



Consulting.TM
an Elephants Foot Company

Western Sydney University

Indigenous Centre of Excellence, Victoria Road, Parramatta NSW

**CONSTRUCTION & DEMOLITION
WASTE MANAGEMENT PLAN**

9/12/2025
Report No. 5748
Revision F

Client

Western Sydney University

Architect

Jackson Clements Burrows Architects



SCOPE

A Waste Management Plan (WMP) is to be submitted with this State Significant Development Application as it involves a development that will generate construction, demolition and operational waste. This report has been carefully prepared in accordance to the secretary environmental assessment criteria (SEAR), condition 18.

This WMP applies only to the **construction** and **demolition** phases of the proposed development. The requirements outlined in this WMP must be implemented on site during construction and demolition and may be subject to review upon any change to the design. Construction and demolition waste management requirements will also be subject to review as part of the Construction Management Plan.

The waste management for the **operational** phase of the development is not addressed in this report. An operational WMP has been provided as a separate document.

REVISION REFERENCE

Revision	Date	Prepared by	Reviewed by	Description
A	16-04-2024	T. McPherson	J Parker	Draft
B	18-04-2024	T. McPherson	J Parker	SSDA Lodgement
C	25-06-2024	T. McPherson	J Parker	Amendment
D	26-05-2025	T. McPherson	J Parker	Amendment
E	27-05-2025	T. McPherson	J Parker	Amendment
F	09-12-2025	T. McPherson	J. Parker	Amendment

The information contained in this document produced by EFC is solely for the use of the client identified on the cover sheet for the purpose for which it has been prepared for. EFC undertakes no duty, nor accepts any responsibility for any third party who may rely upon this document. Reproduction, publication or distribution of this document without written permission from EFC is strictly prohibited.

CONTENTS

1	ACKNOWLEDGEMENT OF COUNTRY	4
2	INTRODUCTION	4
3	SECRETARY ENVIRONMENTAL ASSESSMENT CRITERIA	5
4	SITE DESCRIPTION AND LOCATION	6
4.1	PROJECT DESCRIPTION	8
4.2	PROJECT HISTORY	1
4.3	Legislation and Guidance	1
4.4	Waste Diversion Targets	1
4.5	Report Objectives	1
4.6	Limitations	2
5	GENERAL WASTE MANAGEMENT PROVISIONS	3
5.1	Stakeholder Roles and Responsibilities	3
5.2	Monitoring and Reporting	4
5.3	Opportunities for Reuse and Recycling	5
5.4	Management of Hazardous Waste Materials	6
5.5	Management of Excavation Waste	6
6	SITE SPECIFIC WASTE MANAGEMENT PROVISIONS	7
6.1	Demolition Waste Volumes and Management	7
6.2	Construction Waste Volumes and Management	2
6.3	Recycling Directory	1
6.4	Site-Specific Operational Measures	1
6.5	Location and Design of Waste Management Facilities	3
6.6	Site Plans	6

LIST OF FIGURES

Figure 1	Western Sydney University Parramatta South Campus locational context	7
----------	--	---

LIST OF TABLES

Table 1: Stakeholder Roles and Responsibilities	3
Table 2: Potential Reuse/Recycling Options for Construction Materials	5
Table 3: Demolition Waste Volumes and Management	7
Table 4: Demolition Waste Disposal Pathways	1
Table 5: Construction Waste Volumes and Management	2
Table 6: Construction Waste Disposal Pathways	3
Table 7: Recycling Directory	1

1 ACKNOWLEDGEMENT OF COUNTRY

Western Sydney University acknowledges the custodians of the lands in which we meet, work, learn and socialise. We pay respect to the peoples of the Darug, Tharawal, Eora and Wiradjuri nations where our campuses are located. We acknowledge that the teaching, learning and research undertaken across our campuses continues the teaching, learning and research that has occurred on these lands for tens of thousands of years. We acknowledge and pay our respect to the Elders past, present and emerging.



Source: 'Matta: Meeting place' by Jason and Trevor Dalmarri.

2 INTRODUCTION

EFC has been tasked to prepare the following waste management plan for Western Sydney University for the management of construction and demolition waste generated by the University development located at the South Parramatta Campus. .

Waste management strategies and auditing are a requirement on construction sites to promote strong sustainability outcomes. It is EFC'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 Australian Standards, council codes, policies, and guidelines.

3 SECRETARY ENVIRONMENTAL ASSESSMENT CRITERIA

Below displays the SEARs planning requirements, and the sections of this report where each point is applicable to.

DA Condition 18	Elephant Foots Response
Identify, quality and classify the likely waste systems to be generated during construction and operation.	<i>Can be viewed in Section 7.0 to 7.2</i>
Provide the measures to be implemented to manage, reuse, recycle and safely dispose of this waste.	<i>Can be viewed in Section 6.3.</i>
Identify the appropriate servicing arrangements for the site.	<i>Can be viewed in Section 7.3.</i>
If buildings are proposed to be demolished or altered, provide a hazardous materials survey.	<i>This is in the scope of an Environmental Consultant.</i>

4 SITE DESCRIPTION AND LOCATION

The Western Sydney University South Parramatta Campus is located within the City of Parramatta Local Government Area (LGA).

The site comprises two (2) allotments, which is legally described as Lot 100 in DP 816829 and part Lot 101 in DP 816829. The project site comprises the P1 Car Park in the northern portion of the wider site campus and consists of the grassed area to the south and southwest of the P1 Car Park. The project site is approximately 20,035m² in area and is irregular in shape. It currently comprises of a hardstand area that accommodates approximately 284 car parking spaces and a grassed open space adjoining the Oval to the south. There is an existing single storey Central Energy Plant to the west of the development area which serves the wider campus; it remains outside of the scope of this SSDA.

The site is strategically positioned to the northern boundary of the Western Sydney University (University) South Parramatta Campus, fronting Victoria Road (the A40). The wider campus comprises a significant landholding size of approximately 20ha containing a series of buildings of differing heights and massing forms which are used for educational purposes. The buildings contained within the wider campus site are dissected by a series of open, at grade car parks, internal roads, pathways, and landscaped areas. The Campus sits to the north of the Parramatta River.

The site is located approximately 3km east of the Parramatta CBD, which is an area undergoing a process of significant transformation. It is also located approximately 500m to the Parramatta Light Rail Corridor, with the construction of new Yallamundi Light Rail now completed and awaiting operation by TfNSW.

The site location is identified in Figure 1.



WSU Parramatta South Campus
 SSD Development Site
 Specific Area
 Not to scale

Figure 1 Western Sydney University Parramatta South Campus locational context

Source: Nearmap/Ethos Urban

4.1 PROJECT DESCRIPTION

The Applicant seeks development consent for the construction of a new state-of-the-art Indigenous Centre of Excellence as a new tertiary education facility on campus. The Indigenous Centre of Excellence project is funded by the NSW Government's Western Sydney Infrastructure Grants Program in association with Western Sydney University. The new Indigenous Centre of Excellence will be an important asset for both the University and local community alike, providing a space for the commitment to advancing Indigenous education, leadership, and reconciliation.

The Indigenous Centre of Excellence will stand as a symbol of recognition of Indigenous land and the University's relationship with Indigenous communities. The Indigenous Centre of Excellence will represent a celebration of tens of thousands of years of Indigenous knowledges and histories, a legacy that the University is honoured to nurture and promote through further education opportunities for students and communities.

Through the Indigenous Centre of Excellence, the University will aim to drive positive change, increase Indigenous participation in higher education, and contribute to the preservation and sharing of Indigenous cultures.

This State Significant Development Application (SSDA) specifically seeks detailed approval for the following works:

- Site preparation including demolition of the existing car park, tree removal and installation of inground utility infrastructure services.
- Construction of a three-storey Indigenous Centre of Excellence encompassing:
 - Ground level facilities, including but not limited to; a dedicated arrival area, outdoor amphitheatre, multipurpose court and theatre, and gallery. Associated workspaces, teaching spaces, meeting areas, lounge areas and other amenities are to be provided throughout the ground floor.
 - First floor level comprising meeting space and dedicated educational facilities including learning areas and teaching spaces.
 - Second floor level comprising offices, and collaboration spaces.
 - Roof level plant and services.
- Construction of internal driveway and car parking spaces areas, including:
 - 13 with hardstand area spaces adjacent to the new dedicated arrival zone for the proposed ICoE development
 - 106 temporary replacement P1 spaces proposed in new western car park to the west of Bridge Street, adjacent to the existing oval
 - 181 temporary replacement P1 spaces proposed in new eastern car park on the southern side of Fifth Street
 - Associated land remediation, civil and electrical works.
- Landscaping works to provide outdoor educational and recreational spaces.

This report responds to the SSD-64916225 Secretary's Environmental Assessment Requirement (SEARs) which was issued by the Department of Planning, Housing and Infrastructure on 21 November 2023.

4.2 PROJECT HISTORY

The SSDA was lodged with the NSW Department of Planning, Housing, and Infrastructure (DPHI) in August 2024. The SSDA sought development consent for the construction of a new four (4) storey tertiary educational facility comprising 5,543.3m² of Gross Floor Area (GFA) to accommodate the new Indigenous Centre of Excellence. The SSDA was publicly exhibited by the DPHI from 20 August 2024 until 26 September 2024, with the subsequent request for response to submissions issued on 1 October 2024. Additional matters were raised by DPHI on 16 July 2025 and by Heritage NSW on 28 July 2025.

An Amendment Report and supporting documentation in response to the matters raised by DPHI, Heritage NSW and other agencies, was submitted on 27 August 2025 in accordance with the *Environmental Planning and Assessment Regulation 2021* for WSU Indigenous Centre of Excellence (SSD-64916225).

On 13 October 2025, DPHI provided written correspondence outlining that all agency responses had been received apart from Crown Lands and the Conservation Programs, Heritage and Regulation branch of the NSW Department of Climate Change, Energy, Environment and Water. Notwithstanding, it was requested that a formal submissions report be prepared in response.

Following, the formal written correspondence from DPHI, ongoing liaison has occurred with DPHI and the relevant agencies to respond to the site constraints and matters relayed within the submissions received. The current proposal has been amended accordingly and results in a three (3) storey building, accommodating a site area of approximately 20,035m². The particulars of the project have been expanded upon throughout this Operational Waste Management Plan.

4.3 Legislation and Guidance

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

- Parramatta Development Control Plan 2023
- Australian Government, Department of Sustainability, Environment, Water, Population and Communities. *Construction and Demolition Waste Guide – Recycling and Re-use Across the Supply Chain*. (2014, November).
- NSW Waste Avoidance and Resource Recovery (WARR) Strategy 2014-2021
- NSW Waste Classification Guidelines 2014
- Australia's National Waste Policy 2018

4.4 Waste Diversion Targets

To quantify and measure this sustainable approach to waste management, the NSW WARR Strategy 2014-2021 outlines specific targets in order to clarify the state's long-term goals and priorities. These targets were supported by industry, community, state, and local governments during the Strategy's consultation phase, and include:

- Increasing construction and demolition recycling rates to 80%
- Increasing waste diverted from landfill to 75%
- Reducing litter by 40%
- Reduce illegal dumping incidents by 30%

4.5 Report Objectives

Throughout this report, EFC aims to encourage where practical, having regard to the design, the nature of the material to be demolished and the site constraints, the following waste management practices for the duration of the demolition and construction stages of the development:

- Re-use of excavated material on-site and disposal of any excess to an approved site;
- Green waste mulched and re-used on-site as appropriate, or recycled off-site;
- Bricks, tiles and concrete re-used on-site as appropriate, or recycled off-site;
- Plasterboard waste returned to supplier for recycling;
- Framing timber re-used on site or recycled off-site;
- Windows, doors and joinery recycled off-site;
- All asbestos, hazardous and/or intractable wastes are to be disposed of in accordance with WorkCover Authority and EPA requirements;
- Plumbing, fittings and metal elements recycled off site;
- Ordering accurate quantities of materials and prefabrication of materials where possible;
- Re-use of formwork;
- Careful source separation of off-cuts to facilitate re-use, resale or recycling.

4.6 Limitations

This report has been prepared by EFC for the sole purpose of providing a Construction and Demolition Waste Management Plan (C&D WMP) to support a development application. The report is provided with the following limitations:

- This report is for the sole use of Western Sydney University (including their officers, employees and advisers) and should not be used or relied upon by any other party without prior written consent from EFC;
- Drawings, estimates and information contained in this report have been prepared by analysing information, plans and documents supplied by the client, or nominated third parties. Any assumptions based on the information contained in the report are outside the control of EFC;
- The calculations presented in the report are estimates only. The amount of waste generated will be dependent on the approach taken by site management, including the levels of training and education offered to site staff and the actions and attitudes of staff themselves.
- The site manager will make adjustments as required based on actual waste volumes (e.g. if waste volumes are greater than estimated, then waste storage capacity and collection frequencies will increase accordingly) and increase the amount of waste storage and collection frequency accordingly;
- The report has been prepared with all due care and attention; however, no assurance or representation is made that the WMP reflects the actual outcome. EFC will not be liable to for any plans or outcomes that are not suitable for purpose, whether as a result of incorrect or unsuitable information or otherwise;
- EFC offer no warranty or representation of accuracy or reliability of the WMP unless specifically stated;
- Examples of equipment provided in this report should be reviewed by the appropriate equipment supplier who will assess the correct equipment for supply. Reference to any other business or product besides EFC and EFC equipment is for information purposes only, and is not officially endorsed or recommended by EFC.

5 GENERAL WASTE MANAGEMENT PROVISIONS

5.1 Stakeholder Roles and Responsibilities

All stakeholders have a responsibility for their own environmental performance and compliance with all legislation.

The Construction Contractor will be responsible for implementing this WMP, although site staff have a responsibility to ensure their own compliance at all times. Where possible, an Environmental Management Representative (EMR) should also be appointed for the project to help ensure compliance. The following table demonstrates the primary roles and responsibilities of the respective stakeholders:

Table 1: Stakeholder Roles and Responsibilities

Roles	Responsibilities
Site Management	• Organise waste collections as required; • Organise replacement or maintenance requirements for bins; • Investigate and ensure prompt clean-up of illegally dumped waste materials; • Notify the Principal Certifying Authority (Council) of the appointment of waste removal, transport or disposal contractors for waste tracking purposes; • Ensure waste related equipment is well maintained; • Ensure accurate calculations so only the required amount of materials are ordered; • Ensure segregation of materials to maximise reuse and recycling; • Check waste sorting and storage areas routinely for cleanliness, hygiene, contamination and OH&S issues; • Ensure all monitoring and audit results are well documented and are carried out as specified in the WMP; • Ensure effective signage, communication and education is provided to site staff/contractors; • Provide staff/contractors with equipment manuals, training, health and safety procedures, risk assessments, and PPE to control hazards associated with all waste management activities; • Assess any manual handling risks and prepare a manual handling control plan for waste and bin transfers;
Site Staff/Contractors	• Ensure adequate separation and disposal of waste streams in compliance with the WMP; • Abide by all relevant OH&S legislation, regulations, and guidelines; • Attend training and inductions as required; • Clean and transport bins as required; • Carry out daily visual inspections of waste storage areas; • Organise, maintain and clean the waste storage areas;
Environmental Management Representative (EMR)	• Approach and establish the local commercial reuse of materials where reuse on-site is not practical; • Establish separate skips and recycling bins for effective waste segregation and recycling purposes; • Ensure staff and contractors are aware of site requirements; • Provision of training of the requirements of the WMP and specific waste management strategies adopted for the development; • Contaminated waste management and approval of off-site waste transport, disposal locations and check licensing requirements; • Arrange assessment of suspicious potentially contaminated materials, hazardous materials and liquid waste; • Monitor, inspect and report requirements.
Waste Collection Contractors	• Provide a reliable and appropriate waste collection service; • Provide feedback to site management regarding contamination of waste streams; • Work with site management to customise waste systems where possible.

5.2 Monitoring and Reporting

It is recommended that the following measures be taken to improve demolition and construction waste management in future and to provide more reliable waste generation figures:

- Compare projected waste quantities with actual waste quantities produced.
- Conduct waste audits of current projects (where feasible).
- Note waste generated and disposal methods.
- Look at past waste disposal receipts.
- Record this information to help in waste estimations for future waste management plans.

Records of waste volumes recycled, reused or contractor removed are to be maintained. Additionally, dockets/receipts verifying recycling/disposal in accordance with the WMP must be kept and presented to Council or the EPA if and when required.

Daily visual inspections of waste storage areas will be undertaken by site personnel and inspection checklists/logs recorded for reporting to the Site Manager on a weekly basis or as required. These inspections will be used to identify and rectify any resource and waste management issues.

Waste audits are to be carried out by the Building Contractor to gauge the effectiveness and efficiency of waste segregation procedures and recycling/reuse initiatives. Where audits show that the above procedures are not carried out effectively, additional staff training should be undertaken and signage re-examined.

All environmental incidents are to be dealt with promptly to minimise potential impacts. An incident register must be maintained on-site at all times and should include the contact details of the 24-hour EPA Pollution line. Likely incidents to occur during the construction and demolition stage of the development may involve fuel or chemical spills, seepage or mishandling of hazardous waste, or unlicensed discharge of pollutants to environment.

5.3 Opportunities for Reuse and Recycling

There are many opportunities to reduce the volume of waste generated during demolition and construction. Adaptive reuse of building materials should be encouraged, with significant consideration given to methods of reusing or recycling materials onsite as well as sourcing used or recycled materials from elsewhere to be used on site.

The site should facilitate where practical reuse and recycling by 'deconstruction', whereby various materials are carefully dismantled and sorted. Any unwanted reusable materials can be taken to a second-hand building centre, reducing waste disposal costs.

Materials that are individually wrapped should also be avoided where possible, with preference given for materials that can be delivered in returnable packaging such as timber pallets.

The table below gives examples of potential reuse and recycling options for the materials likely to be used/generated in construction and demolition at this development:

Table 2: Potential Reuse/Recycling Options for Construction Materials

Material	Reuse/Recycling Potential
Asphalt	Hot in-place recycling or reprocessed into Reclaimed Asphalt Pavement (RAP).
Bricks	Cleaned and/or rendered for reuse, crushed for fill, sold or provided to a recycled materials yard
Cardboard Packaging	Recycled at a paper/cardboard recycling facility
Carpet	Cleaned and reused for the same purpose, reused in landscaping or garages/sheds, recycled at an appropriate processing facility
Concrete, Masonry, Spoil	Reused on-site as fill, levelling or crushed for road base
Doors, Windows, Fittings	Reused in new or existing buildings or sent to second-hand supplier
Glass	Recycled at a glass recycling facility, aggregate for concrete production, crushed for termite barrier, reused as glazing
Green Waste (Organics)	Mulched, composted for reuse, trees chipped for use in landscaping or removed carefully and reused onsite or sold
Hardwood Beams	Reused as floorboards, fencing, furniture or sent to second-hand timber supplier
Insulation Material	Reprocessed to remove impurities and reused for the same purpose or as off-cuts, compressed for ceiling tile manufacture
Metal, Steel/Copper Pipe	Recycled at a metal recycling facility, melted into secondary materials for structural steel, roofing, piping etc. copper sold for re-use
Other Timber	Reused in formwork, ground into mulch for garden or sent to second-hand timber supplier
Plasterboard	Crushed for reuse in manufacture of new plasterboard, returned to supplier or used in landscaping
Plastics	Reused as secondary materials for playgrounds, park benches etc.
Roof Tiles	Cleaned and reused, crushed for reuse for landscaping and driveways or sold or provided to a recycled materials yard
Soil	Stockpiled onsite for reuse as fill
Synthetic & Recycled Rubber	Reused for the same purpose or reprocessed for use in manufacture/construction of safety barriers, speed humps
Topsoil	Stockpiled onsite for reuse in landscaped areas

5.4 Management of Hazardous Waste Materials

For the purpose of this report, hazardous waste materials include any waste that poses a hazard or potential harm to human health or the environment, particularly asbestos waste and asbestos containing material (ACM). The general advice provided in this report is superseded by any specific hazardous materials or remediation control plans prepared for the project.

During the construction phase of the development, there must be a commitment to engage qualified and certified contractors to remove all contaminated/hazardous materials (e.g. asbestos) and dispose of all contaminated/hazardous waste at an appropriately licenced facility, where applicable.

In the event that any contaminated or hazardous materials are unexpectedly uncovered during demolition or excavation works, the Site Manager is to stop work immediately in that location and contact the relevant hazardous waste contractor prior to further works being undertaken in the area. The following general mitigation measures will apply:

- Contaminated material stockpiled on site will be minimised as far as possible and should be stored on HDPE liner, in a bunded location which is protected from inclement weather;
- Sediment fences should be installed around the base of stockpiles and the stockpiles should be covered. Where excavated material requires validations, samples should be taken for NATA laboratory testing as per the requirements of the contamination assessment prior to restoration works, backfilling exercises and disposal;
- Any trucks carrying contaminated materials should be securely and completely covered immediately after loading the materials (to prevent windblown emissions and spillage) and must be licensed by the NSW Environmental Protection Authority (EPA);
- Decontamination of all equipment prior to demobilisation from the site is important so that contaminated materials are not spread off-site.

5.5 Management of Excavation Waste

For the purpose of this report, excavation waste consists of any unwanted material generated from excavation activities such as a reduced level dig, site preparation and levelling and the excavation of foundations, basements, tunnels and service trenches. This will typically consist of soil and rock. The general advice provided in this report is superseded by any specific hazardous materials or remediation control plans prepared for the project.

All excavated material generated on this site may be re-used in the landscaping or used on other sites as fill material, provided no contamination is present. If sandstone is found to be present, this may be sold or incorporated into the building design.

The following measures and safeguards will apply to the development for excavated material:

- Wherever practical, excavation material will be reused as part of the development;
- Excavation material that is not natural (virgin) material will be transported to an approved landfill site or off-site recycling depot;
- A waste classification assessment of the fill material should be undertaken prior to it being acceptable for waste disposal purposes;
- Transportation routes for excavation material removed from site will be identified and used.

6 SITE SPECIFIC WASTE MANAGEMENT PROVISIONS

6.1 Demolition Waste Volumes and Management

Demolition waste volumes were estimated using benchmark waste generation rates published by Camden Council (2019) and Shoalhaven City Council (2012). As there are no state-wide demolition waste benchmarks currently available in NSW, these local government figures represent the most robust and recognised guidance for estimating waste generation.

The steps taken in our calculations were as follows:

1. **Establish demolition GFA** – total area of existing buildings scheduled for demolition.
2. **Apply benchmark rates** – published average waste generation rates (m^3/m^2 and t/m^2) applied to demolition GFA in line with Camden and Shoalhaven guidelines.
3. **Material breakdown** – proportions for each material stream allocated in line with Camden and Shoalhaven guidelines.
4. **Diversion assumptions** – recovery rates assigned to each material stream based on available processing capacity in NSW (EPA, *Waste and Resource Recovery Infrastructure Strategy 2017–2021*) and established industry practice in the construction and demolition sector.

The table below presents the estimated demolition waste volumes by material stream, expressed in both cubic metres (m^3) and tonnes (t).

Table 3: Demolition Waste Volumes and Management

Material	Volume (m^3)	Mass (t)	Recovery %	Diverted (t)
Excavation Material	0.00	0.00	100%	0.00
Green Waste	11.25	3.38	95%	3.21
Bricks	164.64	263.42	90%	237.08
Tiles	3.75	6.75	90%	6.08
Concrete	1071.61	2571.86	95%	2443.26
Timber	225.63	135.38	80%	108.30
Plasterboard	273.75	136.88	30%	41.06
Metals	3.75	30.00	98%	29.40
Asbestos	0.00	0.00	0%	0.00
Residual Waste	326.25	97.88	10%	9.79
Other Waste	3.75	1.88	20%	0.38

Total Diversion (%)	89%
---------------------	-----

Based on our calculations, 89% of demolition waste is expected to be diverted from landfill, exceeding the NSW WARR Strategy target of 80%.

The following table outlines the disposal pathways for each waste stream expected to arise during the demolition phase. It identifies whether materials can be reused on site, recycled through established recovery facilities, or must be directed to landfill. This breakdown demonstrates the application of industry best practice and compliance with NSW recycling infrastructure capacity.

Table 4: Demolition Waste Disposal Pathways

Material	Reuse on site	Recycled	Landfilled	Notes
Excavation Material	Yes	Yes	No	Clean spoil reused as backfill or sent as clean fill
Green Waste	Yes	Yes	No	Mulch/compost
Bricks	Possible	Yes	Residual	Crushed to aggregates
Tiles	No	Yes	Residual	Crushed to aggregates
Concrete	Possible	Yes	Minimal	Crushed for road base/aggregate
Timber	Possible	Yes	Yes	Untreated timber recyclable; treated to landfill
Plasterboard	No	Yes	Residual	Specialised gypsum recycling
Metals	No	Yes	No	Scrap metal recovery
Asbestos	No	No	Yes	Licensed disposal only
Residual Waste	No	Limited	Yes	Unrecyclable mixed waste
Other Waste	Yes	Yes	Yes	Depends on material type

The above allocations indicate that the majority of demolition waste can be diverted from landfill through reuse and recycling, significantly reducing environmental impact and supporting compliance with project diversion targets.

6.2 Construction Waste Volumes and Management

Construction waste volumes were estimated using benchmark waste generation rates published by Camden Council (2019) and Shoalhaven City Council (2012). As there are no state-wide construction waste benchmarks currently available in NSW, these local government figures represent the most robust and recognised guidance for estimating waste generation.

In addition, excavation waste has been calculated separately. The methodology was as follows:

1. **Establish new GFA** – total area of new construction works.
2. **Apply benchmark rates** – published average waste generation rates (m^3/m^2 and t/m^2) applied to the new GFA.
3. **Material breakdown** – proportions for each material stream allocated in line with Camden and Shoalhaven guidelines.
4. **Excavation waste** – calculated separately using the following formula:
 $\text{Excavation volume (m}^3\text{)} = \text{Basement area (m}^2\text{)} \times \text{Excavation depth (m)}$
 $\text{Excavation mass (t)} = \text{Excavation volume (m}^3\text{)} \times 1.8 \text{ t/m}^3$
5. **Diversion assumptions** – recovery rates assigned by material stream based on available processing capacity in NSW (EPA, *Waste and Resource Recovery Infrastructure Strategy 2017–2021*) and established industry practice in the construction and demolition sector.

The table below presents the estimated construction waste volumes by material stream, expressed in both cubic metres (m^3) and tonnes (t).

Table 5: Construction Waste Volumes and Management

Material	Volume (m^3)	Mass (t)	Recovery %	Diverted (t)
Excavation Material	0.00	0.00	100%	0.00
Green Waste	10.53	3.16	95%	3.00
Bricks	71.10	113.77	90%	102.39
Tiles	7.90	14.22	90%	12.80
Concrete	190.93	458.23	95%	435.32
Timber	48.72	29.23	80%	23.39
Plasterboard	21.07	10.53	30%	3.16
Metals	635.99	5087.92	98%	4986.16
Asbestos	0.00	0.00	0%	0.00
Residual Waste	7.90	2.37	10%	0.24
Other Waste	135.63	67.81	20%	13.56

Total Diversion (%)	96%
---------------------	-----

Based on our calculations, 96% of construction waste is expected to be diverted from landfill, exceeding the NSW WARR Strategy target of 80%.

The following table outlines the disposal pathways for waste streams expected during the construction phase of the project. Materials are categorised according to their most suitable management option, including reuse on site, recycling, or landfill disposal where no recovery options are available. This approach ensures construction waste is managed in line with industry practice and contributes to achieving the project's waste diversion targets.

Table 6: Construction Waste Disposal Pathways

Material	Reuse on site	Recycled	Landfilled	Notes
Excavation Material	Yes	Yes	No	Clean spoil reused as backfill or sent as clean fill
Green Waste	Yes	Yes	No	Mulch/compost
Bricks	Possible	Yes	Residual	Crushed to aggregates
Tiles	No	Yes	Residual	Crushed to aggregates
Concrete	Possible	Yes	Minimal	Crushed for road base/aggregate
Timber	Possible	Yes	Yes	Untreated timber recyclable; treated to landfill
Plasterboard	No	Yes	Residual	Specialised gypsum recycling
Metals	No	Yes	No	Scrap metal recovery
Asbestos	No	No	Yes	Licensed disposal only
Residual Waste	No	Limited	Yes	Unrecyclable mixed waste
Other Waste	Yes	Yes	Yes	Depends on material type

As shown above, most construction waste streams can be effectively reused or recycled, ensuring that landfill disposal is limited to residual materials and supporting the achievement of high diversion rates.

6.3 Recycling Directory

Construction and demolition materials removed from site will need to be managed in accordance with the provisions of current legislation and may include segregation by material type classification in accordance with NSW EPA (2014) *Waste Classification Guidelines, Part 1: Classifying Waste* and disposal at facilities appropriately licensed to receive the particular materials.

Please find the below recommendations for recycling drop off locations for all materials likely to be generated at this development. Only the nearest locations are provided. See www.businessrecycling.com.au for additional locations:

Table 7: Recycling Directory

	Business Name	Suburb	Distance (km)
Excavation Material	Bingo Recycling Centre	Auburn	5.9
	Bingo Recycling Centre	Greencare	14.2
	Benedict Recycling	Belrose	14.5
	Bingo Recycling Centre	Auburn	5.9
Green waste	Wetherill Park Suez Recycling	Wetherill Park	9.3
	Bingo Recycling Centre	Greencare	14.2
	Recycled Building Centre	Granville	4.6
Bricks	Concrete Recyclers (Group) Pty	Camellia	5.4
	Bingo Recycling Centre	Auburn	5.9
	Recycled Building Centre	Granville	4.6
Tiles	Concrete Recyclers (Group) Pty Ltd	Camellia	5.4
	Bingo Recycling Centre	Greencare	14.2
	Concut NSW	Baulkham	4.5
Concrete	Recycled Building Centre	Granville	4.6
	Concrete Recyclers (Group) Pty Ltd	Camellia	5.4
	Bingo Recycling Centre	Auburn	5.9
Timber	Wetherill Park Suez Recycling	Wetherill Park	9.3
	Bingo Recycling Centre	Greencare	14.2
	Bingo Recycling Centre	Auburn	5.9
Plasterboard	Bingo Recycling Centre	Greencare	14.2
	Benedict Recycling	Belrose	14.5
	4G Metals	Seven Hills	4.7
Metals	Bingo Recycling Centre	Auburn	5.9
	Sims Metal Management	Girraween	5.4
	Sydney Transwaste Facilities	Homebush West	8.5
Asbestos	AKA Civil	Rosehill	11.8
	Veolia Environmental Services	Horsley	14

6.4 Site-Specific Operational Measures

Training/Site Inductions

All staff employed during the demolition and construction stages of the development must undertake site-specific induction training regarding the procedures for waste management. Employees of the head contractor will undertake a specific induction outlining their duties and how they are to enforce the waste management procedures.

Induction training will include the following at a minimum:

- Legal obligations;
- Emergency response procedures on site;
- Waste storage locations and separation of waste;
- Litter management in transit and on site;
- The implications of poor waste management practices;
- Correct use of general-purpose spill kits;
- Responsibility and reporting (including identification of personnel responsible for waste management and individual responsibilities).

Materials Selection and Ordering

- Selection of all materials will be undertaken by architectural designers;
- Prefabrication of materials off-site where possible;
- Materials requirements are to be accurately calculated to minimise waste from over-ordering;
- Materials ordering process is to aim at minimisation of materials packaging;
- Material Safety Data Sheets (MSDS) are to accompany all materials delivered to site, where required, to ensure that safe handling and storage procedures are implemented.

Waste Avoidance Opportunities

- Limiting unnecessary excavation;
- Selection of construction materials taking into consideration to their long lifespan and potential for reuse;
- Ordering materials to size and ordering pre-cut and prefabricated materials;
- Reuse of formwork;
- Planned work staging;
- Use of naturally ventilating buildings to reduce ductwork;
- Reducing packaging waste on-site by returning packaging to suppliers where possible, purchasing in bulk and requesting cardboard or metal drums rather than plastics;
- Requesting metal straps rather than shrink wrap and using returnable packaging such as pallets and reels;
- Reduction of PVC use;
- Use of low VOC (volatile organic compounds) paints, floor coverings and adhesives;
- Use of fittings and furnishings that have been recycled or incorporate recycled materials;
- Use of building materials, fittings and furnishings with consideration to their longevity, adaptation, disassembly, reuse and recycling potential.

Site Procedures

- Excavated materials will be used onsite where practical;
- Green waste will be mulched and reused in landscaping either onsite or offsite;
- Concrete, tiles and bricks will be reused or recycled offsite;
- Steel will be recycled offsite; all other metals will be recycled where economically viable;
- Framing timber will be reused on-site or recycled off-site;
- Windows, doors and joinery will be recycled off-site where possible;
- Plumbing, fittings and joinery will be recycled off-site where possible;
- Plasterboard will be re-used in landscaping on-site or returned to the supplier for recycling where possible;
- All used crates will be stored for reuse unless damaged;
- All glass that can be economically recycling will be;
- All solid waste timber, brick, concrete, rock, plasterboard and other materials that cannot be reused or recycled will be taken to an appropriate facility for treatment to recover further resources or for disposal to landfill in an approved manner;
- All asbestos, hazardous and/or intractable wastes are to be disposed of in accordance with WorkCover Authority and EPA requirements;
- Provision for the collection of batteries, fluorescent tubes, smoke detectors and other recyclable resources will be provided on site;
- Beverage container recycling will be provided on-site for employee use;
- All waste and recycling will be disposed of via council approved systems.

6.5 Location and Design of Waste Management Facilities

General Requirements

All waste management facilities onsite should:

- Be conveniently located to enable easy access for on-site movement and collection;
- Be incorporated with other loading/unloading facilities;
- Have sufficient space for the quantity of waste generated and careful source separation of recyclable materials;
- Have sufficient space to contain any on-site treatment facilities, such as compaction equipment;
- Have adequate weather protection and, where required, be enclosed or undercover;
- Be secure and lockable;
- Be well-ventilated and drained to the sewer;
- Be clearly sign-marked to ensure appropriate use.

Waste and Recycling Receptacles

A sufficient quantity of skip bins should be provided for the separate storage of each type of C&D material generated on site. This will assist in maximising source separation and resource recovery, while reducing the costs and quantity of materials disposed of at landfill.

The size of the receptacles should be appropriate to the nature of waste generated and the available storage area. In general, the following options would be acceptable:

Bin Size	Access	Dimensions
2.5m	Top loading	
3m	Drop door walk-in	
4m	Drop door walk-in	
5m	Drop door walk-in	
6m	Double doors walk-in	

Source: Aussie Bins

If the developer chooses to adopt a traditional waste management strategy, whereby waste is deposited into comingled skip bins to be sorted offsite, a single skip bin would be considered sufficient for purpose. However, if the site is to pursue source separation, dedicated skips for the following materials are recommended:

- Timber;
- Plasterboard;
- Concrete;
- Bricks;
- Scrap metal;
- General waste.

Separate receptacles for the safe disposal of hazardous waste types (i.e. light bulbs, batteries, etc) will also be provided where applicable. Where possible, additional bins will be provided in common areas for the collection of comingled recyclables such as beverage containers (glass, plastic, aluminium), paper products, recyclables food containers, etc. Specialised bins for cigarette butts should also be provided.

Safety and Signage

The following safety measures should be considered for the waste storage area:

- Location should not interfere with sight lines of drivers entering or leaving the site;
- Skip bins should be clearly visible and located in well-lit areas;
- Safe paths of travel should be designated using reflective tape, barriers and cones;
- Skip bins must be secured and must not be over-filled to reduce risk of injury through bins moving and falling objects.

Standard signage will be installed in all waste areas, with all skip bins colour coded and labelled appropriately on all sides to allow clear identification of the type of waste to be deposited into each bin.

Refer to the EPA's website for standard construction waste and recycling signs:

www.epa.nsw.gov.au/wastetools/signs-posters-symbols.htm

Space and Siting Requirements

The waste storage area will be located adjacent to the entrance to the site to enable access and allow sufficient space for the required skip bins and servicing requirements. The storage area will also be flexible in order to cater for change of use throughout demolition and construction works.

Where space is restricted, dedicated stockpile areas will be allocated onsite, with regular transfers to the dedicated skip bins for sorting and collections.

The position of the designated waste holding area onsite may change according to building works and the progression of the development. Access, visual amenity and WHS will always be integral to the selection of waste storage area locations. Any stockpile locations will take into account slope and drainage factors to avoid contamination of stormwater drains during rain events.

Servicing and Transport

The frequency of waste removal from site will be determined by the volume of materials deposited into the dedicated skip bins. Skip bins will be monitored on a daily basis by the Site Manager to ensure they do not overflow. If skip bins are reaching capacity, removal and replacement should be organised for within 24 hours.

All skip bins leaving the site will be covered with a suitable tarpaulin to reduce spillage of waste while in transit.

All waste collection for construction works will be conducted between approved hours as per Council requirements (typically between 7am and 7pm Monday to Friday, and between 7am and 1pm on Saturdays). All waste generated on site will be transported to an approved and appropriately licensed resource recovery facility and/or landfill site.

6.6 Site Plans

Existing Structures



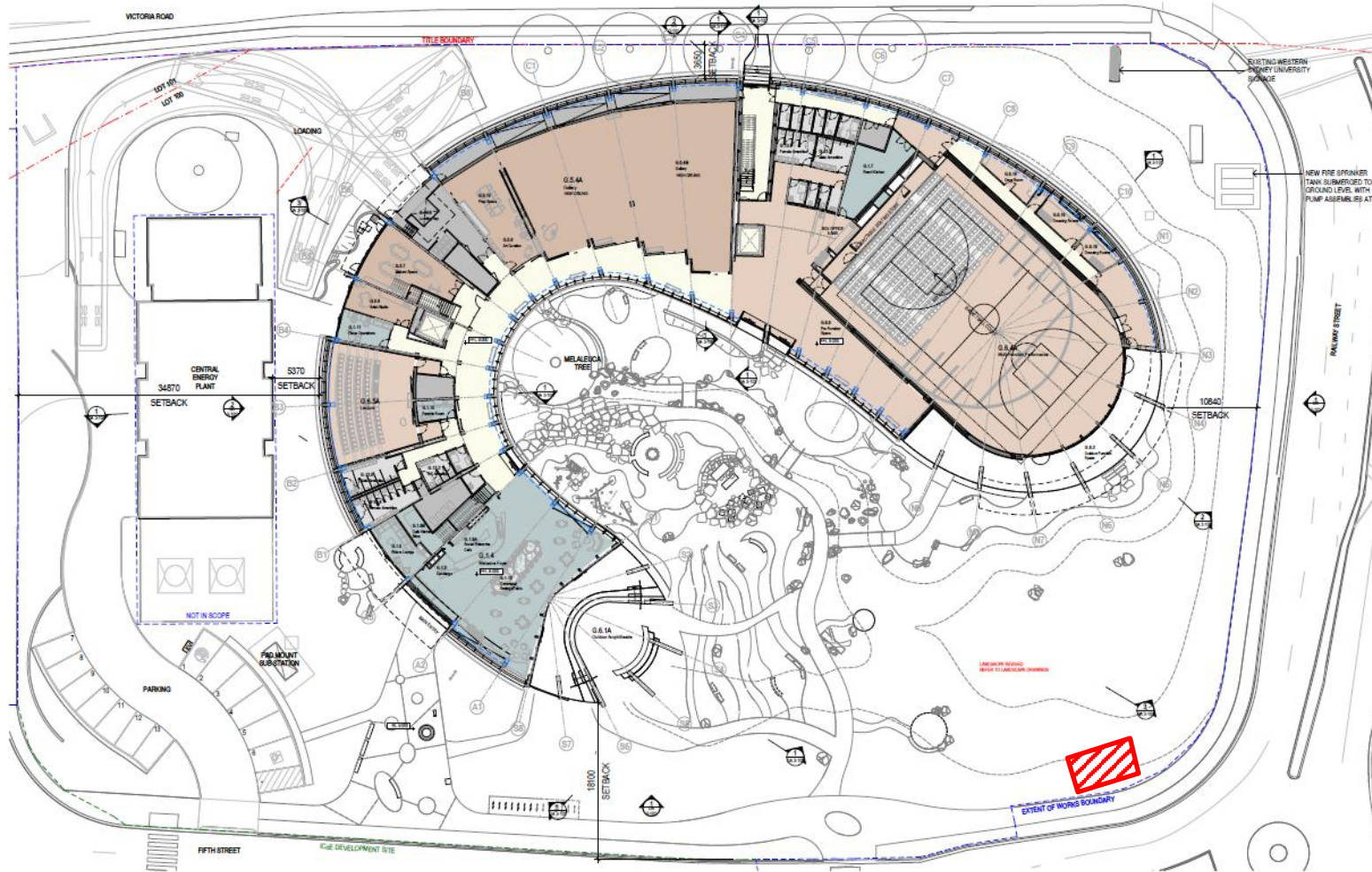
 **Proposed
Bin
Storage
Area**

**Note: the proposed bin location is indicative only, this may change based on site logistics.*

Source: Google Maps 2024.

Proposal

**Proposed
Bin
Storage
Area**



Source: Jackson Clement Burrows Architects, Drawing no. DA1-102, Rev 4, November 2025 – Ground Floor Plan.

*Note: the proposed bin location is indicative only, this may change based on site logistics.