Sutherland Entertainment Centre

30 Eton Street, Sutherland NSW 2232

OPERATIONAL WASTE MANAGEMENT PLAN

10/03/2020
Report No. SO422
Revision D

Architect

NBRS Architecture
Level 3, 4 Glen St., Milsons Point, NSW 2061
T 02 9922 2344 • **E** architects@nbrsarchitecture.com

Client

Sutherland Shire Council

ELEPHANTS FOOT RECYCLING SOLUTIONS • ABN 70 001 378 294
44-46 Gibson Ave Padstow NSW 2211
www.elephantsfoot.com.au

T +612 9780 3500 • **F** +612 9707 2588
E info@elephantsfoot.com.au

SCOPE

This operational waste management plan (OWMP) only applies to the **operational** phase of the proposed development; therefore, the requirements outlined in this OWMP must be implemented during the operational phase of the site and may be subject to review upon further expansion for, and/or changes to the development.

The waste management of the **construction** and **demolition** phases of the development are *not* addressed in this document. The Construction and Demolition Waste Management Plan (C&D WMP) has been prepared by Elephants Foot Recycling Solutions (EFRS) in a separate report.

REVISION REFERENCE

Revision	Date	Prepared by	Reviewed by	Description
A	27/11/2019	W. Brunson	A. Armstrong	Draft
B	18/02/2020	W. Brunson	A. Armstrong	Amendment
C	3/03/2020	W. Brunson	A. Armstrong	Amendment
D	10/03/2020	W. Brunson	A. Armstrong	Final

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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 strapping
Chute	A ventilated, vertical pipe passing from floor to floor of a building with openings as required to connect with hoppers and normally terminating at its lower end at the roof of the central waste room(s)
Chute Discharge	The point at which refuse exits from the refuse chute
Chute Discharge Room	A secure, enclosed area or room housing the discharge and associated equipment for the refuse chute
Collection Area/Point	The identified position or area where garbage or recyclables are actually loaded onto the collection vehicle
Compactor	A machine for compressing waste into disposable or reusable containers
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)
Green Waste	All vegetated organic material such as small branches, leaves and grass clippings, tree and shrub pruning, plants and flowers
Hopper	A fitting into which waste is placed and from which it passes into a chute or directly into a waste container. It consists of a fixed frame and hood unit (the frame) and a hinged or pivoted combined door and receiving unit
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)
LRV	Large rigid vehicle described by AS 2890.2-2002 Parking facilities – Off-street commercial vehicle facilities as heavy rigid vehicle (HRV)
Mobile Garbage Bin(s) (MGB)	A waste container generally constructed of plastic with wheels with a capacity in litres of 120, 240, 360, 660, 1000 or 1100
MRV	Medium rigid vehicle
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
SRV	Small rigid vehicle as in AS 2890.2-2002 Parking facilities – Off-street commercial vehicle facilities, generally incorporating a body width of 2.33

INTRODUCTION

Elephants Foot Recycling Solutions (EFRS) has been engaged to prepare the following waste management plan for the operational management of waste at the Sutherland Entertainment Centre located at 30 Eton St., Sutherland NSW.

Waste management strategies and audits are requirements for new developments to provide support for the building design and to promote strong sustainability outcomes for the building as well. It is EFRS's belief that a successful waste management strategy contains three key objectives:

i. ***Promote responsible source separation*** to reduce the amount of waste that goes to landfill by implementing convenient and efficient waste management systems.

ii. ***Ensure adequate waste provisions and robust procedures*** that will cater for potential changes during the operational phase of the development.

iii. ***Comply*** with all relevant council codes, policies, and guidelines.

To achieve these objectives, this OWMP identifies the different waste streams likely to be generated during the operational phase of the development. Associated information includes: how the waste will be handled and disposed, details of bin sizes/quantities and waste rooms, descriptions of the proposed waste management equipment used, and information on waste collection points and frequencies.

It is essential that this waste management plan is integrated into the overall management of the building and is clearly communicated to all relevant stakeholders.

REPORT CONDITIONS

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

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

This OWMP is only finalised once the Draft Watermark has been removed. If the Draft Watermark is present, the information in the OWMP is not confirmed.

DEVELOPMENT SUMMARY

The proposed development falls under the Local Government Area (LGA) of Sutherland Shire Council, and consists of one building with two levels above ground and one basement level. The main function of this development is to provide an entertainment venue including a stage, audience seating, food & beverage, dressing rooms, and office space.

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

SITE LOCATION

The site is located at 30 Eton Street, Sutherland NSW as shown in Figure 1. The site has frontage to Eton Street and Merton Street, with access via Eton Street and Merton Street.

Figure 1: Site Location

SUTHERLAND SHIRE COUNCIL

The recommended waste management facilities and operations in the OWMP are guided by the services and acceptance criteria of Sutherland Shire Council. All waste facilities and equipment are to be designed and constructed to comply with the *Sutherland Shire Environmental Specification 2017,* the *Sutherland Shire Council Domestic Waste Service Policy,* as well as Australian Standards and statutory requirements.

COUNCIL OBJECTIVES

Sutherland Shire Council aims to improve the design and functionality of waste management systems within new developments. To accomplish this, Council's objectives include:

- Ensuring appropriate waste storage collection facilities;
- Maximising source separation and recovery of recyclables;
- Ensuring waste management systems are intuitive for occupants and are readily accessible;
- Ensuring appropriate resourcing of waste management systems, including servicing;
- Minimising risk to health and safety associated with waste management;
- Discouraging illegal dumping by providing on-site storage and removal services;
- Enabling collection service providers to efficiently collect waste and recyclables with minimum disruption and impact on the community;
- Ensuring bin storage areas do not dominate the streetscape;
- Assisting in achieving the State Government waste minimisation targets as set out in the Waste Avoidance and Resources Recovery Act 2001 and NSW Waste Avoidance and Resource Recovery Strategy 2014-21.

BETTER PRACTICE GUIDELINES

Access – Ensure waste systems are easy to use and collection vehicles are able to access buildings to safely remove waste and recycling;

Safety – Ensure safe practises for storage, handling and collection of waste and recycling;

Pollution Prevention – Prevent stormwater pollution that may occur as a result of poor waste storage and management practises;

Noise Minimisation – Provide acoustic insulation to the waste service facilities or residential units adjacent to or above chutes, waste storage facilities, chute discharge, waste compaction equipment and waste collection vehicle access points;

Ecologically Sustainable Development (ESD) – Promote the principles of ESD through resource recovery and recycling leading to a reduction in the consumption of finite natural resources;

Hygiene – Ensure health and amenity for residents, visitors and workers in Sutherland Shire Council.

WASTE MANAGEMENT PRINCIPLES

Waste avoidance, recovery and reuse of discarded materials are important elements of sustainable development. Planning for effective waste management practices in new developments significantly improves environmental, social, and economic outcomes on both a local and regional scale. Managing waste and valuing the materials that are disposed of can help:

Support the economy by generating jobs in the recycling industry and saving money through resource recovery;

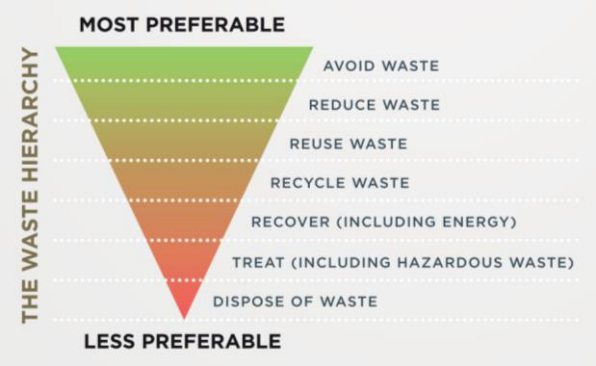
Reduce environmental impacts by controlling litter, illegal dumping, and other potential contaminants of land and water, and;

Protect the health of our communities by reducing odour, noise, dust, vermin, and exposure to toxic substances.[1]

CONCEPTS

Aiming to achieve the targets set by NSW is everyone's responsibility, and the waste hierarchy is a common reference to guide society in the most preferable to least preferable waste management practices. The figure below illustrates this concept.[2]

Figure 2: The Waste Hierarchy



The choices individuals make in purchasing, using, and disposing of products is central to improving the way waste is managed in Australia. It is the responsibility of the building caretaker to integrate management principles that adhere to the following waste hierarchy:

Avoid waste by purchasing products with excessive or unnecessary packaging;

Reduce waste by repairing or reusing items instead of discarding them;

Reuse items and choose to purchase products that can be used multiple times;

Recycle materials by sorting waste properly in recycling and compost bins and purchasing items that are easily recyclable and include recycled content.

In terms of waste disposal, operational facilities that manage general waste items will ideally recover energy from the waste first, before treating and disposing of the waste in a landfill.

[1] NSW Environment Protection Authority. *NSW Waste Avoidance and Resource Recovery Strategy 2014-2*.

[2] Australian Government, Department of the Environment and Energy. *National Waste Policy. Less Waste, More Resources. 2018*.

STAKEHOLDER ROLES AND RESPONSIBILITIES

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

Table 1: Stakeholder Roles and Responsibilities

Roles	Responsibilities
Strata/Management	• Ensuring that all waste service providers submit monthly reports on all equipment movements and waste quantities/weights; • Organising internal waste audits/visual assessments on a regular basis; and • Manage any non-compliances/complaints reported through waste audits.
Building Manager or Waste Caretaker	• Ensuring effective signage, communication and education is provided to occupants, tenants and cleaners; • Providing staff/contractors with equipment manuals, training, health and safety procedures, risk assessments, and PPE to control hazards associated with all waste management activities; • Ensuring site safety for residents, children, visitors, staff and contractors; • Abiding by all relevant OH&S legislation, regulations, and guidelines; • Assessing any manual handling risks and prepare a manual handling control plan for waste and bin transfers; • Preventing storm water pollution by taking necessary precautions (securing bin rooms, preventing overfilling of bins) • Cleaning and transporting of bins as required; • Organising, maintaining and cleaning the general and recycled waste holding area; • Organising both garbage and recycled waste pick-ups as required; • Organising replacement or maintenance requirements for bins; • Organising bulky goods collection when required; and • Investigating and ensuring prompt clean-up of illegally dumped waste materials.
Tenants and Staff	• Dispose of all garbage and recycling in the allocated MGBs provided; • Ensure adequate separation of garbage and recycling; and • Compliance with the provisions of Council and the WMP.
Private Waste Contractor	• Provide a reliable and appropriate waste collection service; • Provide feedback to building managers/residents in regard to contamination of recyclables; and • Work with building managers to customise waste systems where possible.
Gardening/Landscaping Contractor	• Removal of all garden organic waste generated during gardening maintenance activities for recycling at an offsite location.
Building Contractors	• Removing all construction related waste offsite in a manner that meets all authority requirements.

EDUCATION

Building management is responsible for developing and managing waste education throughout the development.

Educational materials encouraging the correct separation of general waste and recyclables must be provided to each staff member and performance group to ensure correct disposal, including bulky goods such as furniture, appliances, and electronics. It is recommended that information is provided in multiple languages to support correct practices and minimise the possibility of contamination in the collective waste bins.

SIGNAGE

The building manager/caretaker is responsible for waste room signage including safety signage (see APPENDIX B.2). Appropriate signage must be prominently displayed on doors, walls and above all bins, clearly stating what type of waste or recyclables is to be placed in the bin.

WASTE MANAGEMENT

The waste generation rates used in Table 2 have been advised by the NSW EPA's *Better practice guide for resource recovery in residential developments 2019.*

It is the responsibility of the building manager to monitor the number of bins required for the development. As such, bin types and quantities may require modification to accommodate actual waste generation rates.

ESTIMATED WASTE VOLUMES AND PROVISIONS

The following table shows the estimated volume (L) of general waste and recycling generated by the development. A seven-day operating week has been assumed.

Table 2: Estimated Waste Generation

Location	Type of Use	GFA m^2	Garbage Generation Rate ($L/100m^2/Day$)	Generated Garbage (L/Week)	Recycling Generation Rate ($L/100m^2/Day$)	Generated Recycling (L/Week)
B	Office	10	10	7	15	11
L1	Bar/food	95	100	665	120	798
L1	Foyer food service	70	100	490	120	588
L1	Office	32	10	22	15	34
L1	Dressing room	43	10	30	15	45
L1	Theatre seating	345.1	5	121	10	242
L1	Green Room - staff lounge	23	10	16	15	24
L2	Dressing room	146	10	102	10	102
L2	Theatre seating	160.1	5	56	10	112
TOTALS		**924.2**		**1510**		**1955**
Collections			Garbage Bin Size (L)	240	Recycling Bin Size (L)	240
			Garbage Bins/Wk	6.3	Recycling Bins/Wk	8.1
			Garbage Collections/Wk	1	Recycling Collections/Wk	1
			Total Garbage Bins	**7**	Total Recycling Bins	**9**

JUSTIFICATION OF WASTE GENERATION RATES

The kitchen located in the function terrace provides beverages and light meal service. The café waste generation rate is used for this activity.

It is also anticipated that the new development will continue to provide beverages and pre-made food to patrons in the foyer area (appx. 70m2 of the 214m2 corridor). For this activity the café waste generation rate is also used.

The dressing rooms will generate some waste and recyclables from the performers backstage. The waste generation rate for offices is used for this activity.

Lastly, the green room is designated as a staff lounge area with a small kitchenette provided. For this area the office waste generation rate is also used.

BIN SUMMARY

Based on the estimated volume of waste generated by the entertainment centre activities, the recommended bin quantities and servicing frequencies are as follows:

General Waste: 7 x 240L MGBs collected **1 x weekly**

Recycling: 9 x 240L MGBs collected **1 x weekly**

It is recommended that at least 5 x 240L bins are dedicated for the collection of paper and cardboard, and remainder of the recycling bins are used for the collection of commingled recyclables.

This quantity, collection frequency, and kerbside collection of bins is consistent with the current waste management strategy at the site.

Bin sizes, quantities, and/or collection frequencies may be modified by the building manager once the proposed development is operational.

WASTE DISPOSAL PROCEDURES

Public place bins for general waste and recyclables will be provided in reception areas and foyers, as well as other public spaces throughout the theatre such as lobbies and lounge areas. Bins for general waste and recyclables will also be located in backstage dressing rooms, staff offices, and kitchen areas.

Food handling for cooked or prepared food that is served and consumed on site will produce a typical waste composition of food scraps from plates, packaging waste and some plastics. Food staff will be responsible for their own back of house (BOH) waste management during daily operations.

On completion of each trading day or as required, nominated staff or contracted cleaners will transport all general waste and recycling to the Waste Storage Room and place into the appropriate collection bins (see APPENDIX A.1). Waste will not be compacted, and recyclables are not baled.

To ensure the proper management and disposal of waste, tenants must be made aware of the following practices:

- All general waste should be bagged, and garbage bins should be plastic-lined;
- Bagging of recyclables is not permitted;
- All interim waste storage is located BOH during operations;
- 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;
- All flattened cardboard will be collected and removed to the allocated storage bin.

SOURCE SEPERATION

Ideally, building management will encourage staff members, patrons, and performers to avoid and minimise waste where feasible. This may be supported by:

1. Reducing printed marketing materials such as flyers and brochures
2. Reducing the availability of single-use food and beverage to be purchased on site

In instances where waste generation is unavoidable, then materials should be segregated and managed to encourage resource recovery. The following outlines how a common waste streams may be managed on site.

GENERAL WASTE (GARBAGE)

Waste bins will be placed in convenient locations for public and back of house use. General waste should be wrapped or bagged to prevent leakage or litter. Refer to Council guidance for the types of materials that are accepted in the general waste stream.

RECYCLING

Recycling bins should be located next to each general waste bin to encourage resource recovery. ***Recycling must not be bagged***, and instead must be loosely placed in the recycling bins. Refer to Council guidance for the types of materials that are accepted in the recycling streams.

KITCHEN, OFFICE TEA ROOMS AND FOOD PREPARATION AREAS

Any food preparation area, including kitchens and office tea rooms, will be provided with general waste and recycling bins. Cleaners or nominated staff will be responsible for monitoring these bins and emptying them as required.

BULKY & PROBLEM WASTE

A space will be made available in the Waste Storage Room for the temporary storage of bulky items and problem waste for reuse, recycling, or disposal. Such items may include unwanted furniture, textiles, stage props, electronic waste, and/or bulky cardboard. The doorway should be wide enough to accommodate easy movement of bins and large waste items in and out of the room.

FOOD WASTE

It is recommended that separating and collecting food waste is considered for future operations.

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.

WASTE COLLECTION PROCEDURES

Since this development will be owned and operated by Sutherland Shire Council, it is anticipated that Council's collection contractor will collect the waste generated from site per an agreed schedule.

Prior to servicing, the building caretaker will be responsible for removing the bins from the Waste Storage Room and placing on the kerbside along Merton Street.

On service day, a waste or recycling collection vehicle will temporarily park on the kerbside of Merton Street in front of the development and service the bins. Once the bins have been serviced, the building caretaker will then transport the bins to the Waste Storage Room to resume operational use.

BIN COLLECTION AREA

It is EFRS' understanding that the collection areas have been reviewed by a traffic consultant to confirm the swept paths, load requirements and clearances for waste collections. It must be ensured that that the collection vehicle (and other trucks if required) meet any other traffic specifications required by Sutherland Shire Council.

WASTE ROOM AREAS

It is recommended that the Waste Storage Room is arranged so that bins are always accessible to the users without moving any other bins. This is to ensure the safety of the staff and cleaners accessing this room to dispose of waste and recycling.

The areas allocated for waste storage and collection are detailed in the table below. It should be noted that these are estimates only, and final areas will depend on room and bin layouts.

Table 3: Waste Room Areas

Location	Waste Room Type	Bins/Equipment	Estimated Area Required	Actual Area Allocated
B	Waste Storage Room	7 x 240L MGBs for general waste 5 x 240L MGBs for paper/cardboard recycling 4 x 1100L MGB for commingled recycling	15m^2	17m^3
	Bulky Goods	NA		

The Waste Storage Room has been calculated based on the space required for 16 x 240L MGBs with approximately 60% of bin GFA factored in for manoeuvrability. Approximately 4m^2 of extra space for bulky goods has been included in the estimated area.

WASTE ROOMS

CONSTRUCTION REQUIREMENTS

Waste room construction must comply with the minimum standards as outlined in the *Sutherland Shire Environmental Specification 2017* in order to minimise odours, deter vermin, protect surrounding areas, and make it a user-friendly and safe area.

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

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

ADDITIONAL CONSIDERATIONS

- Waste room floor to be sealed with a two pack epoxy;
- All corners coved and sealed 100mm up, this is to eliminate build-up of dirt;
- Tap height and light switch height of 1.6m;
- Storm water access preventatives (grate);
- All walls painted with light colour and washable paint;
- Equipment electric outlets to be installed 1700mm above floor levels;
- The room must be mechanically ventilated;
- Optional automatic odour and pest control system installed
- If 660L or 1100L bins are utilised, 2 x 820mm (minimum) double-doors must be used;
- All personnel doors are hinged, lockable and self-closing;
- Conform to the building code of Australia, Australian standards and local laws; and
- Childproofing and public/operator safety shall be assessed and ensured

VENTILATION

Waste and recycling rooms must have their own exhaust ventilation system either;

- Mechanically - exhausting at a rate of 5L/m² floor area, with a minimum rate of 100L/s minimum; 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.

USEFUL CONTACTS

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

SUTHERLAND SHIRE CUSTOMER SERVICE
Phone: (02) 9710 0333 Email: ssc@ssc.nsw.gov.au

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

CAPITAL CITY WASTE SERVICES (Private Waste Services Provider)
Phone: 02 9399 9999

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

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

NATIONAL ASSOCIATION OF CHARITABLE RECYCLING ORGANISATIONS INC. (NACRO)
Phone: 03 9429 9884 Email: information@nacro.org.au

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

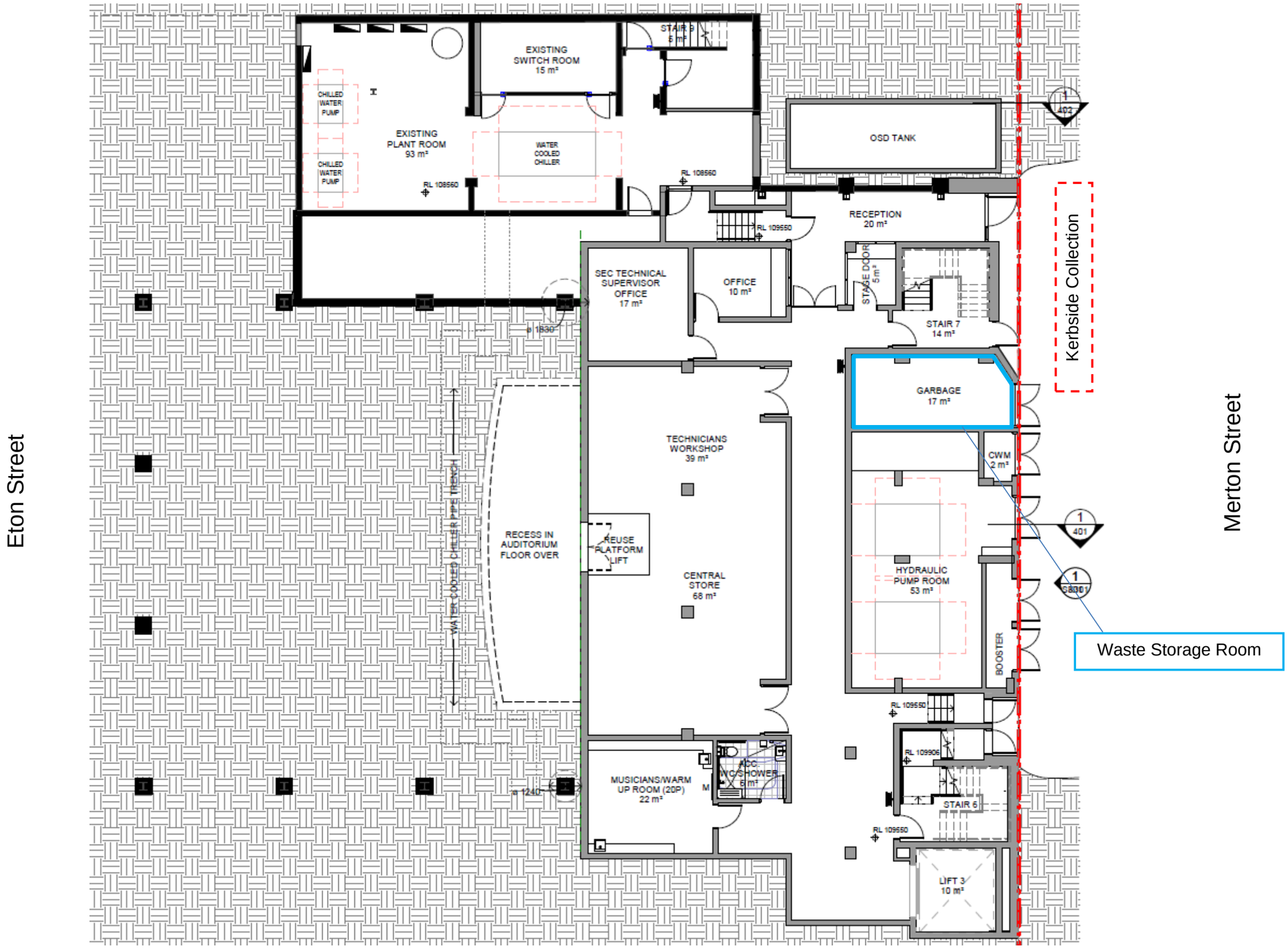
MOVEXX (Bin Movers)
Phone: 1300 763 444

AUSCOL (Recyling Oils & Animal Fats)
Phone: 1800 629 476

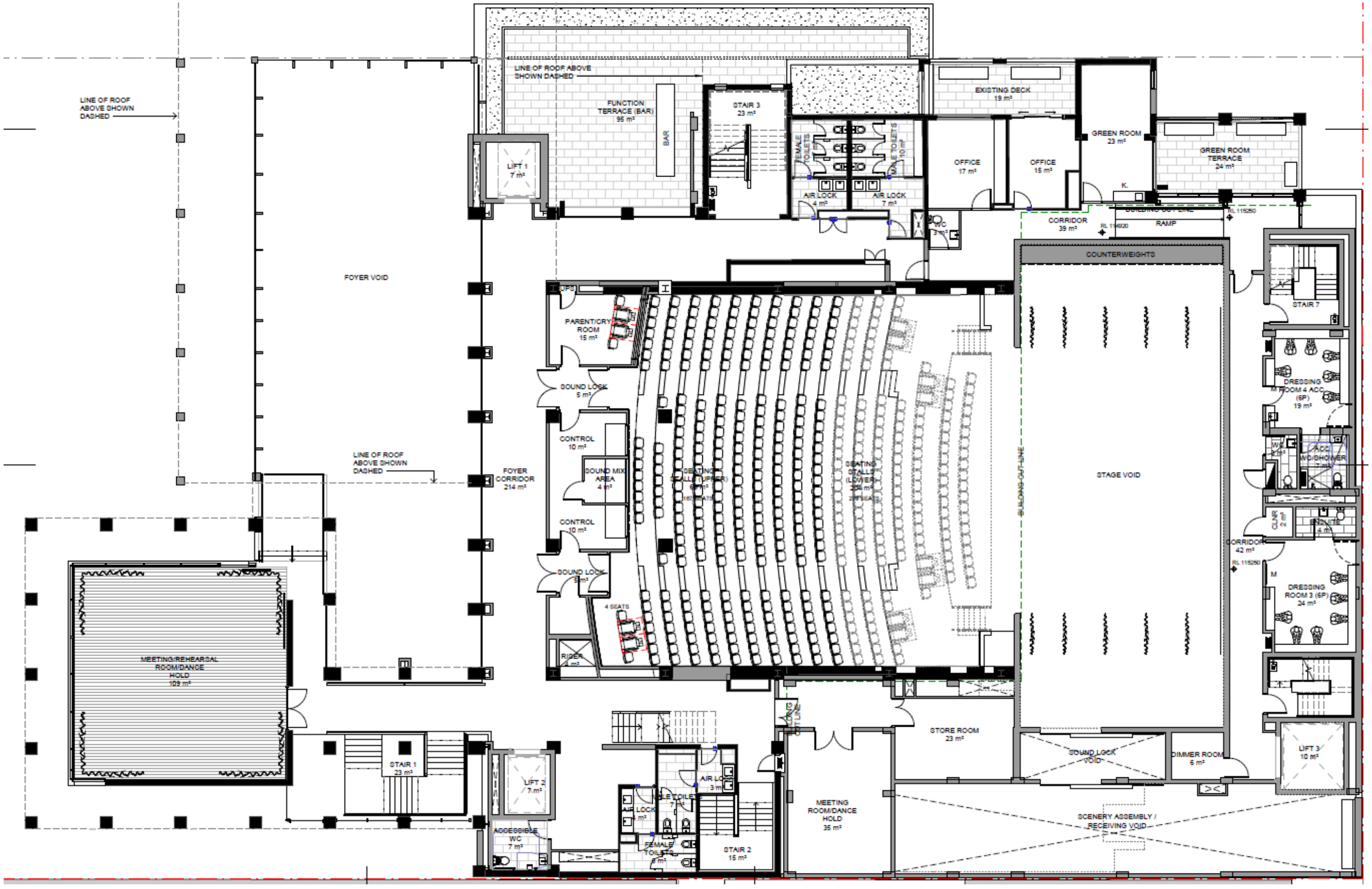
Elephants Foot Recycling Solutions (Chutes, Compactors and eDiverter Systems)
44 – 46 Gibson Avenue
Padstow NSW 2211
Free call: 1800 025 073 Email: info@elephantsfoot.com.au

APPENDIX A. ARCHITECTURAL DRAWINGS

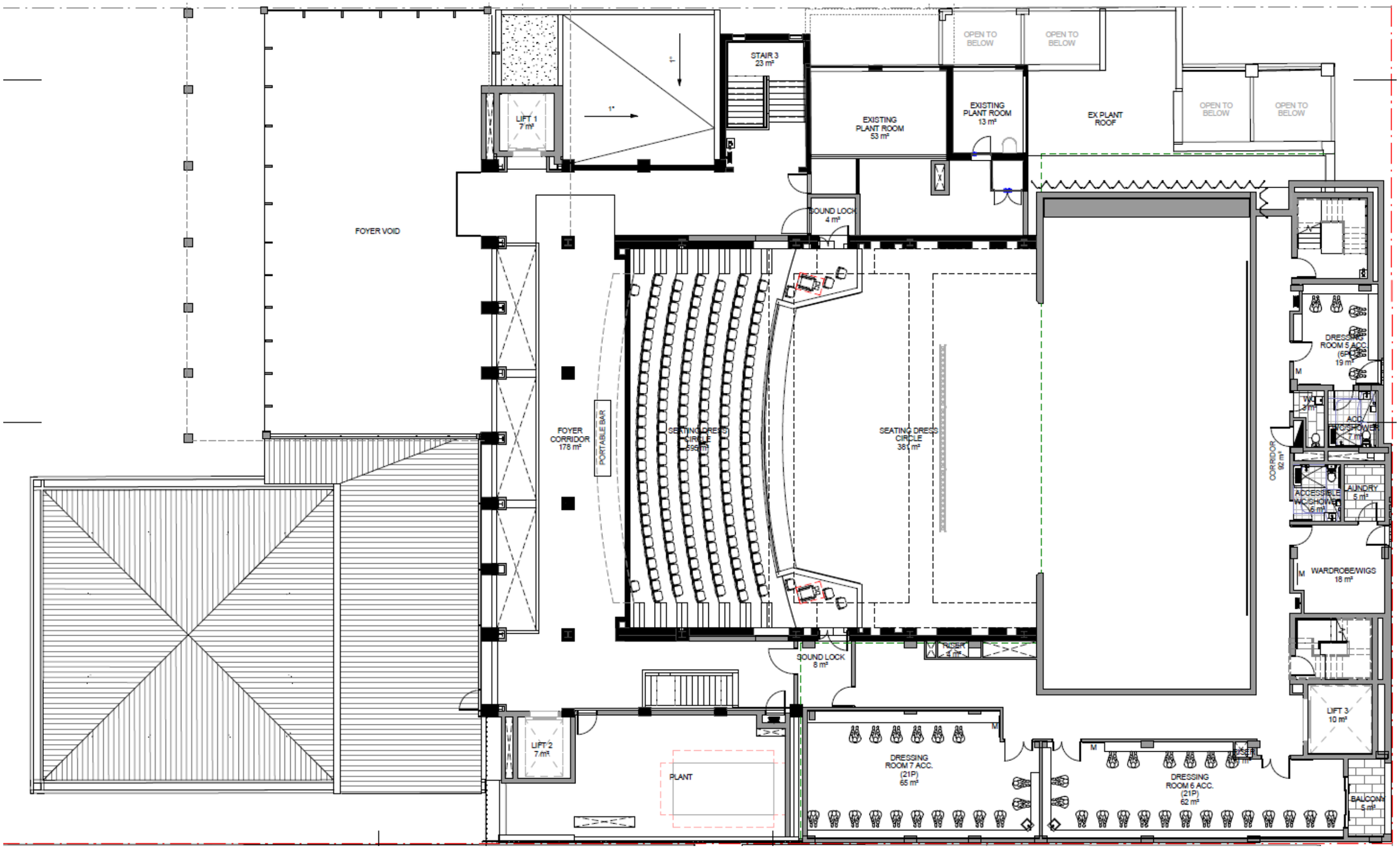
APPENDIX A.1 FLOOR PLAN: BASEMENT LEVEL



APPENDIX A.2 FLOOR PLAN: LEVEL 1



APPENDIX A.3 FLOOR PLAN: LEVEL 2



APPENDIX B. WASTE PROVISIONS

APPENDIX B.1 TYPICAL BIN SPECIFICATIONS

Mobile bins

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

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

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

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

Wheelie bin

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

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

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

Dome or flat lid container

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

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

SOURCE: Better practice guide for resource recovery in residential developments 2019, NSW Environmental Protection Authority

APPENDIX B.2 SIGNAGE FOR WASTE & RECYCLING BINS

Waste signs

Signs and educational materials perform several functions including:

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

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

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

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

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

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

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

Problem waste signs

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

Figure I2.1: Problem waste signs

Safety signs

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

Figure I3.1: Example safety signs

SOURCE: Better practice guide for resource recovery in residential developments 2019, NSW Environmental Protection Authority

APPENDIX B.3 TYPICAL COLLECTION VEHICLE INFORMATION

General

Appropriate heavy rigid vehicle standards should be incorporated into the road and street designs in new developments where onsite collections are proposed. Road and street designs must comply with relevant Acts, regulations, guidelines, and codes administered by Austroads, Standards Australia, NSW Roads and Maritime Services, WorkSafe NSW and any local council traffic requirements.

Applicants and building designers should consult with councils and other relevant authorities before designing new roads or streets and access points for waste collection vehicles to establish specific design requirements.

Table H4.1: Australian Standards for turning circles for medium and heavy rigid class vehicles

Vehicle class	Overall length (m)	Design width (m)	Design turning radius (m)	Swept circle (m)	Clearance (travel) height (m)
Medium rigid vehicle	8.80	2.5	10.0	21.6	4.5
Heavy rigid vehicle	12.5	2.5	12.5	27.8	4.5

SOURCE: Better practice guide for resource recovery in residential developments 2019, NSW Environmental Protection Authority

APPENDIX B.4 TYPICAL BACK OF HOUSE BINS

APPENDIX B.5 TYPICAL KITCHEN COMPOST BIN

Apartment Style Compost bin – available from hardware stores

Suitable for:

- Vegetables
- Coffee grounds and filters
- Tea and tea bags
- Crushed eggshells (but not eggs)
- Nutshells
- Houseplants
- Leaves
- Cardboard rolls, cereal
- Boxes, brown paper bags
- Clean paper
- Shredded newspaper
- Fireplace ashes
- Wood chips, sawdust,
- Toothpicks, burnt matches
- Cotton and wool rags
- Dryer and vacuum cleaner lint
- Hair and fur
- Hay and straw