PROPOSED MIXED-USE SUPERMARKET DEVELOPMENT

495 FOURTH AVENUE, AUSTRAL

WASTE MANAGEMENT PLAN

PROPOSED MIXED-USE SUPERMARKET DEVELOPMENT, 495 FOURTH AVENUE, AUSTRAL
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EXECUTIVE SUMMARY

SALT has been engaged by Woolworths Group to prepare a Waste Management Plan (WMP) for a proposed mixed-use supermarket development located at 495 Fourth Avenue, Austral.

SALT understands that the proposal involves the development of a Woolworths supermarket and mixed-use activity centre, consisting of specialty retail spaces accommodating for both food and non-food services, in addition to commercial tenancy and kiosk areas.

Waste generated from supermarket areas would be stored on-site within the proposed ground level loading dock area.

Supermarket waste would be collected by a private contractor, with the following arrangements:

- 1 x 4500L garbage bins collected six times per week;
- 1 x 3000L organics recycling bins collected five times per week;
- 1 x Cardboard compactor collected on an as required basis; and
- Baled plastics collected on an as required basis.

Waste collection vehicles would enter the subject site via Fourth Avenue, to travel safely in a forward motion towards the bin and equipment storage areas within the supermarket loading bay.

Vehicle operators would prop safely to the appropriate bin within the loading dock to perform a front-lift or a hook-lift bin transfer. The vehicle will return the required bin/equipment upon emptying, before exiting the subject site onto Fourth Avenue.

Waste generated from additional commercial areas would be stored on-site within the proposed shared waste service area located adjacent to the proposed loading dock area.

Commercial waste would be collected by a private contractor with the following arrangements:

- 1 x 3,000L garbage bins collected three times per week;
- 1 x 3,000L commingled recycling bins collected three times per week;
- 1 x 1,500L organics bins collected three times per week; and
- 1 x 3,000L cardboard/paper recycling bins collected twice per week.

Waste collection vehicles would enter via the vehicle and loading entrance located at Fourth Avenue to travel and prop safely at the waste services and storage area located within the ground level,

Staff / vehicle operators would ferry waste bins from the bin store and return upon emptying to perform collections, before exiting the subject site onto Fourth Avenue.

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

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1 INTRODUCTION

SALT has been requested by Woolworths Group to prepare a Waste Management Plan for a proposed mixed-use supermarket development located at 495 Fourth Avenue, Austral.

This Waste Management Plan (WMP) has been prepared in accordance with Liverpool Council DCP requirements (2008) and is based on industry best practice and the NSW EPA Better Practice Guide for Resource Recovery in Residential Developments (2019), with reference to the applicable waste generation rates, service standards and assessment criteria enclosed within.

In the circumstance that the development plans are amended or new legal requirements are introduced, a revision of the enclosed WMP may be required by the Responsible Authority. The developer would be responsible for engaging with a waste consultant or engineer to prepare the updated report accordingly.

Demolition waste generation volumes and associated management procedures are not included as part of this Site Waste and Recycling Management Plan, as the site location is currently vacant and unoccupied. Therefore, only construction and operational waste management strategies, disposal procedures and generation volumes will be included as required.

2 INCLUDED IN THIS REPORT

Enclosed is the Waste Management Plan for the proposed development at 495 Fourth Avenue, Austral. Included are details regarding:

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

3 LAND USE

Development application number: to be allocated

Land Zone: Neighborhood Centre (B1)

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

Number of levels: 2 (with 1 x lower ground level)

Commercial Space:

- 3,730m^2 Supermarket and liquor store
- 1,826m^2 Specialty Retail

- 1,729m^2 Commercial Tenancies.
- 90m^2 Kiosk

4 CONSTRUCTION WASTE MANAGEMENT RESPONSIBILITES

As noted in the introductory sections, this SWRMP will only include the responsibilities and management processes relevant to the construction stages due to the vacancy of the subject site. This Site Waste and Recycling Management Plan prepared must be adhered to during all construction works required for the proposed development.

Site inductions conducted for the construction stages, must ensure all contractors and personnel are made aware of the waste management practices and legislative controls specified in the WRMP prepared.

It is the responsibility of the Site Supervisor and relevant managing contractor that all waste disposal, load transfers and required assessments are adequately tracked and stored in a Waste Data File, or an appropriate data management system. Any associated receipt/invoices, waste classification documents and site validation certificates should be logged within this file management system accordingly.

All entries must include the following;

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

Waste Data Files and relevant records may be requested during the construction stages for audit, inspection and quality management purposes.

4.1 WASTE CLASSIFICATION

All waste generated during the construction stages of the proposed development will be classified in accordance with *NSW EPA Waste Classification Guidelines 2014.*

Assessments should be routinely conducted of waste loads stored in skips or appropriate containers predisposal and off-site transfer to waste facilities, to ensure all materials can be accepted for disposal and recovery.

All waste classification assessments must follow the six-step procedure as outlined within the EPA guidelines mentioned above, with all waste classification data to be collected and recorded appropriately across the life of the development.

4.2 WASTE MANAGEMENT HIERARCHY

The NSW EPA waste management hierarchy has been adopted as the framework to guide the waste management practices of the proposed development, as depicted in Figure 1 below.

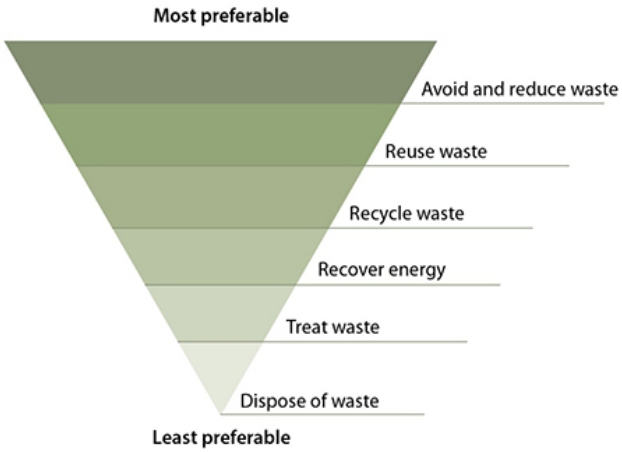
The waste hierarchy provides a reference on the order of approaches to achieve efficient resource use. The aspects of the hierarchy are applicable to construction stages of the subject site. As a key objective for all employees and personnel, the avoidance of waste generation and reuse of materials will have priority over recycling, and recycling will have priority of disposal.

The NSW EPA waste management hierarchy has been adopted as the framework to guide the waste management practices of the proposed development, as depicted in Figure 1 below.

The waste hierarchy provides a reference on the order of approaches to achieve efficient resource use. The aspects of the hierarchy are applicable to the construction, and ongoing operation of the subject site.

As a key objective for all employees and personnel onsite, the avoidance of waste generation and reuse of materials will have priority over recycling, and recycling will have priority of disposal.

Figure 1 Waste Management Hierarchy



4.3 WASTE AVOIDANCE AND MINIMISATION

All construction practices including excavation present opportunities to reduce the volume of waste generated. Waste generation will be avoided as required, and where avoidance is not suitably practicable, waste generation will be reduced. Waste separation systems will be promoted to facilitate reuse and recycling as a priority of the disclosed waste management plan.

The reuse of building materials generated in the phases of construction should be encouraged. Unnecessary resource consumption and the generation of waste should be prevented by implementing the following measures;

- Avoiding single-use materials or disposable goods;
- Purchasing materials that will result in less waste, which have minimal packaging, are precut or fabricated; and; and
- Using products and materials that are recycled, recyclable, repairable, refillable, reusable and or biodegradable where possible.

4.4 TRAINING AND INDUCTIONS

All staff, managers, and supervisors employed during the construction phase must be made aware of and be provided with formal training on the site-specific waste management procedures of the proposed development. It is the responsibility of the managing contractor to provide inductions where duties are appropriately outlined and how the Waste Management Procedures are implemented.

As a standard, toolbox and pre-start meetings will be undertaken as a part of general site induction and will be refreshed periodically. Training and induction material provided should contain the following;

- Legal obligations and guidelines;
- Emergency management and response procedures;
- Waste storage areas and specific containers used for waste separation;
- Litter prevention practices on and off site;
- Applicable waste reduction and avoidance practices;
- Hazardous/contaminated waste management response;
- Environmental and legislative implications of poor waste management behaviors; and
- Responsibility, duties and reporting lines outlined (including appointing personnel responsible for waste management and individual responsibilities)

5 CONSTRUCTION WASTE MANAGEMENT PLAN

5.1 CONSTRUCTION WASTE GENERATION AND MANAGEMENT

Waste generation rates applicable to the stages of construction have been adopted from The Hills Shire Development Control Plan Appendix A (2012), due to no standard generation rate specified within in Liverpool City Council waste management guidelines, policies, and other relevant documentation.

The construction waste generation rate for a factory block (per 1000m^2) has been adopted as the most acceptable rate for the proposed use of the subject site. These generation rates are shown in Table 1 below.

Table 1 Estimate Waste Generation Rates for Construction Materials

Building Material	Waste Quantity (tonnes per 1000m^2)
Timber	0.25
Concrete	2.10
Bricks	1.65
Gyprock	0.45
Sand/Soil	4.80
Metal	0.60
Other	0.50

The construction waste volumes generated for each material have been calculated based on the approximate gross lettable area of 8305m^2 for the proposed development. The estimated volumes and management strategies for construction waste are presented below in Table 2.

Table 2 Estimated Construction Waste Generation Volumes and Management Options

Type of Waste Generated	NSW Waste Classification	Most to Least Favorable			Specify method of onsite reuse, contractor and recycling outlet and /or waste depot to be used
		Reuse Estimate Volume Weight (t)	Recycle Estimate Volume Weight (t)	Disposal Estimate Volume Weight (t)	
Timber	General Solid Waste (Non-Putrescible)	-	2.07	-	Delivered to the off-site recycler listed below. Chip remainder may be used in landscaping.
Concrete	General Solid Waste (Non-Putrescible)	-	17.4	-	To be used as hardstand during construction, then as base under pavements. Any unused concrete would be returned to batch plant for re-use.
Bricks	General Solid Waste (Non-Putrescible)	-	13.7	-	Clean and reuse lime mortar bricks for footings. Delivered to the off-site recycler listed below. Noted: it should not be mixed with other materials from construction waste and reinforced concrete.
Gyprock	General Solid Waste (Non-Putrescible)	-	-	3.73	Disposed of in a designated general waste skip. Should asbestos be present, the waste must be removed and

					disposed of in accordance with the requirements of Work Cover.
Sand/Soil	General Solid Waste (Non-Putrescible)	-	36.8	-	Delivered to the off-site recycler listed below.
Metal	General Solid Waste (Non-Putrescible)	-	4.93	-	Clean metal (i.e. without presence of other materials) will be delivered to the off-site recycler listed below. Any contaminated metal should be separated to be landfilled.
General waste (including residual waste and dust)	General Solid Waste (Non-Putrescible) Containing Putrescible Waste	-	TBC	TBC	Disposed into a general waste skip.
Other	Pre-classified General Solid Waste (Non-Putrescible)	-	-	4.15	Sorted accordingly based on recycling potential of each material

Note: *TBC has been used for totals of disposal/recyclable materials that will be determined once onsite works commence*

5.2 WASTE STORAGE DESIGN AND COLLECTION REQUIREMENTS

Construction material generated during the development of the site will be separated and recycled where possible. Recyclable materials will be sorted and stored onsite in skip bins or the appropriate waste container and would be transported to a licensed facility that is permitted to accept the disposed materials (refer to Table 3 for a list of permitted facilities).

Waste skips/containers are to be placed and enclosed within waste bays. Waste bays will be lined with sediment fencing or shade cloth, taking into account slope and drainage factors to avoid contamination of stormwater drains during weather events. Waste bays would be located in the same area as construction waste stockpiles. Figure 4 below proposes a suitable location for skip bin/waste container storage as a reference.

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

In the circumstance an appropriate waste container cannot be supplied, due to timing of waste transfers and capacity limits at facilities. All stockpiles must be stored within the site boundary and must consider the factors mentioned above, to avoid the potential contamination of soil and stormwater flows.

The position of the designated waste bays onsite may change according to building works and the progression of the development. Access, visual amenity and WHS should always apply to the selection of waste storage locations.

All waste storage bays onsite should:

- Be located in accessible areas for on-site movement, transfers and collection;
- Have an appropriate space allocated for the quantity of waste generated and separation of recyclable materials;
- Have space allowances for required on-site treatment facilities, such as compaction equipment if required;
- Have an acceptable level of weather protection and be enclosed if necessary;
- Be secured and lockable;
- Be well-ventilated and located nearby a sewer for drainage purposes; and
- Provided clear signage and labelling to ensure appropriate use.

Note: Waste generated outside the site must not be received at the site for storage, treatment, processing, reprocessing, or disposal.

5.3 BIN TYPE, QUANTITY AND DIMENSIONS

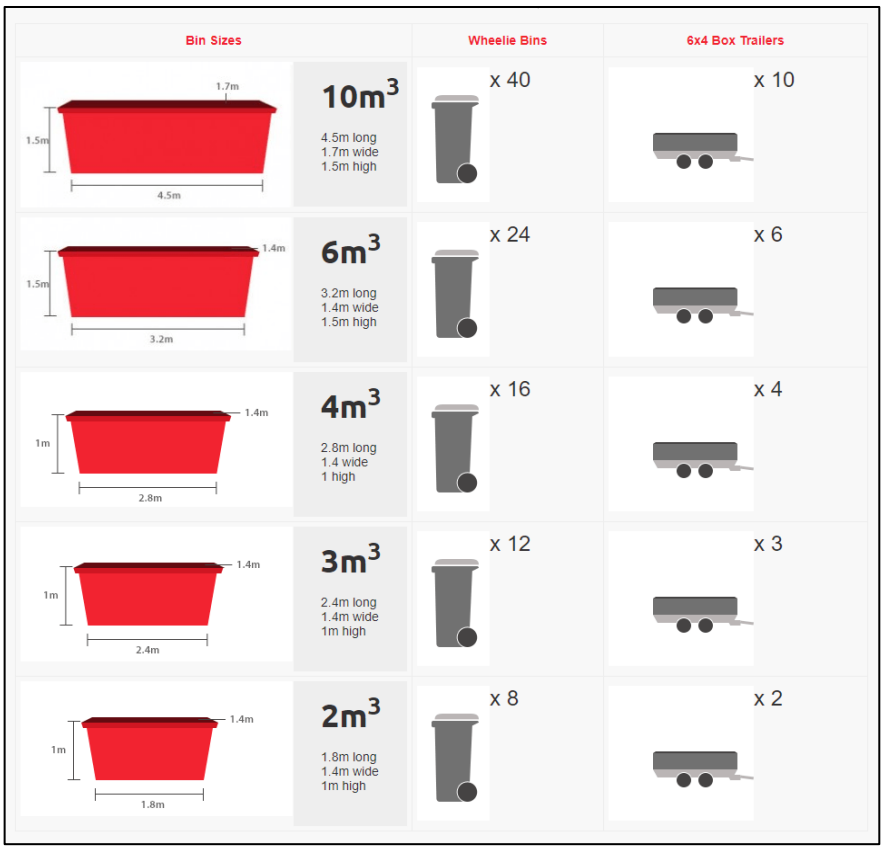
An appropriate size and number of waste containers should be provided for purpose of source separating each type of construction waste material generated on site. This is a standard to maximise the recovery of materials, while reducing the costs and diversion of waste disposed at landfill.

For the context of this development waste skips should be provided for the following:

- 1 or more general waste skip for products including sand and soil not classified as VENM, gyprock, treated timber, residual waste and dust, to be delivered to BINGO Eastern Creek Facility, 1300 424 646;
- Recycling skips with one skip per material type for bricks, sandstone and concrete to be delivered to Benedict Recycling Centre, Chipping Norton – 02 8761 0000
- 1 recycling skip for clean metal to be delivered to Benedict Recycling Centre, Chipping Norton – 02 8761 0000
- 1 organics waste skip for untreated timber and VENM that is not reused on site including garden vegetation and untreated timber, to be delivered to BINGO Eastern Creek Facility, 1300 424 646;
- Additional recycling skips, as required for paper & cardboard, glass, plastics and others to be delivered to Benedict Recycling Centre, Chipping Norton or a suitable recycling facility. or a suitable recycling facility.

The size of waste containers and skip bins should be appropriate to the nature of waste generated and the available storage area. The following options shown in Figure 2 below would be acceptable:

Figure 2 Skip Bin Size Dimensions



5.4 WASTE SIGNAGE AND SAFTEY

As a standard, signage should be applied in all waste storage areas, with waste containers to be appropriately labelled and colour coded to identify the correct waste type to be disposed into each bin.

Typical signage to be supplied is demonstrated in Figure 3 below, with reference to NSW EPA signage that incorporates colour codes per the identified waste type as mentioned in sections (5.1 and 5.2) above.

All skip bins should be clearly visible, provide safe paths of travel and must not be overfilled to prevent the risk of injury and relevant environmental impacts.

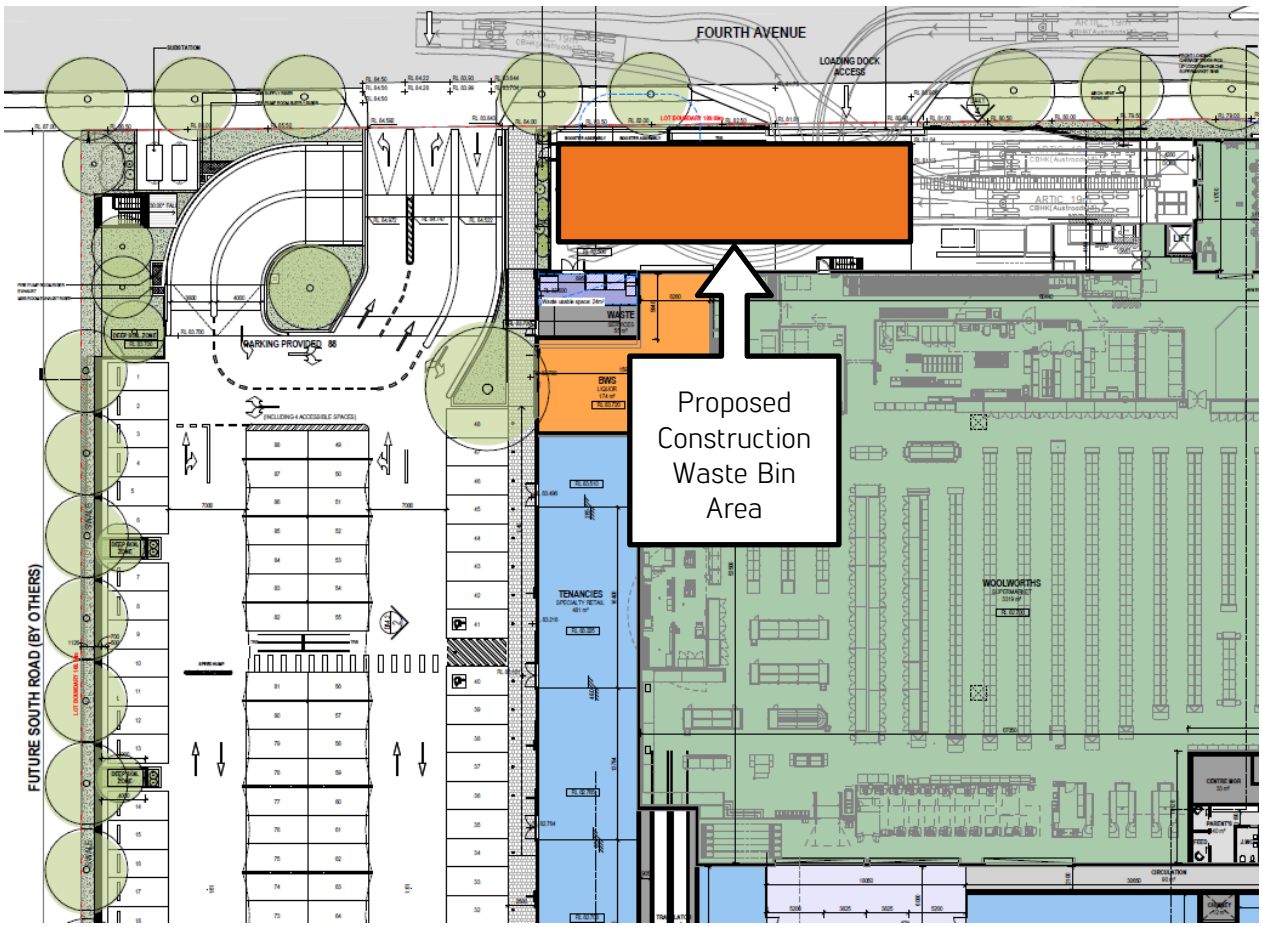
Figure 3 Waste Signage Examples (NSW EPA)

5.5 BIN LOCATION AND STORAGE AREA

Outlined in Figure 4 below is the proposed location of waste storage bays to place relevant containers to segregate and source separate waste materials generated by onsite construction practices.

It can be noted, proposed locations of waste storage areas may be subject to change depending on the ongoing waste volume generated onsite and capacity limits. With consideration to the effectiveness of the location in meeting litter and stormwater pollution prevention mentioned in section 6.3 below, and in achieving an adequate level of source separation. Any adjustments should be made at discretion of the site supervisor and or the appropriate managerial contractor.

Figure 4 Proposed Bin Storage Area



6 CONSTRUCTION SITE MANAGEMENT

6.1 ASBESTOS, AND OTHER HAZARDOUS/CONTAMINATED WASTE

It is noted that the construction phases of the development may involve the removal of contaminated/hazardous materials including asbestos. All hazardous/contaminated materials will be removed by qualified contractors and disposed at licensed facilities.

All hazardous/contaminated waste removal, transport and disposal must comply with the requirements found in the SafeWork NSW Code of Practice, EPA guidelines and Liverpool Council requirements including *ASBESTOS POLICY (with general advice and information) for residents and the public within the Local Government Area* (2020), where applicable.

Any disposal and off-site transfer of classified hazardous waste and contaminated materials must be recorded in the Waste Data File and or tracked in accordance with Part 4 of the *Protection of the Environment Operations (Waste) Regulation 2014*.

If hazardous waste and contaminated materials are located on-site during the stages of construction and excavation. The Site Supervisor is to immediately stop all works and contact a quailed hazardous/contaminated waste contractor prior continuing all on-site works.

The following mitigation measures will apply in the event hazardous and contaminated waste is uncovered;

- Storing (if required) and covering contaminated materials with an industrial approved and graded HDPE liner and placed in an area that is protected from severe weather events;
- Segregating all classified hazardous and contaminated waste from general waste, recycling, and other specified skip bin areas;
- Ensuring vehicles are securely covered when transporting and loading contaminated materials to prevent windblown emissions and potential spillage; and
- Decontamination of equipment and containers that have stored hazardous materials to prevent the spread of contamination.

6.2 LIQUID WASTE MANAGEMENT AND HANDLING

All liquid waste located and classified onsite during the construction of the proposed development must be handled appropriately in accordance with NSW EPA guidelines that include *Hazardous Waste Storage and Processing: Guidance for the Liquid Waste Industry 2016*.

In the event liquid waste is identified and present (e.g. in the form of spills) it is the responsibility of the Site Supervisor and relevant managers to provide an immediate response to prevent any necessary environmental impacts.

The following actions in such circumstances should include;

- Containing the identified spill/liquid waste distribution area;
- Reporting all incidents directly to relevant authorities;
- Logging incidents internally to assist with conducting any onsite investigations; and
- Introducing precautionary actions to lessen the risk of similar incidents occurring in the future.

If the management and handling of liquid waste is part of regular practice to complete the construction stages of the proposed site. It is the responsibility of the managing contractor adheres to the EPA guidelines and best practice standards regarding storage, segregation, disposal and routine monitoring.

6.3 LITTER MANAGEMENT AND STORMWATER POLLUTION PREVENTION

All staff and relevant managers employed in the construction stages, must be aware of the practices applied to mitigate the potential litter and stormwater pollution that can occur through on-site works.

The Site Supervisor and or an appointed Staff would be responsible in ensuring the following to mitigate the dispersion of litter and stormwater pollution on site:

- Establishing appropriate barriers and fencing to trap coarse sediment at points where stormwater can flow and run-off into gutters, drains and waterways;

- Ensuring adjacent streets and gutters are regularly swept and not hosed. Relocating and removing accidental spills of soil and other material immediately;
- Maintaining kerbside vegetation in a healthy state and not using nature strips or footpaths for parking or stockpiling waste. If unavoidable contact the relevant council for permission;
- Ensuring wash water and waste concrete, paint and other solutions used on site is contained within the site boundary. The same is to be applied when cleaning equipment;
- Covering any appropriate waste containers and skip bins after daily onsite works to minimize windblown litter and to protect waste storage area during the event of inclement weather;
- Ensuring all waste loads transported off-site is kept enclosed to avoid airborne litter being generated; and
- Ensuring all staff are not disposing waste materials outside of site boundaries and dedicated waste storage provided onsite.

6.4 SITE DISTURBANCE AND UNECESSARY EXCAVATION AVOIDANCE

As a requirement for the construction stages to prevent soil disturbance and unnecessary excavation works. All excavated and cut and fill activities performed onsite should work towards retaining and reusing all excavated material, provided no contamination is present.

The following measures should be applied to minimize site disturbance and to prevent unnecessary excavation activities;

- Design measures into the planning of construction works to avoid excessive cut and fill and unnecessary clearing of vegetation;
- Provide clear markings and boundaries to ensure areas are only cleared for the purposes of conducting building works;
- Dispose all natural (virgin) excavated material to a license landfill site and recycling facility;
- Conduct quality testing of fill material prior being accepted for disposal. If cut and fill material is contaminated refer to section 6.1 above and relevant EPA guidelines for the appropriate disposal and handling procedures;
- Restrict heavy vehicles and equipment to designated areas and routes onsite; and
- Preserve existing site drainage patterns.

6.5 MONITORING AND COMPLIANCE

All relevant documents relating to volume of waste disposed and transferred to the appropriate facility are to be maintained. Any dockets verifying recycling/disposal, waste testing/assessment reports, validation certificates must be adequately stored and presented to the EPA and relevant Council when required.

Inspections of waste storage areas should be routinely conducted. With maintaining an inspection log and checklist to be used for reporting purposes. Inspections will be used to identify and correct issues waste management practices onsite.

Audits are to be performed by the relevant construction contractor to monitor the effectiveness of recycling/reuse initiatives and waste separation practices. Audits that indicate procedures and compliance not met as mentioned within the waste management plan should be rectified immediately, through the provision of additional staff training or adjustment to waste signage.

All environmental incidents require an immediate response to minimise the potential impacts. An incident register must be maintained across the construction stages and should include the contact details of the appropriate EPA response unit.

7 BIN SUPPLIER AND RECYCLING DIRECTORY

Table 3 below provides an overview and list of appropriate landfill and resource recovery centers based on the common types and classifications of waste generated from the life of the project. The managerial contractor for required construction works is not obligated to procure goods/services from these companies. This is not, nor is it intended to be, a complete list of available suppliers. SALT does not warrant (or make representations for) the goods/services provided by these suppliers.

Materials removed from the proposed site will need to be managed within the provisions of current legislation and may include segregation by material type classification in accordance with NSW EPA (2014) Waste Classification Guidelines, Part 1: Classifying Waste, as mentioned above. With disposal at facilities appropriately licensed to receive the classified waste materials.

Please note: the nominated facilities provided below are suitably located, licensed facilities capable of accepting the relevant waste materials. Alternative sites may be utilised if preferred. However, alternative facilities and waste-transfer providers must be licensed to receive the generated waste materials.

The capacity of nominated facilities in accepting the specified volume of waste materials, may differ upon the time construction commences. It is recommended that the proposed facilities are contacted prior the transfer of waste off-site.

Table 3 Bin Supplier and Recycling Directory

Waste Type	Business Name	Contact Information	Suburb	State
Asbestos	BINGO Industries	1300 424 646	Eastern Creek	NSW
	Cleanaway	02 8645 4304	Kemps Creek	NSW
Excavation Material	Benedict Recycling	02 9986 3500	Chipping Norton	NSW
	Cleanaway	02 8602 8720	Erskine Park	NSW
Bricks	BINGO Industries	1300 424 646	Eastern Creek	NSW
	Cleanaway	02 8602 8720	Erskine Park	NSW
Concrete	Benedict Recycling	02 9986 3500	Chipping Norton	NSW
	BINGO Industries	1300 424 646	Eastern Creek	NSW
	Cleanaway	02 8602 8720	Erskine Park	NSW
Metals	Benedict Recycling	02 9986 3500	Chipping Norton	NSW
	Cleanaway	02 8645 4304	Kemps Creek	NSW
Plasterboard	Benedict Recycling	02 9986 3500	Chipping Norton	NSW
	BINGO Industries	1300 424 646	Eastern Creek	NSW
Tiles	BINGO Industries	1300 424 646	Eastern Creek	NSW
	Cleanaway	02 8602 8720	Erskine Park	NSW
Timber	Benedict Recycling	02 9986 3500	Chipping Norton	NSW
	BINGO Industries	1300 424 646	Eastern Creek	NSW
	Cleanaway	02 8602 8720	Erskine Park	NSW

Note: Waste generated outside the site must not be received for onsite storage and or the transportation to the permitted facilities listed below.

8 OPERATIONAL WASTE MANAGEMENT PLAN

8.1 WASTE GENERATION

Waste generation rates for the proposed site are shown in Table 4 and Table 5 below. Calculations are based on 7 days per week operation for the individual commercial spaces.

Generation rates have been adopted based on commercial waste generation rates enclosed in the NSW EPA Better Practice Guide for Resource Recovery in Residential Developments (2019). These rates are considered appropriate for a mixed-use commercial development located within the Liverpool City Council municipality.

The waste generation rates applied to supermarket areas (Table 4) have been based on previous waste audit and composition data conducted by SALT, from an existing Woolworths facility. These rates incorporated are considered appropriate in providing a daily/weekly generation rate and estimated waste volumes that are specific to the operational requirements of Woolworths supermarket sites. Rates have been applied to all the supermarket and liquor store areas with the exception of the receival and DTB areas which are not expected to generate waste.

Generation rates for organic recyclables produced from commercial areas of the proposed site have been based on the EPA NSW *Disposal-based audit for commercial and industrial waste stream in the regulated areas of New South Wales* (2015) report. That details an estimated 50% composition of organic material is disposed within general waste streams of mixed-used business sites. Therefore a 50% reduction has been applied to the rate assessment below, to reflect the separation of organic materials from general waste that is consistent with the daily use and operation of the subject site.

Generation rates for cardboard recycling across the commercial use and spaces of the proposed site (Table 5) have been based on NSW Environment, Climate Change and Water *Disposal based survey of the commercial and Industrial waste stream in Sydney* (2010). That details mixed waste streams for commercial and industrial sites have a general composition of 44.8% of cardboard and paper material. Therefore, an assumptive 50% adjustment has been applied to applicable comingled recycling streams to reflect the separation of cardboard and paper material and to align with best practice resource recovery standards.

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

Table 4 Waste Generation Rates (Supermarket)

Use	Garbage (L/m²/week)	Organics Recycling (L/m²/week)	Cardboard and Paper Recycling (L/m²/week)
Supermarket	7.07L	3.44L	15.21L

Table 5 Waste Generation Rates (Retail and Commercial Areas)

Use	Garbage (L/100m²/week)	Commingled Recycling (L/100m²/week)	Organics Recycling (L/100m²/week)	Cardboard and Paper Recycling (L/100m²/week)
Specialty Retail (non-food)	350L	125L	-	125L
Specialty Retail (food)	420L	280L	420L	480L
Commercial Tenancies (Office)	70L	105L	-	
Kiosk	420L	280L	420L	480L

A waste generation assessment is provided in Tables 6 and 7 below.

Table 6 Waste Generation Assessment (Supermarket)

Use	Area	Waste Per Week			
		Garbage	Recycling	Organics	Cardboard and Paper
Supermarket + Liquor	3,622m²	25,608L	-	12,460L	55,091L
Total Waste Generated per Week		**25,608L**	**-**	**12,460L**	**55,091L**

Table 7 Waste Generation Assessment (Retail and Commercial Areas)

Use	Area	Waste Per Week (L)			
		Garbage	Recycling	Organics	Cardboard and Paper
Specialty Retail (non-food)	913m^2	3,196	1,598	-	1,598
Specialty Retail (food)	913m^2	3,835	2,556	3,835	2,556
Commercial Tenancies (Office)	1,729m^2	1,210	1,815	-	-
Kiosk	90m^2	378	252	378	252
Total Waste Generated per Week		**8,619**	**6,222**	**4,213**	**4,406**

8.2 WASTE SYSTEMS

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

- Garbage (General Waste);
- Commingled Recycling;
- Organics Recycling; and
- Cardboard and Paper Recycling

8.2.1 BIN STATIONS

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

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

An example bin station with vertical signage is shown in Figure 5. The vertical signage is recommended to be implemented at each bin station to educate the users on the appropriate separation methods. This would allow for maximum diversion of waste from landfill and recovery of the respective waste streams to be achieved.

Figure 5 Example Bin Station with vertical signage

8.2.2 GARBAGE (GENERAL WASTE)

Supermarket spaces would be furnished with plastic lined bins for the temporary holding of garbage waste, to have minimum cumulative capacity of 120 litres per 100m^2 of floor area. This capacity is based on the transfer of waste to the bin room occurring once per day.

Specialty Retail (non-food) areas would be furnished with plastic lined bins for the temporary holding of garbage waste, to have minimum cumulative capacity of 50 litres per 100m^2 of floor area. This capacity is based on the transfer of waste to the bin room occurring once per day.

Specialty Retail (food) and Kiosk spaces would be furnished with plastic lined bins for the temporary holding of garbage waste, to have minimum cumulative capacity of 60 litres per 100m^2 of floor area. This capacity is based on the transfer of waste to the bin room occurring once per day.

Commercial Tenancies would be furnished with plastic lined bins for the temporary holding of garbage waste, to have minimum cumulative capacity of 10 litres per 100m^2 of floor area. This capacity is based on the transfer of waste to the bin room occurring once per day.

Staff/cleaners from supermarket areas would dispose of waste from these bins directly into the appropriate 3000L bins located within the waste services and dedicated storage area, accessed via the ground level loading dock (refer to Appendix 1).

Staff/cleaners from specialty retail and commercial areas would dispose of waste from these bins directly into the allocated 1,100L or 660L bins provided within the shared waste storage area, accessed via the ground level as shown in Appendix 1.

General waste is to be disposed of bagged.

8.2.3 COMMINGLED RECYCLING

Specialty Retail (non-food) areas would be furnished with unlined bins for the temporary holding of commingled recyclables, to have minimum cumulative capacity of 50 litres per 100m^2 of floor area. This capacity is based on the transfer of recyclables to the bin room occurring once per day.

Specialty Retail (food) and Kiosk spaces would be furnished with unlined bins for the temporary holding of commingled recyclables, to have minimum cumulative capacity of 40 litres per 100m^2 of floor area. This capacity is based on the transfer of recyclables to the bin room occurring once per day.

Commercial Tenancies spaces would be furnished with unlined bins for the temporary holding of commingled recyclables, to have minimum cumulative capacity of 15 litres per 100m^2 of floor area. This capacity is based on the transfer of recyclables to the bin room occurring once per day.

Staff/cleaners from specialty retail and commercial areas would dispose of waste from these bins directly into the allocated 1,100L bins provided within the shared waste storage area, accessed via the ground level as shown in Appendix 1.

Commingled recyclables would be disposed of loosely.

8.2.4 FOOD ORGANICS AND GARDEN ORGANICS

Supermarket spaces would be furnished with unlined bins for the temporary holding of food organics and garden organics, to have minimum cumulative capacity of 120 litres per 100m^2 of floor area. This capacity is based on the transfer of waste to the bin room occurring once per day.

Specialty Retail (food) and Kiosk spaces would be furnished with unlined bins for the temporary holding of food organics and garden organics, to have minimum cumulative capacity of 60 litres per 100m^2 of floor area. This capacity is based on the transfer of waste to the bin room occurring once per day.

Staff/cleaners from supermarket areas would dispose of waste from these bins directly into the appropriate 3000L bins located within the waste services and dedicated storage area, accessed via the ground level loading dock (refer to Appendix 1).

Staff/cleaners from specialty retail (food) areas would dispose of waste from these bins directly into the 240L bins allocated within the shared waste storage area, accessed from the ground level as shown in Appendix 1.

Organics waste is to be disposed of loosely or in compostable bags that have been approved by the waste contractor.

These compostable bags should be marked with the Australian Standard compostable logo as shown in Figure 6 below. It should be noted that non-compostable bags should not be disposed into the organic recycling streams as they cannot be composted, affecting the quality of the end-product that is reutilised.

Figure 6 Australian Standard Compostable Logo

Large green waste material generated by the maintenance of onsite landscaped areas would be disposed of via the engaged landscaper or via a private contractor.

8.2.5 CARDBOARD AND PAPER RECYCLING

Cardboard and paper recyclables generated per the daily operation of supermarket and specialty retail areas would be separated and broken down by staff/cleaners before disposal.

Staff/cleaners from supermarket areas would transfer cardboard recyclables to the appropriate compactor bin located within the loading dock area (refer to Appendix 1). Staff/cleaners from retail spaces would transfer cardboard recyclables to the appropriate 1100L bin provided within the ground level shared bin area, as shown in Appendix 1.

All cardboard/paper recyclables would be collected as part of the commingled recycling service. Compacted cardboard/paper recyclables would be collected as required, with collections arranged by management and or directed staff.

8.2.6 PLASTICS SEPERATION/RECYCLING (SUPERMARKET)

Plastic volumes and material generated per the daily operation of supermarket spaces would be separated onsite by staff/cleaners, before being deposited into the provided plastics baler bin located within the located within the supermarket waste services and storage area, as shown in Appendix 1.

Baled plastics would be collected required and arranged by the appropriate building management or directed staff. Routine collection schedules would be established once operational capacities are known.

8.3 BIN QUANTITY, SIZE AND COLLECTION FREQUENCY

The bin quantity, size and the frequency of collection per the identified uses of the proposed site are shown in Table 8 and Table 9 below.

Six collections per week is recommended for the supermarket general waste stream given the volume and nature of general waste generated across the supermarket. A five times per week collection schedule is recommended for organic recyclables generated for the supermarket area.

All commercial waste collections scheduled would be coordinated with residential waste collections to reduce truck movements in the local area.

Table 8 Supermarket Bin Size and Collection Frequency

Waste Stream	Collections per Week	Bin/Equipment Size	No. Bins and Equipment	Weekly Capacity	Weekly Volume
General Waste	6	4500L	1	27000L	25,608L
Organics Recycling	5	3000L	1	15000L	12,460L
Compactor (Cardboard)	As required	Wastech Auger Compactor: 21m^3	1	63,000L	55,091L
Baler (Plastics)	As required	Wastech B5W Baler: 130kg/bale	TBC*	-	TBC*

**Volumes and weekly capacities to be determined once site is operational*

Table 9 Bin Size and Collection Frequency (Specialty Retail, Kiosk and Commercial)

Waste Stream	Collections per Week	Bin Size	No. Bins	Weekly Capacity	Weekly Volume
General Waste	3	3,000L	1	9,000L	8,619L
Commingled Recycling	3	3,000L	1	9,000L	6,222L
Organics Recycling	3	1,500L	1	4,500L	4,213L
Cardboard and Paper Recycling	2	3,000L	1	6,000L	4,406L

Table 10 Typical Waste Bin Dimensions

Capacity (L)	Width (mm)	Depth (mm)	Height (mm)	Area (m^2)
Compactor	2480	6681	2480	16.56
Baler	1190	895	2370	1.06
4500	2020	1800	1800	3.63
3000	2020	1450	1460	2.93
1,100	1240	1070	1330	1.33
660	1260	780	1330	0.98
240	585	730	1060	0.43

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

8.4 BIN COLOUR AND SUPPLIER

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

- Garbage (general waste) shall have red lids with dark green or black body;
- Recycle shall have yellow lids with dark green or black body;
- Organics shall have green lids with dark green or black body; and
- Cardboard and Paper shall have a lid colour differentiated to that mentioned above with a dark green or black body

Note, private contractors often supply bins for collection.

8.5 WASTE STORAGE AREA

Table 11 and Table 12 demonstrate the cumulative space requirements and provision of waste areas in the proposed supermarket (Table 11) and retail and commercial areas (Table 12) of the subject site.

Please refer to scaled drawing of bin layout and storage areas shown in Appendix 1.

Table 11 Supermarket Waste Area Space Requirements

Stream	Space Required (excluding circulation)	Space Provided (Supermarket Loading Area)
General Waste	3.63m^2	
Organics	2.93m^2	89m^2
Compactor (Carboard)	16.5m^2	
Baler (Plastics)	1.06	
TOTAL	**24m^2**	**89m^2**

Table 12 Shared Waste Area Space Requirements (Retail/Commercial Tenancies/Kiosk)

Stream	Space Required (excluding circulation)	Space Provided
General Waste	2.93m^2	
Commingled Recycling	2.93m^2	45m^2
Organics	1.91m^2	

Cardboard and Paper Recycling	2.93m²	
TOTAL	**10.7m²**	**24m²**

Note: shared commercial/retail waste would be stored separately to supermarket waste generated onsite.

Waste management would be overseen by building management.

8.6 WASTE COLLECTIONS & SERVICE REQUIREMENTS

Waste generated from supermarket areas would be collected via a private contractor as follows:

- 1 x 4,500L garbage bin collected six times per week;
- 1 x 3,000L organics recycling bin collected five times per week;
- 1 x Cardboard compactor collected on an as required basis; and
- Baled plastics collected on an as required basis.

All waste and equipment required would be stored on-site in the supermarket waste services and storage area provided on the ground level as shown in Appendix 1.

Waste generated from retail and commercial areas would be collected via a private contractor as follows;

- 1 x 3,000L garbage bin collected three times per week;
- 1 x 3,000L commingled recycling bin collected three times per week;
- 1 x 1,500L organics bin collected three times per week;
- 1 x 3,000L cardboard/paper recycling bin collected twice per week;

All waste bins would be stored on-site in the shared waste storage provided on the ground level, as shown in Appendix 1.

Waste collections would occur between 7am to 8pm on Mondays to Fridays and between 8am to 8pm on Saturdays, Sundays and public holidays, in accordance with EPA NSW *Protection of the Environment Operations (Noise Control) Regulation* 2017. This is to ensure minimal noise impacts to the neighboring properties.

8.6.1 SUPERMARKET COLLECTIONS

Waste collections (general waste and organics) would be serviced via a heavy rigid (HRV) front-lift collection vehicle. Cardboard and paper recycling (compacted) will be serviced via a heavy rigid (HRV) hook-lift collection service.

Plastic recycling (baled) would be collected separately via the collection vehicle as utilised by the private contractor; Collections would be performed as required per operational capacities of the baler press system located onsite as shown in Appendix 1.

Waste collection vehicles would enter the subject site via the vehicle and loading entrance located at Fourth Avenue, to travel safely in a forward motion towards the bin and equipment storage areas within the loading bay area.

Vehicle operators for front-lift collections, would prop safely and in-line with the required waste stream in the loading bay area to perform a front-lift bin transfer and return upon emptying.

Vehicle operators for hook-lift collections would prop in-line with the compactor system to conduct a hook-lift transfer of the compactor system as required. Vehicle operators would return compactor system once emptied offsite. Building management would ensure the compactor system is not used by staff during scheduled collections.

Collection vehicles would exit in a forward direction, exiting the subject site onto Fourth Avenue, as demonstrated in the swept paths provided in Appendix 4 below.

Building management and directed staff would ensure that waste vehicle operators are able to access the required bins and or equipment during collections.

8.6.2 RETAIL AND COMMERCIAL COLLECTIONS

Waste collections (Commercial Tenancies, Café, Kiosk, Specialty Retail) would occur via a standard front-lift heavy rigid (HRV) collection vehicle, up to 12.5m in length.

Waste collection vehicles would enter via the vehicle and loading entrance located at Fourth Avenue to travel and prop safely at the waste services and storage area located within the ground level, as shown in Appendix 4.

Either staff or vehicle operators would ferry waste bins from the bin store and return upon emptying to perform collections, before exiting the subject site onto Fourth Avenue, as demonstrated in the swept paths shown in Appendix 4 below.

Building management and the appropriate staff would ensure that waste vehicle operators are able to access the bin enclosure during scheduled collections as necessary.

9 RESPONSIBILITIES

Building management and respective commercial tenants would be responsible for overseeing waste management within the development. Responsibilities would include:

- Providing a copy of the endorsed Waste Management Plan to the building operators, management, and appropriate personnel;
- All signages and waste education materials should be based on the latest available information from Sustainability Victoria. Sustainability Victoria's guidelines on waste management in multi-unit developments are available here for reference: https://www.sustainability.vic.gov.au/recycling-and-reducing-waste/for-developers-of-residential-commercial-and-industrial-buildings/multi-unit-developments.
- Providing commercial tenants and staff with an information package which would include the following information:
  (a) A copy of this Waste Management Plan which includes information on waste storage areas and management methods onsite;
  (b) Methods and techniques for waste reduction and minimisation (i.e. having better purchasing practices of food, avoiding single use items where possible, utilising reusable bags and containers etc.);
  (c) Information regarding bin collection days and requirements;
  (d) Staff members' responsibilities with regard to bin usage, storage, and collection
- Ensure that all bins throughout the site and the bin room are equipped with appropriate signages to guide users on appropriate segregation methods for their waste and recyclables;
- Inspecting waste stores;
- Reviewing contamination within bins;
- Providing staff/cleaners with a training session on the appropriate and safe utilisation methods of the baler and compactor and providing them with a user manual; and
- Providing staff/cleaners with a training session on the appropriate and safe utilisation methods of the baler and compactor and providing them with a user manual;
- Investigating incidents of inappropriate waste storage (or aggregation).

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

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

10 SIGNAGE

Waste storage areas and bins would be clearly marked and signed with the industry standard signage approved by NSW EPA or equivalent. The typical NSW EPA signage is illustrated in Figure 7.

Figure 7 NSW EPA Signage

11 SUSTAINABILITY ACTION PLAN AND INITIATIVES

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

Building management should encourage users by demonstrating a commitment towards waste avoidance and minimisation initiatives. The NSW EPA waste hierarchy as detailed in Figure 1 above should be observed in order of preference.

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

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

12 WASTE AREA DESIGN REQUIREMENTS

12.1 VENTILATION

Ventilation would be provided in accordance with Australian Standard AS1668.

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

12.2 LITTER MANAGEMENT, WASHING AND STORMWATER POLLUTION PREVENTION

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

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

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

- Prevent overfilling of bins by ensuring bin lids are closed at all times;
- Require waste contractor to remove any spillage that may occur during waste collections; and

- Ensure anyone found responsible for inappropriate waste disposal or dumping would be appropriately educated and made aware of correct waste disposal techniques.

12.3 NOISE REDUCTION

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

Waste collection timings and schedules will be conducted in accordance with EPA NSW *Protection of the Environment Operations (Noise Control) Regulation* 2017 have been stipulated in the waste collection section (7.6) above.

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

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

12.4 DDA COMPLIANCE

All waste areas to be accessed by commercial staff, and management would comply with AS1428.1:2009.

13 RISK AND HAZARD ANALYSIS

Table 13 shows the potential risks, severity and suggested control methods that could be considered to avoid the risks from occurring during waste collections.

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

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

Table 13 Potential Risks and Control Methods During Waste Collections

Area	Risk	Severity	Suggested controls
	Incidents during waste collection vehicle ingress or egress movements	Low	Vehicle operators would be trained in ensuring the following Tailgate is closed after clearing waste area Move vehicle slowly when tailgate or body is raised Clear waste from tailgate seal and from rear of machine before departure from the subject site Ensure tailgate is locked after unloading operation Vehicle operators should not exit the vehicle body unless engine is switched off, ignition key is removed, safety prop is in position and the vehicle body is well ventilated. Regular safety checks and inspection of vehicles should be conducted.
Waste collection	Incidents during manual handling of bins	High	Vehicle should meet relevant Australian Design Rules. Ensure that vehicles with low bowl height are used to avoid lifting of bins above shoulder height. Vehicle operator should be clear of the equipment before activation of packing or tipping controls.

Area	Risk	Severity	Suggested controls
	Slip and trip hazards in moving into and out of the vehicle	Medium	Maintain sufficient and frequent communication between driver and runner. The hose should not be used as handholds when mounting or dismounting.
	Slips and trips while transporting bins	Low	As the car parking area is at the same grade with that of the waste storage area, there are no hazards presented from the presence of slopes or steps. The car parking and waste storage area would also be well lit at all times to ensure good visibility to staff/vehicle operators. However, to ensure that any other potential risks are mitigated, frequent communication should be maintained between the driver and runner and the runner should only transfer one bin at a time.
Surrounding traffic	Conflict with other vehicle operators and commercial tenants, staff and visitors within the car park during collection	Medium	Ensure that collection is to occur only at off-peak hours. The collection area should also be well-lit to allow for better visibility of oncoming traffic and pedestrians.
Waste bins	Type of wastes handled – risk associated in contact with unknown hazardous substances or sharp objects	Medium	Staff and commercial tenants should be educated on safe disposal of hazardous substances and sharp objects. Waste vehicle operators should be trained and informed on safe handling of unknown substances. Operators could be provided with PPE to avoid infections and to assist in handling of waste bins.
Waste Bins	Overflowing bins affecting the transport of bins to the waste collection vehicle or presenting as a trip hazard.	Low	The recommended number of bins enclosed in this WMP provides a larger capacity than the volume generated for all waste streams hence there would be a low likelihood of this occurring.

14 SUPPLIER CONTACT INFORMATION

Table 14 provides a list of equipment specified by this waste management plan.

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

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

Table 14 High Level Purchasing Schedule

Item	Quantity	Supplier	Notes
4500L Bins	1	Private Supplier*	1 x 4500L general waste bins (supermarket) 1 x 3,000L organics recycling bin (supermarket)
3000L Bins	4		1 x 3,000L general waste bin (retail/commercial) 1 x 3,000L recycling bin (retail/commercial) 1 x 3,000L cardboard bin (retail/commercial)
1500L Bins	1		1 x 1500L organics bin (retail/commercial)
Compactor (cardboard)	1		1 x Compactor system – refer to Appendix 2 for an example equipment that can be utilised.
Baler (plastics)	1		1 x Baler system – refer to Appendix 3 for an example equipment that can be utilised.
Bin Station/s	As required		Internal and external bin stations. Each bin station will contain one bin per waste stream.

*Private waste collection contractors and suppliers often provide bins/equipment required for collection.

14.1 EQUIPMENT SUPPLIERS

14.1.1 COMPACTORS / BALERS (CARDBOARD AND PLASTICS)

- Bucher Municipal – 03 9314 8928
- Wastech Engineering – 03 8787 1600
- Elephant's Foot – 02 9780 3500

14.1.2 BIN SUPPLIER

- Sulo MGB Australia (wheelie bin) – 1300 364 388
- Method Recycling (bin stations) – 0477 630 220
- Source Separation System (wheelie bin and bin stations) – 1300 739 913

14.2 WASTE COLLECTORS

14.2.1 GARBAGE, RECYCLING AND ORGANICS

- Cleanaway – 13 13 39
- JJ Richards – 1300 971 325
- SUEZ Environment – 13 13 35
- VISY Waste Management – 03 9369 7447
- Veolia Environmental Services – 132 955
- Bin Boy – 1800 246 269
- Wanless – 1300 926 537
- Capital City Waste Services* – 02 9599 9999

14.3 BIN WASHING SERVICES

- Oz Bin Cleaning – 1300 651 165
- Bin2Clean – 0400 383 848

15 PURPOSE AND LIMITATIONS

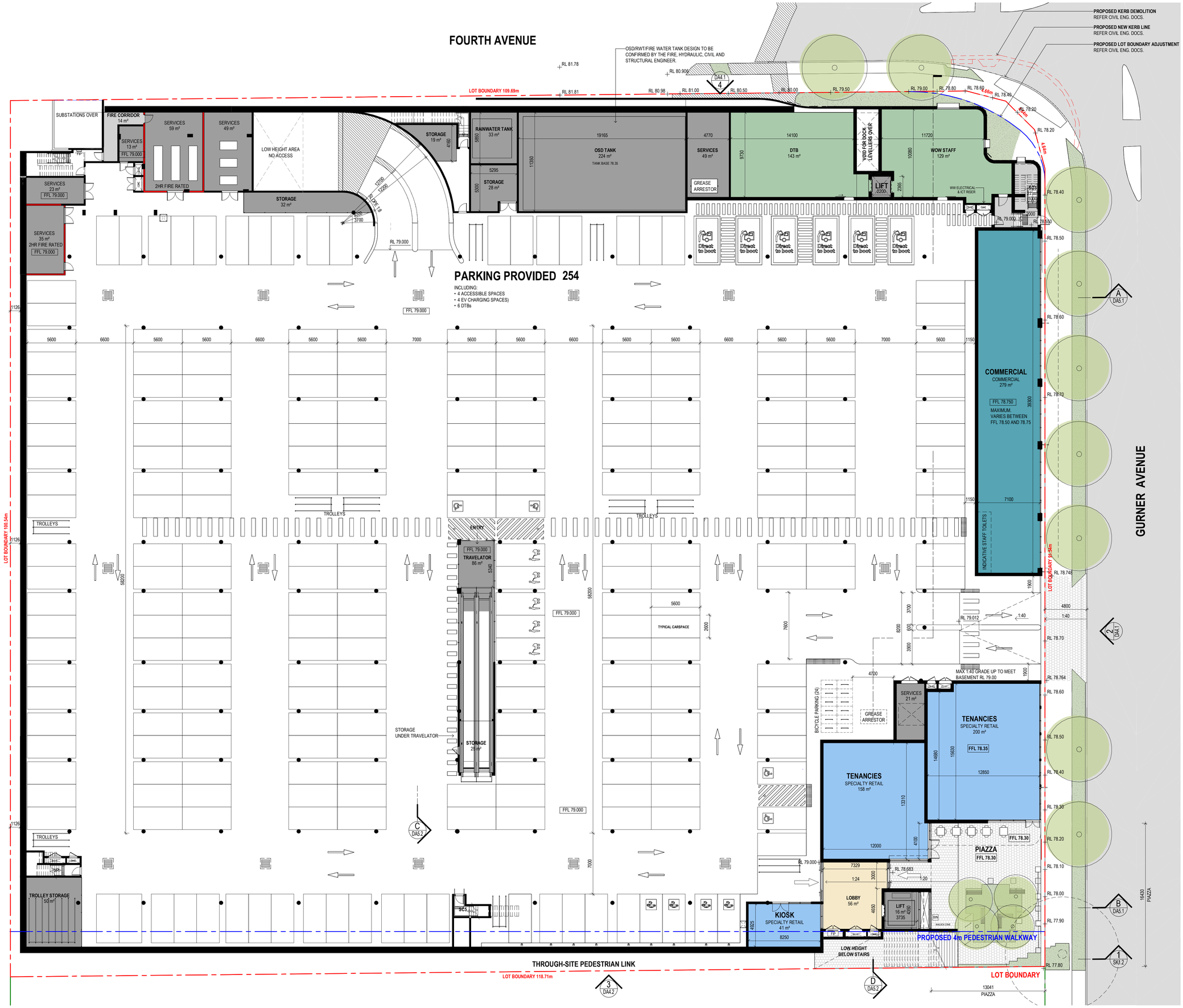
This Waste Management Plan has been prepared to form a part of the development application. The report is prepared to:

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

The following should be noted regarding the enclosed information:

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

APPENDIX 1 DESIGN DRAWINGS



GLAR Summary	
Function	**Area**
COMMERCIAL	1729 m²
LIQUOR	174 m²
SPECIALTY RETAIL	1916 m²
SUPERMARKET	3730 m²
Grand total	7550 m²

GLAR Retail Only	
Name	**Area**
LIQUOR	
BWS	174 m²
1	174 m²
SPECIALTY RETAIL	
KIOSK	90 m²
TENANCIES	1826 m²
17	1916 m²
SUPERMARKET	
DTB	143 m²
RECEIVING	139 m²
WOOLWORTHS	3319 m²
WOW STAFF	129 m²
4	3730 m²
Grand total	5820 m²

GLAR Commercial Only	
Name	**Area**
Lower Ground	
COMMERCIAL	279 m²
Level 1	
COMMERCIAL	1450 m²
Grand total	1729 m²

Parking Provided

Type Names	Carparks Provided
Lower Ground	
Accessible	4
Direct to Boot	7
EV Charging	4
Parents with Prams	5
Standard	234
	254
Upper Ground	
Accessible	4
Standard	84
	88
Grand total	342

Clarke Hopkins Clarke
www.chc.com.au | studio@chc.com.au | 03 9419 4340
NSW Nominated Architect: Jordan Curran (10259)

Job No. 230144

Austral North Woolworths

495 Fourth Avenue, Austral NSW 2179

Scale 1 : 200 @ A1

0 3m

PRELIMINARY

Lower Ground Floor Plan

11.11.2024

DA3.1 e

VEHICULAR ACCESS

PLANTING BED
SLAB AT HIGHER LEVEL THAN LOADING BAY; HEADROOM REQUIREMENT FOR CARPARK RAMP BELOW

ROLLER SHUTTER
REFER ACOUSTIC REPORT FOR PERFORMANCE REQUIREMENTS

FOURTH AVENUE

PROPOSED KERB DEMOLITION
REFER CIVIL ENG. DOCS.

PROPOSED NEW KERB LINE
REFER CIVIL ENG. DOCS.

PROPOSED LOT BOUNDARY ADJUSTMENT
REFER CIVIL ENG. DOCS.

SUBSTATION

LOADING DOCK ACCESS

FRONT LOADING GARBAGE TRUCK PICK UP LOCATION FOR THE SUPERMARKET BINS

MECH. VENT / EXHAUST

LOT BOUNDARY 109.69m

LOADING / SERVICING

BOOSTER ASSEMBLY

TRB

4280 DOCK

RECEIVING
139 m²

LIFT

SC5
14 m²

WW ELECTRICAL & ICT RISER

FIRE PUMP ROOM RISER
FIRE PUMP ROOM SUPPLY RISER
MSB SUPPLY RISER
FIRE PUMP ROOM RISER EXHAUST
MSB ROOM EXHAUST RISER

30.00° FALL

DEEP SOIL ZONE

PARKING PROVIDED 88

(INCLUDING 4 ACCESSIBLE SPACES)

SPEED HUMP

SWALE

FUTURE SOUTH ROAD (BY OTHERS)

LOT BOUNDARY 100.14m

WASTE
SERVICES
55m²
Waste usable space: 24m²

BWS
LIQUOR
174 m²

TENANCIES
SPECIALTY RETAIL
481 m²

WOOLWORTHS
SUPERMARKET
3319 m²

TRAVELATOR
09 m²

TENANCIES
SPECIALTY RETAIL
86 m²

KIOSK
25 m²

KIOSK
25 m²

MALL
561 m²

TENANCIES
SPECIALTY RETAIL
259 m²

TENANCIES
SPECIALTY RETAIL
258 m²

TENANCIES
SPECIALTY RETAIL
190 m²

TENANCIES
SPECIALTY RETAIL
194 m²

SC3
15 m²

SC1
15 m²

CENTRE MGR
33 m²

CLEANER'S
14 m²

CIRCULATION
90 m²

FEMALE
36 m²

MALE
36 m²

PARENT'S
40 m²

FEED

J.W.C.

ACCS.
7 m²

CHIMNEY
12 m²

LIFT SHAFT
22 m²

SUSPENDED SIGNAGE

PIAZZA BELOW

AWNING BELOW

CARPARK EXHAUST RISER 3000 X 2500 mm

LOT BOUNDARY 91.54m

GURNER AVENUE

PROPOSED 4m PEDESTRIAN WALKWAY

THROUGH-SITE PEDESTRIAN LINK

LOT BOUNDARY 118.71m

LOT BOUNDARY

LOW-HEIGHT SHRUBS

FIRE EGRESS BELOW LOW HEIGHT SHRUB PLANTER

DEEP SOIL ZONE

GLAR Summary

Function	Area
COMMERCIAL	1729 m²
LIQUOR	174 m²
SPECIALTY RETAIL	1916 m²
SUPERMARKET	3730 m²
Grand total	7550 m²

GLAR Retail Only

Name	Area
LIQUOR	
BWS	174 m²
1	174 m²
SPECIALTY RETAIL	
KIOSK	90 m²
TENANCIES	1826 m²
17	1916 m²
SUPERMARKET	
DTB	143 m²
RECEIVING	139 m²
WOOLWORTHS	3319 m²
WOW STAFF	129 m²
4	3730 m²
Grand total	5820 m²

GLAR Commercial Only

Name	Area
Lower Ground	
COMMERCIAL	279 m²
Level 1	
COMMERCIAL	1450 m²
Grand total	1729 m²

Parking Provided

Type Names	Carparks Provided
Lower Ground	
Accessible	4
Direct to Boot	7
EV Charging	4
Parents with Prams	5
Standard	234
	254
Upper Ground	
Accessible	4
Standard	84
	88
Grand total	342

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0 3m

PRELIMINARY

Upper Ground Floor Plan

11.11.2024

DA3.2 e

FOURTH AVENUE

PROPOSED KERB DEMOLITION
REFER CIVIL ENG. DOCS.

PROPOSED NEW KERB LINE
REFER CIVIL ENG. DOCS.

PROPOSED LOT BOUNDARY ADJUSTMENT
REFER CIVIL ENG. DOCS.

LOT BOUNDARY 109.69m

4.66m

4.64m

4.54m

LOADING DOCK EXHAUST TBC BY MECH ENGINEER

DA4.1 4

ROOF
3.00° FALL

ROOF
30.00° FALL

STEEL BRACING (INDICATIVE)

STEEL BRACING (INDICATIVE)

STEEL BRACING (INDICATIVE)

STEEL BRACING (INDICATIVE)

UP

ROOF
3.00° FALL

ROOF
3.00° FALL

VOID FOR EQUIPMENT LIFTING
5100

SC5
21 m²

WW ELECTRICAL & ICT RISER

WASTE ROOM EXHAUST

SUPERMARKET SMOKE EXHAUST

RIDGE

12082

10631

PLANT
227 m²
FFL 86.700
21500

GUTTER

5680
SETBACK

A DA5.1

WW CONDENSER DECK
150 m²
LAYOUT SHOWN INDICATIVELY ONLY

9597

15600

ROOF
3.00°

FUTURE SOUTH ROAD (BY OTHERS)

LOT BOUNDARY 108.34m

DA4.2 2

BOX GUTTER

ROOF
3.00° FALL

3.00°

INDICATIVE PV PANEL ARRAY

CARPARK AWNING SHOWN DASHED BELOW

RIDGE

6000

BWS PLANT DECK
22 m²
RL 88.540

3600

BG

GURNER AVENUE

LOT BOUNDARY 91.54m

CARPARK EXHAUST RISER 3000 X 2500 mm

BOX GUTTER

2 DA4.1

ROOF
3.00° FALL

CANOPY ROOF
2.00° FALL

C DA5.2

15251

COMMERCIAL
COMMERCIAL
1450 m²

25351

12770

ROOF

GUTTER

INDICATIVE ZONE FOR L01 AMENITIES

LOBBY
48 m²

SC4

4830

12100

39239

2200

2450

PROPOSED 4m PEDESTRIAN WALKWAY

B DA5.1

1 SK1.2

LOT BOUNDARY 118.71m

3 DA4.2

D DA5.2

LOT BOUNDARY

GLAR Summary

Function	Area
COMMERCIAL	1729 m²
LIQUOR	174 m²
SPECIALTY RETAIL	1916 m²
SUPERMARKET	3730 m²
Grand total	7550 m²

GLAR Retail Only

Name	Area
LIQUOR	
BWS	174 m²
1	174 m²
SPECIALTY RETAIL	
KIOSK	90 m²
TENANCIES	1826 m²
17	1916 m²
SUPERMARKET	
DTB	143 m²
RECEIVING	139 m²
WOOLWORTHS	3319 m²
WOW STAFF	129 m²
4	3730 m²
Grand total	5820 m²

GLAR Commercial Only

Name	Area
Lower Ground	
COMMERCIAL	279 m²
Level 1	
COMMERCIAL	1450 m²
Grand total	1729 m²

Parking Provided

Type Names	Carparks Provided
Lower Ground	
Accessible	4
Direct to Boot	7
EV Charging	4
Parents with Prams	5
Standard	234
	254
Upper Ground	
Accessible	4
Standard	84
	88
Grand total	342

Clarke Hopkins Clarke

www.chc.com.au | studio@chc.com.au | 03 9419 4340

NSW Nominated Architect: Jordan Curran (10259)

Job No. 230144

Austral North Woolworths

495 Fourth Avenue, Austral NSW 2179

Scale 1 : 200 @ A1

0 3m

PRELIMINARY

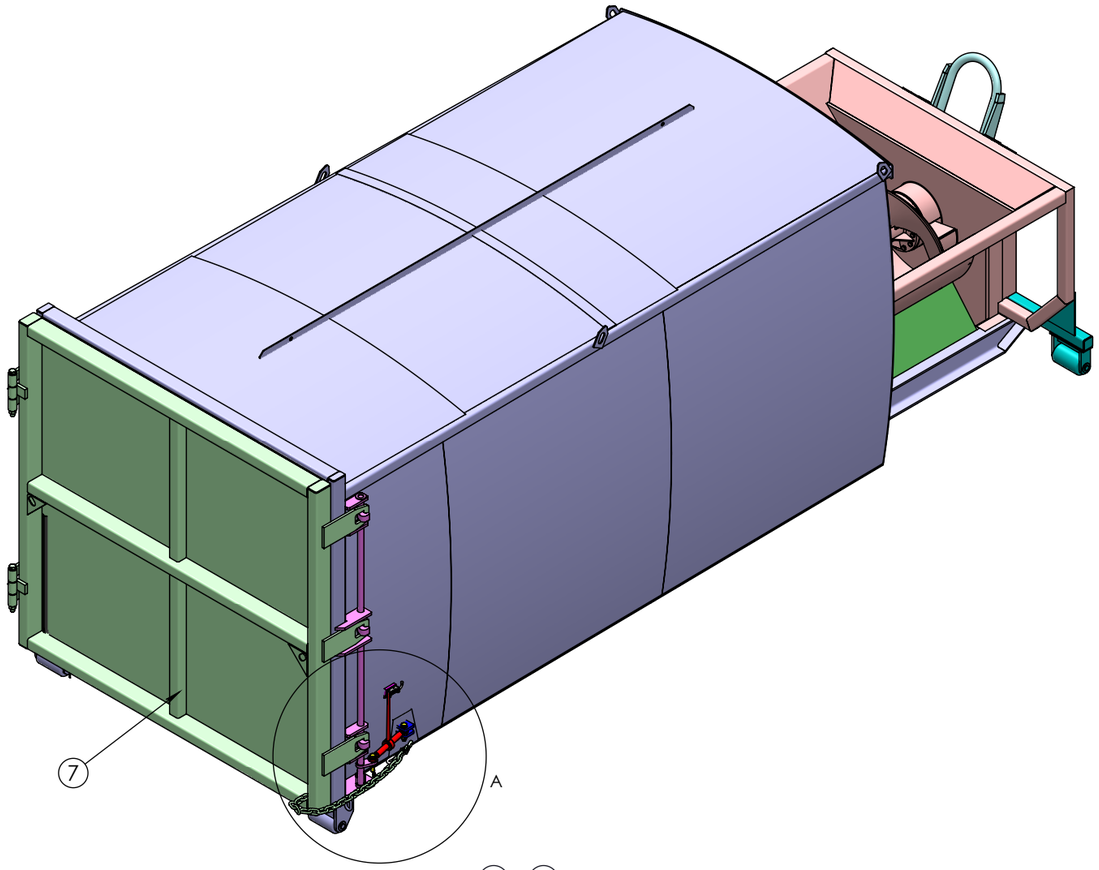
First Floor Plan

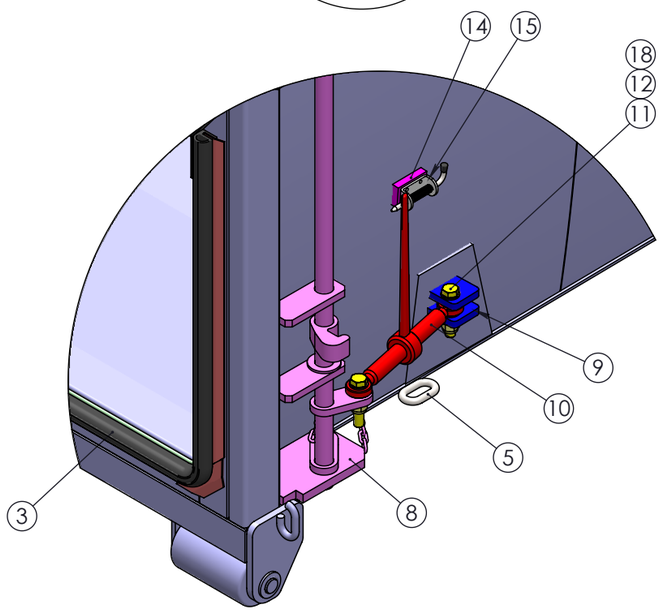
11.11.2024

DA3.3 d

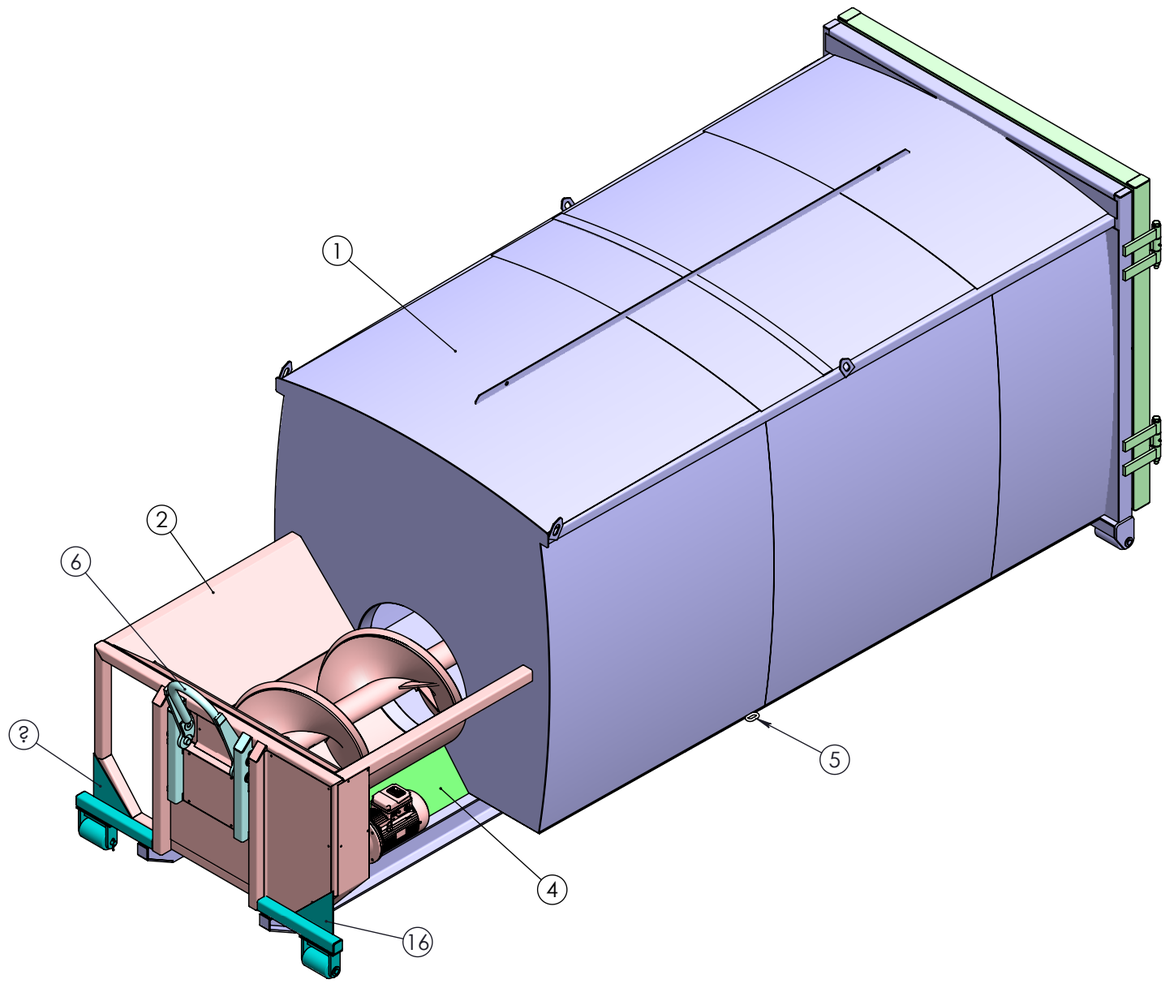
APPENDIX 2 COMPACTOR EXAMPLE SPECIFICATIONS

ITEM NO.	PART NUMBER	DESCRIPTION	Default/QTY.
1	40.39.79	Body Weldt T-Auger 21m³ bin	1
2	40.03.50	Transportable Head Auger Assy	1
3	40.02.75	Door Seal Assy	1
4	40.21.59	Chamber Support Plate - 6mm x 1316 x 315	2
5	16mm chain 1 link	Chain Link	2
6	40.25.73	Fold Down Hook Mounting Assy, 1610 High	1
7	40.26.38	Door Weldt	1
8	40.29.30	Door Lock Assy - 2480 High Bin	1
9	60.01.26	Tab Turnbuckle Mount Plate (Laser Profile)	2
10	60.04.35	Rachet Turnbuckle 10mm	1
11	M20X100 BOLT ZINC	BOLT, HEX HD M20C X 100LG	2
12	M20	NUT, NYLOC M20C	2
18	WASHER FLAT METRIC-(M20)	WASHER, FLAT M20	8
14	FLT50x16-80	Flat	1
15	Padbolt	Spring Padbolt	1
16	40.29.29	Front Roller Mounting Assy T-Auger	2





DETAIL A
SCALE 1 : 12



TOLERANCES UNLESS OTHERWISE SPECIFIED:
UP TO 10 ± 0.25
OVER 10 UP TO 100 ± 0.5
OVER 100 ± 1
ALL ANGLES ± 1°

File: J:\STANDARD PRODUCTS\Compactors\TRANSPORTABLE\T-Auger\

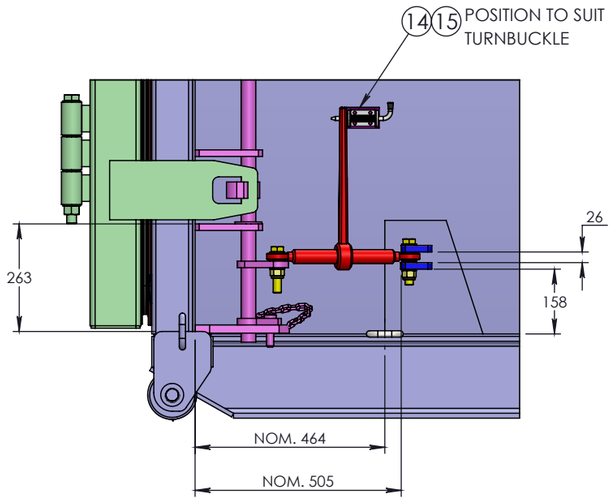
WASTECH ENGINEERING
33 Wedgewood Rd,
Hallam, Victoria, Aust, 3803
Ph: +61 3 8787 1600
Fax: +61 3 8787 1670

DRAFTING STANDARD AS1100 - 1992
MATERIAL: .
.
FINISH: NATURAL
.

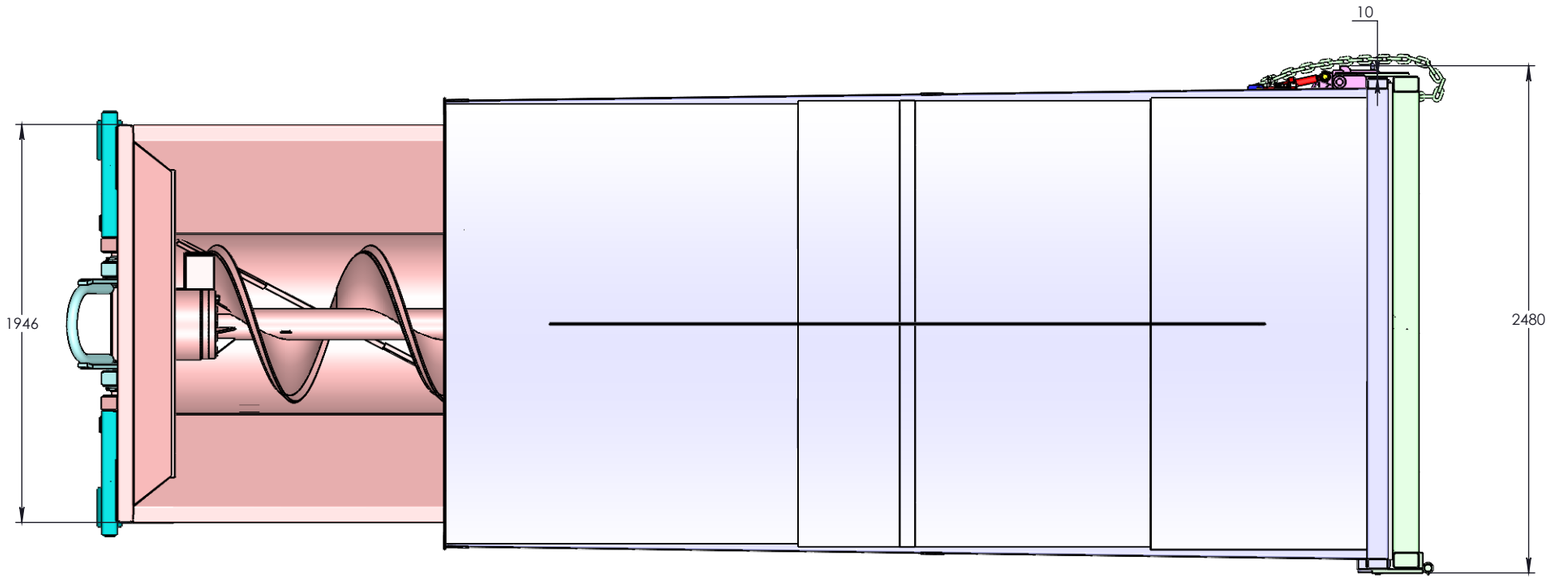
All Welds to A.S. 1554
DRAWN: C.G.
CHECKED: S.F.
DATE: 19-06-2018
MASS: 4057.81

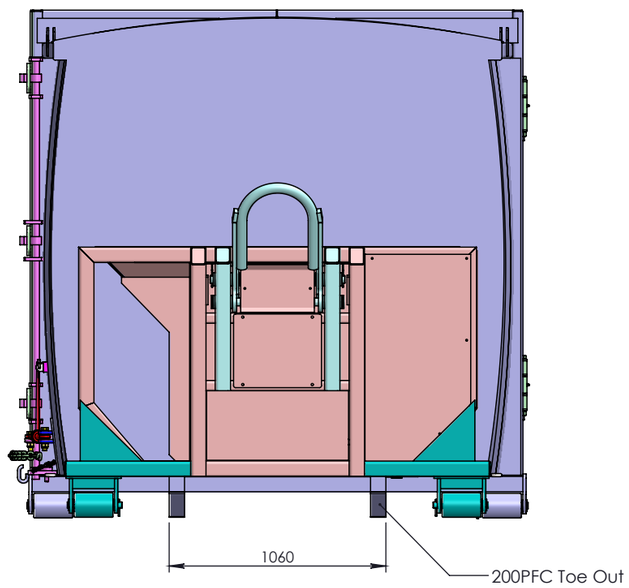
TITLE:
21m³ Transportable Auger
1610 Hook High - 1060 Rails
Wastech Standard

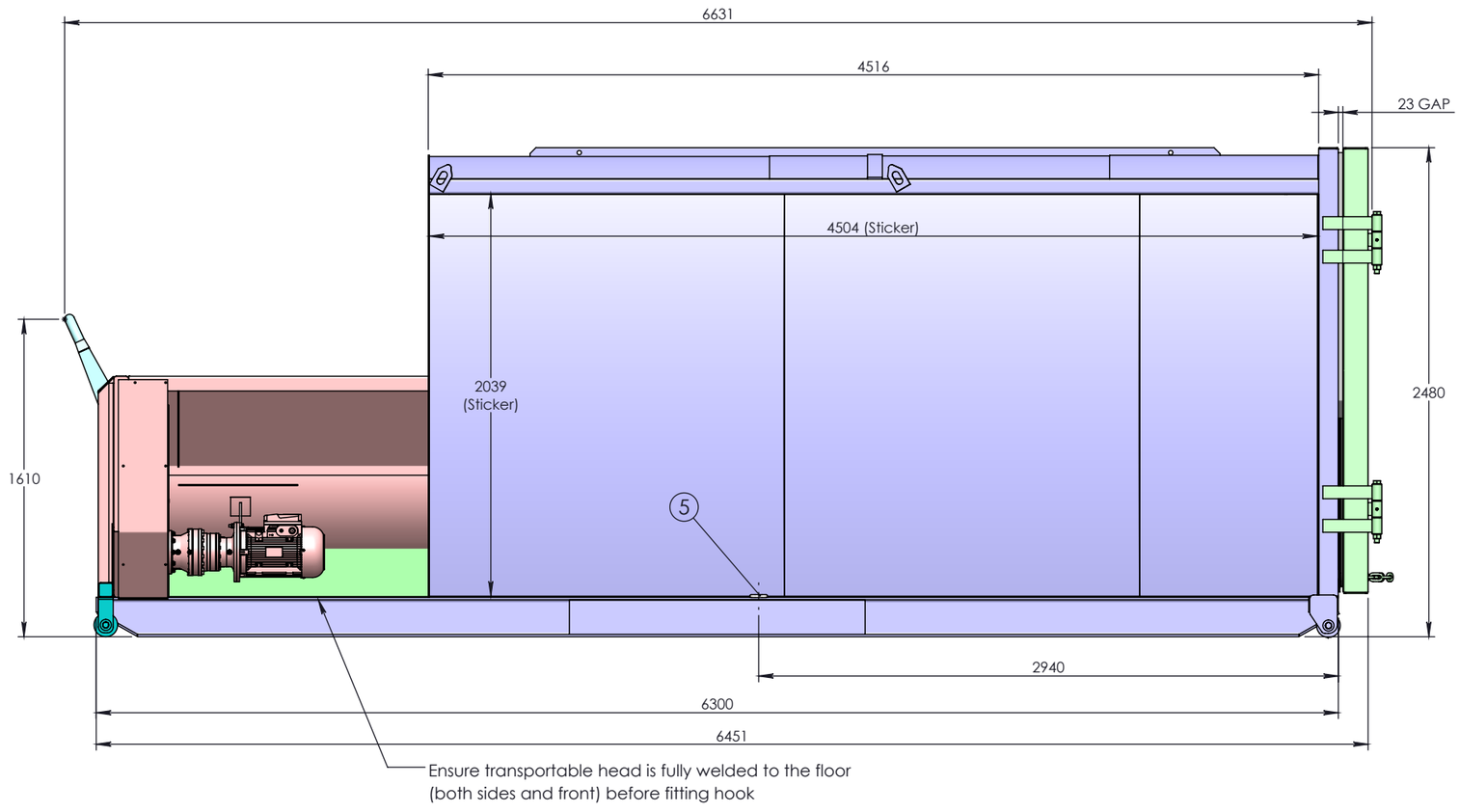
SCALE: 1:35
File: **40.52.92**
REV:
SHEET: 1 OF 3
A3



DOOR LOCK POSITION







TOLERANCES UNLESS OTHERWISE SPECIFIED: UP TO 10 ± 0.25 OVER 10 UP TO 100 ± 0.5 OVER 100 ± 1 ALL ANGLES ± 1°	WASTECH ENGINEERING 33 Wedgewood Rd, Hallam, Victoria, Aust, 3803 Ph: +61 3 8787 1600 Fax: +61 3 8787 1670	DRAFTING STANDARD AS1100 - 1992 MATERIAL: . . FINISH: NATURAL .	All Welds to A.S. 1554 DRAWN: C.G. CHECKED: S.F. DATE: 19-06-2018 MASS: 4057.81

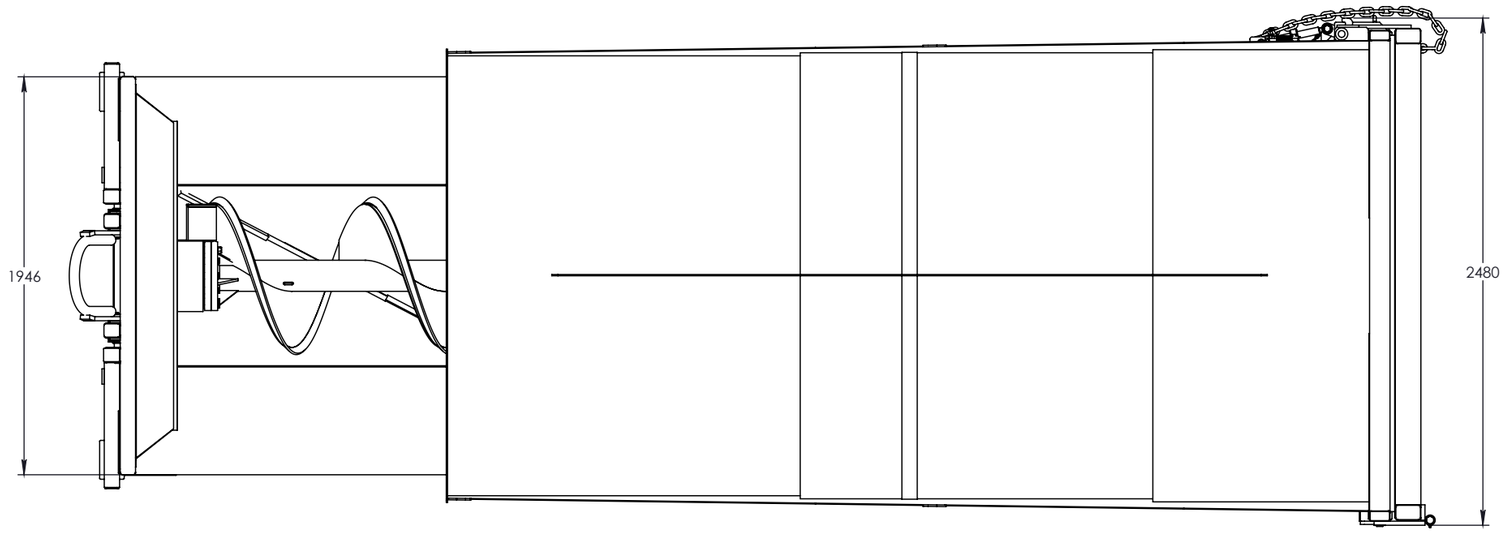
File: J:\STANDARD PRODUCTS\Compactors\TRANSPORTABLE\T-Auger\

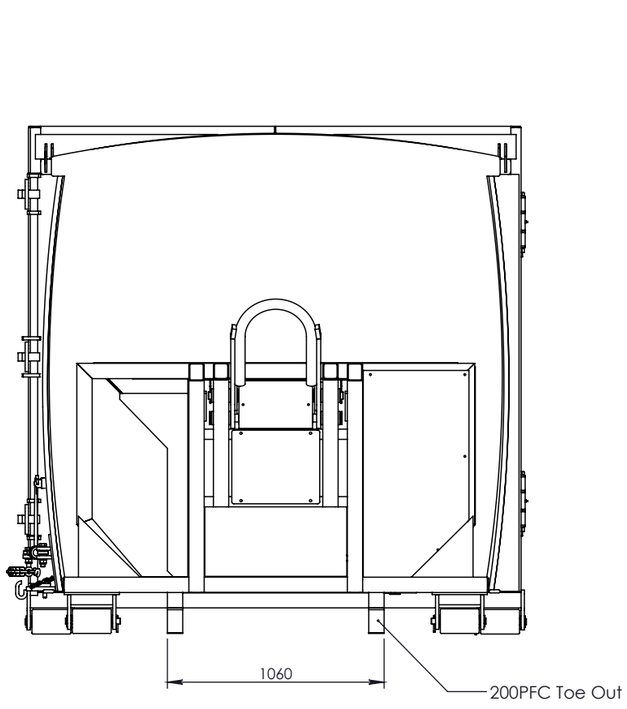
TITLE: 21m³ Transportable Auger
1610 Hook High - 1060 Rails
Wastech Standard

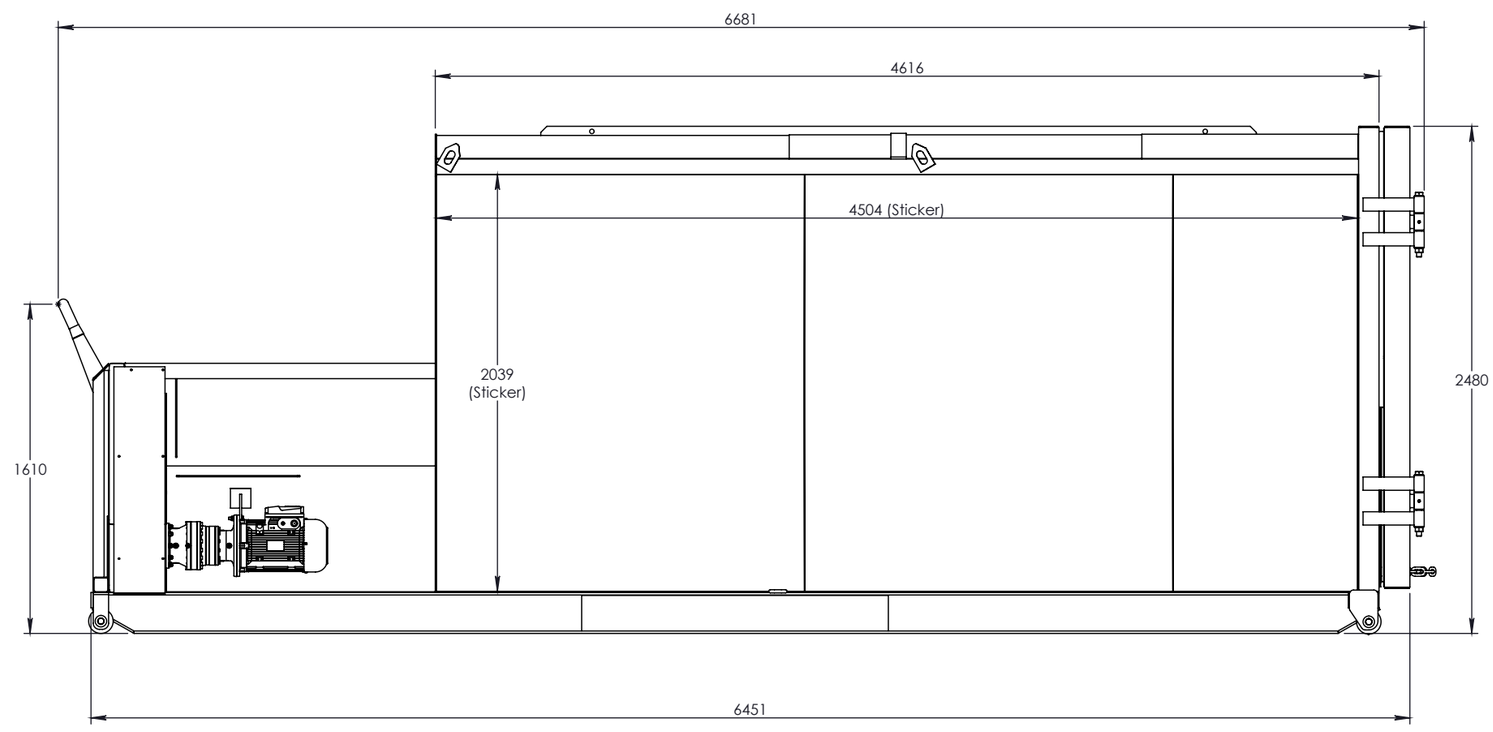
SCALE:	File:	REV.	SHEET.	
1:30	**40.52.92**		2 OF 3	A3

		SIGN OFF	SIGN OFF
CAPACITY	21m³		
OVERALL LENGTH	6681mm		
OVERALL HEIGHT	2480mm		
OVERALL WIDTH	2480mm		
HOOK HEIGHT	1610mm		
RAIL WIDTH	1060mm		
RAIL MATERIAL	200PFC TOE OUT		

IT IS THE CUSTOMERS RESPONSIBILITY TO ENSURE THE CARTAGE CONTRACTOR CAN CARRY THE BIN/BARREL CAPACITY, RAIL MATERIAL AND DIMENSIONS SHOWN.







TOLERANCES UNLESS OTHERWISE SPECIFIED:
UP TO 10 ±0.25
OVER 10 UP TO 100 ±0.5
OVER 100 ±1
ALL ANGLES ±1°

File: J:\STANDARD PRODUCTS\Compactors\TRANSPORTABLE\T-Auger\

WASTECH ENGINEERING
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DRAFTING STANDARD AS1100 - 1992

MATERIAL: .
.

FINISH: NATURAL
.

All Welds to A.S. 1554

DRAWN: C.G.

CHECKED: S.F.

DATE: 19-06-2018

MASS: 4057.81

TITLE: 21m³ Transportable Auger
1610 Hook High - 1060 Rails
Wastech Standard

SCALE: 1:30

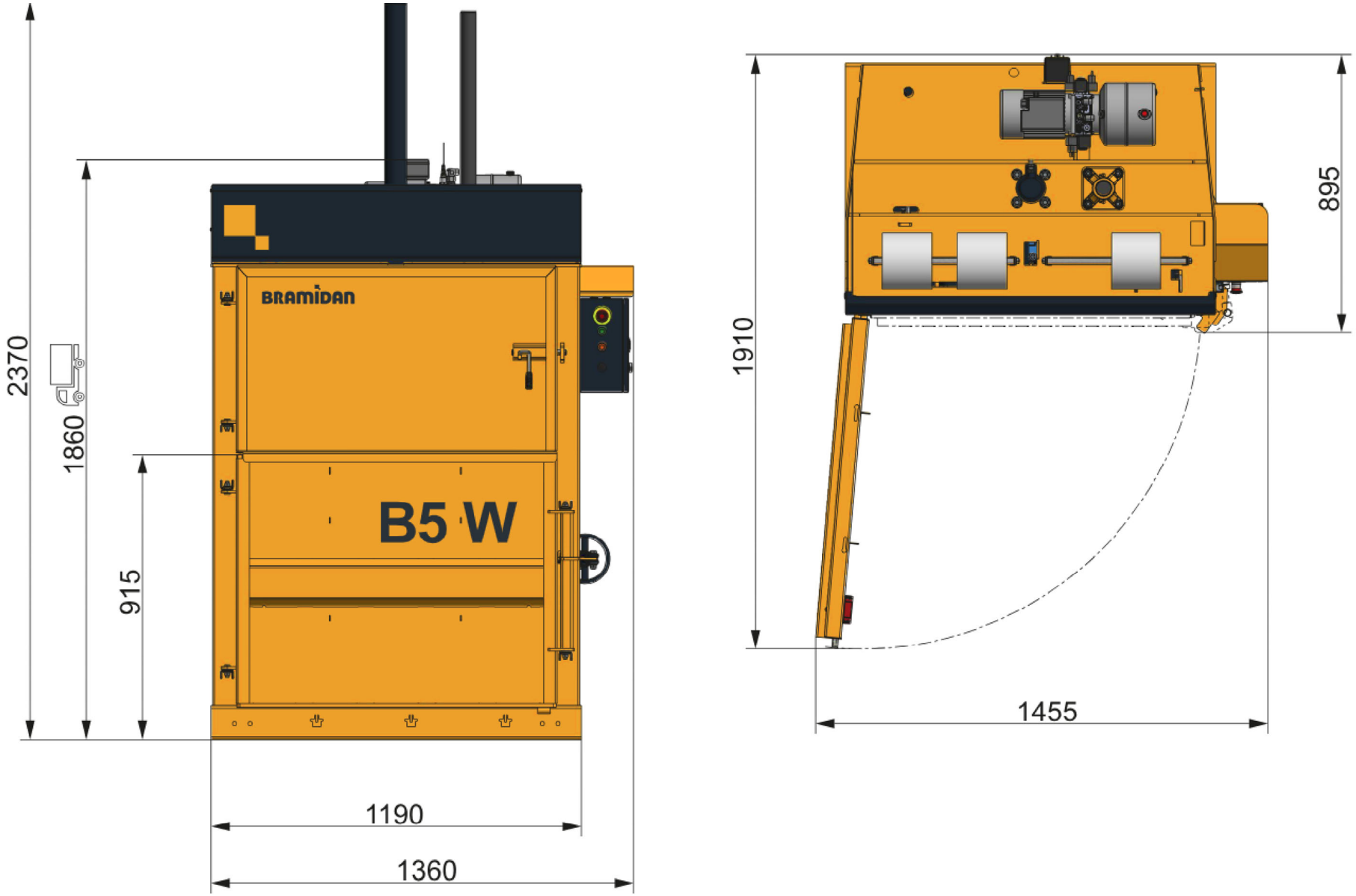
File: **40.52.92**

REV.

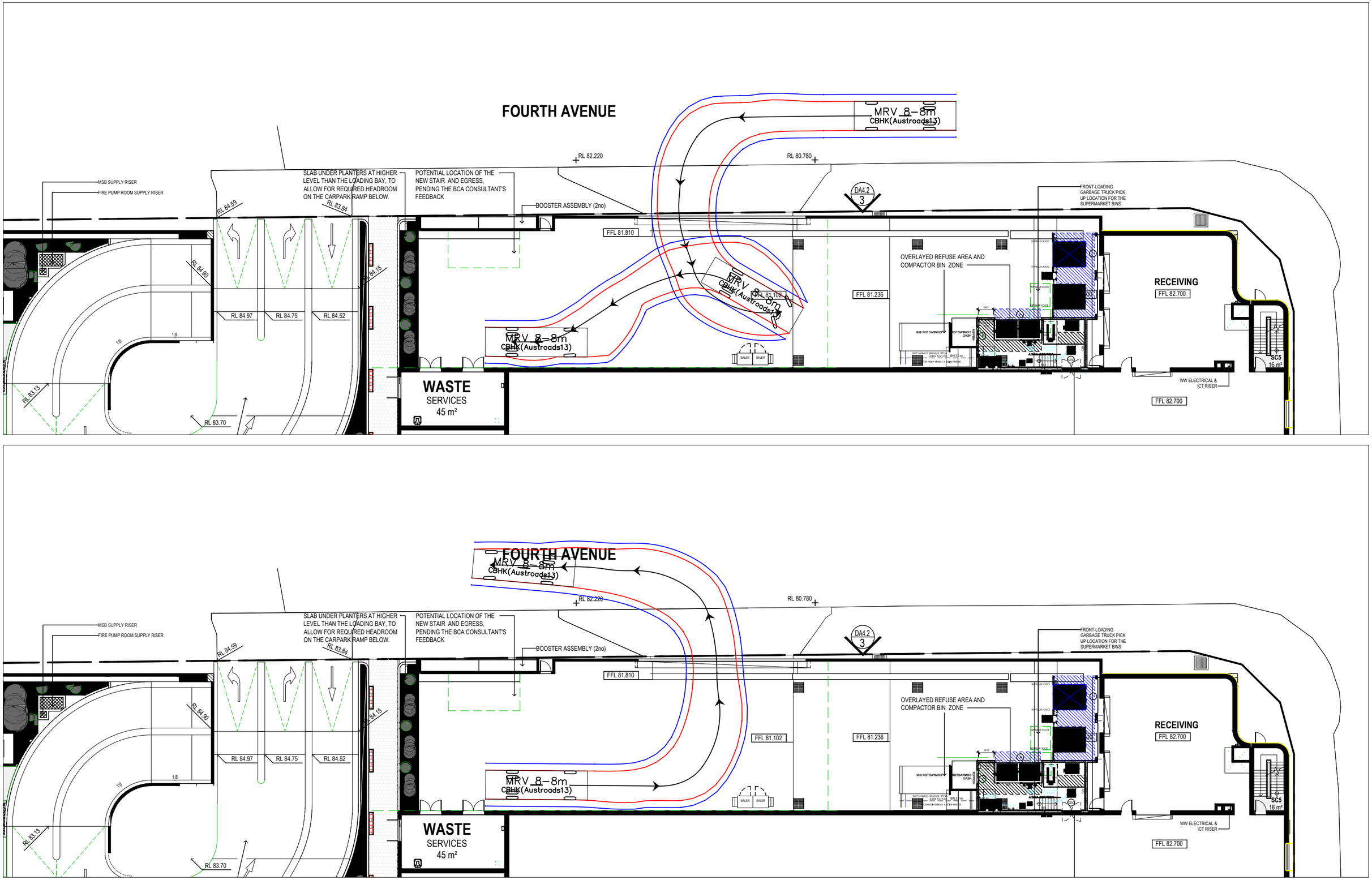
SHEET. 3 OF 3

A3

APPENDIX 3 BALER EXAMPLE SPECIFICATIONS


2370
1860
915
BRAMIDAN
B5 W
1190
1360
1910
895
1455

APPENDIX 4 SWEPT PATH ANALYSIS (PREPARED BY OTHERS)



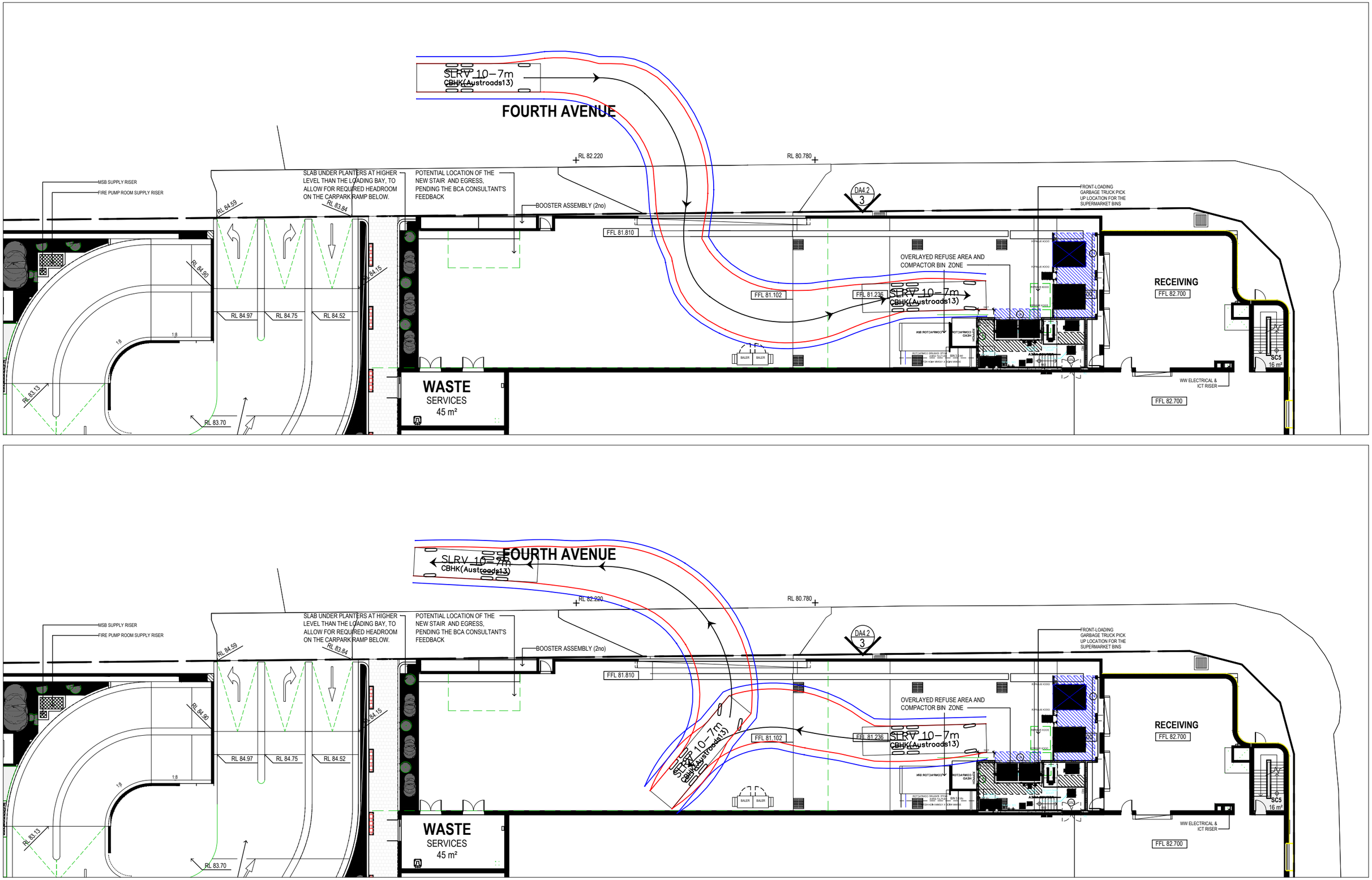
NOTE:
SKETCH PLAN ONLY. PROPERTY BOUNDARIES, UTILITIES, KERBLINES & DIMENSIONS ARE SUBJECT TO SURVEY AND FINAL DESIGN. TRAFFIC MEASURES PROPOSED IN THIS PLAN ARE CONCEPT ONLY AND ARE SUBJECT TO FINAL DESIGN BY CIVIL ENGINEERS. THIS PLAN SHOULD NOT BE USED FOR COMPLIANCE CERTIFICATION OR FOR CONSTRUCTION.

Swept Path of Vehicle Body
Swept Path of Clearance to Vehicle Body

8.8m MEDIUM RIGID VEHICLE SWEPT PATHS (WASTE COLLECTION)

DRAWN BY CBRK Pty Ltd_mc Ref: 12301 20.03.2024

A3



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Swept Path of Vehicle Body
Swept Path of Clearance to Vehicle Body

10.7m LARGE RIGID VEHICLE SWEPT PATHS (WASTE COLLECTION)

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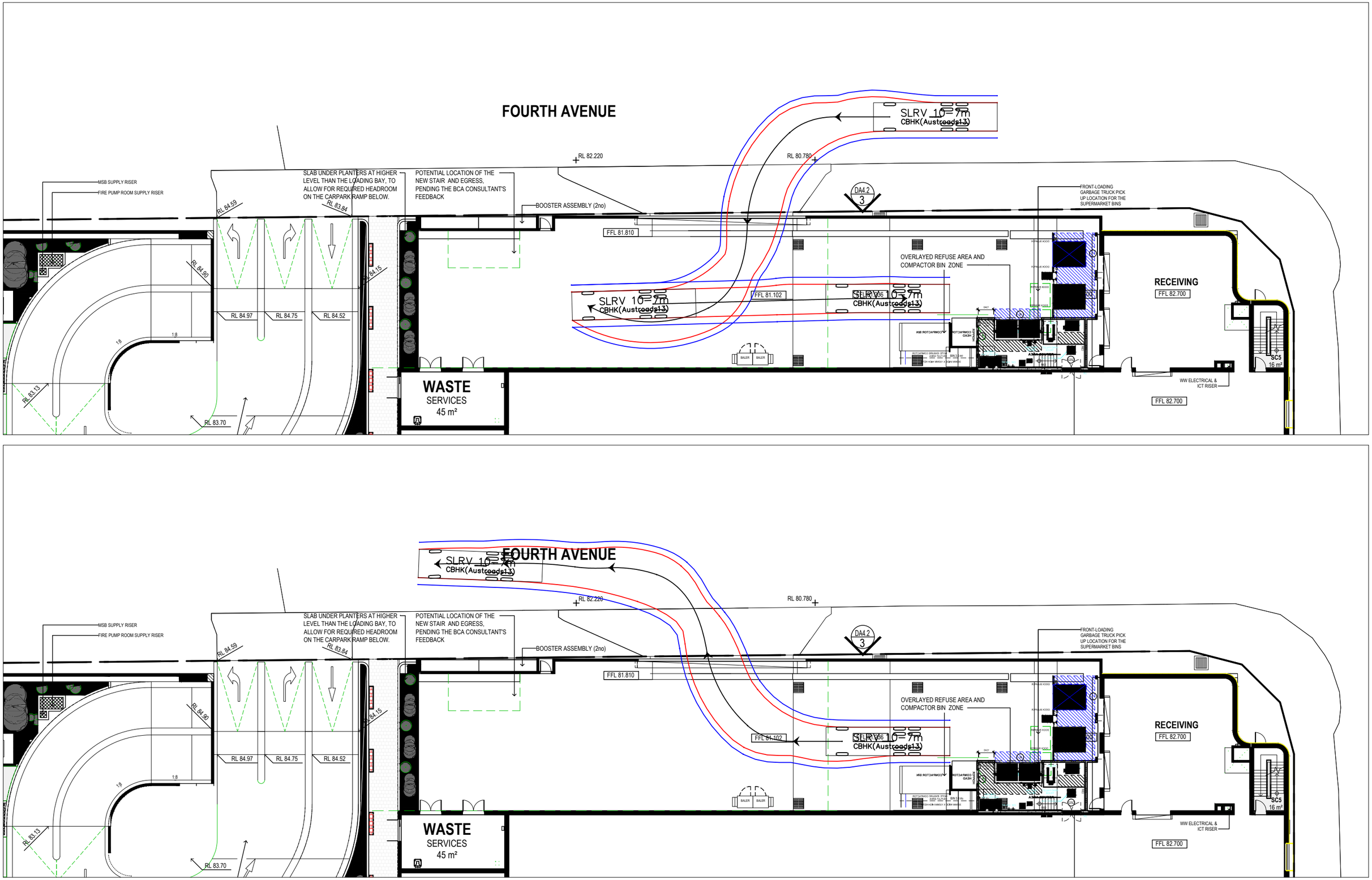
A4



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Swept Path of Vehicle Body
Swept Path of Clearance to Vehicle Body

10.7m LARGE RIGID VEHICLE SWEPT PATHS (WASTE COLLECTION)

DRAWN BY CBRK Pty Ltd_mc Ref: 12301 20.03.2024

A5

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