



Waste Management Plan

OTR North Perth, 41-45 Angove Street, North Perth

Prepared for PC Infrastructure Pty Ltd

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Name	Position	File Reference
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Executive Summary

PC Infrastructure Pty Ltd is seeking development approval for the proposed New Service Station Complex located at 41-45 Angove Street, North Perth (the Proposal).

To satisfy the conditions of the development application the City of Vincent (the City) 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 City'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	3,574	1,100	One	Four times each week	Private Contractor
Recycling	3,574	1,100	Two	Two times each week	Private Contractor
FOGO	614	240	Two	Two times each week	Private Contractor

A private contractor will service the Proposal onsite, directly from the Bin Storage Area. The private contractor's waste collection vehicle will enter and exit the Proposal in forward gear via Angove Street.

The operator of the site will oversee the relevant aspects of waste management at the Proposal.

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1 Introduction

PC Infrastructure Pty Ltd is seeking development approval for the proposed New Service Station Complex located at 41-45 Angove Street, North Perth (the Proposal).

To satisfy the conditions of the development application the City of Vincent (the City) 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 City's requirements.

The Proposal is bordered by Angove Street to the north, Woodville Street to the east, a rear laneway to the south and commercial properties 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, recyclables, and FOGO) 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 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, recyclables and FOGO is based on the floor area (m²) of the tenancies at the Proposal. The Proposal consists of the following:

- Convenience Store – 206m²; and
- Office – 107.4m².

2.2 Waste Generation Rates

In order to achieve an accurate projection of waste volumes for the Proposal, consideration was given to the City of Vincent's *Waste Guidelines for New Developments* (May 2020).

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

Table 2-1: Waste Generation Rates

Tenancy Use Type	City's Guideline Reference	Refuse Generation Rate	Recycling Generation Rate	FOGO Generation Rate
Convenience Store	Convenience Store	240L/100m ² /day	240L/100m ² /day	40L/100m ² /day
Office	Offices	15L/100m ² /day	15L/100m ² /day	5L/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 is shown in Table 2-2. It is estimated that the tenancies at the Proposal will generate 3,574L of refuse, 3,574L of recyclables and 615L of FOGO each week.

Table 2-2: Estimated Waste Generation

Tenancy Use Type	Area (m ²)	Waste Generation Rate (L/100m ² /day)	Waste Generation (L/week)
REFUSE			
Convenience Store	206	240	3,461
Office	107.4	15	113
Total			3,574
RECYCLABLES			
Convenience Store	206	240	3,461
Office	107.4	15	113
Total			3,574

Tenancy Use Type	Area (m ²)	Waste Generation Rate (L/100m ² /day)	Waste Generation (L/week)
FOGO			
Convenience Store	206	40	577
Office	107.4	5	38
Total			615

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 Bins

To promote positive recycling behaviour and maximise diversion from landfill, internal bins will be available throughout the Proposal for the source separation of refuse, recycling and FOGO.

These internal bins will be collected by the staff/cleaners at least once each day and transferred to the Bin Storage Area for consolidation into the appropriate bins.

All bins will be colour coded and labelled in accordance with Australian Standards (AS 4123.7) to assist 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*
Height (mm)	1,080	1,100	1,200	1,330
Depth (mm)	735	885	780	1,070
Width (mm)	580	600	1,260	1,240

Reference: City of Vincent's Waste Guidelines for New Developments (May 2020)

*Reference: SULO Bin Specifications

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 four times each week and recyclables and FOGO two times each week.

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

- One 1,100L refuse bin;
- Two 1,100L recycling bins; and
- Two 240L FOGO 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	3,574	4	3	2	1
Recycling	3,574	8	5	3	2
FOGO	614	2	1	1	1

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 four collections each week of refuse and two collections each week of recyclables and FOGO. Increased collection frequencies would reduce the required number of bins.

3.4 Bin Storage Area Design

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

- Easily accessible communal Bin Storage Area;
- Capable of containing a minimum of 2 weeks' worth of general waste and recycling and one week of FOGO regardless of any reduction in bin quantity or waste volume estimates from compaction or increased collection frequencies;
- Equal access to be provided to all bins (i.e.: no stacking of rows of bins);
- A minimum aisle width of 1,000mm for access, turning and movement of bins for collection. The aisle shall be kept free of obstructions;
- Sufficient space must be provided to store refuse waste, comingled recycling material and FOGO in separate bins
- Located behind the front building setback;
- Bins shall not be visible from the property boundary except when presented for collection;
- Bins are reasonably secured from theft and vandalism;
- Concrete floors (in accordance with AS2870) grading to an industrial floor waste, with a hose cock to enable bins and the Bin Storage Area to be washed out;
- Undercover and be designed to not permit storm water to enter into the drain;
- Bin Storage Area shall have enough space to facilitate the cleaning of bins;
- Walls and floors of Bin Storage Area constructed of a material which facilitates the cleaning of the Bin Storage Areas;
- Doors to the Bin Storage Area self-closing and vermin proof;
- Ventilated to a suitable standard;
- Bin Storage Area shall be provided with artificial lighting, sensor or switch controlled both internal/external to the room or area. All lighting in open areas shall comply with AS4282-1997 (Control of Obtrusive Outdoor Lighting); and
- Council approved signage shall be incorporated into the Bin Storage Area to inform users of the appropriate bins for disposing of waste and guidance for the separation of refuse waste, comingled recyclables and FOGO.

Bin numbers and storage space within the Bin Storage Area will be monitored by the operator of the site 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 one 1,100L bin for refuse, two 1,100L bins for recyclables and two 240L bins for FOGO.

The private contractor will collect refuse four times each week and recyclables and FOGO two times each week utilising a rear loader waste collection vehicle.

A private contractor will service the Proposal onsite, directly from the Bin Storage Area. The private contractor's waste collection vehicle will enter the proposal in forward gear via Angove Street and pull up adjacent to the Bin Storage Area for servicing, as shown in Diagram 1.

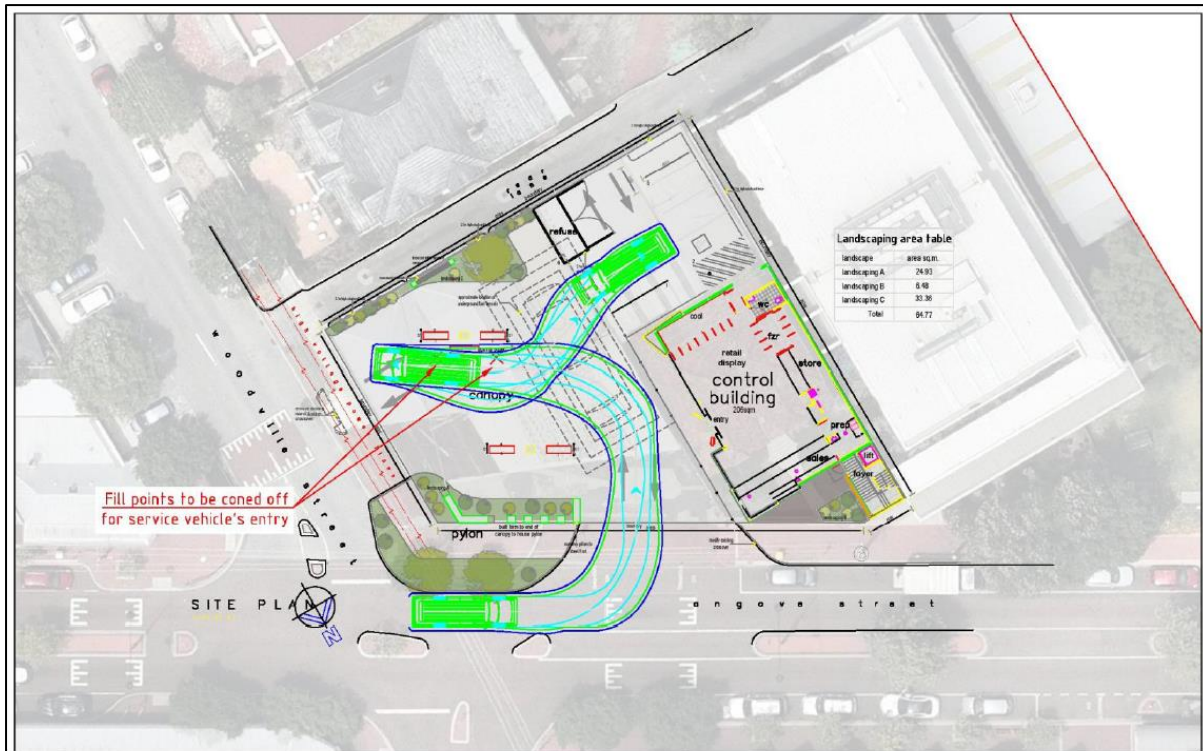
Private contractor's staff will ferry bins to and from the waste collection vehicle and the bin storage area during servicing. The private contractor will be provided with key/PIN code access to the Bin Storage Areas and security access gates to facilitate servicing, if required.

Once servicing is complete the private contractor's waste collection vehicle will exit in a forward motion, turning onto Angove Street moving with traffic flow, as shown in Diagram 1.

The above servicing method will preserve the amenity of the area by removing the requirement for bins to be presented to the street on collection days. In addition, servicing of bins onsite will reduce the noise generated in the area during collection. Noise from waste vehicles must comply with the Environmental Protection (Noise) Regulations and such vehicles should not service the site before 7.00am or after 7.00pm Monday to Saturday, or before 9.00am or after 7.00pm on Sundays and Public Holidays.

The ability for the private contractors waste collection vehicle to access the Proposal in a safe manner has been assessed by Transcore and will be included within their Transport Impact Statement, refer Diagram 1 below.

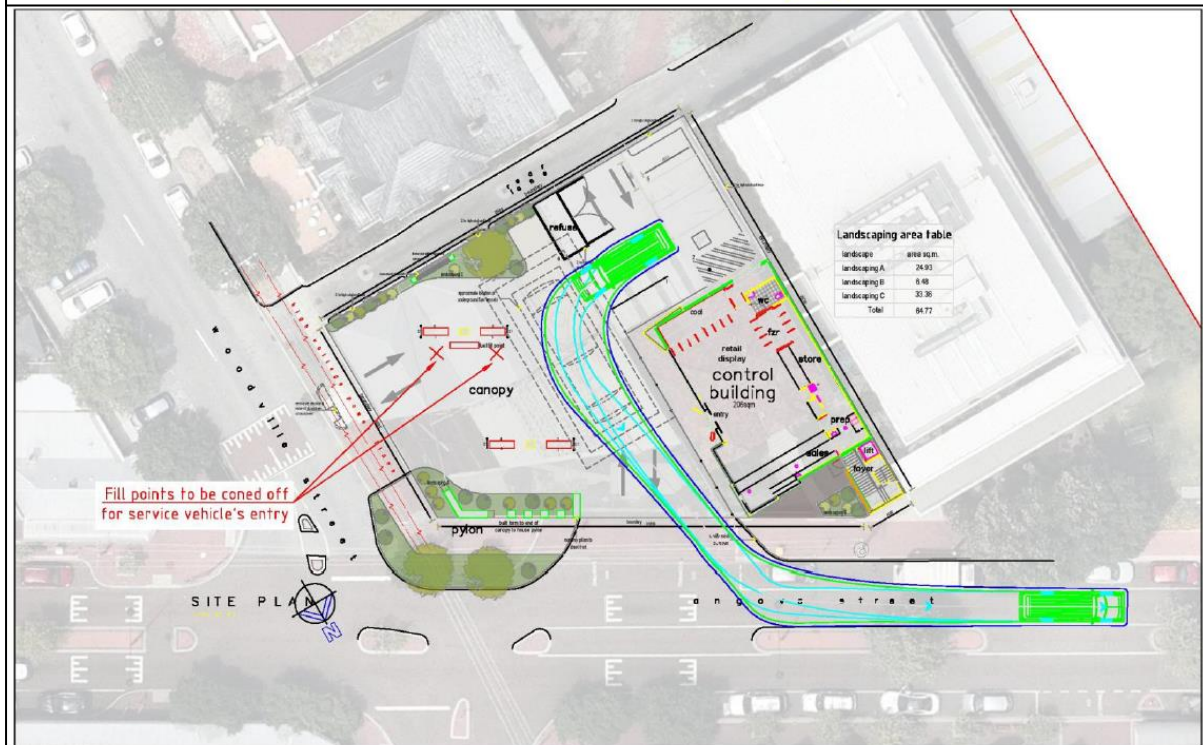
Diagram 1: Waste Collection Vehicle Swept Path



41 - 45 Angove Street, North Perth - Proposed OTR
Austroads 2013: 8.8m Service Vehicle
Service vehicle entry (entry from Angove St)

LEGEND
Vehicle Body
Wheel Path
300mm Clearance

t21.266.sk10a
18/05/2022
Scale: 1:250 @ A3



41 - 45 Angove Street, North Perth - Proposed OTR
Austroads 2013: 8.8m Service Vehicle
Service vehicle exit (exit onto Angove St)

LEGEND
Vehicle Body
Wheel Path
300mm Clearance

t21.266.sk11a
18/05/2022
Scale: 1:250 @ A3



Reference: Transcore Transport Impact Statement (May 2022)

4.1 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 may be allocated throughout the Proposal for placement of cabinets/containers for collection and storage of bulk and 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;
- White goods/appliances;
- Cleaning chemicals; and
- Commercial Light globes.

These materials will be removed from the Proposal once sufficient volumes have been accumulated to warrant disposal. A temporary skip bin could be utilised for collections, if required.

5 Waste Management

The operator of the site 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 staff/cleaners at the Proposal are made aware of this WMP and their responsibilities thereunder;
- Monitor staff/cleaners 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 staff/cleaners 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, recyclables and FOGO, 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, recyclables and FOGO can be completed from the Proposal.

The above is achieved using:

- One 1,100L refuse bin, collected four times each week;
- Two 1,100L recycling bins, collected two times each week; and
- Two 240L FOGO bins, collected two times each week.

A private contractor will service the Proposal onsite, directly from the Bin Storage Area. The private contractor's waste collection vehicle will enter and exit the Proposal in forward gear via Angove Street.

The operator of the site will oversee the relevant aspects of waste management at the Proposal.

Figures

Figure 1: Locality Plan

Figure 2: Bin Storage Area



LEGEND

- Site Boundary
- Cadastral

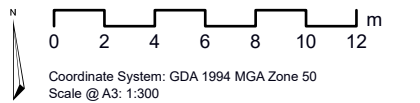
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LOCALITY

41-45 Angove Street
North Perth WA 6006

PC Infrastructure Pty Ltd



Prepared:	T Daymond	Date:	23/05/2022
Reviewed:	D Patel	Revision:	A
Project:	TW22071		



Figure 01

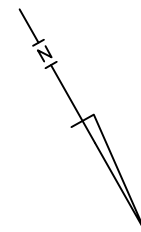
Data source: Roads, Cadastral - Landgate, 2022; Imagery: Nearmap, 2022.

The site plan shows a rectangular area labeled '6' representing the proposed refuse enclosure. The enclosure is bounded by a '2.1m high black slatted refuse enclosure'. The plan includes several dimensions and labels:

- The overall width of the enclosure is 5149mm.
- The overall length of the enclosure is 2200mm.
- The enclosure is divided into three sections by two internal walls (PW).
- The top section is 1240mm wide and 1070mm deep.
- The middle section is 1240mm wide and 1070mm deep.
- The bottom section is 560mm wide and 735mm deep.
- The bottom section is labeled 'TAP'.
- The enclosure is situated adjacent to a 'boundary' and a 'road'.



- 1 x 1,100L refuse (1,070mm x 1,240mm)
- 2 x 1,100L recycling (1,070mm x 1,240mm)
- 2 x 240L FOGO (735mm x 580mm)





Assets | Engineering | Environment | Noise | Spatial | Waste

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