



New High School for Medowie

**CONSTRUCTION & DEMOLITION
WASTE MANAGEMENT PLAN**

24/01/2025
Revision C

Client

NSW Department of Education

<https://education.nsw.gov.au/>

Architect

NBRS

<https://nbrs.com.au/>

SCOPE

This Construction and Demolition Waste Management Plan (C&D WMP) has been prepared to inform the Department's likely environmental impact of the activity. This WMP applies only to the **construction** and **demolition** phases of the activity. 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 activity is not addressed in this report. An operational WMP has been provided separately.

REVISION REFERENCE

Revision	Date	Prepared by	Reviewed by	Description
A	06-04-2024	T. McPherson	J. Parker	Draft
B	20-01-2024	T. McPherson	J. Parker	Amendment
C	24-01-2025	T. McPherson	J. Parker	Amendment

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1 ACKNOWLEDGEMENT OF COUNTRY

Elephants Foot Consulting acknowledges that every project we work on takes place on First Peoples Land. We recognise Aboriginal and Torres Strait Islander People as Traditional Custodians of this land. We pay respect to ancestors and Elders, past and present.

1.1 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:

- Port Stephens Development Control Plan 2014
- 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
- NSW Waste and Sustainable Materials Strategy 2041

1.2 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%

1.3 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 activity:

- 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.

2.0 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 the activity. The report is provided with the following limitations:

- This report is for the sole use of NSW Department of Education (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.

3.0 REF CHECKLIST (WASTE MANAGEMENT)

Requirement	Y	N	N/A	Comments
Waste management				
Has a preliminary Construction Waste Management Plan been prepared that informs the REF that considers: <ul style="list-style-type: none"> the likely type and volume of waste generated by the activity? 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>This has been addressed in section 6.1 and 6.2.</i>
<ul style="list-style-type: none"> opportunities to reuse and recycle waste in order to reduce waste sent to landfill? 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>This has been addressed in section 5.2.</i>
<ul style="list-style-type: none"> set out measures to handle and dispose of the waste? 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>This has been addressed in section 7.0, 7.1 and 7.3.</i>
<ul style="list-style-type: none"> conclude that appropriate arrangements can be put in place such that there would not be likely to have significant environmental affects? 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>This has been addressed in Section 8.</i>
Has a preliminary Operational Waste Management Plan been prepared to inform the REF that considers: <ul style="list-style-type: none"> the likely type and volume of waste generated by the activity? 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>The Operational Waste Management Plan has been prepared to inform the REF. Please refer to Revision B of the report (dated 20th January 2025).</i>
<ul style="list-style-type: none"> opportunities to reuse and recycle waste in order to reduce waste sent to landfill? 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>This has been addressed in section 5.2.</i>
<ul style="list-style-type: none"> set out measures to handle and dispose of the waste including the number of bins, siting and size of the waste storage area, and truck access arrangements (including swept path diagrams to demonstrate access can be achieved in a forward direction)? 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>This has been addressed in section 7.5. All traffic related requirements for truck access can be viewed in the traffic report.</i>
<ul style="list-style-type: none"> Council's waste management policies, if applicable? 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>This report has been prepared with accordance to the Councils waste management policies.</i>
<ul style="list-style-type: none"> conclude that appropriate arrangements can be put in place such that there would not be likely to have significant environmental affects? 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>This has been addressed in section 8.</i>
Does the REF summarise outcomes of the above and incorporate any mitigation measures identified in the above documents?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>This has been addressed in Section 7.</i>

4.0 SITE DESCRIPTION

The site has a street address of 6 Abundance Road, Medowie. It is 6.51ha in area, and comprises 1 allotment, legally described as Lot 3 in DP788451. A large proportion of the site is currently unused and vacant. A small shed structure and caravan are located adjacent to the northern boundary. A cluster of buildings including a single storey dwelling, an outhouse/shed structure and temporary greenhouse are located within the southeastern corner.

The site contains a largely vegetated area to the southwest corner. The site is relatively flat with a gradual fall from west to east toward Abundance Road. The site has a primary frontage to Abundance Road to the east and Ferodale Road to the north. Abundance Road and Ferodale Road are both classified Local Roads. Medowie Road, approximately 1km east of the site, is a classified Regional Road. The area surrounding the site mostly consists of industrial, rural residential, educational, and agricultural lands.

Adjacent to the northwestern boundary is a Shell petrol station and mechanic garage. Adjacent to the northeastern boundary is a medical health clinic. Across Abundance Road along the eastern boundary are a number of warehouse and light industrial developments. Directly north of the site across Ferodale Road are large lots used for agricultural purposes. Medowie Public School is located on Ferodale Road, to the northwest of the site, opposite the Shell petrol station.

Figure 1: Site Location



Source: Ariel Image of the Site (Nearmap).

The proposed activity involves the construction of school facilities on the site for the purpose of the New High School for Medowie. The site contains a densely vegetated area to the southwest corner which is identified as land with high biodiversity values corresponding to the areas of remnant native vegetation (PCT 3995 – Hunter Coast Paperbark-Swamp Mahogany Forest). The existing dwelling house and other structures on the site will be demolished as part of the works. No other works are proposed within this area.

The proposed new school will accommodate 640 students in 29 permanent teaching spaces including 3 support teaching spaces across 3-storeys of buildings on the site. The proposed activity be delivered across 1 stage, and will consist of the following:

29 permanent teaching spaces including 3 support teaching spaces, to accommodate 640 students, and school hall. Approximately 10,500 sqm of GFA is proposed.

- Main vehicular ingress and egress to Ferodale Road to the north, with a new pedestrian and vehicle crossing proposed.
- Main pedestrian access to Abundance Road.
- Kiss and ride, and bus drop and pick up areas to Abundance Road (6 x parallel spaces).
- New pedestrian wombat crossing to Abundance Road
- Approximately 55 x car parking spaces and 3 x accessible car parking spaces.
- Approximately 70 x bicycle parking spaces.
- Block A (Admin) consisting of administration and learning spaces.
- Block B (Foodtech/Workshop) consisting of food technology rooms and workshops.
- Block C (Hall) consisting of school hall to accommodate 1,000 students.
- Central quad, 1 playing field, and 1 sports courtyard.

The proposed activity will include the following spaces; general learning spaces, General support learning spaces, administrative services, staff areas, gym and canteen, library areas for science, wood and metal, food and textiles, health PE, performing arts, additional learning spaces, student amenities, storage, movement (stairs and covered walkways).

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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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 activity; • 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	<ul style="list-style-type: none"> • 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 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 activity:

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

5.3 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 activity, 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.

5.4 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.

6 SITE SPECIFIC WASTE MANAGEMENT PROVISIONS

6.1 Demolition Waste Volumes and Management

The demolition stage of the activity provides the greatest opportunity for waste minimisation and resource recovery. The first thing that should be considered is whether it is possible to reuse existing buildings or parts of buildings for the proposed use. With careful on-site sorting and storage and by staging work programs it is possible to reuse many materials, either on or off-site.

Where possible, materials will be reused, such as crushing concrete for use as clean fill. However, the majority of the components will either be reused for the same purpose or disposed of offsite. The table below illustrates the anticipated volumes of materials generated at this activity during the demolition stage. Volumes have been advised by our client.

Table 3: Demolition Waste Conversion

Material	Volume (m3)	*Tonnes (t)	**Appx. Percentage Recovered
Excavation Material	641.0	641.0	99.8%
Green waste	5631.0	844.7	80%
Bricks	140	168	100%
Tiles	0.0	0.0	100%
Concrete	15.0	22.5	100%
Timber	0.0	0.0	33%
Plasterboard	0.0	0.0	50%
Metals	0.0	0.0	100%
Asbestos	563.0	174.5	0%
Other waste	57.0	17.1	50%
Totals	7047	1867.8	

*The conversion of materials from volume to tonnes is based on the information provided in a consultation paper published by WA Department of Water and Environmental Regulation

<<https://www.der.wa.gov.au/images/documents/our-work/consultation/current-consultation/Consultation%20Sheet%20Approved%20method%20for%20recyclers.pdf>>

**The percentage of recycled demolition waste is estimated by BINGO, and is based on the average quantities of materials received and recovered at their facilities.

The table below illustrates how the demolition materials will be managed, and estimates percentage of materials diverted from landfill.

Table 4: Demolition Waste Management

Type of Material	Less than 10m ³	Estimated Tonnage	How Waste will be Managed			Estimated Tonnage of Material Diverted from Landfill
			Reuse On-Site	Recycle	Landfill	
Excavation Material	<input type="checkbox"/>	641.0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	639.4
Green Waste	<input type="checkbox"/>	844.7	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	675.7
Bricks	<input type="checkbox"/>	168	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	168.0
Concrete	<input type="checkbox"/>	22.5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	22.5
Asbestos	<input type="checkbox"/>	174.5	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	0
Other Waste	<input type="checkbox"/>	17.1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	5.1
Total		1867.8	Total			1510.7
Total Diversion of Waste from Landfill (Minimum 80%)						80.9%

6.2 CONSTRUCTION WASTE VOLUMES AND MANAGEMENT

Waste generated during the construction stage of the activity will be managed by the principal contractor and sub-contractors, with materials being reused and recycled wherever possible. Where neither reuse nor recycling are possible, waste will be disposed of as general waste at a licensed landfill site.

Recyclable material generated during construction will largely consist of off-cuts and discarded bricks, timber, steel, concrete, tiles, plasterboard, and piping, as well as packaging materials.

It is important to note that source separation of waste on-site may offer cost savings when compared to the disposal of mixed waste at landfill sites. Further cost savings may be achieved through the use of reusable and recycled-content materials and by reusing materials salvaged from the demolition stage of the activity.

The table below illustrates the anticipated volumes of materials generated at this activity during the construction stage. Volumes have been advised by our client.

Table 5: Construction Waste Conversion

Material	Volume (m3)	*Tonnes (t)	**Approx. Percentage Recovered
Excavation Material	N/A	N/A	99.8%
Green waste	N/A	N/A	80%
Bricks	1922	2306.4	100%
Tiles	637	637.0	100%
Concrete	4377	6565.5	100%
Timber	1186	225.3	33%
Plasterboard	3466	693.2	50%
Metals	3052	1526.0	100%
Other waste	N/A	N/A	50%
Totals	14640	11953.4	

*The conversion of materials from volume to tonnes is based on the information provided in a consultation paper published by WA Department of Water and Environmental Regulation
<https://www.der.wa.gov.au/images/documents/our-work/consultation/current-consultation/Consultation%20Sheet%20Approved%20method%20for%20recyclers.pdf>

**The percentage of recycled waste is estimated by BINGO, and is based on the average quantities of materials received and recovered at their facilities.

The table below illustrates how the construction materials will be managed, and estimates percentage of materials diverted from landfill.

Table 6: Construction Waste Management

Type of Material	Less than 10m ³	Estimated Tonnage	How Waste will be Managed			Estimated Tonnage of Material Diverted from Landfill
			Reuse On-Site	Recycle	Landfill	
Bricks	<input type="checkbox"/>	2306.4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2306.4
Tiles	<input type="checkbox"/>	637.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	637.0
Concrete	<input type="checkbox"/>	6565.5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6565.5
Timber	<input type="checkbox"/>	225.3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	74.4
Plasterboard	<input type="checkbox"/>	693.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	346.6
Metals	<input type="checkbox"/>	1526.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1526.0
Total		11953.4	Total			11455.9
Total Diversion of Waste from Landfill (Minimum 80%)						95.8%

7.0 MITIGATION MEASURES

The following sections provide mitigation measures for the construction and demolition phases of the activity.

7.1 MONITORING AND REPORTING

It is recommended that the following measures be taken to improve demolition and construction waste management 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 activity may involve fuel or chemical spills, seepage or mishandling of hazardous waste, or unlicensed discharge of pollutants to environment.

The following general mitigation measures will apply, should hazardous materials be revealed during the activity:

- 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.

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

- Wherever practical, excavation material will be reused as part of the activity;
- 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.

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:

7.2 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. 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	Tomago	13
	Benedict Recycling	Mayfield West	13.6
	Cleanaway	Beresfield	19.9
Green waste	Benedict Recycling	Mayfield West	13.6
	Summerhill Waste Management Centre	Wallsend	20.2
	Salamander Bay Waste Transfer Station	Salamander Bay	23.6
Bricks	Boral Recycling	Kooragang	11
	BINGO Recycling Centre	Tomago	13
	SCE Recycling	Mayfield	13.1
Tiles	Boral Recycling	Kooragang	11
	SCE Recycling	Mayfield	13.1
	Benedict Recycling	Mayfield West	13.6
Concrete	Boral Recycling	Kooragang	11
	SCE Recycling	Mayfield	13.1
	Benedict Recycling	Mayfield West	13.6
Timber	BINGO Recycling Centre	Tomago	13
	Benedict Recycling	Mayfield West	13.6
	Benedict Recycling	Mayfield West	13.6
Plasterboard	BINGO Recycling Centre	Tomago	13
	Benedict Recycling	Mayfield West	13.6
	Salamander Bay Waste Transfer Station	Salamander Bay	23.6
Metals	BINGO Recycling Centre	Tomago	13
	Benedict Recycling	Mayfield West	13.6
	Summerhill Waste Management Centre	Wallsend	20.2

7.3 Site-Specific Operational Measures

Training/Site Inductions

All staff employed during the demolition and construction stages of the activity 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;

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;

7.4 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	 <p>H: 1.0m L: 2.0m W: 1.2m</p>
3m	Drop door walk-in	 <p>H: 1.0m L: 2.4m W: 1.5m</p>
4m	Drop door walk-in	 <p>H: 1.2m L: 2.6m W: 1.6m</p>
5m	Drop door walk-in	 <p>H: 1.4m L: 3.0m W: 1.6m</p>
6m	Double doors walk-in	 <p>H: 0.9m L: 4.0m W: 2.0m</p>

Source: Aussie Bins

7.5 CONSTRUCTION AND DEMOLITION BIN SUMMARY

Based on the estimated volumes of anticipated materials, the following bin quantities are recommended below as a minimum:

- **Construction Phase**
2 x 3m³ Skip bins, collected ad-hoc (or as required).
- **Demolition Phase**
2 x 3m³ Skip bins, collected ad-hoc (or as required).

With the recommend bin quantities and spatial areas required to accommodate the skip bins above, the minimum area recommended to store the bins. It is confirmed by EFC and NBRIS that the required areas have been accommodated as displayed in the architectural plans (specifically, the drawing provided by *NBRIS Architects, Site Plan, Medowie High School, Project number 24135, Drawing Reference MHS-NBRIS-ZZ-ZZ-DR-A-00201, Revision 02, 15.01.2025*) (refer to APPENDIX A.2).

Table 8: Recommended Areas for Skip bins

Level	Phase	Equipment	Estimated Area Required (m ²)	Actual Area Provided (m ²)
GF	Construction Phase	2 x 3m ³ Skip Bins Minimum	10	>10
GF	Demolition Phase	2 x 3m ³ Skip Bins Minimum	10	>10

If the relevant party (i.e., DoE/School/Building etc) 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.

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

Space and Siting Requirements

The waste storage area is 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 activity. 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.

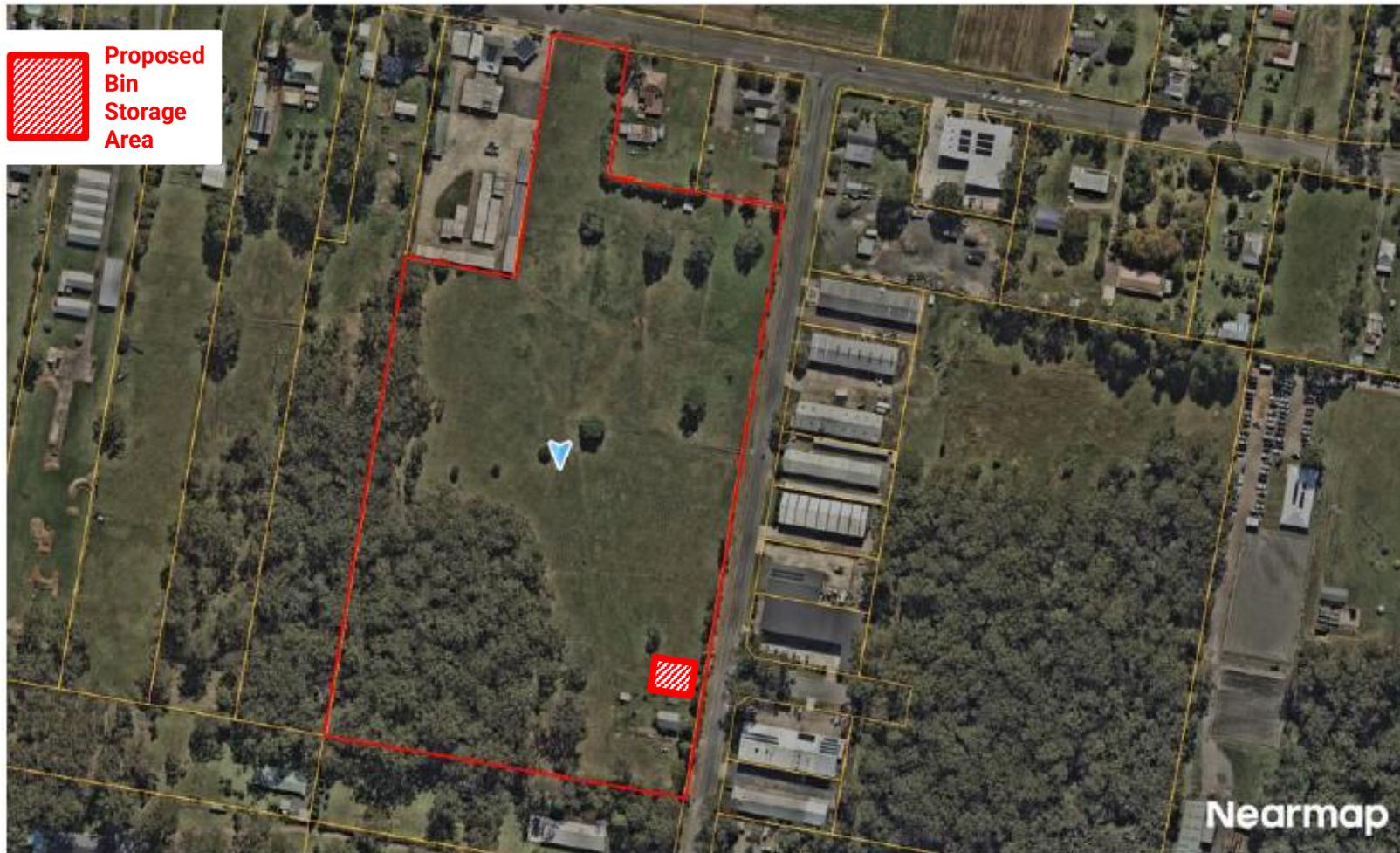
All skip bins leaving the site will be covered with a suitable tarpaulin to reduce spillage of waste while in transit.

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.

8.0 CONCLUDING STATEMENT

In conclusion, this Construction and Demolition report, prepared by T. McPherson supports the waste requirements listed in the REF for the activity (New School in Medowie). The report promotes best practice waste management, minimizing waste generation, and maximizing reuse. It ensures efficient design, storage, and equipment for sustainable operations, meeting the REF requirements for waste management.

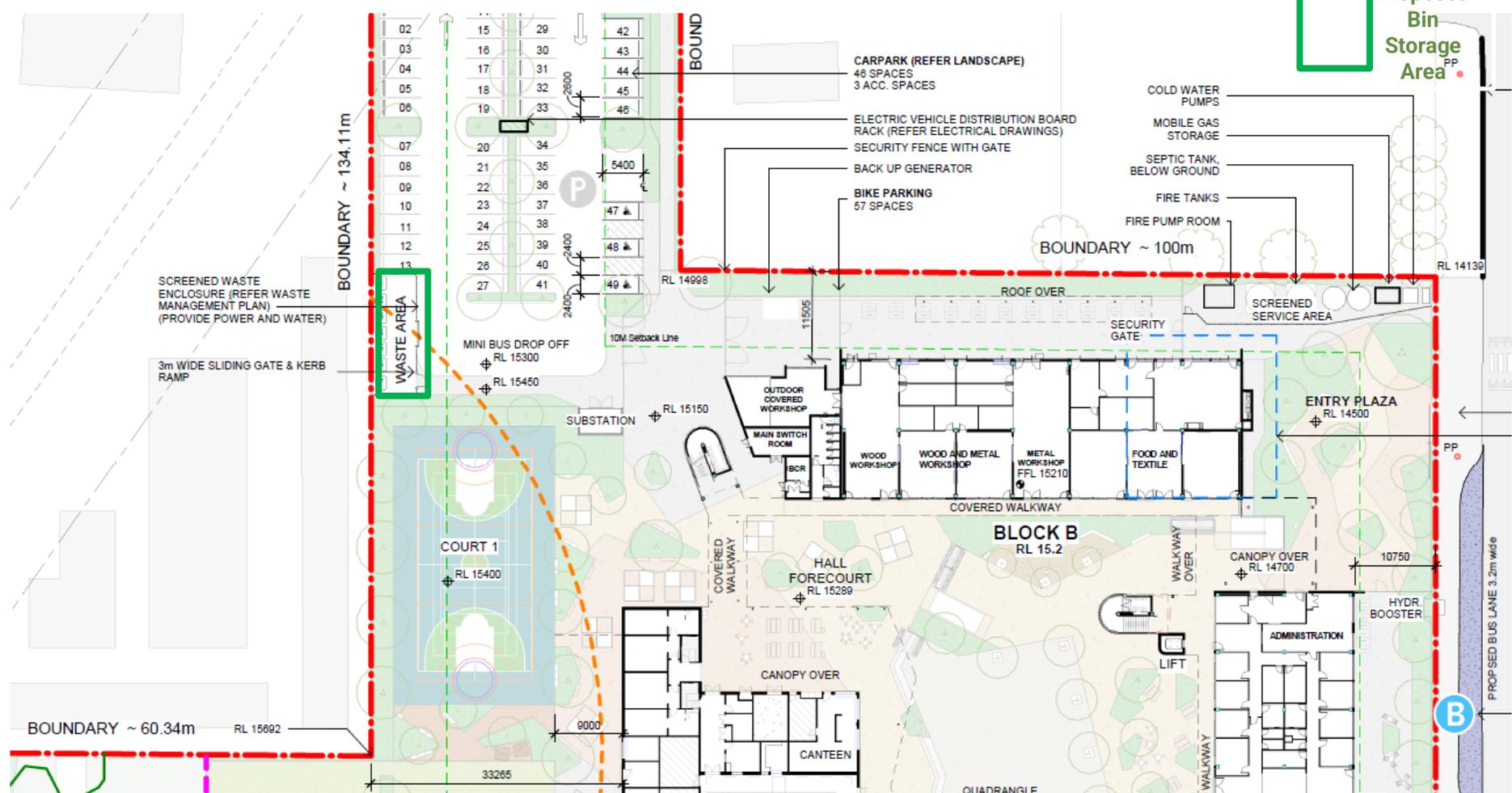
APPENDIX: A.1 EXISTING STRUCTURES



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

Source: Ariel Image of the site (Nearmap).

APPENDIX: A.2 PROPOSAL



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

Source: Source: NBR Architects, Site Plan, Medowie High School, Project number 24135, Drawing Reference MHS-NBR-ZZ-ZZ-DR-A-00201, Revision 02, 15.01.2025.