Westmead Catholic Community – Parish Works

Parish Centre Development

OPERATIONAL WASTE MANAGEMENT PLAN

21/02/2020
Revision B

Client

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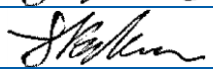
SCOPE

This waste management plan (WMP) only applies to the **operational** phase of the proposed development; therefore the requirements outlined in this WMP 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 report. It is EFRS's understanding that a construction and demolition WMP will be completed by a separate party appointed by the developer, and submitted separately to this report. Typically, the head contractor of the site will be responsible for removing all construction-related waste offsite in a manner that meets all authority requirements.

REVISION REFERENCE

Revision	Date	Prepared by	Reviewed by	Description	Signed
A	22/01/2020	J Parker	A Armstrong	Draft	
B	21/02/2020	J Parker	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
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
Refuse	Material generated and discarded from residential and commercial buildings including general waste, recyclables, green waste and bulky items
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

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INTRODUCTION

This report supports a State Significant Development Application for the Westmead Catholic Community (WCC) at 2 Darcy Road, Westmead.

The WCC project seeks to meet the needs of the growing population within the region by providing upgraded school facilities for Mother Teresa and Sacred Heart Primary Schools, as well as a new Parish church. WCC is a collaboration between the Diocese of Parramatta, the Sisters of Mercy Parramatta and the Marist Brothers.

As the proposal is for the purposes of alterations and additions to an existing school and has a capital investment value in excess of $20 million, it is State Significant Development (SSD) for the purposes of the Environmental Planning and Assessment Act 1979 (the Act). The Parish church is also SSD under clause 8(2)(a) of State Environmental Planning Policy (State and Regional Development) 2011 as it forms part of the proposal which comprises a single, integrated development with significant functional links between the education and church uses.

DEVELOPMENT SUMMARY

The State Significant Development application will seek approval for:

- A primary school with capacity for approximately 1,680 students, to provide expanded facilities for the existing Mother Teresa Primary School on the site and to replace the existing Sacred Heart Primary School at Ralph Street;
- A new Parish church;
- A Catholic early learning centre (fit-out within an existing building);
- New landscaping.

This report concerns only the parish works. Elephants Foot will produce a separate report to address the education works.

EXISTING DEVELOPMENT

The site currently contains three separate schools being the Catherine McAuley Westmead (girls high school) which predominantly occupies the northern part of the site, and the Parramatta Marist High School (boys school) which occupies the eastern part of the site. The Mother Teresa Primary School occupies part of the Catherine McAuley school building in the centre of the site. The southern portion of the site contains open sports fields associated with the Parramatta Marist High School.

The existing Brother's residence is located in the north-eastern corner of the site, and an at grade car park occupies the western part of the site, to the north of the sports fields. Collectively, the three schools currently accommodate approximately 2,637 students and 190 staff.

SITE LOCATION

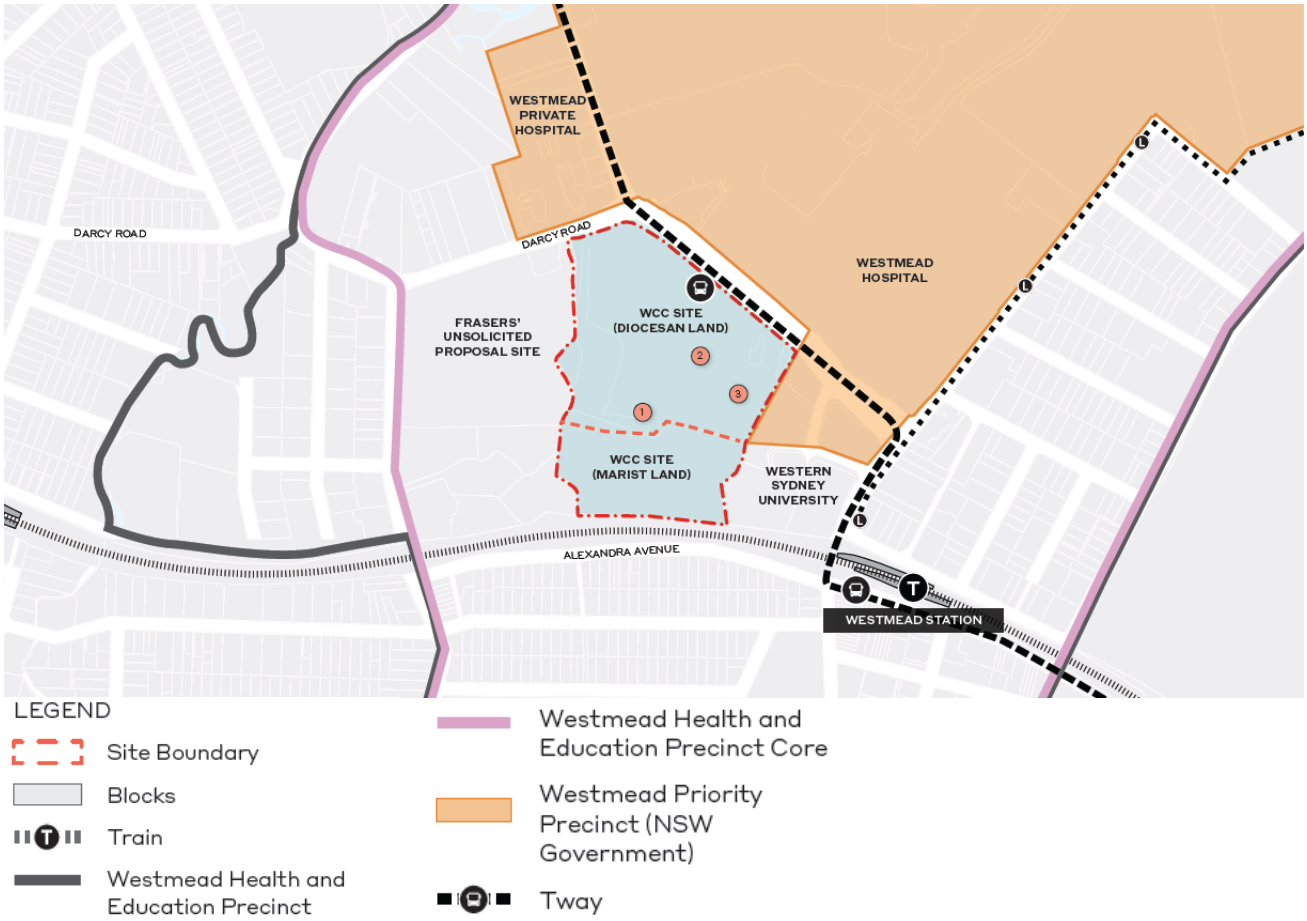
The subject site is located at 2 Darcy Road, Westmead, approximately 2km to the north-west of the Parramatta CBD and approximately 300m to the west of Westmead Train Station. The site is located within the Parramatta Local Government Area (LGA).

The site has an area of approximate 12ha and a frontage of approximately 430m to Darcy Road. The site consists of two lots, which are legally described as Lot 1 in DP1095407, which is owned by the Trustees of the Roman Catholic Church of Parramatta, and Lot 1 in DP1211982, which is under the ownership of the Trustees of the Marist Brothers.

The site is bound by Darcy Road (to the north), the T1 North Shore & Western / T5 Cumberland train lines (to the south), the Western Sydney University Westmead Campus (to the east) and residential uses (to the west).

To the north of the site, across Darcy Road is the Westmead Health and Education Precinct comprising the Westmead Hospital, Westmead Private Hospital and the Western Sydney University Medical Research Institutes. The locational context of the site is shown below.

The Westmead Health and Education Precinct, the WCC site and the surrounding residential land collectively form part of the recently nominated Westmead Priority Precinct Area.



CITY OF PARRAMATTA (PARRAMATTA CITY COUNCIL)

The development is within City of Parramatta juristiction. City of Parramatta is the amalgamation of parts of Parramatta City Council, The Hills Shire Council, Auburn City Council, Holroyd City Council and Hornsby Shire Council. At time of writing this waste management plan, the waste services and associated policies operate under the original council divisions.

Therefore, the garbage and recycling generated by this development will be guided by the services and acceptance criteria of the Parramatta City Council. All waste facilities and equipment are to be designed and constructed to be in compliance with the Parramatta City Council's *Parramatta Development Control Plan 2011,* Parramatta City Council's *Waste Management Guidelines for New Development Applications 2016,* Australian Standards and statutory requirements.

COUNCIL OBJECTIVES

- To reduce the quantity of waste and encourage the recycling of waste generated by demolition and the construction of new developments.
- To encourage building design that will minimise waste generation over the lifetime of the building.
- To ensure that the disposal of waste generated by a building's occupants over its lifetime is managed appropriately, efficiently and provides for maximum recovery, recycle or reuse.
- To ensure that waste storage facilities are located appropriately and do not impact negatively on the streetscape.
- To ensure that waste can be effectively collected and managed.
- To assist in achieving Federal and State Government waste minimisation and resource recovery (landfill diversion) targets.
- To minimise the overall environmental impacts of waste, in line with the principles of Ecologically Sustainable Development (ESD).

COUNCIL REQUIREMENTS

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, waste storage facilities 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 the City of Parramatta.

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
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/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.
Church Patrons, Church Staff and Cleaners	• 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.
Waste Contractor	• Provide a reliable and appropriate waste collection service; • Provide feedback to building managers/residents in regards 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

Management are responsible for creating and managing the waste management education process.

Educational material encouraging the correct separation of garbage and recycling items must be provided to all staff to ensure the correct disposal of waste, including bulky goods (old furniture, large discarded items, etc.) It is recommended that information is provided in multiple languages to support correct practises and minimise the possibility of contamination in the collective waste bins.

LIMITATIONS

The purpose of this report is to document a Waste Management Plan (WMP) as part of a development application and is supplied by Elephants Foot Recycling Solutions (EFRS) with the following limitations:

- Drawings, estimates and information contained in this waste management plan have been prepared by analysing the information, plans and documents supplied by the client, 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 staff 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 equipment and systems must be approved by the supplier.

CHURCH WASTE MANAGEMENT

The Parramatta City Council *Waste Management Guidelines for New Development Applications* (2016) and Department of Environment and Climate Change NSW's *Better Practice Guide for Waste Management in Commercial and Industrial Developments* have been referenced to develop the waste and recycling management strategy for the site.

The waste generation rate for religious premises has been referenced from Randwick City Council's *Waste Management Guidelines for Proposed Developments.*

Calculations are based on generic figures; waste generation rates may differ according to waste management practices in operation.

ESTIMATED WASTE VOLUMES AND PROVISIONS

The following table shows the estimated volume (L) of garbage and recycling generated by the church. A two-day operating week has been assumed for the church and a five-day operating week for the administrative areas following discussions with the operator regarding usage and peak times.

Table 2: Calculated Waste Generation – Church

Type	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)
Church	660	50	660	10	132
Meeting Rooms	128	10	64	15	96
Storage Rooms	16	5	4	10	8
Kitchen Areas	44	100	220	120	264
Office Areas	47	10	24	15	35
TOTAL	**895**		**948**		**500**
Collections and Equipment	Bin Size (L)		240	Bin Size (L)	240
	Garbage Bins Per Week		4	Recycling Bins Per Week	3
	Collections per Week		2	Collections per Week	2
	Total Garbage Bins Required		2	Total Recycling Bins Required	2

During operation, it is the responsibility of the building manager to monitor the number of bins required for the site. Waste and recycling volumes may change according to patron and church staff's attitudes to waste disposal and recycling or the church's site management. Any requirements for adjusting the capacity of the waste facilities may be achieved by altering the number of bins, bin sizes or collection frequencies. Building management will be required to negotiate any changes to bins or collections with the collection service provider.

CHURCH WASTE MANAGEMENT STRATEGY

The church and church facilities will have a waste room holding 240L MGBs for the collection of garbage and recycling.

Receptacles for garbage and recycling will be placed throughout both buildings. It is recommended that bins are placed within each room in convenient locations and in areas of high waste generation.

The cleaners or church staff will circulate around the buildings after hours and perform cleaning tasks. At this time the cleaners or church staff will empty the waste and recycling receptacles into the collection bins located in the waste room.

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.

KITCHENS AND FOOD PREPARATION AREAS

The kitchens and any other food preparation areas will be provided with dedicated source separation bins including a general garbage bin and a recycling bin. The cleaners or church staff will be responsible for monitoring when these bins are at capacity and emptying them into the bulk bins in the waste room as required.

SPECIALITY WASTE STREAMS

The building manager is responsible for making arrangements for the disposal and recycling of specialised waste streams with an appropriate contractor. Specialised wastes cannot be placed in general waste as they can have adverse impacts to human health and the environment if disposed of in landfill. Staff and patrons will need to liaise with management when disposing of specialised waste streams.

Specialised waste streams include:

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

MOVEMENT AND TRANSPORTATION OF BINS

The building manager, cleaners or church staff are responsible for the transportation of waste and recycling bins from their designated operational locations to their respective collection room as required or prior to scheduled collection times and returning them once emptied to resume operational use.

Transfer of waste and all bin movements should minimise manual handling; the operator must assess manual handling risks and provide any relevant documentation to building management. If required the developer should contact a bin-tug, trailer or tractor consultant to provide equipment recommendations.

COLLECTION OF WASTE

A private contractor will be engaged to collect the garbage and recycling bins to an agreed schedule. This report assumes that both waste streams will be collected twice weekly.

On collection days, the contractor's collection vehicle will enter the site from Darcy Road and park outside the bin holding area for collection. The collection staff will collect the bins directly from the waste storage area

After servicing has been completed, the vehicle will leave the site via the same route and in a forward-facing direction.

COLLECTION AREA

It is Elephant Foot's understanding that the collection areas have been reviewed by a traffic consultant to confirm the swept paths, load requirements and clearances for waste collections.

WASTE ROOM AREAS

The areas allocated for waste storage are detailed in Table 3 below. The areas provided are estimates only. Final areas will depend upon room and bin layouts.

Table 3: Waste Room Areas

Level	Waste Room Type	Equipment	Allocated Area (m^2)
G	Waste Room/Collection Area	2 x 240L MGBs (Garbage) 2 x 240L MGBs (Recycling)	7

Note: Any requirement for increasing storage capacity may be met by increasing the frequency of waste collections.

GARBAGE ROOMS

CONSTRUCTION REQUIREMENTS

The garbage room 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 floor to be sealed with a two pack epoxy;
- waste room walls and floor surface is flat and even;
- all corners coved and sealed 100mm up, this is to eliminate build-up of dirt;
- a 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. (Sydney Water);
- tap 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;
- light switch installed at height of 1.6m;
- waste rooms 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 – building management make the decision to install;
- if 660L or 1100L bins are utilised, 2 x 820mm (minimum) door leafs must be used;
- all personnel doors are hinged, lockable and self-closing;
- waste collection area must hold all bins – bin movements should be with ease of access;
- conform to the Building Code of Australia, Australian Standards and local laws; and
- childproofing and public/operator safety shall be assessed and ensured

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 walls and above all bins, clearly stating what type of waste or recyclables is to be placed in the bin underneath.

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.

CITY OF PARRAMATTA CUSTOMER SERVICE
Phone: (02) 9806 5050 Email: council@cityofparramatta.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 9359 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

KOMPACT EQUIPMENT (Equipment & Servicing Provider)
Phone: 1300 566 722 Email: info@kompactequipment.com.au

ELEPHANTS FOOT RECYCLING SOLUTIONS (Chutes, Compactors & eDiverter Systems)
44 – 46 Gibson Avenue
Padstow NSW 2211
Phone: 1300 434 374 Email: wmp@elephantsfoot.com.au

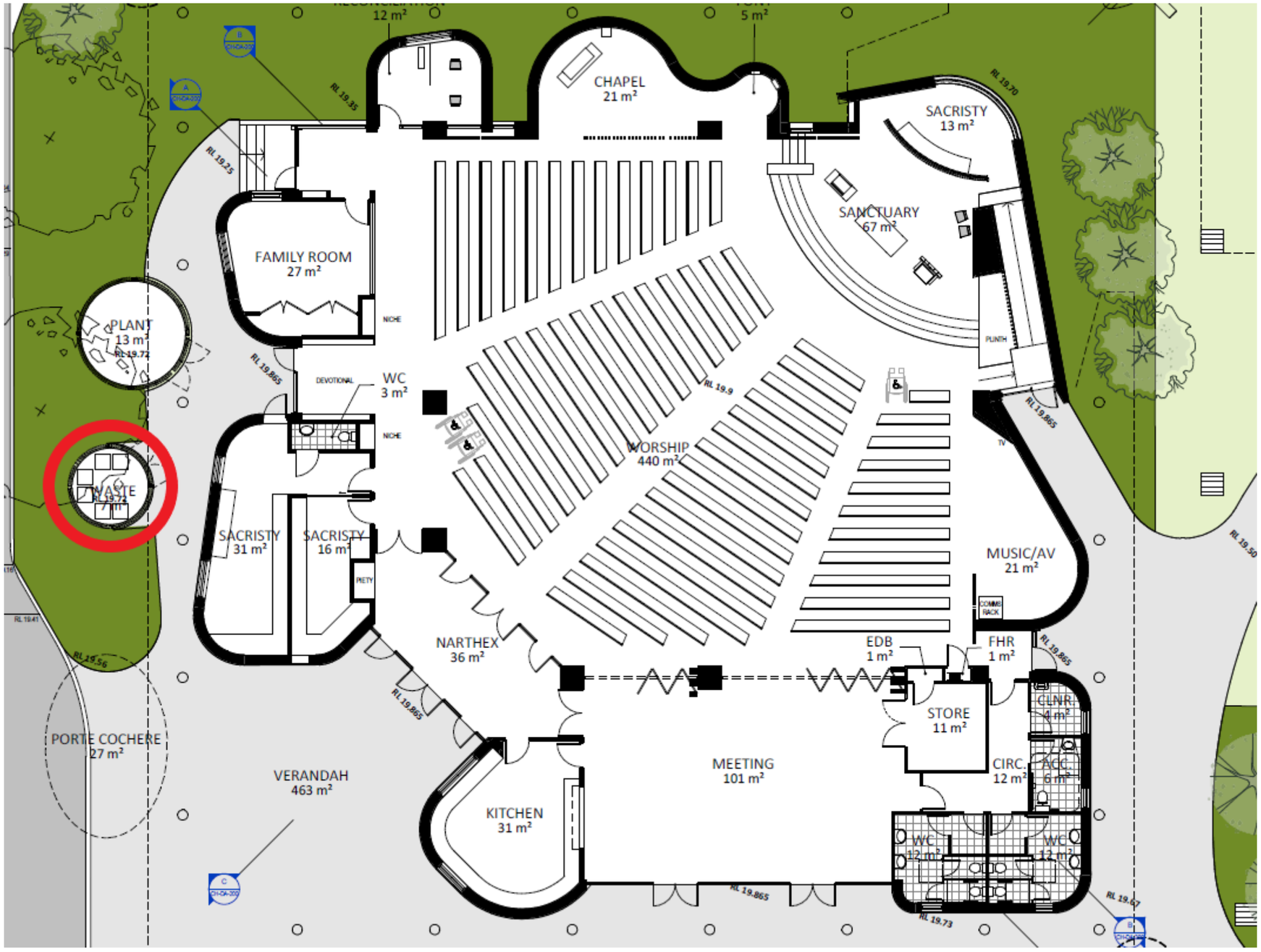
APPENDICES

APPENDIX A ARCHITECTURAL DRAWING EXCERPTS

APPENDIX A.1 SITE PLAN

Source: Alleanza Architecture, Sheet No. CH-DA-001, Iss.A – Site Plan

APPENDIX A.2 WASTE ROOM/COLLECTION AREA



Source: Alleanza Architecture, Sheet No. CH-DA-100, Iss.A – Parish Church Floor Plan

APPENDIX B PRIMARY WASTE MANAGEMENT PROVISIONS

APPENDIX B.1 TYPICAL BIN SPECIFICATIONS

The most common bin sizes are provided below, although not all sizes are shown. These dimensions are a guide only and differ slightly between manufacturers.

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

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

Average dimension ranges for bulk bins over 1700L in capacity

Bulk bins greater than 1700L

Bin capacity)	1m^3	1.5m^3	2m^3	3m^3	4.5m^3	6m^3
Height (mm)	1000	910–1250	865–1000	1020–1580	1440–2014	1650
Depth (mm)	1000	905–1000	1300–1400	1470–1700	1605–1900	1900
Width (mm)	1400	1805–2010	1830–2000	1400–2010	1800–2010	2000
Approximate footprint (m^2)	1.4	1.63–2.01	2.4–2.8	2.1–3.4	2.9–3.8	3.8

Sources include TORO Waste Equipment, SUEZ, Signal Waste, Perth Waste and ACT Industrial

Source: New South Wales Environmental Protection Authority *Better Practice Guide for Resource Recovery* (2019)

APPENDIX B.2 SIGNAGE FOR WASTE & RECYCLING BINS

Waste Signs

Signs for garbage, recycling and organics bins should comply with the standard signs promoted by the EPA (Environmental Protection Authority).

Examples of waste wall posters (EPA supplied)

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.

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.

Example safety signs

Source: New South Wales Environmental Protection Authority *Better Practice Guide for Resource Recovery* (2019)

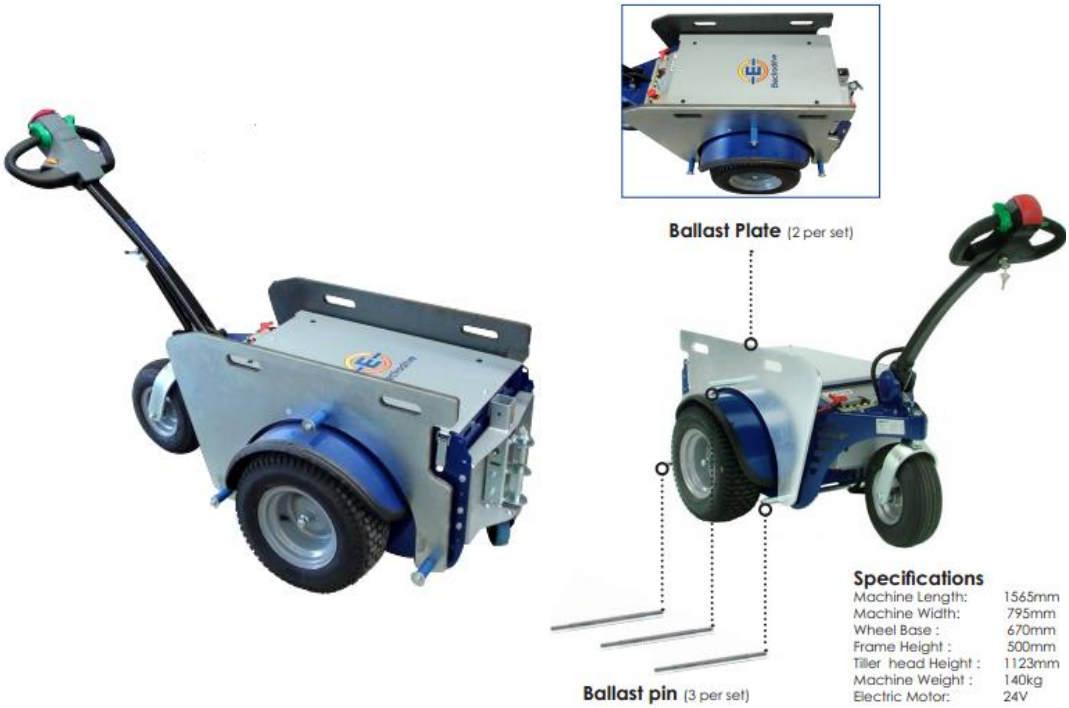
APPENDIX B.3 TYPICAL COLLECTION VEHICLE INFORMATION

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: New South Wales Environmental Protection Authority *Better Practice Guide for Resource Recovery* (2019)

APPENDIX B.4 TYPICAL MOTORISED BIN TUG



Typical applications:

- Move trolleys, waste bin trailers and 660/1100L bins up and down a ramp incline.
- Quiet, smooth operation with zero emissions and simple to use, no driver's licence required
- Suitable for:
    - High rise building & apartment basements
    - Large factories & warehouse with sloped ground
    - Caravan parks & other large outdoor areas

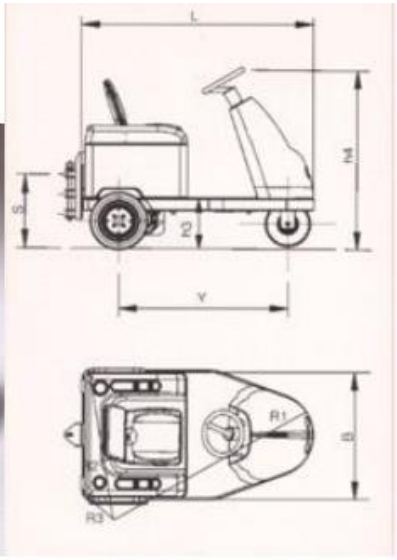
Features:

- 1 tonne tow capacity of inclines up to 8 degrees
- 500kg tow capacity if inclines up to 14 degrees
- CE Compliant
- 4.5 km/h max speed
- 2 x 80amp batteries – includes charger
- Powerful transaxle
- Hitch to suit 660L bins

Safety Features:

- Intuitive paddle lever control
- Stops and repels the unit if activated when reversing.
- Site assessment recommended to assess ramp incline steepness *(See Useful Contacts)*

APPENDIX B.5 TYPICAL SEATED BIN MOVER

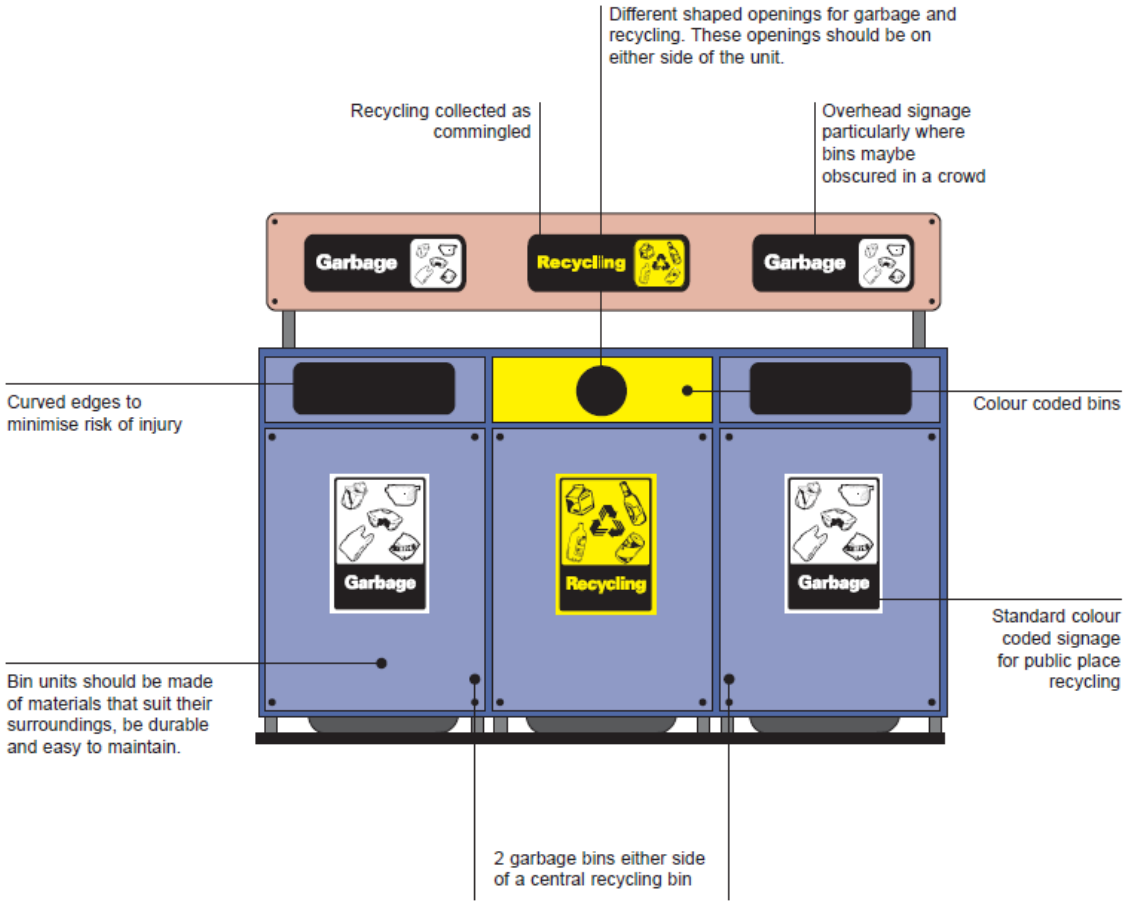


		UNIT M.	BULL 2	BULL 4
Manufacturer	DEC			
Model	BULL			
Platform loading cap.	Nominal capacity	kg	-----	-----
Pull capacity	Pull nominal capacity	kg	2000	4000
Power type	Electric - endotermic		electric	electric
Controltype	Standing / seated thiller / steer		seated / steer	seated / steer
Tyres	Pn=pneum. Se=superelastic		Pn	Pn
Wheels	N. front/rear - x drive	n.	1/2X	1/2X
Platform dimensions	L x B (lengh x width)	mm	-----	-----
Platform hight	h6 = unload clearence	mm	-----	-----
Overal dimensions	L = lenght B = width h1 = foot leve h3 = Seat height h4 = Steer height	mm mm mm mm mm	1500 900 1820 310 1250	1600 930 1960 340 1330
Turning radius	R1 = front min. external R2 = rear min. external R3 = front min. internal	mm mm mm	1400 1000 400	1500 1000 400
Aisle width	A = 180° turn	mm	2200	2300
Tow hook height	s = center from ground	mm	220-350-490	240-380-520

APPENDIX C SECONDARY WASTE MANAGEMENT PROVISIONS

APPENDIX C.1 TYPICAL BACK OF HOUSE BINS

APPENDIX C.2 TYPICAL PUBLIC PLACE WASTE BINS



Source: *Department of Environment and Conservation (NSW) Better Practice Guide for Public Place Recycling 2005*