Operational Waste Management Plan

Proposed Private Healthcare Development

At 15 Nexus Way, Southport

On Behalf of Northwest Healthcare Properties REIT

About TTM

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Revision Record

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Executive Summary

This document is an Operational Waste Management Plan (OWMP) developed for a proposed private healthcare development to be located at 15 Nexus Way, Southport.

The purpose of the OWMP is to provide compliance and design information relating to the handling, storage, and collection of refuse within the proposed development. Compliance relates to alignment with the relevant sections of City of Gold Coast's City Plan Policy - Solid Waste Management Code and also meets Green Star rating credit criteria 8A and 8B. The content of the OWMP is written with the purpose of providing a guide for the design, construction and operational phases of the development and therefore may be updated to include detailed information as required for each phase.

A summary of the proposed development and waste management processes are outlined below:

- Proposed equipment:

Commercial	Bin Requirements	Services Per Week
General Waste	3 x 1100L bins	3 Services per week
Food Organics	2 x 240L bins	3 Services per week
Commingled Recycling	2 x 1100L bins	3 Services per week
Cardboard Recycling	3 x 1100L bins	3 Services per week
Medical / Clinical	7 x 240L bins (1 per level) + additional bins if required	Ad-Hoc

- Refuse collection:
  - Refuse will be collected by private contractor.
  - Refuse collection is based on a maximum of 3 days of storage between collections for all refuse streams which equates to 3 services per week.
  - Refuse collections will occur at the loading bay adjacent to the refuse room located on ground level.
  - Refuse collection vehicles will enter the precinct via the driveway located on Hill Street.
  - Medical / Clinical waste will be completed as a bin to truck service, where the contractor replaces the full bin within the tenancy with and empty one. Space has been allocated in the refuse room to store these bins if required

- Refuse storage:
  - All refuse will be stored in bulk bins located in the refuse room on ground level.

- Refuse transfer:
  - The loading bay located adjacent to the refuse room allows the contractor to access the bulk bins without relying on the transfer by building management staff / cleaners.
  - Bins will be collected directly from the refuse room and returned once served.

- Refuse disposal:
  - All commercial tenancies will be equipped with back-of-house bins (usually small caddy bins) for immediate disposal of refuse. During the day or as required staff or cleaners will transfer the refuse material to the refuse room for disposal into the appropriate bins or equipment.
  - Clinical waste bins will be available on each required level or tenancy for immediate disposal.

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1 Introduction

1.1. Background

TTM Consulting has been engaged by Northwest Healthcare Properties REIT to prepare an OWMP to support the proposed commercial development located at 15 Nexus Way, Southport. It is understood that a development application will be lodged with the City of Gold Coast Council (CoGC).

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.

The items covered within the OWMP are described in Table 1.1. The key information for City of Gold Coast approval can be found in Section 2.

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

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

The provisions outlined in this OWMP are considered appropriate for this type of development. It is noted that the refuse rooms are suitably sized to accommodate the refuse generated and number of bins proposed based on standard and storage collection methods. The refuse rooms will also accommodate all options for alternate equipment and disposal methods.

1.3. Regulatory Considerations

1.3.1. Council's Refuse Planning Scheme

The plan satisfies GCC'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 this development is a non-residential use site, TTM has referred to GCC requirements as outlined in the City of Gold Coast – Solid Waste Management Code.

Table 1.2: OWMP Compliance Checklist

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome?
Waste and recycling storage and bin wash-down facilities		
PO1 Development provides waste and recycling storage and servicing facilities that are safe, convenient, efficient, appropriately sized for the type and volume of waste generated.	**AO1.1** Development includes waste storage points of sufficient size to accommodate the required number of waste and recyclable bins consistent with **SC6.15 City Plan policy –Solid waste management.**	**Complies with AO1.1 and PO1** Ground level bin storage and servicing point is provided for storage of all refuse bins and is appropriately sized in accordance with **SC6.15 City Plan policy – Solid waste management.**
	AO1.2 Waste and recycling storage points are located, designed and sized consistent with **SC6.15 City Plan policy – Solid waste management.**	**Complies with AO1.2 and PO1** The bin storage room and bin servicing point have been designed in accordance with SC6.15 City Plan policy – Solid waste management.
	AO1.3 Development with a dwelling above the third story include appropriate waste removal systems which incorporate: waste chutes; hoppers; and separate waste storage rooms. Note: Waste removal system design is to be consistent with SC6.15 City Plan policy – Solid waste management.	**Complies with AO1.3 and PO1** Development includes chutes, hoppers and waste storage rooms. All areas will be designed in accordance with SC6.15 City Plan policy – Solid waste management.
	AO1.4 Development that includes a commercial kitchen or generates clinical or related waste incorporate additional waste facilities consistent with **SC6.15 City Plan policy – Solid waste management.**	**Complies with AO1.4** Bin room accommodates food organics. Clinical waste to be serviced in bin-to-truck arrangement.
PO2 Development provides a bin wash-down facility that maintains	**AO2** Development includes appropriately sized and located bin wash-down facilities	**Complies with AO2 and PO2** Bin wash-down facilities will be provided in the bin storage room and will be designed

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome?
appropriate environmental health and amenity standards.	consistent with **SC6.13 City Plan policy – Solid waste management.**	in accordance with SC6.15 City Plan policy – Solid waste management.
Amenity		
PO3 Waste and recycling storage and servicing points are appropriately located and designed for convenient and safe access by all users and to minimise the potential for nuisance to occupants of the development or adjoining properties.	**AO3.1** Direct unobstructed paths exist between waste and recycling storage and servicing points and road frontages.	**Complies with AO3.1 and PO3** All disposal and transfer paths between the disposal points, bin storage room and servicing area are direct and provided without obstructions, using goods lift provided.
	AO3.2 Waste and recycle storage points are screened by solid fencing or vegetation to ensure they are not visible from a public place or sensitive land use.	**Complies with AO3.2 and PO3** All waste areas will be enclosed and screened to ensure it are not visible from public areas.
Waste servicing		
PO4 Waste and recycling servicing points are appropriately located and designed to facilitate safe, unobstructed and efficient servicing of waste containers.	**AO4** Waste and recycling servicing points are located, designed and sufficiently sized consistent with **SC6.15 City Plan policy – Solid waste management.** Note: Regulation of the access, stopping and maneuvering of refuse collection vehicles are subject to meeting, Part 9.4.13 Transport code and associated City Plan guidelines.	**Complies with AO4 and PO4** 1. The bin storage room and bin servicing point have been designed to accommodate the required number of bins. 2. The servicing area is located directly to the bin collection room to facilitate unobstructed and efficient servicing.
Non-serviced areas		
PO5 Developments in non-serviced areas have appropriate solid waste management measures to adequately service the development. Note: For Commercial developments a WMP, prepared in accordance with SC6.15 City Plan policy – Solid waste management, is Council's preferred method of addressing the above outcome.	**AO5** No acceptable outcome provided.	**Complies with AO5 and PO5** The OWMP has been prepared in accordance with SC6.15 City Plan policy – Solid waste management.
Green Star Rating – Credit Criteria 8		
8A – Performance Pathway: Specialist Plan	1 Point is available where a waste professional prepares and implements an Operational Waste Management Plan (OWMP) for the project in accordance with best practice approaches and this is reflected in the buildings design	**Complies** OWMP details of practices provided within.
8B – Prescriptive Pathway: Facilities	1 Point is available where facilities are in a place to collect and separate distinct waste streams, and where these facilities meet best practice access requirements for collection by the relevant waste collector.	**Complies** Separation of waste streams and designated storage facility provided.

1.4. Site Location

The site is located at 15 Nexus Way, Southport, as shown in Figure 1.1. The site is located on the northern side of Hill Street. All vehicular access will be from Hill Street.

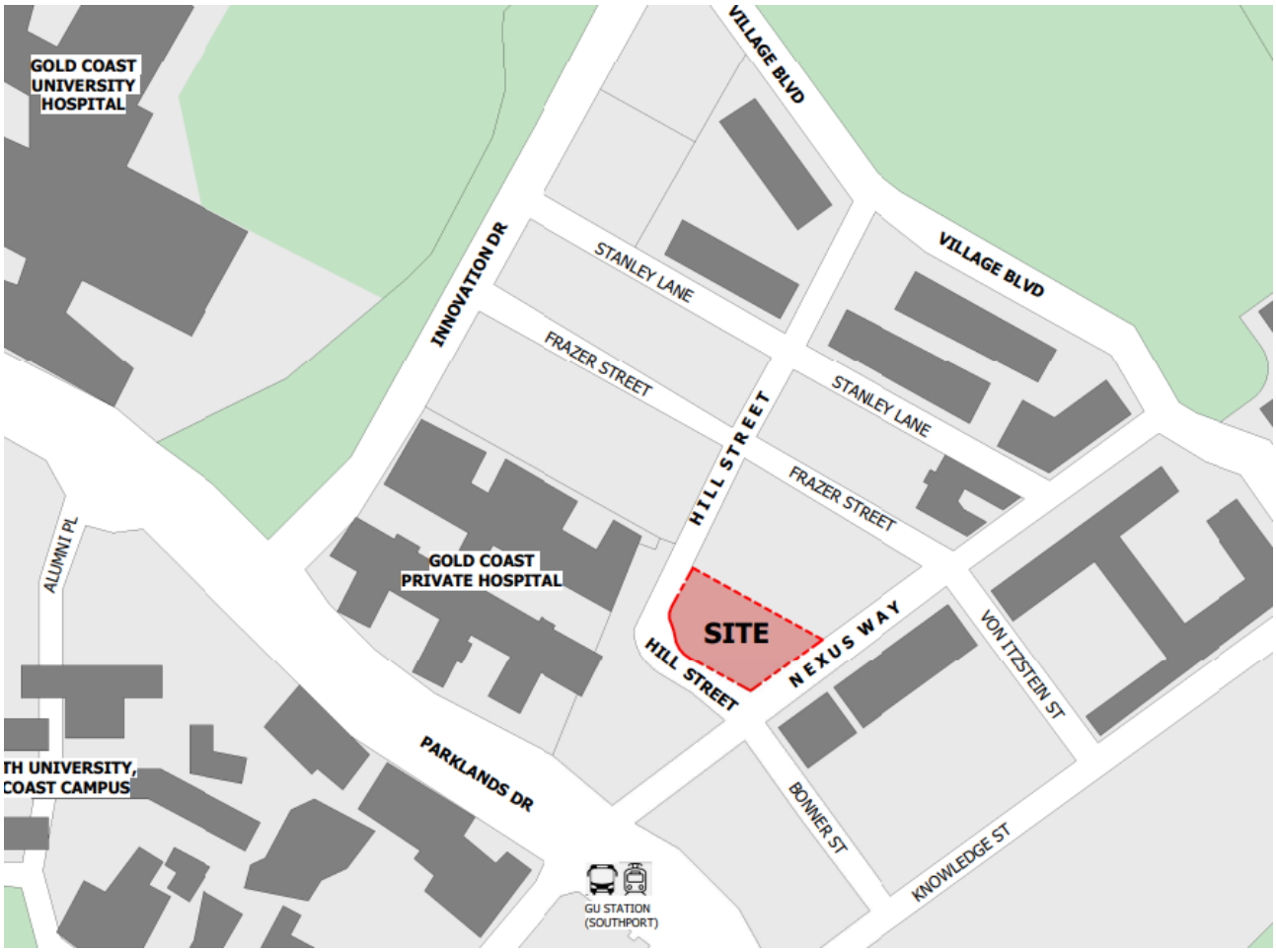


Figure 1.1: Site Location
(Source: DWP, Site Context, Date: 27/06/2022)

1.5. Development Summary

The proposed development is a 7-level building comprising of consulting and clinical facilities.

Table 1.3 provides a summary of the development in relation to refuse generating areas for use with the refuse calculations provided in Section 2.1.

Table 1.3: Development Summary

Level	Description	Measure *
Ground	Imaging	803m^2 GFA
	Pathology	93m^2 GFA
	Cafe	113m^2 GFA
Level 1	Research	897m^2 GFA
	Consulting	494m^2 GFA
Level 2	Consulting	1469m^2 GFA
Level 3	Consulting	1544m^2 GFA
Level 4	Consulting	1768m^2 GFA
Level 5	Consulting	1448m^2 GFA
Level 6	Clinical Trials	1547m^2 GFA
Level 7	Labs	1118m^2 GFA
Level 8	Office Space / Garden / Event	254m^2 GFA
Total GFA of Relevant Areas		11,547m^2 GFA

* Areas relevant for refuse calculations only.

2 Refuse Management

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

2.1. Refuse Calculations

The generation rates used for the calculation of commercial refuse produced have been applied based on rates recommended by City of Gold Coast to achieve compliance.
Office rates have been used to account for refuse generated via the consulting areas.
Event rates have been used to account for the refuse generated from the roof area as a worst case.

Table 2.1: Refuse Generation Rates

Type	Measure	General Waste	Food Organics	Combined Recycling	Days of Operation
Commercial Office	L / 100m^2 / Day	10	N/A	20	5
Cafe	L / 100m^2 / Day	180	120	200	5
Event Facilities	L / 100m^2 / Day	30	20	50	5

Table 2.2: Refuse Calculations

Level	Description	Area	Measure	General Waste L/Week	Food Organics L/Week	Comingle Recycling L/Week	Cardboard L/Week
Ground	Imaging	803	GFA (m^2)	402	N/A	321	482
	Pathology	93	GFA (m^2)	46	N/A	37	56
	Café	113	GFA (m^2)	1,017	678	452	678
Level 1	Breast Clinic	897	GFA (m^2)	449	N/A	359	538
	Consulting	494	GFA (m^2)	247	N/A	198	296
Level 2	Research	1469	GFA (m^2)	734	N/A	587	881
Level 3	Research	1544	GFA (m^2)	772	N/A	618	926
Level 4	Consulting	1768	GFA (m^2)	884	N/A	707	1,061
Level 5	Consulting	1448	GFA (m^2)	724	N/A	579	869
Level 6	trials	1547	GFA (m^2)	773	N/A	619	928
Level 7	Labs	1118	GFA (m^2)	559	N/A	447	671
Level 8	Office / Garden	254	GFA (m^2)	381	254	254	381
Total Weekly Volumes (L / Week)				**6,988**	**932**	**5,178**	**7,767**
Volumes per Day (L / Day)				**998**	**133**	**740**	**1,110**
Volumes per Collection (L / Collection)				**2,995**	**399**	**2,219**	**3,329**
Collection and Equipment Details	Collections per Week			3	3	3	3
	Storage Capacity			3 Days	3 Days	3 Days	3 Days
	Equipment Size			1100L	240L	1100L	1100L
	Equipment Quantity Required			3	2	2	3

A collection frequency of 3 days per week or 6 days per fortnights has been established as a base line to be compliant with City of Gold Coast – Solid Waste Management Code.

2.2. Refuse Bins and Equipment Requirements

Table 2.5 and Table 2.6 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 2.3: Bin Requirements

Component	Refuse Stream	Bin / Equipment - Type or Size	Bins Required
Commercial	General Waste	1100L	3
	Food Organics	240L	2
	Commingled Recycling	1100L	2
	Cardboard	1100L	3
	Medical / Clinical	240L	7 (1 per level or tenancy as required)

Table 2.4: Additional Equipment

Component	Description	Quantity	Notes
Commercial	Refuse / Cleaner Trolleys	TBD	See Appendix B.2 and B.3.

2.3. Refuse Room Requirements

All refuse will be stored within the refuse room located on the ground level for everyday use. Bins will be collected directly from the refuse room.

The refuse room is sufficiently sized to accommodate all of the bins and equipment required as provided in Table 2.3 and 2.4.

Figure 2.1 below shows a potential configuration for the refuse room. The configuration and size of the refuse room is provided to ensure the majority of bins are accessible or easily rotated.

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

- Doors 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 enclosed on all sides except for the gated entrance to ensure bins are not visible from a public place, neighbouring properties, passing vehicles or pedestrian traffic external to this site.
- Is of sufficient size to accommodate the bins with sufficient clearance around the combined bin area.
- Is positioned away from entrances to shops or residential premises.
- The height of the bin storage area allows for waste bins to be open and closed.
- The floors to be graded to fall to a drainage point.
- Drainage points connected to sewer in accordance with trade waste requirements.
- A hose cock provided inside the room for cleaning bins and the rooms.
- The walls, ceilings, floors, and equipment are to be designed and constructed of impervious material with a smooth finish to allow for easy cleaning.
- Is designed to minimise their visual impact on the surrounding areas.
- Is naturally or mechanically ventilated.

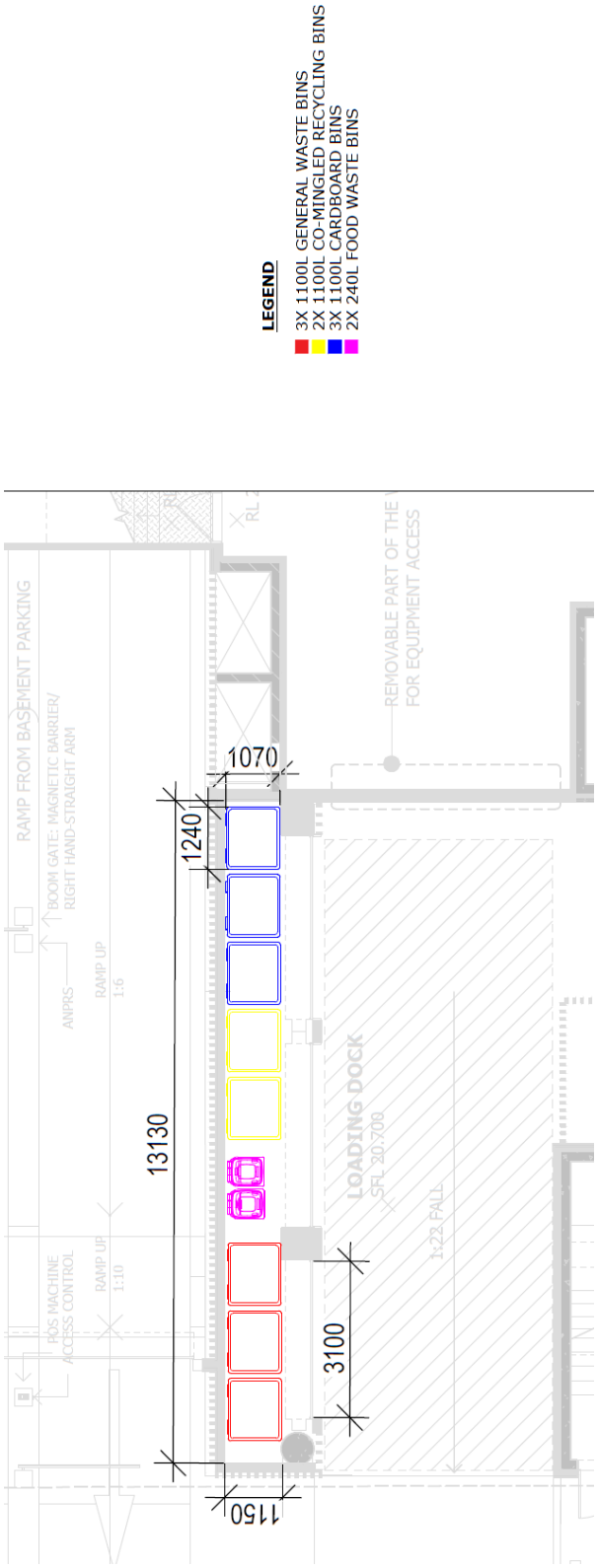


Figure 2.1: Refuse Room Layout

Source: TTM Consulting, Project: Hill Street, Drawing: 22GCW0025-01, Rev: A, Dated: 04/11/2022, Plan: Bin Room Configuration

2.4. Refuse Transfer

The location of the refuse room adjacent to the loading bay removes the necessity of bin transfer for servicing. The contractor has direct accessibility to the refuse room.

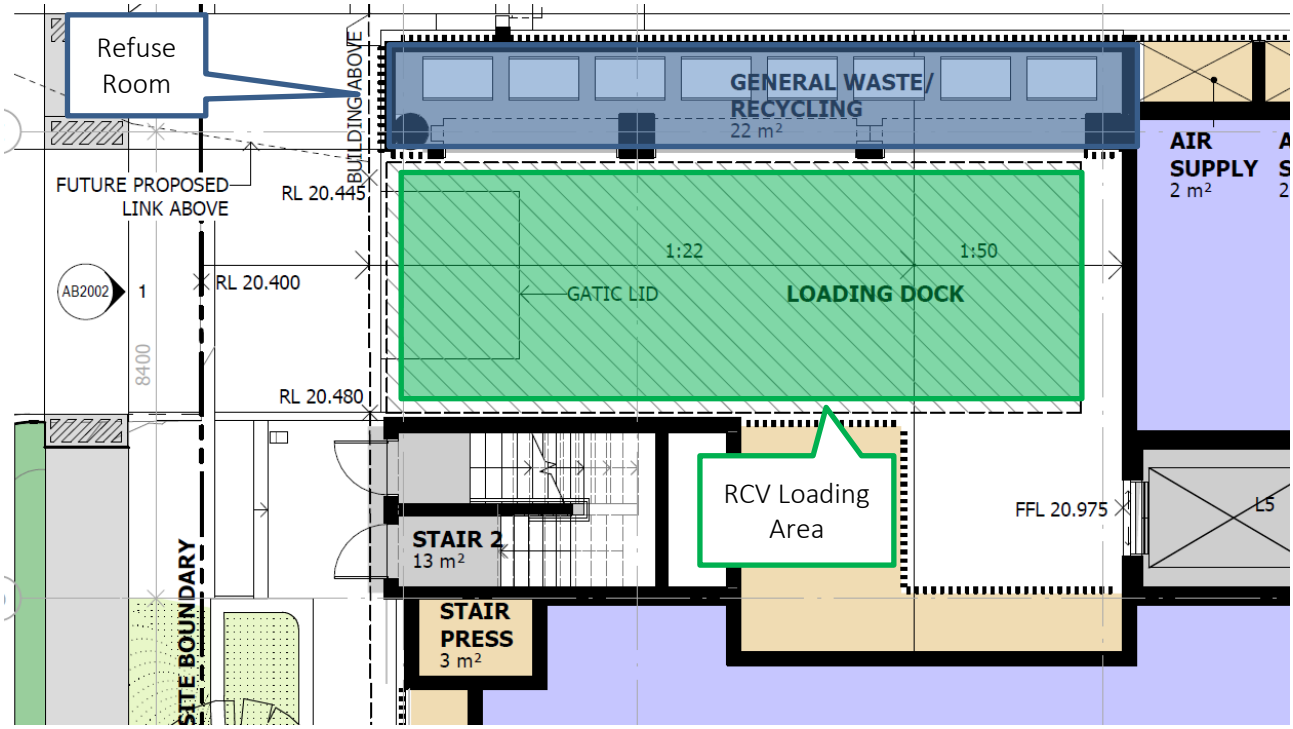


Figure 2.2: Bin Room and Servicing Area

Source: DWP, Project: Hill Street, Drawing: AB1304, Issue: N, Dated: 15.11.22 – Level 0 General Arrangement Plan

2.5. RCV Arrangements and Bin Servicing Areas

RCV's will enter the site by performing a single reverse manoeuvre directly into the loading bay via the driveway crossover provided from Hill Street. Once the collection service has been completed the RCV will exit the site in a forward motion.

All refuse will be collected directly from the refuse room that is adjacent to the loading bay. Once the bins have been serviced, they will be returned to the refuse room by the collection contractor.

The types of vehicles allocated, and demand will be subject to final design and potential selection of volume reduction equipment. The collection days and frequency form a part of the contract between building management and the preferred contractor and is agreed to be based on both the building contractors' business requirements. Figure 2.3 shows the swept paths for a full size Rear lift RCV, this vehicle is readily available across the waste collection industry.

Figure 2.3: shows the RCV swept path, also provided in Appendix A. Further details on vehicle access and on-site manoeuvring can be found in the traffic report,

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.

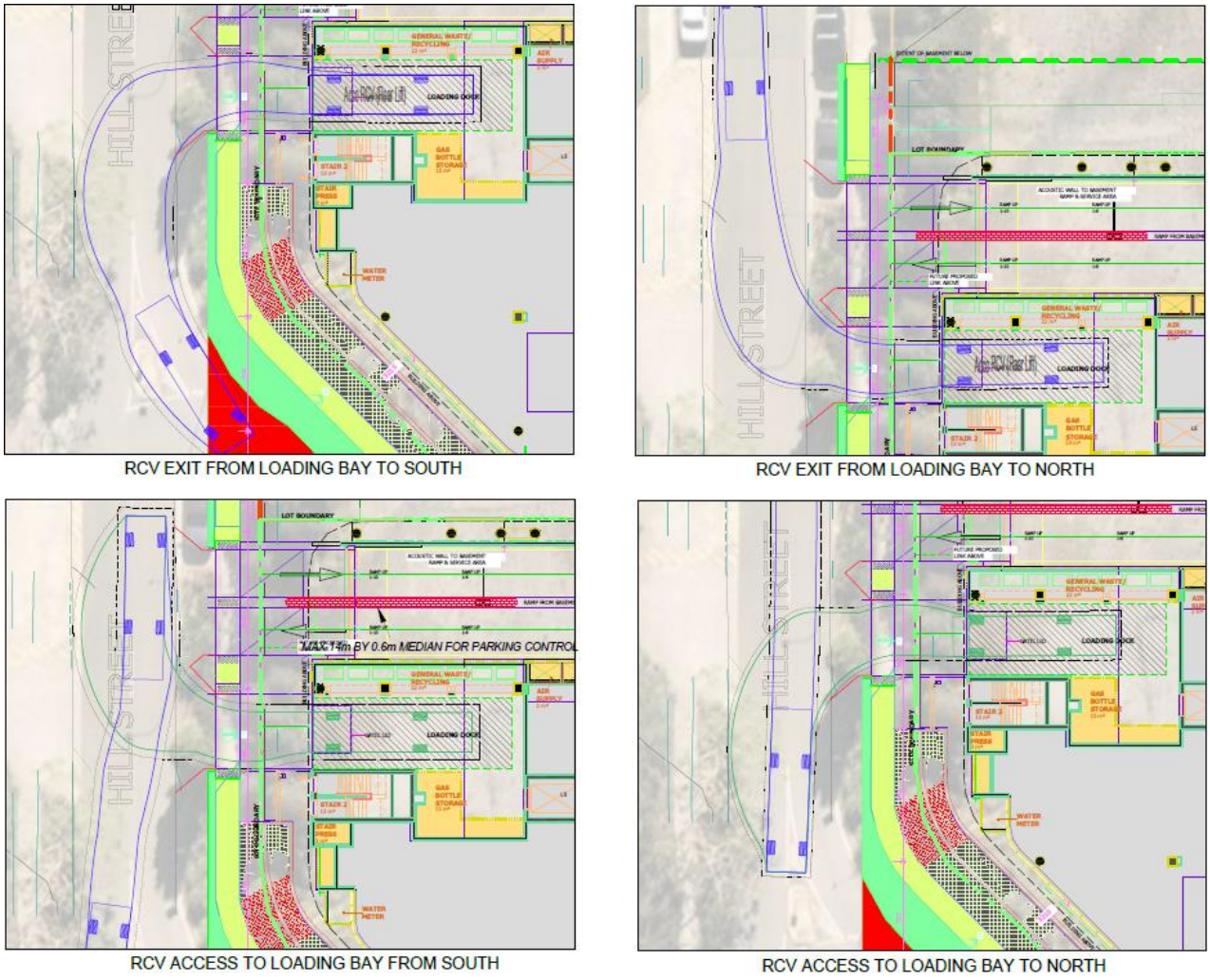


Figure 2.3: Swept Path

Source TTM Consulting, Project: Hill Street, Southport, Drawing:21BRT0594-11, Rev: C, Dated: 20/09/22, Plan: Vehicle Access

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 significant capacity for storage prior to collections. Section **Error! Reference source not found.** describes the i nfrequently generated refuse streams that are generated in relatively low volumes, and where minimal provision for storage can be easily managed by collection frequency.

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

3.1.1. Commercial Refuse

Bins will be provided for each tenancy. After each day of operation or as required, refuse will be transferred by staff / cleaners to the refuse room and decanted into the appropriate bulk bins. Further details are provided in Table 3.1.

Table 3.1: Disposal of Commercial Waste

Refuse Stream	Disposal Details
WASTE	
General Waste	Depending on the type of operations of the individual tenancies, different wastes may be produced. Waste bins should always be lined with bags and the bags tied before removal. Waste bins should be accompanied by a recycling bin in order to facilitate separation of general waste and recycling. Hospital / Offices / Admin Areas Office waste typically includes food waste in pantry / kitchen areas, general non-recyclable material from office activities as well as infrequent wastes such as bulky items, hazardous waste (e.g. printer cartridges) and electronic waste (e.g. computers and screens) (see respective sections for disposal of infrequent wastes). Bins are typically placed near or under the workers' desks or workstations and in pantries / kitchen or tea point areas. Indicative points have been assigned on the architectural plans to highlight where bins will be placed in the tea points / kitchen area. This is subject to final procurement of under desk and kitchen bins. Retail Tenancies General waste from food and beverage outlets such as restaurants, takeaways, cafés will be captured by bins typically ranging in size from 30L to 80L 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.
Organic (Food) Waste	Separating organic or food waste from general waste is recommended to reduce the total amount of general waste produced. Depending on the amount of food waste expected and type of equipment used, food waste separation can occur under one of the following scenarios: 1. 120L bins can be used in retail and food and beverage outlets for disposal of food waste if required. The bins are then transferred to the refuse room for collection. Smaller bins of 120L or 60L caddy bins can be used and decanted into 660L bins in the refuse room. A purpose-built trolley should be used to transfer caddy bins.

Refuse Stream	Disposal Details
	2. Benchtop style equipment (ie organic household composter or worm farms) can be utilised where practical and space allows, e.g. commercial offices. Composting should be arranged with building management.
RECYCLING	
Commercial Comingled, including Glass / Aluminium / Steel cans / Tins / Paper / Small cardboard Semi rigid plastics	Depending on the type of operations of the individual tenancies, different recycling materials may be produced. Items for recycling must not be bagged and must be disposed of in loose form. This can be done by decanting the materials from the individual receptacles into a larger container / bin on a trolley for transport to the refuse room. Hospital / Offices / Admin Areas Recycling from offices largely consists of clean paper (and cardboard) which can be collected separately from comingled recycling if large quantities are produced. In addition, commingled recycling may originate from pantries and meeting / conference rooms where food is consumed. Bins are typically placed near or under the workers' desks or workstations and in pantries / kitchen or tea point areas. Indicative points have been assigned on the architectural plans to highlight where bins will be placed in the tea points / kitchen area. This is subject to final procurement of under desk and kitchen bins. Retail Tenancies Commingled recycling from food and beverage outlets such as restaurants, takeaways, cafés can be captured by bins up to 120L 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.
Clean Office Paper **Secure Destruction Paper**	Offices often produce large amounts of clean (office) paper. Secure destruction paper / confidential paper documents may need to be disposed separately from general recyclable cardboard / paper. Special 240L bins are typically placed within the offices for disposal of secure destruction paper. The bins are collected from the individual levels by the respective contractor and replaced by empty bins. Alternatively, staff / cleaners may take the bins to the refuse room or loading bay prior to collection.

3.1.1 Infrequent Waste

Table 3.2: Disposal of Infrequently Generated Waste

Refuse Stream	Disposal Details
Green Waste	Green waste is not typically produced from a development of this type other than from surrounding landscaped areas or potted plants. Green waste is usually removed by the designated maintenance contractor. The contractor engaged for this work will be required to send this material to a composting or resource recovery facility rather than to a landfill if locally available.
Hard Waste / Bulky Goods	Hard waste may be stored in a designated part of the refuse room or in another designated room which should be located on the loading dock level. Alternatively, collections can be coordinated, and hard waste / bulky goods moved to the loading dock or a designated area for removal prior to collection. When storing bulky goods in a loading dock, it is recommended that items are placed on a pallet for easy loading via a pallet jack or forklift onto the collecting vehicle.
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 local council and state government websites for disposal options. It is an expectation that the building management 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 council and state government websites for further information.

3.2. On-going Management

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 3.3 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
Organising of weekly pick-ups for all refuse streams.		Liaise with private contractors or CoGC as required.
Managing daily bin transfers between refuse storage / collection areas if required.		
Check bin fill levels and rotate / swap bins as required		

3.2.1. Refuse Audits / Target Setting

Refuse minimisation requires regular reviewing to ensure operationally, refuse management is on the right track to meet reductions of waste to landfill and sustainability targets. It is recommended that refuse weights / movements are noted from the commencement of operation. This can either be done via the use of equipment on site or in some cases via the details provided from the commercial collection contractor.

An external review should be conducted after the initial opening phase to provide a baseline to which further waste reduction / recycling targets can be set. Following this, audits should then be conducted every 6-12 months after the implementation of the plan and reviewed against the initial targets. Processes, procedures, and targets should be reviewed at the conclusion of each audit to allow for improvements.

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

3.2.2. Refuse Minimisation

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

Refuse minimisation requires regular reviewing to ensure operational sustainability of refuse volumes, equipment and economic feasibility. It is recommended that refuse weights and movements are noted and reviewed. An external review is usually conducted 12 to 18 months after the implementation of the plan.

Table 3.4: 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).		

3.2.3. 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 3.5: 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.		

3.2.4. Signage

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

Table 3.6: Signage Checklist

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

3.2.5. 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 bins, rooms and storage areas • Refuse transfer areas including lifts and staircases • Any other refuse management equipment		Frequency depends on refuse generation and building operation.
Coordination of specialised cleaning contractors as required.		
Maintenance and servicing of refuse management equipment as per schedule.		Frequency depends on equipment and building operation.
Coordination of specialised equipment contractors as required.		

3.2.6. Education and Communication

On-going education is important to ensure people continue to use the facilities as originally intended. All body corporate and 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. awards programs.		

3.2.7. Monitoring and Review

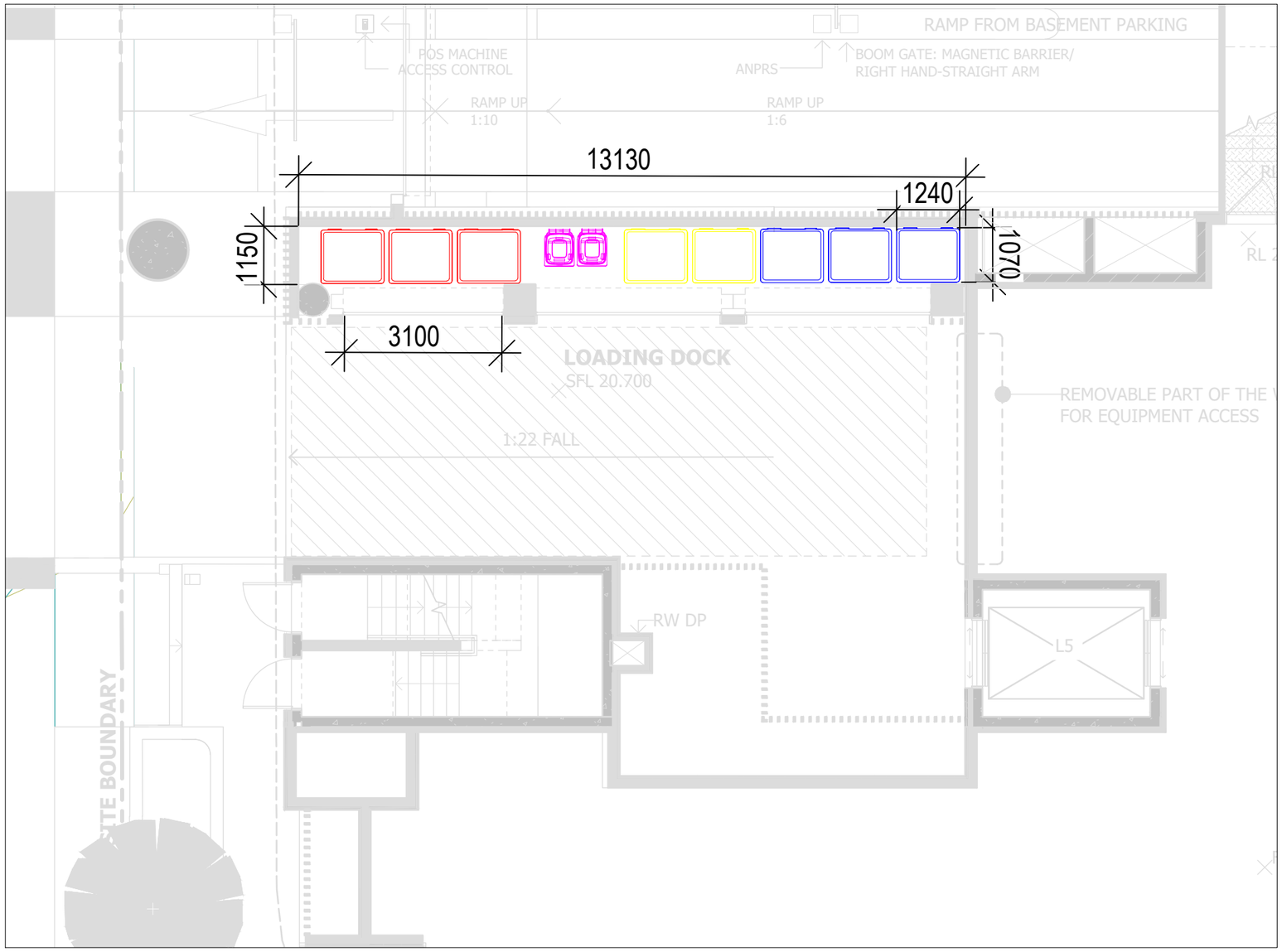
Regular monitoring and inspections of waste and related equipment and facilities from the development should be conducted by building management or designated staff for maintenance and sustainability.

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

PRELIMINARY ADVICE ONLY
04 NOVEMBER 2022



LEGEND

- 3X 1100L GENERAL WASTE BINS
- 2X 1100L CO-MINGLED RECYCLING BINS
- 3X 1100L CARDBOARD BINS
- 2X 240L FOOD WASTE BINS

REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED
A	04-11-22	ORIGINAL ISSUE	ASt	ASt	MK

SCALE 0 1 2 3 4 5m
SCALE 1:100 AT ORIGINAL SIZE

NORTH

CLIENT
NORTHWEST HEALTHCARE PROPERTIES REIT

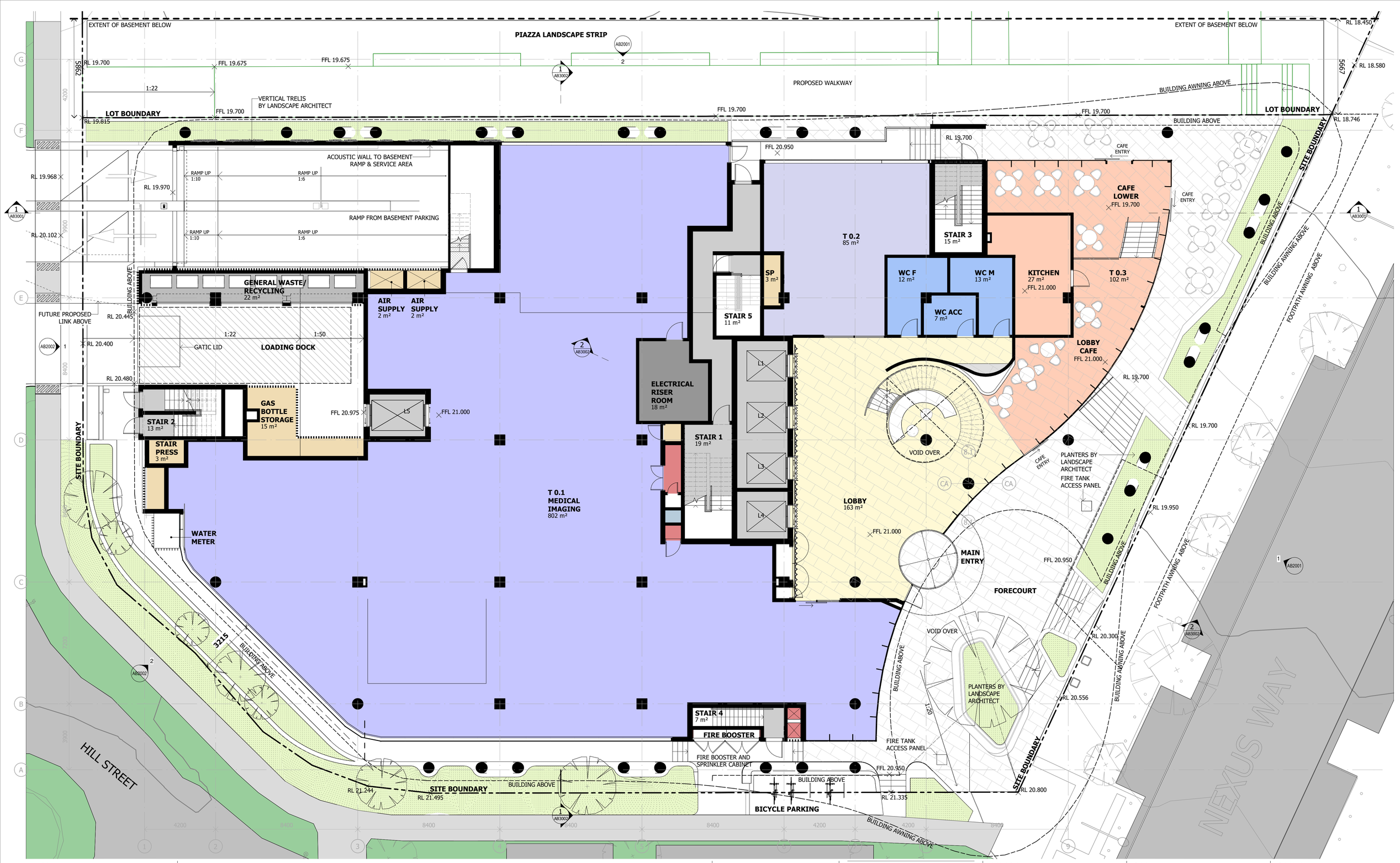
TTM CONSULTING PTY LTD
ABN 65 010 868 621
LEVEL 8, 369 Ann Street, BRISBANE, QLD, 4000
P.O. BOX 12015, BRISBANE, QLD, 4003

T: (07) 3327 9500 F: (07) 3327 9501
E: ttmbris@ttmgroup.com.au W: www.ttmgroup.com.au

PROJECT
HILL STREET SOUTHPORT (GCHKP)

DRAWING TITLE
REFUSE ROOM CONFIGURATION
GROUND FLOOR

PROJECT NUMBER	ORIGINAL SIZE
22GCW0025	A3
DRAWING NUMBER	REVISION
22GCW0025-01	A
DATE	SHEET
04 Nov 2022	1 OF 1



Notes

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Verify all dimensions and levels on site and report any discrepancies to dwp for direction prior to the commencement of work.

Drawings are to be read in conjunction with all other contract documents.

Use figured dimensions only. Do not scale from drawings. dwp cannot guarantee the accuracy of content and format for copies of drawings issued electronically. The completion of the Issue Details Checked and Authorised section isconfirmation of the status of the drawing. The drawing shall not be used forconstruction unless endorsed 'For Construction' and authorised for issue.

DESIGN DEVELOPMENT

NOT TO BE USED DURING CONSTRUCTION

Issue	Description	Date	Chk	Auth
A	ISSUE FOR INFORMATION	14.04.22	SC	AM
B	WORK IN PROGRESS	22.04.22	NC	SM
C	WORK IN PROGRESS	27.04.22	NC	FM
D	WORK IN PROGRESS	17.05.22	NC	FM
E	WORK IN PROGRESS	19.05.22	SC	AM
F	DRAFT - NO LINK BRIDGE	20.05.22	SC	SM
G	FOR PLANNING APPROVAL	26.05.22	SC	SM
H	FOR INFORMATION	30.05.22	NC	AH
J	FOR PLANNING APPROVAL	31.05.22	NC	AH
K	FOR PLANNING APPROVAL	08.07.22	NC	AH
L	FOR PLANNING APPROVAL	16.09.22	NC	SM
M	FOR INFORMATION	14.11.22	NC	AH
N	FOR REVIEW	15.11.22	NC	AH

Architect/ Designer
dwp
www.dwp.com

Client
NorthWest Healthcare Properties REIT

Location
LOT6A, NEXUS WAY, SOUTHPORT, QLD 4215

Project
GCHKP - RESEARCH DEVELOPMENT CENTRE of EXCELLENCE

Drawing
LEVEL 0 GENERAL ARRANGEMENT PLAN

Scale (A1)
1 : 100

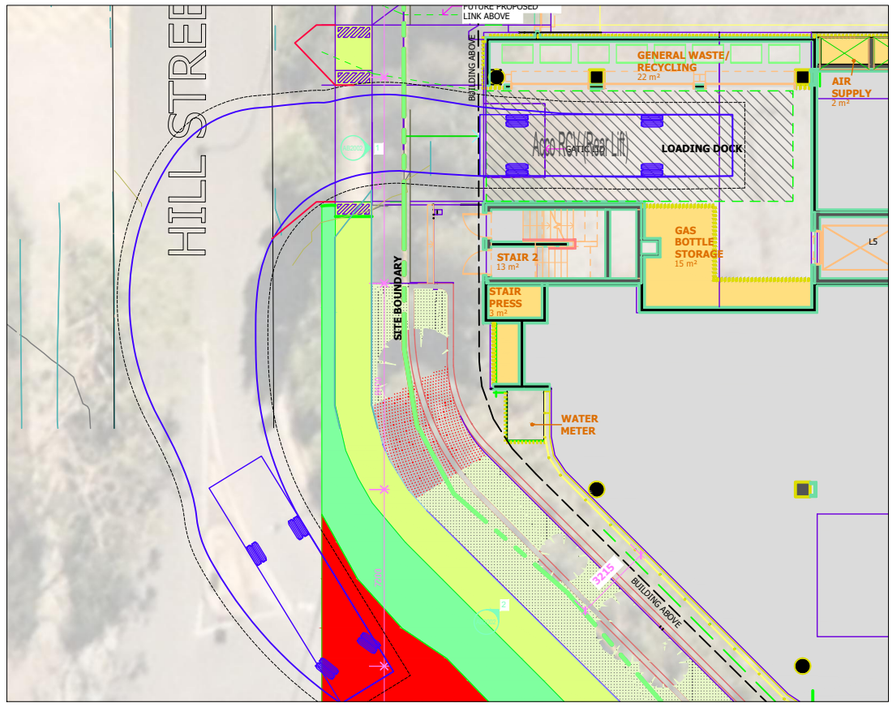
Date Printed
15/11/2022 7:25:42 PM

Project Number
20-0579

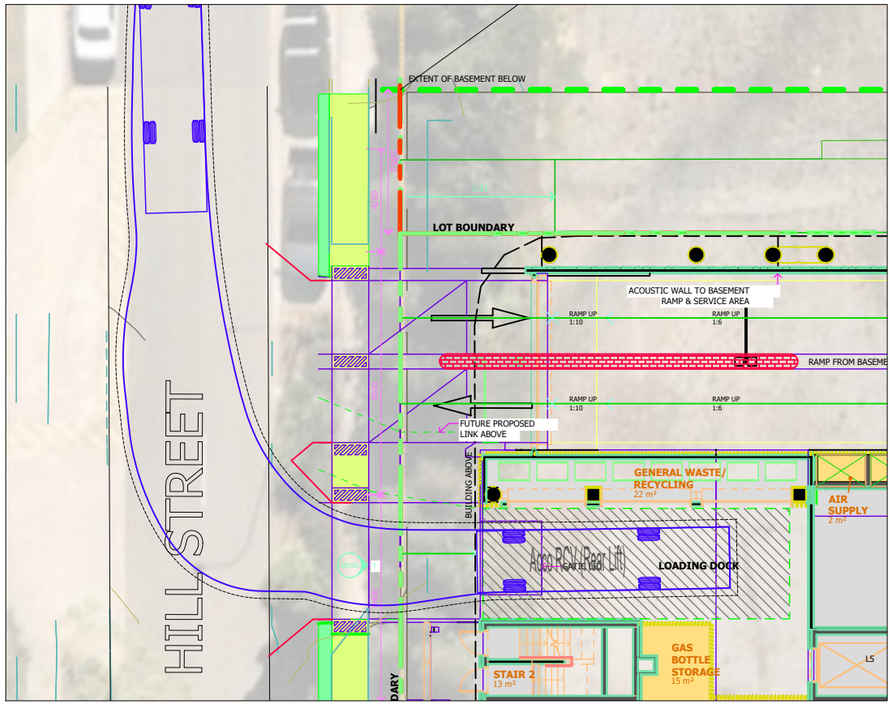
Drawing Number
AB1304

Issue
N

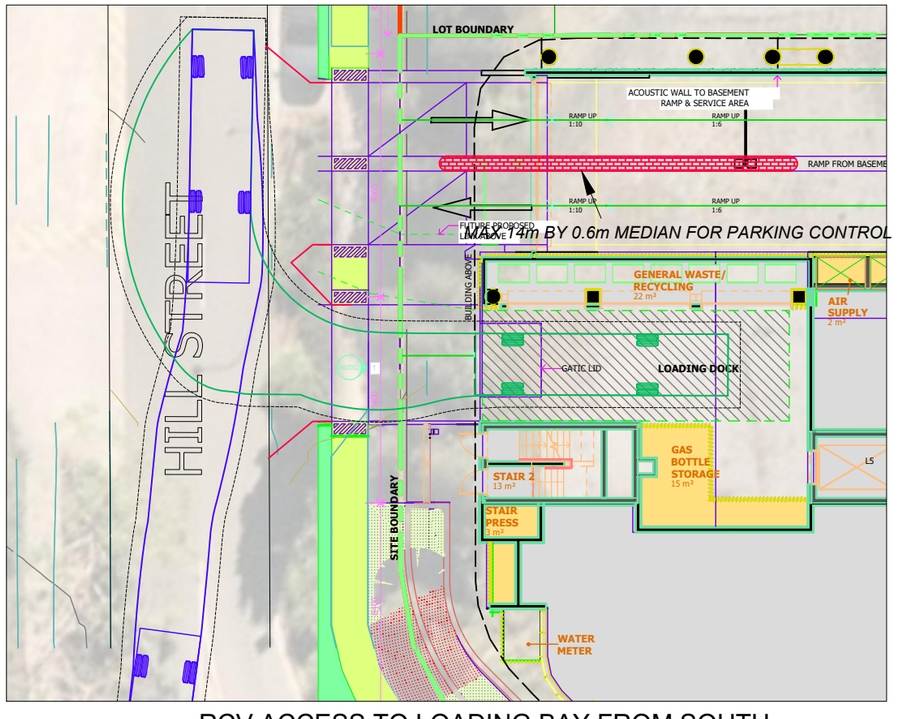
File Name: Autodesk Docs://20-0579_Gold Coast Health & Knowledge Precinct/20-0579-AR-GCHKP-CENTRAL-R22.rvt



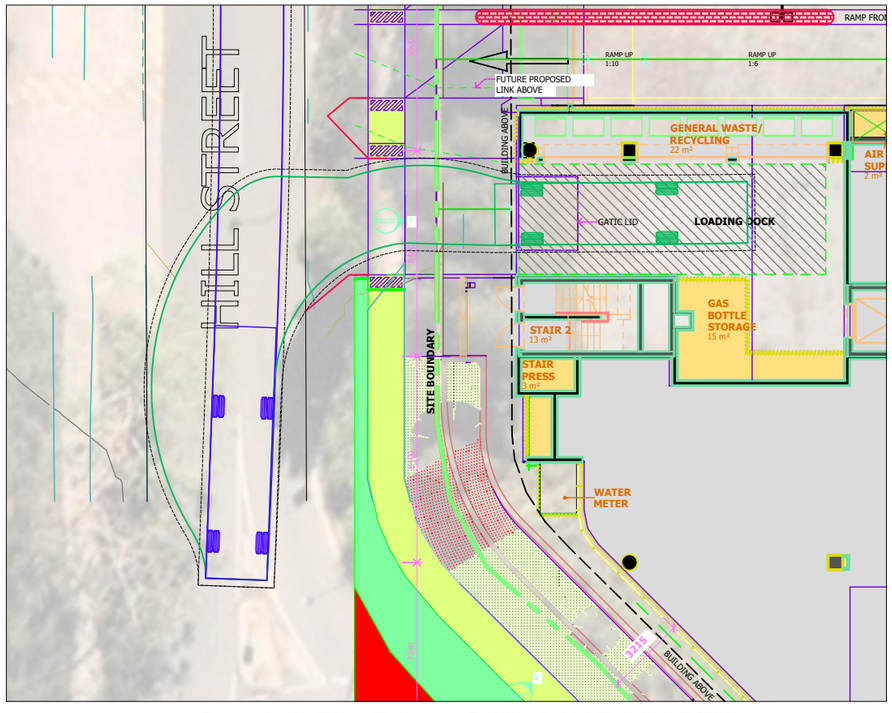
RCV EXIT FROM LOADING BAY TO SOUTH



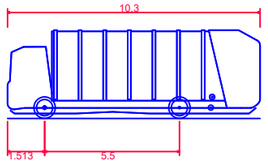
RCV EXIT FROM LOADING BAY TO NORTH



RCV ACCESS TO LOADING BAY FROM SOUTH



RCV ACCESS TO LOADING BAY TO NORTH



Acco RCV (Rear Lift)

Overall Length	10.300m
Overall Width	2.500m
Overall Body Height	3.600m
Min Body Ground Clearance	0.200m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	9.500m
Design Speed Forward	5.0km/h
Clearance Envelope	0.5m

REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED
C	20-09-22	TWO WAY RCV	SC		SC
B	12-07-22	ADD MEDIAN	SC		SC
A	01-06-22	ORIGINAL ISSUE	SC		SC

SCALE 0 2.5 5 7.5 10 12.5m
SCALE 1:250 AT ORIGINAL SIZE

NORTH

CLIENT
NW HEALTH

TTM CONSULTING PTY LTD
ABN 65 010 868 621
LEVEL 8, 369 Ann Street, BRISBANE QLD 4000
P.O. BOX 12015, BRISBANE QLD 4003
T: (07) 3327 9500 F: (07) 3327 9501
E: ttmbris@ttmgroup.com.au W: www.ttmgroup.com.au

PROJECT
HILL STREET, SOUTHPORT

DRAWING TITLE
VEHCLE ACCESS ARRANGMENTS
RCV SWEPT PATH ANALYSIS

PROJECT NUMBER	ORIGINAL SIZE
21BRT0594	A3
DRAWING NUMBER	REVISION
21BRT0594-11	C
DATE	SHEET
20 Sep 2022	1 OF 1

Appendix B Systems and Specifications

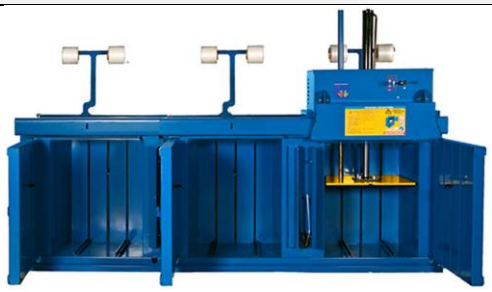
B.1 Typical Refuse Bins

Bin Types	Waste Streams	Examples	Information
Back-of-house bins	General waste, recycling, food waste, paper / cardboard		Various options and sizes available. Tenant to supply depending on preference and space available. Example: 60L metro bins Dimensions approx. 559 x 279 x 635mm (L x W x H) Examples: https://www.spacepac.com.au
Caddy Bins	Food Waste		Example: https://pulpmaster.com.au/pulpmaster-caddy-system
240L bins	General waste, paper, recycling, green waste		Dimensions approx. 740 x 580 x 1080mm (L x W x H) (dimensions may depend on contractor) Examples: http://www.justwheeliebins.com.au, http://wheeliebinsonline.com.au
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.australianwastemanagement.com.au

B.2 Typical Refuse Management Equipment

Systems	Waste Streams	Examples	Information
Organics Household Composting, Worm Farm, Digesters	Food waste / organics		Organics / food waste separation, composting and digesting; household-type and commercial grade equipment available Examples Urban Composter https://www.urbancomposter.com.au Closed Loop https://closedloop.com.au/upcycling-products ORCA https://www.feedtheorca.com
Food Waste Processing, Storage and Disposal	Food waste / organics	 	Volume reduction and organics / food waste recycling through food waste separation and macerating Examples: Pulpmaster Food Processing and Storage https://pulpmaster.com.au Under-sink food waste macerators and disposers https://www.insinkerator.com.au (household type macerators) https://insinkerator.emerson.com (commercial-grade macerators)
Cooking oil storage and recycling	Used cooking oil	 	Cooking oil recycling Example: https://www.cookers.com.au Cooking oil delivery, used oil collection and provision of required equipment

Systems	Waste Streams	Examples	Information
Bunded pallets	Liquid Waste		Spill containment, e.g. for waste cooking oil containers Example: https://www.tradeenviro.com.au/bunded-pallets https://www.materialshandling.com.au/products/bunded-pallet
Compactors / bin presses	General waste		Volume reduction through refuse compaction Examples: Stationary compactor, range between 10000L to 35000L https://www.wastech.com.au/products/compactors Litter bin compactor https://www.solarbins.com.au/features/big-belly-solar-bin Under-chute compactor https://www.wastech.com.au/products/chutes/ecopac-compactor Bin press https://wasteinitiatives.com.au/products/waste-compactors
Balers	Paper / cardboard, plastics		Volume reduction of paper, cardboard, plastics by compaction (baling) Examples: https://www.miltek.com.au/balers-and-compactors https://www.wastech.com.au/products/balers https://wasteinitiatives.com.au/product/vertical-balers/wastepac-60

Systems	Waste Streams	Examples	Information
			
Trolleys	General waste, recycling, food waste, paper / cardboard	   	Assisted manual transfer of refuse Examples: https://rubbermaidcommercial.com.au/products/waste-management/mega-brute https://www.materialshandling.com.au/products/deluxe-compact-cleaning-carts

B.3 Refuse Transfer and Disposal Methods

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

B.4 Refuse Minimisation Options

Refuse Minimisation Options – Waste

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

Systems	Description
	restaurants and cafes or placed within a refuse room for centralisation to multiple users. Pulped food waste is pumped into holding tanks for storage and collection via a 50mm pipe and collected by a liquid vacuum tanker. The images below provide visual context of the connection from pulping machine to storage tank and the option for decanting 120L bins into the machine via a bin lifter and auger feed. The tank may be up to 20m away from the pulping machine. The distance is increased when including vertical drops from upper levels of the building. The storage tank may be up to 30m from a loading area, with the only requirement being a service pipe with camlock end connection placed within proximity of the loading area. Collections are completed by a vacuum tanker which may range in size depending on the size of the storage tanks and the distance of the tank from the loading area.      Source: http://pulpmaster.com.au
Waste Conversion	Converting waste by reducing its volume and weight means less material to be disposed of, which results in fewer refuse collection vehicle kilometres. This allows cost savings in logistics and has a positive environmental effect due to less fuel used per amount of waste to be disposed. As an example, OMPECO provide a solution for converting general and medical waste into a sterilised, dehydrated ground material as shown below. The process involves loading the sterilisation chamber with waste material and crushing / shredding of the material by rotors to produce a fine ground. During the process, the material is heated by friction to 100˚C which causes the moisture in the waste material to evaporate. After evaporation, the material is heated further to sterilisation or pasteurisation. The ground material is then cooled down to be unloaded from the converter. The final product has excellent long-term handling and storage properties, the it has up to 80% less volume and 50% less weight than the original waste material. It can be used in waste to energy systems as it is comparatively dry with a high calorific value.    Source: http://www.ompeco.com/italian/language/en/home-2/#
Waste compaction	Various compaction equipment exists for reducing the volume of (general) waste. As a result, less bins and / or fewer bin collections and service vehicle trips are required, which helps to reduce costs and environmental impact.

Systems	Description
	Examples of typical waste compaction equipment include the following: • Under chute compactors can be installed in developments with waste chutes. This allows to compact waste material before it is discharged from the chute into the waste bins. • Bin presses can be used to annually compress waste material in bins of different sizes. • For public spaces, litter bins are available with a built-in compaction mechanism that reduces the volume of waste material in the bins. An innovative example is the solar compactor shown below. Energy produced by a solar panel on top of the bin is used to operate a fill level sensor and automated internal compaction mechanism, allowing up to eight times more waste to be stored in the bin before collection is required. In addition, notification about the fill level of the bins can be sent out in order to monitor bins and manage collection frequencies.  Sources: https://www.wastech.com.au/products/compactors, https://www.wastech.com.au/products/chutes/ecopac-compactor, https://wasteinitiatives.com.au/products/waste-compactors, https://www.solarbins.com.au/features/big-belly-solar-bin
Charity donations	A good way of minimising waste is to reuse items that are still good to use. Several charity organisations exist that accept items such clothing, shoes, bedding, books, toys, furniture, kitchenware and other household items. The donated items must not be torn, damaged or broken. Electrical appliances such as white goods are usually not accepted. Common organisations operating in Australia include Saint Vincent de Paul Society (Vinnies) and Lifeline (see images below). Items can be placed into the organisations' charity / donation bins located in various public spaces such as near community or shopping areas. Alternatively, they can be dropped off at the organisations' shops during opening hours. Refer to https://www.lifeline.org.au or https://www.vinnies.org.au for further information. For larger developments and precincts where large amounts of donation items can be expected, the placement of charity bins within the development should be taken into consideration.   Sources: https://www.vinnies.org.au, https://lifelinesouthcoast.org.au

Refuse Minimisation Options – Recycling

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

B.5 Refuse Management Equipment Suppliers

Waste Management Equipment	Balers	Compactors	Shredders	Glass Crushers	Chutes	Bin Tugs / Trailers	Trolleys / Manual Handling Equipment	Bin Lifters / Tippers	Bin Rotation	Weighing Systems	Spill Containment, Spill Response, Absorbents, Drain Protection	Food Waste Management / Vacuum Systems, Pulping, Digestors	Composting	Waste Cooking Oil Systems	Smoking Management	Bins (General), Bin Stands	Bin Cleaning Equipment	Sorting Equipment
Elephants Foot Recycling Solutions http://www.elephantsfoot.com.au	✓	✓		✓	✓			✓	✓	✓								
Waste Initiatives https://wasteinitiatives.com.au	✓	✓	✓	✓														✓
Wastech http://wastech.com.au	✓	✓	✓		✓			✓										
Pakmor http://pakmor.com.au	✓	✓	✓					✓		✓								
Miltek http://www.miltek.com.au	✓	✓																
BottleCycler http://www.bottlecycler.com				✓														
Materials Handling https://www.materialshandling.com.au						✓	✓	✓			✓					✓	✓	
Spacepac http://ev.spacepac.com.au						✓	✓											
Spacepac Solutions http://www.spacepac.com.au						✓	✓								✓	✓		
Draffin https://draffin.com.au								✓							✓	✓		
Electrodrive / Lift Master http://www.electrodrive.com.au						✓		✓										

Waste Management Equipment	Balers	Compactors	Shredders	Glass Crushers	Chutes	Bin Tugs / Trailers	Trolleys / Manual Handling Equipment	Bin Lifters / Tippers	Bin Rotation	Weighing Systems	Spill Containment, Spill Response, Absorbents, Drain Protection	Food Waste Management / Vacuum Systems, Pulping, Digestors	Composting	Waste Cooking Oil Systems	Smoking Management	Bins (General), Bin Stands	Bin Cleaning Equipment	Sorting Equipment
Absorbenviro http://www.absorbenviro.com.au											✓							
Trade Environmental http://www.tradeenviro.com.au											✓							
Spillstationaustralia www.spillstation.com.au											✓							
Pulpmaster http://pulpmaster.com.au												✓						
Australian Vacuum Systems http://www.australianvacuumsystems.com.au												✓						
Meiko https://www.meiko.com.au												✓						
Closed Loop Organics https://closedloop.com.au/upcycling-products,													✓					
Compost Revolution https://compostrevolution.com.au													✓					
Urban Composter https://www.urbancomposter.com.au													✓					
ORCA Digester https://www.feedtheorca.com													✓					
Cookers https://www.cookers.com.au														✓				

Waste Management Equipment	Balers	Compactors	Shredders	Glass Crushers	Chutes	Bin Tugs / Trailers	Trolleys / Manual Handling Equipment	Bin Lifters / Tippers	Bin Rotation	Weighing Systems	Spill Containment, Spill Response, Absorbents, Drain Protection	Food Waste Management / Vacuum Systems, Pulping, Digestors	Composting	Waste Cooking Oil Systems	Smoking Management	Bins (General), Bin Stands	Bin Cleaning Equipment	Sorting Equipment
Rubbermaid https://rubbermaidcommercial.com.au/products/waste-management							✓				✓				✓	✓		
Sulo http://www.sulo.com.au							✓						✓			✓		
Australian Waste Management https://www.australianwastemanagement.com.au/products								✓								✓		

B.6 Refuse Management Service Providers

Specialist Waste Services	Food Waste	Waste Cooking Oil	Hazardous Waste	Liquid Waste	Electronic Waste	Industrial Waste	Construction & Demolition Waste	Waste Water	Secure Document Destruction
Cleanaway * https://www.cleanaway.com.au		✓	✓				✓	✓	
JJ Richards * https://www.jjrichards.com.au		✓	✓	✓		✓	✓	✓	
Veolia * https://www.veolia.com/anz			✓	✓	✓		✓	✓	✓
Suez * https://www.suez.com.au				✓	✓		✓	✓	
SecondBite https://www.secondbite.org	✓								
OZ Harvest https://www.ozharvest.org	✓								
Cookers https://www.cookers.com.au		✓							
ToxFree https://www.toxfree.com.au			✓		✓	✓			
AceWaste https://www.acewaste.com.au			✓			✓			

Appendix C Refuse Signage

C.1 Refuse Signage

Waste signage guideline are provided by the Queensland government: https://www.qld.gov.au/environment/pollution/management/waste/recovery/recycling/signage.

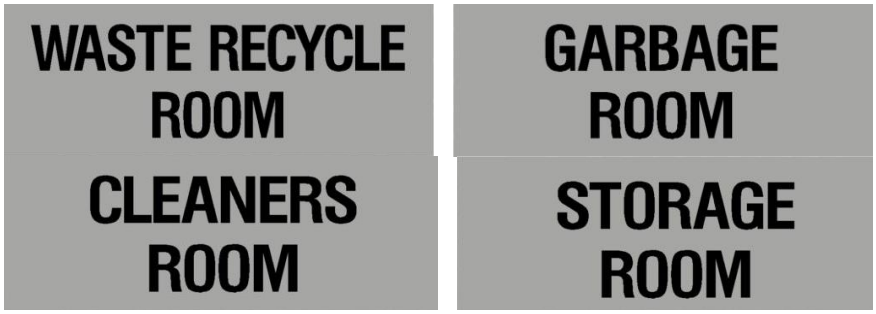
General Refuse Signage

Other Refuse Signage

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.