PROPOSED MIXED-USE DEVELOPMENT

25-27 LEEDS STREET, RHODES

WASTE MANAGEMENT PLAN

PROPOSED MIXED-USE DEVELOPMENT, 25-27 LEEDS STREET, RHODES

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EXECUTIVE SUMMARY

SALT has been engaged by Billbergia to prepare a Waste Management Plan (WMP) for a proposed residential and commercial development located at 25-27 Leeds Street, Rhodes.

SALT understands that the proposal involves the development of 340 dwellings, consisting of 1 studio dwelling, 66 one-bedroom dwellings, 132 two-bedroom dwellings, 134 three-bedroom dwellings and 7 four-bedroom dwellings, as well as food and beverage and retail spaces.

Residential waste would be stored on-site in the residential waste room located adjacent to the loading bay at basement level 1.

Residential waste would be collected by Council, with:

- 21 x 1,100L garbage bins collected twice per week;
- 21 x 1,100L commingled recycling bins collected twice per week;
- 37 x 240L organics bins collected once per week;
- 53m^2 of bulky waste collected on an as required basis; and
- 4.5m^2 of textile waste collected on an as required basis.

Bulky waste will be stored within the basement level carpark.

Commercial waste would be stored on-site in the commercial waste room located adjacent to the loading bay at basement level 1. Commercial waste will be stored separately from residential waste.

Commercial waste would be collected by private contractor, with:

- 16 x 240L garbage bins collected twice per week;
- 23 x 240L commingled recycling bins collected twice per week; and
- 10 x 240L organics bins collected three times per week.

Waste collection vehicles would prop safely on the truck turntable at the basement level loading bay. The truck turntable will rotate 180°. Vehicle operators would ferry waste bins from the waste store to the collection vehicle and return upon emptying.

In the opinion of SALT, the enclosed Waste Management Plan would provide efficient waste management for the proposed development. This report must be read in detail prior to implementation of the waste management strategy.

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1 CONTEXT

This Waste Management Plan has been updated from the previous versions to address the City of Canada Bay's referral waste comments for the development application DA2023/0235 as well as to address the latest development plans which now includes additional residential levels. Refer to Section 4 for the current development summary.

Table 1 City of Canada referral comments and SALT's responses

No.	Council Comments	SALT's responses
2.1 Waste Generation Rates	2.1 Waste Generation Rates The applicant proposed different residential waste generation rates per dwelling size. However, in Council's DCP the waste generation rates are as follows: • Waste = 120L per unit per week • Recycling = 120L per unit per week • FOGO = 25L per unit per week To effectively handle residential waste and recycling for 249 units, the following bin allocations apply: • 28 x 1100L collected once per week is required. However, applicants have the flexibility to opt for 660L bins if they can achieve a 2:1 compaction system. In this case, the collection plan would involve 23 x 1100L collected once per week, with the requirement of accommodating at least one spare bin in each chute termination room. • 28 x 1100L collected once per week is required with the requirement of accommodating at least one spare bin in each chute termination room. • 26 x 240L bins collected once per week is required.	Refer to the updated residential waste generation assessment in Section 8.1 which now references the residential dwelling rates enclosed in Council's DCP. Based on the current scale of the development and the increase in the number of residential dwellings to 340 dwellings, two collections per week have now been recommended for garbage and recycling streams. This is to minimise the on-site spatial requirements for bin storage and provide a more efficient waste management system for the site.
2.1 Waste Generation Rates	To effectively handle commercial waste and recycling, the following waste generation rates and bin allocations apply: • Retail Waste: 50L/100m2 floor area/day equates to 7339.5L / week requiring 7 x 1,100L bins • Retail Recycling: 50L/100m2 floor area/day equates to 7339.5L / week requiring 7 x 1,100L bins Food and beverage – the waste generation rates are satisfactory.	The commercial waste management assessment has been conducted using the retail and delicatessen waste generation rates as per the types of rates adopted in the previous report. The commercial floor areas have been updated accordingly based on the latest development summary. Please refer to the updated commercial waste generation assessments in Section 9.1.
2.2 Waste Rooms	The architectural plans and waste management plan should clearly label both the commercial and residential waste rooms for clarity and easy identification.	The architectural plans have been labelled accordingly.
2.2 Waste Rooms	Commercial and residential bin rooms must be designed to accommodate the waste generation rates recommended in sections 1 and 2 of this report.	The recommended waste equipment provisions accommodate for the required number of bins as specified in Table 11 (Residential) and Table 23 (Commercial) of the report.
2.2 Waste Rooms	Currently proposed location for disposal of organics in basement 01 is unsatisfactory. The applicant has proposed for residents to transfer organics waste as required to the FOGO waste bins provided in the basement level waste area. This location is not suitable for all residents as the maximum travel distance from any dwelling to a bin	FOGO bins are now provided adjacent to every chute termination room and are thus within 30 metres from each

No.	Council Comments	SALT's responses
	storage area must not exceed 30m, excluding the distance travelled by lift. The bins must be arranged to facilitate convenient access to each one, and they must not be stacked in a manner that obstructs access to certain bins.	residential dwelling, excluding the distance travelled via the lift. Refer to the updated development plans attached in APPENDIX 1 for reference.
2.2 Waste Rooms	The Operational Waste Management Plan suggests a 38m² allocation for the Bulky Household Goods Area, but the Architectural Plans currently specify a larger area of 43.2m². It is advisable for this development to officially designate and document the Bulky Waste Storage Area as 43.2m² in the Operational Waste Management Plan to align with the architectural specifications	A bulky waste area of 52.5m² has been allocated adjacent to the basement level 1 loading bay based on the 340 apartments currently proposed. Please refer to the updated development plans attached in APPENDIX 1 for reference.
2.2 Waste and Recycling Chutes	It should be noted that for developments with 10 or more storeys, the chute system must comprise distinct chutes for waste and recycling. The use of E-diverters is not permissible in buildings of 10 storeys or higher.	Dual chute systems have now been proposed in each building. Please refer to the updated development plans attached in APPENDIX 1 for reference.
2.2 Waste and Recycling Chutes	Additional information from the manufacturer is required to clarify the type of garbage chute, including its operational mechanisms in accordance with council DCPS requirements, as well as any other relevant details.	Refer to the specification sheet attached in APPENDIX 3 for further information on the recommended chute system. The dual chute system is also demonstrated on the plans attached in APPENDIX 1.
2.2 Waste and Recycling Chutes	The application suggests providing 240L commingled recycling bins in buildings A, B, C, D, and E, on each level, adjacent to the E-Diverter chute for residents to dispose of bulky recycling waste. However, it is recommended not to place these 240L bins in these buildings. For instance, when the chute is non-operational, this could pose a risk of contamination with mixed waste.	As discussed above, a dual chute system is now recommended in each building.
2.2 Waste and Recycling Chutes	Chute termination rooms must have the capacity to accommodate at least one day's worth of waste volume from the units they serve. In cases where this capacity cannot be met, volume handling equipment should be installed to automatically replace the bin under the chute when it becomes full. To facilitate this, it is essential that the chute termination rooms are of sufficient size.	Each chute termination room and organics waste room have the capacity to accommodate at least one day's worth of waste and recycling volumes.
	There should be a clear segregation between commercial properties and residential waste and recycling chutes, and access between them should not be allowed	Clear segregation is provided between the commercial spaces and the residential chute systems. Commercial tenants occupying the spaces on levels 1 and 2 would not be able to access the residential chute systems located here.

This Waste Management Plan also addresses the following Secretary's Environmental Assessment Requirements (SEARs) as listed in Table 2 below.

Table 2 SEARs and responses

No	SEARs for Waste Management	
1.	Identify, quantify and classify the likely waste streams to be generated during construction and operation.	Refer to the following tables enclosed in this report for the likely waste streams and quantities that are estimated to be generated during the demolition, construction and operational stages of the development: Table 4: Demolition Waste Streams and Estimated Weightages Table 6: Construction Waste Streams and Estimated Weightages Table 10: Residential Waste Streams and Estimated Volumes 8.2 Additional Residential Waste Streams 0: Commercial Waste Streams and Estimated Volumes 9.2 Commercial Waste Streams
2.	Provide the measures to be implemented to manage, reuse, recycle and safely dispose of this waste.	Refer to Table 4 and Table 6 of this report which specifies the recommended management strategies of the demolition and construction waste streams including their reuse, recycling and disposal options. Refer to Sections 8.2 and 9.2 for implementation measures to ensure that operational waste is appropriately segregated into its respective waste and recycling streams. Sections 10 and 11 of this report contain the building management's responsibilities as well as waste and recycling signages that would assist in ensuring that waste and recyclables are appropriately segregated.
3.	Identify appropriate servicing arrangements for the site.	Refer to Sections 0 and 9.6 of this report which discusses the waste collection service arrangements for the site.
4.	If buildings are proposed to be demolished or altered, provide a hazardous materials survey.	Refer to the Hazardous Material Survey prepared by the Reditus.

2 INTRODUCTION

SALT has been requested by Billbergia to prepare a Waste Management Plan for a proposed mixed-use commercial and residential development located at 25-27 Leeds Street, Rhodes. This report will form part of the submission for the application, SSD-67419241.

This Waste Management Plan (WMP) has been prepared based on industry best practice and the Canada Bay Councils *Development Control Plan (DCP): Part B General Controls*. In the circumstance that the development plans are amended or new legal requirements are introduced, a revision of the enclosed WMP may be required by the Responsible Authority. The developer would be responsible for engaging with a waste consultant or engineer to prepare the updated report accordingly.

3 INCLUDED IN THIS REPORT

Enclosed is the Waste Management Plan for the proposed development at 25-27 Leeds Street, Rhodes. Included are details regarding:

- Land use;
- Waste generation;
- Waste systems;
- Bin quantity, size and colour;
- Collection frequency;
- Bin storage area;
- Signage;
- Waste collection;
- Responsibilities;
- Ventilation, washing and vermin-prevention;
- Noise reduction;
- DDA compliance;
- Supplier contact information; and
- Scaled waste management drawings.

4 LAND USE

Planning application number: SSD-67419241

Land Zone: MU1 Mixed Use

Land use type: Mixed-use (commercial and residential)

Number of levels:

Building A: 12 (with 2 additional basement levels)

Building B: 10 (with 2 additional basement levels)

Building C: 10 (with 2 additional basement levels)

Building D: 11 (with 2 additional basement levels)

Building E: 12 (with 2 additional basement levels)

Building F: 17 (with 2 additional basement levels)

Residential Space: total of 340 dwellings consisting of:

- 1 studio;
- 66 one-bedroom dwelling (including units with study);
- 132 two-bedroom dwellings (including townhouses and units with study);
- 134 three-bedroom dwellings; and
- 7 four-bedroom dwellings.

Retail Spaces:

- 1,430m^2 of retail spaces (total retail gross floor area).

Note: The total net leasable floor area of all retail tenancies is 1409.8m^2.

5 DEMOLITION AND CONSTRUCTION WASTE RESPONSIBILITIES

This Waste Management Plan must be adhered to during the demolition, construction and ongoing management of the proposed development.

During site inductions for the construction and demolition phase, all contractors must be made aware of the waste management obligations provided in this plan.

It is the responsibility of the Site Supervisor to ensure waste disposal is adequately tracked in a Waste Data File. Any associated receipt/invoices, waste classification and site validation certificate should be logged within this file.

All entries in the Waste Data File must include the following;

- Time and date;
- Description and size of waste;
- Waste facility used; and
- Vehicle registrations and company name.

6 DEMOLITION WASTE MANAGEMENT PLAN

6.1 ASBESTOS AND OTHER HAZARDOUS WASTE

It is noted that the demolition works may involve asbestos or hazardous waste removal. Asbestos will be removed and disposed of by a licensed asbestos removalist in accordance with the relevant guidelines.

Asbestos and hazardous waste must be removed and disposed of in accordance with the requirements of Work Cover and relevant environmental legislations.

Any disposal of hazardous waste must be recorded in the Waste Data File or the EPA online trackable waste system.

The nearest facility that accepts asbestos waste is the SUEZ's Wetherill Resource Recovery Facility, NSW 2164.

6.2 DEMOLITION WASTE GENERATION

Based on SALT's review of *Development Control Plan (DCP): Part B General Controls*, it is understood that there are currently no construction and demolition generation rates provided by Council. Therefore, demolition waste generation rates have been adopted from *The Hills Shire Council Development Control Plan* Appendix A (2012)

Based on a desktop assessment of the current site, it is noted that there is an existing factory/ warehouse located at 25–27 Leeds Street, Rhodes. The demolition waste generation rates for a factory have been adopted as these are considered to be the most suitable rates for the existing site.

These generation rates are shown in Table 3.

Table 3 Waste Generation Rates for Demolition Materials

Building Material	Waste Quantity (tonnes per 1,000m^2)
Sandstone	N/A
Concrete	448
Bricks	205
Timber / Gyprock	4
Steel	23
Roof tiles	N/A
Others	18

The estimated demolition waste volumes for each material have been calculated based on the current building footprint of 7,020m^2. The estimated volumes and management strategies for demolition waste are presented in in Table 4.

The assessment below has been prepared to achieve the 80% recycling target for demolition waste that has been set by the NSW EPA *Waste Avoidance and Resource Recovery Strategy 2014–21*.

Based on the estimated demolition waste generation quantities, the site will need to divert 3,920 tonnes out of the total 4,900 tonnes generated. This may need to be revised by the Site Supervisor during the demolition works as other waste streams (i.e. green waste and general waste) would need to be accounted for as well.

Table 4 Estimated Demolition Waste Generation Volumes and Management Options

Type of Waste Generated	Most to Least Favorable			Specify method of onsite reuse, contractor and recycling outlet and /or waste depot to be used
	Reuse Estimate Volume Weight (t)	Recycle Estimate Volume Weight (t)	Disposal Estimate Volume Weight (t)	
Sandstone*		-	-	Demolish using excavator, crushed on site and delivered to an off-site recycler.
Concrete*		2,516.0t	629.0t	Demolish using excavator. crushed on site and delivered to an off-site recycler.
Bricks*		1,151.3t	287.8t	Demolish using excavator. crushed on site and delivered to an off-site recycler.
Timber / Gyprock		22.5t	5.6t	Delivered to the off-site recycler listed below.
Steel		129.2t	32.3t	Clean metal (i.e. without presence of other materials) will be delivered to the off-site recycler listed below. Any contaminated metal should be separated to be landfilled.
Roof tiles*		-	-	Delivered to the off-site recycler listed below.
Other		101.1t	25.3t	Delivered to the off-site recycler listed below.
Glass & Aluminium Windows		Minimal	Minimal	Aluminium would be removed manually by hand and delivered to the off-site recycler listed below. Glass would be removed and delivered to a suitable glass recycling facility or transfer station (i.e. Cleanaway's Auburn Resource Recovery Centre, 02 8645 4304).
Floor Coverings		-	-	Depending on age and condition, materials would be removed and delivered to the off-site recycler listed below. Damaged fittings that cannot be recycled are to be delivered to the nearest landfill as listed below.
Fittings & Fixtures		-	-	Depending on age and condition, materials would be removed and delivered to the off-site recycler listed below. Damaged fittings that cannot be recycled are to be delivered to the nearest landfill as listed below.
Green Waste		Minimal	Minimal	Separated and some chipped for landscaping. Delivered to off-site recycler listed below.
General Waste		-	-	It is anticipated that garbage will be generated on the subject site during the demolition phase. Any garbage generated shall be sorted and stored onsite in general waste skips or bins, as deemed necessary.

Hazardous / special waste	Should hazardous materials be present within the current developments at the subject site, it must be disposed of in accordance with the appropriate guideline. The SUEZ's Wetherill Resource Recovery Facility currently accepts asbestos, on the condition that a 24 hour notice is provided.

*Excavated material is to be reused on-site as fill subject to a Virgin Excavated Natural Material (VENM) assessment. Any unused clean concrete (without the presence of metal or other materials), clay bricks, asphalt (ripped and profiled) can be recycled at Cleanaway Lucas Heights Resource Recovery Park, 02 8645 4304.

6.3 DEMOLITION WASTE STORAGE AND COLLECTION

Demolition material generated during the development of the site will be recycled where possible. Recyclable material will be sorted and stored onsite in separate skips.

On-site training and inductions would be conducted to ensure staff are informed about the implemented waste management procedures.

All materials would be delivered to the appropriate landfill and resource recovery centres as listed below.

The principal off-site recyclers that can be used for this project are:

- Cleanaway's Auburn Resource Recovery Centre, 02 8645 4304;
- Cleanaway Lucas Heights Resource Recovery Park, 02 8645 4304.
- Benedict Recycling Centre, Wollongong, 02 9986 3500

The principal licensed landfill site that can be used for this project is:

- BINGO Alexandria, 1300 424 646

Demolition waste will be sorted and stored on-site in skips.

Please note that the nominated facilities below are suggested as suitably located, licensed facilities capable of accepting the relevant waste materials. Alternative facilities may be utilised if preferred, however must be licensed to receive the generated waste materials. Please also note that the capacities of the nominated facilities in accepting and recycling the specified materials may differ upon the time of construction hence it is recommended that they are contacted prior to transfers of waste to the site.

Waste skips should be provided for the following:

- 1 or more general waste skips (Masonry products which include plasterboard, treated timber, residual waste and dust) to be delivered to BINGO Alexandria Facility, 1300 424 646;
- 1 recycling skip for clean metal and aluminium to be delivered to Cleanaway's Auburn Resource Recovery Centre, 02 8645 4304;
- 1 recycling skip for glass to be delivered to Cleanaway's Auburn Resource Recovery Centre, 02 8645 4304;
- 1 recycling skip per material type, for clean tiles, fittings and fixtures and floor coverings subject to approval by the recycler to be delivered to Cleanaway's Lucas Heights Resource Recovery Park, 02 8645 4304;
- 1 organics waste skip for any VENM that is not reused on site, garden vegetation and untreated timber to be delivered to Cleanaway's Lucas Heights Resource Recovery Park, 02 8645 4304.

Figure 1 shows the proposed storage area for demolition waste. Demolition waste shall not be stored along footpaths, public reserves and street gutters or in areas that would lead to contamination of stormwater and waterways.

Figure 1 Proposed Demolition Waste Storage Area

7 CONSTRUCTION WASTE MANAGEMENT PLAN

7.1 CONSTRUCTION WASTE GENERATION

As discussed in section 4.1 above, construction waste generation rates have also been adopted from *The Hills Shire Council Development Control Plan* Appendix A (2012) due to the lack of rates in Canada Bay City Council waste management guidelines and other relevant documentation.

The construction waste generation rates for a block of flats (per 1000m^2) have been adopted as these are found to be the most suitable rates for the proposed use of the subject site. These generation rates are shown in Table 5.

Table 5 Estimate Waste Generation Rates for Construction Materials

Building Material	Waste Quantity (tonnes per 1000m^2)
Timber	0.70
Concrete	6.70
Bricks	3.20
Gyprock	1.30
Sand/Soil	28.70
Metal	1.30
Other	0.60

The estimated construction waste volumes for each material have been calculated based on the total gross floor area of the proposed development of 36,638m^2. The estimated volumes and management strategies for construction waste are presented in Table 6.

The assessment below has been prepared to achieve the 80% recycling target for construction waste that has been set by the NSW EPA *Waste Avoidance and Resource Recovery Strategy 2014-21,* with exception to the sand/soil due to the nature of this waste stream.

Based on the estimated construction waste generation quantities and with exclusion of the 1,051.5 tonnes of sand/soil waste estimated, the site will need to divert 404.5 tonnes out of the total 505.5 tonnes generated. This may need to be revised by the Site Supervisor during the construction works as other waste streams (i.e. general waste) would need to be accounted for as well.

Table 6 Estimated Construction Waste Generation Volumes and Management Options

Type of Waste Generated	Most to Least Favorable			Specify method of onsite reuse, contractor and recycling outlet and /or waste depot to be used
	Reuse Estimate Volume Weight (t)	Recycle Estimate Volume Weight (t)	Disposal Estimate Volume Weight (t)	
Timber		20.5t	5.1t	Delivered to the off-site recycler listed below. Chip remainder may be used in landscaping.
Concrete		196.4t	49.1t	To be used as hardstand during construction, then as base under pavements. Any unused concrete would be returned to batch plant for re-use.
Bricks		93.8t	23.4t	Clean and reuse lime mortar bricks for footings. Delivered to the off-site recycler listed below. Noted: it should not be mixed with other materials from construction and demolition waste and reinforced concrete.
Gyprock		38.1t	9.5t	Disposed of in a designated general waste skip. Should asbestos be present, the waste must be removed and disposed of in accordance with the requirements of Work Cover.
Sand/Soil		841.2t	210.3t	Delivered to the off-site recycler listed below.
Metal		38.1t	9.5t	Clean metal (i.e. without presence of other materials) will be delivered to the off-site recycler listed below. Any contaminated metal should be separated to be landfilled.
General waste (including residual waste and dust)	-	-	-	Disposed into a general waste skip.
Other		17.6t	4.4t	Sorted accordingly based on recycling potential of each material

7.2 CONSTRUCTION WASTE STORAGE AND COLLECTION

Construction waste material generated during the construction of the proposed development will be recycled where possible. Recyclable material will be sorted and stored onsite in an appropriately labelled skip.

It is anticipated that garbage will be generated on the subject site during the construction phase. Any garbage generated shall be sorted and stored onsite in waste skips.

Construction waste will be sorted and stored on-site in skips.

Please note that the nominated facilities below are suggested as suitably located, licensed facilities capable of accepting the relevant waste materials. Alternative facilities may be utilised if preferred, however must be licensed to receive the generated waste materials. Please also note that the capacities of the nominated facilities in accepting and recycling the specified materials may differ upon the time of construction hence it is recommended that they are contacted prior to transfers of waste to the site.

Waste skips should be provided for the following:

- 1 or more general waste skips for products including sand and soil not classified as VENM, gyprock, treated timber, residual waste and dust, to be delivered to BINGO Alexandria Facility, 1300 424 646;
- Recycling skips with one skip per material type for bricks, sandstone and concrete to be delivered to Cleanaway's Auburn Resource Recovery Centre, 02 8645 4304;
- 1 recycling skip for clean metal to be delivered to Cleanaway's Auburn Resource Recovery Centre, 02 8645 4304;
- 1 organics waste skip for untreated timber and VENM that is not reused on site including garden vegetation and untreated timber, to be delivered to Cleanaway's Lucas Heights Organic Resource Recovery Facility, NSW 2234;
- Additional recycling skips, as required for paper & cardboard, glass, plastics and others to be delivered to Cleanaway's Auburn Resource Recovery Centre, 02 8645 4304 or a suitable recycling facility.

Waste skips will be enclosed within waste bays. Waste bays will be lined with sediment fencing or shade cloth. Waste bays would be located in the same area as the demolition stockpiles, as shown in Figure 1.

Construction waste shall not be stored along footpaths, public reserves and street gutters or in areas that would lead to contamination of stormwater and waterways.

8 ONGOING RESIDENTIAL WASTE MANAGEMENT PLAN

8.1 WASTE GENERATION

Residential waste generation rates are shown below in Table 7. Calculations are based on a 7 day per week operation.

Waste generation estimates have been calculated in accordance with the residential development rates enclosed within Canada Bay City Council's *Development Control Plan (DCP): Part B General Controls*. The rates are stipulated in Section B4.1 C9 on page B-42 of the DCP.

The organic waste generation rates are adopted based on the rates supplied by Canada Bay City Council in their referral comments for DA2023/0235. These rates are considered appropriate for a mixed-use development within Canada Bay City Council.

Any common spaces to the residential areas, including lobbies, bathrooms and communal areas have not been included in these calculations as any waste generated in these areas is generated in service of the residential dwellings and therefore incorporated into the below rates.

Table 7 Residential Waste Generation Rates (Source: EPA NSW 2019)

Dwelling Type	Garbage (L/dwelling/week)	Commingled Recycling (L/dwelling/week)	Organics (L/dwelling/week)
Apartment and Townhouses	120	120	25

A waste generation assessment of the proposed development is provided in Table 8.

Table 8 Residential Waste Generation Assessment

Dwelling	Quantity	Waste Per Week		
		Garbage	Recycling	Organics
Apartment and Townhouses	340	340 x 120L	340 x 120L	340 x 25L
Total Waste Generated per Week		**40,800L**	**40,800L**	**8,500L**

Tables 7 & 8 outline the waste generation for each residential building within the development. There are 6 waste areas located beneath the chutes that are accessed above, by residents in the different buildings. Table 9 outlines the number of apartments in each building and their size.

Table 9 Summary of Residential Dwelling Numbers Within Each Building

Dwellings	Building A	Building B	Building C	Building D	Building E	Building F
Total	49	57	53	50	54	77

Table 10 outlines the waste generation per week for each building within the development. This is calculated based on the number of apartments in each building, the number of bedrooms in each apartment and the waste generation rates for these.

Table 10 Waste Generation Assessment

Building	Number of Apartments	Waste per Week (L)		
		Garbage	Recycling	Organics
A	49	5880	5880	1225
B	57	6840	6840	1425
C	53	6360	6360	1325
D	50	6000	6000	1250
E	54	6480	6480	1350
F	77	9240	9240	1925
TOTAL	340	40,800	40,800	8,500

8.2 WASTE SYSTEMS

Waste would be sorted on-site by residents as appropriate into the following streams:

- Garbage (General Waste);
- Commingled Recycling;
- Food Organics and Garden Organics Waste (FOGO);
- Bulky Waste;
- Textiles.

SALT strongly recommends maximising recycling and recovery of materials where possible to minimise volume of waste landfilled and therefore minimise environmental harm. It should be ensured that all recyclable streams can be as easily disposed as garbage is throughout the development.

8.2.1 DUAL CHUTES

Dual chutes would be provided to each building, in accordance with the *Development Control Plan (DCP): Part B General Controls* which requires dual chutes in residential building with 10 or more levels. All residents would dispose of bagged garbage and loose recyclables using the provided dual chute system. There would be one chute dedicated to garbage and another dedicated to commingled recycling. Chute doors would be signed as "Garbage" or "Commingled Recycling" as appropriate. Each chute would output directly into the stream appropriate 1,100L within the basement level bin room.

Please note that the maximum deflection angle typically allowed for the chute system is 22°. It is however recommended that a smaller angle than the maximum is adopted to prevent clogging of materials within the chute system.

Spare bins for garbage and recycling will be provided in each chute termination room and placed under the chutes for use during bin collections.

Termination of chutes would have skirting or other equivalent system to reduce any materials leaving the bin on impact.

Chute termination rooms would not be accessible to residents.

It is recommended that waste bins have reinforced bases for bin longevity.

8.2.2 GARBAGE (GENERAL WASTE)

Each dwelling would be furnished with plastic lined bins to have a minimum capacity of 20 litres for the temporary holding of garbage. These bins will be provided by the developer.

Residents would transfer the waste as required to the appropriate chute drop off point located adjacent to the lift core at each residential level, as shown in Appendix 1.

Garbage is to be disposed of bagged.

8.2.3 COMMINGLED RECYCLING

Each dwelling would be furnished with unlined bins to have a minimum capacity of 20 litres for the temporary holding of commingled recyclables. These bins will be provided by the developer.

Residents would transfer recyclables as required to the appropriate chute drop off point at each residential level, as shown in Appendix 1.

Commingled recyclables are to be disposed of loosely.

8.2.4 FOOD ORGANICS AND GARDEN ORGANICS (FOGO)

Currently, Council does not require separation of food organics from general waste, however this is likely to become a requirement in the near future. FOGO bins have therefore been provided adjacent to each chute termination room of each building, to accommodate for future requirements. The FOGO bins are located within 30 metres from the residential dwellings, excluding the distance travelled via the lift.

Each dwelling would be furnished with unlined bins or bins lined with compostable lining approved by the waste contractor, to have a minimum capacity of 7 litres. These bins will be provided by the developer.

Residents would transfer organics waste as required to the FOGO waste bins provided adjacent to the chute termination rooms at basement level 1.

Organics waste is to be disposed of loosely or in compostable bags that have been approved the City of Canada Bay. These compostable bags should be marked with the Australian Standard compostable logo as shown in Figure 2 below. It should be noted that non-compostable bags should not be placed into the organics bins as it cannot be composted and thus will affect the quality of the organic product.

Figure 2 Australian Standard Compostable Logo

Green/FOGO waste generated by the maintenance of communal landscaped areas would be disposed of via the engaged landscaper.

8.2.5 BULKY WASTE

A clearly marked bulky waste area of 57.5m^2 has been allocated adjacent to the loading bay at basement level 1. 53m^2 of this area would be dedicated for bulky waste storage while 4.5m^2 would be dedicated for textile storage.

The size of the bulky waste area is calculated based on the number of apartments as outlined in Canada Bay Councils *Development Control Plan (DCP): Part B General Controls* Section B4.3: C13 on page B-49 (Bulky waste area = number of units x 8 / 52). This would equate to 52.3m^2 of bulky waste area being required for the 340 dwellings. Residents would access this room via the pedestrian access provided in the basement level car park, as shown in Appendix 1.

Any e-waste generated in the proposed development would be collected as part of the bulky waste collection service.

Building management would arrange hard waste collections with collections to be conducted by a private contractor as required.

8.2.6 TEXTILES

As outlined in Canada Bay Councils *Development Control Plan (DCP): Part B General Controls*, additional space is required for textile waste bins, within the bulky waste area, for residents to dispose of textiles such as clothes. 4.5m^2 of textile storage space has been provided (out of the 57.5m^2 area) within the basement level bulky waste room as discussed above. Residents would access this room via the pedestrian access provided in the basement level car park, as shown in Appendix 1.

8.3 BIN QUANTITY, SIZE AND COLLECTION FREQUENCY

Table 11 and Table 12 below contain information regarding bin quantity, size and frequency of collection.

It is proposed that 2 collections per week are conducted for garbage and recycling based on the large number of bins required to service the site. It is understood that the residential development at 46 Walker Street, Rhodes are currently being serviced twice weekly

Table 11 Residential Bin Size and Collection Frequency

Waste Stream	Collections per Week	Bin Size	No. Bins	Weekly Capacity	Weekly Volume
Garbage	2	1,100L	21	46,200L	40,800L
Commingled Recycling	2	1,100L	21	46,200L	40,800L
Organics	1	240L	37	8,880L	8,500L

Table 12 Typical Waste Bin Dimensions

Capacity (L)	Width (mm)	Depth (mm)	Height (mm)	Area (m^2)
1,100	1240	1070	1330	1.33
240	585	730	1060	0.43

Note: The above dimensions are based on SULO's flat lid bin specifications

8.4 BIN COLOUR AND SUPPLIER

All bins would be provided by Council. The below bin colours are specified by Canada Bay City Council:

- Garbage (general waste) bins would have red lids with dark green body; and
- Recycling bins would have yellow lids with dark green body; and
- Organics bins would have green lids with dark green body.

8.5 WASTE STORAGE AREA

Table 13 demonstrates the cumulative space requirements and provision of waste areas for the residential areas of the proposed development.

Space within the storage location would allow for bin rotation and safe service provision.

Please refer to scaled drawing shown in Appendix 1.

Table 13 Waste Area Space Requirements

Waste Room	Stream	Space Required (excluding circulation)*	Space Provided
Residential Waste Room (adjacent to loading dock)	General Waste	27.93m^2	199.50m^2
	Commingled Recycling	27.93m^2	
	Organics	15.91m^2	
	Textiles	4.50m^2	
Bulky Waste Room	Bulky Waste	53.00m^2	57.50m^2
	TOTAL	**129.27m^2**	**257.00m^2**

*Required space is based on area per bin multiplied by the number of bins.

Commercial and residential waste would be stored separately.

Waste management would be overseen by building management.

The waste area requirements for each building, as shown in Table 14, demonstrates the cumulative space requirements and provision of waste areas within each building's chute termination room. These are based on the waste generation volumes and number of bins required for each residential building. The spaces provided are the areas of each building's chute termination room.

Each chute termination and organics waste room have been equipped with the number of bins required to store at least one days' worth of waste, recycling and organic waste volumes. An on-site building manager will also be available to rotate the bins once filled, with the vacant bins stored within the main residential waste room located adjacent to the loading bay.

Table 14 Chute Termination Room Space Requirements in each building

Building	Space Required* (excluding circulation)	Space Provided
A	5.32m^2	28.20m^2
B	5.32m^2	24.40m^2
C	5.32m^2	37.10m^2
D	5.32m^2	37.10m^2
E	5.32m^2	24.50m^2
F	7.98m^2	45.70m^2
TOTAL	34.58m^2	197.00m^2

*Required space is based on area per bin multiplied by the number of bins.

8.6 WASTE COLLECTION

Residential waste would be collected by a Council as follows:

- 21 x 1,100L garbage bins collected twice per week;
- 21 x 1,100L commingled recycling bins collected twice per week;
- 37 x 240L organics bins collected once per week;
- 53m^2 of bulky waste collected on an as required basis; and
- 4.5m^2 of textile waste collected on an as required basis.

All residential bins would be stored on-site in the residential bin room provided at basement level 1.

General waste collections would occur via 12.5 heavy rigid vehicle with travel height of 4.5m and an operating height of 6.10m. This height clearance allows the waste truck to access and operate within the undercroft car park.

Bulky waste and textile collections would be performed by a utility vehicle or AustRoads B99 design vehicle equivalent.

Waste collections would occur between 7am to 8pm on weekdays and 8am and 8pm on weekends, in accordance with Council's local laws.

Waste collection vehicles would enter the subject site via a forward motion from Blaxland Road, into the basement level carpark.

Waste collection vehicles would prop safely on the truck turntable at the basement level loading bay. The truck turntable will rotate 180°.

Vehicle operators would ferry waste bins from the bin room and return upon emptying.

Waste collection vehicles would exit the loading bay in a forward direction, exiting the subject site onto Blaxland Road.

Building management would ensure that waste vehicle operators are able to access the bin room.

Residential waste bins would not be presented to street kerb at any point.

9 COMMERCIAL WASTE MANAGEMENT PLAN

9.1 COMMERCIAL WASTE GENERATION

Commercial waste generation rates are shown in Table 15. Calculations are based on 7 days per week operation for the retail spaces.

Generation rates have been adopted based on commercial waste generation rates enclosed in Table B-M on page B-55 of the Canada Bay Councils *Development Control Plan (DCP): Part B General Controls*. These rates are considered appropriate for a mixed-use development located within the City of Canada Bay.

Organics generation rates for the cafe have been calculated based on data enclosed within Canada Bay Councils *Development Control Plan (DCP): Part B General Controls*. It has been assumed that 50% of garbage generated (based on the total garbage and organics volume generated), consists of organics waste.

Any common spaces to the commercial areas including lobbies, bathrooms and back of house areas, have not been included in these calculations as any waste generated in these areas is generated in service of the commercial areas and therefore incorporated into the below rates.

Table 15 Commercial Waste Generation Rates

Use	Garbage (L/100m²/week)	Commingled Recycling (L/100m²/week)	Organics (L/100m²/week)
Retail	350	350	-
Delicatessen (Food and beverage)	525	840	525

Commercial waste generation assessments for tenancies T1 to T7 are provided in Table 16 to Table 18 noting that individual bins will be provided within these spaces for transfers to the main waste room.

Table 16 Commercial T1 Waste Generation Assessment

Use	Area	Waste Per Week (L)		
		Garbage	Recycling	Organics
Delicatessen (Food and beverage)	150.9m²	792	1,268	792
Total Waste Generated per Week (L)		**792**	**1,268**	**792**

Table 17 Commercial T2 Waste Generation Assessment

Use	Area	Waste Per Week (L)		
		Garbage	Recycling	Organics
Delicatessen (Food and beverage)	280.1m²	1,471	2,353	1,471
Total Waste Generated per Week (L)		**1,471**	**2,353**	**1,471**

Table 18 Commercial T3 Waste Generation Assessment

Use	Area	Waste Per Week (L)		
		Garbage	Recycling	Organics
Delicatessen (Food and beverage)	614.3m²	3,225	5,160	3,225
Total Waste Generated per Week (L)		**3,225**	**5,160**	**3,225**

An overall commercial waste generation assessment for all commercial tenancies is provided in 0 below.

Table 19 Commercial Waste Generation Assessment

Use	Area	Waste Per Week (L)		
		Garbage	Recycling	Organics
Retail T4-T7	364.5m^2	1,276	1,276	-
Delicatessen (Food and beverage) T1-T3	1,045.3m^2	5,488	8,781	5,488
Total Waste Generated per Week (L)		**6,764**	**10,057**	**5,488**

9.2 WASTE SYSTEMS

Waste would be sorted on-site by staff and cleaners as appropriate into the following streams:

- Garbage (General Waste);
- Commingled Recycling; and
- Food Organics;

9.2.1 BIN STATIONS

Based on Method *Westpac NZ Case Study*, the use of bin stations throughout their office spaces have reduced waste to landfill by 40%. The case study discusses the significance of accountability in ensuring diversion of waste from landfill. It is therefore recommended that bin stations are provided throughout commercial spaces.

Each bin station should be equipped with one bin for each waste stream. This would encourage the user to make a conscious decision before depositing their waste product into a specific bin and encourage appropriate segregation especially when bins are placed within an area open to public view.

An example bin station with vertical signage is shown in Figure 3. The vertical signage is recommended to be implemented at each bin station to educate the users on the appropriate separation methods. This would allow for maximum diversion of waste from landfill and recovery of the respective waste streams to be achieved.

Figure 3 Example Bin Station with vertical signage

9.2.2 TRIPLE CHUTE SYSTEM IN BUILDING B

A triple chute system would be provided in Building B for access to the retail spaces on the ground level and level 1 of Building B. Staff/cleaners of these retail spaces would dispose of bagged garbage, loose recyclables and loose organics using the provided triple chute system. There would be one chute dedicated to garbage, one dedicated to commingled recycling and one dedicated to organic waste. Chute doors would be signed as appropriate. Each chute would output directly into the appropriate 240L bin within the basement level bin room.

Please note that the maximum deflection angle typically allowed for the chute system is 22°. It is however recommended that a smaller angle than the maximum is adopted to prevent clogging of materials within the chute system.

It is recommended that a spare bin be purchased and placed under the garbage chutes for use during bin collections.

Termination of chutes would have skirting or other equivalent system to reduce any materials leaving the bin on impact.

Chute termination points would be fenced off, so residents are not able to access the equipment.

It is recommended that waste bins have reinforced bases for bin longevity.

9.2.3 BIN AREAS IN BUILDINGS E AND F

Individual bin areas will be provided within each commercial tenancy in Buildings E and F. The individual bin areas will have sufficient bin storage capacity for at least two days' worth of waste, recycling and organics volumes.

These individual bins would be transferred to the commercial waste room at basement level 1 via the public lift and external accessways. A bin tug can be used for mechanical assistance and to minimise potential occupational health and safety risks.

Please refer to Section 9.2.6 below for the proposed individual bin provisions in each commercial tenancy in Buildings E and F.

9.2.4 GARBAGE (GENERAL WASTE)

The retail and food and beverage tenants would be responsible for furnishing their spaces with internal bins, which is discussed further below.

The retail spaces would be furnished with plastic lined bins for the temporary holding of garbage waste, to have minimum cumulative capacity of 50 litres per 100m^2 of floor area. This capacity is based on the transfer of waste to the bin room occurring once per day. Staff/cleaners would dispose of waste from these bins directly into the appropriate chute provided on the ground floor, adjacent to the lift core (refer to Appendix 1).

The food and beverage spaces would be furnished with plastic lined bins for the temporary holding of garbage waste, to have minimum cumulative capacity of 75 litres per 100m^2 of floor area. This capacity is based on the transfer of waste to the bin room occurring once per day. Staff/cleaners would dispose of waste from these bins directly into the appropriate 240L bin provided within the basement level bin room, accessed via the lift (refer to Appendix 1).

Garbage is to be disposed of bagged.

9.2.5 COMMINGLED RECYCLING

The retail and food and beverage tenants would be responsible for furnishing their spaces with internal bins, which is discussed further below.

The retail spaces would be furnished with unlined bins for the temporary holding of commingled recyclables, to have minimum cumulative capacity of 50 litres per 100m^2 of floor area. This capacity is based on the transfer of recyclables to the bin room occurring once per day. Staff/cleaners would dispose of waste from these bins directly into the appropriate chute provided on the ground floor, adjacent to the lift core (refer to Appendix 1).

The food and beverage spaces would be furnished with unlined bins for the temporary holding of commingled recyclables, to have minimum cumulative capacity of 120 litres per 100m^2 of floor area. This capacity is based on the transfer of recyclables to the bin room occurring once per day. Staff/cleaners would dispose of waste from these bins directly into the appropriate 240L bin provided within the basement level bin room, accessed via the lift (refer to site plan in Appendix 1).

Commingled recyclables would be disposed of loosely.

9.2.6 FOOD ORGANICS

The food and beverage tenants would be responsible for furnishing their spaces with internal bins, which is discussed further below.

The food and beverage spaces would be furnished with plastic lined bins for the temporary holding of garbage waste, to have minimum cumulative capacity of 75 litres per 100m^2 of floor area. This capacity is based on the transfer of waste to the bin room occurring once per day. Staff/cleaners would dispose of waste from these bins directly into the appropriate 240L bin provided within the basement level bin room, accessed via the lift (refer to site plan in Appendix 1).

Organics waste is to be disposed of loosely or in compostable bags that have been approved the waste co. These compostable bags should be marked with the Australian Standard compostable logo as shown in Figure 2 below. It should be noted that non-compostable bags should not be placed into the organics bins as it cannot be composted and thus will affect the quality of the organic product.

9.3 BIN QUANTITY, SIZE AND COLLECTION FREQUENCY

The individual bin quantity, size and the frequency of transfers to the basement level 1 commercial waste room, for commercial tenancies T1 to T3 are shown below in Table 20 to Table 22. The filled bins would be swapped with vacant bins stored within the commercial waste room located at basement level 1.

Table 20 Commercial T1 Bin Size and Collection Frequency

Waste Stream	Weekly Transfers to Basement Level 1	Bin Size	No. Bins	Weekly Capacity	Weekly Volume
Garbage	Maximum of 4	240L	2	1,920L	1,526L
Commingled Recycling	Maximum of 4	240L	3	2,880L	2,441L
Organics	Maximum of 4	240L*	2	1,920L	1,526L

**It should be noted that some waste contractors provide a maximum bin size of 120L for organics due to the significant weight of this waste stream hence the available organic bin sizes should be clarified prior to engaging the contractor.*

Table 21 Commercial T2 Bin Size and Collection Frequency

Waste Stream	Weekly Transfers to Basement Level 1	Bin Size	No. Bins	Weekly Capacity	Weekly Volume
Garbage	Maximum of 2	240L	2	960L	835L
Commingled Recycling	Maximum of 2	240L	3	1,440L	1,336L
Organics	Maximum of 4	240L*	1	960L	835L

**It should be noted that some waste contractors provide a maximum bin size of 120L for organics due to the significant weight of this waste stream hence the available organic bin sizes should be clarified prior to engaging the contractor.*

Table 22Commercial T3 Bin Size and Collection Frequency

Waste Stream	Weekly Transfers to Basement Level 1	Bin Size	No. Bins	Weekly Capacity	Weekly Volume
Garbage	Maximum of 4	240L	4	3,840L	3,313L
Commingled Recycling	Maximum of 4	240L	7	6,720L	5,301L
Organics	Maximum of 4	240L*	4	3,840L	3,313L

**It should be noted that some waste contractors provide a maximum bin size of 120L for organics due to the significant weight of this waste stream hence the available organic bin sizes should be clarified prior to engaging the contractor.*

The bin quantity, size and the frequency of collections for all commercial bins required by the site are shown below in Table 23.

Two waste collections per week is recommended for the garbage and recycling waste streams given the volume and nature of the waste generated in the commercial spaces. Three collections per week is recommended for organics waste.

Table 23 Commercial Bin Size and Collection Frequency

Waste Stream	Collections per Week	Bin Size	No. Bins	Weekly Capacity	Weekly Volume
Garbage	2	240L	16	7,680L	6,949L
Commingled Recycling	2	240L	23	11,040L	10,353L
Organics	3	240L	10	7,200L	5,673L

**It should be noted that some waste contractors provide a maximum bin size of 120L for organics due to the significant weight of this waste stream hence the available organic bin sizes should be clarified prior to engaging the contractor.*

Table 24Typical Waste Bin Dimensions

Capacity (L)	Width (mm)	Depth (mm)	Height (mm)	Area (m^2)
240	585	730	1060	0.43
Note: The above dimensions are based on SULO's flat lid bin specifications				

9.4 BIN COLOUR AND SUPPLIER

All bins would be provided by private supplier. The below bin colours are specified by Australian Standard AS4123.7–2006, however due the private nature of the collection, these are only recommendations and are not mandatory:

- Garbage (general waste) shall have red lids with dark green or black body;
- Recycle shall have yellow lids with dark green or black body; and
- Organics shall have green lids with dark green or black body.

Note, private contractors often supply bins for collection.

9.5 WASTE STORAGE AREA

Table 25 to Table 27 demonstrate the individual internal waste area provisions within commercial tenancies T1 to T3.

Table 25 Commercial Waste Area Space Requirements in T1

Stream	Space Required (excluding circulation)	Space Provided
General Waste	0.86m^2	9.00m^2
Commingled Recycling	1.29m^2	
Organics	0.86m^2	
TOTAL	**3.01m^2**	**9.00m^2**

Table 26 Commercial Waste Area Space Requirements in T2

Stream	Space Required (excluding circulation)	Space Provided
General Waste	0.86m^2	9.00m^2
Commingled Recycling	1.29m^2	
Organics	0.43m^2	
TOTAL	**2.58m^2**	**9.00m^2**

Table 27 Commercial Waste Area Space Requirements in T2

Stream	Space Required (excluding circulation)	Space Provided
General Waste	1.72m^2	18.00m^2
Commingled Recycling	3.01m^2	
Organics	1.72m^2	
TOTAL	**6.45m^2**	**18.00m^2**

Table 28 demonstrates the cumulative space requirements and provision of waste areas in the commercial waste room located at basement level 1 of the proposed development.

Table 28 Commercial Waste Area Space Requirements in Basement Level 1 Commercial Waste Room

Stream	Space Required (excluding circulation)	Space Provided
General Waste	6.88m^2	50.60m^2
Commingled Recycling	9.89m^2	
Organics	4.30m^2	
TOTAL	**21.07m^2**	**50.60m^2**

Please refer to scaled drawing shown in Appendix 1 for the commercial waste room layout.

Note, commercial and residential waste would be stored separately within their respective waste rooms at basement level 1.

Waste management would be overseen by building management.

9.6 WASTE COLLECTION

Commercial waste would be collected by private contractor as follows:

- 16 x 240L garbage bins collected twice per week;
- 23 x 240L commingled recycling bins collected twice per week; and
- 10 x 240L organics bins collected three times per week.

All waste bins would be stored on-site in the commercial waste room provided at basement level 1.

Waste collections would occur between 7am to 8pm on Mondays to Fridays and between 8am to 8pm on Sundays and public holidays, in accordance with NSW EPA noise regulations. This is to ensure minimal noise impacts to the neighboring properties.

General waste collections would occur via an 8.8m medium rigid vehicle with an operating height of 4.0m. This height clearance allows the waste truck to access and operate within the undercroft car park.

Waste collection vehicles would enter the subject site via a forward motion from Blaxland Road, into the basement level carpark.

Waste collection vehicles would prop safely on the truck turntable at the basement level loading bay. The truck turntable will rotate 180°.

Vehicle operators would ferry waste bins from the bin room and return upon emptying.

Waste collection vehicles would exit the loading bay in a forward direction, exiting the subject site onto Blaxland Road.

Building management would ensure that waste vehicle operators are able to access the bin room.

Commercial waste bins would not be presented to street kerb at any point.

10 RESPONSIBILITIES

Building management would be responsible for overseeing waste management within the development. Responsibilities would include:

- Provide residents and commercial tenants with a waste management handbook which would include information on bin storage areas, transfer paths and waste management methods onsite;
- Rotating bins placed beneath chutes or providing staff/cleaners with a cleaning and bin transfer schedules;
- Ensure that all bins throughout the site and the bin room are equipped with appropriate signages to guide users on appropriate segregation methods for their waste and recyclables;
- Inspecting waste stores;
- Reviewing contamination within bins;
- Providing staff/cleaners with a training session on the appropriate and safe utilisation methods of the baler and compactor and providing them with a user manual;
- Providing staff/cleaners with a disposal schedule for paper and cardboard and soft plastics disposal into the baler to ensure that the baler would only be processing either paper and cardboard or soft plastics at any one time; and
- Investigating incidents of inappropriate waste storage (or aggregation).

Building management would ensure anyone found responsible for inappropriate waste disposal would be appropriately educated and made aware of correct waste disposal techniques.

It is recommended that building management conducts a waste audit if waste is found to be inappropriately deposited by users or if the bin capacities need to be reviewed.

11 SIGNAGE

Waste storage areas and bins would be clearly marked and signed with the industry standard signage approved by NSW EPA or equivalent. The typical NSW EPA signage is illustrated in Figure 4.

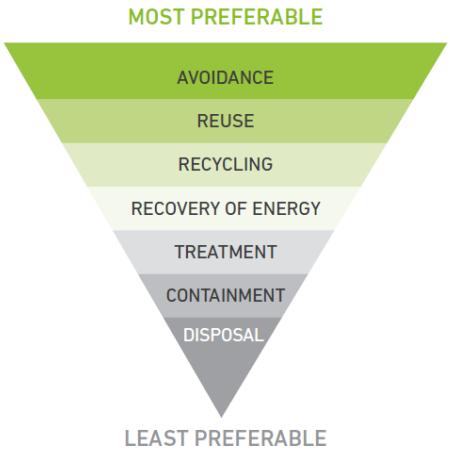
Figure 4 NSW EPA Signage

12 SUSTAINABILITY ACTION PLAN AND INITIATIVES

The importance of restructuring the institutional waste management methods in developments is becoming more apparent as we experience the adverse impacts of increasing waste volumes and declining recycling rates. Developments such as the proposed subject site can contribute towards the prevention and reduction of nationwide waste generation volumes as well as to promote a local circular economy system.

Building management should encourage users by demonstrating a commitment towards waste avoidance and minimisation initiatives. The waste hierarchy as detailed in the *Environmental Protection Act* 2017 should be observed in order of preference (refer to Figure 5).

Figure 5 Waste Hierarchy



In addition to the waste management strategy detailed in the enclosed report, building management can establish landfill diversion and recycling targets and conduct periodic waste audits to monitor contamination levels in recycling and organics bins. The results of the audit could be shared with residents and commercial tenants to encourage them to continue or to improve their waste separation efforts. The audit may also be beneficial from a cost perspective as it would inform building management of opportunities to reduce bin numbers or collection frequencies.

Residents and commercial tenants should be inducted on on-site waste management practices and on the development's sustainability action plan via the provision of a handbook or in-person training, as deemed necessary. Commercial tenancies should be encouraged to minimise single use packaging and promote re-use by providing opportunities to consumers to utilise their own reusable containers or bags.

13 WASTE AREA DESIGN REQUIREMENTS

13.1 VENTILATION

Ventilation would be provided in accordance with Australian Standard AS1668. Rooftop exhaust fans would be implemented within each chute system to ensure proper chute ventilation is provided.

The waste room will be equipped with tight fitting doors and impervious flooring. Any openings within the waste room will be fitted with vermin-proof mesh.

13.2 LITTER MANAGEMENT, WASHING AND STORMWATER POLLUTION PREVENTION

Chutes would be equipped with flushing nozzles to enable the regular washing of chutes to maintain appropriate hygiene levels for future use.

An appropriately drained wash down area would be provided within the bin room in which each bin is to be washed regularly by building management. Bin washing areas or bin wash bays must discharge to a litter trap. Bin wash areas should not discharge into stormwater drainage.

Alternatively, a third-party bin washing service can be engaged to perform this service. Bin washing suppliers must retain all wastewater to within their washing apparatus so as to not impact on the drainage provisions of the site.

Building management and cleaners would be responsible in ensuring the following to prevent or minimise the dispersion of litter throughout the site:

- Prevent overfilling of bins by ensuring bin lids are closed at all times;
- Require waste contractor to remove any spillage that may occur during waste collections; and
- Ensure anyone found responsible for inappropriate waste disposal or dumping would be appropriately educated and made aware of correct waste disposal techniques.

13.3 NOISE REDUCTION

All chute systems and waste areas would meet EPA, BCA and AS2107 acoustic requirements as appropriate within operational hours assigned to minimise acoustic impact on surrounding premises.

Waste collection timings in accordance with EPA NSW *Noise Control Regulation* 2017 have been stipulated in the waste collection section above.

Waste contractors should also abide by the following regulations to ensure minimal noise impacts to the neighboring properties:

- Compaction only to be carried while on the move;
- Bottles should not be broken up at the point of collection
- Routes that service entirely residential areas should be altered to reduce early morning disturbances; and
- Noisy verbal communication between operators should be avoided where possible.

13.4 DDA COMPLIANCE

All waste areas to be accessed by commercial staff/residents would comply with AS1428.1:2009.

14 RISK AND HAZARD ANALYSIS

Table 29 shows the potential risks, severity and suggested control methods that could be considered to avoid the risks from occurring during waste collections.

Note that this is a preliminary risk assessment and does not replace the need for the building management and collection contractors to complete their respective OHS assessment for waste collections.

The information provided below have been adopted from WorkCover NSW *Collection of Domestic Waste: Code of Practice.* The severity of each risk has been determined based on the risk rating table enclosed in Department of the Environment *Environmental Management Plan Guidelines* 2014.

Table 29 Potential Risks and Control Methods During Waste Collections

Area	Risk	Severity	Suggested controls
Waste collection	Incidents during waste collection vehicle ingress or egress movements	Low	Vehicle operators would be trained in ensuring the following Tailgate is closed after clearing waste area Move vehicle slowly when tailgate or body is raised Clear waste from tailgate seal and from rear of machine before departure from the subject site Ensure tailgate is locked after unloading operation Vehicle operators should not exit the vehicle body unless engine is switched off, ignition key is removed, safety prop is in position and the vehicle body is well ventilated. Regular safety checks and inspection of vehicles should be conducted.
	Incidents during manual handling of bins	High	Vehicle should meet relevant Australian Design Rules. Ensure that vehicles with low bowl height are used to avoid lifting of bins above shoulder height. Vehicle operator should be clear of the equipment before activation of packing or tipping controls.
	Slip and trip hazards in moving into and out of the vehicle	Medium	Maintain sufficient and frequent communication between driver and runner. The hose should not be used as handholds when mounting or dismounting.
	Slips and trips while transporting bins	Low	As the car parking area is at the same grade with that of the waste storage area, there are no hazards presented from the presence of slopes or steps. The car parking and waste storage area would also be well lit at all times to ensure good visibility to staff/vehicle operators. However, to ensure that any other potential risks are mitigated, frequent communication should be maintained between the driver and runner and the runner should only transfer one bin at a time.
Surrounding traffic	Conflict with other vehicle operators and commercial tenants/residents within the car park during collection	Medium	Ensure that collection is to occur only at off-peak hours. The collection area should also be well-lit to allow for better visibility of oncoming traffic and pedestrians.
Waste bins	Type of wastes handled – risk associated in contact with unknown hazardous substances or sharp objects	Medium	Residents and commercial tenants should be educated on safe disposal of hazardous substances and sharp objects. Waste vehicle operators should be trained and informed on safe handling of unknown substances. Operators could be provided with PPE to avoid infections and to assist in handling of waste bins.
Waste Bins	Overflowing bins affecting the transport of bins to the waste collection vehicle or presenting as a trip hazard.	Low	The recommended number of bins enclosed in this WMP provides a larger capacity than the volume generated for all waste streams hence there would be a low likelihood of this occurring.

15 SUPPLIER CONTACT INFORMATION

Table 30 provides a list of equipment specified by this waste management plan.

Below is a complimentary listing of contractors and equipment suppliers. You are not obligated to procure goods/services from these companies. This is not, nor is it intended to be, a complete list of available suppliers.

SALT does not warrant (or make representations for) the goods/services provided by these suppliers.

Table 30 High Level Purchasing Schedule

Item	Quantity	Supplier	Notes
1,100L Residential Bins	54	Canada Bay City Council	27 x 1,100L garbage bins* 27 x 1,100L commingled recycling bins* *This includes 6 x 1,100L spare bins for each waste stream which would be placed beneath the chute system during collections.
240L Residential Bins	37	Canada Bay City Council	37 x 240L organics bins
240L Commercial Bins	49	Private Supplier*	16 x 240L garbage bins 23 x 240L commingled recycling bins 10 x 240L organics bins
Dual Chute System	6 (2 Chutes)	Private Supplier	6 x dual chute systems across the 6 buildings. 1500W x 1000D penetration allowed
Triple Chute System	1 (3 Chutes)	Private Supplier	1 x triple chute system – 1 general waste, 1 recycling, and 1 organics
Bin Station	As required	Private Supplier	Internal bin stations. Each bin station will contain one bin per waste stream.

*Private waste collection contractors often supply their own bins for collection.

15.1 EQUIPMENT SUPPLIERS

15.1.1 DUAL CHUTE SYSTEM

- Wastech Engineering – 03 8787 1600
- ASI JD MacDonald – 03 8558 7200
- Elephant's Foot – 02 9780 3500
- Australian Chutes & Engineering – 03 9761 7557

15.1.2 BIN SUPPLIER

- Canada Bay City Council – 9911 6555
- Sulo MGB Australia (wheelie bin) – 1300 364 388
- Method Recycling (bin stations) – 0477 630 220 / 0412 001 686
- Source Separation System (wheelie bin and bin stations) – 1300 739 913

15.1.3 BIN TUG

- Electrodrive – 1300 934 471
- Hercules – 02 9966 5600 (Sydney)
- Sitecraft – 1300 363 152

15.2 WASTE COLLECTORS

15.2.1 RESIDENTIAL WASTE

- Canada Bay City Council (Residential Waste) – 9911 6555

15.2.2 COMMERCIAL WASTE

- Capital City Waste Services – 02 9599 9999

- Sydney Waste Services – 02 8661 0031

15.2.3 HARD/BULKY WASTE

- 1300Rubbish – 1300 78 22 47
- Goodbye Junk – 02 8331 5066
- Paul's Rubbish Removal – 0407 125 125
- Right Away Rubbish Removals – 1800 757 056/0418 444 093
- Same-Day Rubbish Removal – 0402 737 046

15.3 BIN WASHING SERVICES

- The Bin Butler – 1300 788 123
- Calcorp Services – 1888 225 267
- WBCM Environmental – 1300 800 621

16 PURPOSE AND LIMITATIONS

This Waste Management Plan has been prepared to form a part of the development application. The report is prepared to:

- Demonstrate that an effective waste management system is compatible with the design of the development. An effective waste management system comprises of a system that is hygienic, clean, tidy, minimises waste being landfilled and maximises recycling and resource recovery;
- Ensure stakeholders are well informed of the design, roles and responsibilities required to implement the system;
- Provide supporting scaled drawings to confirm that the final design and construction is compliant with the report;
- Define the relevant stakeholders involved in ensuring the implementation of the waste management system; and
- Ensure tenants are not disadvantaged in access to recycling and other sustainable waste management options.

The following should be noted regarding the enclosed information:

- The waste generation volumes provided are estimates based on the best available waste generation rates. The actual waste volumes generated on-site may differ slightly from that estimated as it would depend on the occupancy rate of the development and tenant type (i.e. families or renters);
- The equipment specifications and any information provided regarding the recommended equipment are provided for reference purposes only and should not be relied upon for procurement. SALT recommends that the developer attains the latest specifications of the required equipment and service provisions from the respective contractor(s) prior to engaging them or purchasing the relevant equipment; and
- The report should be updated if the development plans are amended or if new legal requirements are introduced.

APPENDIX 1 DESIGN DRAWINGS

PREMIUM STO. TOTALS	
Level	Count
BASEMENT 2	13
BASEMENT 1	5
Grand total	18

STORAGE TOTALS	
Level	Count
BASEMENT 2	185
BASEMENT 1	120
BASEMENT 1 (1600)	30
A & B - GROUND	11
Grand total	346

PARKING TOTALS	
PARKING TYPE	COUNT
VISITOR - ACCESSIBLE	2
VISITOR	15
RETAIL - ACCESSIBLE	2
RETAIL	12
RESIDENTIAL	355
CARSHARE	9
CAR WASH BAY	2
Grand total	397

INCLUDING 9 CAR SHARE SPACES AND 2 CAR WASH BAYS

PARKING BY LEVEL		
PARKING TYPE	LEVEL	COUNT
A & B - GROUND		
CARSHARE	A & B - GROUND	2
CARSHARE	A & B - GROUND	7
RETAIL - ACCESSIBLE	A & B - GROUND	2
RETAIL	A & B - GROUND	12
RESIDENTIAL	A & B - GROUND	38
VISITOR	A & B - GROUND	15
VISITOR - ACCESSIBLE	A & B - GROUND	2
		78
BASEMENT 1		
RESIDENTIAL	BASEMENT 1	157
		157

PARKING BY LEVEL		
PARKING TYPE	LEVEL	COUNT
BASEMENT 2		
CAR WASH BAY	BASEMENT 2	2
RESIDENTIAL	BASEMENT 2	160
		162
Grand total		397

INCLUDING 9 CAR SHARE SPACES AND 2 CAR WASH BAYS

MOTORBIKE	
Level	Count
BASEMENT 2	23
BASEMENT 1	3
BASEMENT 1 (1600)	12
A & B - GROUND	30
Grand total	68

PARKING LEGEND:
- RESIDENTIAL
- VISITOR
- RETAIL
- COMMUNITY
- SHARE SPACE

FOR APPROVAL

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Rev	Date	Revision	By	Chk.
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2	28.05.2024	FOR INFORMATION	JR	NH
3	07.06.2024	FOR INFORMATION	LL	NH
4	14.06.2024	FOR INFORMATION	LL	NH
6	20.06.2024	FOR INFORMATION	LL	NH
7	28.06.2024	FOR INFORMATION	LL	NH
8	12.07.2024	FOR INFORMATION	JR	NH
9	19.07.2024	FOR INFORMATION	JR	NH
10	26.07.2024	FOR INFORMATION	JR	NH
11	20.08.2024	SSDA ISSUE	JR	NH

Client
Billbergia
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Project
25-27 LEEDS STREET
25-27 LEEDS STREET, RHODES
Country: WANGAL

Drawing Name
BASEMENT 01

Date	Scale	Sheet Size
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JR	NH	6924
Drawing No.		Revision
DA-1000A		/ 11

SJB Architects
Level 2, 490 Crown St
Surry Hills NSW
2010 Australia
T 61 2 9380 9911
www.sjb.com.au

PREMIUM STO. TOTALS	
Level	Count
BASEMENT 2	13
BASEMENT 1	5
Grand total	18

STORAGE TOTALS	
Level	Count
BASEMENT 2	185
BASEMENT 1	120
BASEMENT 1 (1600)	30
A & B - GROUND	11
Grand total	346

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INCLUDING 9 CAR SHARE SPACES AND 2 CAR WASH BAYS

PARKING BY LEVEL		
PARKING TYPE	LEVEL	COUNT
A & B - GROUND		
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CARSHARE	A & B - GROUND	7
RETAIL - ACCESSIBLE	A & B - GROUND	2
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RESIDENTIAL	A & B - GROUND	38
VISITOR	A & B - GROUND	15
VISITOR - ACCESSIBLE	A & B - GROUND	2
		78
BASEMENT 1		
RESIDENTIAL	BASEMENT 1	157
		157

PARKING BY LEVEL		
PARKING TYPE	LEVEL	COUNT
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CAR WASH BAY	BASEMENT 2	2
RESIDENTIAL	BASEMENT 2	160
		162
Grand total		397

INCLUDING 9 CAR SHARE SPACES AND 2 CAR WASH BAYS

MOTORBIKE	
Level	Count
BASEMENT 2	23
BASEMENT 1	3
BASEMENT 1 (1600)	12
A & B - GROUND	30
Grand total	68

PARKING LEGEND:
- RESIDENTIAL
- VISITOR
- RETAIL
- COMMUNITY
- SHARE SPACE

- 1 BED
- 1 BED+ST
- 2 BED
- 2 BED+ST
- 3 BED
- 3 BED+ST
- 4 BED

FOR APPROVAL

Nominated Architects: Adam Haddow-7188 | John Pradel-7004

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3	07.06.2024	FOR INFORMATION	LL	NH
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10	26.07.2024	FOR INFORMATION	JR	NH
11	20.08.2024	SSDA ISSUE	JR	NH

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25-27 LEEDS STREET
25-27 LEEDS STREET, RHODES
Country: WANGAL

Drawing Name
GROUND FLOOR (LEVEL 01)

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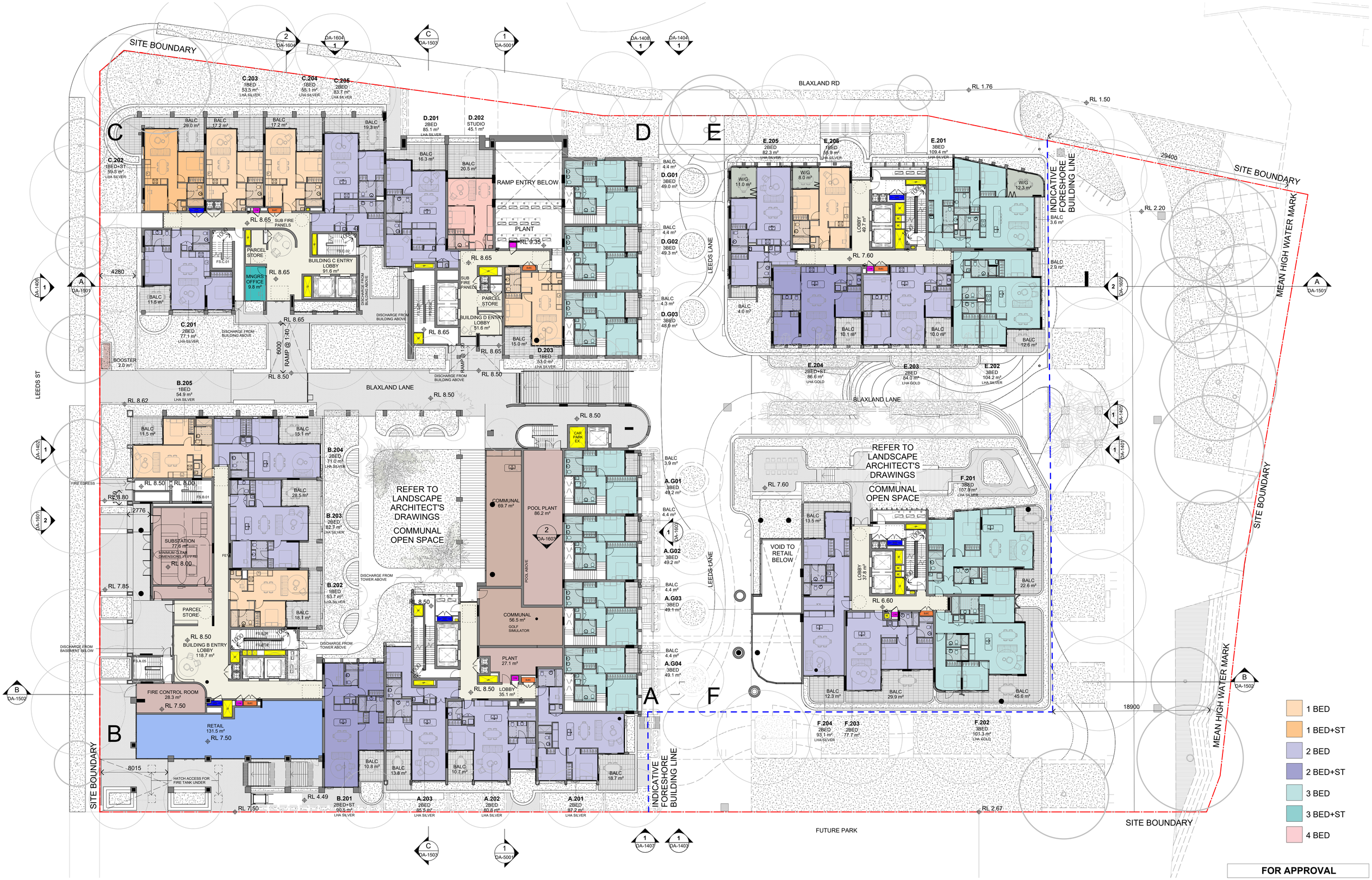

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Nominated Architects: Adam Haddow-7188 | John Pradel-7004

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11	20.08.2024	SSDA ISSUE	JR	NH

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Project
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25-27 LEEDS STREET, RHODES
Country: WANGAL

Drawing Name
LEVEL 02

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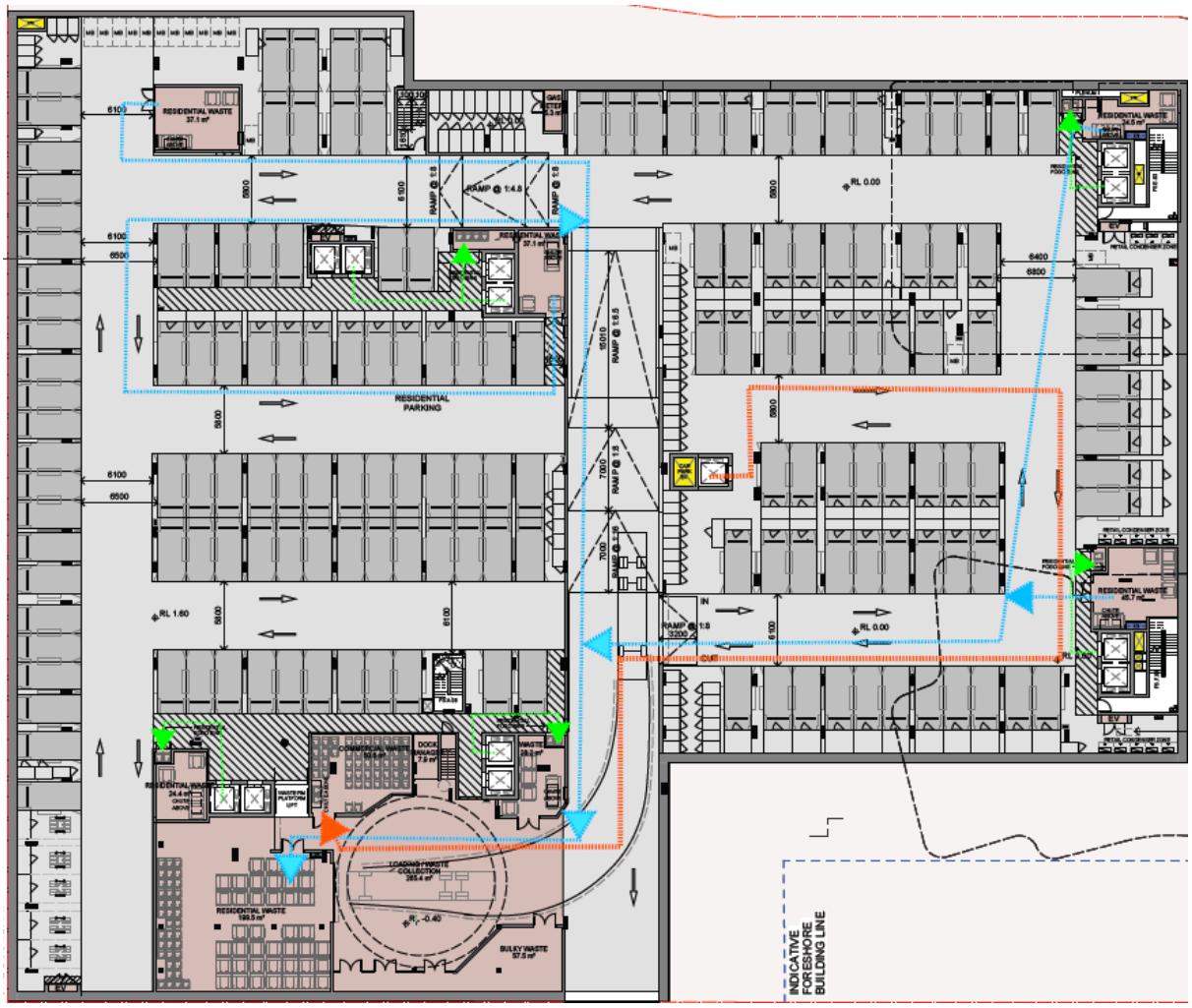
APPENDIX 2 WASTE TRANSFER PATH

Basement Level Waste Transfers

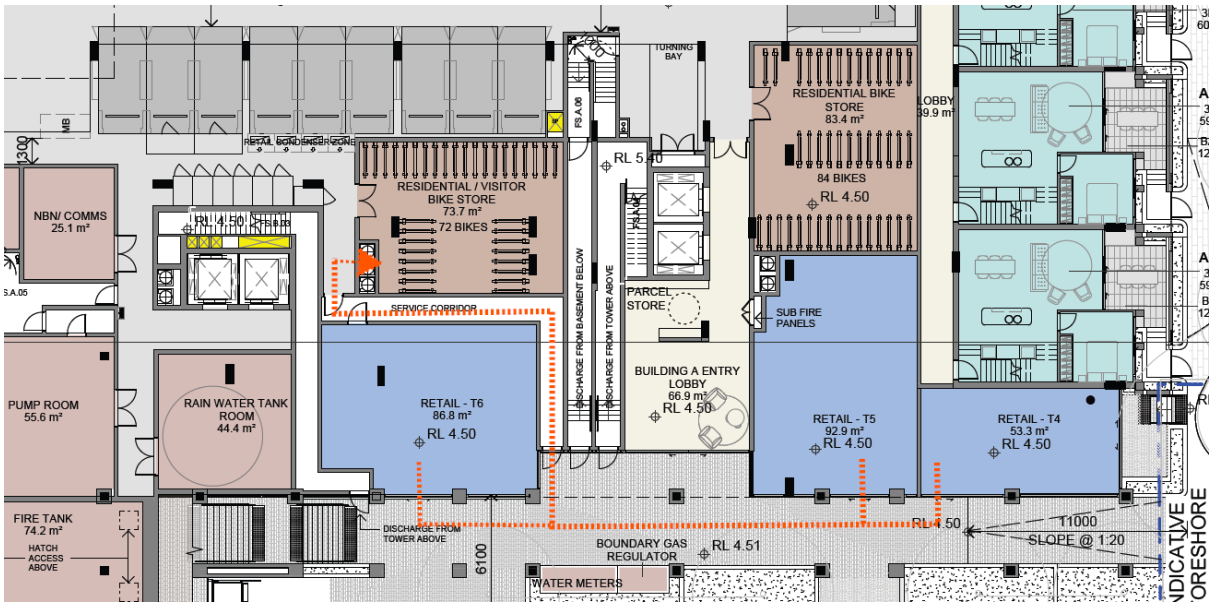


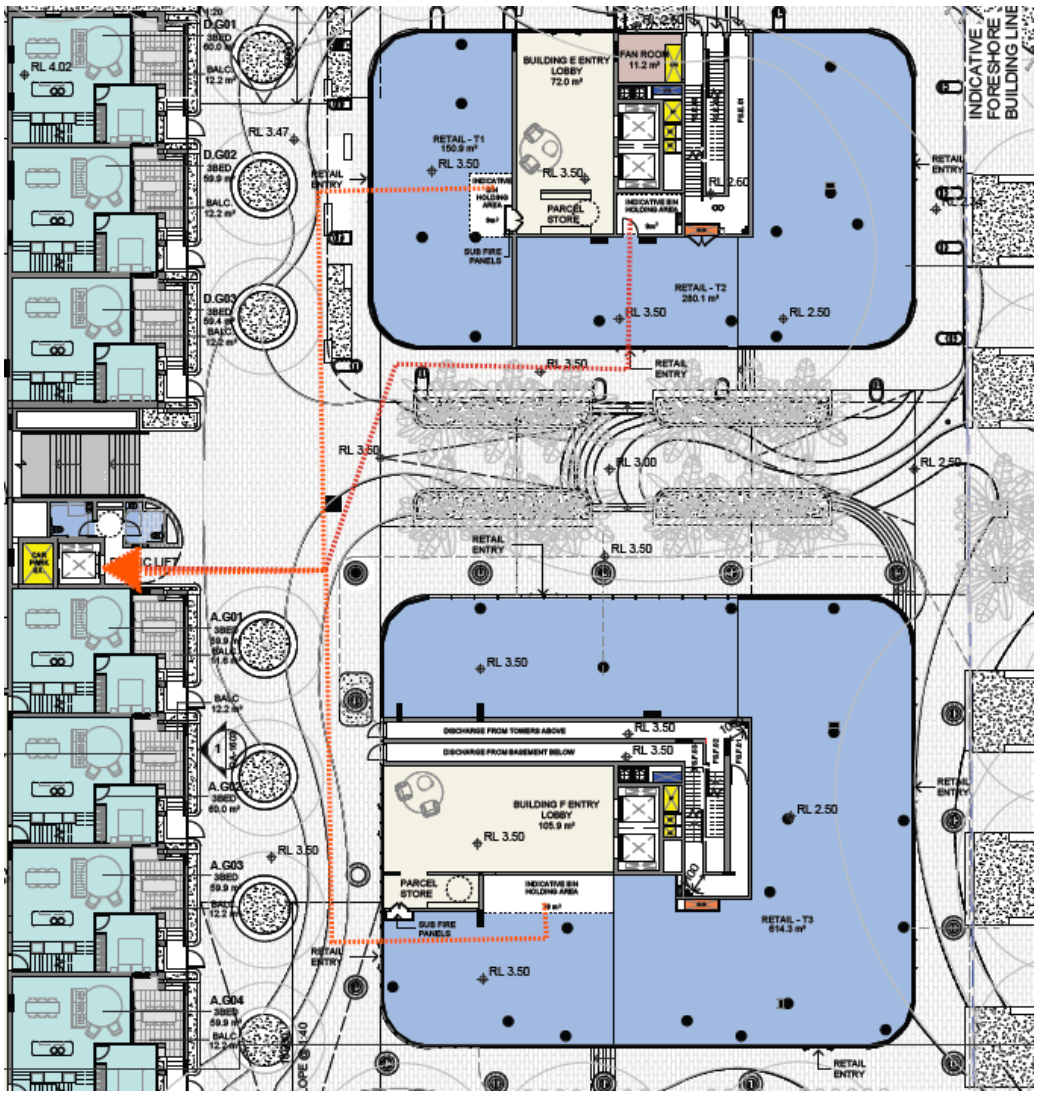
Organic waste transfer (residential)

Residential waste and recycling bin transfer

Commercial waste and recycling bin transfer

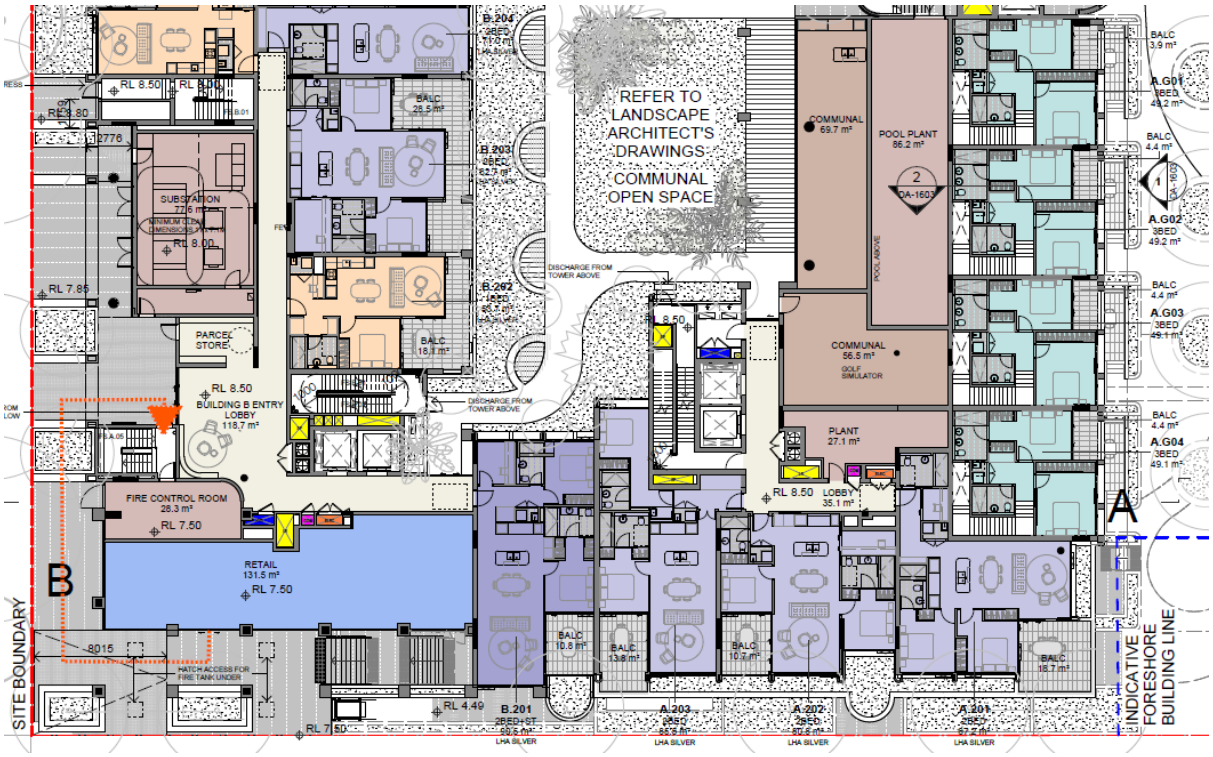
Level 1 (Ground) Waste Transfers

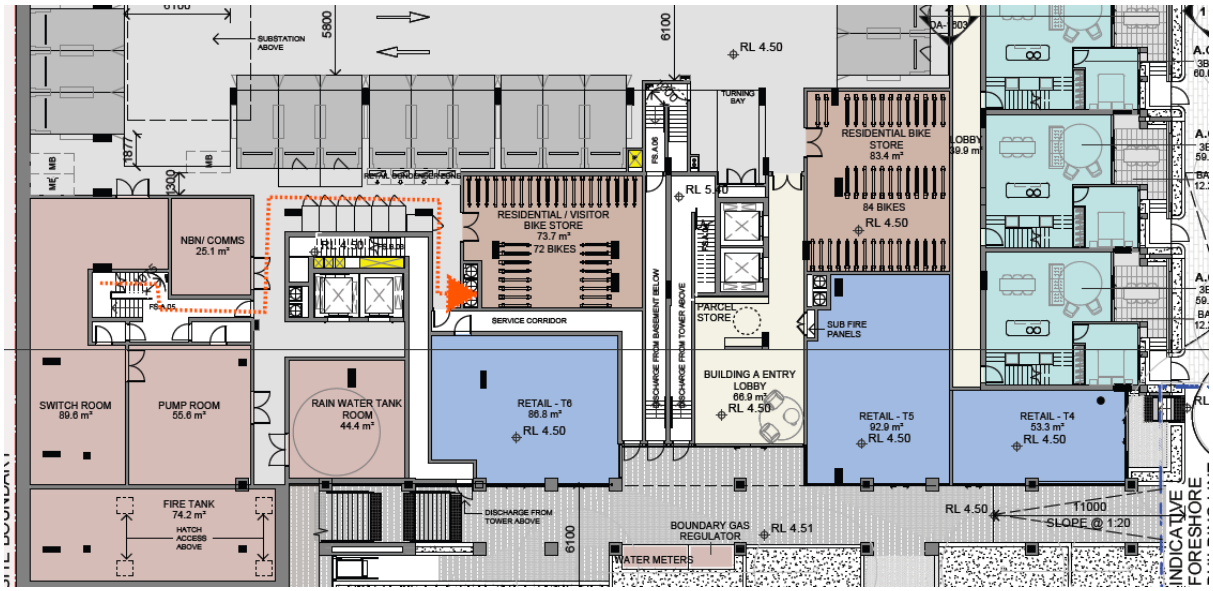




Commercial waste and recycling transfer

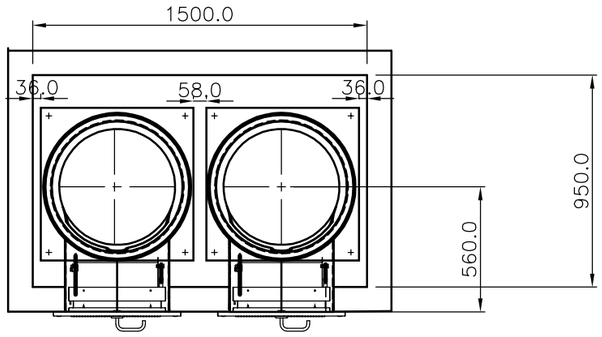
Level 2 Waste Transfers

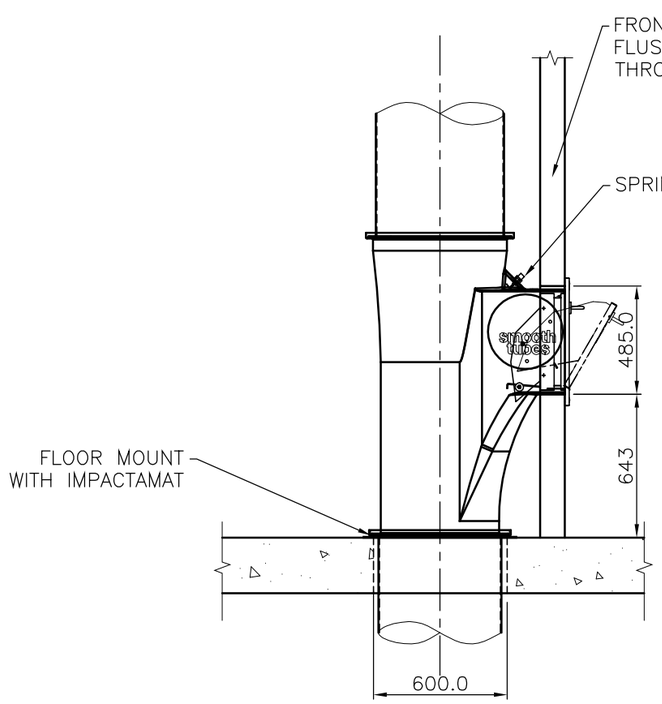


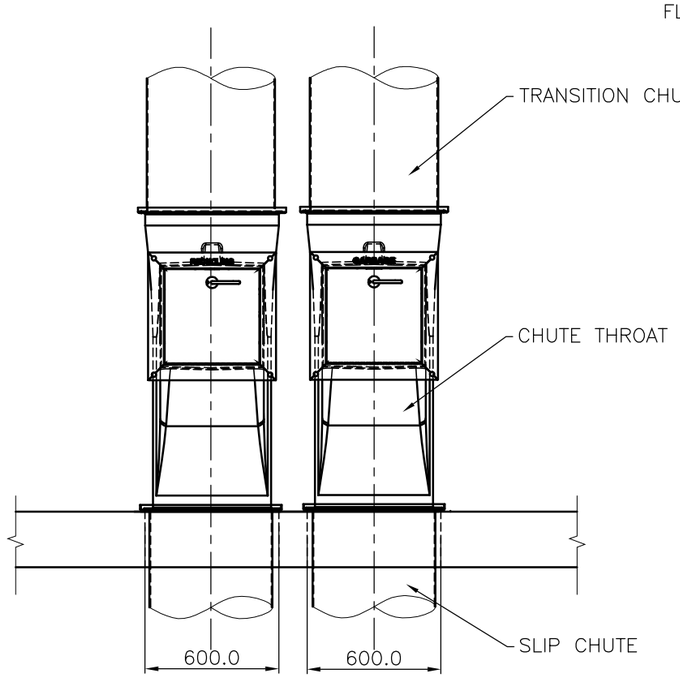


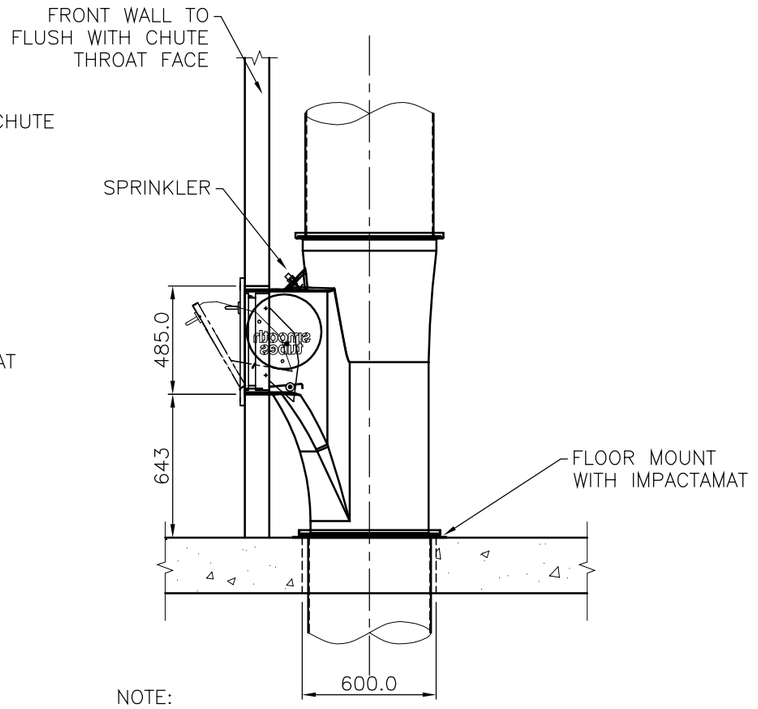
Commercial waste and recycling transfer

APPENDIX 3 DUAL CHUTE SYSTEM EXAMPLE SPECIFICATIONS









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PENETRATION FOR CHUTE DOOR MUST BE AS PER THIS DRAWING.
WASTECH CANNOT MODIFY THE CHUTE THROAT TO SUIT INCORRECT PLACEMENT OF SURROUNDING WALL.

No:	DATE	REVISION	INT.

MATERIAL

QTY: A.S.

UNLESS OTHERWISE SPECIFIED

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ANGULAR	±30'	CHAMFERED EDGES	1X45°
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FACES PARALLEL WITHIN	0.03/100	DEBURR ALL EDGES	
DIAS CONCENTRIC WITHIN	0.03		

WASTECH ENGINEERING
SPECIALISING IN: DESIGN, MANUFACTURE AND SERVICE OF WASTE DISPOSAL AND RECYCLING EQUIPMENT
33 WEDGEWOOD ROAD, HALLAM, VIC. 3803 PHONE (03) 87871600 FAX (03) 87871650; (03) 87871670

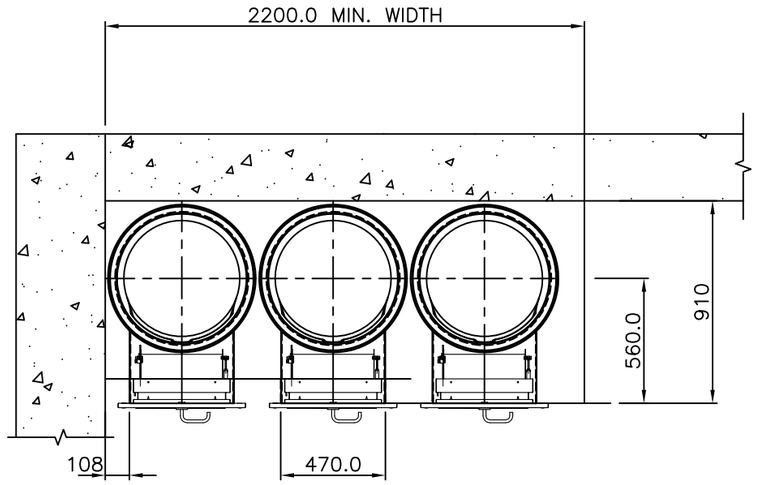
DRN A.H.
CKD S.F.
APP ---
DATE 18-12-2012

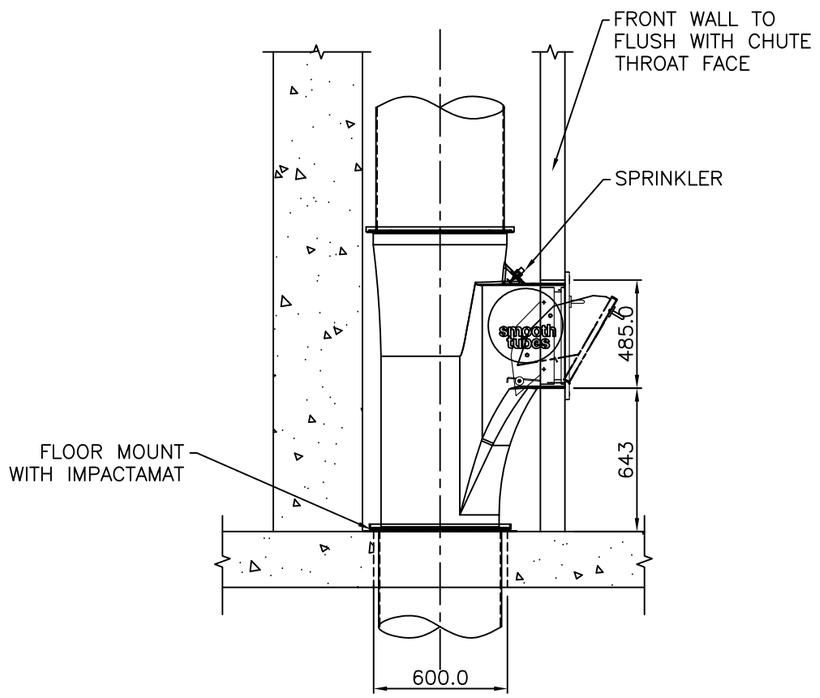
TITLE DUAL CHUTE ASSEMBLY
WASTECH ENGINEERING

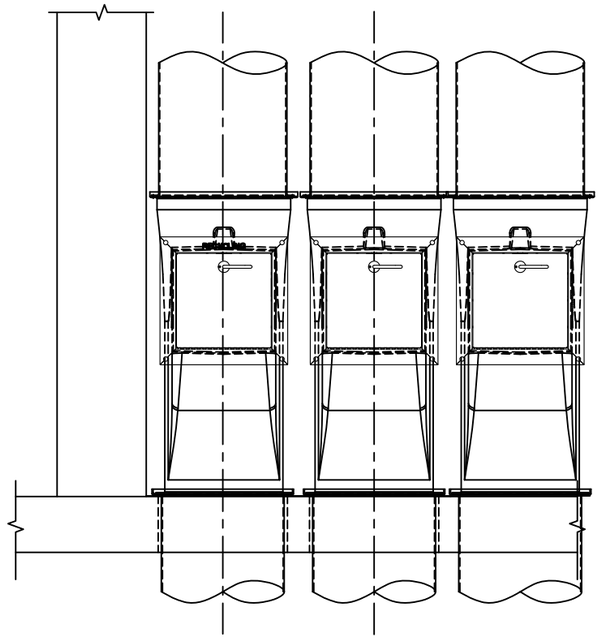
SCALE D.N.S
VIEWS ---

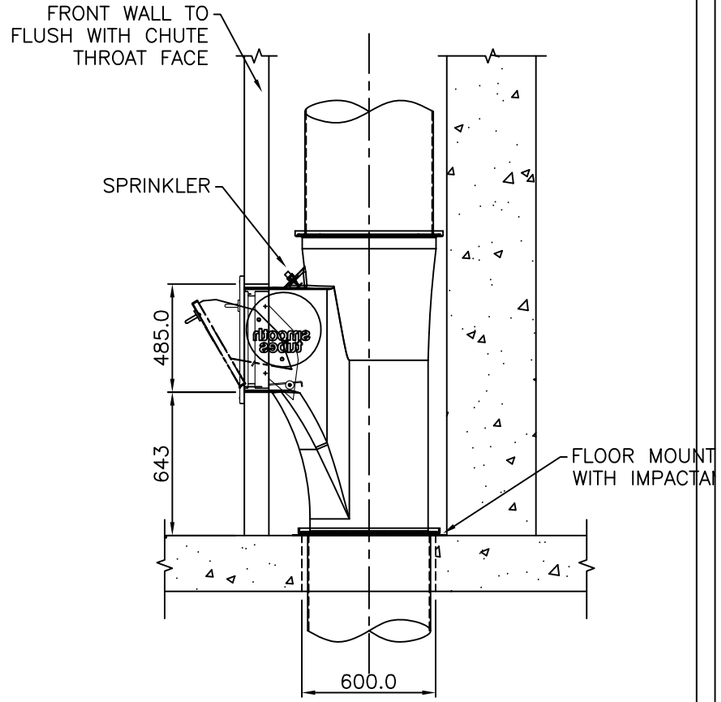
CAD FILE NAME PCT-01-11323

REV. 0









NOTE:

WALLS MUST BE FORMED ACCORDING TO THIS DRAWING.
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PENETRATION FOR CHUTE DOOR MUST BE AS PER THIS DRAWING.
WASTECH CANNOT MODIFY THE CHUTE THROAT TO SUIT INCORRECT PLACEMENT OF SURROUNDING WALL.

No:	DATE	REVISION	INT.

MATERIAL

QTY: A.S.

UNLESS OTHERWISE SPECIFIED

LINEAR ±0.3	DIMENSIONS IN MILLIMETERS
ANGULAR ±30'	CHAMFERED EDGES 1X45°
FACES SQUARE WITHIN 0.05/100	
FACES PARALLEL WITHIN 0.03/100	MACHINED SURFACES 3.2/ ▽
DIAS CONCENTRIC WITHIN 0.03	DEBURR ALL EDGES

WASTECH ENGINEERING

SPECIALISING IN: DESIGN, MANUFACTURE AND SERVICE OF WASTE DISPOSAL AND RECYCLING EQUIPMENT

33 WEDGEWOOD ROAD, HALLAM, VIC. 3803 PHONE (03) 87871600 FAX (03) 87871650; (03) 87871670

DRN A.H.	TITLE TRIPPLE CHUTE ASSEMBLY WASTECH ENGINEERING		
CKD S.F.			
APP ---	SCALE D.N.S	CAD FILE NAME PCT-01-11323	REV. 0
DATE 18-12-2012	VIEWS ---		

WASTECH

Design. Develop. Deliver.

Waste Chute Systems

Waste and Recycling Chute and Disposal Systems Product Guide

1800 465 465
www.wastech.com.au

Company Profile

Over 23 years of experience supplying waste and recycling equipment, both Australia wide and internationally. Wastech consultants have extensive industry knowledge coupled with state of the art equipment that will save you both time and money.

Whether it's general waste, cardboard, plastic, e-waste or polystyrene, Wastech has a solution for your site. From Melbourne to Darwin, Brisbane to Perth, Sydney to Adelaide; our waste management consultants are able to tailor solutions for each unique site to save on costs, while promoting a sustainable future.

Company owned branches Australia wide.

Design.

Dedicated and experienced design and engineering teams for all Wastech products and equipment.

Develop.

Supporting our engineers, our on-site manufacturing facility furthers our ability to develop tailored solutions quickly, efficiently and cost-effectively.

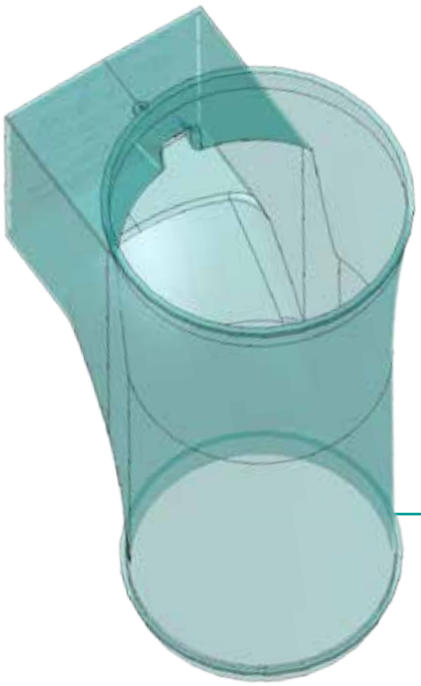
Deliver.

On-time project delivery backed by a national 24/7 Service & Support network. Offering delivery on a national scale, our Service and Support team operate out of dedicated facilities to maintain a high level of service, Australia wide.

Waste Recycling Linen Organics

Smoothtubes™ Plastic Chutes

Introducing Wastech's very own super smooth plastic Waste Chute system offering 80% less friction than steel, allowing for quieter and smoother waste disposal, whilst being a more cost effective solution.



Pioneering the design of Australia's first plastic chutes, Wastech's Smoothtubes™ Chutes system offers:

- Superior industrial grade plastic
- Superior acoustic properties
- Low density, flexible material
- Corrosion proof
- Australian designed and developed
- Made from recycled* Polyethylene
- Offers less restricted continuous flow
- Self cleaning smooth internal surface

Recommended configuration/installation options are:

Single Chute System

Dual Chute System

For more detailed specifications on Single and Dual chute systems, please refer to page 14.

Innovative Design

The Smoothtubes™ modular design caters for any application without the need to custom build sections. The innovative slip-joint assembly system significantly reduces installation time.

Smoothtubes™ also offer UV and impact resistance while weighing less than 15kg per section.

Builder Friendly

Easy installation by offering:

- In-built block-off panels that seal the chute until installation of doors is complete. This helps to ensure no usage or damage to occur during construction and installation.
- Self supporting modular sections with built in mounts.
- Lightweight for easy handling.

Cleaner & Quieter

Smoothtubes™ are designed to be cleaner whilst eliminating noise by:

- Offering crevice free joins with no sharp angles eliminating collection of any waste particles.
- Closed cell, non-porous material repelling grime, bacteria, odour and liquid.

*Recycled materials used on availability.

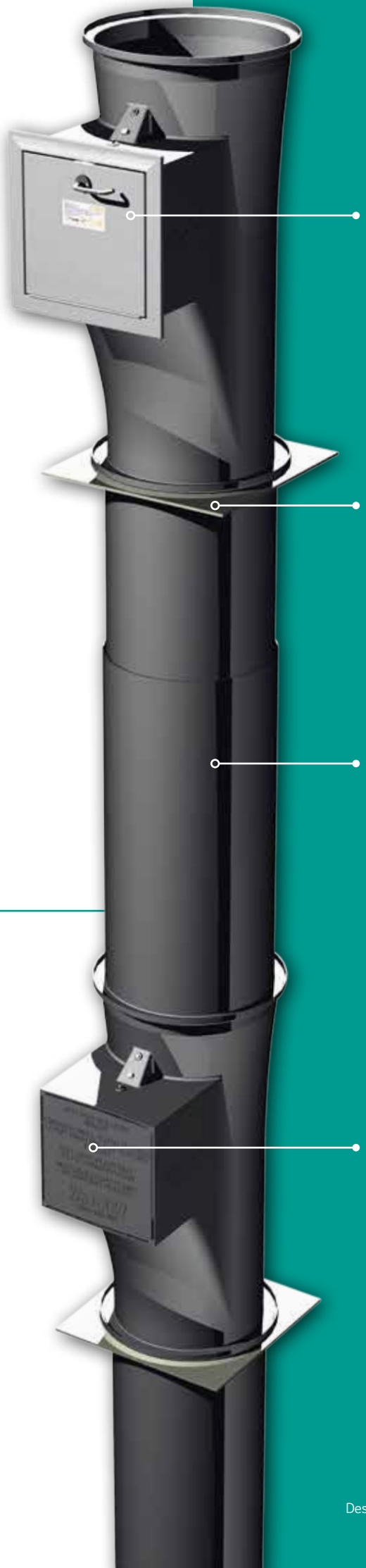
Fact!

Wastech pioneered the plastic chute system with Smoothtubes™ and have successfully manufactured, delivered and installed over 900 waste chute major commercial projects Australia wide!

Contact Us

A large range of options are available including Steel chutes and custom built solutions.

To arrange a detailed discussion, contact a Waste Management consultant today on 1800 465 465.



Stainless Steel fire rated door. (AS1530)

Flexible floor level penetration section for mounting onto slab.

Lightweight self supporting chute modular section.

In-built installation block off panel.

For detailed specifications, please refer to page 12.

Easy Installation & Maintenance

The electric actuator of the Smarttubes™ system eliminates the need for expensive hydraulics and results in lower lifetime maintenance costs. The electric motor also allows for lower power requirements, only requiring one standard 240V outlet.

Simplified Operation

1. Select waste stream (waste or recycling).
2. Wait* - Diverter arm will move to the appropriate position.
3. Open - Chute door unlocks for disposal.
To ensure correct disposal, the chute door will only open for one waste stream at any stage of operation.

Smarttubes™ Door Control Panel

***Wait time will vary depending on building height and current/active users.**

Smoothtubes™ Plastic Chutes

Chute Construction

Nominal Internal Diameter: Garbage 530mm
Material LLDPE (linear low density polyethylene). Internal surface is closed cell, ultra smooth finish that resists waste residue build up, odour, blockages, corrosion and liquid. +Fire hazard property tests in accordance with BCA Clause C1.10 and Specification C1. 10 in complying with Australian Standard AS1530 by Warrington Fire Research (Aust) Pty Ltd.

Material Thickness: Chute tubes 5mm nominal.

Mounts: Designed to be flexible and smoke seal at every level.

Noise & Vibration Prevention: Acoustic lagging is not necessary. Refer to #acoustic report. Isolation is provided at every level under the floor mounts. Flexible mount is isolated from concrete using polyurethane sealant that is acoustically rated.

Ventilation: 200mm diameter galvanised steel ventilation fan and discharge cowl assembly. The fan is supplied with 240 volt single phase plug and lead. The cowl assembly comes complete with dektite flashing. The vent is connected to the top of the chute by a flexible duct.

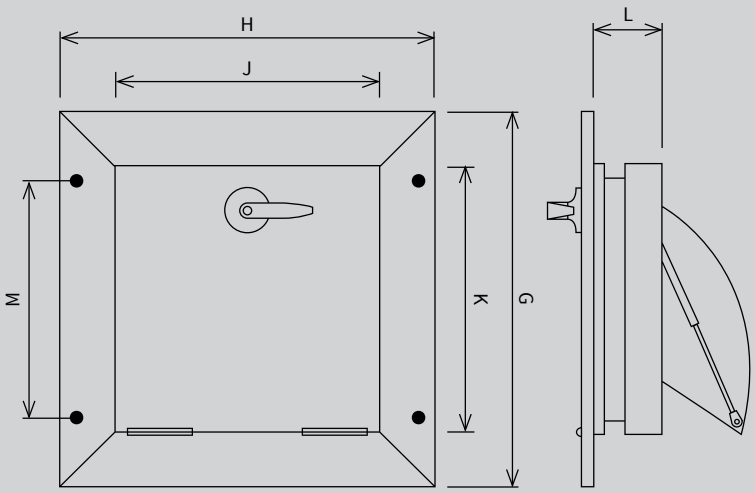
Loading throat door: Smoothtubes™ Loading Throats are molded within the chute tube creating a smooth flowing entry to reduce impact noise and minimise blockages. Loading doors -304 grade Stainless Steel with a fire block core, door frame sealed to wall using fire sealant. Compliance to Australian Standards AS.1530.1 (FRL:-/120/30). Doors are self closing. Key locks are supplied standard for Linen doors, Garbage and recycling doors. Fire sprinklers are installed in every loading throat ready for connection to fire services by others.

Deflector: The discharge of the chute has a 3 or 5mm thick Galvanised Steel deflector, set at 45 degrees (min) for discharge directly into a bin. The deflector is fitted with a fire activated fusible link close-off door which can be manually overridden, to close the chute for bin changes. For garbage discharge into an EcoPack Compactor the fire door is not required as the Compactor isolates the chute at all times.

Installation

Chute sections weigh no more than 15kg each allowing easy transport and installation by hand without reliance on Tower Cranes. Bricking up instructions are detailed on the front panel of every loading throat, which stays fitted until installation of loading door to prevent unauthorised use and potential damage from building rubble.

Chute Door Dimensions

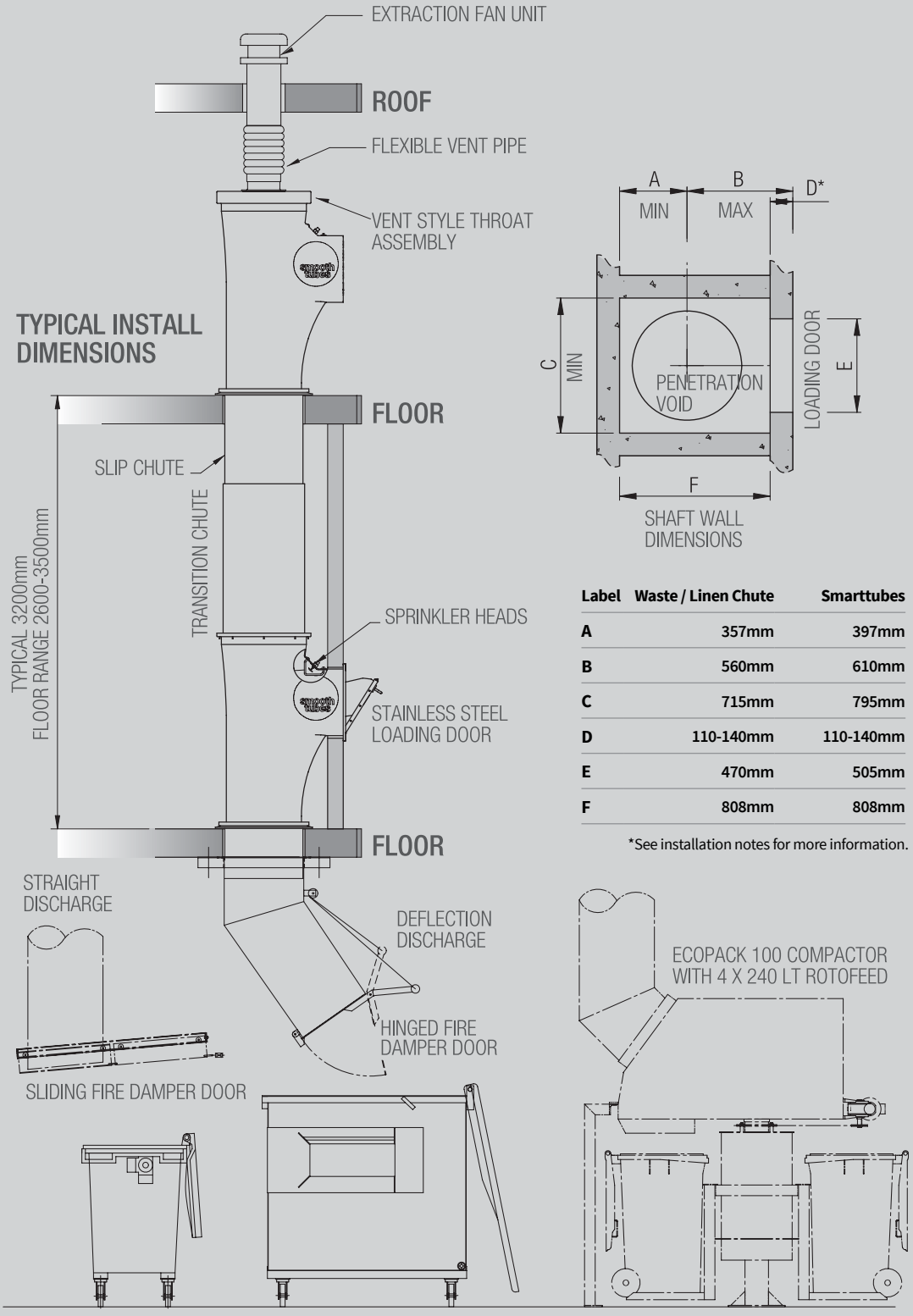


Dimensions

Label	Waste Door	Linen Door	Recycling Door
G	603mm	573mm	603mm
H	603mm	573mm	603mm
J	435mm	432mm	432mm
K	435mm	432mm	432mm
L	110mm	110mm	110mm
M	380mm	380mm	380mm

 A large range of configuration options and layouts are available. For more information or specifications, please contact a Wastech consultant on 1800 465 465.

TYPICAL INSTALL DIMENSIONS

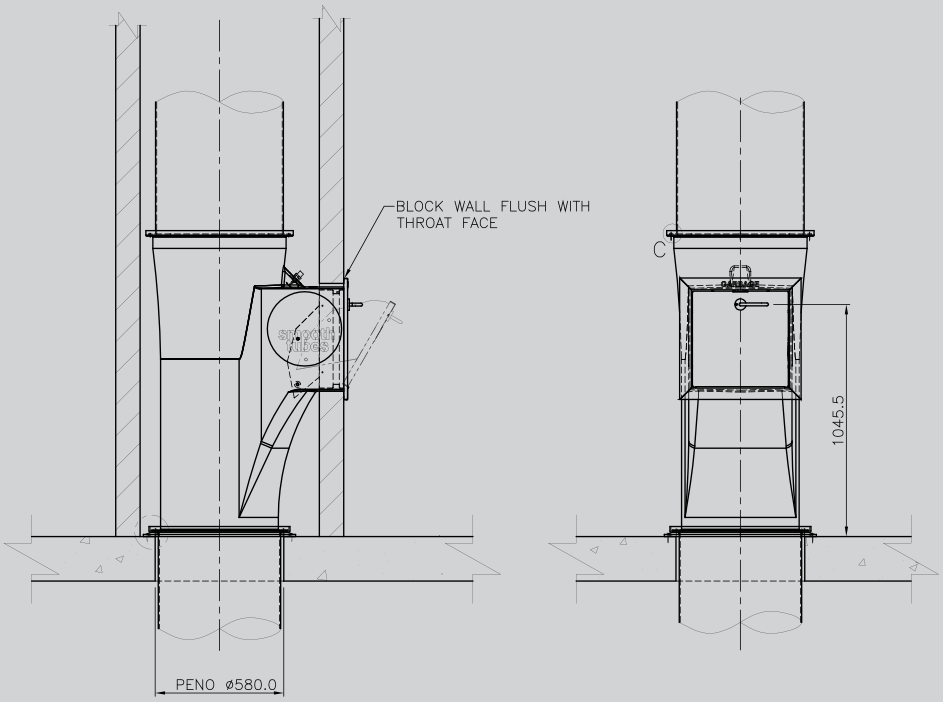


Label	Waste / Linen Chute	Smarttubes
A	357mm	397mm
B	560mm	610mm
C	715mm	795mm
D	110-140mm	110-140mm
E	470mm	505mm
F	808mm	808mm

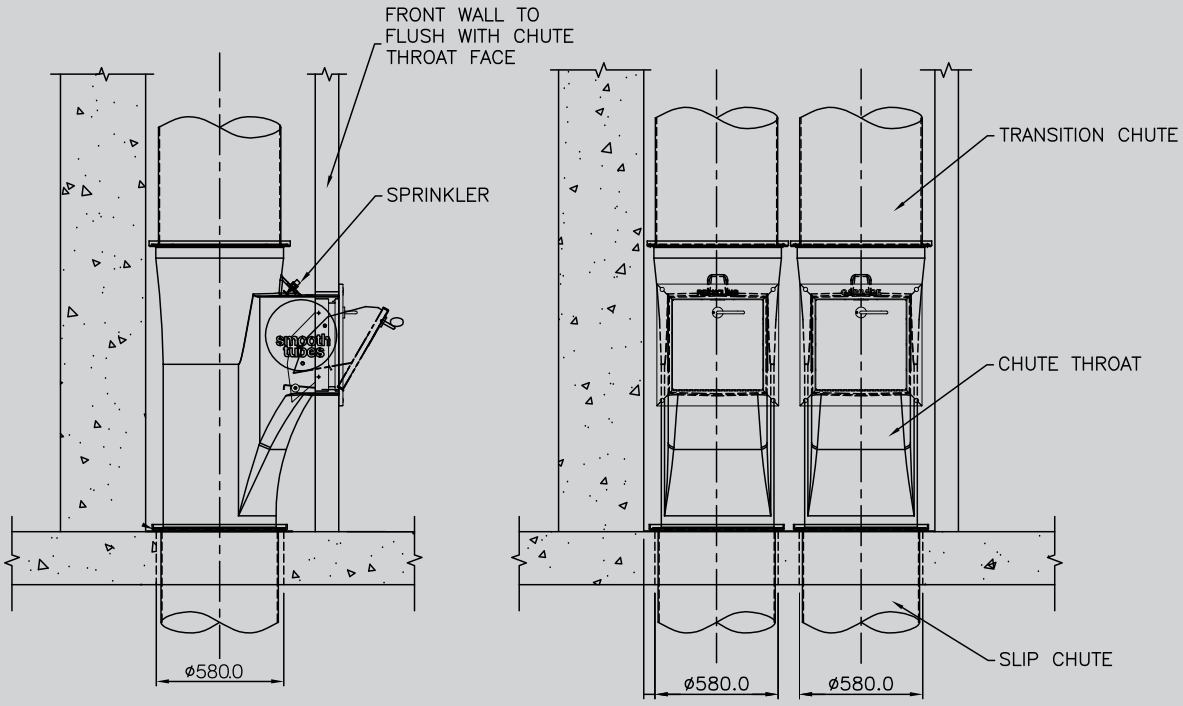
*See installation notes for more information.

Smoothtubes™ Chute Assembly

Single Chute Assembly Example



Dual Chute Assembly Example



 A large range of configuration options and layouts are available. For more information or specifications, please contact a Wastech consultant on 1800 465 465.

Optional Parts & Accessories

Wastech offer a large range of additional spare parts and accessories to suit all your needs including:

Penetration Ring

Reusable circular steel mandrel for builder to set out and form floor penetrations.

Flushing Spray

19mm diameter brass flushing spray head fitted to the top of the chute. Supplied complete with fire rate access door for maintenance.

Mounting Brackets

Site-specific brackets to suit oversized penetrations, large building shafts or wall-mounting.

Collector Bins

Plastic or steel collector bins available in all industry sizes.

Automatic Bin Feed Systems

Automatic bin feed systems available in Carousel and Conveyor layouts options.

Odour Control Systems

A range of diffferent products designed to control odour of Waste Chute systems.

Manual Bin Handling Equipment

Wastech offers a range of optional equipment to assist with safe and easy handling of your bins.

Equipment & Bin Monitoring Systems

SMS to mobile phone Bin monitoring systems.

24/7 Service & Support Australia Wide

Regardless of your location, with just a simple phone call, a Wastech Service Technician can assist to ensure any Waste Chute System issues are resolved urgently!

With Wastech service centres located Australia wide, we can offer you:

- National mobile 24/7 service and support
- Planned service agreements
- Prompt, quality service from trained technicians
- Live reporting using 4G Toughpad technology

Our Service Branches are located in Victoria, New South Wales, South Australia, Queensland and Western Australia. We also have excellent representation through our reliable and loyal distributors in Tasmania, Northern Territory and New Zealand.

Simply call 1300 662 663.

60+

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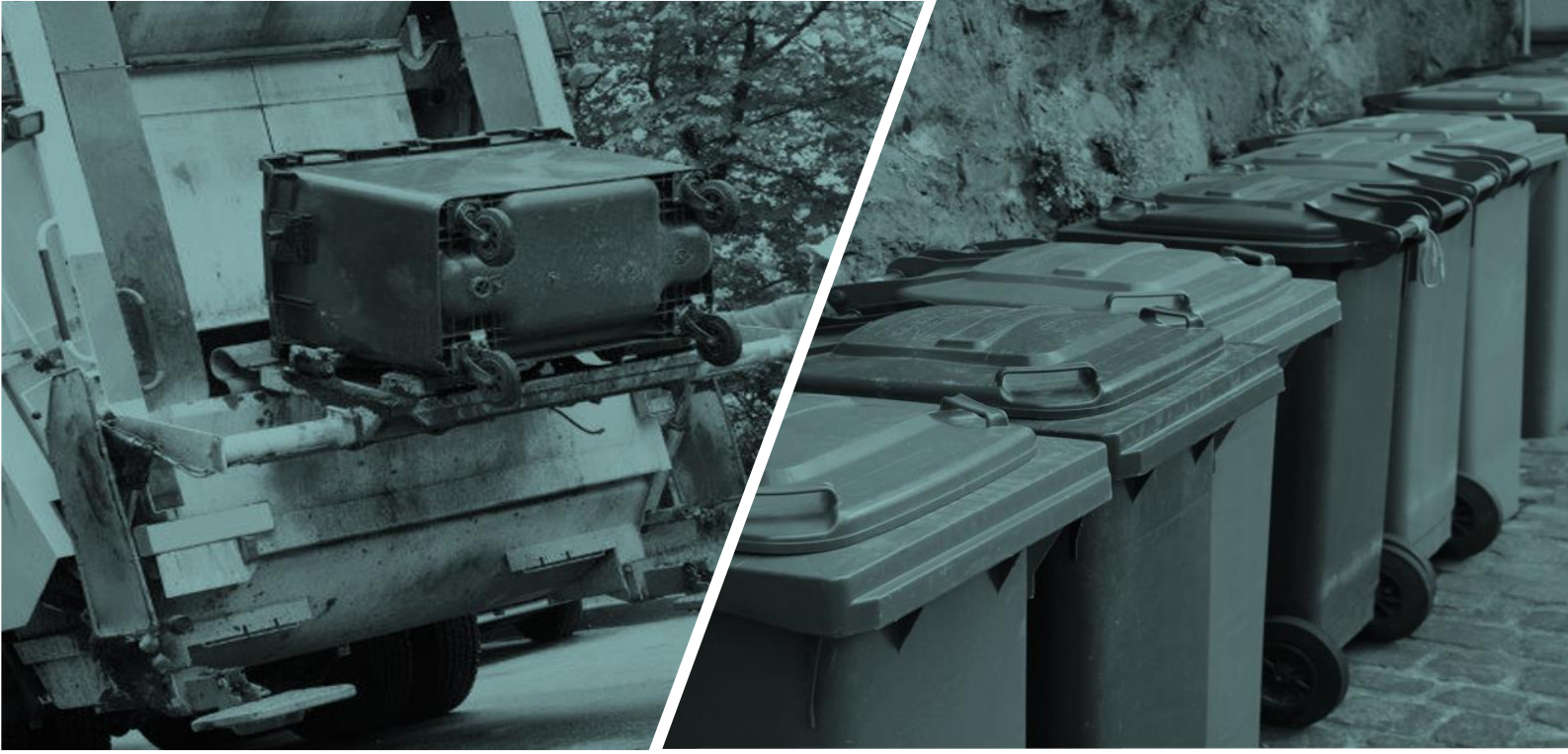

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