APPENDIX I WASTE MANAGEMENT PLAN

WASTE MANAGEMENT PLAN

PREPARED FOR
Blueprint

Bennetts Green Development

Lot 1 & Lot 2
Pacific Highway
Windale NSW

7/06/2017

Ph: 1800 025 073

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REVISIONS

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Matthew Skerrett	Blueprint	B

EXECUTIVE SUMMARY

This waste management plan covers the operational management of waste generated by Lot 1 & Lot 2 of the Bennetts Green development, located at Pacific Highway, Windale.

Lot 1 consists of a Bunnings Warehouse facility with a GFA of 16204m^2 and Lot 2 comprises of five (5) large-scale retail outlets occupying a combined GFA of approximately 5836m^2 and a fast food restaurant with a GFA of 430m^2.

Waste management is essential for commercial developments to ensure that the facility takes responsibility for waste products, operates in compliance with statutory requirements and minimises risk to human health and the environment.The waste management plan has three key objectives:

i. ***Compliance with all relevant codes and policies***

ii. ***Ensure all incoming waste is appropriately handled and processed correctly***

iii. ***Ensure that waste generated on site is disposed of and collected in a sustainable and safe manner.***

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GLOSSARY OF TERMS

TERM	DESCRIPTION
Baler	A device that compresses waste into a mould to form bales which may be self-supporting or retained in shape by wire ties and strapping
Collection Area/Point	The position or area where waste or recyclables are actually loaded onto the collection vehicle
Comingle Recycling	Consists of most food and beverage containers such as cardboard, plastic bottles, glass jars, aluminium and steel cans.
Composter	A container/machine used for composting specific food scraps
Crate	A plastic box used for the collection of recyclable materials
Garbage	All domestic waste (Except recyclables and green waste)
Expanded Polystyrene (EPS)	A lightweight, rigid cellular plastic that is used widely as a packaging medium.
Green	Garden organics such as small branches, leaves and grass clippings, tree and shrub pruning, plants and flowers, and weeds
L	Litre(s)
Liquid Waste	Non-hazardous liquid waste generated by commercial premises that is supposed to be connected to sewer or collected for treatment and disposal by a liquid waste contractor (including grease trap waste)
Mobile Garbage Bin(s) (MGB)	A waste container generally constructed of plastic with wheels with a capacity in litres of 120, 240, 660, 1000 or 1100, 1500 or 2000
Putrescible Waste	Component of the waste stream liable to become putrid. Usually breaks down in a landfill to create landfill gases and leachate. Typically applies to food, animal and organic products.
Recycling	Glass bottles and jars – PET, HDPE and PVC plastics; aluminium aerosol and steel cans; milk and juice cartons; soft drink, milk and shampoo containers; paper, cardboard, junk mail, newspapers and magazines
Skip Bin	A large open-topped waste container usually designed for the disposal of larger objects.

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INTRODUCTION

The following waste management plan pertains to Lot 1 & Lot 2 of the Bennetts Green development, located off Pacific Highway, Windale. The purpose of the waste management plan is to form an appendix to a section 96 amendment for the existing DA, which is a Masters Homeware facility in combination with additional large format retail tenancies. The waste management plan will address the phases of the completed development.

The proposal for Lot 1 comprises of a Bunnings Warehouse facility occupying a GFA of approximately **16204m^2**, which is inclusive of the main trade supplies area, nursery and offices.

Bunnings has a long history in reducing energy usage, becoming more self-sufficient with water supply and actively reducing waste and increasing recycling opportunities with active education and awareness programs for staff and customers.

The proposal for Lot 2 includes five large retail tenancies (T1, T2, Anaconda, T4 & T5) occupying a combined GFA of approximately **5836m^2** and a fast food restaurant with a GFA of **430m^2**.

All figures and calculations are based on area schedules as advised by our client and shown on architectural drawings

GENERATED WASTE VOLUMES

The assessment of projected waste volumes is a calculated estimate only and will be influenced by the development's management and waste disposal and recycling practices. Final details, waste quantities and disposal locations will be best judged by the allocated waste contractor who will undertake the work.

CONSTRUCTION AND DEMOLITION WASTE

The head contractor will be responsible for removing all construction-related waste offsite in a manner that meets all authority requirements.

BUNNINGS MANAGEMENT

All waste equipment movements are to be managed by the allocated staff at all times.

Management and staff duties include, but are not limited to, the following:

- Organising, maintaining and cleaning the waste and loading areas (Frequency will depend on waste generation and will be determined based upon building operation);
- Arrange and providing training to relevant team members including the use of waste equipment (including baling);
- Transporting of bins as required;
- Organising both garbage and recycled waste pick-ups as required;
- Cleaning and exchanging all bins when required;
- Ensure site safety for children, customers, visitors, staff and contractors;
- Abide by all relevant OH&S legislation, regulations, and guidelines;
- Assess any manual handling risks and prepare a manual handling control plan for waste and bin transfers;

- Provide to staff/contractors equipment manuals, training, health and safety procedures, risk assessments, and PPE to control hazards associated with all waste management activities; and
- Adhering to the Bunnings Waste Management philosophies.

LOT 1: BUNNINGS WAREHOUSE WASTE MANAGEMENT PLAN

A 2006 Bunnings Waste Review in conjunction with empirical evidence from a range comparable homeware stores indicate that the following four (4) main waste streams will be generated by the proposed development and will therefore require robust management schemes:

- General waste;
- Paper and cardboard recyclables;
- Plastic recyclables; &
- Timber recycling.

While the four main waste streams listed above are considered mandatory for the sustainable management of the site, Elephant's Foot also recommends that additional services be implemented for the following minor waste streams generated:

- Comingle recycling;
- Polystyrene recycling;
- Fluorescent tube recycling;
- Battery recycling;
- Green recycling;
- Sanitary and washroom facility;
- Liquid trade waste and chemical storage; &
- Confidential documentation recycling.

The *Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities* in combination with the *Lake Macquarie City Council Waste Management Guidelines* have been referenced to identify the best practice waste procedures for the site. The commercial waste generation rates presented in Table.1 below have been obtained by desktop research of comparable facilities and are suitable for worst case scenarios. Please note that the volumes presented are estimates only and will be affected by sales volumes, inclination to recycle and seasonal variations. A seven day operating week has been assumed.

Table 1: *Calculated Waste Generation*

Type	Waste Calculation (m^3/200m^2/week)	Total Waste Generated Weekly
General Waste	1	81.02
Paper & Cardboard	0.5	40.51
Plastic Recyclabes	0.25	20.25
Timber Recyclables	NA	NA
TOTAL		**141.78**

BIN SUMMARY

General Waste: 4 x 4.5m^3 front loading bulk bins collected **5 x weekly** (or as required)
Recycling (Cardboard): 9 x 300kg bale pallets collected **twice weekly** (or as required)
Recycling (Plastics): 5 x 70kg bale pallets collected **twice weekly** (or as required)
Timber Recyclables: 1 x 'on call' skip bin (booked, monitored and collected as required)

WASTE MANAGEMENT

GENERAL WASTE

During daily operations, staff will transfer general waste from bins positioned throughout the store, cafes, staffrooms, offices, DIY, display areas and BOH operations to the bulk general waste bins located within the BOH Goods Outwards loading dock.

Nominated Bunnings staff/cleaners will be responsible for circulating the warehouse after operating hours to tidy up, ensuring that all waste is disposed of appropriately.

CARDBOARD RECYCABLES

Paper and cardboard waste will predominantly be generated from packaging, office paper and spent catalogues and magazines.

All cardboard from packaging will be flattened by staff and transferred to the nominated cardboard vertical baler located internally within the BOH Goods Outwards dock and will be fed into the baler producing up to 300kg bales (*see Appendix B.1 Baler Specifications)*.

All offices within the premises will have one or more paper bins positioned next to each workers desk or work station. Cleaners will circulate around the workplace after normal business hours and transport all paper and cardboard recyclables to the cardboard baler. Confidential documents will be disposed of appropriately.

Small and medium sized cardboard boxes will be retained and placed front of house for customers to use in transporting their purchases.

PLASTIC RECYCLABLES

Plastic waste will be typically generated from spent shrink wrap and strapping and general plastic packaging.

All plastic shrink waste will be deposited by staff into smaller 240L bins located in BOH Goods Outwards dock, and once full, shrink plastics will be transported and fed into the allocated plastics vertical baler producing up to 70kg bales (*see Appendix B.2 Baler Specifications)*. Bales will be stored on pallets waiting collection by the nominated recycler. All bales will be transported by pallet jack.

Strapping will be collected separately for recycling; generally coiled and collected in plastic bags dependant on the arrangement with the recycler. Plastic packaging will be recycled with commingled items where suitable.

TIMBER PALLETS

Timber waste will typically be generated from damaged pallets, timber shop off-cuts and spent truck skids. Most timber pallets are returnable (Chep and Loscam) and a storage facility and a returns system should be implemented to ensure build-up of these products is kept at a minimum. Non-returnable pallets can be reused and repaired multiple times, aside from a small proportion designed for single use.

When a sufficient quantity of timber waste has been accumulated, nominated staff will be responsible for contacting a timber/pallet recycling specialist to remove the timber waste from the site.

Broken or unrequired timber pallets will be broken down and stockpiled. If required, a suitably sized skip bin may be booked and delivered to an agreed dock area and filled with redundant pallets along with timber shop off-cuts and other timber wastes and removed from site.

COMINGLE RECYCLING

Comingle recycling such as glass, aluminium, plastic and steel is considered to be a minor waste stream and will be generated predominantly from staff tea points, the cafe and the BBQ display area. Appropriate bins for comingle recycling will be allocated within these areas and staff will be required to sort through this material and transferring comingle recycling to the allocated 240L bins within the BOH Goods Outwards dock.

It is recommended that a minimum of 2 x 240L bins be provided and serviced by a private waste contractor on a weekly to twice weekly basis.

POLYSTYRENE RECYCLING

Expanded polystyrene (EPS) will be generated predominantly from packaging on-site, however it cannot be recycled along with paper/cardboard, plastics or commingled recycling and instead, must be recycled as a separate waste stream. It is recommended that one of the options below be instigated to sustainably recycling the EPS generated.

1. Provide bulk 1100L MGBs (minimum of 2) within the BOH Goods Outwards dock to store EPS, which will be serviced by an appropriate EPS Recycling Contractor. With such a high volume/weight ratio, EPS has the potential to quickly fill MGBs, hence generally frequent collections are required.
2. Provide a reliable EPS recycling machine on-site to thermally compress expanded polystyrene into smaller, more manageable blocks, and thus will be more economical to service (*see Appendix B.3 for Typical Polystyrene Thermal Compactor*). The blocks will be stored in bulk 1100L MGBs and will be serviced by an appropriate EPS Recycling Contractor when required.

FLUORESCENT TUBE RECYCLING

The development will contain a large number of fluorescent lights and when these fail, nominated staff will generally arrange for a replacement by an appropriate contractor. These lights contain mercury and must only be disposed of by a specialty recycler, who are able to safety recover not only the mercury, but also the glass, phosphor and aluminium likely to be contained in the lighting.

BATTERY RECYCLING

A secure, allocated area should be provided within BOH goods outwards dock for the storage of battery collection boxes. Some waste contractors will provide these boxes to collect small dry cell batteries; however other recyclers can be arranged for the recycling of specialist batteries, such as lead acid, NiCad, lithium ion, lithium, alkaline and Ni-MH batteries.

GREEN WASTE RECYCLING

There will be green waste generated from the nursery component of the facility, with the greater proportion being damaged and defective plants, trimmings and off-cuts.

660L or 1100L bins will be provided within the BOH nursery area for any green waste generated on-site. Staff will be required to monitor these bin capacities and contact an allocated green waste contractor to service the bins when required.

Where possible, composting facilities for green waste on site should be considered to further reduce waste costs for the site.

SANITARY AND WASHROOM FACILITY WASTE

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.

Please note that all collection receptacles and bins should be branded with the appropriate stickers and the use of the Mobius loop or similar identifying recycling equipment.

LIQUID TRADE WASTE AND CHEMICAL STORAGE

All trade waste liquid must be stored and disposed of appropriately in an adequate or bunded area to ensure to ensure it does not enter the environment.

Any chemicals associated with the development must be secured in an appropriate manner. Chemicals must also be stored and contained in a bunded area to prevent chemical entering the environment unintentionally in the event of a spill, flood or any other event that may lead to the escape of chemicals.

All bunded areas must be drained to the reticulated sewage system under agreement with Hunter Water. On site treatment of any liquid waste or chemical material is not permitted.

CONFIDENTIAL DOCUMENTATION RECYCLING

All confidential & sensitive documentation will be disposed of in lockable 120L or 240L secure containers, located and collected from an agreed area on a walk in/walk pout basis. An appropriate document shredding contractor will be engaged to service the lockable containers when they reach capacity.

WASTE COLLECTION AREAS

BOH GOODS OUTWARDS DOCK

The BOH Goods Outwards dock will need to accommodate 4 x 4.5m^3 general waste bins, 1 large skip bin for timber recyclables and sufficient room for vehicle access and servicing.

Two (2) proposed balers for paper/cardboard and plastics will also be positioned in the BOH Goods Outwards dock (*see Appendix B.1 & B.2 for Baler Specifications*) in conjunction with sufficient room to store bale pallets and 240L bins for the disposal of plastics prior to baling and comingle recycling.

Additional room must also be considered for storage of the following recycling streams:

- Comingle recycling MGBs (minimum of 2 x 240L MGBs);
- Polystyrene recycling MGBs (minimum of 2 x 1100L MGBs)
- Polystyrene thermal compaction unit (if required);
- Locked confidential documentation recycling MGB (minimum 1 x 240L MGB)
- Allocated secure storage area for battery recycling, liquid trade waste and chemical storage.

See Appendix C.2 for proposed BOH Goods Outwards waste storage configuration.

LOADING DOCK (NURSERY)

The northern boundary waste area will be used for the storage of the waste generated from the nursery – green waste.

See Appendix C.3 for proposed BOH Goods Outwards waste storage configuration.

COLLECTION OF WASTE

Bunnings management will be required to contact their national waste and recycling service providers for all waste streams. The contractor will review and conduct an audit of the site's needs in relation to removal of specific wastes.

All access routes used by waste collection vehicles will be in common with the service vehicle routes for the store and are therefore designed to accommodate a front lift collection vehicle as the largest. These access routes are therefore suited to the passage of the waste collection vehicles.

Specialist licenced contractors will need to be engaged to collect and process the fluorescent lighting and battery waste.

The waste collection vehicles will enter the site's BOH Loading dock via South Street (*see Appendix C.1 for Site Plan*).

LOT 2 WASTE MANAGEMENT PLAN

The *Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities* and the *Lake Macquarie City Council Waste Management Guideline* have been referenced to calculate the total number of bins required for the large retail tenancies (classified as bulky goods premises) and the fast food restaurant.

Please note that calculations are based on generic figures; waste generation rates may differ according to the tenants' waste management practice. Please note that if food tenants are placed, the waste generation rates will require adjustment. A seven day operating week has been assumed.

Table 2: *Lot 2 Waste Generation*

Type	NLA (m^2)	Waste Calculation ($L/100m^2/day$)	Generated Waste (L/week)	Recycling Calculation ($L/100m^2/day$)	Generated Recycling (L/week)
T1	498	50	1743	50	1743
T2	545	50	1907.5	50	1907.5
Anaconda	2040	50	7140	50	7140
T4	1141	50	3993.5	50	3993.5
T5	1612	50	5642	50	5642
Fast Food	430	670	20167	230	6923
TOTAL	**6266**		**40593**		**27349**

RETAIL TENANCIES (T1-T5)

BIN SUMMARY

It is proposed that each retail tenancy will have their own bins stored within a waste room BOH – adjacent to the servicing laneway. Based on the calculations presented in Table 2, the required bin quantities for each tenancy have been calculated and are presented below.

Note: Subject to the stakeholders preference/capability (and as built constraints), bin sizes and quantities may be changed. As waste volumes may change according to the developments type, bin numbers and collection frequencies may be altered to suit the building operation.

Table 3: *Required Bin Quantities - Retail Tenancies*

	Garbage			Recycling		
Building/Waste Rooms	**Bin Capacity** (L)	**Quantity**	**Collection Rate** (times/week)	**Bin Capacity** (L)	**Quantity**	**Collection Rate** (times/week)
T1	1100	1	2	1100	2	2
T2	1100	1	2	1100	2	2
Anaconda	1100	4	2	1100	4	2
T4	1100	2	2	1100	2	2
T5	1100	3	2	1100	4	2
Total	**1100**	**11**	**2**	**1100**	**14**	**2**

**The recycling bins for each tenancy will be separated equally into two separate recycling streams – paper/cardboard and other recycling (comingle, plastics etc).*

WASTE MANAGEMENT – GENERAL WASTE AND PAPER/CARDBOARD RECYCLING

Each retail tenancy will have their own waste room located BOH -adjacent to the service lane. Tenants will be responsible for the internal management and storage of their own general waste and recycling (paper/cardboard & other recycling). On completion of each trading day or as required, nominated staff/cleaners will transport all general waste and recycling accumulated in bins distributed throughout the store (eg. staff rooms, front counter & BOH activities etc) to the waste room and place waste and recycling into the appropriate bulk bins.

Cardboard is a major component of the waste generated by large scale retail tenancies. All cardboard should be flattened (to save bin space) and placed into the designated paper/cardboard bulk bin/s. Whilst cardboard is bulky, it is generally lightweight however it can be contaminated with food or liquid which makes it unsuitable for recycling.

All other recycling (non paper and cardboard) will be placed in the other recyclables bin and all general waste from non-recyclables packaging, staff room waste etc will be placed in the general waste bin.

It is recommended that:

- all waste should be bagged and waste bins should be plastic lined;
- bagging of recyclables is not permitted;
- all waste collections located BOH during operations;
- individual recycling programs are recommended for retailers to ensure commingled recycling is separated correctly;
- any food and beverage tenant will make arrangements for storing used and unused cooking oil in a bunded storage area;
- the operator will organise grease interceptor trap servicing;
- a suitable storage area needs to be provided and affectively bunded for chemicals, pesticides and cleaning products;
- dry basket arresters need to be provided to the floor wastes in the food preparation and waste storage areas;
- washroom facilities should be supplied with collection bins for paper towels (if used); and
- all flattened cardboard will be collected and removed to the waste room recycling MGB.

COMINGLE RECYCLING

Any staff tea points will be supplied with a dedicated commingled bin for the collection of all recyclable glass, aluminium, steel and plastic items. Staff will be responsible for sorting this material and allocating recyclables into the correct collection facility.

POLYSTYRENE RECYCLING

If expanded polystyrene (EPS) will be generated from packaging, it is recommended that an additional 1100L bulk bin be provided for the polystyrene recycling. Polystyrene cannot be recycled along with paper/cardboard, plastics or commingled recycling and instead, must be recycled as a separate waste stream.

WASHROOMS

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.

Please note that all collection receptacles and bins should be branded with the appropriate stickers and the use of the Mobius loop or similar identifying recycling equipment.

OTHER RETAIL WASTE

Tenants usually make their own arrangements for the disposal and recycling of toner cartridges and batteries. Disposal of hard, electronic, liquid waste and any detox (paint/chemicals) shall be organised with the assistance of the building management/cleaners.

WASTE AREAS AND COLLECTION – RETAIL TENANCIES (T1-T5)

Each waste room must have the capacity to accommodate the required quantity of bins and sufficient room to adequately access and manoeuvre bins. A bin wash down area will be provided within each waste room.

Based on the required bin quantities presented in Table 2, the recommended waste room sizes have been tabulated below:

Table 4: *Waste Room Areas*

Location	Bin Quantity	Allocated Area (m^2)
T1	3 x 1100L MGBs	14
T2	3 x 1100L MGBs	14
Anaconda	8 x 1100L MGBs	20
T4	4 x 1100L MGBs	14
T5	7 x 1100L MGBs	20

A private waste contractor will service all bins directly from each waste room via the service road – accessible via Pacific Highway. The vehicle will pull up adjacent to each tenancy, wheel the bins to the vehicle for servicing, and returning them upon completion.

FAST FOOD RESTAURANT

BIN SUMMARY

General Waste	**1 x 4.5m³** bin serviced daily
Paper/Cardboard	**1 x 4.5m³** bin serviced weekly
General recycling	**1 x 4.5m³** bin serviced weekly

GENERAL WASTE

The vast majority of waste generated by fast food restaurants is general waste; including food waste, contaminated recyclables and miscellaneous customer waste.

General waste bins will be positioned through the entire restaurant, including the kitchen, dining areas and carpark. When required, nominated staff/cleaners will circulate around the premises, empty bins and transfer waste to the general waste bulk bin stored BOH.

CARDBOARD AND PAPER RECYCLING

Cardboard from packaging and marketing material is a major component of the waste generated BOH at fast food restaurants. Paper recycling from BOH office activities is also evident, however this is a minor waste component.

All cardboard and paper recycling will be transferred to the paper/cardboard bulk bin stored BOH.

GENERAL RECYCLING

Recycling bins will be positioned adjacent to the general waste bins, throughout the kitchen, dining areas and carpark. When required, nominated staff/cleaners will empty the bins and transfer the recyclables to the general recycling bulk bin stored BOH.

COOKING OIL

Restaurant management will make arrangements for the storage and collection of used cooking oil in a heated bulk collection tank which will be serviced by the appointed contractor on an as required basis.

GREASE TRAP WASTE

Hunter Water Corporation regulates trade waste requirements for the installation of grease arrestors and liquid waste. Advice on trade and liquid waste can be gained by contacting Hunter Water Corporation Trade Waste Division on (02) 4979 9590

SANITARY AND DISPOSABLE NAPPY WASTE

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

Please note that all collection receptacles and bins should be branded with the appropriate stickers and the use of the Mobius loop or similar identifying recycling equipment

WASTE AREAS AND COLLECTION – FAST FOOD RESTAURANT

All bins must be stored in a designed waste area within the walls of the corral area of the restaurant vicinity.

The waste room must have the capacity to store 3 x 4.5m^3 bins and the bulk tank for the storage of used cooking oil.

An allocated waste contractor will service all bins from designated waste area to an agreed collection schedule.

COLLECTION AREAS

The collection areas for Lot 1 & Lot 2 will need to be reviewed by a traffic consultant to confirm that these (and other trucks if required) can enter and exit the site in a forward direction. The final number of truck movements will depend on management of waste contract; final configuration of waste and recycling arrangements therefore number of bin lifts and additional irregular truck movements for hard waste.

It is our understanding that a traffic consultant is preparing drawings to confirm the swept paths for waste collections, access and egress, internal manoeuvring to assume parked position for loading and to exit, load requirements as well as collection vehicle dimensions. This information and supporting drawings will be provided separate to this report.

REPORTING

Elephant's Foot recommends that management of all premises ensure that all waste service providers submit monthly reports on all equipment movements and weights of any waste and recycling products removed from the development. Regular reviews of servicing should take place to ensure operational and economic best practise and to assist with sustainability reporting.

WASTE AREAS

CONSTRUCTION REQUIREMENTS

The waste areas will be required to contain the following facilities to minimise odours, deter vermin, protect surrounding areas, and make it a user-friendly and safe area:

- Waste room walls and floor surface is flat and even;
- A hot and cold water facility with hose cock must be provided for washing the bins;
- Any waste water discharge from bin washing must be drained to sewer in accordance with the relevant water board. (Hunter Water);
- Tap height of 1.6m;
- Storm water access preventatives (grate);
- All required walls painted with light colour and washable paint where applicable;
- Equipment electric outlets recommended to be installed 1700mm above floor levels;
- Waste area must be well lit (sensor lighting recommended);
- Optional automatic odour and pest control system installed to eliminate all pest types and assist with odour reduction – this process generally takes place at building handover – Bunnings management make the decision to install;

- All personnel doors are hinged and self-closing;
- Waste collection area must safely hold all bins – bin movements should be with ease of access;
- All waste areas and bins must contain signage directing correct use;
- Conform to the building code of Australia, Australian standards, safety and local laws; and
- Childproofing and public/operator safety shall be assessed and ensured

SIGNAGE

Management are responsible for waste room signage including safety signage (*see APPENDIX A.2*). Appropriate signage must be prominently displayed on walls and above all bins, clearly stating what type of waste or recyclables is to be placed in the bin underneath.

VENTILATION

Indoor waste and recycling areas 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; or
- Naturally - permanent, unobstructed, and opening direct to the external air, not less than one-twentieth (1/20) of the floor area

Mechanical exhaust systems shall comply with AS1668 and not cause any inconvenience, noise or odour problem.

STORM WATER PREVENTION & LITTER REDUCTION

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:

- Promote adequate waste disposal into the bins;
- Secure all bin rooms (whilst affording access to staff/contractors);
- Prevent overfilling of bins, keep all bin lids closed and bungs leak-free;
- Take action to prevent dumping or unauthorised use of waste areas; and
- Ensure collection contractors clean-up any spillage that may occur when clearing bins
- Ensure the area is secure to prevent vandalism.

LIMITATIONS

The purpose of this report is to document a Waste Management Plan as part of a development application and is supplied with the following conditions:

- Drawings, estimates and information contained in this waste management plan have been prepared by analysing the information, plans and documents supplied by you and third parties including Council and government information. The assumptions based on the information contained in the WMP is outside the control of EFRS;
- 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 managements approach to educating residents and tenants regarding waste management operations and responsibilities;
- The building manager will make adjustments as required based on actual waste volumes (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 or representation is made that the WMP reflects the actual outcome and EFRS will not be liable to you for plans or outcomes that are not suitable for your purpose, whether as a result of incorrect or unsuitable information or otherwise;
- EFRS offer no warranty or representation of accuracy or reliability of the WMP unless specifically stated;
- Any manual handling equipment recommended 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.

USEFUL CONTACTS

Elephants Foot Recycling Solutions does not warrant or make representation for goods or services provided by suppliers.

Lake Macquarie Council
Phone: (02) 4921 0333

SULO MGB (MGB, Public Place Bins, Tugs and Bin Hitches)
Phone: 1300 364 388

CLOSED LOOP (Organic Dehydrator)
Phone: 02 9339 9801

ELECTRODRIVE (Bin Mover)
Phone: 1800 333 002 Email: sales@electrodrive.com.au

RUD (Public Place Bins, Recycling Bins)
Phone: 07 3712 8000 Email: Info@rud.com.au

REMONDIS (Private Waste Services Provider)
Phone: 13 73 73

SITA ENVIRONMENTAL (Private Waste Services Provider)
Phone: 13 13 35

PURIFYING SOLUTIONS (Odour Control)
Phone: 1300 636 877 Email: sales@purifyingsolutions.com.au

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APPENDICES

APPENDIX A BETTER PRACTICE GUIDE FOR WASTE MANAGEMENT SPECIFICATIONS

APPENDIX A.1 BIN DIMENSIONS

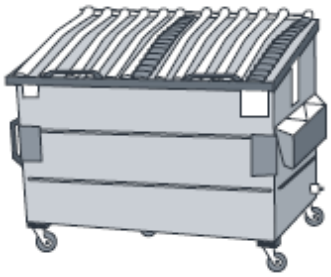
Mobile containers with a capacity from 500L to 1700L with four wheels

Dome or flat lid containers

Bin Type	660 Litre MGB	770 Litre MGB	1100 Litre MGB	1300 Litre MGB	1700 Litre MGB
Height	1250	1425	1470	1480	1470
Depth	850	1100	1245	1250	1250
Width	1370	1370	1370	1770	1770

Bulk bins greater than 1700L capacity

The following bulk bin dimensions are a guide only and may differ slightly according to manufacturer.
Not all available bulk bin sizes are shown.



Bin Type	2.0 m³ Skip	3.0 m³ Skip	4.5 m³ Skip
Height	865 mm	1225 mm	1570 mm
Depth	1400 mm	1505 mm	1605 mm
Width	1830 mm	1805 mm	1805 mm

APPENDIX A.2 SIGNAGE FOR WASTE & RECYCLING BINS

WASTE SIGNS

Signs for garbage, recycling and organics bins should comply with the standard signs promoted by the Department of Environment and Heritage.

SAFETY SIGNS

The design and use of safety signs for waste rooms and enclosures should comply with AS1319 Safety Signs for Occupational Environment. Safety signs should be used to regulate and control safety behaviour, warn of hazards and provide emergency information, including fire protection information. Below are some examples. Each development will need to decide which signs are relevant for its set of circumstances and service provided.

Source: Better Practice Guide to Waste Management in Multi-Unit Dwellings, 2008, DECC

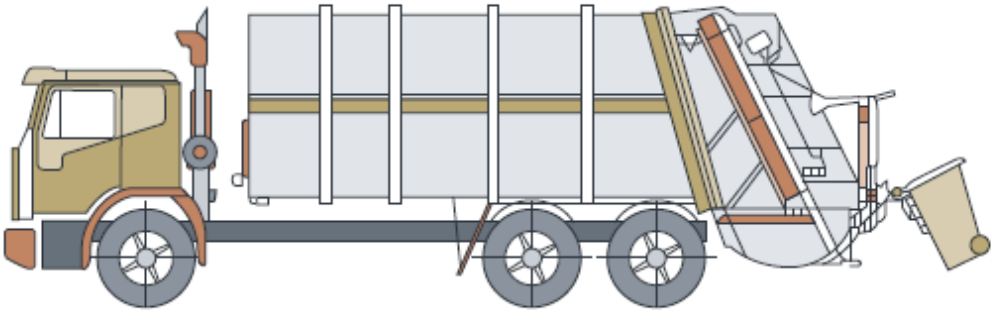
APPENDIX A.3 TYPICAL COLLECTION VEHICLE INFORMATION

Collection vehicles

Waste collection vehicles may be side loading, rear-end loading, front-end loading or crane trucks. The size of vehicle varies according to the collection service. Thus it is impossible to specify what constitutes the definitive garbage vehicle. Developers should consult the local council and/or relevant contractors regarding the type of vehicle used in that area.

The following characteristics represent the typical collection vehicle, however, these are only for guidance.

It may be possible to engage a collection service provider to use smaller collection vehicles to service developments with narrow roadways and laneways, or for on-site collections. However, as the availability of smaller vehicles to make services varies between councils and private contractors, wherever possible the development should be designed to accommodate vehicles of a similar size to that reported below.

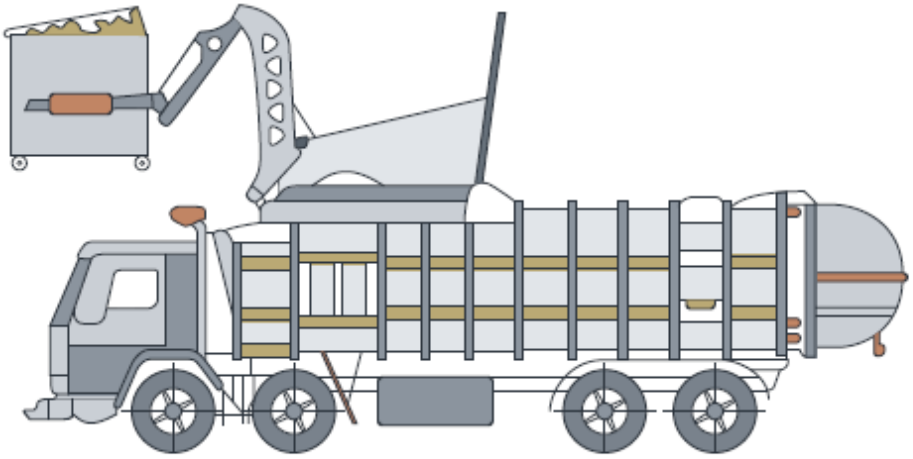


Rear loading collection vehicle

This is commonly used for domestic garbage and recycling collections from MUDs. It can be used to collect waste stored in MGBs or bulk bins, particularly where bins are not presented on the kerbside.

Rear loading collection vehicle	
Length overall	10.24m
Width overall	2.5m
Operational height	3.5m
Travel height	3.5m
Weight (vehicle only)	12.4 tonnes
Weight (payload)	9.5 tonnes
Turning circle	18.0m

Front-lift loading collection vehicle



Front-lift loading collection vehicle	
Length overall	10.52m
Front overhang	1.51m
Wheelbase	5.84m
Rear overhang	3.17m
Turning circle kerb to kerb	22.10m
Turning circle wall to wall	23.66m
Travel height	3.82m
Clearance height for loading	6.1m

This is mainly used for collecting commercial and industrial waste, and is only suitable for bulk bins with front lift pockets (not MGBs).

APPENDIX B WASTE MANAGEMENT EQUIPMENT PROPOSED

APPENDIX B.1 PAPER & CARDBAORD BALER

EF 300VX

The EF300VX is a low height baler making it easy to transport and install with no on site assembly required. It is ideal for volume reduction of medium quantities of plastic and cardboard. EF300VX baler produces bales of cardboard up to 300kg, making it possible to gain revenue on bales. It can be used to bale a range of materials including plastic, plastic film, paper and cardboard.

Benefits:

- Two hand control for safe bale ejection
- Produces up to 300 kg bale cardboard which can be sold
- Visual bale full indicator informs operator when bale is full
- Automatic cycle saves labour time
- Door mounted tape cutter & easy tie system saves time
- Front loaded ropes
- User friendly push button controls
- Robustly constructed for long life
- CE Marked
- IP55 rated so machine can be situated outdoors

Product information

- H x W x D (mm): 1985x1730x1020
- Feed opening (mm): 530x1164
- Weight (kg): 1270
- Cycle Time (sec): 45
- Compaction force(T): 30
- Power Supply (V): Three phase
- Motor (kW): 4
- Noise Level (DBA) 60

Bale Dimensions:

- H x W x D (mm): 800x1200x780
- Bale Weight (kg): Up to 300 (cardboard)

Standard EF300VX is supplied with:

- Hydraulic bale ejection
- 4 rolls of baling cord
- Emergency stop

Optional extras:

- Vandal proof cover
- Electronic bale full indicator

APPENDIX B.2 PLASTICS BALER

EF51

This small footprint baler offers maximum volume reduction for minimum cost and floor space. It produces an excellent bale of cardboard up to 70kg. It can bale a range of materials including loose paper, cardboard and plastic film.

Benefits:

- Low height baler – easy to transport and install
- Produces up to 70kg bale of cardboard
- Automatic cycle saves labour time
- Door mounted tape cutter & easy tie system saves time
- User friendly push button controls
- Robustly constructed for long life
- CE Marked
- IP55 rated so machine can be situated outside

Product information

- HxWxD (mm): 2180x810x810
- Feed opening (mm): 540x720
- Weight (kg): 375
- Cycle Time (sec): 45
- Compaction force(T): 4
- Power Supply (V): 240
- Motor (kW): 1.1
- Noise Level (dBA) 65

Bale Dimensions:

- HxWxD (mm): 600x715x500
- Bale Weight (kg): Up to 70 (cardboard)

Standard EF51 is supplied with:

- Trolley for bale discharge
- 2 rolls of baling cord

Optional extras:

- Vandal proof control cover
- Extra trolley

APPENDIX B.3 POLYSTYRENE THERMAL COMPACTION UNIT

SH-150S

EPS Recycling Densifiers

Our machine is designed and utilised with high volume extrusion technology. Plastic foam scrap is placed into the hopper of the machine where it is crushed into small chunks, then the pieces drop into an auger/screw where the material is heated and extruded into ingot for collection. The process is safe, clean and easy.

Applications

- Mid-sized distribution centers / manufacturers
- Mid-sized electronic recycle & repair centers & more

Why SH 150S

- Cost effective for mid to large-sized operations
- Installable in relatively small space

Pollution control equipment such as scrubbers and filters reduce pollutants released during the incineration process. EPS is safely burned at high temperatures in this process without giving off toxic or environmentally damaging fumes.

Model	SH-150S
Materials	EPS
Processing	LUMP(INGOT)
Cooling	Air Cooling
Capacity(kg/h)	110~130 (abt. 20m³)
Feeder size(WxL)	724 x 500
Dimension(WxLxH)	1,925 x 1,372 x 3000
Electrical Power(kW/h)	19.6 kW
Weight(kg)	1,120
Main Motor	15 kW
Bend Header	2.4 kW
Blower	2.2 kW

Source: IS Recycling - http://is-recycling.com.au/product/sh-150s/

APPENDIX B.4 TYPICAL PUBLIC PLACE BIN

** Products and specifications may change according to manufacturer.*

SOURCE: *SULO Environmental Technology*

APPENDIX B.5 TYPICAL USED COOKING OIL TANK

The VTS 700Lt ECO VACUUM TANK

This Auscol tank comprises a 700L used cooking oil storage tank with versatile system arrangements and on board transfer pump.

The tank is placed on a stand that has adjustable feet for stability on uneven surfaces, allows cleaning access below the tank and a nozzle holder for the hose pipe.

These tanks can be installed indoors within a commercial kitchen, in a back of house location or alternatively they can be stored outdoors in a corral under shelter.

For larger installations a series of tanks can be installed, at one or multiple locations, at your premises in order to efficiently and safely store and remove you're used cooking oil.

VTS 700Lt ECO VACUUM TANK Dimensions

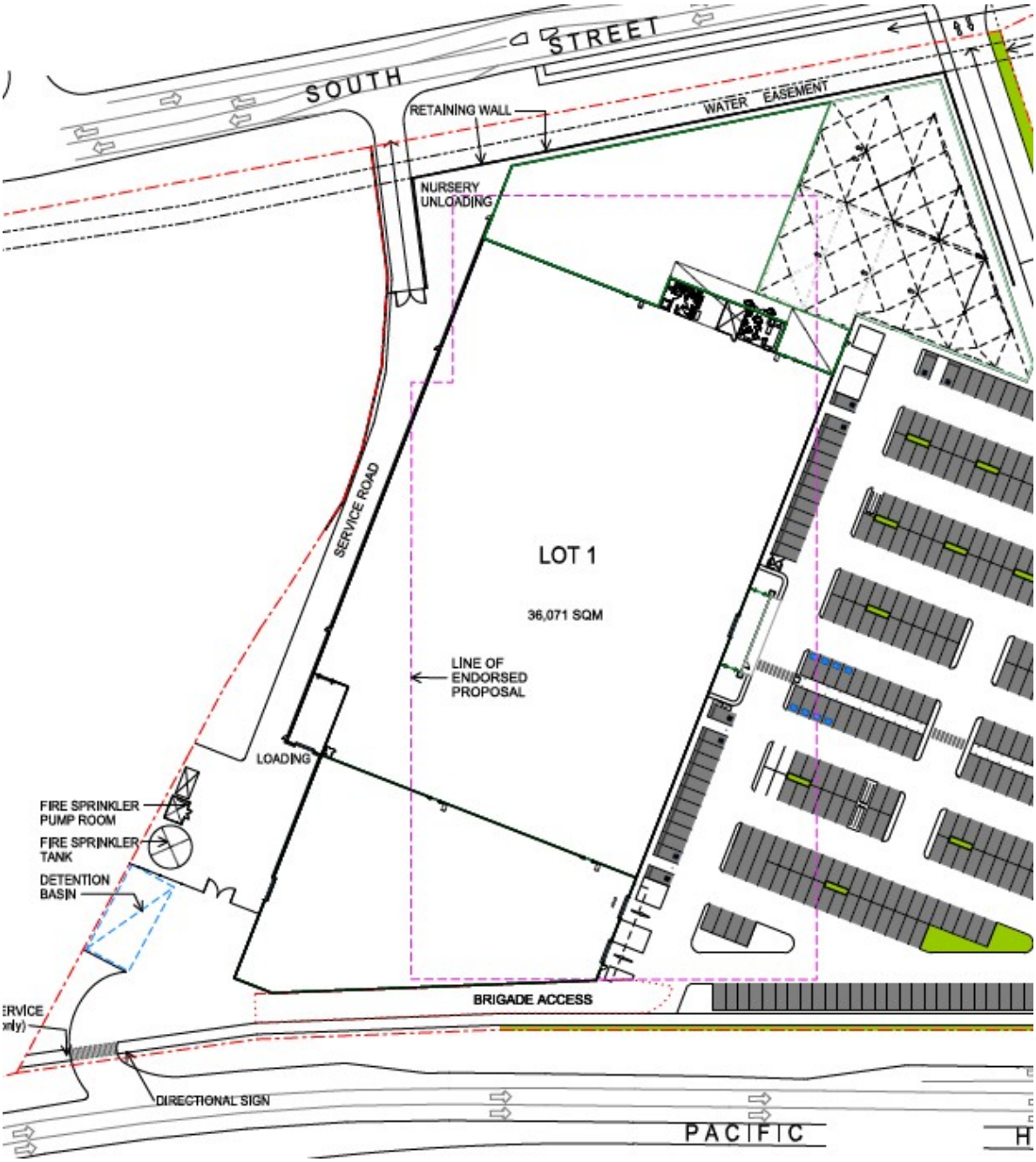
Width 83cm x Height 197 cm (incl. Stand)
Oil Storage Capacity: 700 Litres
Weight Empty: 90kg
Weight Full: 727kg (Estimated)
Weight Stand: 30kg
Power Supply: 10Amp

Optional Extras;

- **Mobile Oil Kaddy**
- **Bund**
- **Pail Stand**

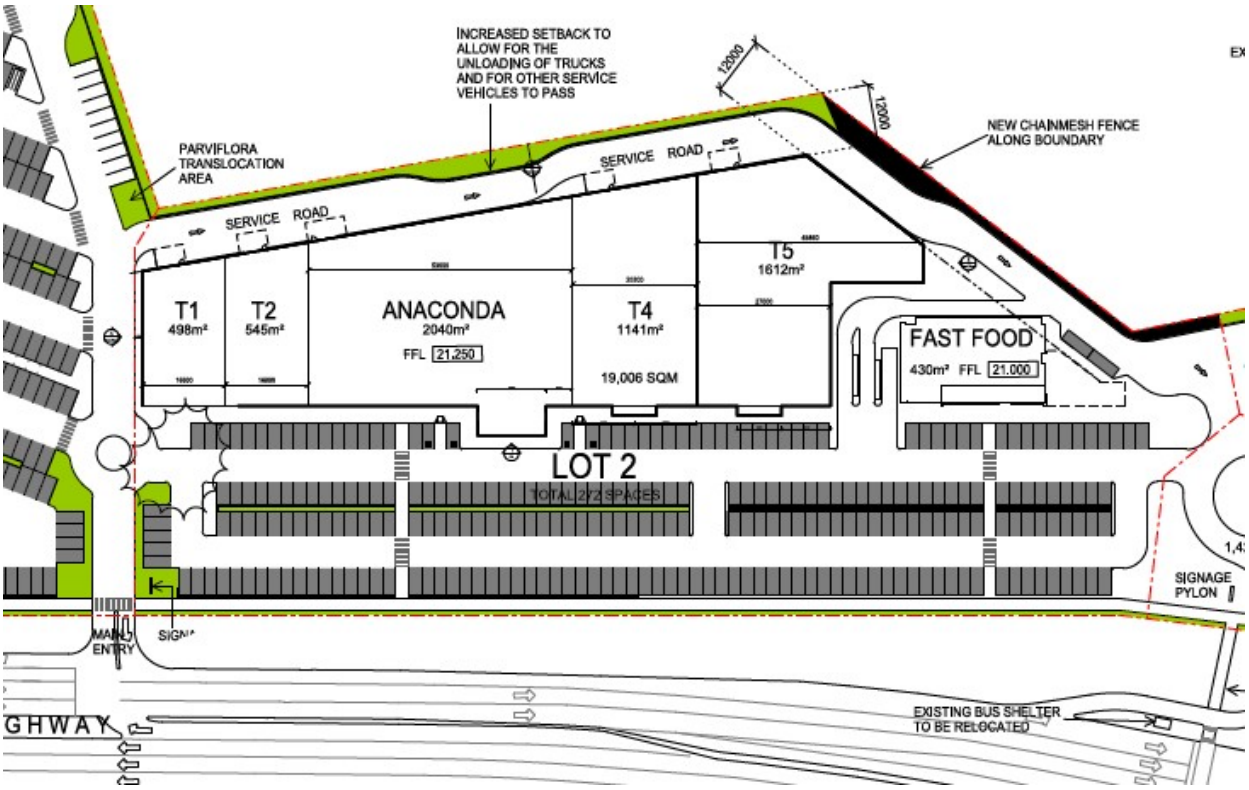
APPENDIX C SITE EXCERPS

APPENDIX C.1 SITE PLAN – LOT 1



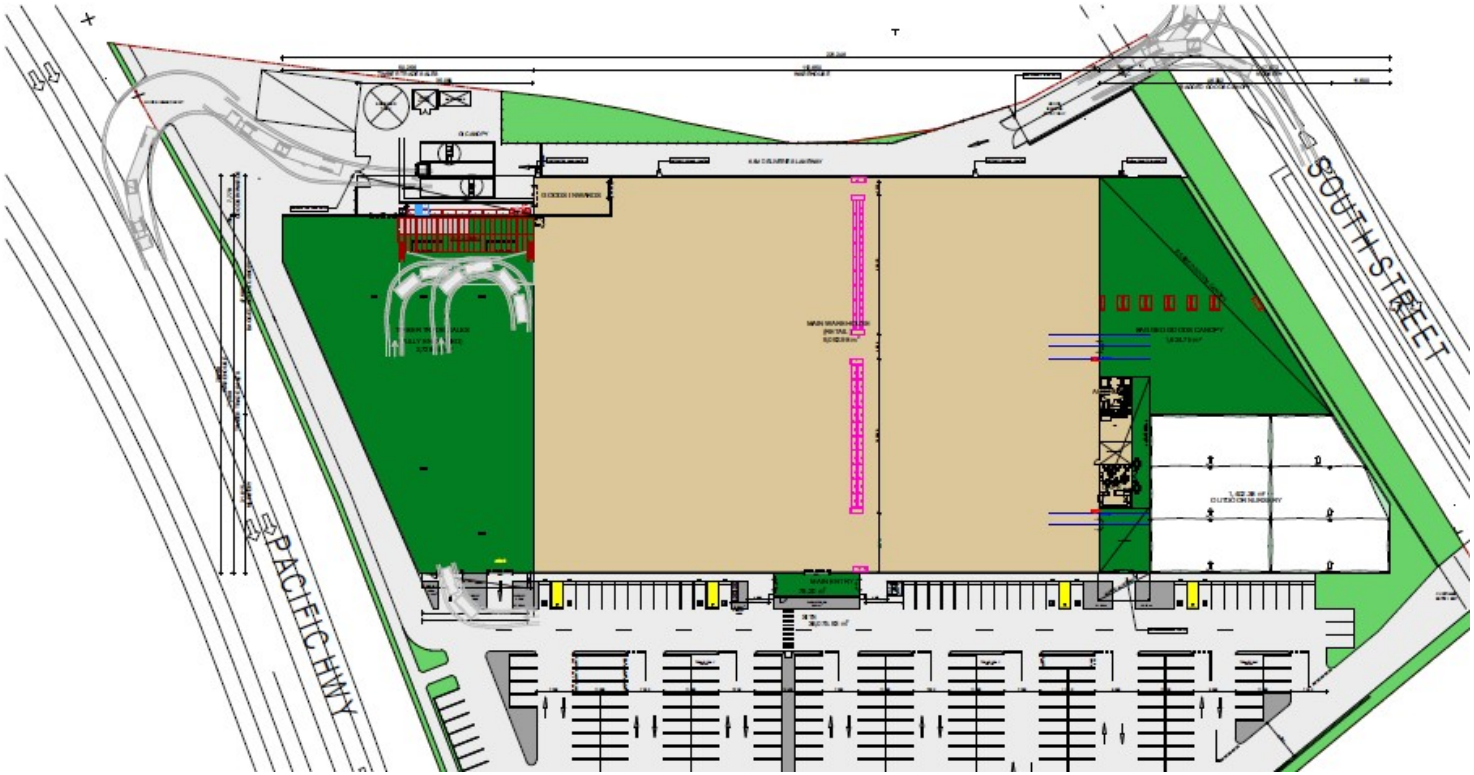
Excerpt: The Buchan Group, Drawing ATP-0200 27/03/17 – Site Plan

APPENDIX C.2 SITE PLAN – LOT 2

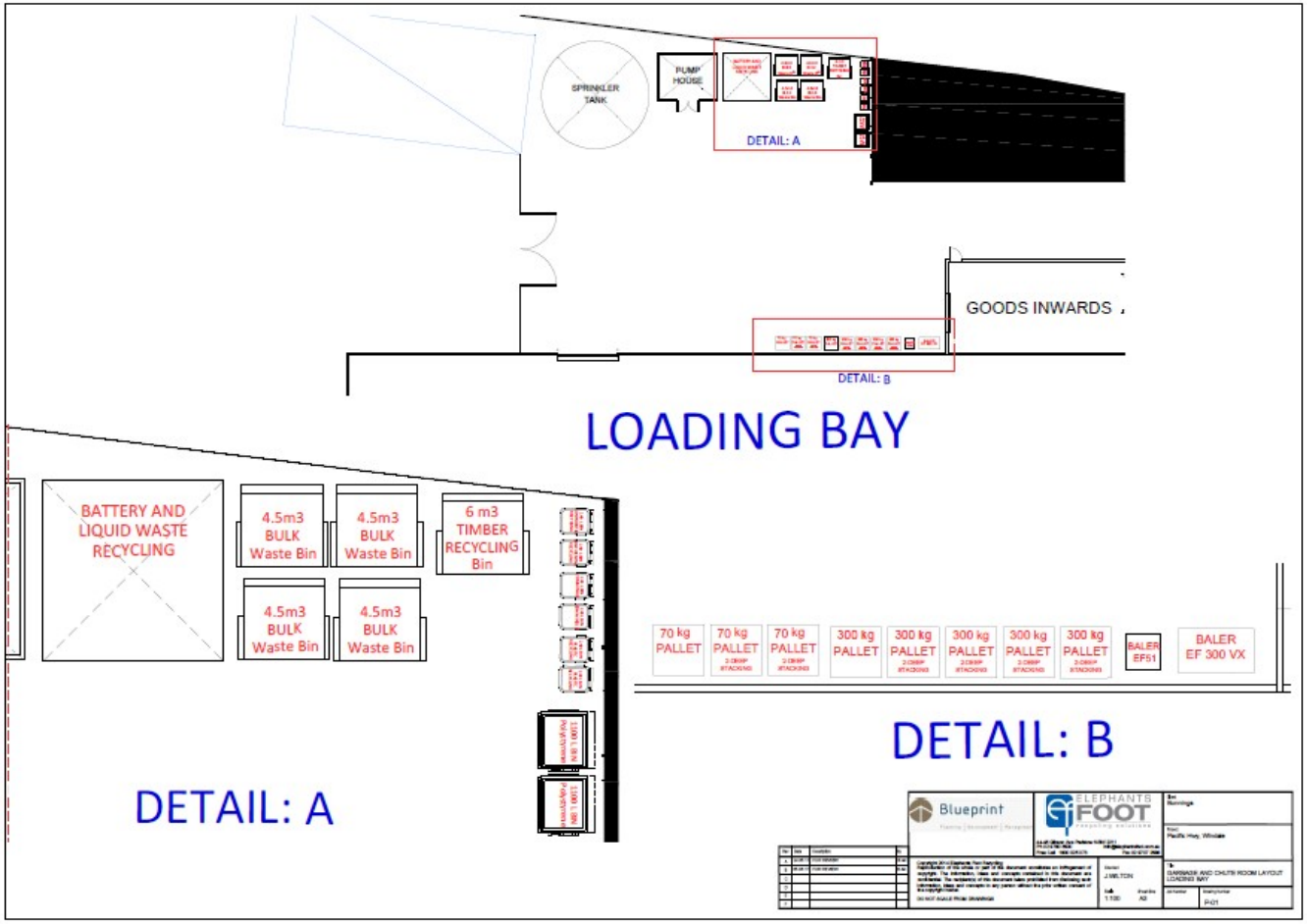


Excerpt: The Buchan Group, Drawing ATP-0200 27/03/17 – Site Pla

APPENDIX C.3 BUNNINGS LOADING AREA



APPENDIX C.4 BUNNINGS LOADING AREA RECOMMENDED DESIGN



APPENDIX C.5 BUNNINGS NURSERY UNLOADING AREA RECOMMENDED DESIGN