



# Demolition and Construction Waste Management Plan

Smalls Road Public School

At 3B Smalls Road, Ryde

On behalf of NSW Department of Education - School Infrastructure



## About TTM

For 30 years, we've been at the centre of the Australian development and infrastructure industry. Our unique combination of acoustics, data, traffic and waste services is fundamental to the success of any architectural or development project.

We have over 50 staff, with an unrivalled depth of experience. Our industry knowledge, technical expertise and commercial insight allow us to deliver an exceptional and reliable service.

T: (07) 3327 9500

F: (07) 3327 9501

E: [ttmbris@ttmgroup.com.au](mailto:ttmbris@ttmgroup.com.au)



Acoustics



Data



Traffic



Waste

### Document Reference:

### Revision Record

No.	Author	Reviewed/Approved	Description	Date
1.	A. Stamatiou	M. Krisanski	SSD Report	06/12/19
2.				

## Executive Summary

This demolition and construction waste management plan outlines the requirements regarding construction and demolition waste for the Smalls Road Public School. The plan satisfies City of Ryde's requirements by providing the following information:

- Analysis of likely demolition waste streams;
- Profile of expected waste volumes during demolition and construction;
- Details of reuse, recycling or off-site disposal;
- Provide list of locally available demolition recycling contractors/facilities;
- Mark-up site plans showing indicative location of temporary waste storage areas during demolition and construction;

The provisions as outlined in this report are considered appropriate for this type of development.

## Contents

<b>1</b>	<b>Introduction .....</b>	<b>5</b>
1.1	Background .....	5
1.2	Scope.....	7
1.3	Regulatory Considerations .....	7
1.4	Regulatory Considerations .....	8
1.5	Site Location.....	9
1.6	Development Summary.....	9
<b>2</b>	<b>Demolition and Construction Waste Legislation .....</b>	<b>10</b>
2.1	Asbestos .....	10
2.2	Contaminated Land.....	11
2.3	Recycling, Reuse and Recovery Guiding Principles.....	11
<b>3</b>	<b>Planning for Demolition and Construction.....</b>	<b>12</b>
3.1	Contractor Selection.....	12
3.2	Material Identification.....	12
3.3	Anticipated Volumes .....	13
<b>4</b>	<b>Waste Bin Guidelines.....</b>	<b>15</b>
<b>5</b>	<b>Demolition .....</b>	<b>16</b>
<b>6</b>	<b>Construction.....</b>	<b>17</b>
6.1	Waste Avoidance.....	17
6.2	Reuse.....	17
6.3	Recycling .....	17
6.4	Contaminated items.....	18
6.5	Landfill.....	18
<b>Appendix A</b>	<b>Demolition and Construction Waste Contractors and Service Providers .....</b>	<b>19</b>
<b>Appendix B</b>	<b>Demolition and Construction Checklist .....</b>	<b>24</b>
<b>Appendix C</b>	<b>Action and Responsibilities During Demolition and Construction Stages .....</b>	<b>26</b>

## Table Index

Table 1.1: Items Covered in this Report.....	7
Table 1.2: Demolition and Construction Waste Management Plan Compliance Checklist .....	8
Table 3.1: Anticipated Demolition Waste Volumes.....	13
Table 3.2: Anticipated Construction Waste Volumes (% of total material).....	14
Table 3.3: Construction Waste Volumes (Tonnes/m <sup>2</sup> ) .....	14
Table 3.4: Anticipated Construction Waste Volumes.....	14

## Figure Index

Figure 1.1 Waste Hierarchy.....	6
Figure 1.2: Site location .....	9
Figure 4.1 Proposed construction waste storage location and site access .....	15

# 1 Introduction

## 1.1 Background

TTM Consulting has been engaged by NSW Department of Education – Schools Infrastructure to prepare a refuse management plan to support the proposed school development at 3B Smalls Road, Ryde.

This demolition and construction waste management plan has been updated to include Condition D28 of the development consent executed on 11 October 2017, with the application reference SSD 8372. The following condition is outlined below:

*Prior to the commencement of operation, the Applicants must prepare a Waste Management Plan for the development and submit it to the Department/Certifier. The Waste management must:*

- *Detail the type of quantity of waste to be generated during operation of the development*

A summary of the quantities of anticipated refuse generation is shown in Section 3.3.

- *Describe the handling, storage and disposal of all waste streams generated on site, consistent with the Protection of the Environment Operations Act 1997, Protection of the Environment Operations (Waste) Regulation 2014, and the Waste Classification Guideline (department of Environment, Climate Change and Water, 2009)*

Handling, storage and disposal of all waste streams generated on site is described in Section 2 and 3, in accordance with the following:

- Protection of the Environment Operations Act 1997
- Protection of the Environment Operations (Waste) Regulation 2014
- Waste Classification Guideline (department of Environment, Climate Change and Water, 2009)
- *Detail the materials to be reused or recycled, either on or off site;*

Reused and recycled materials have been detailed in **Appendix A**.

- *Include the Management and Mitigation Measures included in the Waste Management plan provided by TTM dated 28 September 2017*

Mitigation measures have been described in Section 6.

Existing buildings will need to be demolished to make way for this development which will generate large volumes of construction and demolition waste, most of which can be reused onsite or recycled offsite. Significant waste volumes can also be generated during the construction phase and as such, this plan will assist to guide in reducing wastage and reusing materials.

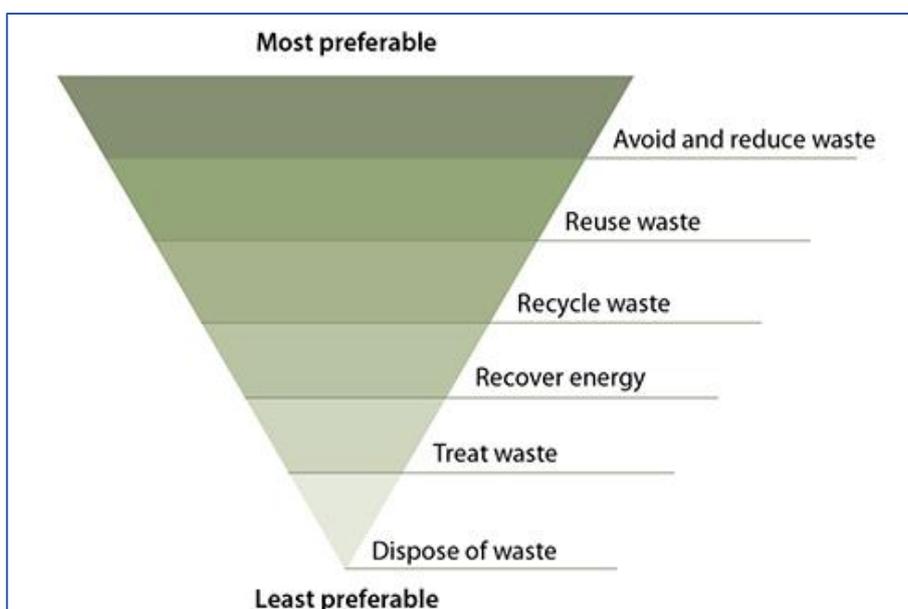
Demolition and construction wastes can include excavated materials such as soil, rocks, vegetation, building materials such as bricks, concrete, timber, fittings, plasterboard and also contaminated or dangerous

materials such as asbestos and contaminated soils. Some of these wastes have particular handling, transport and disposal requirements, and all wastes have been identified by the Local government as having significant potential to contribute to the circular economy – recovering and recycling materials and reducing the need for virgin materials. As such, best practice waste management is required to not only comply with laws and guidelines, but also to contribute to improved environmental performance, and to reduce waste disposal costs.

The City of Ryde Development Control Plan (DCP) also identifies the importance of minimising waste to landfill and maximising recovery of resources from wastes from construction and demolition activities. As such, it is a requirement of the City of Ryde to develop and submit a waste management plan that discusses waste minimisation, reuse, recycling and disposal options for all types of waste, and that the waste management plan must be implemented throughout the development process. During demolition and construction, the waste management plan and proof of lawful waste disposal and recycling must be retained on site in a waste data file.

This demolition and construction waste management analysis of the project has been undertaken to meet the requirements of the City of Ryde DCP 2014. The goal of this document is in line with the DCP as well as the waste hierarchy (avoid, reduce, reuse, recycle, recover (energy), treat and dispose), shown in Figure 1.1, and aims to:

- Minimise the amount of waste generated;
- Maximise the reuse, recycling and reprocessing of demolition and construction waste materials; and
- Minimise the volume of material disposed to landfill.



Source: <https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/warr-strategy/the-waste-hierarchy>

Figure 1.1 Waste Hierarchy

## 1.2 Scope

This report will provide guidance on activities and design for demolition and construction activities. It will also outline the requirements to comply with council and state legislation as well as actions required during demolition, excavation and construction phases.

The items covered within the report are explained in Table 1.1.

Table 1.1: Items Covered in this Report

Item	Explanation
Demolition and Construction Waste Legislation	Legislative and regulatory considerations and guidelines regarding demolition and construction waste management, taking into account local and state government requirements
Planning for Demolition and Construction	Waste contractor selection, waste material identification prior to commencement of works, and anticipated waste volumes
Waste Bin Guidelines	On-site position and labelling of bins as well as access to bins during demolition / construction.
Demolition	General guidelines for waste from demolition activities
Construction	General guidelines for waste from construction activities

## 1.3 Regulatory Considerations

Information contained within the report is based on local government authority requirements related to the City of Ryde and the associated waste services department. The recommendations provided are designed to comply with:

- City of Ryde DCP 2014 – Waste Minimisation and Management
- Protection of the Environment Operations Act 1997
- Protection of the Environment Operations (Waste) Regulation 2014
- Waste Classification Guideline (department of Environment, Climate Change and Water, 2009)
- NSW Waste Avoidance and Resource Recovery Act 2001 and Strategy 2014-2021;
- Australian Standard AS2601 – 1991 The Demolition of Structures;
- Any asbestos removal must be removed and disposed of in accordance with the requirements of Work Cover;
- All lead contaminated materials must be handled and disposed of in accordance with the NSW Environment Protection Authority's requirements.

## 1.4 Regulatory Considerations

TTM have referred to the City of Ryde DCP 2014. The relevant items are outlined in the compliance checklist below (Table 1.2).

Table 1.2: Demolition and Construction Waste Management Plan Compliance Checklist

Item	Comments	Compliance
<b>OBJECTIVES</b>		
To ensure new developments and changes to existing developments are designed to maximise resource recovery (through waste avoidance, source separation and recycling).	Demolition and construction waste minimisation and reuse / recycling as well as the handling of contaminated materials and asbestos have been addressed in this report.	✓
To encourage source separation of waste, reuse, and recycling by ensuring appropriate storage and collection facilities for waste, and quality design of waste facilities.		✓
To encourage techniques in demolition and construction which minimise waste generation, and which maximise the reuse and recycling of materials.		✓
To ensure appropriate, well-designed waste storage and collection facilities are provided and are accessible to occupants and service providers.		✓
To ensure that wastes are handled and stored appropriately in order to minimise risk to health and safety associated with handling and disposal of waste and recycled material, and ensure optimum hygiene		✓
To minimise adverse environmental and amenity impacts associated with waste management (including odour from waste and noise from collection activity).		✓
To discourage illegal dumping by providing on-site storage for waste awaiting collection by removal services.		✓
To ensure waste and recycling storage areas and handling systems for residential properties are designed to meet minimum requirements for Council's domestic waste collection services		N/A
<b>CONTROLS</b>		
Demolition activity must comply with relevant Australian Standards and WorkCover requirements.	Demolition activities are to comply with relevant Australian Standards and WorkCover requirements.	✓
Demolition is to be carried out using the process of deconstruction where materials are carefully dismantled and sorted. A Demolition Work Plan is required to be submitted.	The plan outlines the demolition and construction work. Further details will be submitted by individual contractors during each stage.	✓
A dedicated area is to be allocated on-site for the stockpile of materials for reuse, recycling or disposal and for site waste bins (for surplus and unwanted materials). The siting is to take into account environmental factors including slope, drainage, location of watercourses proximity to native vegetation and amenity impacts (including impacts of emissions from the waste, noise from collection activity) on occupants of neighbouring properties.	A dedicated area will be allocated on-site for the stockpile of materials for reuse, recycling or disposal and for site waste bins (for surplus and unwanted materials), as detailed in Section 4.	✓
Construction materials are to be stored away from the waste materials stored on-site for collection to enable easy access for waste collectors.	Construction materials will be stored away from onsite waste materials for collection and will be easily accessible for waste collectors.	✓

## 1.5 Site Location

The site is located at 3B Smalls Road, Ryde, as shown in Figure 1.2. The property description is Lot 1 on DP830420 and has a single road frontage to Smalls Road. The site is currently operating as an educational facility.

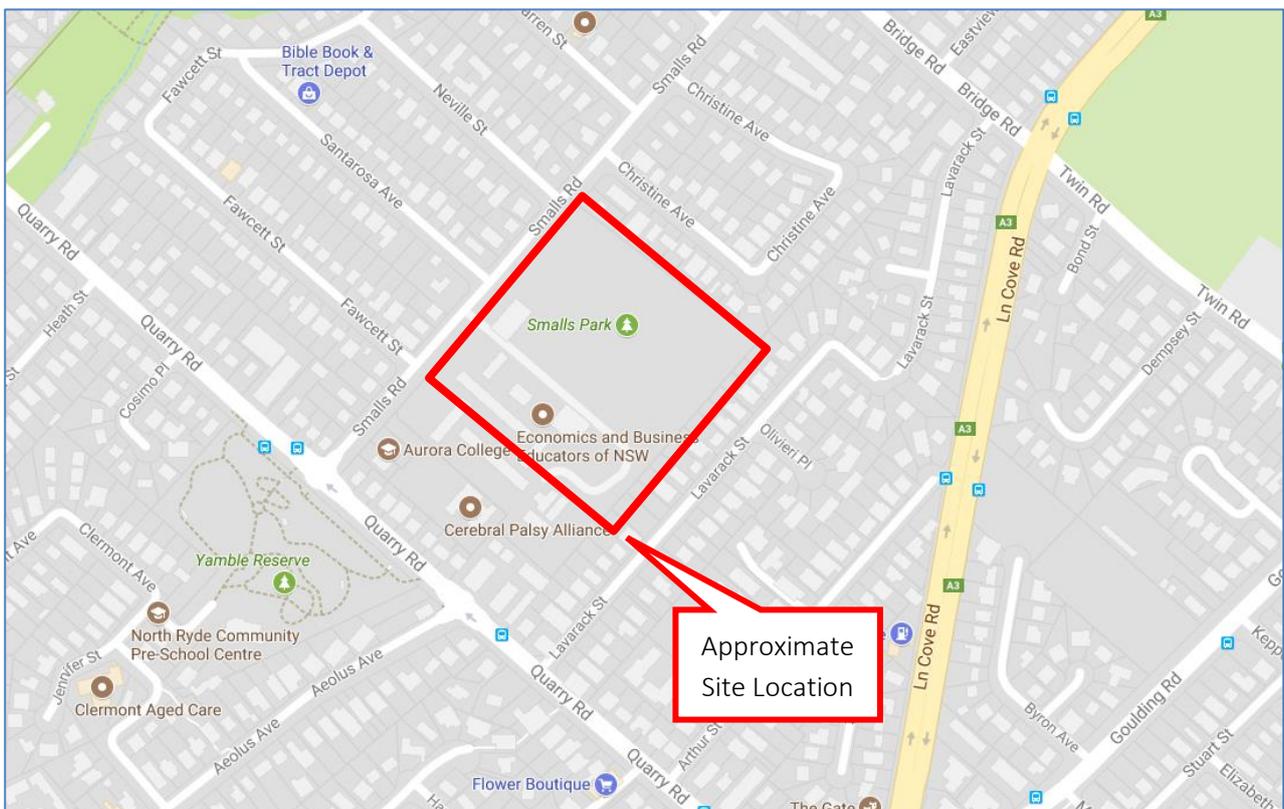


Figure 1.2: Site location

## 1.6 Development Summary

The development consists of an educational facility (school) including admin, classrooms, library and canteen area.

## 2 Demolition and Construction Waste Legislation

The transfer, transport and disposal of particular wastes have a range of legislative requirements and regulations that will need to be adhered to during the life of the project. This legislation has bearing on both the owner of the waste and the transporter.

Under the Protection of the Environment Operations Act 1997, waste can only be transported to a place that can lawfully accept it. It is essential for the project managers and owners to ensure that due diligence is undertaken prior to transportation of waste materials. Additional measures owners of waste can protect themselves from fines and penalties are outlined by the NSW Environment Protection Authority (EPA) at <https://www.epa.nsw.gov.au/your-environment/waste/industrial-waste/construction-demolition>.

It is recommended that a copy of this waste management plan along with proof of lawful disposal for all waste that is disposed of, or otherwise recycled from the site, be retained on site. Proof of disposal / recycling should include a log book with associated receipt / invoices, waste classification and site validation certificates. All entries should include:

- Time and date;
- Description and size of waste;
- Waste facility used;
- Vehicle registration and company name.

Both the logbook and associated receipts should be made available for inspection by authorised council officers at any time during site works. At the conclusion of works, those documents should be retained by the person responsible and made available for inspection by authorised council officers.

### 2.1 Asbestos

Asbestos may be found in cement sheet walls and sheet roofing, backing to floor tiles, external cladding, switchboard backings and lagging insulation for water pipes.

Buildings built or renovated in NSW prior to 1987 are likely to contain asbestos. There are specific laws relating to working with or around asbestos (Work Health and Safety Regulation 2017). If the buildings that are to be demolished were built prior to 1987, an asbestos specialist should be engaged to identify if asbestos containing materials are present and an appropriate removal process be undertaken. For more information, visit <http://www.safework.nsw.gov.au/health-and-safety/safety-topics-a-z/asbestos/asbestos-at-work>.

Details of removal procedures and risk management will be detailed in the hazardous building materials assessment report. All works should be halted if unidentified materials are suspected. Additional sampling may be required to areas that were not accessible at the time the report was undertaken.

## 2.2 Contaminated Land

Any contaminated soil identified after demolition and excavation has commenced is to be remediated and disposed of to an approved contaminated / remediated soil facility as per the Contaminated Land Management Act 1997 as required by NSW EPA. If during the course of demolition or excavation and activities lead to the contamination of land, or once a person becomes aware that there is evidence of previous contamination, there is a legal obligation to notify the EPA.

Further information on requirements can be found at the following guideline <https://www.epa.nsw.gov.au/-/media/09353B1ABE5C431BAE803A0BCE72510C.ashx?la=en>.

## 2.3 Recycling, Reuse and Recovery Guiding Principles

The NSW Waste Avoidance and Resource Recovery Strategy aims at reducing waste generation and keeping materials circulating within the economy. This is a priority for Through Waste Less, Recycle More funding programs and services. The NSW EPA is working hard to make it easier for businesses and communities to become better recyclers and reduce waste sent to landfill.

All demolition materials (see Section 3) suitable for recycling must be transported to an appropriately registered and accredited business to the satisfaction of the Principal Certifying Authority. Resource recovery orders and resource recovery exemptions allow some wastes to be beneficially and safely reused independent of the usual NSW laws that control waste. On-site separation can reduce recycling costs and simplifies the sorting process.

For more information, refer to <https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/warr-strategy>.

## 3 Planning for Demolition and Construction

In order to achieve effective waste reduction during the demolition and construction phases, there are a number of measures that should be undertaken by the project manager, demolition and construction contractors, and site staff. A commitment to reducing waste sent to landfill will need to be agreed by all stakeholders and actions coordinated early in the planning phases, in order to achieve best practice diversion rates. These measures are discussed in the following sections.

### 3.1 Contractor Selection

The projects site performance relies on the attitudes of the chosen contractors (demolition, excavation and construction), which will ultimately have a significant impact on waste performance of the site. Contractor tendering should include a requirement for all contractors to identify their waste minimisation strategies and actions, and outline the materials that they are likely to reuse on site, recycle through the supply of bins, or recycle themselves through product stewardship arrangements for specialty wastes, and those items that they regularly dispose of to landfill. Contractors supply goods and equipment should also document within the tender submission the methods they undertake to reduce overordering, the anticipated/known wastage, and other waste minimisation actions.

As a minimum, all contractors should follow the intent of this demolition and construction waste management plan, and where not achievable, discussions with the site manager / foreman must be undertaken and recycling contractors engaged to provide consultation on alternative solutions.

A comprehensive list of contractors and demolition and construction waste service providers can be found in Appendix A.

### 3.2 Material Identification

Prior to demolition, it is recommended that construction contractors meet with demolition contractors and site managers to identify those materials or items that are to be salvaged or reused during the demolition or construction stages. All other materials should then be categorised based on acceptance criteria for available recyclers (see Table 3.1 and checklist in Appendix B). This presents a clear idea of those materials that are to be excluded from being sent offsite for recycling / reprocessing or for disposal to landfill.

Key principles to be followed during demolition, in order of preference and generally in accordance with the waste hierarchy, include:

- Manual deconstruction of the following:
  - Materials that can be reused on site during further demolition and construction stages;
  - Materials of high cost to dispose or treat. These materials should not be mixed with other generic building materials, as the entire load will be deemed as contaminated, and therefore the entire load will be charged at the higher rate;

- High risk / dangerous materials (e.g. asbestos) by a licensed contractor or suitably qualified person; and
- Items that will attract a high rebate (e.g. copper pipes).
- Segregation of like materials (e.g. timber) and separate storage on site in bins, depending on market availability of recycling agents (see Section 3.3).
- Materials that cannot be reused or recycled are to be disposed of to landfill.

Volumes will also be dependent upon the method of demolition, and greater recovery rates will be achieved with dismantling of building structures by hand rather than with heavy machinery. However, this can also

- Be time consuming;
- Have greater workplace health and safety risk;
- Have significantly higher labour costs for little recompense for the level of segregation of materials (as it is more labour intensive).

Therefore, it is recommended that those items of high costs to dispose and high rebate value (e.g. copper pipe), or items that have special handling requirements (e.g. lead pipe, asbestos and plasterboard) should be deconstructed by hand in the appropriate stages where possible, and segregated and disposed of accordingly. The remainder of materials may then be deconstructed either in phases to maximise segregation. Only if a recycling disposal point accepts mixed materials and sorts at their processing plant, materials may be placed into mixed material bins.

### 3.3 Anticipated Volumes

In the absence of readily available data on anticipated volumes of waste materials from the construction of commercial buildings, TTM have estimated volumes by extrapolating data available on the construction of houses (and assumed that the current buildings requiring construction equate to approximately 9 residential houses). The resulting quantities are a guide only to assist in planning appropriate management solutions (access, bin capacity, training) for each of the waste streams, as shown in Table 3.1.

Table 3.1: Anticipated Demolition Waste Volumes

Material	Brick Building (Tons)	Tons per m <sup>2</sup>	Estimated Material for Demolition (m <sup>2</sup> )
Timber	6.9	0.5	31
Plasterboard	1	2.4	22
Concrete	180	1.0	1620
Bricks	180	0.75	1215
Tiles	8	2.4	173
Fittings	1.5	3*	41
<b>Total</b>	<b>387.4</b>	<b>10.05</b>	<b>3102</b>

\* In the absence of readily available data, TTM have assumed this number to be slightly higher than the plasterboard and tiles materials.

Source: [http://www.wastenet.net.au/Profiles/wastenet/Assets/ClientData/Document-Centre/WAL2708\\_Construction\\_waste\\_A4\\_v2\\_singles.pdf](http://www.wastenet.net.au/Profiles/wastenet/Assets/ClientData/Document-Centre/WAL2708_Construction_waste_A4_v2_singles.pdf)

Without knowing quantities of materials that will be bought on to site, it is not possible to accurately estimate volumes of materials that will require recycling or landfilling. Therefore, TTM have provided industry knowledge on wastage percentages of materials ordered, of regularly used construction materials in Table 3.2 below.

Table 3.2: Anticipated Construction Waste Volumes (% of total material)

Material	Waste as a percentage of the total amount of material ordered
Timber	5-7%
Plasterboard	5-20%
Concrete	3-5%
Bricks	5-10%
Tiles	2-5%

Source: Ryde DCP – Waste Minimisation and Management

To convert volumes to tonnages for these materials, use the values in Table 3.3.

Table 3.3: Construction Waste Volumes (Tonnes/m<sup>2</sup>)

Material	Tonnes / m <sup>2</sup>
Timber	0.5
Plasterboard	2.4
Concrete	1.0
Bricks	0.75
Tiles	2.4

Source: [http://www.wastenet.net.au/Profiles/wastenet/Assets/ClientData/Document-Centre/WAL2708\\_Construction\\_waste\\_A4\\_v2\\_singles.pdf](http://www.wastenet.net.au/Profiles/wastenet/Assets/ClientData/Document-Centre/WAL2708_Construction_waste_A4_v2_singles.pdf)

As anticipated volumes are currently unknown, it is essential that the construction contractor complete the checklist in Appendix B as soon as known quantities of materials are calculated. An estimation of volumes has been provided below, but it is indicative only.

Table 3.4: Anticipated Construction Waste Volumes

Material	Estimated Quantity (to be updated by construction contractor)
Timber	2 Tonnes
Plasterboard	20m <sup>3</sup>
Concrete	20m <sup>3</sup>
Bricks	20m <sup>3</sup>
Tiles	5m <sup>3</sup>

## 4 Waste Bin Guidelines

All waste containers / skip bins are to be positioned within the property boundary. Bins outside of the property boundary such as the roadway or nature strip may require a permit application to Council. Storage of waste containers / skip bins should be placed in a suitable location as to not cause disturbance to normal stormwater flow.

All bins should be appropriately labelled, clearly visible to and from the property, easily accessible and stored in a well-lit area. Under no circumstances should hazardous, flammable or explosive materials be disposed of within skip bins.

Access to the construction area will be via Smalls Road. As each construction waste contractor has different collection methods, bins and vehicles, the site foreman will be responsible for liaising directly with the contractors to ensure correct placement of bins and stockpiles to maximise safe access for both users and transporters.

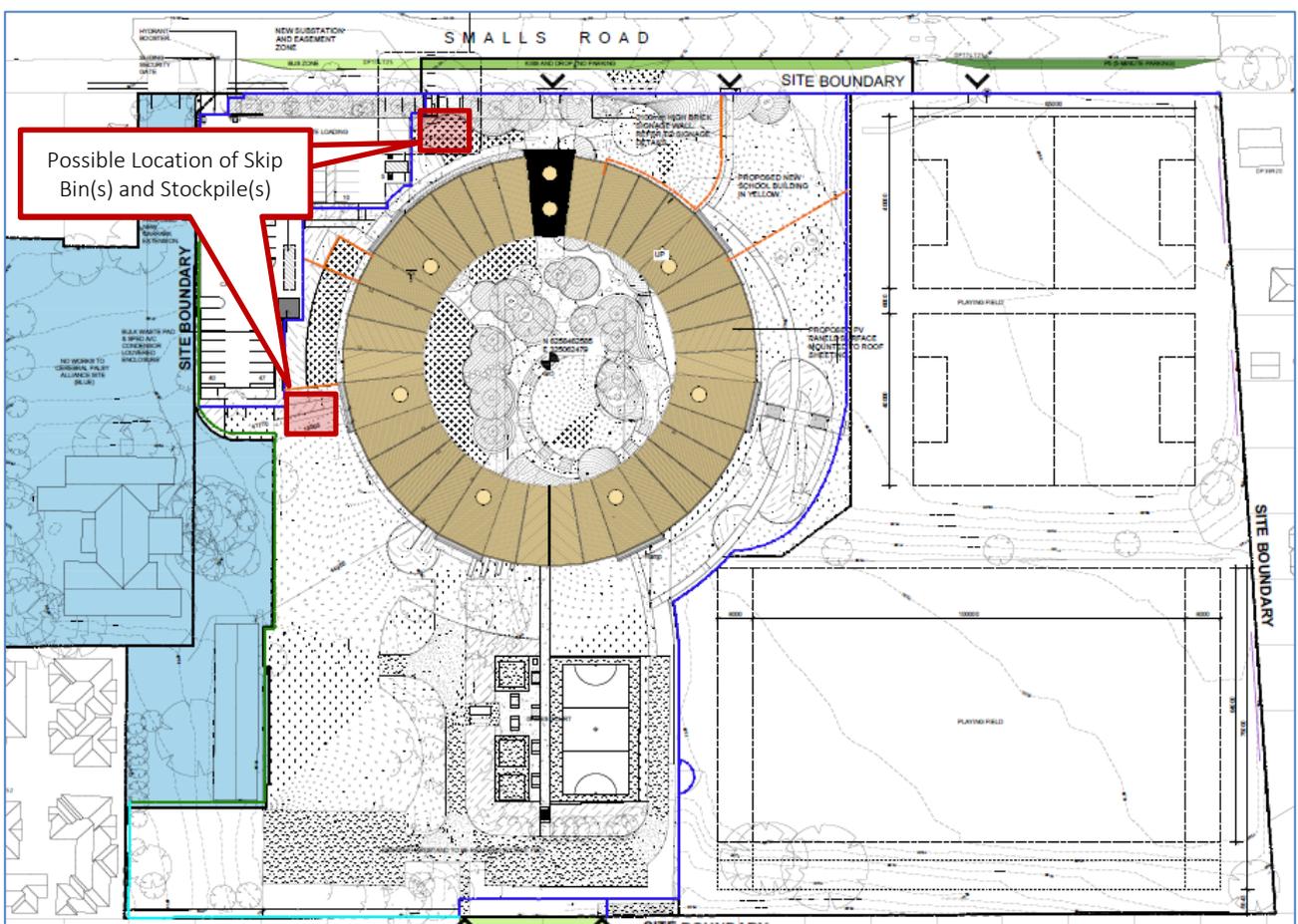


Figure 4.1 Proposed construction waste storage location and site access

## 5 Demolition

The general methodology to be followed for completing the demolition stage is outlined below. In addition, please also refer to the Council's DCP.

- Sourcing of recycling agents / contractors and transportation, and gain an understanding of their site access requirements and bin choices;
- Installation of any barrier fencing to protect pedestrian safety, access pathways and items to be protected / retained;
- Identification of best bin storage areas for the number of material streams and collection vehicle access, ensuring unimpeded access for users and waste collection contractors;
- Installation of recycling bins;
- Preparation of access points and installation of safety and educational signage at waste storage areas;
- Site induction for all staff to include discussion on commitment to reuse and recycling, how to use bins appropriately, and who to contact if there are any issues;
- If building were built prior to 1987, engagement of a licensed asbestos contractor to identify and remove asbestos. Any other hazardous materials should also be removed at this stage;
- Services disconnected;
- Demolition of existing buildings: materials to be segregated into appropriately labelled bins in waste storage area. The method of deconstruction to achieve maximum resource recovery is also listed.

Demolition / Dismantle and Removal Item	Method
Bricks and concrete	Machine
Fixtures & fittings	Hand
Plasterboard	Hand
Roof timbers, floor & wall framing	Hand / Machine
Roof sheeting / tiling	Hand
Trees and vegetation	Machine
Windows and glass panels to be removed separately	Hand

- Regular checks on bin capacity and scheduling of removal contractors;
- Waste Data File maintained and updated with each collection.

## 6 Construction

The key objectives for reducing total waste to landfill during the construction phase should be to:

- Minimise the amount of waste generated for the project: this should be the primary focus “waste avoidance”;
- Maximise the amount of materials reused or salvaged, sent for reuse or recycling;
- Minimise the amount of waste sent to landfill.

These goals can be achieved with the right planning, commitment, infrastructure and site preparation. The site foreman and contractor representatives should be engaged early and clear guidelines on the expectations to minimise waste to landfill communicated.

### 6.1 Waste Avoidance

- Plan to use building materials with low wastage rates such as prefabricated or modular materials;
- Design using standard material sizes, reducing off-cuts and time and labour saving;
- Store materials appropriately from weather, accidents, machinery and theft;
- Regularly undertake stocktake checks to ascertain available resources;
- Check all goods upon delivery for defects and return to supplier, and do not accept oversupply as compensation;
- Purchase materials or request materials to have no packaging where appropriate;
- Support the purchase of recycled content materials.

### 6.2 Reuse

- Reuse materials identified in the pre-planning consultation with the site foreman and construction contractor;
- Identify and source other salvaged materials from salvage yards or look for bespoke items on for sale websites / pages;
- Stockpile materials that can be reused in future stages or projects.

### 6.3 Recycling

- Provide bins for each material stream based on acceptance criteria from recycling contractors;
- Some contractors will provide mixed bins and they will undertake the sorting process within their facility. This may be particularly useful where available space or access is limited;

- Remember to provide a comingled / mixed recycling bin for staff to dispose of recyclables from lunches and packaging.

## 6.4 Contaminated items

Contaminated items must go to an appropriately licensed facility with appropriately licensed transporter.

## 6.5 Landfill

Landfill should be a last resort option for those items that cannot be readily reused, recycled or reprocessed.

## Appendix A Demolition and Construction Waste Contractors and Service Providers

The following is an indicative only list of contractors that provide various services for handling the recycling, reuse and disposal of demolition and construction waste from the proposed project. This list has been assembled not in recommendation of any particular contractor, but to demonstrate the general availability of recycling services in the area.

Waste Material	Company	Description	Contact / Location Details
Concrete, blockwork, bricks, porcelain, bitumen / asphalt	Benedict Industries	<p>Primarily a rubble recycling company but manages a wider range of waste streams as per below.</p> <p>Benedict will separate loads by hand or machine, screen some loads and crush masonry products. Non-recyclable elements will go to landfill.</p> <p>Materials accepted:</p> <ul style="list-style-type: none"> <li>• Clean concrete, blockwork, brick, mortar (masonry), porcelain</li> <li>• Rubble+ soil</li> <li>• Mixed load – concrete rubble and mixed in non-recyclables (incl mixed demolition waste, vegetation, timber, plastics)</li> <li>• Electrical cable</li> <li>• Cardboard</li> <li>• Clean timber</li> <li>• Green waste</li> <li>• Clean and laminated MDF, laminated timbers, stumps and plastics will generally go to landfill</li> <li>• Steel loads – not mixed with other materials that requires sorting</li> </ul> <p>Benedict do not accept paints, liquids or food waste.</p> <p>Do not provide a bin collection service and are regularly serviced by bin suppliers and transporters such as:</p> <ul style="list-style-type: none"> <li>• Onesteel</li> <li>• Remondis</li> <li>• Reliance Skip Bins</li> <li>• Workhorse Waste and Recycling</li> <li>• Jims Skip bins</li> <li>• Vina Skip Bins</li> <li>• Brown Bros</li> </ul>	<p>W: <a href="http://www.benedict.com.au">www.benedict.com.au</a></p> <p>Recycling sales: E: <a href="mailto:recycling@benedict.com.au">recycling@benedict.com.au</a> P: 02 8761 0077</p> <p>Nearest recycling facility: A: 33-39 Riverside Road, Chipping Norton NSW 2170 M: 0412 777 358 (site enquiries: Marco Zdrilic)</p> <p>Bins &amp; gravel: E: <a href="mailto:sales@benedict.com.au">sales@benedict.com.au</a> P: 02 9986 3500</p> <p>Nearest quarry: A: 146 Newbridge Road, Moorebank NSW 2170 M: 0427 240 211 (site enquiries: Adam Springfield)</p>
	Bingo Industries	<p>Primarily a rubble recycling service similar to Benedict Industries, but they also provide their own bins.</p>	<p>A: various sites around Sydney; closest site in 35 Wentworth St, Greenacre NSW 2190 W: <a href="http://www.bingoindustries.com.au">www.bingoindustries.com.au</a> P: 1300 424 646</p>
	Boral Recycling	<p>Provides concrete, cement, asphalt, timber, roof tiles, bricks and masonry blocks removal and disposal.</p>	<p>A: various locations around Sydney; closest in 25 Burrows Road South, St Peters NSW 2044 W: <a href="https://www.boral.com.au">https://www.boral.com.au</a> P: 1300 134 002 (general), plus phone numbers for different services (see website)</p>

	Concrete Recyclers	Provides concrete, brick, asphalt waste removal.	A: 14 Thackeray St, Camellia NSW 2142, plus site in Terrey Hills, Kurnell (landfill) and Wetherill Park (recycling) W: <a href="http://www.concreterecyclers.com.au">www.concreterecyclers.com.au</a> P: 02 8832 7400
	M&K Demolition Group	Demolition, asbestos removal, strip outs and any other earthmoving service.	A: Tusmore St, Punchbowl NSW 2196 W: <a href="http://www.mkdemogroup.com.au">http://www.mkdemogroup.com.au</a> M: 0404 429 995 (Karl) M: 0404 222 995 (Michael)
Plasterboard / gypsum	1300 Rubbish	General rubbish removal (waste and recycling) from residential and commercial buildings, construction sites and deceased and hoarding affected estates, including gyprock.	A: various locations around Australia, incl. Sydney area W: <a href="http://www.1300rubbish.com.au">www.1300rubbish.com.au</a> P: 1300 78 22 47
	Gyprock	Only new, clean Gyprock products / plasterboard waste is accepted. Do not provide bins.	A: various locations in Sydney area (Gyprock Trade, Bunnings) W: <a href="https://www.gyprock.com.au/about-us/plasterboard-recycling">https://www.gyprock.com.au/about-us/plasterboard-recycling</a> P: 13 17 44
	ReGyp	Regyp provide and collect their own bins for new and old plasterboard per below: <ul style="list-style-type: none"> <li>• Plasterboard and cornice off-cuts</li> <li>• Plasterboard with paint or wallpaper</li> <li>• Non-laminated plasterboard tiles</li> <li>• Gypsum blocks, gypsum prefab wall panels e.g. RFC rapid wall</li> <li>• Chemical precipitate gypsum (e.g. flue gas desulphurisation)</li> <li>• Suitable industrial gypsum waste</li> </ul>	A: 330 Captain Cook Drive, Kurnell NSW 2231 W: <a href="http://www.regyp.com.au/waste">http://www.regyp.com.au/waste</a> P: 1300 473 497
	Remondis	Accepted materials: <ul style="list-style-type: none"> <li>• Chemical &amp; FGD gypsum and other construction materials including</li> <li>• Scrap metal,</li> <li>• Organic waste,</li> <li>• Paper</li> <li>• Glass</li> <li>• Plastics</li> </ul>	W: <a href="http://remondis.com.au">remondis.com.au</a> E: <a href="mailto:info@remondis.com.au">info@remondis.com.au</a> P: 02 9032 7100  Nearest facilities in: A: 32-36 Christie Street, St. Marys NSW 2760 (depot) P: 02 9623 4733 A: Bay Road 2, Taren Point NSW 2229 (transfer station) P: 02 9526 2642
Asbestos	M&K Demolition Group	As above.	As above.
	Jim's Asbestos Removal	Licensed asbestos removalists. <ul style="list-style-type: none"> <li>• Asbestos removal</li> <li>• Asbestos encapsulation</li> <li>• Asbestos testing and other services</li> </ul>	A: Sydney metro area W: <a href="https://www.jimsasbestosremoval.com.au/locations/asbestos-removal-sydney">https://www.jimsasbestosremoval.com.au/locations/asbestos-removal-sydney</a> P: 13 15 46

Green Waste	Australian Native Landscapes	Green waste off-site composting.	A: 4-6 Tollis Place, Seven Hills NSW 2147; 210 Martin Road, Badgerys Creek NSW 2171 W: <a href="http://www.anlscap.com.au">www.anlscap.com.au</a> Ph. 13 14 58
	Benedict Industries	As above.	As above.
Paints	Paintback	Taking unwanted paint and packaging for innovative reuse and responsible disposal. Further information regarding acceptable paints can be found on the website.	A: various sites in Western Sydney, e.g. Liverpool Community Recycling Centre, 99 Rose Street, Liverpool NSW 2170 W: <a href="https://www.paintback.com.au">https://www.paintback.com.au</a> P: 1300 390 380
Metal (metal recycling generally falls into ferrous and non-ferrous metal categories numerous recyclers exist to handle both types in mixed and separated loads)	Benedict Industries	As above.	As above.
	Kimbriki Resource Recovery Centre	Items must be at least 80% metal.	As above.
	Liberty Group	Mixed metals recycling, full site clean-up and bin services. Also have other recycling services.	A: various locations in Sydney area, nearest at 79-81 Stephen Road, Botany NSW 2019 W: <a href="https://www.libertygfg.com/recycling">https://www.libertygfg.com/recycling</a> E: <a href="mailto:recycling@libertyonesteel.com">recycling@libertyonesteel.com</a> P: 02 8335 8470
	Remondis	As above.	As above.
	Veolia	All waste metal in large volumes.	A: various sites across Australia W: <a href="https://www.veolia.com/anz/our-services/our-services/recycling-waste-services/construction-demolition-waste">https://www.veolia.com/anz/our-services/our-services/recycling-waste-services/construction-demolition-waste</a> P: 13 29 55
Timber	Benedict Industries	As above.	As above.
	Boral Recycling	As above.	As above.
Cardboard + Polystyrene	Brandown	Privately owned and operated resource recovery centre. General solid waste (non-putrescible), landfill and quarry.	A: Lot 90 Elizabeth Drive, Kemps Creek NSW 2170 W: <a href="http://www.brandown.com.au">http://www.brandown.com.au</a> E: <a href="mailto:info@brandown.com.au">info@brandown.com.au</a> P: 02 9826 1256
	Cleanaway	Sustainability for recycling, reuse, repurposing, treating or shredding across the following areas: <ul style="list-style-type: none"> <li>• General Waste</li> <li>• Recycling</li> <li>• Hazardous Chemical Waste Disposal Services</li> <li>• Used Oil and Oily Water</li> <li>• Construction and Demolition Waste</li> </ul>	A: various locations across Australia W: <a href="https://www.cleanaway.com.au/our-services/building-construction-scrap-metal-and-timber-waste">https://www.cleanaway.com.au/our-services/building-construction-scrap-metal-and-timber-waste</a> P: 13 13 39
	Remondis	As above.	As above.

Soft plastics from packaging	Cleanaway	As above.	As above.
	Remondis	As above.	As above.
	Suez	Sustainability across the following areas: <ul style="list-style-type: none"> <li>• Commercial Waste Management</li> <li>• Waste Removal &amp; Disposal</li> <li>• General Waste Management</li> <li>• Commercial Waste Recycling</li> <li>• Advanced Resource Recovery Technology</li> <li>• Diversion Solutions</li> <li>• Households &amp; Small Business</li> <li>• Collection &amp; Disposal</li> <li>• General Waste Management</li> <li>• Skip Bins</li> </ul>	A: multiple locations across Australia; Chullora Resource Recovery Park: 15 Muir Rd, Chullora NSW 2190 W: <a href="https://www.suez.com.au/en-AU/who-we-are/SUEZ-in-Australia-and-New-Zealand/our-locations/waste-management-chullora">https://www.suez.com.au/en-AU/who-we-are/SUEZ-in-Australia-and-New-Zealand/our-locations/waste-management-chullora</a> P: 13 13 35 (general enquiries)
Skip bin hire	Bingo Industries	As above. Provides skip bins 2 m <sup>3</sup> and 30 m <sup>3</sup> .	As above.
	Bins Express	Provides skip bins between 1.5 m <sup>3</sup> and 13.5 m <sup>3</sup> , available 7 days a week. Servicing Sydney metro area.	A: PO Box 505 Merrylands NSW 2160 W: <a href="https://www.binsexpress.com.au">https://www.binsexpress.com.au</a> E: <a href="mailto:info@binsexpress.com.au">info@binsexpress.com.au</a> M: 0409 103 103
	Jim's Skip Bins	Provides skip bins between 2 m <sup>3</sup> and 9 m <sup>3</sup> . Recycle at least 90% of all wastes collected.	A: multiple locations across Australia W: <a href="https://www.jimsskipbins.com.au/campbelltown">https://www.jimsskipbins.com.au/campbelltown</a> E: <a href="mailto:admin@jims.net">admin@jims.net</a> P: 13 15 46
	Suez	As above.	As above.

## Appendix B Demolition and Construction Checklist



## Appendix C    Action and Responsibilities During Demolition and Construction Stages

Stage	Action	Responsibility	Checked?
Pre-Demolition	Appointment of site manager/foreman with clear responsibilities on reduction of waste to landfill.	Project manager	
	Review construction and demolition targets set by State government.	Project manager and site manager	
	Review legislated documentation requirements.	Project manager and site manager	
	Appoint demolition contractor who is committed to manual demolition/ deconstruction and salvage of materials	Project manager and site manager	
	Selection of appropriate recycling contractors and analysis of site access requirements and constraints.	Project manager, site manager and possibly demolition contractor	
Demolition	Sourcing of recycling agents/contractors and transportation – gain an understanding of their site access requirements and bin choices.	Site manager, demolition contractor	
	Installation of any barrier fencing to protect pedestrian safety, access pathways, and items to be protected/retained.	Site manager and demolition contractor	
	Identification of best bin storage areas for the number of material streams and collection vehicle access, ensuring unimpeded access for users and waste collection contractors.	Project manager, site manager and possibly demolition contractor	
	Installation of recycling bins.	Project / Site manager	
	Preparation of access points and installation of safety and educational signage at waste storage areas.	Site manager, demolition contractor	
	Site induction for all staff to include discussion on commitment to reuse and recycling, how to use bins appropriately, and who to contact if there are any issues.	Site manager	
	If buildings were built prior to 1987, a licensed asbestos contractor should be engaged to identify and remove asbestos. Any other hazardous materials should also be removed at this stage.	Project manager, site manager and demolition contractor	
	Services disconnected.	Site manager	
	Demolition of existing buildings – materials to be segregated into appropriately labelled bins in waste storage area. The method of deconstruction to achieve maximum resource recovery is also listed.	Project manager, site manager and possibly demolition contractor	
Construction	Sourcing of recycling agents/contractors and transportation – gain an understanding of their site access requirements and bin choices.	Project / Site manager	
	Installation of any barrier fencing to protect pedestrian safety, access pathways, and stockpiles to be protected/retained.	Project manager, site manager and construction contractor	
	Identification of best bin storage areas for the number of material streams and collection vehicle access, ensuring unimpeded access for users and waste collection contractors.	Project / Site manager	
	Installation of recycling bins.	Project / Site manager	
	Preparation of access points and installation of safety and educational signage at waste storage areas.	Project / Site manager	
	Site induction for all staff to include discussion on commitment to waste minimisation, reuse and recycling, available stockpiles of salvaged materials, how to use bins appropriately, and who to contact for any issues.	Site manager	
	Regular checks on bin capacity and scheduling of removal contractors.	Site manager	
	Waste Data File maintained and updated with each collection.	Site manager and construction contractor	