4–8 Bells Boulevard, Kingscliff NSW

Mixed Use Development

OPERATIONAL WASTE MANAGEMENT PLAN

26/06/2026
Report No. 708060
Revision G

Client

Bells Boulevard Pty Ltd

Architect

SJB Architects
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REVISION REFERENCE

Revision	Date	Prepared by	Reviewed by	Description
A	29/09/2025	S. Semaan	M. Cuevas	Draft
B	21/11/2025	M. Cuevas	J. Parker	Updated Plans
C	04/12/2025	M. Cuevas	J. Parker	Updated plans
D	10/12/2025	M. Cuevas	J. Parker	Final
E	15/06/2026	M. Cuevas	J. Parker	RFI
F	23/06/2026	M. Cuevas	J. Parker	Final
G	26/06/2026	M. Cuevas	J. Parker	Final amendment

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The following table presents the relevant comments from Tweed Shire Council's assessment of the waste collection arrangements for the mixed-use development at 4–8 Bells Boulevard, Kingscliff (SSD-83069459), together with corresponding responses to matters raised by Elephants Foot Waste Consultancy.

Table 1: Response to Council Waste Review-17 Feb 2026

	Council's Condition	Elephant's Foot Comments	Section/page OWMP
10.1	**Loading dock headroom** The proposed loading dock provides only 3.1m of vertical clearance, which does not comply with AS2890.2:2018, requiring 4.5m for Medium Rigid Vehicles. Although the proponent states waste collection will be operated by a vehicle with a 2.9m height, no evidence is provided how bin-lifting mechanisms can operate safely and effectively without risk of collision with the structure. The 200mm buffer is not supported. Council recommends that confirmation is provided that the nominated waste collection vehicle can safely lift and service bins within the proposed loading dock clearance, supported by manufacturer specifications and/or operational confirmation from the waste contractor. The loading dock must be designed and signposted for the nominated MRV. Any increase to design vehicle class requires re-assessment and updated swept path analysis. In addition to above it is recommended a loading and waste plan of management (POM) be prepared that includes the following at a minimum: Posted headroom limits with signage indicating maximum vehicle height; nominated service windows, including restriction of servicing outside retail peak periods marshalling procedures for service vehicle movements. safety measures, including any required convex mirrors, sight aids and warning signage The POM should be implemented and maintained for the life of the development.	The proposed loading dock is designed to accommodate the identified design vehicle, being the Inverco JS Rearloader, as outlined in **Appendix C.3** of the OWMP. The vertical clearance of 3.1m within the loading dock is acceptable to accommodate the 2.9m operating height of the custom design vehicle. As shown in **Figure 1 of the McLaren Traffic Engineering letter (See Appendix C.4)**, the bin lifting mechanism does not lift the bin above the height of the vehicle, and therefore the collection of waste can operate safely within the 2.9m headroom of the design vehicle.	Refer to Appendices C.3, C.4 and C.5 of the OWMP.

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	Council's Condition	Elephant's Foot Comments	Section/page OWMP
12.1	**Incorrect recycling calculations** Table 5 of the Operational Waste Management Plan (OWMP) has incorrectly calculated the volume of recycling waste to be generated from the residential land-use. 69 units generating 40L of recycling each week equates to **2,760L** per week, not **2,560** as per the OWMP. This increases the number of required recycling bins from **11 to 12**. Council recommends that design updates must be made to reflect the increased number of recycling bins required to serve the residential land-uses.	- The residential waste calculations have been updated in accordance with the latest set of plans provided by the client on 24/06/2026.	Refer to section 6.1 "Residential Waste Management" of the OWMP.
12.2	**Council kerbside collection** Council has a kerbside waste collection contract to collect waste generated by residential uses. The applicant should demonstrate that temporary kerbside bin placement is possible. Temporary collection should be demonstrated should private contracted waste management cannot be undertaken. Any OWMP should minimise impact on retail/commercial areas and should not require manual handling of bins by the collection truck driver at kerbside. It is recommended that the OWMP demonstrate temporary kerbside bin placement that includes number and size of bins, lengths of kerbside/street frontages, local topography, and kerbside locations where collection can occur from a public road without the collection truck being impeded by parked vehicles	-Kerbside bin collection has been demonstrated through swept path analysis of Council's kerbside waste collection vehicle servicing the nominated collection point along Gunnamatta Avenue. Note that kerbside collection would only be required if the proposed private waste collection arrangement is no longer feasible.	Refer to Section 6.5, "Bin Collection Procedure", of the OWMP. Supporting information is also provided in the appendices, including the private contractor waste vehicle specifications in Appendix C.3, and Appendices C.5 and C.6, which contain the swept path analysis.
12.3	**Consideration for retail waste generation** Table 5 of the OWMP does not identify specific retail uses. Food premises will generate general waste, recycling and FOGO at rates higher than those identified in Table 6 of the OWMP. The proposal has not determined uses for the retail tenancies. It is recommended that uses for these retail tenancies are considered and design updates should be reflected in the architectural plans and OWMP.	- The commercial/retail waste calculations have been updated in accordance with the latest set of plans provided by the client on 24/06/2026. A food premises has also been included in the commercial/retail waste calculations.	Refer to section 7.1 "Retail Waste Generation Estimates" of the OWMP.
12.4	**Retail Waste Disposal** The OWMP states retail tenancies will have to transport general waste and recycling to the retail bin storage room in basement 1. There are no bin travel paths for retail tenancies shown. Based on the proposed floor plan, Lift 1-4 would be best suited for retail tenancies to use for waste transportation. However, this is in a residential lobby which would have waste traversing through residential spaces. Based on the location of retail tenancies, this would also have waste transported	-The bin path travel has been added to the architectural plans. Bins from the chute discharge rooms and FOGO rooms located in the basement will be transported with a bin tug through the ramp to the GF.	Refer to Appendices A.2 and A.3 of the OWMP.

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	Council's Condition	Elephant's Foot Comments	Section/page OWMP
	through the communal open space. It is not considered appropriate for retail tenancies to have to transport waste through residential spaces to complete waste disposal. The proposal along with the OWMP is to reconsider a design outcome that does not result in retail waste traversing through residential communal areas and makes retail waste disposal efficient and achievable		
12.5	**Loading Bay for Waste Collection** The size of the loading bay has been designed for a custom collection vehicle. The size of the vehicle and the loading bay raises concerns with the vehicle being able to leave in a forward direction. The loading bay provides minimal flexibility for the MRV to be able to manoeuvre, and the loading bay is at a flat slope adjacent to a sloping vehicle access ramp. The change in slope and levels is considered problematic for the MRV and vehicle access into the loading bay should be re-considered. In addition to the above, there is no elevation or section detail provided in the architectural plans for the waste storage room. To determine if this space is useable for waste collection and differing levels will not cause issues for the MRV, amended plans should be provided.	- Swept path analysis has been completed with the positive outcome that the costum waste vehicle is able to enter and exit the site in a forward direction.	Refer to Appendices C.5 and C.6 of the OWMP.

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GLOSSARY OF ABBREVIATIONS AND TERMS

TERM	DESCRIPTION
Bin-Carting Route	Travel path for transporting bins from their allocated storage location to the nominated collection point
Bin Hoist	A device used for lifting or lowering bins between different levels
Bin Lifter	A device used to mechanically lift bins for the purpose of emptying them into larger bins and/or compactors.
Bin Mover	Either a handheld device (commonly referred to as a bin tug) or a ride-on device (typically a tractor or Class C vehicle with an attached bin trailer) used to facilitate the movement of bins across long distances or up ramps
Bulk Bins	Containers with a capacity greater than 1100L designed to be collected by a front-loading vehicle
Bulky Waste	Recycling items that are too large to be deposited into bins, including furniture, whitegoods, electronics and mattresses
Chute	A vertical pipe passing from floor to floor of a building with openings at each level for the disposal of general waste, recycling or FOGO.
Chute Discharge	The termination point of a chute whereby the chute offsets deposited general waste, recycling or FOGO into bins
Chute Discharge Room	A room enclosing the termination point of the chute/s, including bins and volume handling equipment that is accessible only to the building caretaker
Collection Area/Point	Designated area or point where bins are loaded onto the collection vehicle for servicing
Compactor	A device used for compressing general waste inside it's bin typically at a ratio of 2:1
Communal Bin Room	A central, shared bin room accessible to all residents or staff to dispose of their waste stream
DA	Development Application
DCP	Development Control Plan
eDiverter	A single chute fitted with a diversion system to allow two separate waste streams (typically general waste and recycling) to be disposed of concurrently.
EPA	Environment Protect Authority
FOGO	Food Organics and Garden Organics
General Waste	All non-recyclable and non-hazardous waste that is sent to landfill
HRV	Heavy Rigid Vehicle
L	Litre
LEP	Local Environmental Plan

Mixed Use Development	A development comprising a combination of both residential and commercial units or two or more different land uses within the one development.
Mobile Bins	Containers with a capacity up to and including 1100L designed to be collected by a rear-loading vehicle
Multi-unit Residential Development	Also known as MUD's, residential flat buildings, or apartment blocks, this is a residential development with multiple units that typically share facilities and services such as bins and collections.
MRV	Medium Rigid Vehicle
Onsite Collection	A collection arrangement whereby all bins are serviced by a collection vehicle within the property boundary, either in the building's basement or at grade and off-street.
Owners Corporation	An organisation or group of persons that is identified by a particular name and that acts, or may act, as an entity
Recycling	Waste stream that combines all recycling, including comingled recycling, paper/cardboard and metals.
Ro-Ro Compactor Unit	A large, portable compactor unit which is collected and serviced by a hook lift vehicle
Service Bins	Supplementary bins which are provided to residents or staff for use during collection periods either in communal bin rooms or under chutes
Source Separation Receptacles	Communal containers used throughout the development for the day-to-day disposal of different waste streams
SRV	Small Rigid Vehicle
Volume Handling Equipment	Equipment which comes in the form of either carousel or linear tracks positioned at the base of the chute/s to mechanically replace full bins with empty bins
Waste Stream	A classification used to describe waste of a particular type (eg. food waste stream)
WHS	Workplace Health and Safety

1.0 INTRODUCTION

This ***Operational Waste Management Plan (OWMP)*** accompanies an Environmental Impact Statement (EIS) pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), in support of a State Significant Development Application (SSDA) and concurrent planning proposal (PP) for the construction of the proposed development at 4-8 Bells Boulevard, Kingscliff, reference SSD-83069459.

The proposed development seeks development consent for a new mixed use building on the site. The proposal will include the following works:

- Construction of a five storey mixed use development with ground level retail fronting Bells Boulevard and Gunnamatta Avenue and ground level residential units, with residential units contained on levels 1-4 (inclusive), and rooftop communal open space.
- A total of 71 residential units of which 2 will be affordable housing units. These affordable housing units are to be retained as such for 15 years and managed by a registered Community Housing Provider,
- Excavation for two basement levels of carparking with 193 carparking spaces and associated services,
- Removal of 23 trees on site, and
- Landscaping and a communal open space network with a focus on wellness including a rooftop pool, indoor communal space and ground level outdoor communal open space designed around a central lawn.

This report addresses the Secretary's Environmental Assessment Requirements (SEARs) issued for the project, notably

Table 2– SEARs Requirements

Item	Description of Requirement	Section Reference
17	• Provide the measures to be implemented to manage, reuse, recycle and safely dispose of waste in accordance with any council waste management requirements. • Identify appropriately sited waste storage areas, collection access paths/roads, and appropriate servicing arrangements for the site. • Address comments raised by Tweed Shire Council at Appendix A.	- Sections 6.1, 6.2, 6.3, 6.4 ,7.1, 7.2 and 7.3 identify the waste streams, provide the waste estimations and waste disposal procedures for the residential and retail components. The Tweed Development Control Plan 2008 – Section A15: Waste Minimisation and Management has been referenced to calculate the waste generated for the site. - Sections 6.5, 7.4 describe the waste collections for the residential and retail components in the development's operation stage. See Table 10 for the waste rooms areas and Appendix A.2 and A.3. - The turntable has been removed from the arrangement. The loading dock allows for a private waste vehicle to enter the site and collect the bins from the bin holding room. (See APPENDIX A.3)

2.0 REPORT CONDITIONS

The purpose of this report is to document an OWMP as part of a development application, which is supplied by EFC with the following limitations:

- Drawings, estimates and information contained in this OWMP have been prepared by analysing the information, plans and documents supplied by the client and third parties including Council and other government agencies. The assumptions based on the information contained in the OWMP is outside the control of EFC,
- The figures presented in the report are an estimate only – the actual amount of waste generated will be dependent on the occupancy rate of the building/s and waste generation intensity as well as the building management's approach to educating residents and tenants regarding waste management operations and responsibilities,
- The building manager will adjust waste management operations as required based on actual waste volumes (e.g. if waste is greater than estimated) and increase the number of bins and collections accordingly,
- The report will not be used to determine or forecast operational costs or prepare any feasibility study or to document any safety or operational procedures,
- The report has been prepared with all due care; however no assurance is made that the OWMP reflects the actual outcome of the proposed waste facilities, services, and operations, and EFC will not be liable for plans or results that are not suitable for purpose due to incorrect or unsuitable information or otherwise,
- EFC offer no warranty or representation of accuracy or reliability of the OWMP unless specifically stated,
- Any manual handling equipment recommended in this OWMP should be provided at the recommendation of the appropriate equipment provider who will assess the correct equipment for supply,
- Design of waste management chute equipment and systems must be approved by the supplier,
- EFC cannot be held accountable for late changes to the design after the OWMP has been submitted to Council,
- EFC will provide specifications and recommendations on bin access and travel paths within the OWMP, however it is the architect's responsibility to ensure the architectural drawings meet these provisions,
- EFC are not required to provide information on collection vehicle swept paths, head heights, internal manoeuvring or loading requirements. It is assumed this information will be provided by a traffic consultant,
- Council are subject to changing waste and recycling policies and requirements at their own discretion.
- This OWMP is only finalised once the draft watermark has been removed. If the draft watermark is present, the information in the OWMP is not confirmed.

3.0 LEGISLATION & GUIDANCE

Waste management and resource recovery regulation in Australia is administered by the Australian Constitution, Commonwealth laws, and international agreements. State and territory governments maintain primary responsibility for controlling development and regulating waste. The following legislation has been enacted in New South Wales, and provides the lawful underpinnings of this OWMP.

- NSW Environmental Planning & Assessment Act 1979
- NSW Protection of the Environment Operations Act 1997
- NSW Waste Avoidance & Resource Recovery Act 2001

At the local level, councils or Local Government Areas (LGAs) require OWMPs to be included in new development applications. This OWMP is specifically required by:

- Tweed Development Control Plan 2008
- Tweed Local Environmental Plan 2014

The primary purpose of a Development Control Plan (DCP) is to guide the planning process according to the aims of the corresponding local environmental plan (LEP). The DCP must be read in conjunction with the provisions of the relevant LEP.

Information provided in this OWMP comes from a wide range of waste management guidance at the local, state, and federal levels. The primary sources of guidance include:

- Tweed Shire Council's Toward Zero Waste Strategy 2021
- Tweed Development Control Plan 2008 – Section A15: Waste Minimisation and Management
- NSW Better Practice Guide for Resource Recovery in Residential Developments 2019
- NSW Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities 2012
- NSW Waste Avoidance and Resource Recovery (WARR) Strategy 2014-2021
- NSW Waste and Sustainable Materials Strategy 2041
- NSW Waste Classification Guidelines 2014
- Australia's National Waste Policy 2018

4.0 SITE DESCRIPTION

The site is located at 4-8 Bells Boulevard, Kingscliff and is located in the Tweed Shire Local Government Area. The site is legally known as Lot 2 DP131098.
An aerial view of the site (outlined in red) is located below:

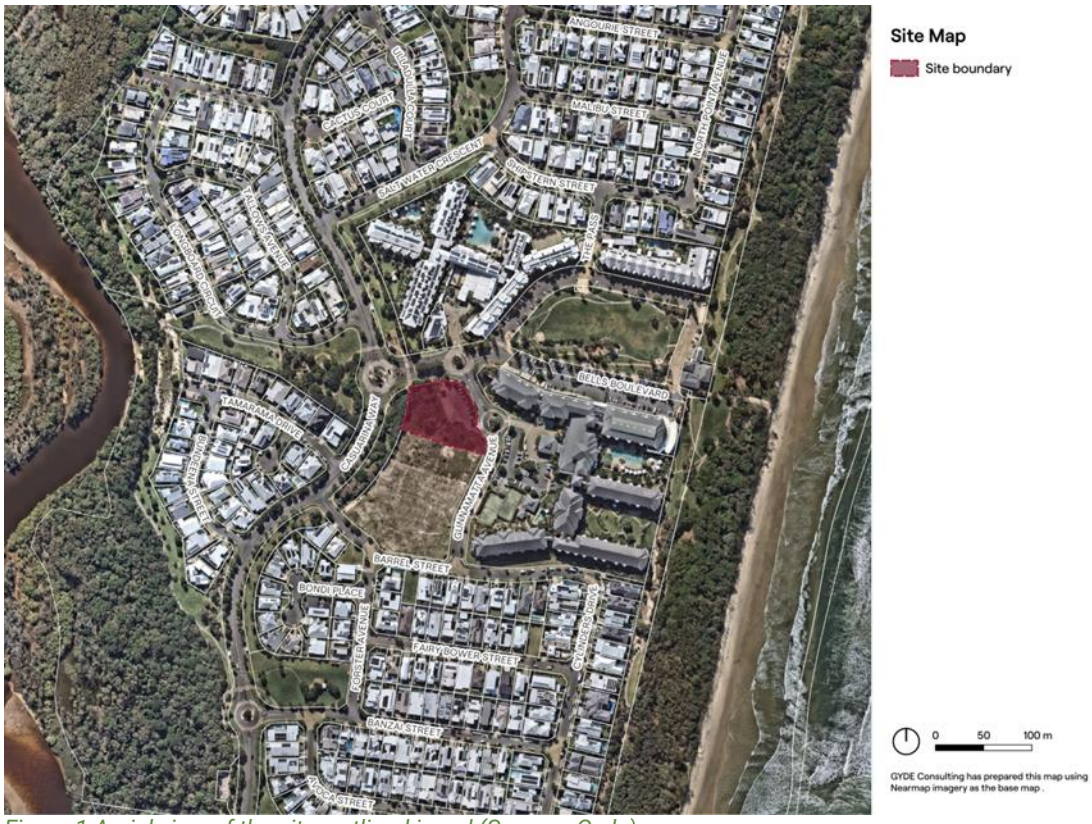


Figure 1 Aerial view of the site, outlined in red (Source: Gyde)

The site has an approximate area of 4,450sqm and is currently vacant of any structures. An informal bitumen sealed carpark containing 27 spaces is located in the north east part of the site, which is enforced by way of a restriction on the existing title of the land.

The centre of the site is clear of vegetation, with any vegetation located along the street frontages or abutting the western boundary. A public reserve runs along the site's western boundary containing a concrete footpath and extensive vegetation.
The site is relatively level around the street frontages, with levels ranging between RL 9.85m at Gunnamatta Avenue to RL 10.39m at the corner of Bells Boulevard and Casuarina Way. The rear of the site has been excavated to the lowest point of RL 7.15m.
The site is located on the gateway to a part of Kingscliff known as 'the Salt Precinct'. This part of the Salt Precinct is centred around the Salt Central Park, which is bordered by two major tourism developments, those being the Peppers and Mantra resorts. Salt Central Park is activated by a retail precinct with shops, cafes and restaurants known as Salt Village.

Figure 2 Site context plan (Source SJB)

5.0 MITIGATION MEASURES

Table 3: Mitigation Measures

Mitigation Number/ Name	When is Mitigation Measure to be complied with	Mitigation Measure	Action/responsible
Recycling and Reuse	Operation	Provide recycling bins to recover valuable materials from waste.	**Action** Retail tenants will dispose of their recycling into the bins provided. Residents will dispose their commingled recycling into the 360L bins on each level.
Food Organics and Garden Organics	Operation	Provide FOGO bins to help divert organic waste from landfills.	**Action** Residents will dispose of their FOGO into the bins provided within the residential FOGO room. This could include food scraps, garden clippings, and other biodegradable materials. Retail tenants will dispose of their FOGO into the 240L FOGO bins provided in the Retail Bin Room.
Education	Operation	Educational material encouraging correct separation of general waste, recycling and FOGO must be provided to each worker, resident and tenant.	Building operator provide information in multiple languages to support correct behaviours, and to minimise the possibility of chute blockages and contamination in communal bins. The building operator will ensure everyone is aware of the importance of waste minimisation and how to dispose of waste correctly. Signage will be provided in the chute rooms and bin rooms.

Mitigation Number/ Name	When is Mitigation Measure to be complied with	Mitigation Measure	Action/responsible
Policy and Regulation Compliance	Operation	Regularly review and update waste management plans to comply with environmental regulations.	Regularly review the policies to ensure they remain in line with evolving environmental regulations, and best practices.

6.0 RESIDENTIAL WASTE MANAGEMENT

The following section outlines best practice waste management for the residential component of the development, including waste stream generation estimates and disposal and collection procedures.

6.1 RESIDENTIAL WASTE GENERATION ESTIMATES

The *Tweed Development Control Plan 2008* has been referenced to calculate the total number of general waste and recycling bins while the NSW EPA's Better Practice Guide for Resource Recovery in Residential Developments (2019) has been referenced to calculate the total number of FOGO bins. Calculations are based on generic general waste, recycling and Food Organics and Garden Organics (FOGO) rates. Actual volumes of general waste, recycling and FOGO generated in operation may differ according to the residents' actual waste management practices.

The following tables show the estimated volume (L) of general waste, recycling and FOGO generated by the residential component of the development.

Table 4: Estimated Waste and FOGO Volumes – Residential

Building/ Core	# Units	Recycling Generation Rate (L/unit/week)	Generated Recycling (L/week)	FOGO Waste Generation Rate (L/unit/week)	Generated FOGO Waste (L/week)
Core A	**33**	40	1320	25	825
Core B	**38**	40	1520	25	950
TOTAL	**71**		**2840**		**1775**
Bins & Collections		Recycling Bin Size (L)	1100	FOGO Waste Bin Size (L)	660
		Recycling Collections per Week	1	FOGO Waste Collections per Week	1
		Total Recycling Bins Required	**4**	**Total FOGO Waste Bins Required**	**4**
Bins per Building/ Core		**Building/ Core**	**# Bins**	**Building/ Core**	**# Bins**
		Core A	2	Core A	2
		Core B	2	Core B	2

Note: An additional bin should be provided for each chute discharge for use during collection periods. These bins are not included in the above figures.

Note: At the time of writing, Council do not have an active FOGO collection service. Provision for FOGO bins at this development have been included to account for a future FOGO collection service.

Table 5: Estimated Recycling Volumes

Building/ Core	# Units	Recycling Generation Rate (L/unit/week)	Generated Recycling (L/week)
Core A	**33**	40	1320
Core B	**38**	40	1520
TOTAL	**71**		**2840**
Bins & Collections		General Waste Bin Size (L)	1100
		General Waste Collections per Week	1
		Total General Waste Bins Required	**4**
Bins per Building/ Core		**Building/ Core**	**# Bins**
		Core A	2
		Core B	2

6.2 RESIDENTIAL BIN SUMMARY

Based on the estimated volumes of general waste, recycling and FOGO generated by the residential component of this development, the recommended bin quantities and collection frequencies are as follows:

General Waste: 6 x 1100L bins collected **1 x weekly**

Recycling: 4 x 1100L bins collected **1 x weekly**

FOGO: 4 x 660L bins collected **1 x weekly**

During operation, it is the responsibility of the building manager to monitor the number of bins required for the residential component of the development. General waste, recycling and FOGO volumes may change according to residents' attitudes to waste disposal, building occupancy levels or the development's management. Any requirements for adjusting the capacity of the waste facilities may be achieved by changing the number of bins, the bin sizes or collection frequencies. Building management will be required to negotiate any changes to bins or collections with the collection service provider.

6.3 RESIDENTIAL CHUTE DISCHARGE EQUIPMENT SUMMARY

It is strongly recommended that the bins and equipment at the base of each chute allows for at least 2 days' worth of general waste generation. Based on the estimated general waste volumes generated by each building/core, the following equipment is recommended:

Table 6: Chute Discharge Equipment Summary

Volume Handling Equipment			
General Waste			
Core	Generated General Waste (L/week)	# 1100L Bins Required for 2 days' Capacity	Recommended Chute Discharge Equipment
A	2720	0.71	Single Bin
B	3040	0.79	Single Bin

The above is a recommendation only and equivalent volume handling equipment may be used subject to equipment supplier's recommendation/review.

6.4 RESIDENTIAL WASTE DISPOSAL PROCEDURES

All units will be provided with a storage area capable of holding separate receptacles for general waste, recycling and FOGO. This is typically located within kitchen areas beneath the workbench. This space should be sized to accommodate 40L receptacles (minimum) to account for 2 days' worth of general waste, recycling and 20L for FOGO storage.

6.4.1 RESIDENTIAL GENERAL WASTE AND RECYCLING DISPOSAL PROCEDURES

A single general waste chutes will be installed in each building core with access provided to all residents on each residential level. Separate 240L recycling bins will be provided in a compartment adjacent to the general waste chute for the storage of recycling.

Residents will be responsible for walking their general waste and recycling to their allocated disposal point and placing their general waste into the general waste chute and recycling into the 240L recycling bin.

Residents will wrap or bag their general waste before placing in the chute. Bagged waste should not exceed 3kg in weight, or 35cm x 35cm x 35cm. Residents will be responsible for loosely placing their recycling into the 240L bins. Recycling should be clean and must not be bagged as soft plastics contaminate recycling. The 240L recycling bins will be decanted into the 1100L bin using a bin lifter.

The general waste will be discharged from the chute into 1100L bins in the Chute Discharge Rooms in Basement 1.

The building manager will monitor bin capacities under the general waste chute and exchange full bins with empty bins on the track systems when required. Recycling bins on each level will also be monitored by the building caretaker and full bins will be exchanged with empty bins as required.

Full and spare bins will be kept in the Residential Bin Holding Room.

Refer to Council guidance for the types of materials accepted in the general waste and recycling streams.

6.4.2 RESIDENTIAL FOGO DISPOSAL PROCEDURES

The majority of organics waste generated from multi-unit residential developments comprises of food waste as opposed to garden waste. As such, calculations and management recommendations provided in this report considers that FOGO bins will primarily comprise of food organics.

The residents of each unit will be provided with a kitchen caddy for the separation of FOGO. Food organics must be contained in accordance with Tweed Shire Council's future FOGO collection service procedures (for example a compostable liner). Any plant clippings from residential units can also be disposed of with the FOGO.

Each building core will be provided with a Communal FOGO Bin Room which contains 240L bins for FOGO. The residents will be responsible for walking their FOGO down to the Communal FOGO Bin Room in the basement 1 and placing it into the bins.

Building management is responsible for ensuring that the Communal FOGO Bin Room and FOGO bins are washed down frequently to ensure that hygiene and odour is managed.

6.5 RESIDENTIAL BIN COLLECTION PROCEDURES

Private waste collection

A private waste contractor will be engaged to collect the residential general waste, recycling and FOGO. This report assumes that general waste, recycling and FOGO will be collected weekly.

Prior to collections, the Building Manager/Caretaker will be responsible for transporting the bins from the Communal FOGO Bin Rooms, Chute Discharge Rooms with the aid of a bin tug. The building Manager/Caretaker will also be responsible for transporting the bins from each residential level to the Residential Bin Holding Room (Collection Point) located on the ground level. The Building Manager/Caretaker is also responsible for ensuring that the bins are adequately arranged for an efficient collection. It is recommended that an additional 1100L service bin be placed under the chute to collect discharge while the other bins are being serviced.

It is the responsibility of the caretaker to ensure that the loading area is clear of any vehicles or obstructions prior to waste collection.

On the day of collection, a private waste collection vehicle will enter the site from Gunnamatta Avenue and park in the loading dock. The Building Manager/Caretaker will be responsible for ensuring that the collection staff have access to the Residential Bin Holding Room. The collection staff will exit the vehicle and collect the bins from the Residential Bin Holding Room (Collection Point) and return the empty bins once serviced.

Upon completion of servicing, the collection vehicle will exit the site onto Gunnamatta Avenue in a forward direction. The Building Manager/Caretaker is responsible for returning the bins to their operational location to resume use.

As advised by the client, Solo Resource Recovery will undertake waste collection, confirming its ability to service the site.

The nominated waste collection vehicle will be the Inveco Eurocargo ML160E05. The vehicle has a length of 8.034m, a total operating height of 2.848m, and an operating width of 2.42m. Refer to Appendix C.3 for the waste vehicle specifications and C.5 for the swept path analysis

Potential Kerbside Council Waste Collection

Tweed Shire Council has provided the following comment:

"Council has a kerbside waste collection contract to collect waste generated by residential uses. The applicant should demonstrate that temporary kerbside bin placement is possible. Temporary collection should be demonstrated private contracted waste management cannot be undertaken. Any OWMP should minimise impact on retail/commercial areas and should not require manual handling of bins by the collection truck driver at kerbside.
It is recommended that the OWMP demonstrate temporary kerbside bin placement that includes numbers and sizes of bins, lengths or kerbside/street frontages, local topography, and kerbside locations where collection can occur from a public road without the collection truck being impeded by parked vehicles."

A letter of advice has been provided by McLaren Traffic Engineering (See Appendix C.4) regarding the proposed waste collection for the development.

The letter confirms that the site can accommodate a kerbside waste collection service should a private waste contractor be unable to service the development. The feasibility of kerbside collection has been demonstrated through swept path analysis showing Council's waste collection vehicle accessing and servicing the nominated collection point on Gunnamatta Avenue, immediately south of the roundabout.

The adjacent kerbside parking area could be designated as a time-restricted "No Parking" zone during the standard early morning waste collection period. As Council's waste collection services are typically undertaken during the early morning hours, when parking demand in Kingscliff is at its lowest, any temporary parking restrictions would have minimal impact on the availability of parking. The parking spaces would remain accessible at all other times and would therefore not affect parking supply during peak demand periods. Any future implementation of time-restricted "No Parking" controls would be subject to Council approval should the development need to revert to a kerbside waste collection arrangement.

Refer to Appendix C.6 for the swept path analysis demonstrating Council's kerbside waste collection vehicle servicing the nominated collection point.

6.6 OTHER RESIDENTIAL WASTE MANAGEMENT CONSIDERATIONS

The following sections outline other waste management considerations for the residential components.

6.6.1 RESIDENTIAL COMMON AREAS

Residential common areas will be supplied with suitably branded source separation receptacles where considered appropriate. Receptacles should be placed in convenient locations which are accessible to all residents. The building manager will monitor the capacity of these receptacles and empty the contents into the central collection bins as required.

6.6.2 LANDSCAPED AREAS AND GARDEN ORGANICS

Garden organics generated from surrounding landscaped areas and indoor foliage typically consists of lawn clippings, cuttings, leaves and branches.

Garden organics generated from surrounding landscaped areas will be managed and removed from the site by the designated landscaping contractors as they carry out scheduled landscaping maintenance works.

Garden organics generated from within residential units will be managed by the residents and should be disposed of into the FOGO bins.

6.6.3 RESIDENTIAL BULKY WASTE PROCEDURES

An area will be made available for the storage of discarded residential bulky waste items (e.g. whitegoods, furniture, etc.). This room should be located within close proximity of the collection point and must have a minimum doorway width of 1.5m to facilitate the movement of large items in and out of the room.

The bulky waste room as been calculated in accordance with The NSW EPA's '*Better Practice Guidelines for Resource Recovery in Residential Developments 2019'.* This requires 10m^2 for up to 40 units, and 2m^2 for every additional 10 units after that to the nearest whole number.

Based on this rate, the Bulky Waste Room required for the residential component of the building is as follows;

Bulky Waste Room Size

(Total number of units - 40) / 10*2+10 = m^2 of bulky waste room
=(71-40)/10*2 + 10
=31/10*2 + 10
=3.1*2+10
=6.4+10
= 16.2
bulky waste storage area: minimum 17m^2

Residents will need to liaise with building management regarding the transportation of bulky items and the availability of the Bulky Waste Room. It is the caretaker's responsibility to arrange collection dates with the private contractor and coordinate these times with the residents.

Prior to bulky waste collections, the Building Manager/Caretaker will transport the bulky waste items from the Residential Bulky Waste Room in the Basement 1 to the Residential Bin Holding Room (Collection Point) located on the ground level.

On the day of bulky waste collection, a private collection vehicle will enter the site from Gunnamatta Avenue and park in the loading bay. Collection staff will collect the bulky waste items from the Holding Room on the Ground Floor. Once bulky items have been loaded onto the vehicle, the collection vehicle will exit the site onto Gunnamatta Avenue in a forward direction.

7.0 RETAIL WASTE MANAGEMENT

The following section outlines best practice waste management for the retail components of the development, including waste generation estimates and waste disposal and collection procedures.

7.1 RETAIL WASTE GENERATION ESTIMATES

The Tweed Development Control Plan 2008 has been referenced to calculate the total number of bins required for the anticipated tenants.
As the Tweed Development Control Plan (DCP) does not provide specific waste generation rates for Food Organics and Garden Organics (FOGO) services, the FOGO waste generation rates adopted in this assessment have been sourced from the *City of Sydney Guidelines for Waste Management in New Development* 2018.
Calculations are based on generic generation rates. Actual volumes of waste, recycling, and food waste may differ in operation according to the tenants' actual waste management practices.

It is assumed that retail tenancies will share bins, bin storage facilities and collections. The following estimates are based on a seven-day operating week.

Table 7: Estimated Waste and Recycling Volumes –Retail

Tenancy Name	Waste Generation Rate Type	Floor Area (m²)	General Waste Generation Rate (L/100m²/day)	Generated General Waste (L/week)	Recycling Generation Rate (L/100m²/day)	Generated Recycling (L/week)	Food Waste Generation Rate (L/100m²/day)	Generated Food Waste (L/week)
Retail	Shops Greater than 100m² Floor Area	683	50	2391	50	2391	5	239
TOTAL		683		**2391**		**2391**		**239**
Bins & Collections			General Waste Bin Size (L)	1100	Recycling Bin Size (L)	1100	Food Waste Bin Size (L)	240
			General Waste Bins per Day	0.3	Recycling Bins per Day	0.3	Food Waste Bins per Day	0.1
			General Waste Collections per Week	2	Recycling Collections per Week	2	Food Waste Collections per Week	1
			Total General Waste Bins Required	**2**	**Total Recycling Bins Required**	**2**	**Total Food Waste Bins Required**	**1**

7.2 RETAIL BIN SUMMARY

Based on the estimated waste and recycling volumes generated by the retail/commercial tenancies, the recommended bin quantities and collection frequencies are as follows:

General Waste: 2 x 1100L bins collected **2 x weekly**
Recycling: 2 x 1100L bins collected **2 x weekly**
FOGO: 1 x 240L bins collected **weekly**

Bin sizes, quantities, and/or collection frequencies may be modified by the building manager once the proposed development is operational. Building management will be required to negotiate any changes to bins or collections with the collection service provider. Seasonal peak periods should also be considered.

7.3 RETAIL WASTE DISPOSAL PROCEDURES

All tenancies will be responsible for their general waste and recycling disposal procedures within their vicinity.

On completion of each trading day or as required, nominated staff or contracted cleaners will transport all general waste and recycling to the Retail Bin Rooms on the Ground Floor and place them into the appropriate collection bins.

7.4 RETAIL WASTE COLLECTION PROCEDURES

A private waste contractor will be engaged to service the retail general waste and recycling bins as per an agreed collection schedule. This report assumes that general waste, recycling and FOGO are collected three times weekly.

Prior to the waste service, the bins will be transported to the collection point next to the loading dock. The private waste collection vehicle will enter the site from Gunnamatta Avenue and park in the loading bay. Once the bins are serviced, the collection vehicle will exit the site onto Gunnamatta Avenue in a forward direction.

Please note: The collection of commercial/retail bins should occur on separate days from the collection of residential bins to ensure proper segregation of waste streams.

7.5 OTHER RETAIL WASTE MANAGEMENT CONSIDERATIONS

Based on the types of tenancies anticipated for this development, the following waste management practices are recommended.

7.5.1 WASHROOM FACILITIES

Washroom facilities should be supplied with collection bins for paper towels (if used). Sanitary bins for female restroom facilities must also be arranged with an appropriate contractor.

7.5.2 PRINTING & PHOTOCOPYING ROOMS

It is recommended that rooms designed for printing or photocopying be provided with an area for the interim storage of paper receptacles, as well as separate receptacles for used toner and/or printer cartridges for recycling. The cleaners or nominated staff are responsible for monitoring these receptacles and ensuring that items are collected and recycled by an appropriate contractor.

7.5.3 LIQUID WASTE

Liquid wastes such as cleaning products, chemicals, paints, solvents, and motor and cooking oil will be stored in a secure room and enclosed by a low wall intended to contain any liquid spillage or inundation to other areas. Liquid waste will be drained to a grease trap, in accordance with legislation and the requirements of State government authorities and agencies. Further information can be provided by the Services Consultant.

7.5.4 PROBLEM WASTE

The building manager is responsible for making arrangements for the disposal and recycling of problem waste streams with an appropriate contractor. Problem wastes cannot be placed in the general waste stream as they can have adverse impacts to human health and the environment if disposed of in landfill. Retail and commercial tenants must liaise with the building manager when disposing of problem waste streams.

Problem waste streams include:

- Chemical Waste
- Liquid wastes
- Toner cartridges
- Lightbulbs
- eWaste
- Batteries

8.0 STAKEHOLDER ROLES & RESPONSIBILITIES

The following table outlines the primary roles and responsibilities of the respective stakeholders:

Table 8: Stakeholder Roles and Responsibilities

Roles	Responsibilities
Strata, Body Corporate or Management	• Co-ordinate the waste strategy within the site. • Ensure all waste service providers submit monthly reports on all equipment movements and waste quantities/weights. • Organise internal waste audits/visual assessments on a regular basis. • Purchase any on-going waste management equipment or maintenance of equipment once building is operational; and • Manage any non-compliances/complaints reported through waste audits.
Building Manager or Waste Caretaker	• Co-ordinate general waste, recycling and FOGO collections • Clean and transport bins as required. • Maintain and clean chute doors on each level. • Organise replacement or maintenance requirements for bins. • Organise, maintain and clean bin storage areas. • Organise bulky waste collections when required. • Investigate and ensure prompt clean-up of illegally dumped waste materials. • Prevent storm water pollution by taking necessary precautions (secure bin rooms, prevent overfilling of bins). • Abide by all relevant WH&S legislation, regulations, and guidelines. • Provide staff/contractors with equipment manuals, training, health and safety procedures, risk assessments, and PPE to control hazards associated with all waste management. • Assess any manual handling risks and prepare a manual handling control plan for bin transfers. • Ensure site safety for residents, children, visitors, staff and contractors; and • Ensure effective signage, communication and education is provided to occupants, tenants, maintenance staff, and cleaning contractors.
Residents	• Dispose of all general waste, recycling and FOGO in the allocated chutes and/or bins provided. • Ensure adequate separation of general waste, recycling and FOGO; and • Comply with the provisions of Council and the OWMP.
Retail Tenants	• Management co-ordinates own private contractor collections. • Manage general waste and recycling within their tenancy during daily operations. • Correctly separate general waste and recycling streams. • Flatten cardboard within the recycling bin. • If required, arrange for storing used and unused cooking oil in a bunded area, • Organise grease interceptor trap servicing, and • Ensure the suitable storage for chemicals, pesticides and cleaning products waste back of house.
Waste Collection Contractor	• Provide a reliable and appropriate bin collection service. • Provide feedback to building managers/residents regarding contamination of recyclables; and • Work with building managers to customise waste systems where possible.
Gardening/ Landscaping Contractor	• Remove all garden organics generated during gardening maintenance activities for recycling at an offsite location.
Developer	• Purchase all equipment required to implement this OWMP prior to the occupation of the building to be provided to the Strata or Body Corporate.

9.0 SOURCE SEPARATION

Better practice waste management includes the avoidance, reuse, and recovery of unwanted items, which can be achieved through source separation. Refer to your local council for a list of accepted materials. Planet Ark can be accessed online to find other facilities that recover unwanted items.

Table 9: Operational Waste Streams

Waste Stream	Description	Typical Destination	Waste Stream Management
General Waste	The remaining portion of the waste stream that is not recovered for re-use, processing, or recycling. May include soft plastics, food scraps, polystyrene, etc.	Landfill	Waste should be bagged before placing in chutes.
Recycling	A mixture of items that are commonly recycled usually segregated through a MRF. Typically include food and beverage containers (e.g. aluminium, glass, steel, hard plastics, cartons). Also included cardboard and paper products.	Resource Recovery Centre	Recycling must not be bagged, and instead should be placed loosely in the designated recycling bins. Bulky cardboard must not be placed in any chute. Cardboard should be flattened before placing in the designated recycling bin.
FOGO	FOGO consists of unwanted or uneaten kitchen scraps that are easily compostable/biodegradable (e.g. vegetable peels, fruit rinds, coffee grounds) and garden organics including lawn clippings, leaves, pruning's and branches.	Composting Facility	FOGO should be bagged in compostable liners when deposited into the bins and will be collected by a private contractor.
Electronic Waste	Discarded e-waste, electronic components and materials such as computers, mobile phones, keyboards, etc.	Resource Recovery Centre	Building manager arranges collection for e-waste recycling as needed by residents. Retail tenants arrange for recycling of their e-waste.
Bulky Waste Items	Items that are to too large to place into general rubbish collection. This includes disused and/or broken furniture, mattresses, white goods, etc.	Resource Recovery Centre or Landfill	Residents liaise with building manager to store in Bulky Goods Room. Building manager arranges with private contractor for removal. Retail tenants are responsible for removal of their bulky items.
Sanitary Waste	Feminine hygiene waste generated from female bathrooms.	Incineration or Landfill	Sanitary bins are serviced by sanitary waste contractor.
Other	Other recyclable items that require special recovery may include ink cartridges, batteries, chemical waste, fluorescent tubes, etc.	Resource Recovery Facility	Building manager arranges collection by appropriate recycling services when required.

10.0 EDUCATION

Educational material encouraging correct separation of general waste, recycling and FOGO must be provided to each resident and retail tenant. This should include the correct disposal process for bulky waste such as old furniture, large discarded items, and other materials including electronic and chemical wastes. It is recommended that the building caretaker provide information in multiple languages to support correct behaviours, and to minimise the possibility of chute blockages and contamination in communal bins.

Education and communication must be provided consistently on a regular basis to encourage behaviour change and account for transient building personnel such as new residents, tenants, or cleaning staff. It is also recommended that the owners' corporation website contain information for residents' referral regarding use of the chute. Information should include:

- Directions on using the chute doors;
- Descriptions of items accepted in the general waste, recycling and FOGO streams (refer to Council guidance);
- How to dispose of bulky waste and any other items that are not general waste, recycling or FOGO (refer to Council guidance);
- Residents' obligations to health and safety as well as building management; and
- How to prevent damage or blockages to the chute (example below).

10.1 SIGNAGE

Signage and education are essential components to support best practice waste management including resource recovery, source separation, and diversion of waste from landfill.

Signage should include:

- Clear and correctly labelled bins,
- Instructions for separating and disposing of waste items. Different languages should be considered,
- Locations of, and directions to, the waste storage areas with directional signs, arrows, or lines,
- The identification of all hazards or potential dangers associated with the waste facilities, and
- Emergency contact information should there be issues with the waste systems or services in the building.

The building manager is responsible for waste room signage including safety signage. Appropriate signage must be prominently displayed on doors, walls and above all bins, clearly stating what type of waste or recyclables is to be placed in each bin.

All chute doors on all residential levels will be labelled with signs directing chute operations and use of chute door.

All signage should conform to the relevant Australian Standards.

11.0 POLLUTION PREVENTION

Building management shall be responsible for the following to minimise dispersion of site litter and prevent stormwater pollution to avoid impact to the environment and local amenity:

- Promoting adequate waste disposal into the bins
- Securing all bin rooms (whilst affording access to staff/contractors)
- Prevent overfilling of bins, keep all bin lids closed and bungs leak-free
- Taking action to prevent dumping or unauthorised use of waste areas
- Require collection contractor/s to clean up any spillage when clearing bins

12.0 BIN WASHING

The bins will be cleaned by the building manager periodically to ensure hygiene and minimise odour.

Bin washing can occur within the bin rooms, using the room clean down facilities (i.e., tap connection and drain). Alternatively, a specialist bin washing contractor can be engaged to clean the bins to an agreed schedule. The specialist bin contractor would collect the bins from the bin holding area and clean the bins with their specialised vehicle.

13.0 BIN MOVING PATHS

The building manager is responsible for the transportation of bins from their designated operational locations to the collection area, returning them once emptied to resume operational use.

Any movement of bins should minimise manual handling where possible, as bins become heavy when full. The building manager must assess manual handling risks and provide any relevant documentation to key personal.

The routes along the bin moving path should;

- Allow for a continuous route that is wholly within the property boundary.
- Be free from obstruction and obstacles such as steps and kerbs.
- Be constructed of solid materials with a non-slip surface
- Be A minimum of 300mm wider than the largest bin used onsite.
- If bins are moved manually, the route must not exceed a grade of 1:14.
- If a bin moving device is used, the route cannot exceed the maximum operating grade of the device. This is typically a grade of 1:4, however this will vary depending on the model of bin moving device acquired for the site.

As the distance of the bin moving paths exceeds 10m, a bin moving device will be required to aid the movement of full bins. The developer is responsible for supplying all equipment required for moving bins this includes any bin lifters, bin moving devices and waste transfer bins. This equipment must be new and appropriate for the site. The developer should contact a bin-tug, trailer or tractor consultant to provide equipment recommendations.

Once the site is operational (and the developers is no longer involved) the building proprietors/strata will be responsible for maintaining, repairing and replacing waste management equipment. Bins may have to be fitted with hitches to enable the simultaneous transportation of multiple bins to the collection area.

14.0 EQUIPMENT SUMMARY

Table 10: Equipment Summary

	Part	Qty	Notes
Chutes	Please refer to supplier's information	2	(See APPENDIX: B.1 for Typical Single Chute Layout)
Other Equipment	Suitable Bin Moving Device	1	(See Appendix D.1 for Typical Bin Movers)
	Bin lifter for 240L bins	1	(See Appendix D.5 for Typical Bin Lifter)

15.0 WASTE ROOMS

The areas allocated for waste storage and collection areas are detailed in the table below and are estimates only.

The equipment recommended in the chute discharge rooms is to manage 2 days' worth of estimated general waste from that building core. Therefore, this represents the minimum equipment required in these rooms to satisfy best practice requirements. Additional bins or volume handling equipment can be included in these rooms to increase days of capacity or manual labour required in operation.

Table 11: Waste Room Areas

Level	Waste Room Type	Equipment	Estimated Area Required (m^2)	Actual Area Provided (m^2)
Basement 1	Chute Discharge Room A	**Minimum equipment** 1 x 1100L bin for general waste 1 x 1100L service bin	>6	6
Basement 1	Communal FOGO Bin Room A	2 x 660L bin (FOGO)	5	6
Basement 1	Chute Discharge Room B	**Minimum equipment** 1 x 1100L bin for general waste 1 x 1100L service bin	>6	7
Basement 1	Communal FOGO Bin Room B	2 x 660L bin (FOGO)	5	6
Ground Floor	Residential Bin Holding Room (Collection Point)	**General Waste:** 6x 1100L bins **Recycling:** 4 x 1100L bins **FOGO:** 4 x 660L bins Bin lifter	>47	>47
Basement 1	Residential Bulky Waste Room		>17	20
Basement 1	Bin Tug Storage	Bin tug	4	12
Ground Floor	Retail Bin Room 1	**General Waste:** 1 x 1100L bins **Recycling:** 1 x 1100L bins **FOGO**: 2 x 240L bins	8	>8
Ground Floor	Retail Bin Room 2	**General Waste:** 1 x 1100L bins **Recycling:** 1 x 1100L bins **FOGO**: 1 x 240L bins	>7	>7

EFC recommends bins sizes, collection frequencies and/or equipment for best practice waste management at this site, however EFC also acknowledges there are a range of other suitable

options that may alter waste room requirements (e.g., floor area, accessibility, head height, etc.)

The waste room areas have been calculated based on equipment requirements and/or bin dimensions with an additional 70% of bin GFA factored in for manoeuvrability. In addition, all doorways and passageways facilitating the movement of bins and/or bulky waste items must be at least 1500mm wide.

The following table provides further waste room requirements.

Table 12: Waste Room Requirements

Waste Room Type	Waste Room Requirements
Chute Discharge Room	• Ceiling clearance height must be a minimum of 3000mm (subject to penetration location) • The chute penetration must have a minimum 500mm clearance of any service pipes or other overhead obstacles • All chute discharge points should be caged off to ensure the safety of any personnel accessing the waste room • 200mm clearance is required around compaction equipment • Where a chute offset is required, the angle of the offset must not exceed 30 degrees (subject to number of consecutive offset and/or up to 1500mm)
Residential Bin Holding Room and/or Bin Collection Area	• Bins must not be stacked in rows that are more than two bins deep.
Communal FOGO Rooms	• Bins should be arranged so that all bins are accessible. Bins are not to be placed in front of one another or in such a way as to restrict access to the other bins for use. • Rooms must be well ventilated either naturally or mechanically in accordance with AS1668.4.2012 • Cleaning facilities such as hose cock and drainage for odour and hygiene control must be provided. • It is recommended a dustpan and broom is provided in this room for residents to clean up unexpected spillages when using bins.
Bulky Waste Room	• May be a dedicated room or screened area within another waste room • Must be in close proximity to the collection area • Area must also be allocated for the segregation of e-waste, gas bottles, cardboard, etc. • Doorway should be a minimum of 1500mm wide
Retail Bin Room	• In order to ensure staff safety, all bins should be arranged so they can be accessed without moving another bin • Bins must be coordinated with the hinge of the lid facing the back. This is to allow for ideal access to the bin.

16.0 CONSTRUCTION REQUIREMENTS

Waste room construction must comply with the minimum standards as outlined in the *Tweed Development Control Plan 2008,* in order to minimise odours, deter vermin, protect surrounding areas, and make it a user-friendly and safe area.

The *NSW Better practice guide for resource recovery in residential developments (2019)* also states that better practice bin storage areas should achieve more than the minimum compliance requirements, which are as follows:

- Ensuring BCA compliance, including ventilation. Where required, ventilation system must comply with AS1668.4-2012 The use of ventilation and air conditioning in buildings.
- Ensuring storage areas are well lit (sensor lighting preferred) and have lighting available 24 hours a day.
- Provision of bin washing facilities, including taps for hot and cold water provided through a centralised mixing valve. The taps must be protected from bins and be located where they can be easily accessed even when the area is at bin capacity.
- Floor constructed of concrete at least 75mm thick.
- Floor graded so that any water is directed to a sewer authority approved drainage connection to ensure washing bins and/or waste storage areas do not discharge flow into the stormwater drain.
- Provision of smooth, cleanable and durable floor and wall surfaces that extend up the wall to a height equivalent to any bins held in the area.
- Ensuring ceilings are finished with a smooth-faced non-absorbent material capable of being cleaned.
- All surfaces (walls, ceiling and floors) finished in a light colour.

16.1 ADDITIONAL CONSIDERATIONS

- Waste room floor to be sealed with a two-pack epoxy;
- All corners coved and sealed 1,200mm up, this is to eliminate build-up of dirt;
- Hot and cold water tap height and light switch height of 1.6m;
- Storm water access preventatives (grate);
- All walls painted with light colour and washable paint;
- Equipment electric outlets to be installed 1700mm above finished floor level;
- Optional automatic odour and pest control system installed
- If 660L or 1100L bins are utilised, 2 x 820mm (minimum) double-doors must be used;
- All personnel doors are hinged, lockable and self-closing;
- Conform to the Building Code of Australia, Australian standards and local laws; and
- Childproofing and public/operator safety shall be assessed and ensured
- Waste and recycling rooms must have their own exhaust ventilation system either;
    - Mechanically - exhausting at a rate of 5L/m² floor area, with a minimum rate of 100L/s minimum. Mechanical exhaust systems shall comply with AS1668.4.2012 and not cause any inconvenience, noise or odour problem; or
    - Naturally - permanent, unobstructed, and opening direct to the external air, not less than one-twentieth (1/20) of the floor area.

17.0 USEFUL CONTACTS

EFC does not warrant or make representation for goods or services provided by suppliers.

LOCAL COUNCIL

Tweed Shire Customer Service	Ph: (02) 6670 2400	E: tsc@tweed.nsw.gov.au

PRIVATE WASTE COLLECTION PROVIDER

Capital City Waste Services	Ph: 02 9599 9999	E: service@ccws.net.au
Sydney Waste	Ph: 02 8661 0031	
Waste Clear	Ph: 1300 525 352	E: admin@wasteclear.com.au

BIN MOVING DEVICE SUPPLIERS

Elephants Foot Equipment	Ph: 1300 435 374	E: equipment@elephantsfoot.com.au
Sitecraft	Ph: 1300 363 152	E: sales@sitecraft.com.au

BALER SUPPLIERS

Elephants Foot Equipment	Ph: 1300 435 374	E: equipment@elephantsfoot.com.au

ORGANIC DIGESTERS AND DEHYDRATORS

Elephants Foot Equipment	Ph: 1300 435 374	E: equipment@elephantsfoot.com.au
Waste Master	Ph: 1800 614 272	E: hello@wastemasterpacific.com.au

COOKING OIL CONTAINERS AND DISPOSAL

Cookers	Ph: 1300 882 299	E: info@cookers.com.au
Auscol	Ph: 1800 629 476	E: sales@auscol.com

ODOUR CONTROL

Elephants Foot Equipment	Ph: 1300 435 374	E: equipment@elephantsfoot.com.au

SOURCE SPERATION BINS

Method Recycling	Ph: 0499 890 455	

BINS AND BIN EQUIPMENT

Elephants Foot Equipment	Ph: 1300 435 374	E: equipment@elephantsfoot.com.au
SULO	Ph: 1300 364 388	E: sulosales@pactgroup.com

CHUTES, COMPACTORS AND EDIVERTER SYSTEMS

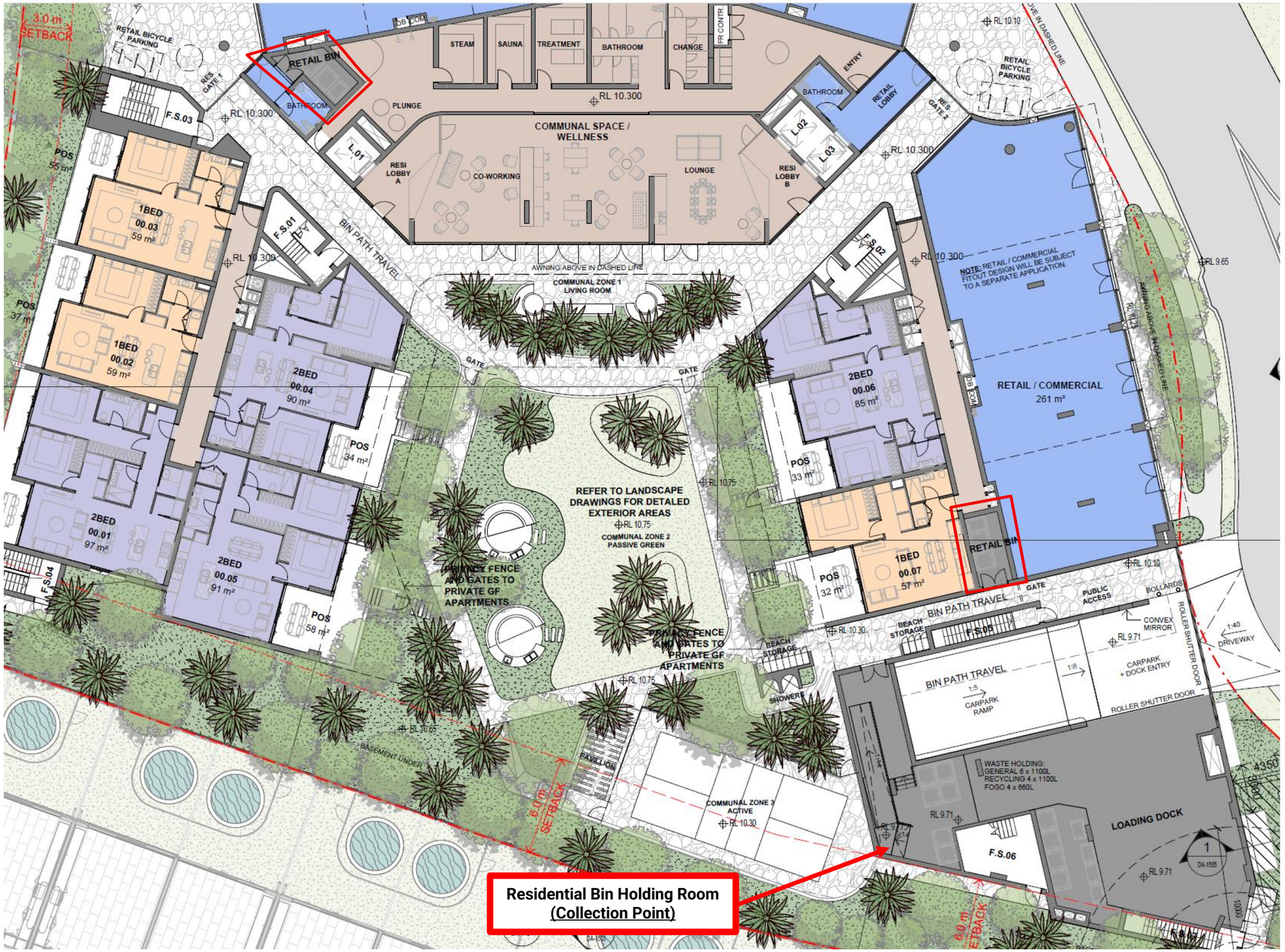
Elephants Foot Chute Solutions	Ph: 1300 435 374	E: chutes@elephantsfoot.com.au

APPENDIX A: ARCHITECTURAL PLANS

APPENDIX: A.1 LEVEL 1 -CHUTE DISPLAY + 240L BIN

Source: SJB Architects, Level 1, Mixed Use Development, Project #6906, Drawing Number DA-1004, Revision B, 24/06/2026

APPENDIX: A.2 GROUND FLOOR PLAN-BIN COLLECTION ROOM -RETAIL BIN ROOM



Source: SJB Architects, Ground Floor Plan, Mixed Use Development, Project #6906, Drawing Number DA-1003, Revision B, 24/06/2026

APPENDIX: A.3 BASEMENT 1-WASTE ROOMS

Source: SJB Architects, Basement 1 Plan, Mixed Use Development, Project #6906, Drawing Number: DA-1002, Revision B, 24/06/2026

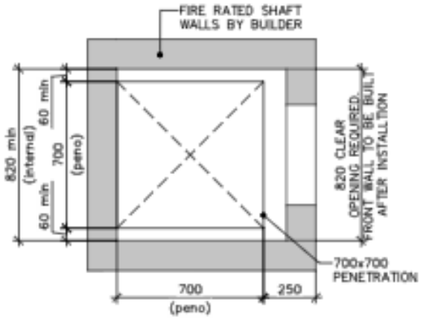
APPENDIX B: INSTALLATION EQUIPMENT

APPENDIX: B.1 TYPICAL SINGLE CHUTE SHAFT & PENETRATION LAYOUT

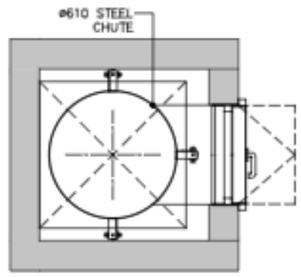
Chute Solutions.™

CHUTE SHAFT & PENETRATION SET-OUT

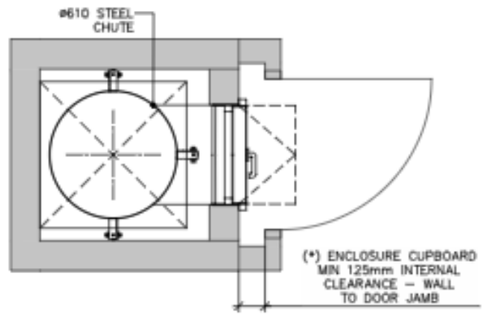
SINGLE Ø610 STEEL



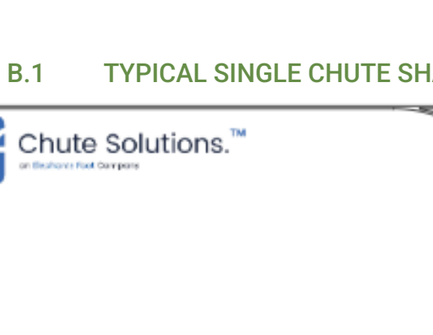
01 SINGLE (610ø) GALV. STEEL CHUTE PENETRATION SET-OUT



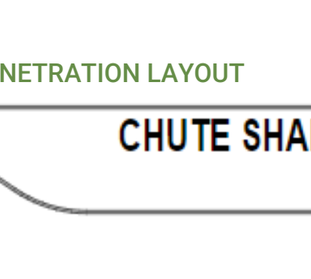
02 SINGLE (610ø) GALV. STEEL CHUTE LAYOUT



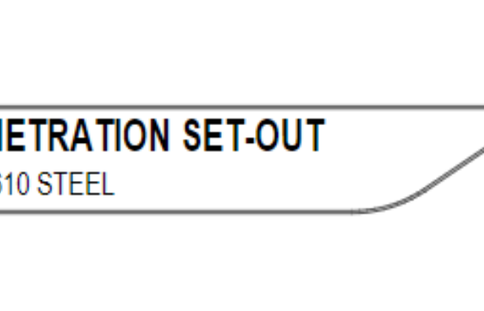
03 SINGLE (610ø) GALV. STEEL CHUTE LAYOUT with ENCLOSURE CUPBOARD (*)



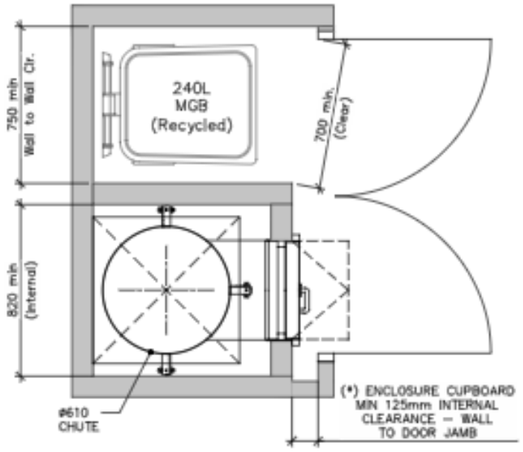
04 SINGLE (610ø) GALV. STEEL CHUTE WITH CIRCULAR PENETRATION SET-OUT



05 SINGLE (610ø) GALV. STEEL CHUTE LAYOUT (WITH CIRCULAR PENETRATION)



06 SINGLE (610ø) GALV. STEEL CHUTE LAYOUT with ENCLOSURE CUPBOARD (*)



07 TYPICAL (610ø) GALV. STEEL CHUTE LAYOUT with ENCLOSURE(*) & RECYCLING COMPARTMENT

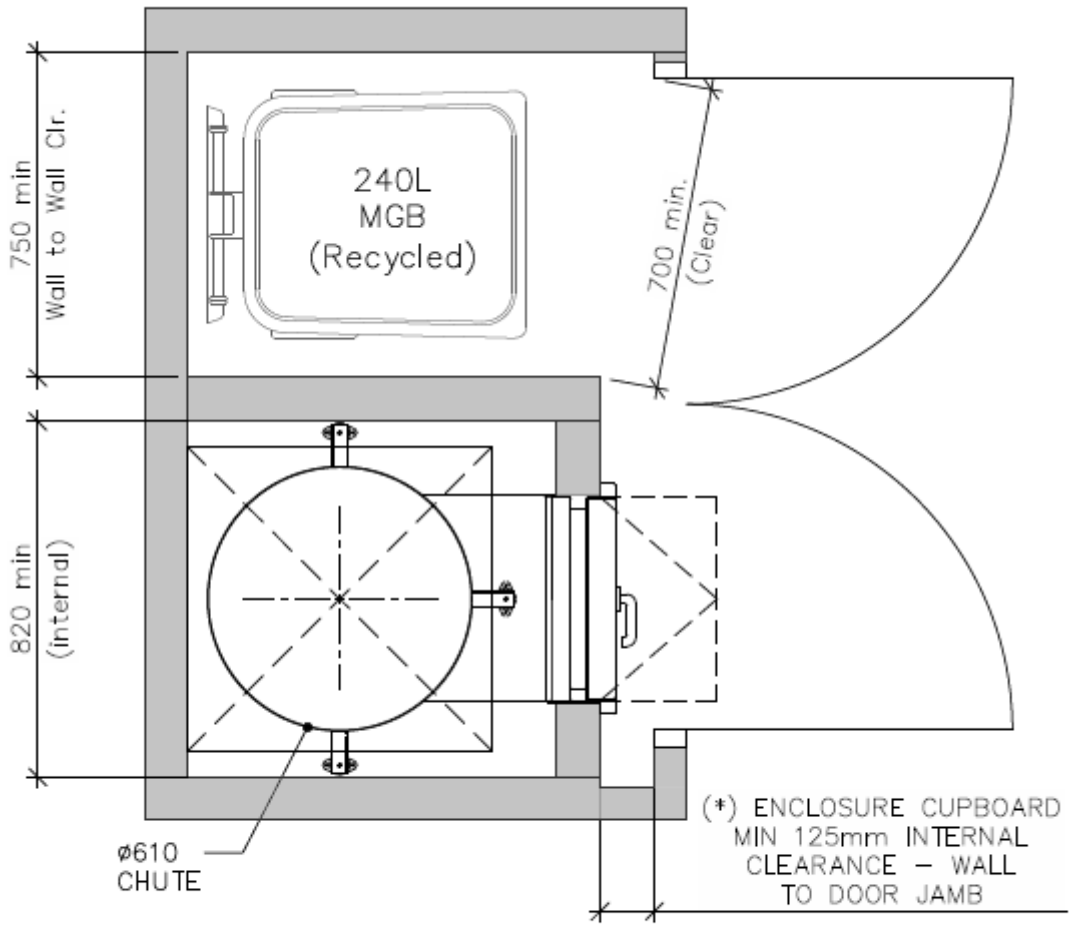
(*) NOTE: ENCLOSURES ARE RECOMMENDED IF THE CHUTE OPENS DIRECTLY TO A CORRIDOR OR IS NOT LOCATED IN A WASTE ROOM. IF CHUTE ACCESS IS WITHIN A WASTE ROOM THEN THE CUPBOARD ENCLOSURES ARE NOT REQUIRED.

SCALE 1:25 @ A3

Chute Shaft & Peno – Ver 1.2 April 26, 2022

Please Note: This is an example only – please refer to supplier's information and specification.

APPENDIX: B.2 EXAMPLE RESIDENTIAL LEVEL RECYCLING BIN LAYOUT



07 TYPICAL (610ø) GALV. STEEL CHUTE LAYOUT
with ENCLOSURE(*) & RECYCLING COMPARTMENT

Please Note: This is an example only – please refer to supplier's information and specification

APPENDIX C: PRIMARY WASTE MANAGEMENT PROVISIONS

APPENDIX: C.1 TYPICAL BIN SPECIFICATIONS

Mobile bins

Mobile bins come in a variety of sizes and are designed for lifting and emptying by purpose-built equipment.

Mobile bins with capacities of up to 1700L must comply with *AS4123.6-2006 Mobile waste containers* which specifies standard sizes and sets out the colour designations for the bodies and lids of mobile waste containers indicating the type of materials they are used to collect.

The most common bin sizes are provided below, although not all sizes are shown. The dimensions are a guide only and differ slightly between manufacturers. Some bins have flat or domed lids and are used with different lifting devices. Refer to *AS4123.6-2006* for further details.

Table G1.1: Average dimension ranges for two-wheel mobile bins

Wheelie bin

Bin capacity	80L	120L		140L		240L	360L
Height (mm)	870	940	1065	1080	1100		
Depth (mm)	530	530		540		735	820
Width (mm)	450	485		500		580	600
Approximate footprint (m^2)	0.24	0.26–0.33		0.27-0.33		0.41–0.43	0.49
Approximate weight (kg)	8.5	9.5		10.4		15.5	23
Approximate maximum load (kg)	32	48		56		96	Not known

Sources include Sulo, Single Waste, Cleanaway, SUEZ, just wheelie bins and Perth Waste for two-wheel mobile bins

Table G1.2: Average dimension ranges for four-wheel bulk bins

Dome or flat lid container

Bin capacity	660L	770L	1100L	1300L	1700L
Height (mm)	1250	1425	1470	1480	1470
Depth (mm)	850	1100	1245	1250	1250
Width (mm)	1370	1370	1370	1770	1770
Approx footprint (m^2)	0.86–1.16	1.51	1.33–1.74	2.21	2.21
Approx weight (kg)	45	Not known	65	Not known	Not known
Approx maximum load (kg)	310	Not known	440	Not known	Not known

Sources include Sulo, Signal Waste, Cleanaway, SUEZ, Just Wheelie Bins and Perth Waste

Source: Better Practice Guide For Resource Recovery In Residential Developments 2019, NSW Environmental Protection Authority

APPENDIX: C.2 SIGNAGE FOR WASTE AND RECYCLING BINS

Waste signs

Signs and educational materials perform several functions including:

- informing residents why it is important to recover resources and protect the environment
- providing clear instructions on how to use the bins and services provided
- alerting people to any dangers or hazards within the bin storage areas.

All waste, recycling and organic bins should be Australian Standard colours and clearly and correctly labelled, such as by a sticker on the lid and/or the body of the bin.

Communal bin storage areas should be clearly signposted with signs outlining how to correctly separate waste into the bins provided. The local council responsible for waste services may be a good source of signs and posters and can advise on what signs are suitable.

Information on who to contact to find out more about the recycling and/or other resource recovery services in the building should also be displayed in communal areas, such as on a noticeboard.

The Planet Ark website also has resources available free of charge for use by businesses and councils. These signs can be found at businessrecycling.com.au/research/signage.cfm

Figure I1.1: Examples of waste wall posters (EPA supplied)

Figure I1.2: Examples of bin lid stickers (EPA supplied)

Source: Better Practice Guide For Resource Recovery In Residential Developments 2019, NSW Environmental Protection Authority

Problem waste signs

The EPA has also produced a range of images and signs that can be used for problem wastes, such as fluoro globes and tubes, household and car batteries, e-waste and smoke detectors. To access these resources, contact the NSW EPA. Some examples are shown below.

Figure I2.1: Problem waste signs

Safety signs

The use of safety signs for waste resource recovery rooms must comply with *AS1319 Safety signs for occupational environments*. Safety signs must be used to regulate and control safety related to behaviour, warn of hazards and provide emergency information, including fire protection information. Suitable signs should be decided for each development as required.

Figure I3.1: Example safety signs

Source: Better Practice Guide For Resource Recovery In Residential Developments 2019, NSW Environmental Protection Authority

APPENDIX: C.3 SOLO RESOURCE RECOVERY LETTER

10th June 2026

Tweed Shire Council
Civic and Cultural Centre
10–14 Tumbulgum Road
Murwillumbah NSW 2484

Attention: Development Assessment Team

Solo Resource Recovery
86-88 Chinderah Bay Drive
Chinderah NSW 2487
P.O Box 1427
Kingscliff NSW 2487
AUSTRALIA

Services: 02 6676 7647
Admin: 02 6674 7656
Fax: 02 6674 7657
Email: solorr@solo.com.au
Web: www.solo.com.au

RE: Kingscliff Mixed Use Development – State Significant Development Application No. SSD-83069459 4–8 Bells Boulevard, Kingscliff

Response to Condition 10.1 (Tweed Shire Council) and Item 8 (Department of Planning, Housing and Infrastructure RFI) – Waste Collection Vehicle Confirmation and Loading Dock Operations

Dear Council,

Solo Resource Recovery is the nominated private waste contractor for the above development. This letter is provided in direct response to Tweed Shire Council Condition 10.1 and the Department of Planning, Housing and Infrastructure (DPHI) Request for Information Item 8, both of which require confirmation of the nominated waste collection vehicle and evidence that the proposed arrangement is operationally viable within the loading dock.

Nominated collection vehicle

The vehicle nominated for this development is the Iveco Eurocargo ML160E25 fitted with a Bucher Municipal JS14 Ecopack rear load compactor body. The relevant dimensions confirmed by manufacturer specification are as follows:

This vehicle is classified as a Medium Rigid Vehicle (MRV) under AS2890.2:2018. The Iveco chassis specification sheet and Bucher Municipal JS14 Ecopack sales data sheet are attached as Attachments A and B respectively. These attachments constitute the evidence of specific vehicle type required by the DPHI RFI.

Bin lift clearance confirmation

The Bucher Municipal JS14 Ecopack services bins via an underbody bin lifter mechanism. During the collection cycle, bins are raised and tipped into the rear hopper. The maximum height reached by the bin and lift mechanism during the tipping cycle complies with the required clearances necessary to undertake safe and efficient waste and recycling collection within the proposed 3.1m loading dock.

Solo Resource Recovery confirms that waste and recycling bins can be safely lifted, tipped and serviced within the proposed dock without risk of collision with any structural element. This confirmation is based on manufacturer specifications and our operational experience servicing enclosed dock environments with this vehicle configuration.

Private operator arrangement

In direct response to DPHI Item 8, Solo Resource Recovery confirms that waste collection for this development will be undertaken entirely by a private operator, not by Tweed Shire Council. Solo Resource Recovery is a private waste and recycling contractor with the resources, capability and operational experience to service the site in accordance with the proposed Operational Waste Management Plan prepared by Elephants Foot. This arrangement removes any reliance on Council collection services and is consistent with the customised MRV arrangement identified in the Transport Impact Assessment.

Solo Resource Recovery formally confirms its commitment to service this development on an ongoing basis under a private waste collection contract.

Loading and Waste Plan of Management

Solo Resource Recovery commits to operating under a Loading and Waste Plan of Management (POM) for the life of the development. The POM will be prepared prior to commencement of operations. The POM will be provided to the building owner and building manager upon finalisation and maintained for the life of the development.

Summary

Solo Resource Recovery is satisfied that the nominated Iveco Eurocargo ML160E25 can safely and efficiently service the proposed development within the 3.1m loading dock clearance. The attached manufacturer specifications substantiate the vehicle dimensions relied upon in this letter and constitute the evidence of specific vehicle type requested by DPHI. We are committed to preparing and maintaining a compliant POM for the life of the development.

Should Council or the Department require any further technical information or wish to discuss the operational methodology directly, please contact the undersigned.

Kind regards,

Tony Martin
Sales Representative
Solo Resource Recovery
M: 0419 239 046

Attachment A: Iveco Eurocargo ML160E25 chassis specification sheet
Attachment B: Bucher Municipal JS14 Ecopack sales data sheet (SD-JS14EJTA-V259)

ATTACHMENT A:

SD 09/2014

SALES DATA SHEET

BUCHER municipal

ACN 004 992 090

PRODUCT NAME	DATE	REVISION	SHEET	
JS REARLOADER	02/06/2020	01	1 OF 1	SD-JS14EJTA-V259

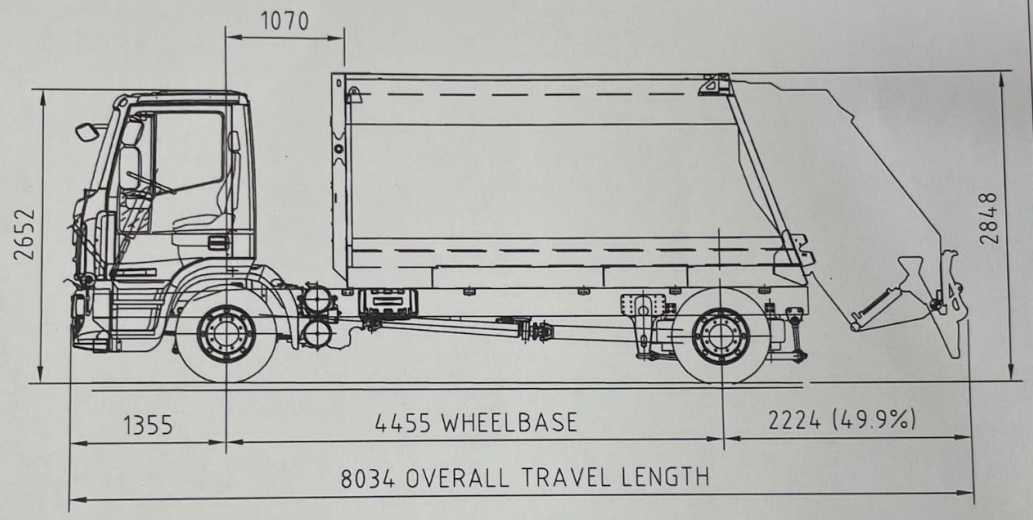
PRODUCT CODE	PRODUCT SIZE/CAPACITY	SALES MARKET	PRODUCT FUNCTION VARIATION
REARLOADER	14m	AUSTRALIA	

BODY OPTIONS

VEHICLE MAKE	VEHICLE MODEL	AXLE CONFIGURATION	WHEELBASE
IVECO	ML160 E25	4x2	4455 (STD)

CAB/CHASSIS OPTIONS: AIRBAG SUSP. AUTO TRANS.

VCS CODE: 2/F4DT1136



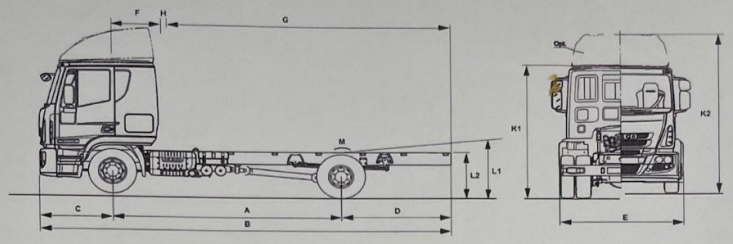
	FRONT (kg)	REAR (kg)	TOTAL (kg)
TRUCK *	3,020	1,800	4,820
JS14 - ECOPACK BODY	561	3,089	3,650
DRIVER	80	0	80
ADD'L 175L FUEL	98	58	156
UNDERBODY BINLIFTER	-125	375	250
TARE	3,634	5,322	8,956
PAYLOAD **	848	3,678	**4,527**
GROSS	4,482	9,000	13,482
MAX RATED LOAD ***	5,800	9,000	15,000

* TRUCK TARE ESTIMATED FROM TRUCK SPEC SHEETS
** PAYLOAD WEIGHTS ESTIMATED ONLY AND MAY DIFFER
*** PAYLOAD LIMITED BY REAR LEGAL LIMIT

ATTACHMENT B:

EUROCARGO E6

ML160E25S
ML160E25/P
4x2 RIGID



Plated/Design Weight	GVW (Kg)	GTW (Kg)	Front (Kg)	Rear (Kg)
Plated Weight	15990	19490	5800	10900
Design Weight	15990	19490*	6100	11000

* A GTW of 32500kgs is permissible provided a 9 or 12 speed gearbox and the drawbar pack are specified
For Front (Kg) axle capacity upgrade – see Order Guide

Kerb Weight

Weights are for the S model to a standard specification and include water, oils, 5 litres of AdBlue and 20 litres of fuel but exclude driver.
Kerb weights are subject to a manufacturing tolerance of +/ -5%.
For /P model add 155kg to the Rear (Kg) axle kerb weight.
A sleeper cab standard roof adds 100kg (70/30kg) to the kerb weight. A high roof sleeper adds 160kg (120/40kg) to the kerb weight.

Wheelbase (mm)		3105	3690	4185	4455	4815	5175	5670	6570
Front (Kg)		3092	3112	3137	3147	3182	3192	3227	3262
Rear (Kg)		1418	1498	1503	1508	1543	1553	1638	1693
Total (Kg)		4510	4610	4640	4655	4725	4745	4865	4955
Maximum Body/Payload (Kg) @ GVW		11480	11380	11350	11335	11265	11245	11125	11035
Dimensions (mm)									
A	Wheelbase		3105	3690	4185	4455	4815	5175	5670	6570
B	Overall length (over bumpers)		5690	6702	7512	7917	8547	9132	9942	11447
C	Front overhang		1362	1362	1362	1362	1362	1362	1362	1362
D	Rear overhang		1313	1740	2055	2190	2460	2685	3000	2735
E	Cab width (over wings)		2420	2420	2420	2420	2420	2420	2420	2420
F	C/line f/axle to back of cabequip	day	385	385	385	385	385	385	385	385
		sleeper		965	965	965	965	965	965	965
G	Usable frame length	day	3943	4955	5765	6170	6800	7385	8195	9700
		sleeper		4375	5185	5590	6220	6805	7615	9120
H	Cab gap		120	120	120	120	120	120	120	120
K1	Cab height (unladen*)	std roof	2765	2765	2765	2765	2765	2763	2762	2761
K2		high roof		3420	3420	3420	3417	3415	3415	3415
L1	Frame height at centre line of axle	S	1041	1039	1037	1038	1038	1038	1036	1035
		/P	904	903	903	903	903	903	903	902
L2	Frame height at end of frame	S	1080	1084	1085	1085	1086	1088	1086	1087
		/P	886	886	886	886	886	886	886	886
M	Wheel bump clearance		150	150	150	150	150	150	150	150
	Turning circle (wall to wall)		12340	14080	15540	16340	17400	18480	19940	22600

* Reduce by 3mm for air suspension models

Tyres and Wheels	Tyre Size		Tread		Wheels (8 stud)	
	Front	Rear	Front	Rear	Front	Rear
Standard	285/70R19.5	285/70R19.5	On Road	Traction	7.50 x 19.5	7.50 x 19.5
Optional	305/70R19.5	305/70R19.5	On Road	Traction	8.25 x 19.5	8.25 x 19.5
Optional	11R22.5	11R22.5	On/Off Road	On/Off Road	7.50 x 22.5	7.50 x 22.5

IVECO

APPENDIX: C.4 MCLAREN TRAFFIC ENGINEERING LETTER

MᶜLAREN TRAFFIC ENGINEERING

Address: Shop 7, 720 Old Princes Highway Sutherland NSW 2232
Postal: P.O Box 66 Sutherland NSW 1499

Telephone: (02) 9521 7199
Web: www.mclarentraffic.com.au
Email: admin@mclarentraffic.com.au

Division of RAMTRANS Australia ABN: 45067491678 RPEQ: 19457

Transport Planning, Traffic Impact Assessments, Road Safety Audits, Expert Witness

12 June 2026 Reference: 250737.02FA

PODIA
Suite 506, Level 5
55 Miller Street
Pyrmont NSW 2009
Attention: Dominic Biancardi

LETTER OF ADVICE
REGARDING WASTE COLLECTION FOR
THE PROPSOED MIXED USE DEVELOPMENT
AT 4-8 BELLS BOULEVARD, KINGSCLIFF

Dear Dominic,

Reference is made to your request to provide advice regarding waste collection for the proposed Mixed Use Development at 4-8 Bells Boulevard, Kingscliff (SSD-83069459). This letter provides further information to assist Tweed Shire Council in their review of the proposed waste collection operation for the proposed development.

1 Response to DPHI

This letter is in response to item 8 of the Department of Planning, Housing and Infrastructure (DPHI), additional information request dated 20 March 2025. The comments made by DPHI relevant to waste collection is shown below (*italicised*) with MᶜLaren Traffic Engineering's (MTE) response thereafter.

> ***8. Waste management***
>
> *The Transport Impact Assessment (TIA) identifies a customised vehicle similar to a MRV for waste collection, which suggests that collection would be undertaken by a private operator. Confirmation is required from Tweed Shire Council whether this arrangement is acceptable, and evidence is required verifying the specific vehicle type proposed for the waste collection.*

MTE Response: The proposed waste collection will be undertaken by a private operator. Solo Resource Recovery, that operates in the Tweed Region. The letter attached in **Annexure A**, has been provided by Solo Resource Recovery and indicates their ability and commitment to service the site. They have nominated that their waste collection vehicle will be the *Inveco Eurocargo ML160E25*, based on the vehicle body of an *Inveco JS Rearloader* (Inveco JS Rearloader), with the detailed specifications provided by Solo Resource Recovery and attached in **Annexure B** for reference. This vehicle has a length of 8.034m, a total operating height of 2.848m and an operating width of 2.42m. These dimensions have been adopted for the swept path testing of the vehicle within the proposed loading dock design, as provide in **Annexure C**.

Swept path testing of the design waste collection vehicle (Inverco JS Rearloader) has been undertaken within the proposed loading dock and on-site waste collection area, with the successful swept paths provided in **Annexure** C. It should be noted waste collection services are occasional under the definition of "occasional service" within *AS2890.2:2018*.

The operating vehicle height of the Inverco JS Rearloader is 2.848m. The collection of waste bins will be a rear lift operation, which does not require the bins to be lifted higher than the rear of the vehicle, so the vehicle can operate successfully within the 2.9m height of the vehicle. This is demonstrated below in **Figure 1**. The proposed loading dock has a 3.1m vertical clearance which can accommodate the private waste collection vehicle comfortably.

2 Response to Tweed Shire Council (Waste Matters)

The Tweed Shire Council has provided a number of comments within their letter to the DPHI dated 17 February 2026, with respect to the traffic elements of the waste collection. The comments made by Tweed Shire Council relevant to the traffic elements of waste collection shown below (*italicised*) with M^{c}Laren Traffic Engineering's (MTE) response thereafter.

> ***10. Traffic, access & parking***
>
> ***10.1 Loading dock headroom***
>
> *The proposed loading dock provides only 3.1m of vertical clearance, which does not comply with AS2890.2:2018, requiring 4.5m for Medium Rigid Vehicles. Although the proponent states waste collection will be operated by a vehicle with a 2.9m height, no evidence is provided how bin-lifting mechanism can operating safely and effectively without risk of collision with the structure. The 200mm buffer is not supported.*
>
> *Council recommends that confirmation is provided that the nominated waste collection vehicle can safely lift and service bins within the proposed loading dock clearance, supported by manufacturer specifications and/or operational confirmation from the waste contractor. The loading dock must be designed and signposted for the nominated MRV. Any increase to design vehicle class requires re-assessment and updated swept path analysis. In addition to the above, it is recommended a loading and waste plan of management be prepared that includes the following at a minimum:*
>
> - *Posted headroom limits with signage indicating maximum vehicle height; nominated service windows, including restriction of servicing outside retail peak periods.*
> - *Marshalling procedures for service vehicle movements*
> - *Safety measures, including any required convex mirrors, sight aids and warning signage*
> - *The POM should be implemented for the life of the development.*

MTE Response: The proposed loading dock is designed to accommodate the identified design vehicle, being the Inverco JS Rearloader, as outlined in **Annexure A**. The vertical clearance of 3.1m within the loading dock is acceptable to accommodate the 2.9m operating height of the custom design vehicle. As shown in **Figure 1**, the bin lifting mechanism does not lift the bin above the height of the vehicle, and therefore the collection of waste can operate safely within the 2.9m headroom of the design vehicle.

FIGURE 1: EXAMPLE OF THE BIN LIFTING MECHANISIM

Swept path testing of the nominated design vehicle has been undertaken and is included in **Annexure** C for reference. This demonstrates that the nominated design vehicle can safely service the bins and enter and exit the loading dock in a forward direction. The operation is in compliance with the requirements of AS2890.2:2018, as relevant.

Reference is also made to *Clause 1.4.4* of *AS2890.2:2018*, which states the following:

> ***1.4.4. clearance height***
>
> *Minimum height for which structures should be designed to accommodate the design vehicle.*
>
> *Note 1 to entry: Maximum allow vehicle heights are generally 0.2m less than this height.*

As such, for a vehicle height of 2.9m, a clearance height of 3.1m is appropriate and compliant with the requirements of *AS2890.2:2018* and therefore is supported.

A waste management plan can be conditioned to address the items listed by Council. The items listed by council are typical for any loading dock and can be accommodated. Convex mirrors and signage reflecting the vehicle restrictions on the loading dock will be provided as necessary.

12. Waste

12.2 Council kerbside collection

Council has a kerbside waste collection contract to collect waste generated by residential uses. The applicant should demonstrate that temporary kerbside bin placement is possible. Temporary collection should be demonstrated should private contracted waste management cannot be undertaken. Any OWMP should minimise impact on retail/commercial areas and should not require manual handling of bins by the collection truck driver at kerbside.

It is recommended that the OWMP demonstrate temporary kerbside bin placement that includes numbers and sizes of bins, lengths or kerbside/street frontages, local topography, and kerbside locations where collection can occur from a public road without the collection truck being impeded by parked vehicles.

MTE Response: Kerbside bin collection is demonstrated through the successful swept paths of Council's kerbside waste collection vehicle collecting waste from the nominated kerbside collection point, along Gunnamatta Avenue, just south of the roundabout. In the instance that a private contractor is unable to service the site (as per the proposal), waste collection can occur on the kerbside, in the location of the indented kerbside parking south of the roundabout. Swept path testing of this arrangement is provided in **Annexure D** for reference.

This kerbside parking area can be nominated as a "*No Parking*" zone during the typical early morning waste collection period. Council's kerbside waste collection typically occurs during the early morning period, when parking demand in Kingscliff is at it's lowest. The kerbside parking spaces will be made available at all other times and therefore would not have any impact on parking supply during peak times. The provision of time restricted no parking restrictions will be subject to Council's approval, if the site had to revert to kerbside collection.

However, it is reiterated and confirmed by the letter from Solo Resource Recovery in **Annexure A**, that private waste collection for this site can be achieved, such that kerbside collection is highly unlikely to ever be required. The applicant has demonstrated how such kerbside collection may occur, if the circumstances arose whereby private waste collection was no longer possible.

12.5 Loading bay for waste collection

The size of the loading bay has been designed for a custom collection vehicle. The size of the vehicle and the loading bay raises concerns with the vehicle being able to leave in a forward direction. The loading bay provides minimal flexibility for the MRV to be able to manoeuvre, and the loading bay is at flat slope adjacent to a sloping vehicle access ramp. The change in slope and levels is considered problematic for the MRV and vehicle access into the loading bay should be re-considered.

In addition to the above, there is no elevation or section detail provided in the architectural plans for the waste storage room. To determine if this space is usable for waste collection and differing levels will not cause issues for the MRV, amended plans should be provided.

MTE Response: Swept path testing of the custom waste collection vehicle has been completed with the successful results being provided in **Annexure** C. These swept paths demonstrate that the custom waste collection vehicle can enter and exit in a forward direction, as per the requirements of an occasional service definition in *AS2890.2:2018*.

There is no change of gradient within the direction of travel of the nominated waste collection vehicle as the loading dock entry is flat, the minor 1:8 transition at the edge of the loading dock, will be resolved during detailed design and will be able to achieve compliance with *AS2890.2:2018* requirements, within the path of travel of the waste collection vehicle.

The provision of sections through the loading dock will be provided with the updated architectural package and will clearly demonstrate the 3.1m headroom is achieved throughout the loading dock, in locations where the custom waste collection vehicle will travel. The vehicle size and headroom limits will be clearly signposted and included in the site's plan of management.

3 Conclusion

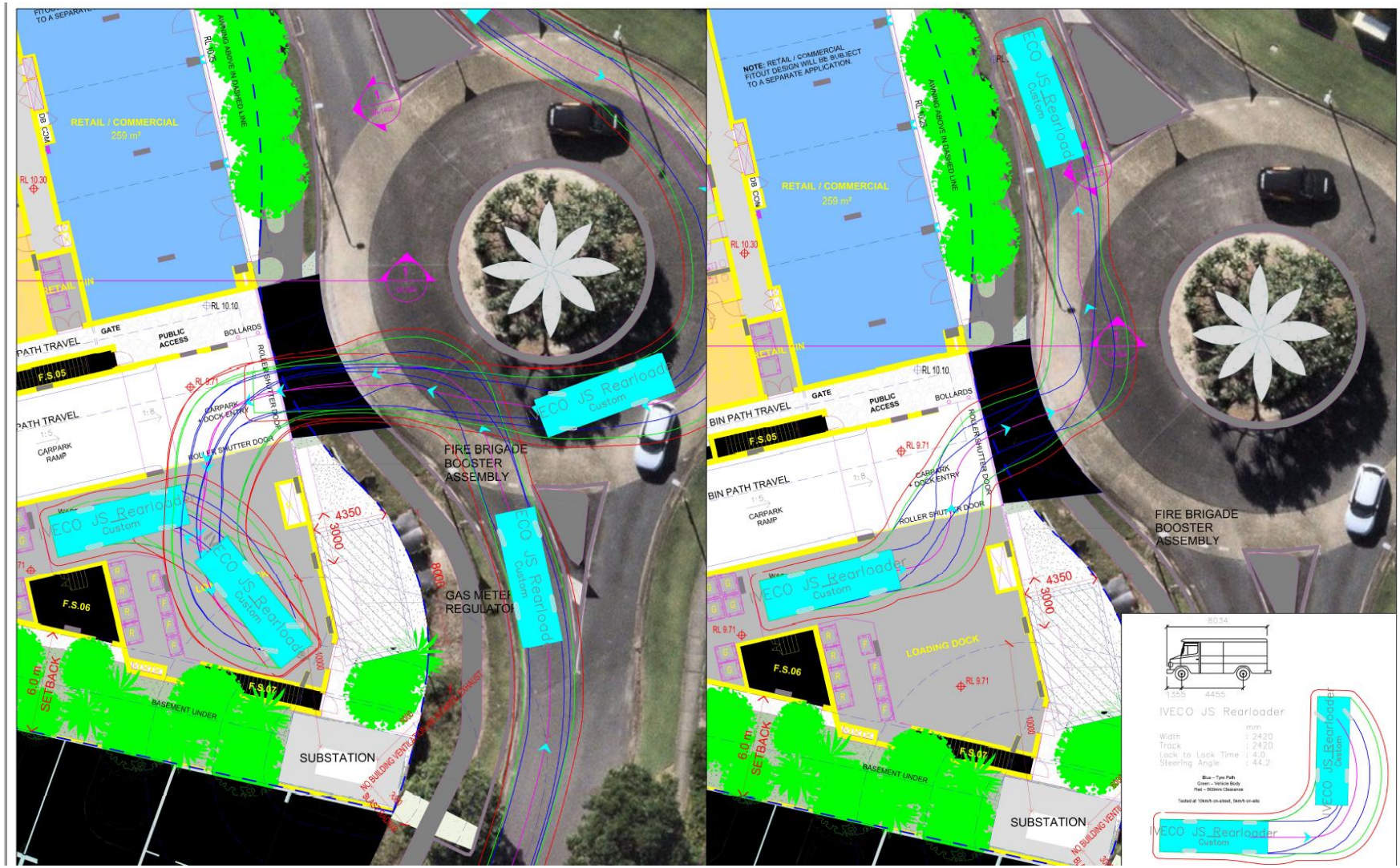
The proposed loading dock and waste collection solution utilising the services of Solo Resource Recovery and their custom waste collection vehicle (Inverco JS Rearloader) is fully supportable in terms of the traffic and design related matters. The loading dock is designed to accommodate a custom design vehicle (Inverco JS Rearloader) and will be clearly signposted with respect to the maximum vehicle size and height of vehicles permissible. Waste collection will be occasional service (as per the AS2890.2:2018 definition) and the loading dock has been designed to achieve all the relevant objectives related to a custom design vehicle, such that the design is compliant with AS2890.2:2018 requirements.

Please contact the undersigned on 9521 7199 should you require further information or assistance.

Yours faithfully,
M°Laren Traffic Engineering

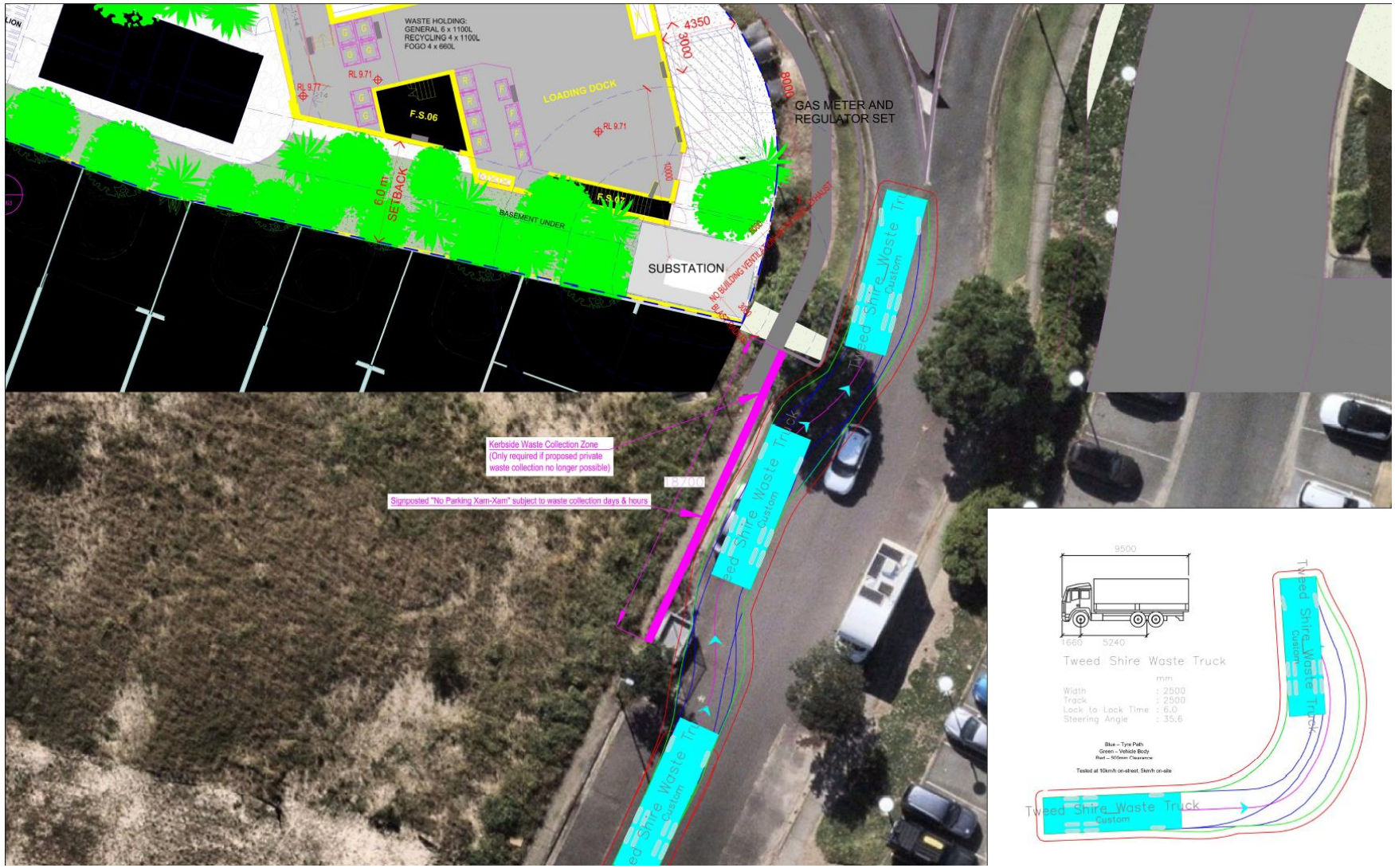
Aaron Tomlins
Principal Traffic Engineer
BE(Hon)(Civil Engineering)/BCom
TfNSW Accredited Level 2 Road Safety Auditor (RSA-02-1623)
MIEAust, MAITPM, MITE-ANZ

APPENDIX: C.5 SWEPT PATH ANALYSIS ONSITE PRIVATE WASTE COLLECTION



Source: McLaren Traffic Engineering, Onsite Private Waste collection, 11/06/2026

APPENDIX: C.6 SWEPT PATH ANALYSIS COUNCIL KERBSIDE WASTE COLLECTION



Source: McLaren Traffic Engineering, Kerbside Council Waste collection, 11/06/2026

APPENDIX D: SECONDARY WASTE MANAGEMENT PROVISIONS

APPENDIX: D.1 EXAMPLE HANDHELD BIN MOVERS

movexx
smart electric tugs

MOVEXX T2500
BIN MOVER BATTERY ELECTRIC

Movexx T2500 Tow Tug is an extremely user friendly battery powered mobile towing unit that is ideal for applications where trolleys and rolling objects need to be moved from one place to another simply, efficiently and without physical effort. Some standard features included are: battery indicator, on board battery charger, battery, adjustable handle, dual speed and electric brake.

These units are fitted with an electromagnetic brake system for use on ramps and slopes

Features
- Electromagnetic brake for use on ramps and slopes
- Adjustable height handle

SPECIFICATION

MODEL	DIMENSIONS (MM)	OPTIONS	PULL - PUSH CAPACITY (KG)	BATTERY
T2500-D	511 (w) x 757 (l)	* Centre mount 2x 240 lt. wheelie bin attachment	2500	AGM batteries 2x 85AH up to 8 hrs continuous operation

TOWING CAPACITY - ON FLAT GROUND (all models)	TOWING CAPACITY - SLOPE (all models)
Towing up to 4x 660 lt. Wheelie Bin	Towing up to 2x 660 lt. Wheelie Bin Up / Down maximum 25% (1:4 slope)
Towing up to 4x 1100 lt. Wheelie Bin	Towing up to 1x 1100 lt. Wheelie Bin Up / Down maximum 25% (1:4 slope)
	**Electromagnetic brake for use on ramps and slopes

Please Note: This is an example only – please contact supplier for specific recommendations.

Source: Sitecraft - www.sitecraft.net.au

APPENDIX: D.2 EXAMPLE SEATED BIN MOVERS

MOTREC

MOTREC MT180
36V BATTERY ELECTRIC BIN MOVER

This hardworking tow device delivers outstanding performance. With its efficient motor and 4,500kg push-pull capacity.
The MT180 is ideal for moving bin trailer also narrow enough to fit through most door openings. From its all-steel construction to its all-wheel braking, this tow tractor is built for years of heavy use in total comfort and safety. All this combined with superior AC technology makes short work of though requests.

Features
- Front & rear brakes
- Pneumatic Tyres
- Comfortable ergonomic adjustable seat
- Complete with headlight, break lights, tailing lights & horn

SPECIFICATION

MODEL	DIMENSIONS (MM)	OPTIONAL EXTRAS	PULL - PUSH CAPACITY (KG)	BATTERY
MT180 36V	760 (w) x 2030 (l) x 1160 (h)	Flashing light on pole Conditional registration kit Cabin includes windscreen Weather Curtains	4500	48V TPPL battery pack, 157AH

TOWING CAPACITY - ON FLAT GROUND / SLOPE (all models) (all models)
Towing up to 5x 660 lt. Wheelie Bin Up / Down maximum 25% (1:4 slope)
Towing up to 4x 1100 lt. Wheelie Bin Up / Down maximum 25% (1:4 slope)

Please Note: This is an example only – please contact supplier for specific recommendations.

Source: Sitecraft - www.sitecraft.net.au

APPENDIX: D.3 EXAMPLE BIN TRAILERS

SITECRAFT
MATERIALS HANDLING EQUIPMENT

BIN TRAILER
WITH ALUMINUM RAMP

Bin trailer suitable for moving 240lt, 660lt and 1,100lt bins including a 1200mm rear ramp complete with locking latches and gas strut assist. Height draw bar fitted with a jockey wheel large pneumatic tyres with precision bearing hubs

SPECIFICATION

MODEL	DIMENSION (MM)	SUITABLE FOR MOVING	PART NUMBERS	REAR RAMP DIMENSION (MM)
4x Bins Trailer	Internal - 1560 (l) x 1200 (w) External - 2300 (l) x 1500	**4x 240lt.** Wheelie Bin **2x 660lt.** Wheelie Bin **1x 110lt.** Wheelie Bin	78811604	1200mm rear ramp complete with positive locking and gas strut assist
6x Bins Trailer	Internal - 2350 (l) x 1200 (w) External - 3100 (l) x 1500 (w)	**6x 240lt.** Wheelie Bin **3x 660lt.** Wheelie Bin **2x 1100lt.** Wheelie Bin	78811065	1200mm rear ramp complete with positive locking and gas strut assist
8x Bins Trailer	Internal - 3200 (l) x 1200 (w) External - 3900 (l) x 1500 (w)	**8x 240lt.** Wheelie Bin **4x 660lt.** Wheelie Bin **3x 1100lt.** Wheelie Bin	78811066	1200mm rear ramp complete with positive locking and gas strut assist
10x Bins Trailer	Internal - 3900 (l) x 1200 (w) External - 4600 (l) x 1500 (w)	**10x 240lt.** Wheelie Bin **5x 660lt.** Wheelie Bin **4x 1100lt.** Wheelie Bin	78811067	1200mm rear ramp complete with positive locking and gas strut assist

OPTIONS

- Full registration
- Upgrade Includes : Lights | Wiring | Suspension | aaa Tyres | Compliance Plate

Please Note: This is an example only – please contact supplier for specific recommendations.

Source: Sitecraft - www.sitecraft.net.au

APPENDIX: D.4 EXAMPLE BIN TOWING ATTACHMENTS

Logistec

UNIVERSAL BIN TOWING ATTACHMENTS

SUITE 660LT / 1100LT WHEELIE BINS

PARTS & FEATURES
Front Only - Part Number: 78811672
• Suit Sulo & Otto 600lt / 1100lt MGBs
• Spring loaded draw bar folds up
• No drilling of holes in the bin required
• Solidly fixed to the base of the bin using the castor mounting bolts
• Passivated zinc finish for long life
• Correct Rear Fixed or Directional Lock castors should be used
Rear Only - Part Number: 78811673
• Suit Sulo & Otto 600lt / 1100lt MGBs
• No drilling of holes in the bin required
• Solidly fixed to the base of the bin using the castor mounting bolts
• Passivated zinc finish for long life
• Correct Rear Fixed or Directional Lock castors should be used
For Steel Bin Front Only - Part Number: 78811781
• Suit Sulo & Otto 600lt / 1100lt MGBs
• No drilling of holes in the bin required
• Solidly fixed to the base of the bin using the castor mounting bolts
• Passivated zinc finish for long life
• Correct Rear Fixed or Directional Lock castors should be used
Direction Lock : 53191001
• Suit Sulo & Otto 600lt / 1100lt MGBs
• No drilling of holes in the bin required
• Solidly fixed to the base of the bin using the castor mounting bolts
• Passivated zinc finish for long life
• Correct Rear Fixed or Directional Lock castors should be used

Please Note: This is an example only – please contact supplier for specific recommendations.

Source: Sitecraft - www.sitecraft.net.au

APPENDIX: D.5 EXAMPLE BIN LIFTER FOR 240L BINS

versatip

Versatip Bin Tipper – 1500mm Tip

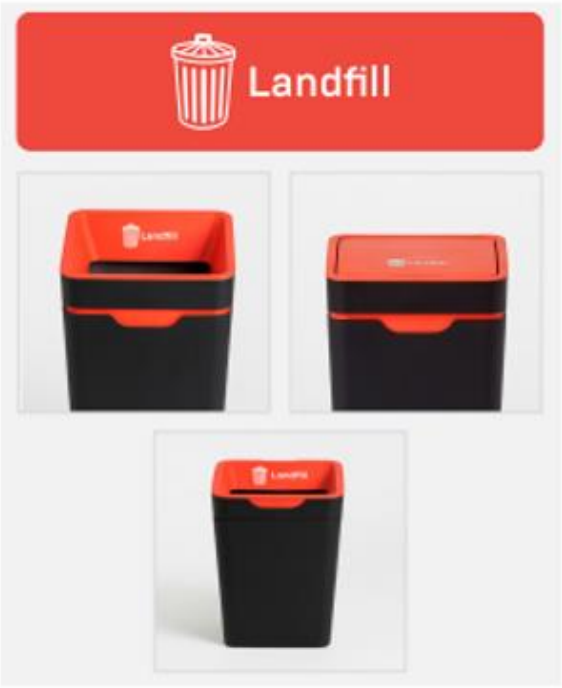
Specifications

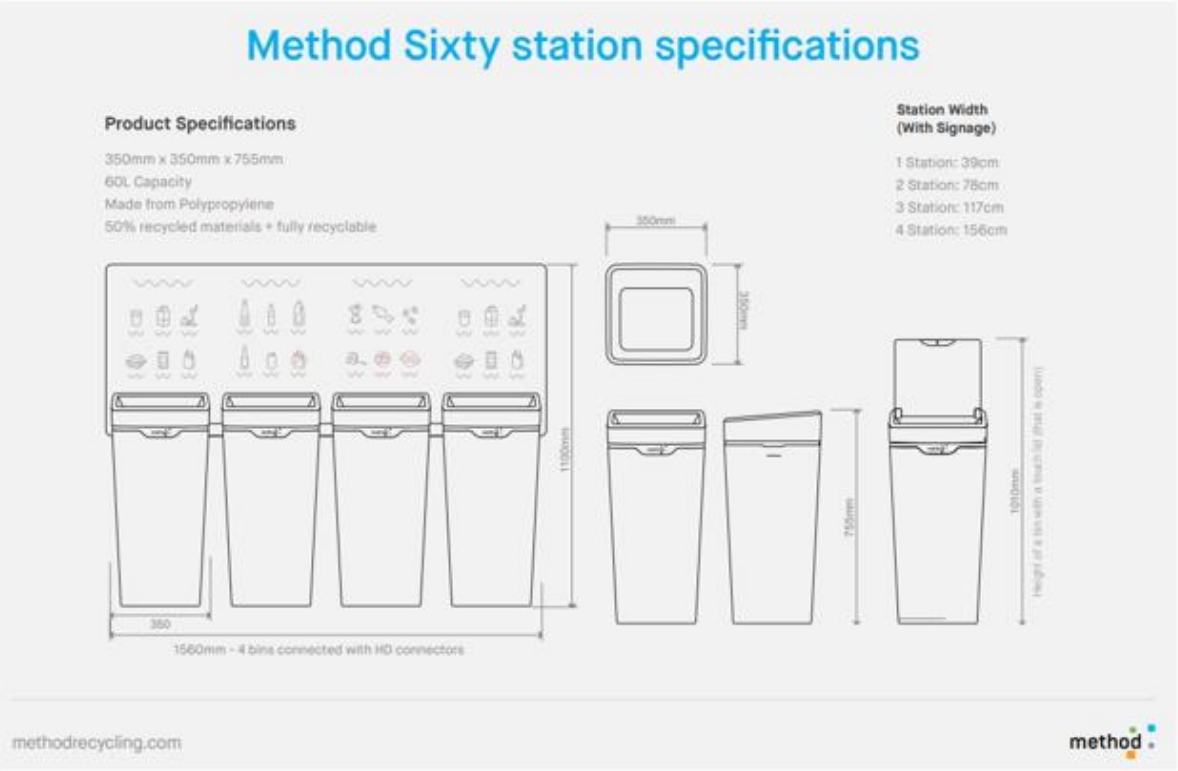
Product Code	69121009
Product Name	1500mm Tip – Battery Powered
Capacity (kg)	250
Height (mm)	2085
Length (mm)	1330
Power Source	Battery Powered
Tipping Height (mm)	1500
Width (mm)	990

Please Note: This is an example only – please contact supplier for specific recommendations.

Source: Elephants Foot Equipment - www.elephantsfoot.com.au/equipment/

APPENDIX: D.6 EXAMPLE SOURCE SEPARATION RECEPTACLES





Source: Method Recycling - www.methodrecycling.com