Waste Management Plan

THE MEADOWS

BESSBOROUGH
BLACKROCK
CORK

MARCH 2022

commissioned by estuary view enterprises 2020 ltd.

SHiPSEYBARRY

contents

1. INTRODUCTION

Estuary View Enterprises 2020 Limited intend to apply to An Bord Pleanála for permission for a strategic housing development at Bessborough, Ballinure, Blackrock, Cork.

The development will consist of the construction of a residential development of 280 no. residential apartment units with supporting tenant amenity facilities, crèche, and all ancillary site development works. The proposed development includes 280 no. apartments to be provided as follows: Block A (6 no. studio apartments, 14 no. 1-bedroom, 34 no. 2-bedroom & 1 no. 3-bedroom over 1-6 storeys), Block B (37 no. 1-bedroom & 49 no. 2-bedroom over 6-10 storeys), Block C (31 no. 1-bedroom, 36 no. 2-bedroom & 6 no. 3-bedroom over 5-9 storeys) and Block D (30 no. 1-bedroom, 31 no. 2-bedroom & 5 no. 3-bedroom over 6-7 storeys).

The proposal includes a new pedestrian/cycle bridge over the adjoining Passage West Greenway to the east, connecting into the existing down ramp from Mahon providing direct access to the greenway and wider areas.

The proposed development provides for outdoor amenity areas, landscaping, under-podium and street car parking, bicycle parking, bin stores, 2 no. substations one of which is single storey free standing , a single storey carpark access building, public lighting, roof mounted solar panels, wastewater infrastructure including new inlet sewer to the Bessborough Wastewater Pumping Station to the west, surface water attenuation, water utility services and all ancillary site development works.

Figure 1: Phase 1- The Meadows - Bessborough | Extract from Site Plan | NTS

Vehicular access to the proposed development will be provided via the existing access road off the Bessboro Road.

Both residential and ancillary waste will be generated by the scheme. All required bins and associated equipment will be stored in designated and segregated areas local to each building. Each refuse room is accessible to upper apartment by central stair and lift cores.

Adequate provisions have been made to facilitate the disposal of dry mixed recyclables, residual waste, organic waste, glass and waste electrical and electronic equipment (WEEE). A standard 60" vertical baler is also provided on site for general use.

Figure 2: Phase 1- The Meadows - Bessborough | View from Greenway

2. PLANNING AND POLICY

The Meadows, *Bessborough*, adheres to Cork City Council (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-Laws, 2019. The main provisions of the bye-laws are:

- To ensure all citizens dispose of their waste by using an authorised waste contractor or by taking it to an authorised waste facility or by sharing bins by written agreement.
- To maximise the use of Wheelbins and limit (by designation by Cork City Council) the areas where bags can be presented.
- To define how wheelbins are to be presented.
- To ensure segregation of waste at source.
- Where wheelbins or branded bags, purchased from authorised waste collectors, are not used that documentation/receipts are kept to demonstrate proper disposal of waste.
- To restrict the storage of wheelbins on public roads or footpaths.[1]

Storage and collection of waste will be undertaken on site in accordance with the Cork City Development Plan 2015-2021 and the standard BS 5906:2005 Waste Code of Practice.

Section 12.22 of the Development plan sets out the following guidelines related to design standards for proposed developments: "The incorporation of adequate waste storage facilities and management procedures in private developments is critical to ensure the effective separation of waste streams in a manner that maintains residential amenity."[2] A new Cork City Development Plan is currently being prepared which sets out the priorities for the city for a 6-year period from 2022 to 2028.

1 The Cork City Council (Segregation, Storage and Presentation of Household and Commercial Waste) Bye-Laws 2019. Source: https://www.corkcity.ie/en/council-services/news-room/latest-news/new-byelaws-relating-to-household-and-commercial-waste-enacted.html. Accessed 21-03-2022.
2 Cork City Development Plan 2015-2021. Section 12.22: Design Standards. Source: https://www.corkcity.ie/en/existing-cork-city-development-plan-2015-2021/. Accessed 21-03-2022.

The European Commission's Circular Economy Action Plan: For a Cleaner More Competitive Europe[4] was adopted in 2020, and promotes a transition towards the principles of a circular economy, facilitating the use of materials at their highest value for as long as possible and then recycling or reusing them at the end of their service life with the end result being the generation of minimal waste.

The government's Waste Action Plan for a Circular Economy- Ireland's National Waste Policy 2020- 2025[2], endorses this approach and aims to shift the focus of waste management away from waste disposal and treatment to ensure that materials and products remain in productive use for longer. This is aimed at preventing waste and supporting reuse through a policy framework that discourages the wasting of resources and rewards circularity.

Currently, Cork City is part of the Southern Waste Region. The strategic vision of the Southern Region Waste Management Plan 2015-2021 is to rethink our approach to managing waste, by viewing our waste streams as valuable material resources, leading to a healthier environment and sustainable commercial opportunities for our economy. [3]

Particular emphasis is placed on preventing and designing out waste at the initial stage of any activity, thus achieving the highest level of the waste hierarchy, namely waste prevention.

The Southern Region Waste Management Office has commenced the process of drafting the next Waste Management Plan.[4] This proposal supports the sustainable management of waste in line with the objectives of the Southern Region Waste Management Plan 2015-2021 and its successor.

1 The European Commission's Circular Economy Action Plan: For a Cleaner More Competitive Europe. Source: https://ec.europa.eu/environment/circular-economy/. Accessed 21-03-2022.
2 A Waste Action Plan for a Circular Economy: Ireland's National Waste Policy 2020-2025. Source: https://www.gov.ie/en/publication/4221c-waste-action-plan-for-a-circular-economy/. Accessed 21-03-2022.
3 Southern Region Waste Management Plan 2015 – 2021. Source: http://southernwasteregion.ie/content/southern-region-waste-management-plan-2015-2021-associated-reports. Accessed 21-03-2022.
4 Ibid.

Figure 3: The Waste Hierarchy[1]

This proposal acknowledges that policies and objectives in relation to waste management in Cork City are reflective of overarching EU, National and Regional policy and legislation.

The European Commission adopted the new circular economy action plan (CEAP) in March 2020. It is one of the main building blocks of the European Green Deal, Europe's new agenda for sustainable growth. It is also a prerequisite to achieve the EU's 2050 climate neutrality target and to halt biodiversity loss. Measures that will be introduced under the new action plan aim to:

- make sustainable products the norm in the EU
- empower consumers and public buyers
- focus on the sectors that use most resources and where the potential for circularity is high such as: electronics and ICT, batteries and vehicles, packaging, plastics, textiles, construction and buildings, food, water and nutrients
- ensure less waste
- make circularity work for people, regions and cities
- lead global efforts on circular economy[2]

This Waste Management Plan is assembled in accordance with the amended Planning and Development Act 2000 and Section 22(10A) of the Waste Management Acts 1996-2008 as the objectives for waste recovery and disposal facilities within the development are outlined.

1 Waste Prevention and Management. Source: https://ec.europa.eu/environment/green-growth/waste-prevention-and-management. Accessed 21-03-2022.
2 Circular Economy Action Plan. Source: https://ec.europa.eu/environment/strategy/circular-economy-action-plan_en#ecl-inpage-872 Accessed 21-03-2022.

3. WASTE CALCULATION

ASSUMPTIONS

- Occupancy rates are assumed to be 1 person per studio apartment, 2 persons per one bed apartments, 4 persons per 2 bed apartment and 6 persons per 3 bed apartment.

- Household waste will be source separated into recyclables, residual, and organic wastes. Wheeled bins will be available in waste storage rooms also for WEEE and waste glass.

- It is assumed that approximately 60% of waste generated will be dry mixed recyclables. 30% of waste generated will be residual waste, and 10% of waste generated will be organic waste. The waste management system will be flexible to allow for increases in the proportion of source segregated recyclables and reduction of residual wastes in the future. This includes the European Commission's 70% target for re-use and recycling of waste by 2030.[1]

- Once weekly waste collection per waste type of residential & other waste is assumed for the purpose of these calculations.

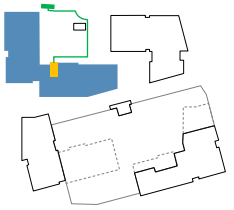
- It is assumed that all waste will be delivered by householders to basement level communal waste stores. Communal waste rooms will be located in each podium basement for each building block, representing one communal waste room per two blocks.

- The EPA reported a household waste generation rate per capita of 321kg per annum for 2017, the most recent year for which published data is available.[2]

- Density of 0.21 tonnes/m3 or 0.21 tonnes/1000 litres for waste calculations.

1 Towards a Circular Economy. Source: https://ec.europa.eu/commission/presscorner/detail/el/MEMO_14_450. Accessed 21-03-2022.
2 Household Waste Statistics for Ireland. Source: https://www.epa.ie/publications/monitoring--assessment/waste/national-waste-statistics/Household-Waste-2017-data.pdf. Accessed 21-03-2022.

SUMMARY							
Waste Type	Building	No. Apts	Refuse Room No.	Collection Point	MSW Waste Estimation (ltr)	MSW Waste Provision (ltr)	Additional Provisions
Residential	A	55	RFA1	A	5174	6220	1820



Municipal Solid Waste (MSW) Estimation							
Apt Type	Occupancy per apt.	No. of apts	Total population	Waste/annum* (kg)	Waste/annum** (m^3)	Waste/week (m^3)	Waste/week (ltr)
STUDIO	1	6	6	1,926	9.17	0.18	176
1 BED	2	14	28	8,988	42.80	0.82	823
2 BED	4	34	136	43,656	207.89	4.00	3998
3 BED	6	1	6	1,926	9.17	0.18	176
	Total	**55**	**176**	**56,496**	**269.03**	**5.17**	**5174**

Assumptions

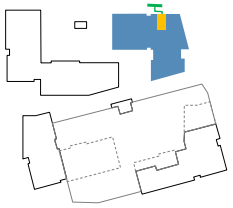
* *321kg/person/annum*

** *210kg/m^3* *=waste density*

WASTE CATEGORY SPLIT					
Waste Type	%	Waste/week (ltr)	No. 1100ltr bins required	No. 240ltr bins required	Total Waste Provision (ltr)
Municipal Solid Waste (MSW)	100%	5174			
Dry mixed recylables	60%	3104	3		3300
Residual Waste	30%	1552	2		2200
Oragninc Waste	10%	517		3	720
		Subtotal	5	3	6220

Additional Waste Provisions				
Glass Recycling			3	720
WEEE		1		1100
	Subtotal:	1	3	1820
	Total:	**6**	**6**	**8040**

SUMMARY							
Waste Type	Building	No. Apts	Refuse Room No.	Collection Point	MSW Waste Estimation (ltr)	MSW Waste Provision (ltr)	Additional Provisions
Residential	B	86	RFB1	B	7937	9760	1820



Municipal Solid Waste (MSW) Estimation							
Apt Type	Occupancy per apt.	No. of apts	Total population	Waste/annum* (kg)	Waste/annum** (m^3)	Waste/week (m^3)	Waste/week (ltr)
STUDIO	1	0	0	0	0.00	0.00	0
1 BED	2	37	74	23,754	113.11	2.18	2175
2 BED	4	49	196	62,916	299.60	5.76	5762
3 BED	6	0	0	0	0.00	0.00	0
	Total	**86**	**270**	**86,670**	**412.71**	**7.94**	**7937**

Assumptions

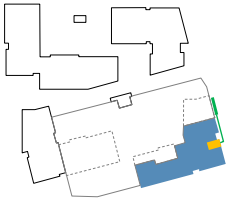
* *321 kg/person/annum*

** *210 kg/m³* *=waste density*

WASTE CATEGORY SPLIT					
Waste Type	%	Waste/week (ltr)	No. 1100ltr bins required	No. 240ltr bins required	Total Waste Provision (ltr)
Municipal Solid Waste (MSW)	100%	7937			
Dry mixed recylables	60%	4762	5		5500
Residual Waste	30%	2381	3		3300
Oragninc Waste	10%	794		4	960
		Subtotal	8	4	9760

Additional Waste Provisions				
Glass Recycling			3	720
WEEE		1		1100
	Subtotal:	1	3	1820
	Total:	**9**	**7**	**11580**

SUMMARY							
Waste Type	Building	No. Apts	Refuse Room No.	Collection Point	MSW Waste Estimation (ltr)	MSW Waste Provision (ltr)	Additional Provisions
Residential	C	73	RFC1	B	7114	7320	1820



Municipal Solid Waste (MSW) Estimation							
Apt Type	Occupancy per apt.	No. of apts	Total population	Waste/annum* (kg)	Waste/annum** (m^3)	Waste/week (m^3)	Waste/week (ltr)
STUDIO	1	0	0	0	0.00	0.00	0
1 BED	2	31	62	19,902	94.77	1.82	1823
2 BED	4	36	144	46,224	220.11	4.23	4233
3 BED	6	6	36	11,556	55.03	1.06	1058
	Total	**73**	**242**	**77,682**	**369.91**	**7.11**	**7114**

Assumptions

* *321 kg/person/annum*

** *210 kg/m^3* *=waste density*

WASTE CATEGORY SPLIT					
Waste Type	%	Waste/week (ltr)	No. 1100ltr bins required	No. 240ltr bins required	Total Waste Provision (ltr)
Municipal Solid Waste (MSW)	100%	7114			
Dry mixed recylables	60%	4268	4		4400
Residual Waste	30%	2134	2		2200
Oragninc Waste	10%	711		3	720
		Subtotal:	6	3	7320

Additional Waste Provisions				
Glass Recycling			3	720
WEEE		1		1100
	Subtotal:	1	3	1820
	Total:	**7**	**6**	**9140**

SUMMARY							
Waste Type	Building	No. Apts	Refuse Room No.	Collection Point	MSW Waste Estimation (ltr)	MSW Waste Provision (ltr)	Additional Provisions
Residential	D	66	RFD1	D	6291	7320	1820

Municipal Solid Waste (MSW) Estimation							
Apt Type	Occupancy per apt.	No. of apts	Total population	Waste/annum* (kg)	Waste/annum** (m^3)	Waste/week (m^3)	Waste/week (ltr)
STUDIO	1	0	0	0	0.00	0.00	0
1 BED	2	30	60	19,260	91.71	1.76	1764
2 BED	4	31	124	39,804	189.54	3.65	3645
3 BED	6	5	30	9,630	45.86	0.88	882
	Total:	**66**	**214**	**68,694**	**327.11**	**6.29**	**6291**

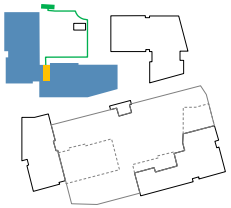
Assumptions

* *321 kg/person/annum*

** *210 kg/m^3* *=waste density*

WASTE CATEGORY SPLIT					
Waste Type	%	Waste/week (ltr)	No. 1100ltr bins required	No. 240ltr bins required	Total Waste Provision (ltr)
Municipal Solid Waste (MSW)	100%	6291			
Dry mixed recylables	60%	3774	4		4400
Residual Waste	30%	1887	2		2200
Oragninc Waste	10%	629		3	720
		Subtotal	6	3	7320
Additional Waste Provisions					
Glass Recycling				3	720
WEEE			1		1100
		Subtotal:	1	3	1820
		Total:	**7**	**6**	**9140**

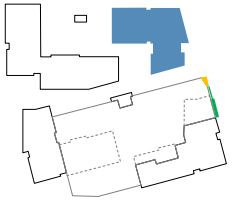
SUMMARY							
Waste Type	Building	Cumilitive Area	Refuse Room No.	Collection Point	MSW Waste Estimation (ltr)	MSW Waste Provision (ltr)	Additional Provisions
Ancillary (Communal)	A	433.5	RFA2	A	819	2440	480



Municipal Solid Waste (MSW) Estimation				
Ancilliary Use	day output (ltrs/100m2/day)	Area	operation days	Waste/week (ltr)
COMMERCIAL/RETAIL	100	0	7	0
CAFÉ	180	0	7	0.000
MANAGEMENT SUITE	27	0	5	0
TENANT AMENITIES	27	433.5	7	819
GYM	71	0	7	0
			Total:	819

WASTE CATEGORY SPLIT					
	%	Waste/week (ltr)	No. 1100ltr bins required	No. 240ltr bins required	Total Waste Provision (ltr)
Municipal Solid Waste (MSW)	100%	819			
Dry mixed recylables	60%	492	1		1100
Residual Waste	30%	246	1		1100
Oragninc Waste	10%	82		1	240
		Subtotal	2	1	2440
Additional Waste Provisions					
Glass Recycling				1	240
WEEE				1	240
		Subtotal:	0	2	480
		Total:	**2**	**3**	**2920**

SUMMARY							
Waste Type	Building	Cumilitive Area	Refuse Room No.	Collection Point	MSW Waste Estimation (ltr)	MSW Waste Provision (ltr)	Additional Provisions
Ancillary (Commercial)	B	89.9	RFB2	A	1133	240	240

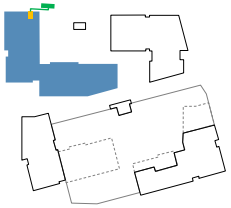


Municipal Solid Waste (MSW) Estimation				
Ancilliary Use	day output (ltrs/100m2/day)	Area	operation days	Waste/week (ltr)
COMMERCIAL/RETAIL	100	0	7	0
CAFÉ	180	89.9	7	1132.740
MANAGEMENT SUITE	27	0	5	0
TENANT AMENITIES	27	0	7	0
GYM	71	0	7	0
			Total:	1133

WASTE CATEGORY SPLIT					
	%	Waste/week (ltr)	No. 360ltr bins required	No. 240ltr bins required	Total Waste Provision (ltr)
Municipal Solid Waste (MSW)	100%	1133			
Dry mixed recylables	60%	680	2		0
Residual Waste	30%	340	1		0
Oragninc Waste	10%	113		1	240
		Subtotal	3	1	240

Additional Waste Provisions				
Glass Recycling			1	240
WEEE				0
	Subtotal:	0	1	240
	Total:	**3**	**2**	**480**

SUMMARY							
Waste Type	Building	Cumilitive Area	Refuse Room No.	Collection Point	MSW Waste Estimation (ltr)	MSW Waste Provision (ltr)	Additional Provisions
Ancillary (Creche)	A	306.7	RFA3	A	#REF!	0	0



Municipal Solid Waste (MSW) Estimation					
Ancillary Use	day output (ltrs/100m2/day)	No. Children	operation days	Waste/week (kg)	Waste/week (ltr)
CRECHE	450	35	5	78.75	375.00

WASTE CATEGORY SPLIT					
	%	Waste/week (ltr)	No. 1100ltr bins required	No. 240ltr bins required	Total Waste Provision (ltr)
Municipal Solid Waste (MSW)	100%	375			
Dry mixed recylables	60%	225		1	240
Residual Waste	30%	113		1	240
Oragninc Waste	10%	38		1	240
		Subtotal	0	3	720

Additional Waste Provisions				
Glass Recycling			1	240
WEEE			1	240
	Subtotal:	0	2	480
	Total:	**0**	**5**	**1200**

Assumptions

* *210 kg/m³* *=waste density*

4. WASTE DISPOSAL WITHIN DEVELOPMENT

Figure 4: Ground Floor Plan highlighting Refuse Rooms + Access | NTS

RESIDENTIAL

As it is assumed that all waste will be delivered by householders to basement level communal waste stores, design measures have been taken to ensure the ease and safety of this delivery.

Figure 4 illustrates the most direct path from each residential stair and lift core to the buildings designated refuse rooms.

Figure 5: Ground Floor Plan highlighting Ancillaries + Associated Refuse Rooms | NTS

ANCILLARY

As shown in *Figure 5*, each Ancillary space has efficient access to the Refuse Rooms provided. Refuse Room RFA1 also provides a standard 60" Baler for the communal use of all residents and staff. (see **Section 5** for layouts).

Figure 6: Ground Floor Plan highlighting all Refuse Rooms + Collection Points| NTS

COLLECTION POINTS

Each building has been allocated a refuse collection point as shown in *Figure 6*. These designated areas are easily access by each refuse rooms. Two refuse truck turning zones (see Section 5), will help to prevent traffic congestion during weekly and fortnightly collections.

5. WASTE COLLECTION

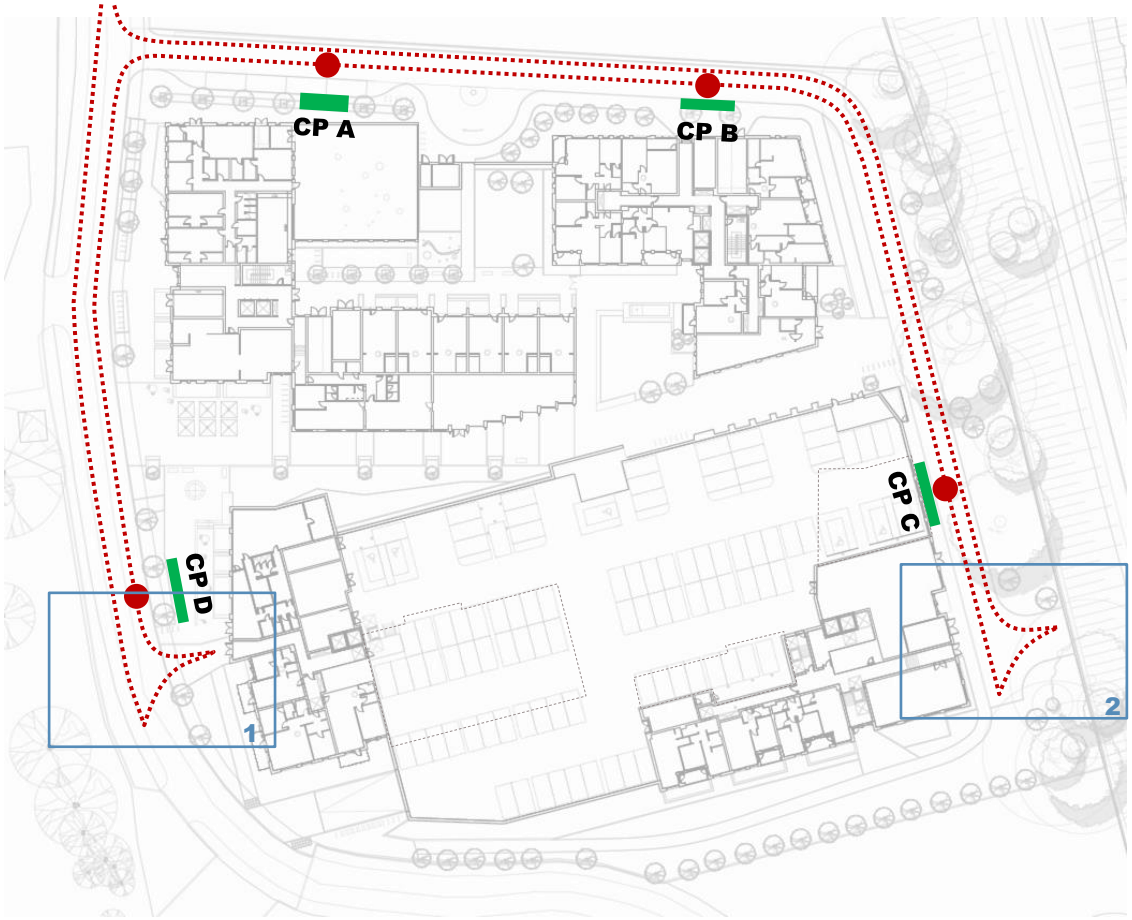


Figure 7: Ground Floor Plan highlighting Collection Points + Refuse Pick-up Locations | NTS

REFUSE TRUCK ROUTE

REFUSE TRUCK STOPS

COLLECTION POINTS

VEHICLE MOVEMENT

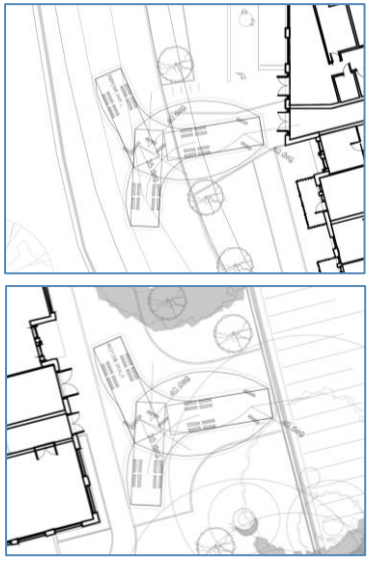
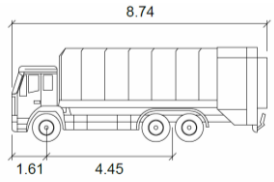


Figure 7: Extract of GF displaying Refuse 3 Axle Turning Radius | NTS



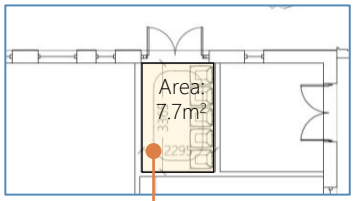
REFUSE 3AXLE

	Meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0 s
Steering Angle	: 35.3 deg

5. REFUSE ROOMS AND INVENTORY

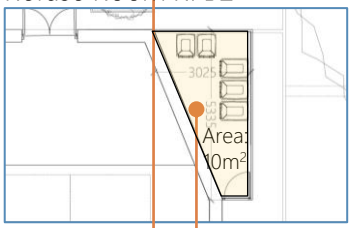
Refuse Room RFA3

1



Refuse Room RFB2

4

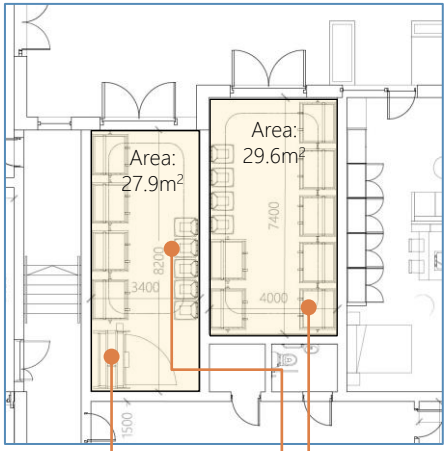


For Creche:
5 x 240ltr bins
Capacity: 1,200ltr

For Cafe:
2 x 240ltr bins
3 x 360tr bins
Capacity: 480ltr

Refuse Room RFA1 & RFA2

2



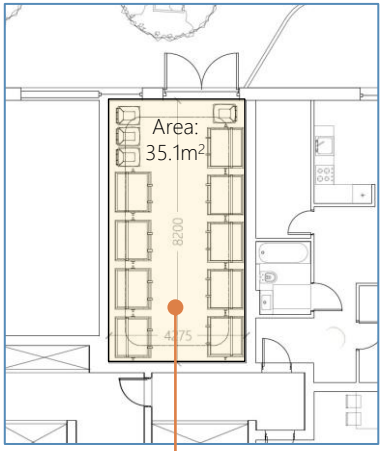
For General Use:
60" Standard
Vertical Baler

For Ancillaries:
4 x 1100 litre bins
5 x 240 litre bins
Capacity: 5,600ltr

For Residents:
7 x 1100 litre bins
4 x 240 litre bins
Capacity: 8,660ltr

Refuse Room RFB1

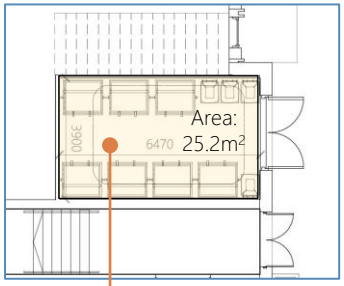
3



For Residents:
9 x 1100 litre bins
4 x 240 litre bins
Capacity: 10,860ltr

Refuse Room RFC1

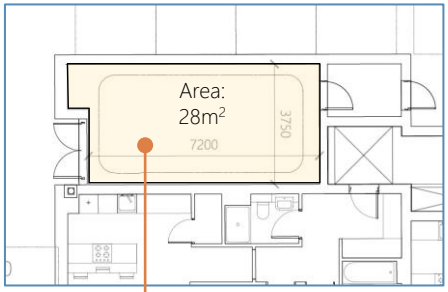
5



For Residents:
7 x 1100 litre bins
4 x 240 litre bins
Capacity: 8,660ltr

Refuse Room RFC2

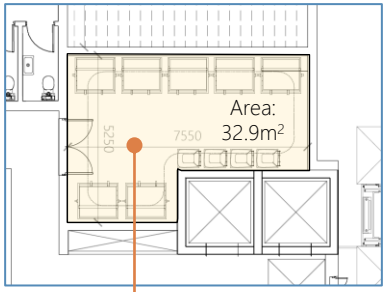
6



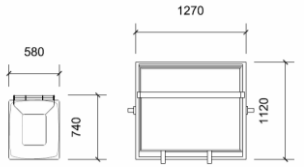
For General Use:
Surplus area provided to
cater for potential
expansion requirements

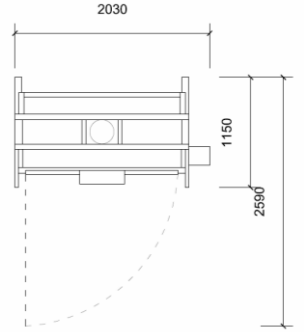
Refuse Room RFD1

7



For Residents:
7 x 1100 litre bins
4 x 240 litre bins
Capacity: 8,660m²





60" Vertical Baler

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