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Waste Management Plan

998 Albany Highway, East Victoria Park

Prepared for Space Collective Architects

3 August 2022

Project Number: TW22086

DOCUMENT CONTROL

Version	Description	Date	Author	Reviewer	Approver
1.0	First Approved Release	29/07/2022	AB	DP	DP
2.0	Second Approved Release	3/08/2022	AB	DP	DP

Approval for Release

Name	Position	File Reference
Dilan Patel	Project Manager – Waste Management Consultant	TW22086-02_Waste Management Plan_2.0

Signature	Dilan Patel Digitally signed by Dilan Patel Date: 2022.08.03 09:08:00 +08'00'

Executive Summary

Space Collective Architects is seeking development approval for the proposed commercial development located at 998 Albany Highway, East Victoria Park (the Proposal).

To satisfy the conditions of the development application the Town of Victoria Park (the Town) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Proposal. Talis Consultants has been engaged to prepare this WMP to satisfy the Town's requirements.

A summary of the bin size, numbers, collection frequency and collection method is provided in the below table.

Proposed Waste Collection Summary

Waste Type	Generation (L/week)	Bin Size (L)	Number of Bins	Collection Frequency	Collection
Bin Storage Area					
Refuse	5,992	240	Thirteen	Twice each week	Private Contractor
Recycling	1,249	360	Seven	Fortnightly	Private Contractor

A private contractor will service the Proposal onsite, directly from the Bin Storage Area via the ROW/laneway.

A building manager/caretaker will oversee the relevant aspects of waste management at the Proposal.

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1 Introduction

Space Collective Architects is seeking development approval for the proposed commercial development located at 998 Albany Highway, East Victoria Park (the Proposal).

To satisfy the conditions of the development application the Town of Victoria Park (the Town) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Proposal. Talis Consultants has been engaged to prepare this WMP to satisfy the Town's requirements.

The Proposal is bordered by commercial developments to the north, a ROW/laneway to the east, residential dwellings to the south and Albany Highway to the west, as shown in Figure 1.

1.1 Objectives and Scope

The objective of this WMP is to outline the equipment and procedures that will be adopted to manage waste (refuse and recyclables) at the Proposal. Specifically, the WMP demonstrates that the Proposal is designed to:

- Adequately cater for the anticipated volume of waste to be generated;
- Provide an adequately sized Bin Storage Area, including appropriate bins; and
- Allow for efficient collection of bins by appropriate waste collection vehicles.

To achieve the objective, the scope of the WMP comprises:

- Section 2: Waste Generation;
- Section 3: Waste Storage;
- Section 4: Waste Collection;
- Section 5: Waste Management; and
- Section 6: Conclusion.

2 Waste Generation

The following section shows the waste generation rates used and the estimated waste volumes to be generated at the Proposal.

2.1 Proposed Tenancies

The anticipated volume of refuse and recyclables is based on the number of serviced apartments and the floor area (m^2) of the commercial tenancies at the Proposal. The Proposal consists of the following:

- Two Bedroom Serviced Apartments – 8.
- Commercial 1 – 56m^2; and
- Commercial 2 – 46m^2.

2.2 Waste Generation Rates

In order to achieve an accurate projection of waste volumes for the Proposal, consideration was given to the Western Australian Local Government Association's (WALGA) *Multiple Dwelling Waste Management Plan Guidelines* (2014) and *Commercial and Industrial Waste Management Plan Guidelines* (2014).

It should also be noted that a conservative approach has been taken with regards to waste generation across the Proposal by overestimating the potential waste volumes for the commercial tenancies. This includes assuming seven days of operation which is considered to be an over estimation as it is not uncommon for food and beverage tenancies to close operations post weekend trading, therefore resulting in an over estimation of waste volumes generated.

Table 2-1 shows the waste generation rates which have been applied to the Proposal.

Table 2-1: Waste Generation Rates

Tenancy Use Type	WALGA Guideline Reference	Refuse Generation Rate	Recycling Generation Rate
Two Bedroom Serviced Apartment	2 Bedroom	160L/week	40L/week
Commercial 1	Restaurants	660L/100m^2/day	130L/100m^2/day
Commercial 2	Restaurants	660L/100m^2/day	130L/100m^2/day

2.3 Waste Generation Volumes

Waste generation is estimated by volume in litres (L) as this is generally the influencing factor when considering bin size, numbers and storage space required.

Waste generation volumes in litres per week (L/week) adopted for this waste assessment are shown in Table 2-2. It is estimated that the serviced apartments and commercial tenancies at the Proposal will generate 5,992L of refuse and 1,249L of recyclables each week.

Table 2-2: Estimated Waste Generation

Commercial Tenancies	Number of Apartments/Area (m^2)	Waste Generation Rate	Waste Generation (L/week)
REFUSE			
Two Bedroom Serviced Apartments	8	160L/week	1,280
Commercial 1	56	660L/100m^2/day	2,587
Commercial 2	46	660L/100m^2/day	2,125
		Total	**5,992**
RECYCLABLES			
Two Bedroom Serviced Apartments	8	40L/week	320
Commercial 1	56	130L/100m^2/day	510
Commercial 2	46	130L/100m^2/day	419
		Total	**1,249**

3 Waste Storage

Waste materials generated within the Proposal will be collected in the bins located in the Bin Storage Area, as shown in Figure 2, and discussed in the following sub-sections.

3.1 Internal Transfer of Waste

To promote positive recycling behaviour and maximise diversion from landfill, the serviced apartments will have room to accommodate two under counter/kitchen bins for the separate disposal of refuse and recyclables. The tenants/cleaners will then take the contents of these internal bins to the Bin Storage Area.

The commercial tenancies at the Proposal will also have a minimum of two bins to facilitate the separate disposal of refuse and recycling within each commercial tenancy. The bins will be transferred by staff/cleaners to the Bin Storage Area and be deposited into the appropriate bin.

All bins will be colour coded and labelled in accordance with Australian Standards (AS 4123.7) to assist the residents, staff and cleaners to dispose of their separate waste materials in the correct bins.

3.2 Bin Sizes

Table 3-1 gives the typical dimensions of standard bins sizes that may be utilised at the Proposal. It should be noted that these bin dimensions are approximate and can vary slightly between suppliers.

Table 3-1: Typical Bin Dimensions

Dimensions	Bin Sizes			
	240L	360L	660L	1,100L
Depth (mm)	730	848	780	1,070
Width (mm)	585	680	1,260	1,240
Height (mm)	1,060	1,100	1,200	1,300
Area (mm^2)	427	577	983	1,327

Reference: SULO Bin Specification Data Sheets

3.3 Bin Storage Area Size

To ensure sufficient area is available for storage of the bins, the amount of bins required for the Bin Storage Area was modelled utilising the estimated waste generation in Table 2-2, bin sizes in Table 3-1 and based on collection of refuse twice each week and recyclables fortnightly.

Based on the results shown in Table 3-2 the Bin Storage Area has been sized to accommodate:

- Thirteen 240L refuse bins; and
- Seven 360L recycling bins.

Table 3-2: Bin Requirements for Bin Storage Area

Waste Stream	Waste Generation (L/week)	Number of Bins Required			
		240L	360L	660L	1,100L
Refuse	5,992	13	9	5	3
Recycling	1,249	11	7	4	3

The configuration of these bins within the Bin Storage Area is shown in Figure 2. It is worth noting that the number of bins and corresponding placement of bins shown in Figure 2 represents the maximum requirements assuming two collections each week of refuse and fortnightly collection of recyclables.

3.4 Bin Storage Area Design

The design of the Bin Storage Area will take into consideration:

- Bin-washing facilities including an adequate supply of water with hose cock and have floor drainage;
- The walls, floors and ceilings will be finished with a light colour and impermeable to water so they can be jet washes, as required;
- Smooth impervious floors of not less than 75 millimetres in thickness and which is evenly graded to an approved liquid refuse disposal system (floor draining to the sewer);
- Having walls not less than 1.5 metres in height;
- Adequate aisle width for easy manoeuvring of bins;
- No double stacking of bins;
- Doors to the Bin Storage Area will be self-closing, vermin proof and wide enough to fit bins through;
- Design will provide for adequate natural ventilation through ventilated doors which will be permanent, unobstructed natural ventilation openings direct to the external air;
- Appropriate signage;
- Undercover where possible and be designed to not permit stormwater to enter the drain;
- Located behind the building setback line;
- Bins not to be visible from the property boundary or areas trafficable by the public; and
- Bins are reasonably secured from theft and vandalism.

Bin numbers and storage space within the Bin Storage Area will be monitored by the building manager/caretaker during the operation of the Proposal to ensure that the number of bins and collection frequency is sufficient.

4 Waste Collection

A private waste collection contractor will service the Proposal and provide thirteen 240L bins for refuse and seven 360L bins for recyclables.

The private contractor will collect refuse twice each week and recyclables fortnightly utilising a rear loader waste collection vehicle.

The private contractor's rear loader waste collection vehicle will service the bins directly from the Bin Storage Area. The private contractor's rear loader waste collection vehicle will travel with left hand lane traffic flow on the ROW/laneway and pull up adjacent to the Bin Storage Area in the ROW/laneway for servicing.

Private contractor's staff will ferry bins to and from the rear loader waste collection vehicle and the Bin Storage Area during servicing. The private contractor will be provided with key/PIN code access to the Bin Storage Area and security access gates to facilitate servicing, if required.

Once servicing is complete the private contractor's rear loader waste collection vehicle will continue in a forward motion on the ROW/laneway.

4.1 Commercial Bulk and Speciality Waste

Bulk and speciality waste materials will be removed from the Proposal as they are generated on an 'as required' basis.

Adequate space is available at the development for the storage of specialty wastes that are unable to be disposed of within the bins in the Bin Storage Area. These may include items such as:

- Batteries and E-wastes;
- Mattresses;
- White goods/appliances;
- Used Cooking Oil;
- Cleaning chemicals; and
- Commercial Light globes.

These materials will be removed from the Proposal once sufficient volumes have been accumulated to warrant disposal. Specialty waste collection will be monitored by the building manager/caretaker who will organise their transport to the appropriate waste facility, as required.

5 Waste Management

A building manager/caretaker will be engaged to complete the following tasks:

- Monitoring and maintenance of bins and the Bin Storage Area;
- Cleaning of bins and Bin Storage Area, when required;
- Ensure all tenants at the Proposal are made aware of this WMP and their responsibilities thereunder;
- Monitor tenant behaviour and identify requirements for further education and/or signage;
- Monitor bulk and speciality waste accumulation and assist with its removal, as required;
- Regularly engage with tenants to develop opportunities to reduce waste volumes and increase resource recovery; and
- Regularly engage with the private contractors to ensure efficient and effective waste service is maintained.

6 Conclusion

As demonstrated within this WMP, the Proposal provides a sufficiently sized Bin Storage Area for storage of refuse and recyclables, based on the estimated waste generation volumes and suitable configuration of bins. This indicates that an adequately designed Bin Storage Area has been provided, and collection of refuse and recyclables can be completed from the Proposal.

The above is achieved using:

- Thirteen 240L refuse bins, collected twice each week; and
- Seven 360L recycling bins, collected once each fortnight.

A private contractor will service the bins at the Proposal directly from the Bin Storage Area via the ROW/laneway.

A building manager/caretaker will oversee the relevant aspects of waste management at the Proposal.

Figures

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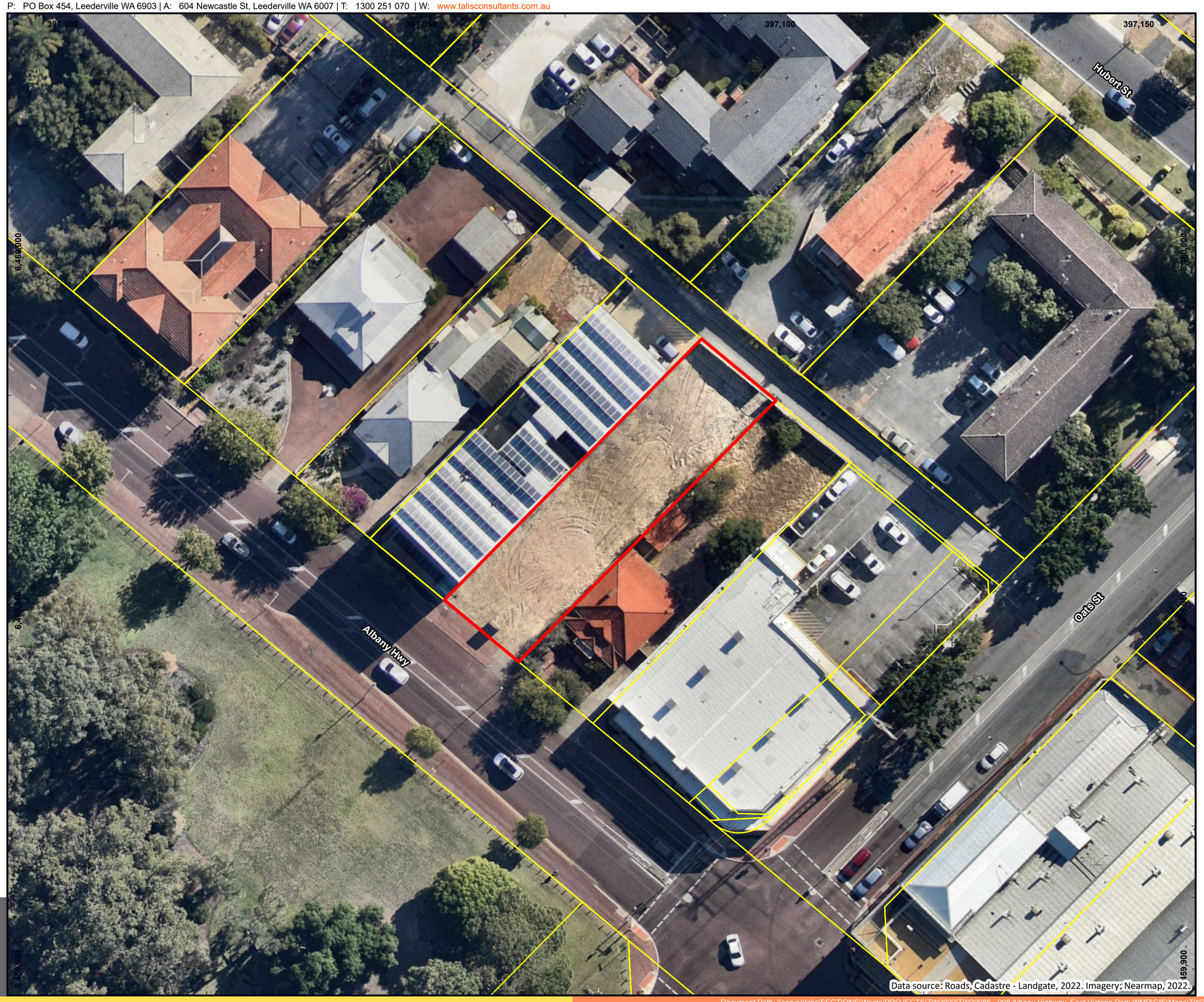

LEGEND

Site Boundary

Cadastre

TOWN OF VICTORIA PARK
Received: 19/08/2022

LOCALITY

0 5 10 15 km

LOCALITY

998 Albany Highway
East Victoria Park WA 6101

Space Collective Architects

N 0 5 10 15 20 m

Coordinate System: GDA 1994 MGA Zone 50
Scale @ A3: 1:500

Prepared:	S Rings	Date:	23/06/2022
Reviewed:	A Brouwer	Revision:	A
Project:	TW22086		

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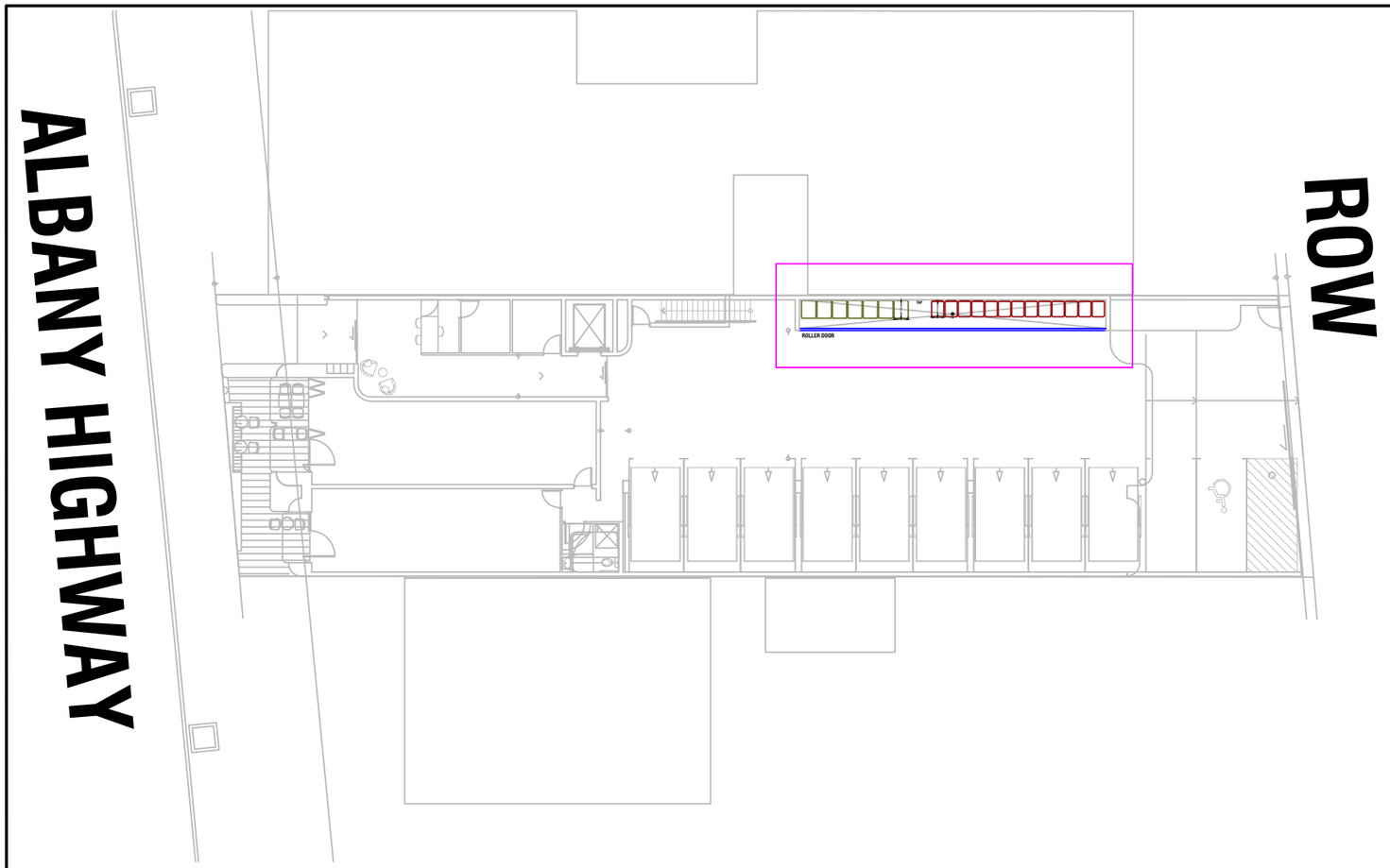
Figure 01

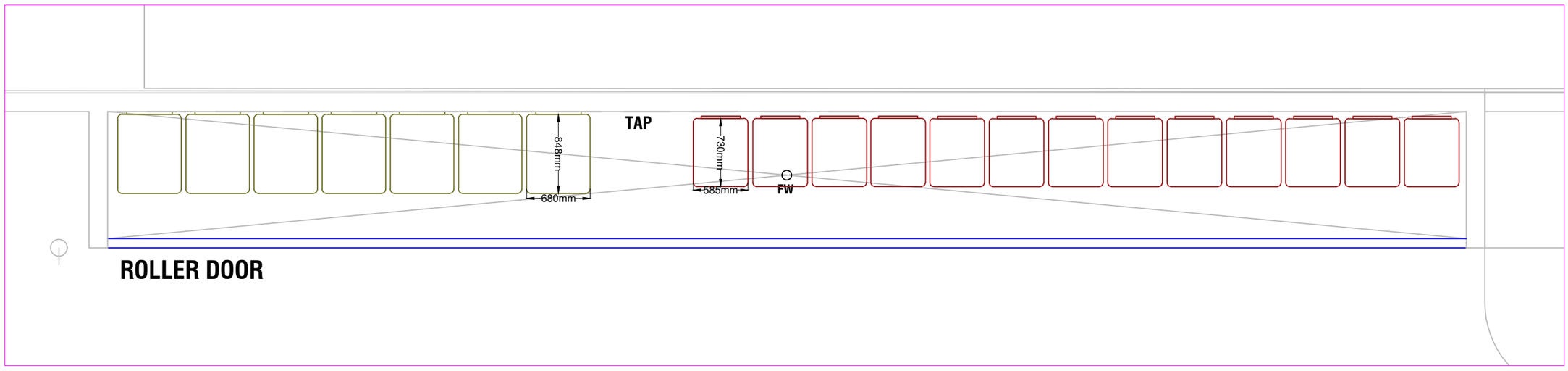
Bin Storage Area



Legend:

Bin Storage Area

- 13 x 240L refuse (730mm x 585mm)
- 7 x 360L recycling (848mm x 680mm)



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NOTES

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2. All levels refer to Australian Height Datum.
3. DO NOT SCALE, use figured dimensions only, if in doubt please contact Talis Consultants.

No.	Date	Drawn / Chk.	Amendment / Issue	App.
C	03/08/22	AB / DP	THIRD ISSUE	DP
B	29/07/22	AB / DP	SECOND ISSUE	DP
A	05/07/22	AB / DP	FIRST ISSUE	DP

Project: 998 Albany Highway, East Victoria Park

Title: Bin Storage Area

Drawn by:	AB	Job No:	TW22086
Checked by:	DP	File No:	TW22086DWG001
Approved by:	DP	Fig. No:	002
Scale:	NTS	Rev:	C
Date:	03/08/22		

Assets | Engineering | Environment | Noise | Spatial | Waste

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