

# **Waste Management Plan for SSDA2**

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## **Sydney International Convention, Exhibition & Entertainment Precinct (SICEEP) Haymarket Precinct**



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# 1. Introduction

This report supports a State Significant Development Application (SSD 12\_5752) submitted to the Minister for Planning and Infrastructure pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The Application seeks approval for the establishment of building envelopes and design parameters for a new neighbourhood and a community hub (referred to as The Haymarket) as part of the Sydney international convention, exhibition and entertainment precinct SICEEP Project at Darling Harbour.

The project will develop The Haymarket into one of Sydney's most innovative residential and working districts. Through the delivery of the overall project, Darling Harbour will also become home to Australia's largest convention and exhibition facilities, Sydney's largest red carpet entertainment venue, and a hotel complex of up to 900 rooms. The SICEEP Project importantly forms a critical element of the NSW Government's aspiration to "make NSW number one again".

This report provides a high level review of the expected waste generation rates and profile for each of the plots within the SICEEP Haymarket precinct. Spatial provisions have been detailed for the recommended systems required to manage the expected waste streams.

This Report refers to the current illustrative design as seen in Appendix 3.1. This Waste Management Plan will be further refined as the detailed design is developed for each of the individual plots. Individual Waste Management Plans for each plot will be included with the subsequent Stage 2 Development Applications.

## 2. Overview

The proposal relates to a staged development application and seeks to establish concept plan details for The Haymarket, located within the southern part of the SICEEP Site.

The Haymarket will include student housing, public car parking, a commercial office building, and four mixed use development blocks (retail/commercial/residential podium with residential buildings above) centred around a new public square to be named Haymarket Square.

More specifically concept approval is sought for the following:

- Demolition of existing site improvements, including the existing Sydney entertainment Centre (SEC), Entertainment car park, and part of the pedestrian footbridge connected to the Entertainment car park and associated tree removal;
- North-west block – construction of a part public car park and part commercial/office building;
- North-east block – construction of a mixed use podium (comprising retail, commercial, above ground parking, and residential) with three residential buildings above;
- South-east block - construction of a mixed use podium (comprising retail, commercial, above ground parking, and residential) with three residential buildings above;
- South-west block - construction of a mixed use podium (comprising retail, commercial, above ground parking, and residential) with three residential buildings above;
- North block – construction of a mixed use building comprising retail, commercial and residential;
- Student housing – construction of two buildings providing for up to 1,000 beds;
- Public domain improvements including a new square, water features, new pedestrian streets and laneways, streetscape embellishments, and associated landscaping. (It is intended that a Stage 2 DA seeking approval for parts of the public domain (The Boulevard and Haymarket Square) will be lodged with the first residential stage);
- Reconfiguration and upgrade of Darling Drive (part);
- Remediation strategy; and
- Car parking rates.

### 3. Background

The existing convention, exhibition and entertainment centre facilities at Darling Harbour were constructed in the 1980s and have provided an excellent service for Sydney and NSW.

The facilities however have limitations in their ability to service the contemporary exhibition and convention industry which has led to a loss in events being held in Sydney.

The NSW Government considers that a precinct-wide renewal and expansion is necessary and is accordingly committed to Sydney reclaiming its position on centre stage for hosting world-class events with the creation of the Sydney international convention, exhibition and entertainment precinct.

Following an extensive and rigorous Expressions of Interest and Request for Proposals process, Darling Harbour Live (formerly known as 'Destination Sydney' - a consortium comprising AEG Ogden, Lend Lease, Capella Capital and Spotless) was announced by the NSW Government in December 2012 as the preferred proponent to transform Darling Harbour and create the new Sydney international convention, exhibition and entertainment Precinct.

Key features of the Darling Harbour Live Preferred Master Plan include:

- Delivering world-class convention, exhibition and entertainment facilities, including:
  - Up to 40,000m<sup>2</sup> exhibition space;
  - Over 8,000m<sup>2</sup> of meeting rooms space, across 40 rooms;
  - Overall convention space capacity for more than 12,000 people;
  - A ballroom capable of accommodating 2,000 people; and
  - A premium, red-carpet entertainment facility with a capacity of 8,000 persons.
- Providing up to 900 hotel rooms in a hotel complex at the northern end of the precinct.
- A vibrant and authentic new neighbourhood at the southern end of the precinct, called 'The Haymarket', home to an IQ Hub focused on the creative industries and high-tech businesses, apartments, student accommodation, shops, cafes and restaurants.
- Renewed and upgraded public domain, including an outdoor event space for up to 25,000 people at an expanded Tumbalong Park.
- Improved pedestrian connections linking to the proposed Ultimo Pedestrian Network drawing people between Central, Chinatown and Cockle Bay Wharf as well as east-west between Ultimo/Pymont and the City.

## 4. Site Description

The SICEEP Site is located within Darling Harbour. Darling Harbour is a 60 hectare waterfront precinct on the south-western edge of the Sydney Central Business District that provides a mix of functions including recreational, tourist, entertainment and business.

With an area of approximately 20 hectares, the SICEEP Site is generally bound by the Light Rail Line to the west, Harbourside shopping centre and Cockle Bay to the north, Darling Quarter, the Chinese Garden and Harbour Street to the east, and Hay Street to the south.

The SICEEP Site has been divided into three distinct redevelopment areas (from north to south) – Bayside, Darling Central and The Haymarket. The Application Site area relates to The Haymarket as shown in the blue highlighted zone in the figure below .

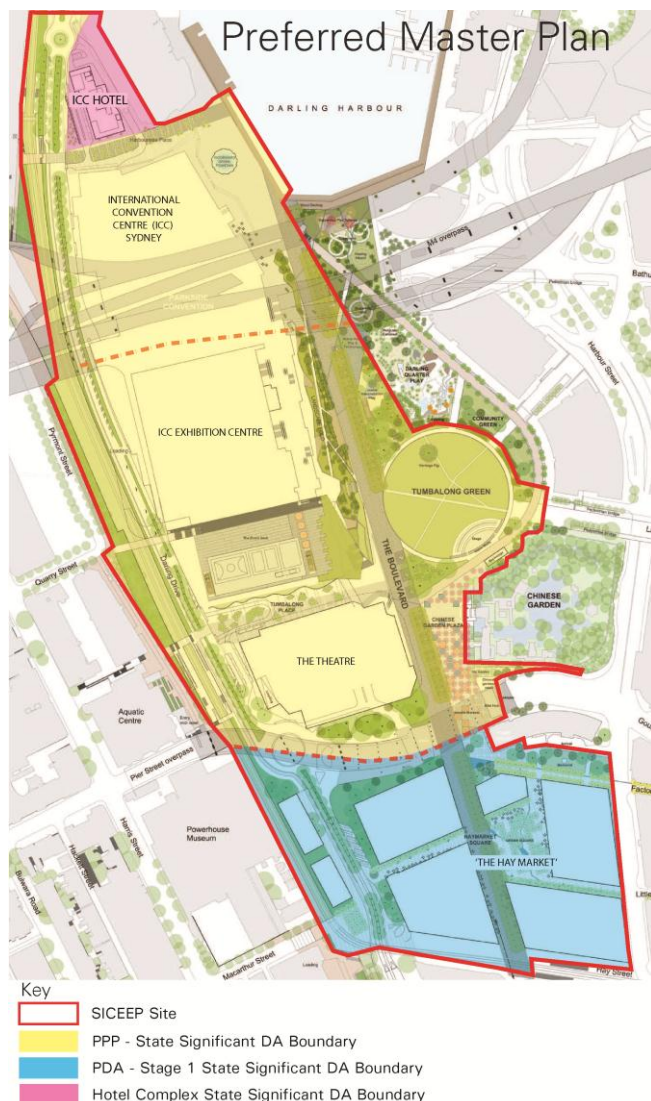


## 5. Planning Approval Strategy

In response to separate contractual agreements with the NSW Government and staging requirements Lend Lease (Haymarket) Pty Ltd is proposing to submit a number of separate development applications for key elements of the overall Project.

This staged development application involves the establishment of building envelopes and design parameters for a new neighbourhood and a community hub (The Haymarket) within the southern part of the SICEEP Site. Detailed development applications will accordingly follow seeking approval for specific aspects of The Haymarket in accordance with the approved staged development application.

Separate development applications will be lodged for the PPP component of the SICEEP Project (comprising the convention centre, exhibition centre, entertainment facility and associated public domain upgrades) and Hotel complex.



## 6. Waste Generation and Systems

The following sections detail the estimated waste generation and recommended systems for each component within each plot of the precinct i.e. residential, retail, commercial and student housing. This WMP has been developed with reference to City of Sydney's Policy for Waste Minimisation in New Developments.

It has been assumed that the residential waste will be collected by City of Sydney Council. For the purposes of this report it has been assumed that the standard council collection service will apply i.e. general waste and mixed recycling collected once per week. However due to the unique and large-scale nature of this development there may be scope to engage council to provide a more suitable service i.e. multiple collections per week. This would effectively lower the total number of bins required to meet the council requirements for each plot and thus reduce the space required to house the bins in the dock areas. This will be discussed and explored further during Stage 2 applications.

In each of the residential buildings, chutes will be provided for the disposal of general waste and recycling bins will be located within the chute room/cupboard on each floor to provide residents convenient access to recycling facilities.

City of Sydney guidelines have been used to estimate the waste/recycling generation from the residential buildings and bin numbers have been proposed to meet the capacity requirements of the guidelines. In some cases below, providing one recycling bin on each residential floor exceeds the total capacity requirement for the number of apartments within that particular building. However, in some cases due to the number of apartments per floor, providing one recycling bin on each floor does not meet the Council capacity requirement – in these cases the number of recycling bins proposed exceeds the number of floors within that particular building in order to meet the requirement. The additional bins will be stored within the waste room at dock level and will be available for cleaners/building management to swap should any of the bins on the floors fill up prior to the collection day.

## 2.1 SW Plot

The SW plot is comprised of 3 residential buildings with mixed retail outlets located on the ground and first levels – refer to appendix in section 3.1 for site map.

Each residential building will utilise a general waste chute which will be accessible from each level and will terminate at dock level on ground floor. Recycling bins will be located within the chute room on each level providing residents convenient access to recycling facilities. It is anticipated that there will be dedicated waste rooms at the base of each chute for the storage and collection of all residential bins.

There will be a separate waste storage area in the dock area for the exclusive use of the retailers. It will be the responsibility of the individual retailer to separate waste and recyclables appropriately within their tenancy and then transfer the materials to the waste storage area for disposal into the relevant stream.

Tables 1-6 show the waste generation estimates and recommended systems for each residential building and table 7 and 8 show the waste generation and recommended systems for the retail component of the SW plot.

**\*Note:** It is expected that all recycling bins from each building will be brought down to the dock area for collection on the same day and will be returned to the floors immediately after collection. Therefore, whilst the total footprint of the recycling bins has been shown for each building, it is likely that the bins from all buildings will be consolidated in a designated area in the dock for collection rather than stored within the individual waste rooms – thus spatial provision for the recycling bins is not required in each waste storage room.

**Table 1 – SW 1 residential waste generation**

Waste Type	Est. Waste/wk (based on 126 units/25 storeys)	
	kg	L
General Waste	806.4	10080
Recycling	264.6	5040
<b>TOTAL</b>	<b>1071</b>	<b>15120</b>

**Table 2 – SW 1 residential waste systems**

SW - 1	Bin Type	No. of Bins	Weekly Clearance Frequency	Capacity (weekly)	Estimated volume / week	Footprint per bin (m2)	Total Footprint (m2)
General Waste	1100L MGB	10	1	11,000	10,080	1.32	13.2
Mixed recycling	240L MGB	25	1	6,000	5,040	0.47	11.8*
<b>TOTAL</b>		<b>38</b>		<b>19,440</b>	<b>18,720</b>		<b>25.0</b>

Table 3 – SW 2 residential waste generation

Waste Type	Est. Waste/wk (based on 28 units/9 storeys)	
	kg	L
General Waste	179.2	2240
Recycling	58.8	1120
<b>TOTAL</b>	<b>238</b>	<b>3360</b>

Table 4 - SW 2 residential waste systems

SW - 2	Bin Type	No. of Bins	Weekly Clearance Frequency	Capacity (weekly)	Estimated volume / week	Footprint per bin (m2)	Total Footprint (m2)
General Waste	1100L MGB	3	1	3,300	2,240	1.32	4.0
Mixed recycling	240L MGB	9	1	2,160	1,120	0.47	4.2
<b>TOTAL</b>		<b>12</b>		<b>5,460</b>	<b>3,360</b>		<b>8.2</b>

Table 5 – SW 3 residential waste generation

Waste Type	Est. Waste/wk (based on 311 units/40 storeys)	
	kg	L
General Waste	1990.4	24880
Recycling	653.1	12440
<b>TOTAL</b>	<b>2643.5</b>	<b>37320</b>

Table 6 – SW 3 residential waste systems

SW - 3	Bin Type	No. of Bins	Weekly Clearance Frequency	Capacity (weekly)	Estimated volume / week	Footprint per bin (m2)	Total Footprint (m2)
General Waste	1100L MGB	23	1	25,300	24,880	1.32	30.4
Mixed recycling	240L MGB	52	1	12,480	12,440	0.47	24.4
<b>TOTAL</b>		<b>72</b>		<b>37,780</b>	<b>37,320</b>		<b>54.8</b>

Tables 7 and 8 show the waste generation and recommended systems for the retail component of the SW plot – the retail mix was derived from the Indicative Retail Layout provided by Lend Lease.

**Table 7 – SW Retail waste generation**

	Kg/Week	L/Week
Paper/Cardboard	503	9480
Comingled	159	2655
Poly/Soft plastic	6	270
Organics	241	963
General Waste	108	1957
<b>Total</b>	<b>1017</b>	<b>15325</b>

**Table 8 – SW Retail waste systems**

Waste Stream	Bin Type	No. of Bins	Clearance Frequency	Capacity (weekly)	Estimated volume / week	Footprint per bin (m2)	Total Footprint (m2)
Paper/Cardboard Recycling	660L MGB	5	3 x weekly	<b>9,900</b>	9,480	0.98	4.90
Food Organics	120L MGB	3	3 x weekly	<b>1,080</b>	963	0.27	0.81
Comingle Recycling	240L MGB	4	3 x weekly	<b>2,880</b>	2,655	0.47	1.88
General Waste	660L MGB	2	2 x weekly	<b>2,640</b>	2,227	0.98	1.96
<b>TOTAL</b>		<b>14</b>		<b>16,500</b>	<b>15,325</b>		<b>9.55</b>

## 2.2 SE Plot

The SE plot is comprised of 3 residential buildings with mixed retail outlets located on the ground and first levels – refer to appendix in section 3.1 for site map.

Each residential building will utilise a general waste chute which will be accessible from each level and will terminate at dock level on ground floor. Recycling bins will be located within the chute room on each level providing residents convenient access to recycling facilities. It is anticipated that there will be dedicated waste rooms at the base of each chute for the storage and collection of all residential bins.

There will be a separate waste storage area in the dock area for the exclusive use of the retailers. It will be the responsibility of the individual retailer to separate waste and recyclables appropriately within their tenancy and then transfer the materials to the waste storage area for disposal into the relevant stream.

**\*Note:** It is expected that all recycling bins from each building will be brought down to the dock area for collection on the same day and will be returned to the floors immediately after collection. Therefore, whilst the total footprint of the recycling bins has been shown for each building, it is likely that the bins from all buildings will be consolidated in a designated area in the dock for collection rather than stored within the individual waste rooms – thus spatial provision for the recycling bins is not required in each waste storage room.

**Table 9 – SE 1 residential waste generation**

Waste Type	Est. Waste/wk (based on 256 units/28 storeys)	
	kg	L
General Waste	1638.4	20480
Recycling	537.6	10240
<b>TOTAL</b>	<b>2176</b>	<b>30720</b>

**Table 10 – SE 1 residential waste systems**

SE - 1	Bin Type	No. of Bins	Weekly Clearance Frequency	Capacity (weekly)	Estimated volume / week	Footprint per bin (m <sup>2</sup> )	Total Footprint (m <sup>2</sup> )
General Waste	1100L MGB	19	1	20,900	20,480	1.32	25.1
Mixed recycling	240L MGB	43	1	10,320	10,240	0.47	20.2*
<b>TOTAL</b>		<b>62</b>		<b>31,220</b>	<b>30,720</b>		<b>45.3</b>

Table 11 and 12 show the waste generation and recommended systems for SE 2 and 3 – the information provided in the master plan provided by Lend Lease did not indicate the individual apartment numbers and floor numbers for SE 2 and SE 3 so at this point the data below represents the total waste loading for SE 2 & 3. This data will be separated into the individual buildings as information becomes available.

**Table 11 – SE 2 & 3 residential waste generation**

Waste Type	Est. Waste/wk (based on 129 units/9 storeys)	
	kg	L
General Waste	825.6	10320
Recycling	270.9	5160
<b>TOTAL</b>	<b>1096.5</b>	<b>15480</b>

**Table 12 – SE 2 & 3 residential waste systems**

SE – 2/3	Bin Type	No. of Bins	Weekly Clearance Frequency	Capacity (weekly)	Estimated volume / week	Footprint per bin (m2)	Total Footprint (m2)
General Waste	1100L MGB	10	1	11,000	10,320	1.32	13.2
Mixed recycling	240L MGB	22	1	5,280	5,160	0.47	10.3*
<b>TOTAL</b>		<b>32</b>		<b>16,280</b>	<b>15,480</b>		<b>23.5</b>

Tables 13 and 14 show the waste generation and recommended systems for the retail component of the SE plot – the retail mix was derived from the Indicative Retail Layout provided by Lend Lease.

**Table 13 – SE Retail waste generation**

	Kg/Week	L/Week
Paper/Cardboard	327	6357
Comingled	151	2517
Poly/Soft plastic	0.43	20.28
Organics	2512	10049
General Waste	147	2665
<b>Total</b>	<b>3137</b>	<b>21609</b>

Table 14 – SE Retail waste systems

Waste Stream	Bin Type	No. of Bins	Clearance Frequency	Capacity (weekly)	Estimated volume / week	Footprint per bin (m <sup>2</sup> )	Total Footprint (m <sup>2</sup> )
Paper/Cardboard Recycling	660L MGB	3	4 x weekly	<b>7,920</b>	6,357	0.98	2.94
Food Organics	120L MGB	15	6 x weekly	<b>10,800</b>	10,049	0.27	4.05
Comingle Recycling	240L MGB	4	3 x weekly	<b>2,880</b>	2,517	0.47	1.88
General Waste	660L MGB	2	3 x weekly	<b>3,960</b>	2,686	0.98	1.96
<b>TOTAL</b>		<b>24</b>		<b>25,560</b>	<b>21,609</b>		<b>10.83</b>

### 2.3 NE Plot

The NE plot is comprised of 3 residential buildings with mixed retail outlets located on the ground and first levels – refer to appendix in section 3.1 for site map.

Each residential building will utilise a general waste chute which will be accessible from each level and will terminate at dock level on ground floor. Recycling bins will be located within the chute room on each level providing residents convenient access to recycling facilities. It is anticipated that there will be dedicated waste rooms at the base of each chute for the storage and collection of all residential bins.

One of the residential buildings (NE2) is divided into two cores (a and b) and thus two chutes will be required to service this building.

There will be a separate waste storage area in the dock area for the exclusive use of the retailers. It will be the responsibility of the individual retailer to separate waste and recyclables appropriately within their tenancy and then transfer the materials to the waste storage area for disposal into the relevant stream.

**\*Note:** It is expected that all recycling bins from each building will be brought down to the dock area for collection on the same day and will be returned to the floors immediately after collection. Therefore, whilst the total footprint of the recycling bins has been shown for each building, it is likely that the bins from all buildings will be consolidated in a designated area in the dock for collection rather than stored within the individual waste rooms – thus spatial provision for the recycling bins is not required in each waste storage room.

**Table 15 – NE 1 residential waste generation**

Waste Type	Est. Waste/wk (based on 56 units/15 storeys)	
	kg	L
General Waste	358.4	4480
Recycling	117.6	2240
<b>TOTAL</b>	<b>476</b>	<b>6720</b>

**Table 16 – NE 1 residential waste systems**

NE - 1	Bin Type	No. of Bins	Weekly Clearance Frequency	Capacity (weekly)	Estimated volume / week	Footprint per bin (m2)	Total Footprint (m2)
General Waste	1100L MGB	5	1	5,500	4,480	1.32	6.6
Mixed recycling	240L MGB	15	1	3,600	2,240	0.47	7.1*
<b>TOTAL</b>		<b>20</b>		<b>9,100</b>	<b>6,720</b>		<b>13.7</b>

The master plan provided apartment numbers for NE 2 as a total figure however for the purposes of this exercise due to the two cores present within this building, the apartment numbers have been divided into two to represent the number of apartments feeding into each individual chute.

**Table 17 – NE 2a residential waste generation**

Waste Type	Est. Waste/wk (based on 65 units/9 storeys)	
	kg	L
General Waste	416	5200
Recycling	136.5	2600
<b>TOTAL</b>	<b>552.5</b>	<b>7800</b>

Table 18 – NE 2a residential waste systems

NE - 2a	Bin Type	No. of Bins	Weekly Clearance Frequency	Capacity (weekly)	Estimated volume / week	Footprint per bin (m <sup>2</sup> )	Total Footprint (m <sup>2</sup> )
General Waste	1100L MGB	5	1	5,500	5,200	1.32	6.6
Mixed recycling	240L MGB	11	1	2,640	2,600	0.47	5.2*
<b>TOTAL</b>		<b>16</b>		<b>8,140</b>	<b>7,800</b>		<b>11.8</b>

Table 19 – NE 2b residential waste generation

Waste Type	Est. Waste/wk (based on 65 units/9 storeys)	
	kg	L
General Waste	416	5200
Recycling	136.5	2600
<b>TOTAL</b>	<b>552.5</b>	<b>7800</b>

Table 20 – NE 2b residential waste systems

NE – 2b	Bin Type	No. of Bins	Weekly Clearance Frequency	Capacity (weekly)	Estimated volume / week	Footprint per bin (m <sup>2</sup> )	Total Footprint (m <sup>2</sup> )
General Waste	1100L MGB	5	1	5,500	5,200	1.32	6.6
Mixed recycling	240L MGB	11	1	2,640	2,600	0.47	5.2*
<b>TOTAL</b>		<b>16</b>		<b>8,140</b>	<b>7,800</b>		<b>11.8</b>

Table 21 – NE 3 residential waste generation

Waste Type	Est. Waste/wk (based on 292 units/40 storeys)	
	kg	L
General Waste	1868.8	23360
Recycling	613.2	11680
<b>TOTAL</b>	<b>2482</b>	<b>35040</b>

**Table 22 – NE 3 residential waste systems**

NE -3	Bin Type	No. of Bins	Weekly Clearance Frequency	Capacity (weekly)	Estimated volume / week	Footprint per bin (m2)	Total Footprint (m2)
General Waste	1100L MGB	22	1	24,200	23,360	1.32	29.0
Mixed recycling	240L MGB	49	1	11,760	11,680	0.47	23.0*
<b>TOTAL</b>		<b>71</b>		<b>35,960</b>	<b>35,040</b>		<b>52.1</b>

Tables 23 and 24 show the waste generation and recommended systems for the retail component of the NE plot – the retail mix was derived from the Indicative Retail Layout provided by Lend Lease.

**Table 23 – NE retail waste generation**

	Kg/Week	L/Week
Paper/Cardboard	464	8642
Comingled	137	2288
Poly/Soft plastic	7.08	336.94
Organics	661	2645
General Waste	107	1942
<b>Total</b>	<b>1376</b>	<b>15855</b>

**Table 24 – NE retail waste systems**

Waste Stream	Bin Type	No. of Bins	Clearance Frequency	Capacity (weekly)	Estimated volume / week	Footprint per bin (m2)	Total Footprint (m2)
Paper/Cardboard Recycling	660L MGB	3	5 x weekly	<b>9,900</b>	8,642	0.98	2.94
Food Organics	120L MGB	5	5 x weekly	<b>3,000</b>	2,645	0.27	1.35
Comingle Recycling	240L MGB	4	3 x weekly	<b>2,880</b>	2,288	0.47	1.88
General Waste	660L MGB	2	2 x weekly	<b>2,640</b>	2,279	0.98	1.96
<b>TOTAL</b>		<b>14</b>		<b>18,420</b>	<b>15,855</b>		<b>8.13</b>

## 2.4 N Plot

The N plot is comprised of one residential building with mixed retail outlets located on the ground and first levels – refer to appendix in section 3.1 for site map.

The residential building will utilise a general waste chute which will be accessible from each level and will terminate at dock level on ground floor. Recycling bins will be located within the chute room on each level providing residents convenient access to recycling facilities. It is anticipated that there will be a dedicated waste room at the base of the chute for the storage and collection of all residential bins.

There will be a separate waste storage area in the dock area for the exclusive use of the retailers. It will be the responsibility of the individual retailer to separate waste and recyclables appropriately within their tenancy and then transfer the materials to the waste storage area for disposal into the relevant stream.

**Table 25 – N residential waste generation**

Waste Type	Est. Waste/wk (based on 37 units/6 storeys)	
	kg	L
General Waste	236.8	2960
Recycling	77.7	1480
<b>TOTAL</b>	<b>314.5</b>	<b>4440</b>

**Table 26 – N residential waste systems**

N	Bin Type	No. of Bins	Weekly Clearance Frequency	Capacity (weekly)	Estimated volume / week	Footprint per bin (m <sup>2</sup> )	Total Footprint (m <sup>2</sup> )
General Waste	1100L MGB	3	1	3,300	2,960	1.32	4.0
Mixed recycling	240L MGB	6	1	1,440	1,480	0.47	2.8*
<b>TOTAL</b>		<b>9</b>		<b>4,740</b>	<b>4,440</b>		<b>6.8</b>

Tables 27 and 28 show the waste generation and recommended systems for the retail component of the N plot – the retail mix was derived from the Indicative Retail Layout provided by Lend Lease.

**Table 27 – N retail waste generation**

	Kg/Week	L/Week
Paper/Cardboard	302	5956
Comingled	100	1671
Poly/Soft plastic	2.86	136.16
Organics	238	954
General Waste	76	1376
<b>Total</b>	<b>719</b>	<b>10093</b>

**Table 28 – N retail waste systems**

Waste Stream	Bin Type	No. of Bins	Clearance Frequency	Capacity (weekly)	Estimated volume / week	Footprint per bin (m2)	Total Footprint (m2)
Paper/Cardboard Recycling	660L MGB	3	3 x weekly	<b>5,940</b>	5,956	0.98	2.94
Food Organics	120L MGB	3	3 x weekly	<b>1,080</b>	954	0.27	0.81
Comingle Recycling	240L MGB	3	3 x weekly	<b>2,160</b>	1,671	0.47	1.41
General Waste	660L MGB	2	2 x weekly	<b>2,640</b>	1,512	0.98	1.96
<b>TOTAL</b>		<b>11</b>		<b>11,820</b>	<b>10,093</b>		<b>7.12</b>

## 2.5 NW Plot

The NW plot is comprised of a commercial building totalling 25,000m2 NLA and mixed retail outlets on the ground floor – refer to appendix in section 3.1 for site map.

Waste and recycling facilities will be recommended for the commercial tenancies and as is common practice in commercial buildings, the appointed cleaning contractor will be responsible for the collection and transfer of waste and recycling from the individual tenancies to the waste storage area in the dock presumably via the goods lift.

As there is no residential component to the plot, all waste will be collected by a commercial waste contractor and thus retail waste can be consolidated with commercial waste in the base building waste systems. However, if for billing/reporting purposes retail waste is required to be separate from commercial waste, the recommended retail systems have been detailed separately below.

Table 29 – NW commercial waste generation

	Kg/Week	L/Week
Paper	2062.5	25781.3
Cardboard	375	8333.3
Comingled	187.5	3125.0
Organics	487.5	1950.0
General Waste	637.5	11590.9
<b>Total</b>	<b>3750.0</b>	<b>50780.5</b>

Table 30 – NW commercial waste systems

Waste Stream	Bin Type	No. of Bins	Clearance Frequency	Capacity (weekly)	Estimated volume / week	Footprint per bin (m <sup>2</sup> )	Total Footprint (m <sup>2</sup> )
Paper Recycling	240L MGB	24	5 x weekly	<b>28,800</b>	25,781	0.47	11.28
Cardboard Recycling	660L MGB	3	5 x weekly	<b>9,900</b>	8,333	0.98	2.94
Food Organics	120L MGB	4	5 x weekly	<b>2,400</b>	1,950	0.27	1.08
Comingle Recycling	240L MGB	3	5 x weekly	<b>3,600</b>	3,125	0.47	1.41
General Waste	660L MGB	4	5 x weekly	<b>13,200</b>	11,591	0.98	3.92
Metal Recycling*	240L MGB	1	As required	N/A	ad hoc	0.47	0.47
Electronics storage cage*	3m <sup>3</sup>	1	As required	N/A	ad hoc	2.00	2.00
<b>TOTAL</b>		<b>40</b>		<b>57,900</b>	<b>50,780</b>		<b>23.10</b>

\*Green Star requirements

Table 31 – NW retail waste generation

	Kg/Week	L/Week
Paper/Cardboard	141	2861
Comingled	61	1021
Poly/Soft plastic	0.16	7.79
Organics	151	605
General Waste	38	687
<b>Total</b>	<b>391</b>	<b>5182</b>

**Table 32 – NW retail waste systems**

Waste Stream	Bin Type	No. of Bins	Clearance Frequency	Capacity (weekly)	Estimated volume / week	Footprint per bin (m2)	Total Footprint (m2)
Paper/Cardboard Recycling	660L MGB	2	3 x weekly	<b>3,960</b>	2,861	0.98	1.96
Food Organics	120L MGB	3	2 x weekly	<b>720</b>	605	0.27	0.81
Comingle Recycling	240L MGB	3	2 x weekly	<b>1,440</b>	1,021	0.47	1.41
General Waste	240L MGB	2	2 x weekly	<b>960</b>	695	0.47	0.94
<b>TOTAL</b>		<b>10</b>		<b>7,080</b>	<b>5,182</b>		<b>5.12</b>

## 2.6 DD Plot – Student Housing

The DD plot is comprised of two student housing buildings totalling 1031 beds in a variety of apartment/shared living configurations – refer to appendix in section 3.1 for site map.

A waste storage area is located on the ground floor of each building – each waste storage room has a footprint of approximately 14m<sup>2</sup>.

The tables below provide an approximate waste profile for each building and the systems recommended to manage the waste.

It is unlikely that a chute will be implemented throughout these buildings and so it is recommended that general waste and recycling facilities be provided on each level to provide convenient access for waste disposal to tenants. Onsite cleaning/building management staff will actively manage the transfer of the bins from the floors to the waste storage rooms for collection by the commercial waste contractor.

**Table 33 – DD W1 waste generation**

Waste Type	Est. Waste/wk	
	kg	L
General Waste	1210	15121
Recycling	397	7561
<b>TOTAL</b>	<b>1607</b>	<b>22682</b>

Table 34 – DD W1 waste systems

DD W1	Bin Type	No. of Bins	Weekly Clearance Frequency	Capacity (weekly)	Estimated volume / week	Footprint per bin (m2)	Total Footprint (m2)
General Waste	240L MGB	13	5	15,360	15,121	0.47	6.0
Mixed recycling	240L MGB	6	5	7,680	7,561	0.47	3.0
<b>TOTAL</b>		<b>19</b>		<b>23,040</b>	<b>22,682</b>		<b>9.0</b>

Table 35 – DD W2 waste generation

Waste Type	Est. Waste/wk	
	kg	L
General Waste	990	12372
Recycling	325	6186
<b>TOTAL</b>	<b>1315</b>	<b>18558</b>

Table 36 – DD W2 waste systems

DD W2	Bin Type	No. of Bins	Weekly Clearance Frequency	Capacity (weekly)	Estimated volume / week	Footprint per bin (m2)	Total Footprint (m2)
General Waste	240L MGB	10	5	12,480	12,372	0.47	4.9
Mixed recycling	240L MGB	5	5	6,240	6,186	0.47	2.4
<b>TOTAL</b>		<b>16</b>		<b>18,720</b>	<b>18,558</b>		<b>7.3</b>

## **2.7 Public Domain Waste and Recycling**

As per the SICEEP Sustainability Plan, general waste and recycling facilities should be provided in public realm areas throughout the precinct.

It is recommended that bin hubs provide for general waste and comingled recycling streams.

The implementation of organics recycling bins is not recommended in public places due to the high levels of contamination commonly observed in such systems.

Design and location of the bin hubs will be developed in subsequent stages.

