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an Elephants Foot Company

New High School for Googong
200 Wellsvale Dr, Googong NSW 2620

CONSTRUCTION WASTE MANAGEMENT PLAN

5/02/2025
Revision C

Client

NSW Department of Education

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

Architect

NBRS

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



SCOPE

This Construction Waste Management Plan (CWMP) has been prepared inform the Department's likely environmental impact of the activity. This WMP applies only to the **construction** phase of the activity. The requirements outlined in this WMP must be implemented on site during construction and may be subject to review upon any change to the design. Construction 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	28-11-2024	T. McPherson	J. Parker	Draft
B	23-11-2025	T. McPherson	J. Parker	Amendment
C	05/02/2025	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.

2.0 SCOPE OF REPORT

This CWMP only applies to the **construction** phase of the proposed development; requirements outlined in this CWMP may be subject to review upon further expansion of, and/or changes to the development.

2.1 Legislation and Guidance

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

- Googong Development Control Plan 2010
- 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

2.2 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%

2.3 Report Objectives

Throughout this report, EFC aims to encourage where practical, having regard to the design, and the site constraints, the following waste management practices if/where relevant for this proposal for the duration of the construction stage of the development:

- Bricks, tiles and concrete re-used on-site as appropriate, or recycled off-site (any additional/leftover materials left over from proposed construction works)
- Plasterboard waste returned to supplier for recycling;
- Framing timber re-used on site or recycled off-site;
- Windows, doors and joinery 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.

2.4 Limitations

This report has been prepared by EFC for the sole purpose of providing a Construction Waste Management Plan (CWMP) to support a development application. 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 DEVELOPMENT OVERVIEW

This Operational Waste Management Plan (OWMP) has been prepared by EFCon behalf of the NSW Department of Education (DoE) to inform a Review of Environment Factors (REF) for the proposed construction of a new high school for Googong (the activity) located at 200 Wellsvale Drive, Googong, NSW (the site).

The activity relates to the construction and operation of a new educational establishment to serve the needs of the growing Googong township by accommodating up to 700 students from years 7 – 12. Specifically, the activity includes the following:

- Building A, a three to four-storey building in the northern portion of the site, fronting Glenrock Drive, which will accommodate learning spaces and administrative functions of the school.
- Building B, a three-storey building in the north-west portion of the site, fronting Observer Street, which will accommodate learning spaces and administrative functions of the school.
- Building C, fronting Glenrock Drive, which will accommodate a school hall / gymnasium and canteen.
- Outdoor recreation areas, cricket nets, playing court and playing field.
- Main pedestrian entry established from Glenrock Drive.
- Car park and accessible pedestrian entry from Wellsvale Drive.
- Service entry from Observer Street.
- Associated civil works, earthworks, servicing and landscaping.
- Associated off-site works such as the construction of pedestrian crossings, drop off and pick up bays and a bus stop.
- School identification and wayfinding signage.

The REF describes the activity, documents the examination and consideration of all matters affecting, or are likely to affect, the environment, and details safeguards to be implemented to mitigate impacts.

The Department of Education is the determining authority for the project under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

4.0 INTRODUCTION

The site is identified in Figure 1 and the activity is shown in Figure 2.



Figure 1– Site Location Plan
Source: Mecone

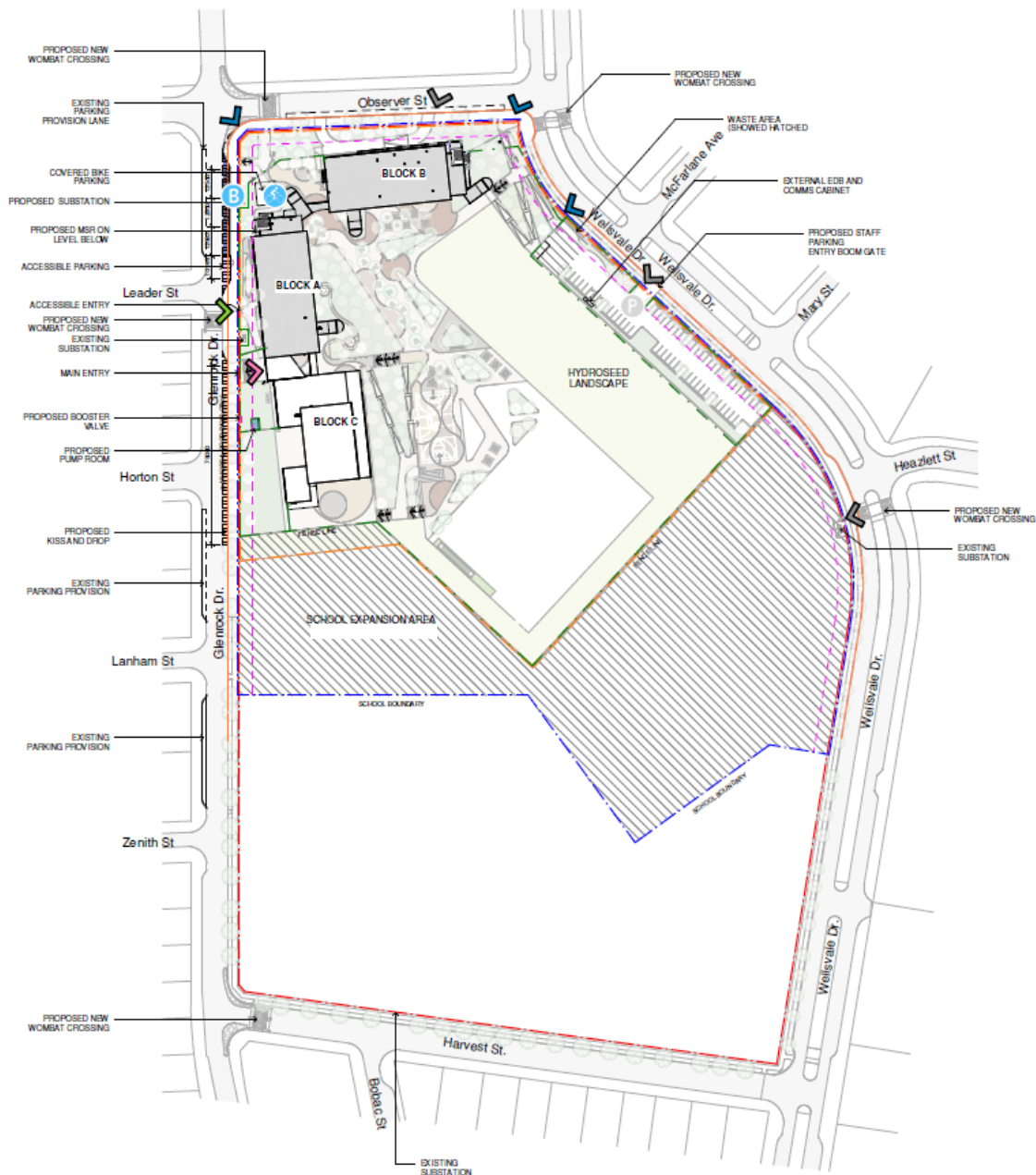


Figure 2 – New High School of Googong – indicative only, subject to detailed design
Source: NBRs, 22/01/2025

Googong is a new release area within the Queanbeyan-Palerang Local Government Area (LGA), located approximately eight kilometres south of Queanbeyan and 17 kilometres southeast of the Canberra Central Business District (CBD). Googong Reservoir, a significant waterbody, is located approximately 3 kilometres east of the subject site. Canberra Airport is located approximately 12 kilometres north of the subject site.

The site is legally described as Lot 829 in Deposited Plan 1277372. The proposed new high school site within this Lot has an area of approximately 5.84 hectares.

The site is currently zoned as R1 General Residential in the Queanbeyan Palerang Local Environmental Plan (LEP) 2022 and is located within Neighbourhood 2 of the Googong Masterplan, within the Googong DCP 2010.

The site is surrounded by low-density residential development, recreational areas and a future local centre adjoining the site to the north.

The site is currently vacant with no existing structures and has been cleared of all trees and native vegetation. The site has an approximately 12 metre fall from the southwest corner of the site at RL ~763.550m Australian Height Datum AHD to the northeast at RL ~751.570m AHD.

3 GENERAL WASTE MANAGEMENT PROVISIONS

3.1 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 Certifying Authority 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 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	<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.

3.2 Monitoring and Reporting

It is recommended that the following measures be taken to improve 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 relevant authority 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 stage of the development may involve fuel or chemical spills, seepage or mishandling of hazardous waste, or unlicensed discharge of pollutants to environment.

3.3 Opportunities for Reuse and Recycling

There are many opportunities to reduce the volume of waste generated during 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 already used in construction 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 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

3.4 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. 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 any contaminated/hazardous materials and dispose of all contaminated/hazardous waste at an appropriately licenced facility, where applicable.

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.

3.5 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.

4 SITE SPECIFIC WASTE MANAGEMENT PROVISIONS

4.1 CONSTRUCTION WASTE VOLUMES AND MANAGEMENT

Waste generated during the construction stage of the development 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.

The table below illustrates the anticipated volumes of materials generated at this development during the construction stage. Volumes have been advised by our client. The volumes of construction materials in the following table are sourced from estimates outlined in the Camden Council's *Waste Management Guidelines* 2019. Our client has reviewed these estimations are to their satisfaction and acknowledges volumes may be updated when more accurate data can be determined by the relevant party.

To estimate construction waste materials, this assessment has referenced the Camden Council's *Waste Management Guidelines* 2019. Although originating from another council, this framework is considered a valid and reliable source, providing accurate waste volume estimates. Its application ensures that projections are tailored to this project's specific needs, yielding relevant and informed results."

Table 3: Site Works and Block C - 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	1458	1749.6	100%
Tiles	145	145.0	100%
Concrete	3754	5631.0	100%
Timber	685	130.2	33%
Plasterboard	2732	546.4	50%
Metals	9632	4816.0	100%
Other waste	0	0.0	50%
Totals	18406	13018.2	

*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%20-Approved%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 4: Block C - Construction Waste Management

			How Waste will be Managed			
Type of Material	Less than 10m³	Estimated Tonnage	Reuse On-Site	Recycle	Landfill	Estimated Tonnage of Material Diverted from Landfill
Bricks	<input type="checkbox"/>	1749.6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1749.6
Tiles	<input type="checkbox"/>	145.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	145.0
Concrete	<input type="checkbox"/>	5631.0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5631.0
Timber	<input type="checkbox"/>	130.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	42.9
Plasterboard	<input type="checkbox"/>	546.4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	273.2
Metals	<input type="checkbox"/>	4816.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4816.0
Total		13018.2	Total			12657.7
Total Diversion of Waste from Landfill (Minimum 90%)						97.2%

Table 5: Site Works and Blocks A and B - Construction Waste Conversion

Material	Volume (m3)	*Tonnes (t)	**Approx. Percentage Recovered
Excavation Material	N/A	N/A	99.8%
Green waste	1317	197.55	85%
Bricks	9.2	11.0	100%
Tiles	0.25	0.3	100%
Concrete	85	127.5	100%
Timber	1.4	0.3	33%
Plasterboard	33	6.6	50%
Metals	8	4.0	100%
Other waste	0	0.0	50%
Totals	1453.85	347.2	

*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: Blocks A and B - Construction Waste Management

			How Waste will be Managed			
Type of Material	Less than 10m³	Estimated Tonnage	Reuse On-Site	Recycle	Landfill	Estimated Tonnage of Material Diverted from Landfill
Green Waste	<input type="checkbox"/>	197.55	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	167.9
Bricks	<input type="checkbox"/>	11.0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11.0
Tiles	<input checked="" type="checkbox"/>	0.3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.3
Concrete	<input type="checkbox"/>	127.5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	127.5
Timber	<input checked="" type="checkbox"/>	0.3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0.1
Plasterboard	<input checked="" type="checkbox"/>	6.6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3.3
Metals	<input checked="" type="checkbox"/>	4.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4.0
Total		347.2	Total			314.1
Total Diversion of Waste from Landfill (Minimum 90%)						90.5%

4.2 Recycling Directory

Construction 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	Chrysus Group	Canberra Region	60
	Wingecarribee Resource Recovery Centre	Wingecarribee	153.6
	Merimbula Waste and Recycling Depot	Merimbula	160.2
	Queanbeyan-Palerang Regional Council Waste Centre	Queanbeyan	23.6
Green waste	Chrysus Group	Canberra Region	60
	Wingecarribee Resource Recovery Centre	Wingecarribee	153.6
	Queanbeyan-Palerang Regional Council Waste Centre	Queanbeyan	23.6
Bricks	Wingecarribee Resource Recovery Centre	Wingecarribee	153.6
	Merimbula Waste and Recycling Depot	Merimbula	160.2
	Wingecarribee Resource Recovery Centre	Wingecarribee	153.6
Tiles	BINGO Industries Recycling Centre	Kembala Grange	189.3
	Remondis	Picton	197.4
	Queanbeyan-Palerang Regional Council Waste Centre	Queanbeyan	23.6
Concrete	Chrysus Group	Canberra Region	60
	Wingecarribee Resource Recovery Centre	Wingecarribee	153.6
	Chrysus Group	Canberra Region	60
Timber	Wingecarribee Resource Recovery Centre	Wingecarribee	153.6
	Merimbula Waste and Recycling Depot	Merimbula	160.2
	Wingecarribee Resource Recovery Centre	Wingecarribee	153.6
Plasterboard	Merimbula Waste and Recycling Depot	Merimbula	160.2
	BINGO Industries Recycling Centre	Kembala Grange	189.3
	Queanbeyan-Palerang Regional Council Waste Centre	Queanbeyan	23.6
Metals	Chrysus Group	Canberra Region	60
	Wingecarribee Resource Recovery Centre	Wingecarribee	153.6

4.3 Site-Specific Operational Measures

Training/Site Inductions

All staff employed during the construction stage 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

- 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;
- Any and/or undiscovered 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;

4.4 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	
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 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.

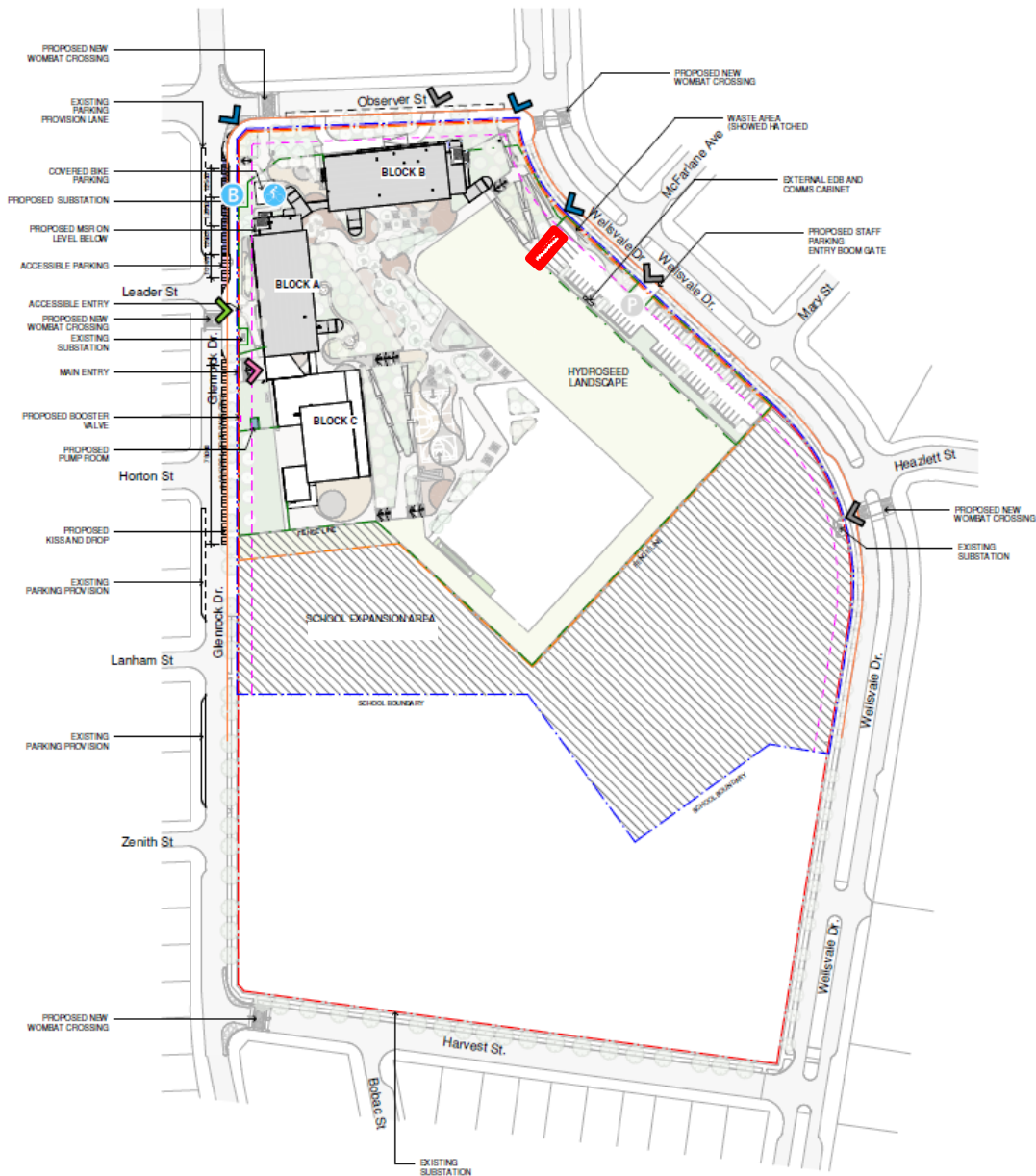
All waste collection for construction works will be conducted between approved hours as per approved hours permitted by the consenting authority. All waste generated on site will be transported to an approved and appropriately licensed resource recovery facility and/or landfill site.

5.0 CONCLUDING STATEMENT

In conclusion, this Construction Waste Management Plan, prepared by T. McPherson supports the waste requirements listed in the REF for the activity (New High School for Googong). 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.

4.5 Site Plans

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



Source: NBRs, GGHS-NBRs-ZZ -DR-A-000200, Rev 2, 20.01.2025 – Site Plan.