

# **DICKENS SOLUTIONS**

## **WASTE MANAGEMENT PLAN**

## **ARCHIDROME ARCHITECTS**

## **RESIDENTIAL LAND SUBDIVISION**

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## **MULTI UNIT TOWN HOUSE DEVELOPMENT**

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## **45-49 WARRIEWOOD ROAD WARRIEWOOD**

**MARCH 2020**

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# **PART 1 – OVERVIEW AND PROPOSAL**

## **1.1 EXECUTIVE SUMMARY**

This Waste Management Plan (WMP) describes in detail the manner in which all waste and other materials resulting from the construction and on-going operational use of the building on the site, are to be dealt with.

The aims and objectives of this WMP are to: -

1. Satisfy all State and Local Government regulatory controls regarding waste management and minimisation practices;
2. Promote the use of recyclable materials in the excavation, construction and on-going operation of the building;
3. Maximise waste reduction, material separation, and resource recovery in all stages of the development;
4. Ensure the design of waste and recycling storage facilities are of an adequate size, appropriate for the intended use of the building, hygienic with safe and manoeuvrable access;
5. Ensure that the provision of waste and recycling services to the completed buildings are carried out in an efficient manner, which will not impact negatively on the health, safety and convenience of all stakeholders.

The land upon which the development is proposed is located within the Northern Beaches (formerly Pittwater) LGA.

This WMP is prepared in accordance with: -

- Pittwater Local Environment Plan 2014,
- Pittwater DCP 2014,
- All Conditions of Consent to be issued under the approved Development Consent,
- The 'Better Practice Guide for Waste Management in Multi Unit Dwellings',
- The objective of ensuring that all waste management facilities and collection services will provide an outcome that will be effective and efficient, as well as promote the principles of health, safety and convenience.

This Waste Management Plan (WMP) has been prepared for A Development Application to be submitted to the Northern Beaches Council at 45-49 Warriewood Road, Warriewood, comprising;

- The creation of a residential land subdivision consisting of 11 Torrens Title allotments of land,
- Construction of two x three (3) storey residential flat buildings, and,
- Associated infrastructure and services.

As the 11 lot subdivision will be developed at a later stage and each will be the subject of a separate Development Application, this WMP applies only to the construction of the 34 units in Blocks C and D.

This WMP is dated 10 March 2020.

## **1.2 INTRODUCTION**

This Waste Management Plan (WMP) has been specifically designed for the development described below: -

<b>DESCRIPTION</b>	<b>Residential Land Subdivision and Multi Unit Town House Development.</b>
<b>DETAILS</b>	- 11 Lot residential subdivision, - Two (2) x two (2) storey residential flat buildings containing 34 dwellings, - Associated infrastructure; and - The provision of waste storage facilities.
<b>LOCATION</b>	<b>45-49 Warriewood Road, Warriewood.</b>
<b>LGA</b>	<b>Northern Beaches Council</b>

## **1.3 DESCRIPTION OF PROPERTY**

<b>PROPERTY DESCRIPTION</b>	The development is to be constructed over two (2) existing Torrens Title allotments at: Lot 2, DP349085, 45 Warriewood Road, and, Lot 1, DP349085, 49 Warriewood Road.
<b>STREET ADDRESS</b>	<b>45-49 Warriewood Road, Warriewood.</b>
<b>AREA</b>	<b>21,449sqm</b>
<b>ZONING</b>	<b>Zone R3 – Medium Density Residential</b>
<b>PLANNING INSTRUMENTS</b>	<b>Pittwater LEP 2014 Pittwater DCP 2011</b>

The site is located within a newly created Medium-Density Residential area on the southern side of Warriewood Road, Warriewood. Lorikeet Grove is located to the rear of the site. It is situated between Pheasant Place to the west and Bubalo Street to the east, with Pittwater Road and Warriewood Beach approximately 500 metres further east of the site.

The development is to be constructed over two (2) existing lots, upon which two (2) existing dwellings have been constructed on large parcels of land, and associated improvements including a number of glass house structures. All buildings and structures will be demolished to make way for the proposed development.

The immediate surrounding area is characterised by predominantly low and medium density housing, with the Warriewood light industrial precinct approximately 500m north-west.

The area is supported by existing road networks which currently provide residential waste and recycling services to the area. New road networks will be created as part of the subdivision. These will facilitate the provision of waste and recycling services to the development.

## **1.4 APPLICANTS DETAILS**

<b>APPLICANT</b>	<b>Archidrome Architects (Mr Tarun Chadha)</b>
<b>ADDRESS</b>	<b>1 Level 1, 22 Edgeworth David Avenue, Hornsby. NSW 2216</b>
<b>TELEPHONE</b>	<b>Mb 0433 901 701</b>
<b>E-MAIL</b>	<b><a href="mailto:Tarunchadha@archidrome.net">Tarunchadha@archidrome.net</a></b>

## **1.5 PROPOSAL**

The proposal involves the demolition of existing buildings and the creation of a residential land subdivision comprising of:

- 11 Torrens Title allotments of land, upon which low and medium density dwellings will be constructed,
- The construction of a three (3) storey residential flat building containing 10 x 3 and 5 bed-room dwellings on the ground and first floor levels, and 7 x 3 bed-room units on the second floor level (Block C), the construction of two (2) x two (2) storey town house buildings containing a total of 34 dwellings and the provision of associated infrastructure and services.
- The construction of a three (3) storey residential flat building containing 10 x 3 and 5 bed-room dwellings on the ground and first floor levels, and 7 x 3 bed-room units on the second floor level (Block D), and,
- One (1) basement level which will be constructed under and be common to both Blocks C and D.

A number of new roads will be created to facilitate access to the new lots. All roads will be accessed from or Lorikeet Grove at the rear or southern side of the site.

Waste management requirements will be dealt with in Part 4 of this WMP.

Dedicated waste storage facilities are located in the basement of the building as indicated on the Basement 1 Floor Plan.

The Northern Beaches waste and recycling collection contractor will provide all waste and recycling services to the new development.

All waste and recycling collections will take place from a dedicated on-site waste collection area located externally on the ground floor level of the site w

Current structures on the site include:

- 45 Warriewood Road – an existing single storey cladded dwelling with a tiled roof, concrete verandah, second dwelling with metal roof, metal shed, ten (10) glass house structures, two (2) bitumen driveways, concrete headwall, concrete dish drainage system, landscaped garden areas, some trees, and miscellaneous vegetation, and timber and wire fencing, and,
- 49 Warriewood Road – an existing single storey cladded dwelling with a metal roof, three (3) detached metal sheds, six (6) glass house structures, concrete paving, concrete dish drainage system, landscaped garden areas, some trees, and miscellaneous vegetation, and timber fencing.

The project consists of: -

1. The demolition of all existing buildings and structures over both lots,
2. Levelling and clearing of the site,
3. The excavation of the site to construct the building,
4. The construction of the building,
5. The provision of new road networks, landscaping, off street-car park, driveways, concrete pathways and other elements associated with the development, and,
6. The on-going use of the buildings

This Waste Management Plan has been developed not only to satisfy Council's requirements, but also to ensure that all waste management activities associated with the development are carried out and conducted in accordance with best practice industry standards.

## **PART 2 – DEMOLITION**

### **2.1 GENERAL PROVISIONS**

#### **2.1.1 General Requirements**

It is recognised that Sydney has an ever-increasing waste problem, and this practice is not sustainable. In alignment with current NSW waste management legislation, this WMP aims, where possible, to promote waste avoidance, reuse and the recycling of material, particularly during the course of demolition and construction works.

Part 2.2 on Pages 7, 8, 9, 10, 11, 12 and 13 of this WMP describes the manner in which waste is to be managed during the course of the demolition of the existing structures.

The processes outlined in Part 2.2 are to be read in conjunction with and comply with the Development Consent issued in respect of the proposal. It will be the developer's overall responsibility to ensure compliance in this regard.

All material moved offsite shall be transported in accordance with the requirements of the Protection of the Environment Operations Act (1997).

Approved receptacles of an appropriate size will be located on site for the collection of food scraps, beverage containers, and other waste generated on site by workers.

#### **2.1.2 Management of Hazardous Materials**

Due to the age and construction of the existing buildings on the site, there is reasonable potential for hazardous building materials to be present in the buildings to be demolished. Accordingly, the generation, storage, treatment and the disposal of hazardous waste (including asbestos) will be conducted in accordance with relevant waste legislation administered by the NSW EPA and any applicable WH&S legislation administered by Work Cover NSW.

All friable and non-friable asbestos-containing material shall be handled and disposed of off-site at an EPA licensed waste facility by an EPA licensed contractor in accordance with the requirements of the Protection of the Environment Operations (Waste) Regulation 2014 and the Waste Classifications Guidelines – Part 1 'Classifying Waste (EPA 2014) and any other instrument as amended.

All friable hazardous waste arising from the demolition process shall be removed and disposed of in accordance with the requirements of Work Cover NSW and the EPA, and with the provisions of:

- a) Work Health and Safety Act 2011,
- b) NSW Protection of the Environment Operations Act 1997 (NSW), and,
- c) NSW Department of Environment and Climate Change Environmental Guidelines; Assessment, Classification and Management of Liquid and Non- Liquid Wastes.

## **2.2 DEMOLITION – RECYCLING, REUSE & DISPOSAL DETAILS**

The following details prescribe the manner in which all material involved in the demolition of the building will be dealt with, and includes: -

1. An estimate of the types and volumes of waste and recyclables to be generated;
2. A site plan showing sorting and storage areas for demolition waste and vehicle access to these areas (see Part 2.3 of this Plan);
3. How excavation and demolition waste materials will be reused, and, or recycled and where residual wastes will be disposed (see below); and,
4. The total percentage of demolition waste that will be reused or recycled.

It is noted that the quantities of materials detailed in this section (Part 2.2) are estimates only, based on current industry standards and quantity analysis, and may vary due to the prevailing nature of site constraints, weather conditions, and any other unforeseeable activities associated with the demolition works, which are beyond the control of the developer, including but not being limited to theft, accidents, and, or, other acts of misadventure.

Notwithstanding any of the above, the developer will provide Council with all details in relation to any major variations to this Plan.

### **1. Excavated Materials / Overburden**

Volume / Weight	7,500 cubic metres / 12,750 Tonnes
On Site Reuse	Yes. Keep and reuse for topsoil or as required. (Excavated Materials are only to be used if the material is not contaminated or has been remediated in accordance with any requirements specified by any Environmental Consultancy engaged to carry out any contamination assessment of excavated material).
Percentage Reused or Recycled	To be determined (see above comments)
Off Site Destination	Suez Eastern Creel Resource Recovery Park, Wallgrove Road, Eastern Creek. Tel 8887 6112 or, Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 424 646) or, Kimbriki Resource Recovery Centre, Kimbriki Road, Ingleside/Terrey Hills (Tel 02 9486 3712). or, An alternative approved facility



## 2. Green Waste

Volume / Weight	2,000 cubic metres / 300 Tonnes
On Site Reuse	To be separated. Chipped and stored on site for re-use in landscaping.
Percentage Reused or Recycled	90%
Off Site Destination	Suez Eastern Creel Resource Recovery Park, Wallgrove Road, Eastern Creek. Tel 8887 6112 or, Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 424 646) or, Kimbriki Resource Recovery Centre, Kimbriki Road, Ingleside/Terrey Hills (Tel 02 9486 3712). or, An alternative approved facility.

## 3. Bricks

Volume / Weight	50 cubic metres / 50 Tonnes
On Site Reuse	Crush and reuse as drainage backfill. Crushed and used as aggregate.
Percentage Reused or Recycle	75% - 90%
Off Site Destination	Suez Eastern Creel Resource Recovery Park, Wallgrove Road, Eastern Creek. Tel 8887 6112 or, Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 424 646) or, Kimbriki Resource Recovery Centre, Kimbriki Road, Ingleside/Terrey Hills (Tel 02 9486 3712).

## 4. Concrete / Bitumen

Volume / Weight	100 cubic metres / 240 Tonnes
On Site Reuse	Crushed and used as aggregate, drainage backfill.
Percentage Reused or Recycled	60% - 75%
Off Site Destination	Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 424 646) or, Kimbriki Resource Recovery Centre, Kimbriki Road, Ingleside/Terrey Hills (Tel 02 9486 3712). Other approved facility

## 5. Timber

Volume / Weight	100 cubic metres / 40 Tonnes
On Site Reuse	Nil – all to be disposed of or processed off-site.
Percentage Reused or Recycled	65% - 90%
Off Site Destination	Suez Eastern Creel Resource Recovery Park, Wallgrove Road, Eastern Creek. Tel 8887 6112 or, Blacktown Waste Services, 920 Richmond Road, Marsden Park. Tel 9835 4544 or, Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 424 646) or, Kimbriki Resource Recovery Centre, Kimbriki Road, Ingleside/Terrey Hills (Tel 02 9486 3712).

## 6. Plasterboard & Fibro

Volume / Weight	40 cubic metres / 14 Tonnes
On Site Reuse	Nil – all material to be processed off-site.
Percentage Reused or Recycled	To be determined
Off Site Destination	Suez Eastern Creel Resource Recovery Park, Wallgrove Road, Eastern Creek. Tel 8887 6112 or, Blacktown Waste Services, 920 Richmond Road, Marsden Park. Tel 9835 4544 or, Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 424 646), or, Other approved facility

## 7. Metals / Steel / Guttering & Downpipes /Glass House Structures

Volume / Weight	250 cubic metres / 70 Tonnes
On Site Reuse	No
Percentage Reused or Recycled	60 – 90%
Off Site Destination	Kimbriki Resource Recovery Centre, Kimbriki Road, Ingleside/Terrey Hills (Tel 02 9486 3712). or, Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 424 646), or, Other approved Facility.

### 8. Roof Tiles / Tiles

Volume / Weight	30 cubic metres / 22.5 Tonnes
On Site Reuse	Broken up and used as fill.
Percentage Reused or Recycled	80% - 90%
Off Site Destination	Suez Eastern Creel Resource Recovery Park, Wallgrove Road, Eastern Creek. Tel 8887 6112 or, Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 424 646). or, Kimbriki Resource Recovery Centre, Kimbriki Road, Ingleside/Terrey Hills (Tel 02 9486 3712).

### 9. Plastics

Volume / Weight	100 cubic metres / 35 Tonne
On Site Reuse	Nil
Percentage Reused or Recycled	80% - 95%
Off Site Destination	Suez Eastern Creel Resource Recovery Park, Wallgrove Road, Eastern Creek. Tel 8887 6112 or, Blacktown Waste Services, 920 Richmond Road, Marsden Park. Tel 9835 4544 or, Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 424 646) or, Kimbriki Resource Recovery Centre, Kimbriki Road, Ingleside/Terrey Hills (Tel 02 9486 3712).

### 10. Glass, Electrical & Light Fittings, PC items, Drainage Materials

Volume / Weight	90 cubic metres / 31.5 Tonne
On Site Reuse	No
Percentage Reused or Recycled	70% - 90%
Off Site Destination	Kimbriki Resource Recovery Centre, Kimbriki Road, Ingleside/Terrey Hills (Tel 02 9486 3712). or, Suez Eastern Creel Resource Recovery Park, Wallgrove Road, Eastern Creek. Tel 8887 6112 or, Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 424 646).

### 11. Fixture & Fittings (Doors Fittings, Other Fixtures, etc.)

Volume	75 cubic metres / 25 Tonne
On Site Reuse	Nil – all to be processed off-site.
Percentage Reused or Recycle	80% - 90%
Off Site Destination	Suez Eastern Creel Resource Recovery Park, Wallgrove Road, Eastern Creek. Tel 8887 6112 or, Kimbriki Resource Recovery Centre, Kimbriki Road, Ingleside/Terrey Hills (Tel 02 9486 3712). or, Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 424 646).

### 12. Residual Waste

Volume / Weight	1,035 cubic metres / 1,035 Tonnes
On Site Reuse	No
Off Site Destination	Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 424 646) or, Kimbriki Resource Recovery Centre, Kimbriki Road, Ingleside/Terrey Hills (Tel 02 9486 3712); or, other authorised facility
Notes on calculation of volume of residual waste	<ol style="list-style-type: none"> <li>1. In calculating the amount of residual waste produced from the demolition of all buildings on site, it is estimated that approximately 10% of it, will be residual waste.</li> <li>2. As all of the materials vary in weight per volume, a figure of 1 cubic metre of material is equal to 1 tonne in weight has been used.</li> </ol>

It is noted that the quantities of materials detailed in this section (Part 2.2) are estimates only, based on current industry standards and quantity analysis, and may vary due to the prevailing nature of work activities and constraints, weather conditions, and any other unforeseeable activities associated with the demolition and excavation activities, and the construction of the buildings, which are beyond the control of the developer, including but not being limited to theft, accidents, and other acts of misadventure.

The facilities and agencies that have been nominated to receive the materials listed above have been identified within the NSW waste industry as being a facility or agency that will accept the materials specified in each respective table. The developer understands that any costs associated with the transportation and receipt of these materials will be their responsibility.

The appointed contractor is under no obligation to use any nominated facility or agency, but should any alternative arrangements be made, it will be the developers'

responsibility to ensure that all demolished materials removed from the site are disposed of, or processed, appropriately.

The developer will keep a written record of all documentation associated with the transportation, disposal and processing of all materials excess to the construction of the building.

Additionally, every effort will be made to reduce and minimise the amount of building materials excess to requirements.

### **2.3 DEMOLITION – ON SITE STORAGE OF MATERIALS**

During the construction of the buildings, an area will be set aside on the site as a compound for the on-site storage of materials prior to their removal from the site. This compound will provide for: -

- Material sorting;
- Segregation of materials that may be hazardous and which will be required to be disposed of;
- Recovery equipment, such as concrete crushers, chippers, and skip bins;
- Material storage; and,
- Access for transport equipment.

Appropriate vehicular access will be provided on and off site, and to the compound, to enable the efficient removal of reusable, recyclables, and waste materials.

Prior to the commencement of works, the developer will provide Council with a 'Site Plan for the On-Site Storage of Materials at Construction'. This plan will show in detail the location of each area within the compound, set aside for the segregated storage of all materials involved in the demolition of all buildings on the site.

### **2.4 DEMOLITION – EXCAVATED MATERIAL**

All excavated material removed from the site, as a result of any activities associated with the construction of the building, must be classified in accordance with the Department of Environment, Climate Change and Water NSW Waste Classification Guidelines prior to removal, transportation and disposal to an approved waste management facility. All relevant details must be reported to the PCA.

# **PART 3 – CONSTRUCTION**

## **3.1 CONSTRUCTION – GENERALLY**

Upon completion of all demolition works, construction of the building will commence with the excavation of the site for the basement levels of the building. All materials sourced from these activities will be disposed of in accordance with the information provided in Part 3.2 on pages 14, 15, 16, 17, 18 and 19 of this WMP.

Additionally, all materials used in the construction of the building that are not required to be incorporated into it, shall be recycled, reused or disposed of in accordance with these provisions, and the requirements of the Protection of the Environment Operations Act (1997). It will be the developer’s overall responsibility to ensure compliance in this regard.

Mobile Bins of an appropriate size will be located on site for the collection of food scraps, beverage containers, and other waste generated on site by workers.

## **3.2 CONSTRUCTION – RECYCLING, REUSE & DISPOSAL DETAILS**

The following details prescribe the manner in which all materials surplus to the construction of the building will be dealt with, and includes: -

1. An estimate of the types and volumes of waste and recyclables to be generated;
2. A site plan showing sorting and storage areas for construction waste and vehicle access to these areas (see Part 3.3 of this Plan);
3. How excavated and other materials surplus to construction will be reused or recycled and where residual wastes will be disposed (see below); and,
4. The total percentage of waste surplus to construction to be reused or recycled.

### **1. Excavated Materials**

Volume / Weight	60,000 cubic metres / 102,000 Tonnes
On Site Reuse	Yes. Keep and reuse topsoil for landscaping. Shore on site. Use some for support of retaining walls (Excavated Materials are only to be used if the material is not contaminated or has been remediated in accordance with any requirements specified by any Environmental Consultancy engaged to carry out any contamination assessment of excavated material).
Percentage Reused or Recycled	To be determined (see above comments)
Off Site Destination	To an approved Agency – excavated materials may need to be assessed to determine the quality of the material to ensure that all excavated material will be acceptable to the designated receival authority.

## 2. Bricks

Volume / Weight	5 cubic metres / 5 Tonnes
On Site Reuse	Clean and remove lime mortar from bricks. Broken bricks for internal walls. Crush and reuse as drainage backfill. Crushed and used as aggregate.
Percentage Reused or Recycle	75% - 90%
Off Site Destination	Kimbriki Resource Recovery Centre, Kimbriki Road, Ingleside/Terrey Hills (Tel 02 9486 3712) or, Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 651 116)

## 3. Concrete

Volume / Weight	10 cubic metres / 24Tonnes
On Site Reuse	Existing driveway to be retained during construction. Crushed and used as aggregate, drainage backfill.
Percentage Reused or Recycled	60% - 75%
Off Site Destination	Kimbriki Resource Recovery Centre, Kimbriki Road, Ingleside/Terrey Hills (Tel 02 9486 3712) or, Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 651 116)

## 4. Timber

Volume / Weight	5 cubic metres / 7 Tonnes
On Site Reuse	Re-use for formwork and studwork, and for landscaping
Percentage Reused or Recycled	65% - 90%
Off Site Destination	Artistic Popular Furniture, 10 Raglan Road, Auburn (Tel 02 96443054) or, Hallinan's Recycling Centre, 37 Lee Holm Road, St. Marys (Tel 02 9833 0883) or, Kimbriki Resource Recovery Centre, Kimbriki Road, Ingleside/Terrey Hills (Tel 02 9486 3712) or, Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 651 116)

### 5. Plasterboard & Fibro

Volume / Weight	10 cubic metres / 43.5 Tonnes
On Site Reuse	No – all material will be transported for disposal off-site.
Percentage Reused or Recycled	To be determined
Off Site Destination	<p>Kimbriki Resource Recovery Centre, Kimbriki Road, Ingleside/Terrey Hills (Tel 02 9486 3712)</p> <p>or,</p> <p>Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 651 116)</p> <p>Kimbriki Resource Recovery Centre, Kimbriki Road, Ingleside/Terrey Hills (Tel 02 9486 3712)</p> <p>or,</p> <p>Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 651 116)</p> <p>or,</p> <p>Enviroguard, Cnr Mamre and Erskine Roads, Erskine Park (Tel 02 9834 3411).</p>

### 6. Metals / Steel / Guttering & Downpipes

Volume / Weight	15 cubic metres / 3.75 Tonnes
On Site Reuse	No
Percentage Reused or Recycled	60 – 90%
Off Site Destination	<p>Boral Recycling, 3 Thackeray Street, Camelia (Tel 9529 4424)</p> <p>or,</p> <p>Kimbriki Resource Recovery Centre, Kimbriki Road, Ingleside/Terrey Hills (Tel 02 9486 3712)</p> <p>or,</p> <p>Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 651 116)</p> <p>Hallinan's Recycling Centre, 37 Lee Holm Road, St. Marys (Tel 02 9833 0883)</p>

### 7. Roof Tiles / Tiles

Volume / Weight	4 cubic metres / 3 Tonnes
On Site Reuse	Broken up and used as fill.
Percentage Reused or Recycled	80% - 90%
Off Site Destination	<p>Kimbriki Resource Recovery Centre, Kimbriki Road, Ingleside/Terrey Hills (Tel 02 9486 3712)</p> <p>or,</p> <p>Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 651 116)</p>



### 8. Plastics

Volume / Weight	6 cubic metres / 1 Tonne
On Site Reuse	Nil
Percentage Reused or Recycled	80% - 95%
Off Site Destination	Recycle Works, 45 Parramatta Road, Annandale (Tel 02 9517 2711) or, Kimbriki Resource Recovery Centre, Kimbriki Road, Ingleside/Terrey Hills (Tel 02 9486 3712) or, Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 651 116)

### 9. Glass, Electrical & Light Fittings, PC items

Volume / Weight	10 cubic metres / 3.5 Tonne
On Site Reuse	No
Percentage Reused or Recycled	70% - 90%
Off Site Destination	To an approved agency, or agencies.

### 10. Fixture & Fittings (Doors Fittings, Other Fixtures, etc)

Volume	10 cubic metres / 3.3 Tonnes
On Site Reuse	Broken up and used as fill.
Percentage Reused or Recycle	80% - 90%
Off Site Destination	Kimbriki Resource Recovery Centre, Kimbriki Road, Ingleside/Terrey Hills (Tel 02 9486 3712) or, Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 651 116) or, Recycle Works, 45 Parramatta Road, Annandale (Tel 02 9517 2711)

### 11. Pallets

Volume / Weight	25 cubic metres / 8 Tonne
On Site Reuse	No
Percentage Reused or Recycle	90% - 100%
Off Site Destination	To an approved agency, or agencies, for reuse and resale.

## 12. Residual Waste

Volume / Weight	6,100 cubic metres / 6,100 Tonnes
On Site Reuse	No
Off Site Destination	Kimbriki Resource Recovery Centre, Kimbriki Road, Ingleside/Terrey Hills (Tel 02 9486 3712) or, Bingo Industries, 3-5 Duck Street, Auburn (Tel 1300 651 116)
Notes on calculation of volume of residual waste	<ol style="list-style-type: none"> <li>1. In calculating the amount of residual waste produced from the demolition of all buildings on site, it is estimated that 10% of it, will be residual waste.</li> <li>2. As all of the materials vary in weight per volume, a figure of 1 cubic metre of material is equal to 1 tonne in weight has been used.</li> </ol>

It is noted that the quantities of materials detailed in this section (Part 3.2) are estimates only, based on current industry standards and quantity analysis, and may vary due to the prevailing nature of construction constraints, weather conditions, and any other unforeseeable activities associated with the construction of the buildings, which are beyond the control of the developer, including but not being limited to theft, accidents, and other acts of misadventure.

Notwithstanding any of the above, the developer will provide Council with all details in relation to any major variations in this regard.

The facilities and agencies that have been nominated to receive the materials listed above have been identified within the NSW waste industry as being a facility or agency that will accept the materials specified in each respective table.

The developer understands that any costs associated with the transportation and receipt of these materials will be their responsibility.

The developer is under no obligation to use any nominated facility or agency, but should any alternative arrangements be made, it will be the developers' responsibility to ensure that all materials excess to construction removed from the site are disposed of, or processed, appropriately.

The developer will keep a written record of all documentation associated with the transportation, disposal and processing of all materials associated with the excavation of the site and all waste materials excess to construction. This information is to be made available at the request of an Authorised Officer of Council.

Additionally, during the construction of the building, every effort will be made to reduce and minimise the amount of building materials excess to its construction.

### **3.3 CONSTRUCTION – ON-SITE STORAGE OF MATERIALS**

During the construction of the buildings, an area will be set aside on the site as a compound for the on-site storage of materials prior to their removal from the site. This compound will provide for: -

- Material sorting;
- Segregation of materials that may be hazardous and which will be required to be disposed of;
- Recovery equipment, such as concrete crushers, chippers, and skip bins;
- Material storage; and,
- Access for transport equipment.

Appropriate vehicular access will be provided on and off site, and to the compound, to enable the efficient removal of reusable, recyclables, and waste materials.

Prior to the commencement of construction works, the developer will provide Council with a 'Site Plan for the On-Site Storage of Materials at Construction'. This plan will show in detail the location of each area within the compound, set aside for the segregated storage of all materials involved in the demolition of all buildings on the site.

### **3.4 CONSTRUCTION – EXCAVATED MATERIAL**

All excavated material removed from the site, as a result of any activities associated with the construction of the building, must be classified in accordance with the Department of Environment, Climate Change and Water NSW Waste Classification Guidelines prior to removal, transportation and disposal to an approved waste management facility.

All relevant details must be reported to the PCA.

# **PART 4 – ON GOING USE OF BUILDING**

## **4.1 OBJECTIVES**

1. To ensure that the storage, amenity and management of waste is sufficient to meet the needs of the development.
2. To ensure that all waste management activities are carried out effectively and efficiently, and in a manner, that promotes the principles of health, safety and, convenience.
3. To promote waste minimisation practices.

## **4.2 ASSUMPTIONS**

In preparing this proposal, the following assumptions have been made: -

1. This Waste Management Plan has been prepared, generally in accordance with the provisions of the Pittwater DCP Part C1.12 – Waste and Recycling Facilities.
2. This proposed development involves the construction of two (2) x three (3) storey residential flat building containing 34 dwellings and the provision of associated infrastructure and services – the buildings are known as Blocks C and D.
3. Block C is a three (3) storey residential flat building containing 10 x 3 and 5 bed-room dwellings on the ground and first floor levels, and 7 x 3 bed-room units on the second floor level.
4. Block D is also a three (3) storey residential flat building containing 10 x 3 and 5 bed-room dwellings on the ground and first floor levels, and 7 x 3 bed-room units on the second floor level.
5. One (1) basement level which will be constructed under and be common to both Blocks C and D.
6. For residential flat buildings of this type, Council provides the following service requirements:
  - a) Solid Waste – 1 x 120-litre mobile red lidded waste bin per four (4) units,
  - b) Recycling (Co-Mingled Containers) – 1 x 240-litre yellow lidded mobile recycling bin per four (4) units,
  - c) Recycling (Paper and Cardboard) – 1 x 240-litre blue lidded mobile recycling bin per four (4) units, and,
  - d) Organics – 1 x 240-litre green lidded mobile bin per four (4) units.
7. Based on the number of units and the above requirements and in order to meet Council's service standards, it is proposed to provide the following bin numbers types, sizes and collection frequencies (for all 34 units):
  - a) Waste – 10 x 120-litre bins serviced weekly,
  - b) Recycling (Yellow Lid) – 10 x 240-litre bins serviced fortnightly, on alternate weeks to the blue lidded recycling bin and the green lidded organics bin,
  - c) Recycling (Blue Lid) – 10 x 240-litre bins serviced fortnightly, on the same day as the green lidded organics bin, but on alternate weeks to the yellow lidded recycling bin, and,
  - d) Organics – 10 x 240-litre bins are serviced fortnightly on the same day as the blue lidded recycling bin, but on alternate weeks to the yellow lidded recycling bin.

8. One (1) communal Waste Storage Area (WSA) located on the southern side of the driveway between Basements C and D will be provided for the storage of all 40 x 240-litre bins allocated to the development for servicing.
9. All bins will be transported from the WSA to a temporary bin holding (Garbage Transport Toom) located in the south-eastern corner of Basement D Floor Plan as indicated on the Basement D Floor Plan.
10. All bins will be transferred from the Bin Holding Area to the ground floor collection area for servicing by a Service Lift.
11. All bins will be serviced from a Bin Collection Room located on the ground level of the site adjacent to the south-east corner of Block D.
12. The Owners Corporation will appoint a Building Manager/Caretaker who will be responsible for supervising and monitoring all waste management activities.
13. The Building Manager or their representative will be responsible for transporting all bins to the collection area and returning them to the WSA after they have been serviced.
14. The Norther Beaches Council will provide all waste, recycling services and organics services to the development.

### **4.3 WASTE HANDLING & MANAGEMENT**

A cabinet will be located within each dwelling/unit so that a receptacle, or receptacles, may be stored or housed in a convenient and practical location within the unit, for the reception of waste and recyclable material.

All waste is to be placed in the red lidded waste bins. All mixed container recyclable material is to be placed in the yellow lidded recycling bins. All paper and cardboard material is to be placed in the blue lidded recycling bin. All green waste is to be deposited into the green lidded green waste bin.

All waste and recyclables should be appropriately bagged or wrapped prior to being deposited into the designated bin.

The owners of each dwelling/unit will be responsible for ensuring that all waste, recycling and green waste material is placed in the appropriate bins.

### **4.4 WASTE & RECYCLING – SERVICE REQUIREMENTS**

All waste and recycling materials will be stored in approved receptacles of an appropriate size as specified in this WMP. The lids of the bins shall be closed at all times to reduce litter, stormwater pollution, odour and vermin.

The Council in general requires that colour coded receptacle lids that distinguish each service component are to be provided: -

- Waste Service – Red Lidded receptacle,
- Mixed Container Recycling Service – Yellow Lidded receptacle,
- Paper and Cardboard Recycling Service – Blue Lidded receptacle, and,
- Organics Waste Service – Green Lidded receptacle.

## **4.5 WASTE & RECYCLING – SERVICE ARRANGEMENTS**

The following table (Table 1) specifies the criteria for waste and recycling generation rates based on: -

- Waste – 120 litres of bin space per four (4) units per week,
- Recycling (Yellow) – 240 litres of bin space per four (4) units per fortnight,
- Recycling (Blue) – 240 litres of bin space per four (4) units per fortnight, and,
- Green Waste – 240-litres of bin space per four (4) units per fortnight.

**TABLE 1 – PROPOSED SERVICING ARRANGEMENTS**

<b>WASTE</b>	10 x 120-litre bins / Weekly
<b>RECYCLING (YELLOW)</b>	10 x 240-litre bins / Fortnightly
<b>RECYCLING (BLUE)</b>	10 x 240-litre bins / Fortnightly
<b>GREEN WASTE</b>	10 x 240-litre bins / Fortnightly

## **4.6 PROVISION OF WASTE & RECYCLING SERVICES**

### **4.6.1 Waste and Recycling Collection Service Provider Details**

The Northern Beaches Council will provide all waste, recycling services and recycling service to all units.

### **4.6.2 Details of Mobile Containers**

In relation to the size and design of the waste and recycling mobile bins, the following technical information is provided: -

<b>CONTAINER TYPE</b>	<b>HEIGHT (metres)</b>	<b>DEPTH (metres)</b>	<b>WIDTH (metres)</b>
120-litre mobile container	0.940	0.560	0.485
240-litre mobile container	1.080	0.735	0.585

### **4.6.3 Service Lift**

On the evening prior to their servicing all bins will be transported from the WSA to the temporary Garbage Transport Room located in the south-eastern corner of Basement (Block D). The bins will then be placed onto a Service Lift and transferred to the ground floor Bin Collection Room, where they will be stored for servicing.

Prior to occupation, a Risk Management Assessment will be undertaken to determine the most convenient and safest method of transporting the bins.

As a result of the Risk Management Assessment, the Owners Corporation will develop and document an Operational Procedure for the transportation of all mobile bins throughout the development.

A copy of this procedure will be provided to Council.

### **4.6.4 Waste & Recycling Requirements**

The following services will be provided to the development:

<b>SERVICE</b>	<b>NUMBER OF CONTAINERS</b>	<b>COLLECTION FREQUENCY</b>
<b>Waste Service</b>	10 x 120-litre mobile containers	Weekly
<b>Recycling Services (Mixed)</b>	10 x 240-litre mobile containers	Fortnightly
<b>Recycling Service (Paper)</b>	10 x 240-litre mobile containers	Fortnightly
<b>Organics Service</b>	10 x 240-litre mobile container	Fortnightly

## **4.6.5 Waste Storage, Holding and Collection Areas**

### **4.6.5.1 Waste Storage Area**

One (1) large Waste Storage Area (WSA) will be provided for the storage of all bins allocated to the development. The WSA is located on the southern side of the driveway in the section between basements C and D, as indicated on the Basement Floor Plan.

The WSA is a fully enclosed rectangular structure measuring 7.5m x 7.0m, with a floor area of 52.5sqm.

Within its confines will be storage space for:

- 10 x 240-litre red lidded waste bins,
- 10 x 240-litre yellow lidded recycling bins,
- 10 x 240-litre blue lidded recycling bins,
- 10 x 240-litre green lidded garden waste bins, and,

All waste, recycling and organics waste bins will be stored within the confines of the WSA at all times.

The WSA is positioned so that it is located conveniently from all four (4) lifts. The maximum travel distance from any one lift is approximately 30 metres.

The WSA will be designed and built in accordance with Council's requirements.

### **4.6.5.2 Garbage Bin Transport Room**

A temporary bin holding room (Garbage Bin Transport Room) located in the south-eastern corner of Basement D is provided for the transfer of all bins from the WSA prior to their transfer to the ground floor collection room for servicing.

On the evening prior to their servicing all bins will be transported from the WSA to the temporary bin holding room. The bins will then be placed onto a Service Lift and transferred to the ground floor Bin Collection Room, where they will be stored for servicing.

### **4.6.5.3 Bin Collection Room / Loading Bay**

All bins will be collected from an external loading bay located off an internal service road, which has been designed by the appointed Traffic Management Consultant, in as specified in the Traffic Management Plan.

The bin collection room is located in the south eastern corner of the site adjacent to Block D. It is a fully enclosed rectangular structure measuring 15.0m x 5.5m, with a floor area of approximately 82.5sqm.

According to Council's website. All collections take place on the Friday of each week. Waste are provided weekly. All recycling and organics services are provided fortnightly.

On each collection day the number of bins presented for servicing is:

- Week 1 – 10 x 240-litre waste bins, 10 x 240-litre yellow lidded recycling bins, and 10 x 240-litre green lidded organic bins (30 bins) and,
- Week 2 – 10 x 240-litre waste bins and 10 x 240-litre blue lidded recycling bins (20 bins).

The Building Manager or their representative will be responsible for transporting all bins to the collection room and returning them to the basement WSA after they have been serviced.

Permanent access to the bin collection room will be made available to Council prior to the commencement of services.

#### **4.6.6 Servicing Arrangements – Red Lidded Waste Collections**

All red lidded waste bin services will be provided by the Northern Beaches Council, using a rear loading collection vehicle.

All bins will be presented for collection from the Bin Collection Room by Council's collection operators utilising Council's 'collect and return' service, where the bins will be removed from the collection room to the collection vehicle waiting in the Loading Bay adjacent to the entry to the bin collection room.

All bins will be returned to the Bin Collection Room as soon as servicing has been completed.

Waste bins will be serviced weekly, on the Friday of each week.

#### **4.6.7 Servicing Arrangements – Yellow Lidded Paper Recycling Collections**

All yellow lidded recycling bin services will be provided by the Northern Beaches Council, using a rear loading collection vehicle.

All bins will be presented for collection from the Bin Collection Room by Council's collection operators utilising Council's 'collect and return' service, where the bins will be removed from the collection room to the collection vehicle waiting in the Loading Bay adjacent to the entry to the bin collection room.

All bins will be returned to the Bin Collection Room as soon as servicing has been completed.

Yellow lidded recycling bins will be serviced fortnightly, on the Friday of each fortnight on the same day as the green waste bin, but alternate weeks to the blue lidded recycling bin.

#### **4.6.8 Servicing Arrangements – Blue Lidded Container Recycling Collections**

All blue lidded recycling bin services will be provided by the Northern Beaches Council, using a rear loading collection vehicle.



All bins will be presented for collection from the Bin Collection Room by Council's collection operators utilising Council's 'collect and return' service, where the bins will be removed from the collection room to the collection vehicle waiting in the Loading Bay adjacent to the entry to the bin collection room.

All bins will be returned to the Bin Collection Room as soon as servicing has been completed.

Blue lidded recycling bins will be serviced fortnightly, on the Friday of each fortnight on alternate weeks to the yellow lidded recycling bin and the green lidded organics bin.

#### **4.6.9 Servicing Arrangements – Green Lidded Organics Collections**

All green lidded organics services will be provided by the Northern Beaches Council, using a rear loading collection vehicle.

All bins will be presented for collection from the Bin Collection Room by Council's collection operators utilising Council's 'collect and return' service, where the bins will be removed from the collection room to the collection vehicle waiting in the Loading Bay adjacent to the entry to the bin collection room.

All bins will be returned to the Bin Collection Room as soon as servicing has been completed.

Green lidded organics bins will be serviced fortnightly, on the Friday of each fortnight on the same day as the yellow lidded recycling bin, but on alternate weeks to the blue lidded recycling bin.

#### **4.7 BULKY WASTE STORAGE – COUNCIL CLEAN UPS**

The Northern Beaches Council offers all residents of single dwelling houses a Clean-Up service for the disposal of unwanted bulky waste items.

Bulky waste collections for each unit will take place from the loading bay directly in front of the Bin Collection Room, where the Bulky Waste Storage Area is located.

The Bulky Waste Storage Area is located within the Waste Collection Room as indicated on the Ground Floor Plans. Unrestricted access to this area is to be made available to residents at all times.

All bulky waste items presented for collection are to be done so strictly in accordance with Councils requirements for clean-up collections.

Residents are encouraged to take advantage of this service. Details of which can be found on the Councils website at [www.northernbeaches.nsw.gov.au](http://www.northernbeaches.nsw.gov.au)

#### **4.8 ON GOING OPERATION, USE & MAINTENANCE OF WASTE MANAGEMENT FACILITIES**

All waste management facilities will be maintained in a clean and hygienic condition that will promote the principles of health, safety and convenience.

In order to achieve these objectives, the following facilities and devices will be required: -

1. The walls and floors of all waste storage areas will be constructed of smooth faced masonry or concrete, and all walls will be painted with light coloured and washable paint.
2. The junction between all floors and walls will be coved and sealed up to 100mm above the floor level, in order to eliminate the build-up of dirt and grime.
3. A floor waste, connected to the Sydney Water drainage system in accordance with that Authority's requirements, will be provided to all waste storage areas, and the floors will be graded to drain into it.
4. Appropriate washing facilities will be provided to all waste storage facilities, including appropriate plumbing and drainage fixtures and fittings, and the provision of running water.
5. All waste storage facilities are to be washed and cleaned on a regular basis.
6. All mobile bins will be washed and cleaned on a regular basis.
7. All electrical equipment, including the provision of lighting, will be installed in accordance with the relevant Australian Standards.
8. Natural and mechanical ventilation will be required to be installed within the waste storage areas, in accordance with the relative provisions of the Building Code of Australia.
9. Appropriate signage will be erected in a prominent place within the building and basement, providing instruction to residents on how to use waste and recycling facilities, including what is and what is not recyclable.
10. The Owners Corporation will be responsible for ensuring that all waste and recyclable matter and materials are placed and stored within the appropriate containers provided.

## **PART 5 – SUMMARY**

### **5.1 SUMMARY**

In summarising this proposal, the following information is provided:

1. This Waste Management Plan (WMP) has been developed and documented in accordance with the requirements of the Northern Beaches Council, its DCP, and the relevant requirements of the Waste Management Guidelines for residential flat buildings.
2. This WMP aims to promote the use of recyclable materials in the excavation, demolition, construction and on-going operation of the buildings.
3. This WMP aims to ensure the design of waste and recycling storage facilities are of an adequate size, appropriate for the intended use of the buildings, hygienic with safe and manoeuvrable access.
4. This WMP aims to ensure that the provision of waste and recycling services to the completed buildings are carried out in an efficient manner, which will promote the principles of health, safety and convenience.

This is a unique development with a unique set of arrangements for its waste management activities.

The measures set out in this WMP aim to demonstrate that all such activities will be carried out efficiently and effectively, in a healthy, safe and convenient manner, to acceptable community standards, the buildings occupants, and to the requirements of the Northern Beaches Council.