

March 2021
Final Rev3

Lot 60 Centre Road, Camillo

Prepared For:
Goldblade Investments Pty Ltd

Waste Management Plan
Report



DOCUMENT ISSUE AUTHORISATION

Issue	Rev	Date	Description	Prepared By	Checked By	Approved By
0	0	05/11/2020	Draft Report	KPL	SGY	DNV
1	0	06/11/2020	Final Report	SGY	DNV	DNV
1	1	19/11/2020	Final Report Rev1	SGY	DNV	DNV
1	2	23/11/2020	Final Report Rev2	SGY	DNV	DNV
1	3	09/03/2021	Final Report Rev3	KPL	SGY	DNV

The information contained in this document is solely for the use of the client identified for the purpose for which it has been prepared. It is not to be used by any third party and no responsibility is undertaken to any third party. All photographs remain the copyright of Donald Veal Consultants and are included for illustration only.

Donald Veal Consultants Pty Ltd

TABLE OF CONTENTS

	PAGE
1. INTRODUCTION.....	1
1.1 BACKGROUND.....	1
1.2 SITE VISIT.....	1
1.3 LIAISON.....	1
2. PROPOSED DEVELOPMENT.....	2
2.1 GENERAL.....	2
2.2 PROPOSED ACCESS.....	3
3. GENERAL WASTE MANAGEMENT.....	5
3.1 TYPE, NUMBER AND STORAGE OF BINS USED.....	5
3.2 SERVICE VEHICLES AND BIN PAD AREAS.....	6
4. SUMMARY AND CONCLUSION.....	7
APPENDIX A: DEVELOPMENT PLANS.....	8
APPENDIX B: REFUSE VEHICLE SWEPT PATH.....	10

1. INTRODUCTION

1.1 BACKGROUND

Goldblade Investments Pty Ltd has commissioned Donald Veal Consultants (DVC) to prepare this Waste Management Plan report to support a Development Application for 45 one- and two-storey grouped dwellings on Lot 60 Centre Road, Camillo.

The development site is located to the south of Centre Road in Camillo, on the west side of Railway Avenue, and north of Hemingway Drive, and is presently undeveloped.

1.2 SITE VISIT

A site visit was carried out on Wednesday 4th November 2020. Notes and a number of photographs were taken during the site visit, some of which appear within this report.

1.3 LIAISON

DVC contacted the City of Armadale waste services who provided details of its requirements for waste collection. They advised use of a 9.5m long side loading truck as per Table 5 of its draft Waste Management Plan Guidelines of August 2015, reproduced below as **Figure 1.1**.

Table 5 – Side Loading Collection Vehicle Specifications

Parameter	Clearance required (metres)
Overall length	9.5
Overall width	2.5
Overall Height	3.0
Height in Operation	4.5
Wheelbase	5.0
Front Overhang	1.5
Rear Overhang	2.0
Turning Circle	18.5
Total Weight	25 tonnes

The lifting mechanism operates in an arc which is shown in the figure below.

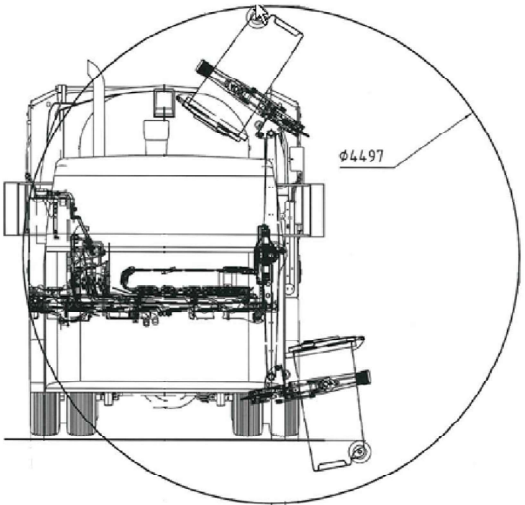


Figure 1.1: Extract from City of Armadale draft Waste Management Plan Guidelines

2. PROPOSED DEVELOPMENT

2.1 GENERAL

The proposed development consists of 45 residential units; 16 single storey, with the remaining 29 having two-storeys. Each unit will have either 3 or 4 bedrooms. Parking requirements will be in accordance with the R-Codes.

The general layout of the site and internal road layout is shown in **Figure 2.1**.

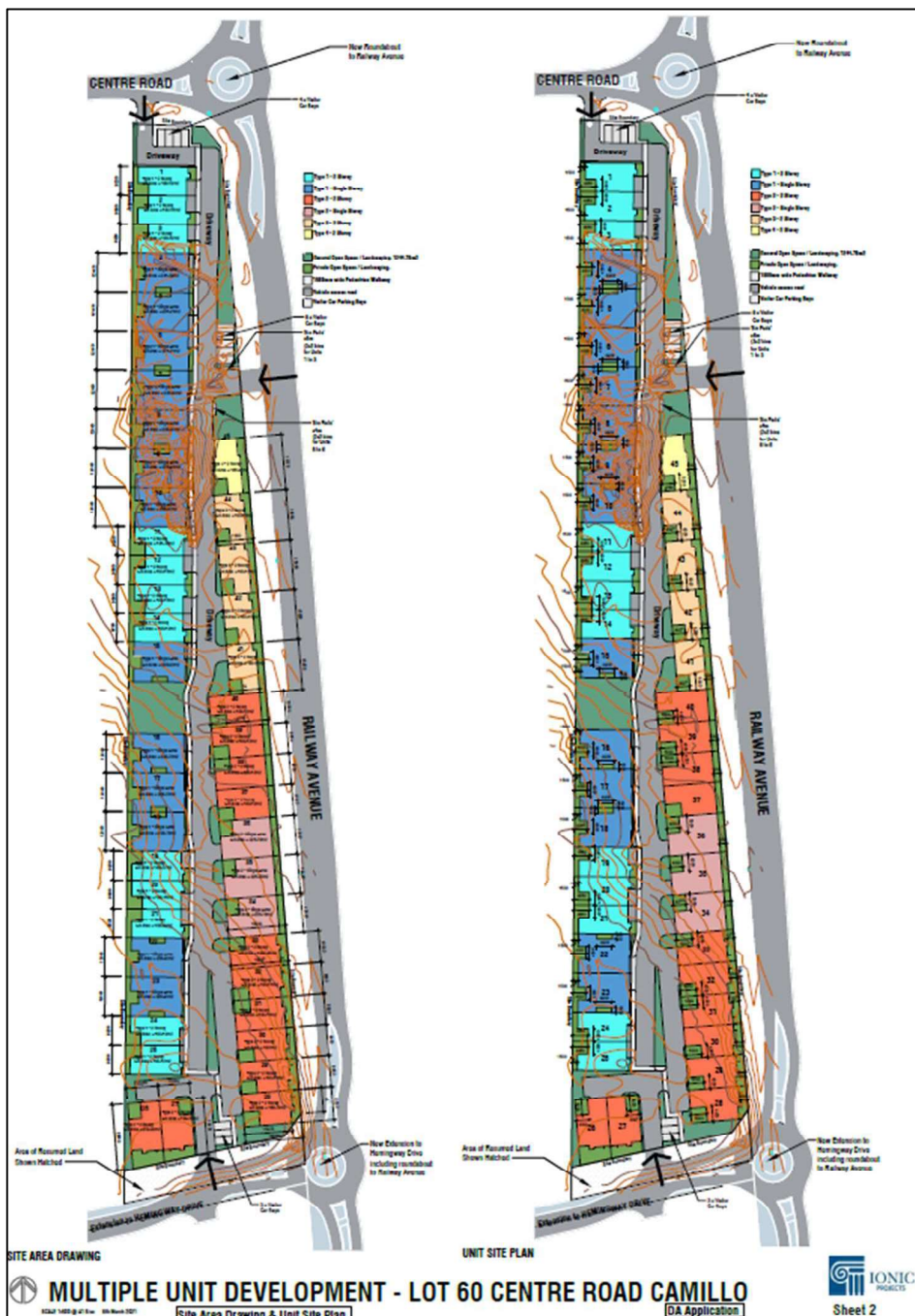


Figure 2.1: Proposed Ground Floor plan

2.2 PROPOSED ACCESS

The site will have three vehicular crossovers; one from Railway Avenue, a second from the extended section of Hemingway Drive, and the third access, from Centre Road, as per the Structure Plan.

The Railway Avenue crossover will be located some 80m south of the Centre Road roundabout, within the section shown in **Photo 1**. Visibility along Railway Avenue is good in both directions from this location. The access onto Railway Avenue will be restricted to left in/left out movements to avoid any safety implications from traffic making right turn movements, especially into the site.



Photo 1: Proposed vehicular access location onto Railway Avenue. Visibility is good in both directions.

The access from the Hemingway Drive extension will be located some 25m from the proposed roundabout with Railway Avenue. See **Photo 2**.



Photo 2: Hemingway Drive will be extended through to Railway Avenue.

The site access on Centre Road is about 12m from the intersection of Centre Road and will be restricted to left in and left out movements only due to its close proximity to the roundabout. This crossover will not be used by refuse collection vehicles.

All driveways will be construction to support the weight of refuse vehicles to the satisfaction of the City of Armadale.

3. GENERAL WASTE MANAGEMENT

3.1 TYPE, NUMBER AND STORAGE OF BINS USED

Waste generation for the residential units has been calculated using WALGA *Multiple Dwelling Waste Management Plan Guidelines* whilst that for the office element has been calculated using WALGA *Commercial and Industrial Waste Management Plan Guidelines*.

The City of Armadale waste management services has advised that 240 litre mobile bins will be provided. The general household waste bins will have dark green lids, and will be collected weekly, whilst the household recycling bins, with yellow lids, will be collected fortnightly.

The above guidelines estimate that on average, a dwelling with 3+ bedrooms would generate up to 240 litres of general waste per week, and 240 litres of recycling per fortnight. See **Table 3.1**.

Table 3.1: Extract from WALGA Guidelines

WASTE GENERATION RATES		
A rough guide to domestic waste generation rates for multiple dwelling developments is provided in Table 2. These generation rates have been developed through consultation with Local Governments in Western Australia.		
Waste Stream	Dwelling Size	Waste Generation Rate/ Storage Requirement
General waste <small>*Where separate organic/food waste collection service is provided, these figures may be reduced.</small>	1 bedroom	80L/week*
	2 bedroom	160L/week*
	3+ bedroom	240L/week*
Comingled recycling	1 bedroom	40L/fortnight
	2 bedroom	80L/fortnight
	3+ bedroom	240L/fortnight
Organic/food waste	1 bedroom	40L/fortnight
	2 bedroom	80L/fortnight
	3+ bedroom	120L/fortnight

Table 2: Waste generation rates

On this basis, one general waste bin and one recycling bin will be supplied to each household.

The City of Armadale is considering a three bins system for each household at some stage in the future. This would include another bin for Food Organic and Garden Organic waste. Other councils that already operate a three bin system do so by emptying the general waste bin on a weekly basis and alternate the other two bins on a fortnightly basis thus avoiding the problems of accommodating more than two bins

per household on the verge at any one time. We recommend that the City of Armadale consider adopting a similar system.

3.2 SERVICE VEHICLES AND BIN PAD AREAS

All households will store their own allocated bins within their property. On the designated collection day, each household (excluding unit Nos. 1 to 7) will place their bin(s) on the driveway in front of their unit. Bins for unit Nos. 28 to 45 will be collected along Railway Avenue. Bins for unit Nos. 1 to 7 will also be placed along Railway Avenue. Bins for unit Nos. 26 and 27 will be collected from the verge along Hemingway Drive, as shown in **Figure 2.1**.

All bins will be collected by standard council refuse trucks. The refuse trucks will enter the site by turning left from Hemingway Drive, and initially empty the bins from unit Nos. 8 to 25, placed in front of their properties. All other bins will be collected from the verge along the public roads, being Hemingway Drive and Railway Avenue.

The swept path analyses attached in **Appendix B** show a typical refuse truck performing the above procedure to access and egress the site. These swept paths will need to be accommodated in the detailed design of the crossovers at the detailed design stage.

4. SUMMARY AND CONCLUSION

Each of the 45 units will be supplied with one 240 litre general waste bin and one 240 litre recycling bin. These will be stored within the car port areas provided for each household.

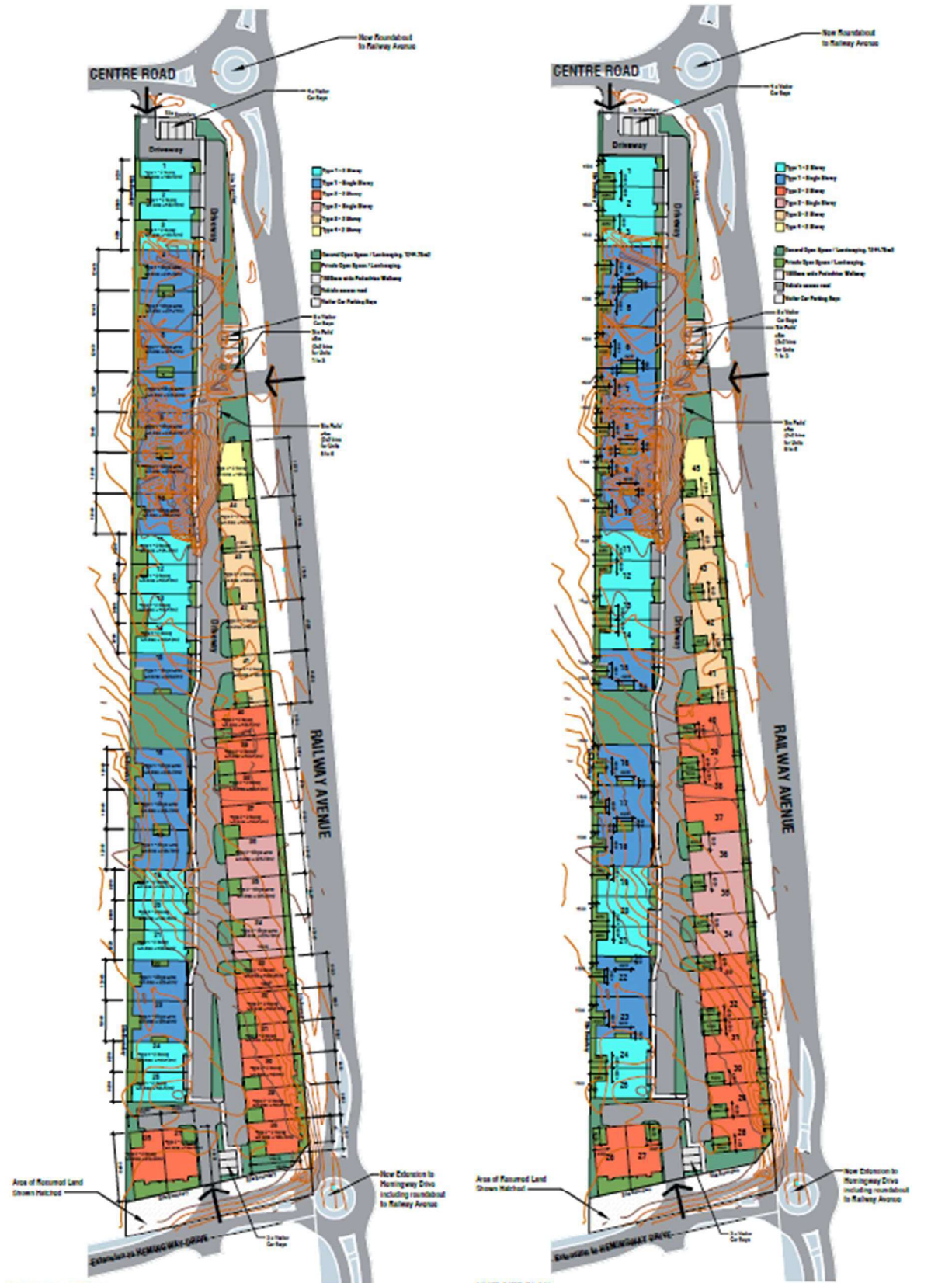
All bins will be collected by standard council refuse trucks. The refuse trucks will enter the site by turning left from Hemingway Drive, and initially empty the bins from unit Nos. 8 to 25, placed in front of their properties. All other bins will be collected from the verge along the public roads, being Hemingway Drive and Railway Avenue.

The vehicle swept path for the City's 9.5m long refuse collection vehicle passing through the site has been demonstrated.

Longer term consideration of a three-bin waste system may need to adopt alternate weeks for emptying the specialist bins as practiced by some of the Perth Metropolitan Councils.

These arrangements ensure that bin storage and collection will be safely managed in terms of health, the environment and traffic movements.

APPENDIX A: DEVELOPMENT PLANS



SITE AREA DRAWING

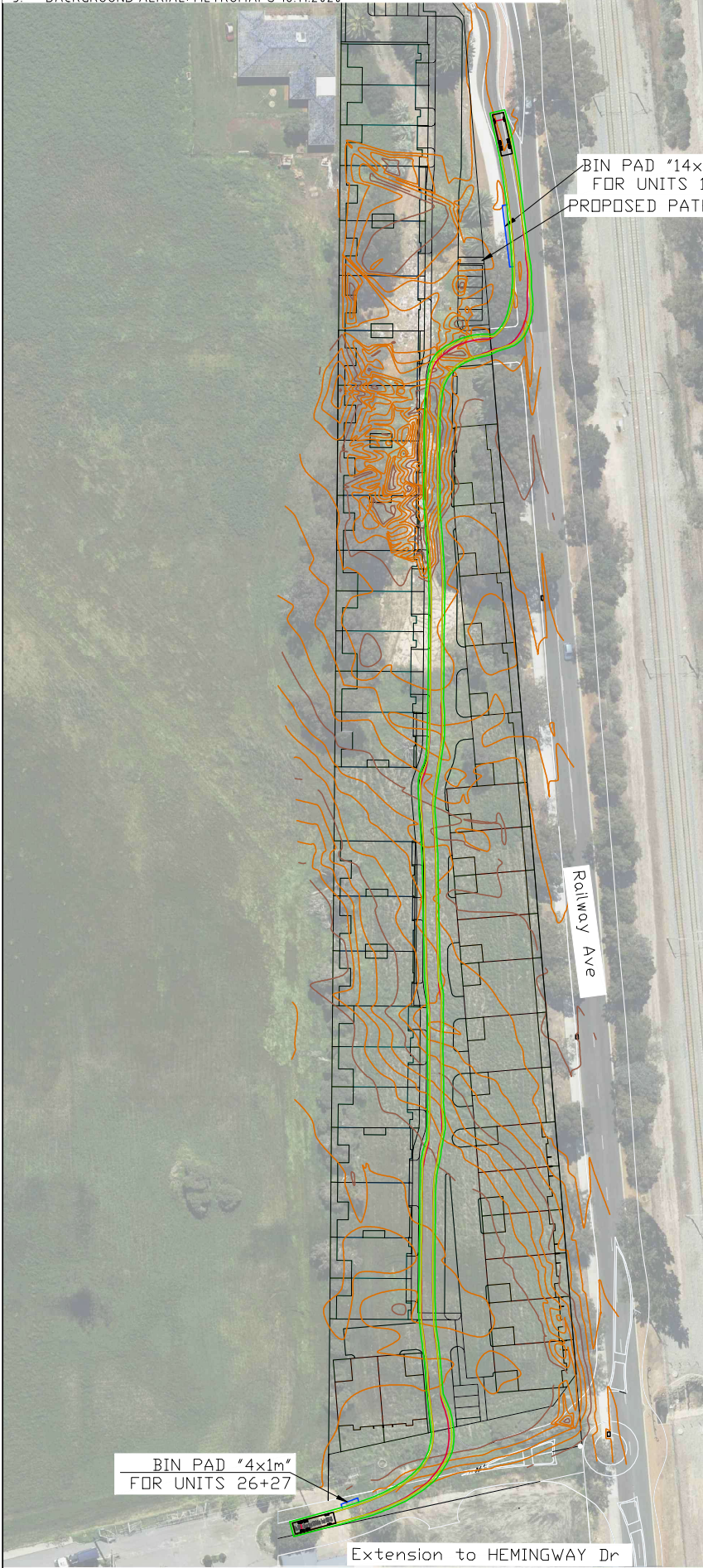
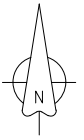
UNIT SITE PLAN

MULTIPLE UNIT DEVELOPMENT - LOT 60 CENTRE ROAD CAMILLO
 [Site Area Drawing & Unit Site Plan] [DA Application]

APPENDIX B: REFUSE VEHICLE SWEPT PATH

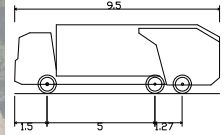
NOTE:

1. ADJUSTMENTS ARE INDICATIVE ONLY, SUBJECT TO DETAILED DESIGN
2. BASE PLAN: A.02 - Site Area Drawing & Unit Site Plan - 5th March 2021
3. BACKGROUND AERIAL: METROMAPS 18.11.2020



BIN PAD "14x1m"
FOR UNITS 1-7
PROPOSED PATHWAY

BIN PAD "4x1m"
FOR UNITS 26+27



Hino 338 L + Wayne Royal GT14 Refuse Truck (MOD) CoA
 Overall Length 9.500m
 Overall Width 2.500m
 Overall Body Height 3.197m
 Min Body Ground Clearance 0.402m
 Track Width 2.451m
 Lock-to-lock time 6.00s
 Curb to Curb Turning Radius 12.500m

LEGEND

—	500mm OFFSET FROM VEHICLE OVERHANG
—	VEHICLE OVERHANG
—	WHEEL SWEEP PATH

Project LOT 60 CENTRE RD, CAMILLO	Designed		Donald Veal Consultants 6 Burgess Street Midland WA 6056 Telephone +61 8 9274 7076 Facsimile +61 8 9274 4854
	Drawn	KPL 09/03/2021	
Title SWEPT PATH - REFUSE TRUCK 9.5m THROUGH THE SITE	Checked	DNV 09/03/2021	
	Approved		
Client GOLDBLADE INVESTMENTS PTY LTD	Scale	1:1000 @ A3	Project Number Z793
			Drawing File Name DVC-Z793
			Drawing Number SK01
			Revision 01