

WASTE MANAGEMENT PLAN

PROPOSED SHOP TOP HOUSING DEVELOPMENT AT

**1-3 Gondola Rd, North Narrabeen, 2101 NSW Australia
Lots 187 and 188, DP16719**

PREPARED BY



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INTRODUCTION

The Applicant recognises the need to protect the environment and the advantages that can be achieved by considering ways of waste reduction, recycling and a corresponding reduction in landfill during the planning stage of this project.

Particular waste management guidelines and/or procedures will be proposed for:
Onsite; during the excavation and construction phases
Ongoing; for the residential life of the project

The main objective of this plan is to reduce the amount of waste to be disposed of at landfill. Consideration has been given to the volumes and type of waste to be generated (whether onsite or during occupancy) and provisions for waste facilities for storage and sorting for the possibility for reuse and or collection.

The ability to plan waste management may be restrictive under some circumstances due to storage capacity, nature of the waste and or its ability to be recycled or economic collection. However, it is envisaged that project goals can be achieved by co-operation of all parties associated with the project, for all those involved in the physical making of it as well as its future inhabitants.

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Mackenzie Architects International has been selected to prepare a Waste management Plan (WMP) for council approval at: 1-3 Gondola Rd North Narrabeen. The proposed development consists of demolishing existing structures and the construction of a multi-dwelling mixed-use development consisting of 12 units and 2 commercial spaces. In the course of preparing this WMP, plans of the development have been examined, and Council's requirements and WMP documents have been reviewed (e.g. Councils DCP, LEP, engaged surveyor plans, Northern Beaches Council Waste Management Guidelines – Introduction, Northern Beaches Council Waste Management Guidelines - Waste Management Guidelines, Northern Beaches Council Waste Management Guidelines – Chapter 4 – On-going waste management for three or more dwellings, Northern Beaches Council Waste Management Guidelines – Chapter 5 – Non-residential developments, and Northern Beaches Council Waste Management Guidelines – Chapter 6 – On-going waste management for mixed-use developments, etc.).

WASTE MANAGEMENT PRINCIPLES

The Australian National Waste Policy has been referenced to show how waste will be treated.

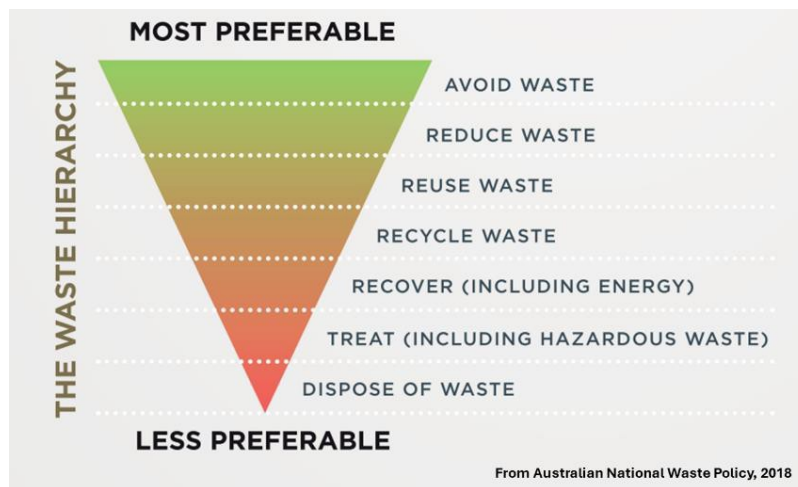


Figure 1: Waste hierarchy (Australian National Waste Policy, 2018)

Avoid/Reduce

Avoiding waste can be achieved through selecting design options with efficient materials and with minimal wastage.

Reuse

If able, materials from the demolition and construction stages should be utilized on site and off site. They should be stored and handled in a way which can prolong their lifespans.

Recycle

There will be an array of materials which can be recycled in the demolition and construction stages. Such materials should be detected prior to the demolition stage and a systematic process should be put in place to reuse, recycle, and dispose. They should be stored and handled in a way which can prolong their lifespans, and not get damaged. Receipts should be kept to verify.

Recover/treat

The recovery of resources through processing through them is an effective option. Treating waste is another method which can lessen the environmental strain prior to disposing of the material.

Disposal

The selected contractor is to comply with Councils requirements (e.g. DCP), and receipts should be kept on file.

Handling

Safety, ease of use, strategic placement, size, access and aesthetics are essential when handling waste on site.

Stockpiling

On site waste sorting areas/zones during demolition and construction shall be sufficiently managed and maintained. Material stockpiling areas include demolition materials, excavation materials, construction materials, and waste. The waste areas should predominantly be located towards the front for easy access for waste collection vehicles. Stockpiling areas should not infringe on site access, and hoardings should hide them from street visibility.

ONSITE WASTE MANAGEMENT

1.0 Management Statement

More detailed waste management plans will be prepared, in coordination with the builders, for future Construction Certificates.

The builder will instigate a plan for onsite waste management for this project with the guidelines as described hereafter.

2.0 Statement of Responsibilities

Detailed below are the responsibilities of the assigned participants who will be encompassed in the waste management plan for this project:

2.01 Demolition Contractor

All demolition work is to be carried out according to AS 2601-2001-Demolition of Structures and OH&S requirements. Where possible, demolition waste is to be sorted for reuse and recycling, all other waste shall be to be taken to appropriate waste management centers and/or landfill sites.

2.02 Project Planners

The project planners are those who foresee the need to instigate waste management on the project and are responsible for financial implications that may benefit or otherwise the project viability.

2.03 Project Manager

The project manager will instigate the waste management plan and will ensure all site personnel, material suppliers and subcontractors are aware of the project goals and are committed to those goals.

2.04 Site Supervisor

The site supervisor is responsible for the on site management of waste control, collection and sorting of specific recyclable materials and of other waste, the site supervisor will enforce the waste management procedure.

2.05 Subcontractors

All subcontractors will be required to comply with waste control, collection and sorting be instigated on the project. Specific material that may not be collected on site will be removed from site by the subcontractor responsible for its generation and where possible recycled.

2.06 Material Suppliers

Material suppliers will be instructed to restrict packaging to reduce excessive packaging and the extent of waste delivered to site.

2.07 Waste Collection Agency

Waste collection agencies are responsible for provision of appropriate collection bins, signage of specific collection bins, removal and transport of the specific waste to the point of recycling or to the appropriate disposal area.

2.08 Recycling Agencies

Recycling agencies are those organizations that are able to receive specifically sorted waste and recycle that material into new products.

3.0 Waste Management Procedure

3.01 Bin Supplier

The waste management plan for 1-3 Gondola Rd, North Narrabeen will call upon waste collection agencies to provide collection bins for the accumulation of sorted select waste materials and the removal and transportation of those bins to recycling agencies.

3.02 Garbage & Recycling Bins

Sufficient areas will be provided for waste storage, sorting wastes and recyclables. Bins will be adequately sign posted as to the specific material to be deposited in each bin. All such areas will be located on ground level for easy access.

Individual bins shall be provided for the following materials on an as need basis, the following are suggested:

- Light Loads Category 1 - for light building materials such as timber, gyprok, plasterboard, plastics, metals, etc and domestic rubbish.
- Heavy Loads Category 2 - for heavy building materials/demolition materials, including bricks, tiles, concrete, soil etc.
- Bricks, Concrete and Tiles - for any combination of the above with the inclusion of no other rubbish.

All recyclable material from the above will be sorted, sieved and recycled at the bin/skip provider's premises.

3.03 Access

All bins will be located on ground level for easy access and collection from Gondola Rd. Allocated areas may change during the process of demolition and construction, depending on the availability of space and locality of works.

Site access will be controlled ideally at one point and separate areas will be designated for delivery drop off and collection point, all to be clearly marked onsite and from the street.

3.04 Collection

Waste collection vehicles will access the garbage area to collect bins on a need basis; this will vary during the demolition and construction stages.

3.05 Excessive Packaging

The subcontractor or material supplier shall restrict packaging to the minimum necessary to protect the article from damage during transport and installation. Excessive packaging shall be removed from the site by the material supplier or the subcontractor. The method of disposal shall be confirmed with the Site Supervisor prior to removal.

3.06 Surplus Soils/Rock and Spoil

Surplus soil/rock and spoil shall be directed from landfills wherever possible. Method of disposal shall be confirmed with the Site Supervisor prior to removal.

3.07 Contractual Responsibility

Consistent with the objectives of the waste management plan, all contracts involved in the demolition and construction phase is suggested to have a waste management clause that will enable common project goals to be achieved.

All site personnel shall be responsible to deposit the appropriate material in the allocated bin. Incorrectly deposited material shall be sorted by the party responsible.

3.08 Site Restrictions

The Builder will endeavor to ensure that the efficient management of access is carried out. Waste management practice must be upheld.

3.09 Deviations

Any deviations from the proposed waste management plan shall be submitted to the Site Supervisor for approval. Such deviations must be assessed against the main objectives of the plan.

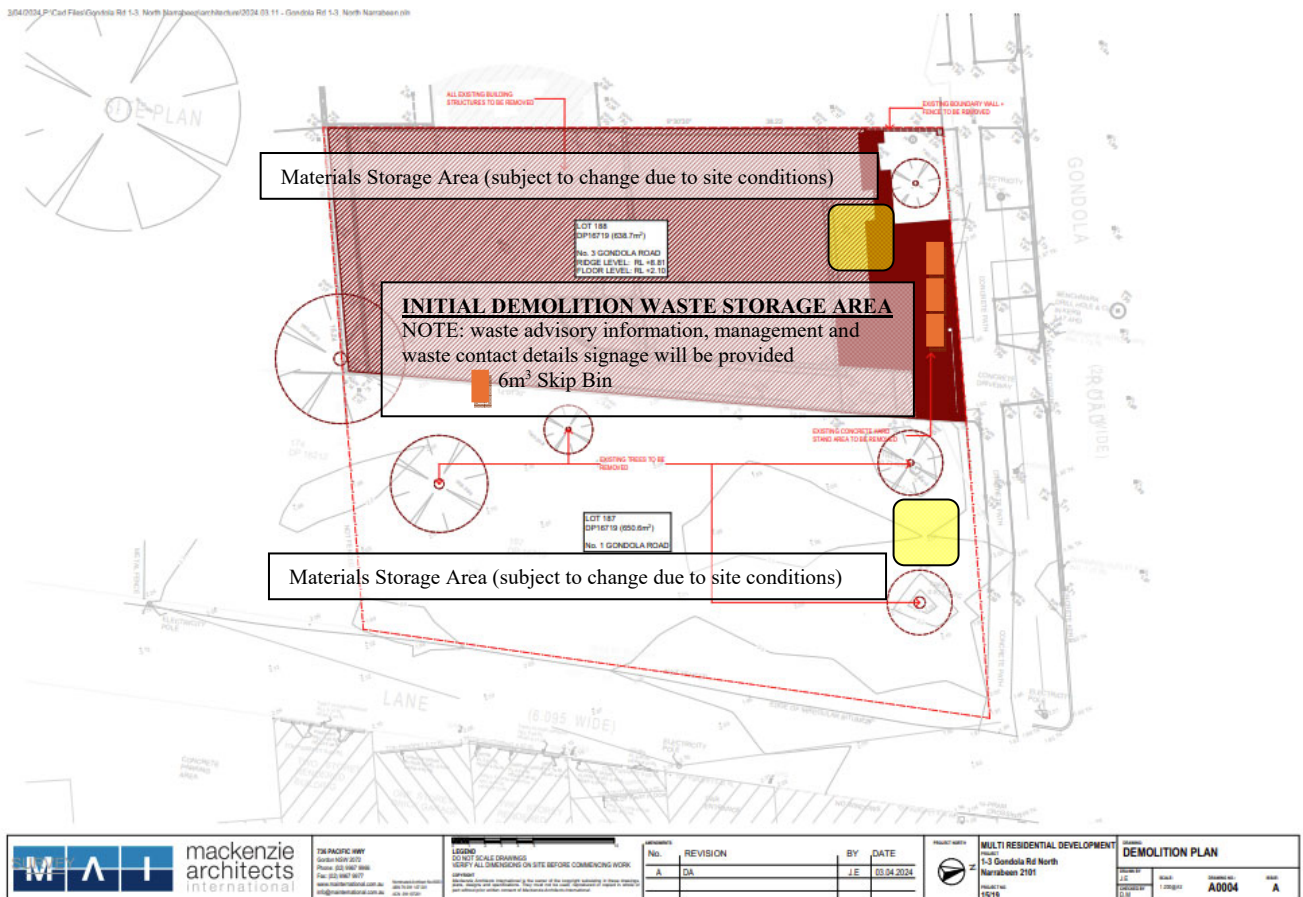


Figure 2: Demolition Plan, indicative demolition waste storage area, and indicative materials storage areas (subject to change on site pending conditions). Not to scale

4.0 Demolition

4.01 As per Councils Waste Management Guidelines

MATERIALS ON SITE	DESTINATION						
	<i>Evidence such as weighbridge docket and invoices for waste disposal or recycling must be retained on site for inspection</i>				DISPOSAL (LEAST FAVOURABLE)		
Types of Waste Material	Estimated Volume (m ³) or Weight (t)	REUSE AND RECYCLING (MOST FAVOURABLE)		DISPOSAL (LEAST FAVOURABLE)			
		ONSITE RE-USE ✓ Specify how material will be reused on site	OFFSITE RECYCLING ✓ Recycling Outlet (RO) ✓ Waste Transport Contractor (WTC)	WTC	RO	WTC	LS
Excavated Material	2032.01m ³ / 3454 tonnes	Yes Re-use for filling or levelling	Yes See appendix			See appendix	
Garden Organics	4m ³ / 4 tonnes	Yes Mulch or compost	Yes See Appendix			See appendix	
Bricks	15m ³ / 19.5 tonnes	Yes Clean and Re-use or Crush for landscaping and driveways	Yes See Appendix			OPTION NOT AVAILABLE: These materials must be re-used or separated on or off site and sent for recycling.	
Tiles	9m ³ / 11.7 tonnes	Yes Clean and Re-use or Crush for landscaping and driveways	Yes See Appendix				
Concrete	4m ³ / 4.4 tonnes	Yes Re-use for filling, levelling or road base	Yes See Appendix				
Timber	15m ³ / 16.5 tonnes	Yes Treated – Re-use as formwork, bridging, blocking and propping Untreated – Re-use as floorboards, fencing, furniture or mulch	Yes See Appendix				
Plasterboard	15m ³ / 11.25 tonnes	Yes Re-use for landscaping	Yes See Appendix				
Metals	2m ³ / 1.3 tonnes	Yes	Yes See Appendix				
Asbestos	N/A	No	No			See appendix	
Other waste (please specify)	10m ³ / 10 tonnes	No	No			See appendix	

ONGOING WASTE MANAGEMENT

5.0 Management Statement

Provisions for waste facilities have been allocated throughout the project to assist the management of wastes generated on the subject site during its occupational life.

Building management will instigate a plan for ongoing waste management for this project with the guidelines as described hereafter.

6.0 Statement of Responsibilities

Detailed below are the responsibilities of the participants who will be encompassed in the waste management plan for this project:

6.01 Building Management

Building management will be responsible for providing and maintaining the ongoing waste management facilities and services at the subject site.

Building management will instigate the waste management plan and will ensure all participants are aware of the project goals, committed to those goals and know their contributing roles of the plan.

6.02 Caretaker

Building management will assign caretakers to handle wastes in accordance with Council's waste collection service for the proposed development.

Duties include, but are not limited to the following:

- General maintenance, organising and cleaning of general and recycled waste holding area
- Organising both garbage and recycled waste pick-ups as required and transporting of bins to and from the collection area
- Cleaning and exchanging all bins
- General education and provide information to all residents and tenants on appropriate methods on sorting general and recyclable waste and ensure all drop-off points are accessible to all residents and tenants at all times of building operation. This may include notices and signage.

Building management's responsibility also includes monitoring the number of bins required and the frequency of general maintenance and cleaning which is determined on waste generation once the building is in operation. Number of bins, size and operation may be altered to suit building operation should waste volume and approach to waste disposal and recycling change.

6.03 Waste Collection Agency

The waste collection agency is responsible for provision of appropriate collection bins and typical weekly collection services; this is proposed to be Council.

All green waste will be collected and removed from site by the maintenance contractor.

7.0 Waste Management Procedure

Waste and recycling areas as well as collection arrangements have been provided for residential activities in accordance with Council's objectives.

7.01 Garbage Room and Bin Supplier

The Temporary Bin holding area is located on the Ground Floor level with direct access to driveway going down to kerb side.

The bin rooms are to be located at the kerb side of Minarto Lane, totally isolated from the rest of the basement with flood proof walls. It will be kept clean at all times. The garbage room is sized to hold sufficient general waste and recycling bins to service the development and will be ventilated and be kept clean at all times. Taps for cleaning and floor waste to comply with Sydney Water requirements are to be provided.

Security access key will be provided for building management or caretaker.

Bins will be transferred to the collection area prior to scheduled collections, and then returned to each garbage room afterwards.

Council will provide bins for all general waste, recycling and green waste.

7.02 Garbage & Recycling Bins

Prominent signage will be provided within all designated waste handling areas, indicating correct use of bins and chutes.

Waste cupboards could be provided as part of the fit out of each dwelling for the convenience of residential tenants, typically in the kitchen. Waste cupboards will be capable of holding a single day's waste and allow for separation of waste. Residents will transport their unit waste to the garbage bins in the garbage room on lower ground floor.

Recycling bins are to be stored in garbage rooms on upper ground floor, and transferred to the kerb side by the building's caretaker for collection/transfer to bin collection areas.

The Northern beaches DCP 2014, requires the provision of 240 litre bins for waste and recycling to be provided at the following rates:

	Residential
Garbage	240 units/week
Recycling	240 units/week
Green waste	N/A

For the proposed 12 residential units, provisions to accommodate the following have been allowed for 4 garbage bins, 3 recycle bins, 3 paper bins and 2 vegetation bins.

12	4	3	3	2	12
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(Source : Northern Beaches Council Waste Management Guidelines Appendix A)

Business/commercial waste generation			
	Rate (L/100m ² /day)	L required/week (assume 6 days)	Provided (assumes 3 collections/wk)
Garbage	40	960L/week	4x240L bins
Recycling	40	960L/week	4x 240L bins

The building manager of the proposed development may wish to revisit these provisions from time to time to ensure sufficient waste bins are provided for all future tenants.

7.03 Access

A garbage and recycling holding room is proposed for the residential units in ground level. Security access key will be provided for care takers access via security controlled door.

7.04 Collection

The Northern beaches waste collection service will collect all general residential and Commercial waste on a weekly basis, and recyclables on a fortnightly basis. The collection point will be from the designated “Bin Holding Area” at Minarto Ln.e. A temporary bin holding area will be regularly rotated down by the caretaker for accessible bin access.

7.05 Contractual Responsibility

Consistent with all the objectives and commitments of building management, a waste management clause may be included in tenancy agreements to enable common project goals to be achieved. Any mishandling of bins will be punished by building management.

Refer to Figure 2 (not to scale) for Demolition Plan, indicative demolition waste storage area, and indicative materials storage areas (subject to change on site pending conditions).

Note Waste storage area design requirements (Chapter 5.2 & 5.3) have been addressed in the architectural/landscape plans (which form part of the submission).

8.0 Construction

8.01 As per Councils Waste Management Guidelines

MATERIALS ON SITE	DESTINATION <i>Evidence such as weighbridge dockets and invoices for waste disposal or recycling must be retained on site for inspection</i>						
	REUSE AND RECYCLING (MOST FAVOURABLE)				DISPOSAL (LEAST FAVOURABLE)		
Types of Waste Material	Estimated Volume (m ³) or Weight (t)	ONSITE RE-USE ✓ Specify how material will be reused on site	OFFSITE RECYCLING ✓ Specify recycling outlet (RO) ✓ Specify Waste Transport Contractor (WTC)	OFFSITE DISPOSAL ✓ Specify landfill site (LS) ✓ Specify Waste Transport Contractor (WTC)			
				WTC	RO	WTC	LS
Excavated Material	-	-	-			See appendix	
Garden Organics	-	-	-			See appendix	
Bricks	5m ³ / 6.5 tonnes	Yes Crush for landscaping and driveways	Yes See appendix			OPTION NOT AVAILABLE: These materials must be re-used or separated on or off site and sent for recycling.	
Tiles	2m ³ / 2.6 tonnes	Yes Crush for landscaping and driveways	Yes See appendix				
Concrete	8m ³ / 8.8 tonnes	Yes Re-use for filling, levelling or road base	Yes See appendix				
Timber*	3m ³ / 3.3 tonnes	Yes Treated – Re-use as formwork, bridging, blocking and propping Untreated – Re-use as floorboards, fencing, furniture or mulch	Yes See appendix				
Plasterboard	3m ³ / 2.25 tonnes	Yes Re-use for landscaping	Yes See appendix				
Metals*	3m ³ / 1.95 tonnes	Yes	Yes See appendix				
Asbestos	-	No	No				See appendix
Other waste*	16m ³ / 16 tonnes	No	No			See appendix	

9.0 Appendix

Sample Construction and Demolition Waste Disposal Facilities that are within 50km of the site

Facility Name	Facility Address	Materials Accepted
Cleanaway Ryde Resource Recovery Centre	145 Wicks Road, North Ryde, NSW 2113	Asphalt, Bricks, Cardboard & Paper, Ceramic, Concrete, Ferrous & Non-Ferrous Metals, Pallets (plastic & wood), Rigid & Soft Plastics, Sand, Solid Fill (soil), Timber (untreated)
Bingo Artarmon Recycling	10 McLachlan Avenue, Artarmon, NSW 2064	Asphalt, Bricks, Ceramic, Glass Sheets, MDF, Pallets (wood), Particleboard, Plasterboard, Sand, Solid Fill (soil), Timber (untreated)
Wanless Artarmon Waste Management	1-5 Whiting Street, Artarmon, NSW 2064	Cardboard & Paper, Concrete, Pallets (wood), Plasterboard, Rigid & Soft Plastics, Solid Fill (soil), Timber (untreated)
AE Biggs	50 Meatworks Avenue, Oxford Falls, NSW 2099	Asphalt, Bricks, Ceramic, Concrete, Pallets (plastic), Ferrous & Non-Ferrous Metals, Particleboard, Plasterboard, Solid Fill (soil), Timber (untreated)
Kimbriki Resource Recovery Centre	Kimbriki Road, Ingleside, NSW 2101	Asbestos, Asphalt, Bricks, Cardboard & Paper, Ceramics, Concrete, Ferrous & Non-Ferrous Metals, Fibro, Glass Sheets, MDF, Pallets (plastic & wood), Particleboard, Plasterboard, Sand, Timber (untreated)
Concrete Recyclers	14 Thackeray Street, Camellia, NSW 2142	Asphalt, Bricks, Ceramics, Concrete

Council MGB Specifications

Size	Height (mm)	Width (mm)	Depth (mm)
240L	1,080 lid closed	600	750
	1,830 lid open		