encouraging participation in recycling activities. All leasing contracts should contain clauses pertaining to waste management arrangements and use of any associated equipment.

Table 3-8: 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 Community Manager.

Table 3-9: 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 Site Plans and Drawings

1 SITE PLAN- GFA GROUND FLOOR
1 : 250

NOTES:
REFER REFERENCED DRAWINGS BELOW FOR THE RELEVANT CONSULTANT INFORMATION FOR CIVIL INFRASTRUCTURE, LOT BOUNDARIES, LANDSCAPE DETAILS, LEVELS AND FALLS.
VERIFY ALL REFERENCED INFORMATION ON THIS PLAN WITH THE RELEVANT CONSULTANT DRAWINGS AND NOTIFY OF NEW INFORMATION MADE AVAILABLE OR OF ANY DISCREPANCIES.

REFERENCED DRAWINGS:

LANDPARTNERS- BUILT ENVIRONMENT CONSULTANTS
DETAIL SURVEY
PLAN REFERENCE BRSS8271-000-3-1

RPS GROUP
OXLEY LANDSCAPE BASE- SKETCH
PLAN REFERENCE 004868

ABBREVIATIONS

CODE	DESCRIPTION
LRB	LETTER BOX

Arqus DESIGN

Integrated perspective

Arqus Design Pty Ltd
ABN 68 135 616 303

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www.arqusdesign.com.au

Phone 07 3358 0888
Fax 07 3358 0899

Arqus Design acknowledges the Traditional Owners of Country on which we live, work and design and pay our respects to their Elders, past and present.

NOTES

DATE	REVISION	ISSUE
29/05/24	FOR INFORMATION	A
30/05/24	FOR INFORMATION	B
04/07/24	FOR INFORMATION	C
18/07/24	SITE PLAN- UPDATE	D
19/07/24	PRELIMINARY DA PACKAGE	E
23/07/24	PRELIMINARY DA PACKAGE-UPDATED	F
31/07/24	SITE PLAN-UPDATE	G
20/08/24	SITE PLAN- UPDATE	H
21/08/24	PRELIMINARY DA PACKAGE	I

CLIENT

HONEYCOMBES PROPERTY GROUP

PROJECT

OXLEY RESIDENTIAL DEVELOPMENT

10 HONEYEATER CIRCUIT, OXLEY
LOT 302 ON SP326512

Country: Yugara & Yugarabul

DRAWING

SITE PLAN -GROUND FLOOR

JOB NUMBER	DESIGN	DRAWN	CHECKED
23-0069	SP	ZC	SP

SCALE	DATE CREATED	NORTH
1 : 250 @A1 @A3	29/02/24	

DRAWING NUMBER	ISSUE
A1-1-01	**I**

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PRELIMINARY

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1 SITE PLAN- GFA GROUND FLOOR
1 : 250

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REFER REFERENCED DRAWINGS BELOW FOR THE RELEVANT CONSULTANT INFORMATION FOR CIVIL INFRASTRUCTURE, LOT BOUNDARIES, LANDSCAPE DETAILS, LEVELS AND FALLS.
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Fax 07 3358 0899

Arqus Design acknowledges the Traditional Owners of Country on which we live, work and design and pay our respects to their Elders, past and present.

NOTES

Contractors are to verify all dimensions on site before commencing any work or producing shop drawings.

Detail applicable to the scale of the drawing published.

DATE	REVISION	ISSUE
29/05/24	FOR INFORMATION	A
30/05/24	FOR INFORMATION	B
04/07/24	FOR INFORMATION	C
18/07/24	SITE PLAN- UPDATE	D
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20/08/24	SITE PLAN- UPDATE	H
21/08/24	PRELIMINARY DA PACKAGE	I

CLIENT

HONEYCOMBES PROPERTY GROUP

PROJECT

OXLEY RESIDENTIAL DEVELOPMENT

10 HONEYEATER CIRCUIT, OXLEY
LOT 302 ON SP326512

Country: Yugara & Yugarabul

DRAWING

SITE PLAN -GROUND FLOOR

JOB NUMBER	DESIGN	DRAWN	CHECKED
23-0069	SP	ZC	SP

SCALE	DATE CREATED	NORTH
1 : 250 @A1 @A3	29/02/24	

DRAWING NUMBER **A1-1-01** ISSUE **I**

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PRELIMINARY

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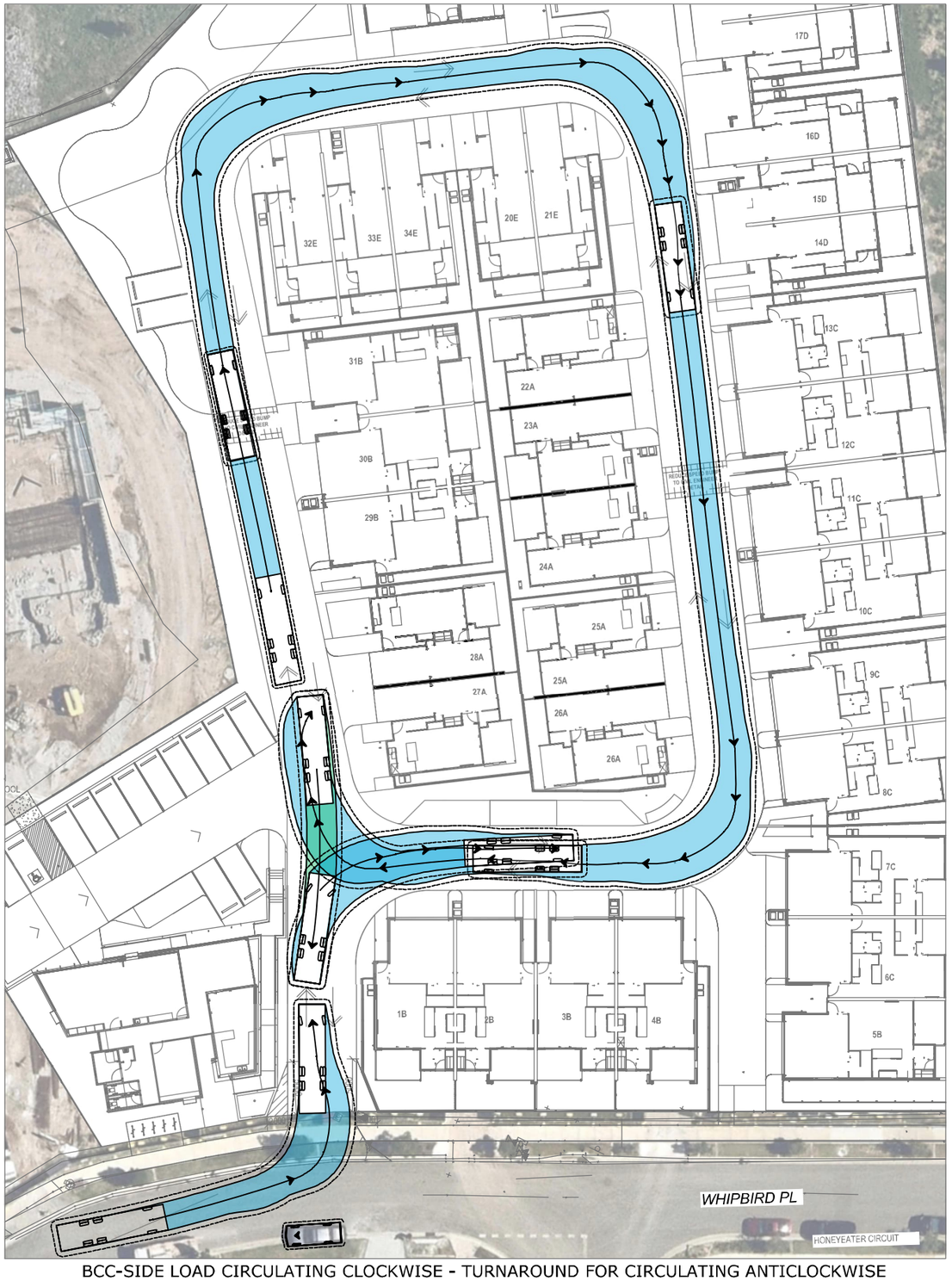
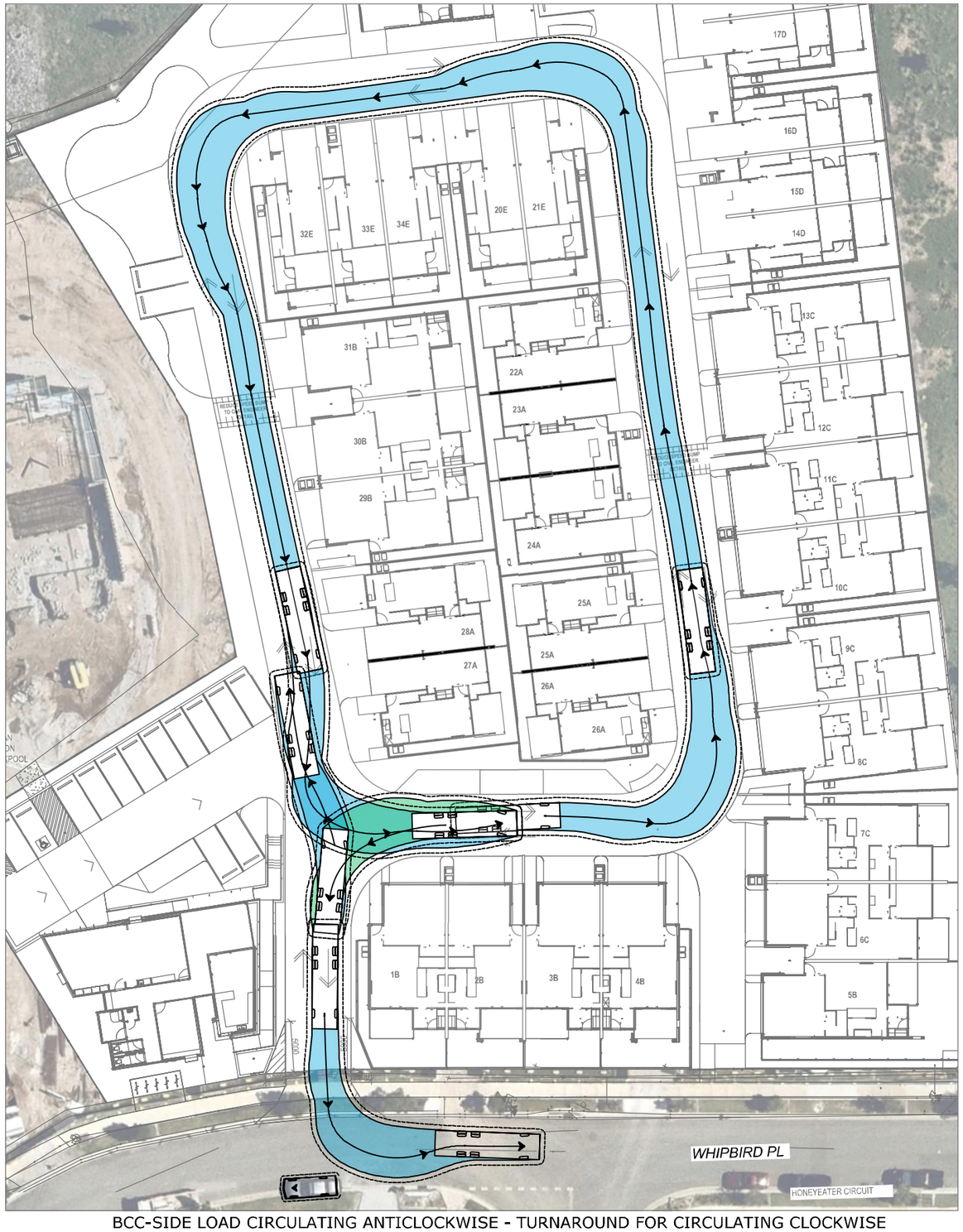


BCC-SIDE LOAD CIRCULATING CLOCKWISE - TURNAROUND FOR CIRCULATING ANTICLOCKWISE



BCC-SIDE LOAD CIRCULATING ANTICLOCKWISE - TURNAROUND FOR CIRCULATING CLOCKWISE

REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED
B	30-07-24	ORIGINAL ISSUE	AA	JH	DW
A	19-07-24	ORIGINAL ISSUE	AA	JH	DW

SCALE 0 5 10 15 20 25m
SCALE 1:500 AT ORIGINAL SIZE

NORTH

CLIENT
HONEYCOMBES DEVELOPMENTS TY LTD

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E: ttmbris@ttmgroup.com.au W: www.ttmgroup.com.au

PROJECT
HONEYEATER CIRCUIT, OXLEY

DRAWING TITLE
OXLEY TOWNHOUSE DEVELOPMENT
10.30m BCC REFUSE VEHICLE SWEPT PATH

PROJECT NUMBER	24BRT0043
ORIGINAL SIZE	A3
DRAWING NUMBER	24BRT0043-02
REVISION	B
DATE	30 Jul 2024
SHEET	1 OF 1

Appendix B Systems and Specifications

B.1 Project Specified Refuse Equipment

Equipment	Waste Streams	Examples	Information
Residential dwelling bins	General waste and recycling	 	Various options and sizes. Built and standalone bin available. Examples: https://www.bunnings.com.au
Communal Area Bins (internal only)	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
240L bins	All Streams		Dimensions approx. 740 x 580 x 1080mm (L x W x H) (dimensions may depend on contractor) Examples: http://www.justwheeliebins.com.au, http://wheeliebinsonline.com.au
360L bins	Comingled recycling		Dimensions approx. 680 x 1100 x 848 (L x W x H) Example: https://sulo.com.au/product/360-litre-container/

Equipment	Waste Streams	Examples	Information
Countertop Battery Recycling	Batteries	 	Prepaid battery collection Example: https://envirostream.com.au/product/prepaid-countertop-battery-recycling-box/ https://www.ecoactiv.com.au/product/4l-battery-recycling-prepaid-service/
Portable Cooking Oil Storage	Used Cooking Oil – Café (If required)	 	Cooking oil recycling Example: https://www.cookers.com.au Cooking oil delivery, used oil collection and provision of required equipment
20L compostable food-waste bins	Food Waste		20L compostable bins to be included in each townhouse. Can be stored underneath kitchen sink or backyard where required. Example: https://bokashi.com.au/collections/kitchen-composting

Appendix C Refuse Signage

C.1 Refuse Signage

All refuse related 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.

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*

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.