Carbon Recovery Centre

Traffic Impact Statement

Prepared for C-Wise

31 October 2023

Project Number: TW21124

DOCUMENT CONTROL

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Approval for Release

Name	Position	File Reference
Richard Farmer	Senior Traffic Engineer	TW21124_C-Wise Recycling Centre_Traffic Impact Statement 2.0

Signature	Richard Farmer Digitally signed by Richard Farmer DN: OU=Engineering - Transport, O=TALIS CONSULTANTS, CN=Richard Farmer, E=richard.farmer@talisconsultants.com.au Reason: I am the author of this document Location: Date: 2023.10.31 12:16:56+08'00' Foxit PDF Reader Version: 12.0.0

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1 Introduction

1.1 Background

C-Wise has engaged Talis Consultants to prepare a Traffic Impact Statement (TIS) to support the proposed Carbon Recovery Facility ('the Site') at 320 Gull Road, Keralup, WA.

This TIS has been prepared in accordance with the Western Australian Planning Commission (WAPC) *Transport Impact Assessment Guidelines for Developments: Volume 4 – Individual Development (2016)* and the checklist is included at Appendix A. This level of assessment was agreed with the Shire prior to collation and submission of this report.

1.2 Existing Site

The Site is located 320 Gull Road in the suburb of Keralup within the Shire of Murray, as shown in Figure 1-1.

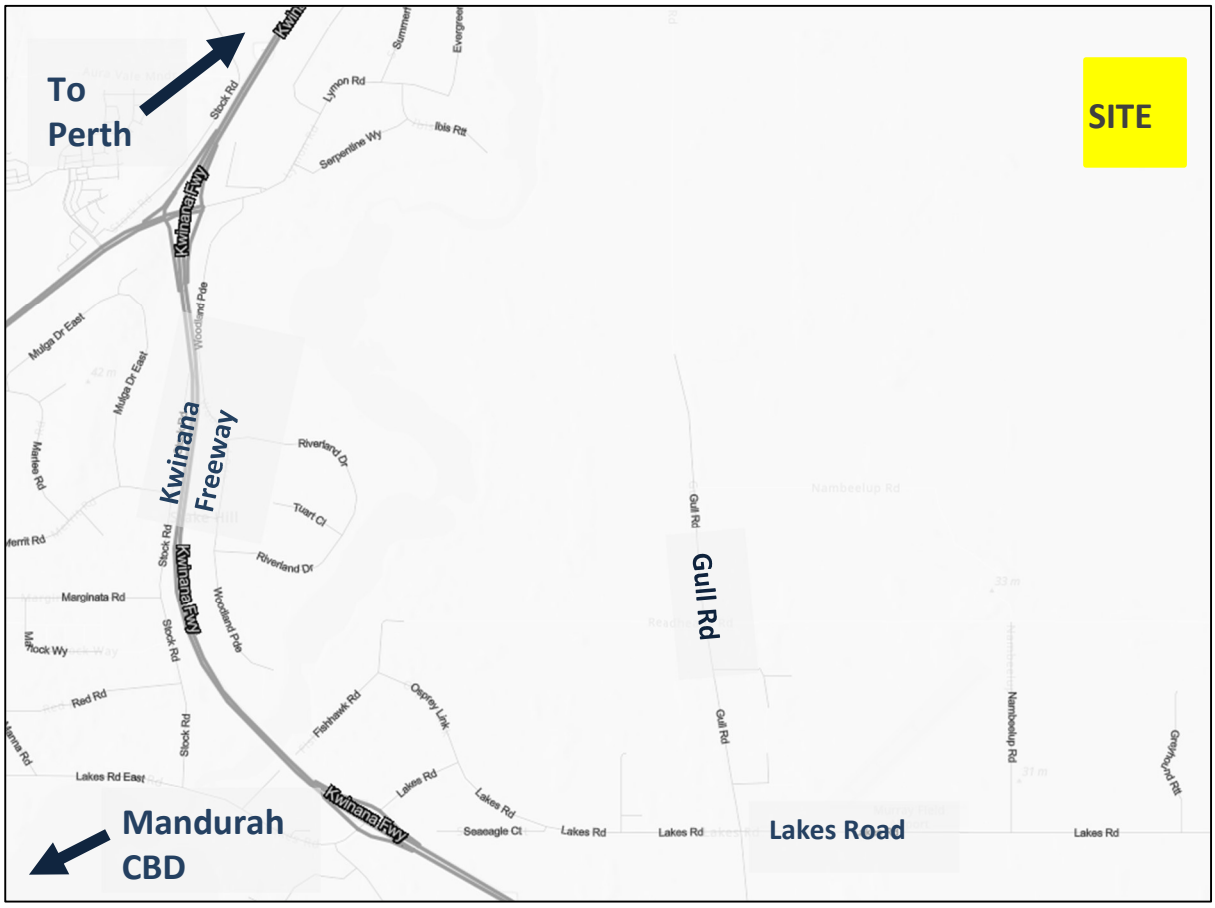

Figure 1-1: Site Location (not to scale)[1]

The Site currently consists of vacant land and as shown in Figure 1-2, the Site is within the Shire of Murray Industrial Planning Scheme zone.

[1] Source – MRWA (2023)

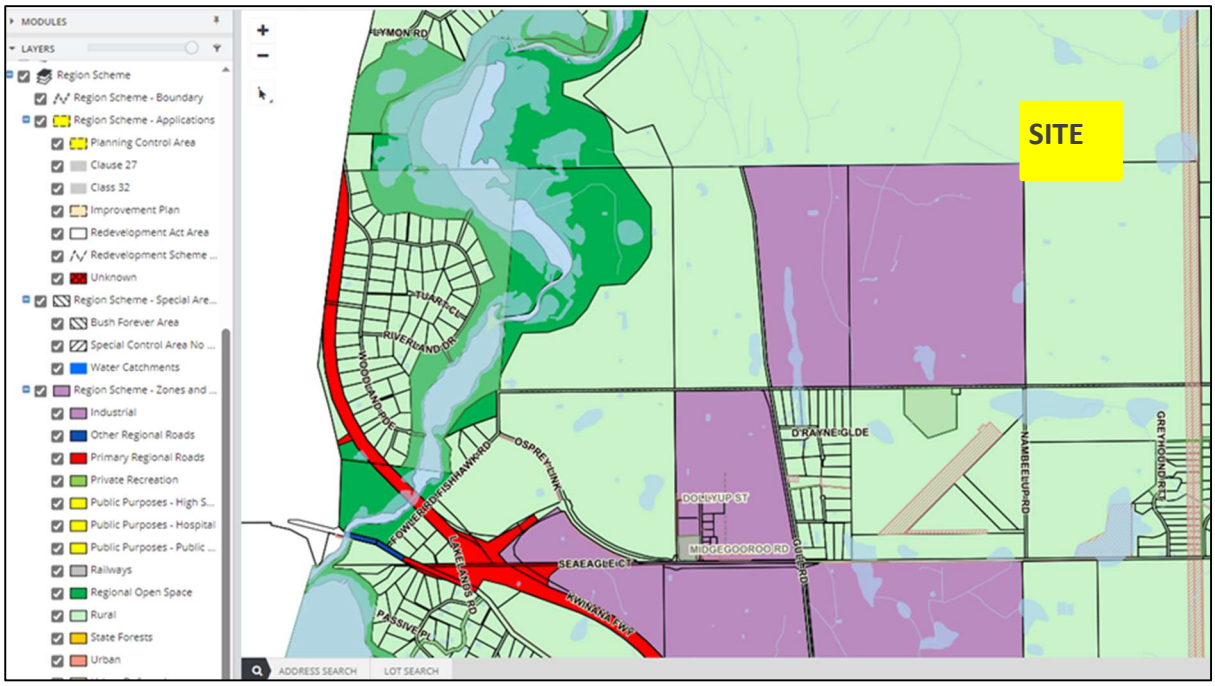

Figure 1-2: LGA Zoning Map

1.3 Nambeelup Industrial Area District Structure Plan

The Shire of Murray's Nambeelup Industrial Area District Structure Plan includes several road plans to cater for the expected increase of traffic, including large proportions of heavy vehicles in the local vicinity. Of these road plans, the following are of particular importance to the Site development.

- The realignment of Readheads Road, west of Gull Road, to connect to the existing Lakes Road intersection at the southern end of Osprey Link with reconfiguration of the intersection. It is understood that this new road connection and Readheads Road through to Gull Road is currently proposed to be constructed as a four-lane dual carriageway.
- The Gull/Patterson Road is proposed to be a north-south connecting regional road, constructed as a four-lane divided carriageway road. At present, this road extension has only been partially carried out but extended to provide connectivity to the Site access road when needed.

Overleaf, in Figure 1-3, is an extract from the Nambeelup Industrial Area District Structure Plan document providing a summary of the proposed major road upgrades associated with this Plan.

Key road proposals within the Nambeelup Industrial Area	Proposed road category	Proposed number of traffic lanes	Recommended road reserve width (ultimate)
Lakes Road (east of Lakelands Road)	Integrator A	4 lane dual carriageway	54-60m
Lakes Road (west of Lakelands Road)	Integrator A	4 lane dual carriageway	47-50m
Readheads Road (west of Gull Road)	Integrator A[1]	4[1] lane dual carriageway	51-54m[1]
Readheads Road (east of Gull Road)	Integrator B	2 lane	46.5-49.5m
Gull/Paterson Road	Integrator A	4 lane dual carriageway	39-42m
Nambeelup Road	Integrator A[1]	4[1] lane dual carriageway	39-42m[1]

Figure 1-3: Summary of Major Road Upgrades

1.4 Existing Road Network

The surrounding Road network is summarised in Table 1-1, with associated mapping information included in Appendix C

Table 1-1: Local Road Network

Road/ Street name	Reserve		Road			Footpaths		Cycling	
	Hierarchy classification (MRWA)	Jurisdiction (LGA etc)	Cross section width (m)	Posted speed. (km/ h)	Number of traffic lanes	Footpaths on Both/ one side?	Average width (m)	Cycle paths on Both/ one side?	Average width (m)
Gull Road	Access Road	Shire of Murray	5.8m	50 km/h in built up areas or 110 km/h	1	No	-	No	-
Lakes Road (west of Gull Rd)	Regional Distributor	Shire of Murray	7.6m	80 km/h	1	No	-	No	-
Lakes Road (east of Gull Rd)	Regional Distributor	Shire of Murray	7.6m	100 km/h	1	No	-	No	-

1.5 Traffic Volumes

Existing traffic volumes were provided by MRWA Traffic Map. This recent data is summarised in Table 1-2

Table 1-2: Summary of Existing Traffic Volumes

Road/ Street name	Source of data	Year	AADT Volume	AM Peak		PM Peak	
				Time	Volume	Time	Volume
Lakes Road (west of Gull Rd)	MRWA Traffic Data	2021	3571	07:00	249 (7%)	15:00	341 (10%)

Although the data was unavailable for Gull Road, it is assumed that the traffic volumes would currently not exceed 50 vehicles per hour, given there are a very small number of residences locally and the extended section of Gull Road is not yet open to public access.

1.6 Heavy Vehicles

Although it is not typically required for this level of assessment for a development, it was agreed with the Shire of Murray to review the likely operational movements of the development on the local public highway. The route is highlighted from the Site to Kwinana Freeway in Figure 1-1 and mapping information relating to local Restricted Access Vehicle road network is included in Appendix C.

As previously mentioned, in Section 1.3 of this report, road upgrades will be provided to cater for the increased development traffic, including heavy vehicles for the planned Nambeelup Industrial Area. Kwinana Freeway will used for heavy vehicle traffic movement to/from the Site and these upgrades facilitate these movements with the upgraded intersection of Gull Road with Lakes Road.

Heavy vehicles operating at the Site will not operate west of the Kwinana Freeway and it is not expected that they will travel east of Gull Road.

It is estimated that the Site will operate 1,400 heavy vehicles per week on public roads, estimated to be an average of 280 per day.

2 Public Transport Facilities

2.1 Bus and Rail Services

There are no existing public transport services to Nambeelup. It is anticipated that bus-based public transport services will be provided in the long-term, when the Nambeelup Industrial Area is of sufficient size and there is a reasonable demand for public transport services. Planning for public transport services will need to consider any relevant outcomes of the finalised South Metropolitan Peel Sub-Regional Planning Framework

2.2 Future Public Transport Facilities

There are currently no new planned changes to the public transport within the Nambeelup Industrial Area District Structure Plan.

3 Active Transport Networks and Facilities

3.1 Existing Networks and Facilities

There are no existing cycling and walking network in the immediate vicinity of the Site. However, there is a bicycle and pedestrian network as a part of District Structure Plan.

3.2 Future Active Transport Networks and Facilities

The Shire of Murray *Draft Cycling Strategy and Plan* aims to provide a strategic framework in developing recreational, sport and commuter cycling facilities in the future. This will provide future dedicated walking and cycling links in the future within the Nambeelup Industrial Area District Structure Plan zone. The Nambeelup Industrial Area Cycleway Plan is shown in Figure 3-1.

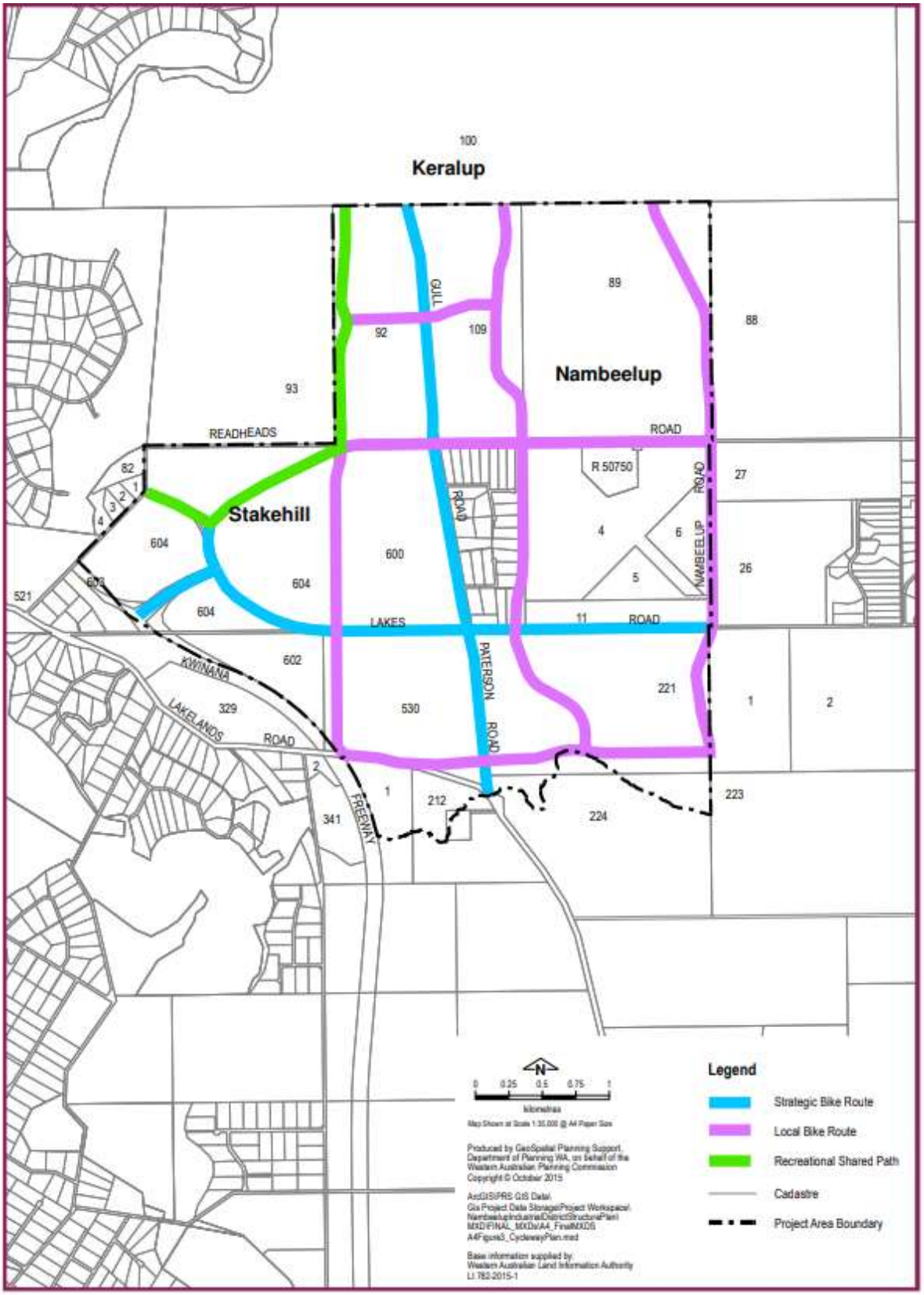

Figure 3-1: Nambeelup Industrial Area – Cycleway Plan

4 Proposed Development

4.1 Proposed Land Uses

The amended Site proposal consists of a Carbon Recycling Facility. When fully operational, it is expected to have a total of approximately 65 staff carrying our operations at the Site. Heavy vehicle traffic operations will be carried out over 12 hours and will transfer material to other sites, accessing the Kwinana Freeway for the major road transport link.

The concept layout plans for the Site are provided in Appendix B.

4.2 Access Arrangements

Vehicular access to the Site will also be from the newly constructed Gull Road, with public limited to the administration building section. Accessibility to the remainder of the Site will be restricted to staff operations only. Figure 4-1 provides layout information for the proposed Site, including the access arrangements.

Due to the remote location of the Site, it is unlikely that there will be staff or visitors accessing the Site as pedestrians or cyclists. There are no current provisions for bicycle parking but there is capacity to include these facilities in the future if there is demand due to increased development locally.

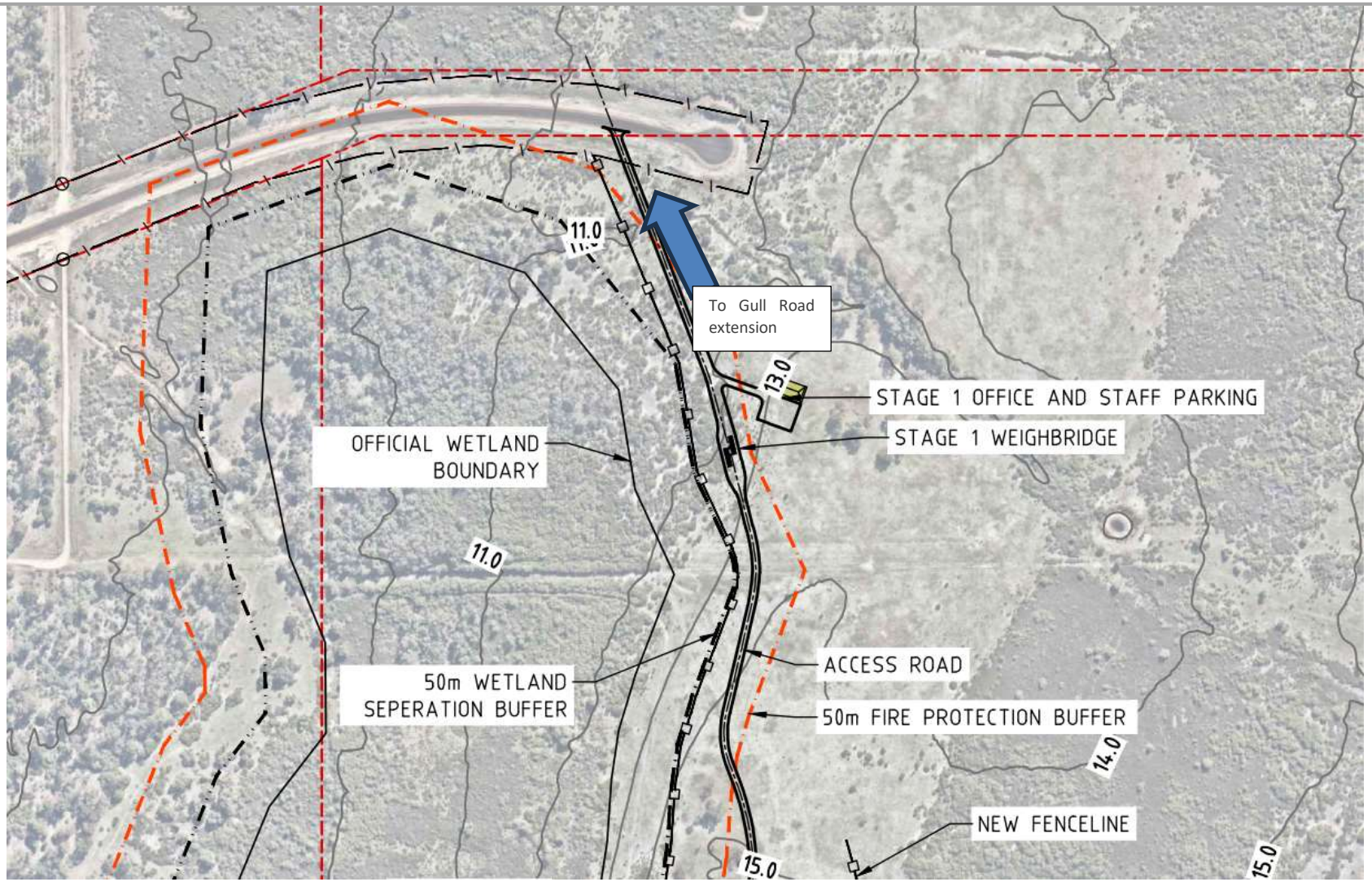

Figure 4-1: Site Access Details of Proposed Site (not to scale)

5 Development Traffic Generation

Trip generation has been calculated for the Site, utilising the breakdown of 28 commercial heavy vehicles (10% of total daily trips) and 85% of staff entering the Site in the am and pm peak hours.

Table 5-1 shows the trip generation rates, Table 5-2 shows the directional distribution and

Table 5-3 presents the resultant potential trip generation of the proposed development.

Table 5-1: Trip Rate Generation – Peak Hour

AM Peak	Heavy Vehicles	PM Peak	Heavy Vehicles
55	28	55	28

Table 5-2: Directional Distribution of Generated Traffic (Small Vehicles Only)

Land Use	AM Peak		PM Peak	
	From Site	To Site	From Site	To Site
Industrial	5%	95%	95%	5%
	03	52	52	03

Table 5-3: Total Trip Generation of Proposed Development

Land Use	AM Peak		PM Peak	
	In	Out	In	Out
Light vehicles	52	03	03	52
Operational heavy vehicles (5% of total trips)	26	02	02	26

The proposed development represents a trip generation of approximately 78 peak hour traffic movements. It should be noted that this trip generation is conservative and actual trip generation will likely be lower due to the expected spread of trips in shift patterns due to the Site operating a 12-hour day for an approximate number of 65 staff.

The Site is proposed to be developed as “Industrial Use”, and the traffic generated will be the largest local vehicle trip generator. However, despite increasing total road volumes, the traffic impact on the surrounding road network will be minimal.

5.1 Development Trip Distribution

Gull Road is the only road connected to the wider surrounding road network that all inbound and outbound traffic will use to access the Site. From Gull Road, a majority of the Site-generated trips are most likely to travel via the west section of Lakes Road from Gull Road.

The trips generated to and from the Site are very low and therefore are expected to have minimal impact to the surrounding road network.

It is expected that most operational heavy vehicles will travel to/from Kwinana Freeway and approximately 70% of staff will also use Kwinana Freeway. This will have a minimal impact on traffic in the Mandurah urban region.

6 Parking

The car parking provision required for the Site is set out in the *WAPC - Car parking requirements for non-residential land uses in Perth and Peel - draft Interim Guidance document*, which are summarised in Table 6-1.

Table 6-1: LGA Parking Requirements.

Land Use	Parking Requirements
Industrial	1.0 spaces per 100m^2 GFA (Gross Floor Area)

Table 6-2 summarises the parking provision and requirements for the Site.

Table 6-2: Parking Bay Requirement and Provision.

Land Use	Number of Bays Required	Proposed Development Provision
Industrial	60	68

The number of parking bays proposed will provide parking for all staff, as well as additional capacity for three visitors and services vehicles to the administration building.

Overall, the proposed parking supply should be sufficient to accommodate the estimated demand.

6.1 Swept Path Assessment

The staff and visitor car park has been designed to allow for bus turning movements if buses require access to the Site. A car park layout design, with a bus template swept path is included in Appendix B. The layout of parking bays and aisles have been designed in accordance with AS2890.1-2004 *Parking facilities: Off-street car parking*.

A car park layout design, with the bus movement swept path is included in Appendix B.

7 Site Specific Issues

As Gull Road has not been made available for public access at present, no crashes were identified on the MRWA Crash Tool database, and the upgrade of the Gull Road/Lakes Road intersection previously discussed should provide suitable accessibility for heavy vehicle and other traffic turning at this intersection to and from the Site.

8 Summary

This Transport Impact Statement outlines the transport aspects of the proposed development focusing on traffic operations, loading vehicle operations, access, and car parking. Discussions regarding public transport and active transport considerations are also provided.

This statement has been prepared in accordance with the *WAPC Transport Assessment Guidelines for Developments: Volume 4 – Individual Developments (2016)*.

The following conclusions are made regarding the proposed development at 320 Gull Road, Keralup:

- There are no current public transport upgrade plans to provide access within walking distance to the Site, however there are plans to provide good active transport accessibility to the Site access, with wide pedestrian footpaths and good shared paths within the surrounding area.
- The Site will generate approximately 55 cars and 28 heavy vehicles during the peak am and pm periods.
- There will be 68 parking bays provided for staff and visitors, meeting the required minimum parking requirements.

APPENDIX A

WAPC Transport Statement Checklist for Development

Table A-1: Checklist for a Transport Statement, *Individual Development*

ITEM	TIS SECTION REFERENCE
Development type	
Proposed land use	Section 1
Existing land use	Section 1
Context of Development with surrounds	Section 1
Parking and access Public/ private/ ACROD/ Kiss n Drive Access arrangements	Section 4
Service vehicles Access arrangements Loading facilities Rubbish collection (residential only) Operational hours (non-residential)	Section 4
Traffic volumes All day and/ or peak times classification	Section 1
LATM features – Within frontage	NA
Public transport Bus stops Bus/ Train stations Active transport linkages	Sections 2 and 3
Active transport Existing facilities for walking On site Street frontage Locally on surrounding streets/ roads Existing facilities for cycling/ ETPs On site Street frontage Locally on surrounding streets/ roads	Section 3
Site specific issues	Section 7
Safety issues Remedial measures	NA

APPENDIX B

Proposed Development Layout Plans

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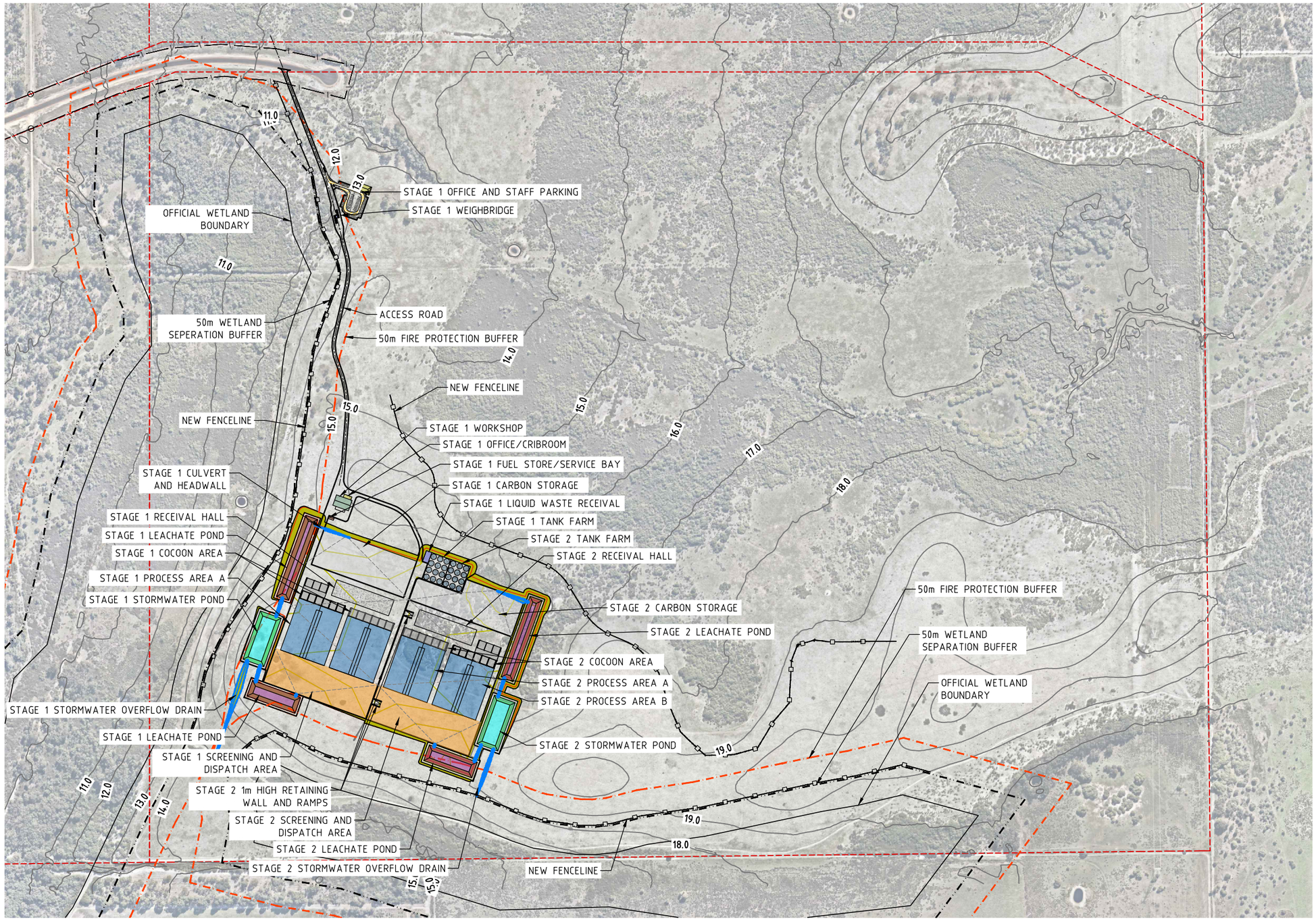

LEGEND:

- LEASE BOUNDARY
- OFFICIAL WETLAND BOUNDARY
- 50m WETLAND SEPARATION BUFFER
- 50m FIRE PROTECTION BUFFER
- ACCESS ROAD
- LEACHATE POND
- RECEPTION/OFFICES
- WORKSHOP
- STORMWATER POND
- SCREENING/DISPATCH
- LIQUID WASTE RECEIVAL
- FUEL STORE/SERVICE BAY
- TANK FARM
- RECEIVAL HALL
- COCOON AREA
- CARBON STORAGE
- OPEN DRAIN
- EXISTING FENCELINE
- NEW FENCELINE

PRELIMINARY ONLY
NOT FOR CONSTRUCTION

150m 0m 150m 300m

1:7500 @ A3

VERTICAL DATUM: AUSTRALIAN HEIGHT DATUM
HORIZONTAL DATUM: MGA 94 ZONE 50

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No.	Date	Drwn.	Chk.	Amendment / Issue	App.
F	26.09.2023	YJ	AB	EARTH WORK VOLUME UPDATED	MH
E	10.07.2023	JS	AB	SITE LAYOUT UPDATED	MH
D	16.01.2023	MH	AB	SITE LAYOUT UPDATED	MH
C	15.11.2022	AB	MH	BOUNDARIES UPDATED	MH
B	03.02.2022	YJ	AB	SECTIONS AND ISOPACHYTE LAYOUT ADDED	MH
A	15.11.2021	YJ	AB	PRELIMINARY ISSUE	MH

Project: C-WISE DUE DILIGENCE AND APPROVALS

Title: GENERAL ARRANGEMENT

Scale: 1:7500 @ A3 | Date: 02.03.2022
Drawn: YJ | Checked: AB | Approved: MH
Job No: TW21124 | Drg. No: C-100 | Rev: F
Filename: TW21124-SET.DWG

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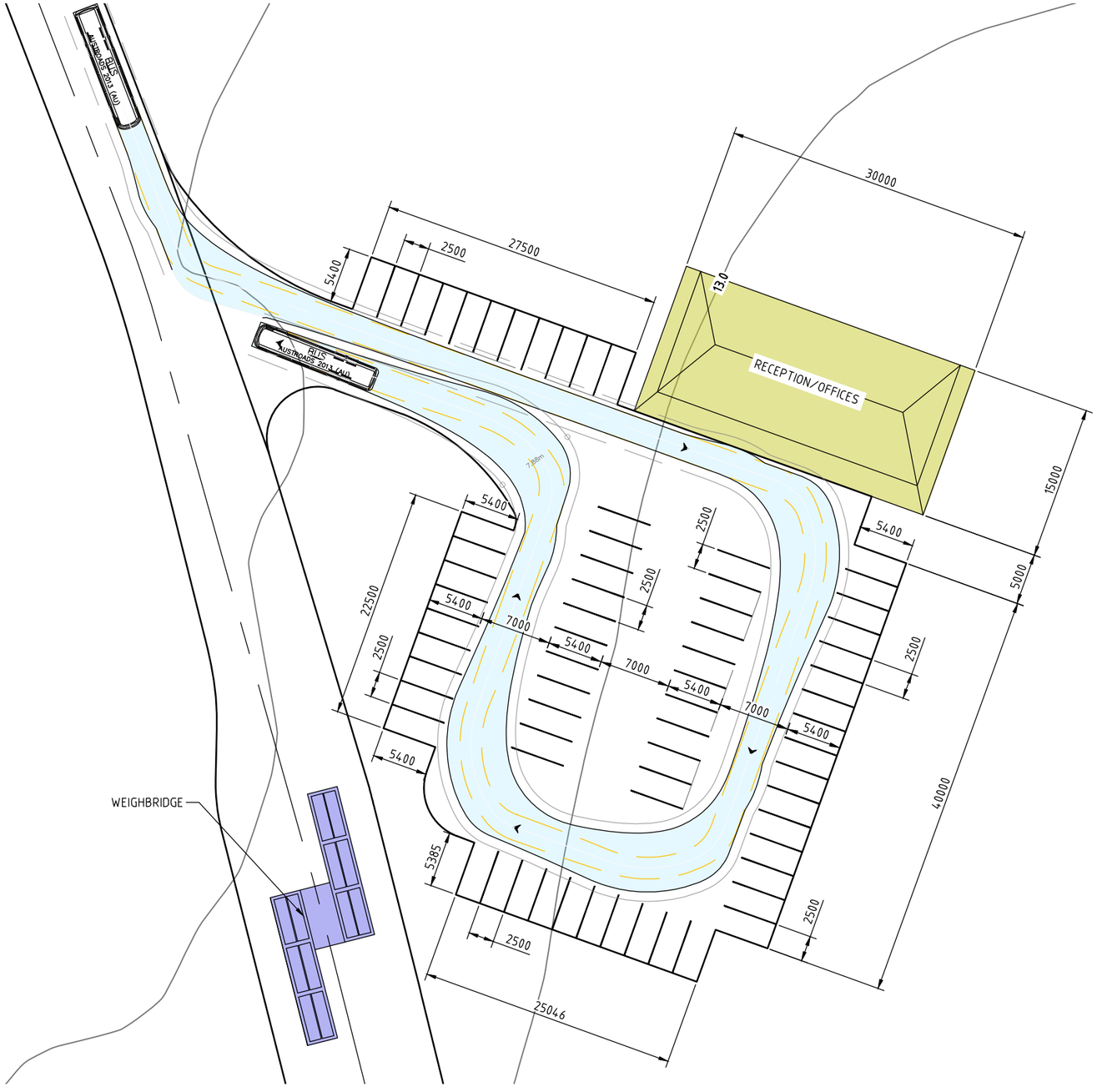

LEGEND:

- ACCESS ROAD
- RECEPTION/OFFICES
- CAR PARKING BAYS

PRELIMINARY ONLY
NOT FOR CONSTRUCTION

10m 0m 10m 20m

1:500 @ A3

VERTICAL DATUM: AUSTRALIAN HEIGHT DATUM
HORIZONTAL DATUM: MGA 94 ZONE 50

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A	19.10.2023	VS	AB	PRELIMINARY ISSUE	MH

Project: C-WISE DUE DILIGENCE AND APPROVALS

Title: CWISE PARKING AREA

Scale: 1:500 @ A3		Date: 02.03.2022	
Drawn: VS	Checked: AB	Approved: MH	
Job No: TW21124	Drg. No: C-109	Rev: A	
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APPENDIX C

MRWA Road Mapping Information

Figure C-1:Posted Speeds

Figure C-2:Current Road Hierarchy

Assets | Engineering | Environment | Noise | Spatial | Waste

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