Application for Planning Approval

Land Use Planning and Approvals Act 1993

APPLICATION NO.

DA 2025 / 00161

LOCATION OF AFFECTED AREA

620 Middle Tea Tree Road, Tea Tree

DESCRIPTION OF DEVELOPMENT PROPOSAL

Playground and New Car Park

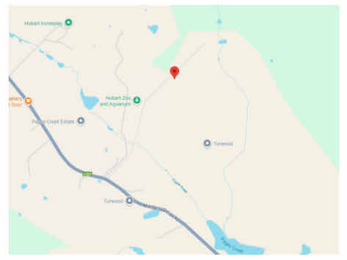
A COPY OF THE DEVELOPMENT APPLICATION MAY BE VIEWED AT www.brighton.tas.gov.au AND AT THE COUNCIL OFFICES, 1 TIVOLI ROAD, OLD BEACH, BETWEEN 8:15 A.M. AND 4:45 P.M, MONDAY TO FRIDAY OR VIA THE QR CODE BELOW. ANY PERSON MAY MAKE WRITTEN REPRESENTATIONS IN ACCORDANCE WITH S.57(5) OF THE LAND USE PLANNING AND APPROVALS ACT 1993 CONCERNING THIS APPLICATION UNTIL 4:45 P.M. ON 28/05/2026. ADDRESSED TO THE CHIEF EXECUTIVE OFFICER AT 1 TIVOLI ROAD, OLD BEACH, 7017 OR BY EMAIL AT development@brighton.tas.gov.au. REPRESENTATIONS SHOULD INCLUDE A DAYTIME TELEPHONE NUMBER TO ALLOW COUNCIL OFFICERS TO DISCUSS, IF NECESSARY, ANY MATTERS RAISED.

JAMES DRYBURGH
Chief Executive Officer

SCAN ME

Brighton
going places

LOCATION MAP



DRAWING LIST

Sheet NO.	Sheet Name	REV
AA1100	SITE PLAN - NEW WORKS	D
AA1101	EXISTING CARPARKING PLAN	A
AA1102	PROPOSED CARPARK OVERALL	F
AA1103	PROPOSED CARPARKING PLAN	F
AA1104	PROPOSED CARPARKING PLAN	F
AA1105	PROPOSED CARPARK DETAILS	E
AA1120	PROPOSED CARPARKING PEDESTRIAN MOVEMENT	F
AA1200	PROPOSED PLAYGROUND	C

Notes

Verify all dimensions and levels on site and report any discrepancies to WILDSPACE ARCHITECTS for direction prior to the commencement of work.

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Registered Business Name ABN 43 320 705 154
Nominated Architect CLAIRE BROOKMAN NSW ARB 9388 TAS AMR 1636

SCHEMATIC DESIGN
NOT TO BE USED DURING CONSTRUCTION

Issue	Description	Date	Chk	Auth
B	FOR COORDINATION	21.11.2025	CB	-
A	FOR COORDINATION	15.09.2025	CB	-

Architect/ Designer
WILDSPACE ARCHITECTS

Client
HOBART ZOO AND AQUARIUM

Project
Hobart Zoo + Aquarium

Location
620 Middle Tea Tree Rd, Tea Tree TAS 7017

Project Number
24.004

Drawing
COVER SHEET
HOBART ZOO AND AQUARIUM
NEW PLAYGROUND + CARPARK

Scale (A1)
Date Printed
3/27/2026 10:17:40 AM

Drawing Number
AA0000

Issue
B

1 A5000 EXISTING SITE PLAN
1 : 2500

TREES
WATER WAYS
EXISTING BUILDINGS
ROADS AND PEDESTRIAN FOOTPATHS
PROPOSED LOCATION OF NEW LEMUR EXHIBIT

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D	DEVELOPMENT APPLICATION - additional infomration	tbc	CB	
C	FOR COORDINATION	21.11.2025	CB	-
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Architect/ Designer
WILDSPACE ARCHITECTS

Client
HOBART ZOO AND AQUARIUM

Project
Hobart Zoo + Aquarium

Location
620 Middle Tea Tree Rd, Tea Tree TAS 7017

Project Number
24.004

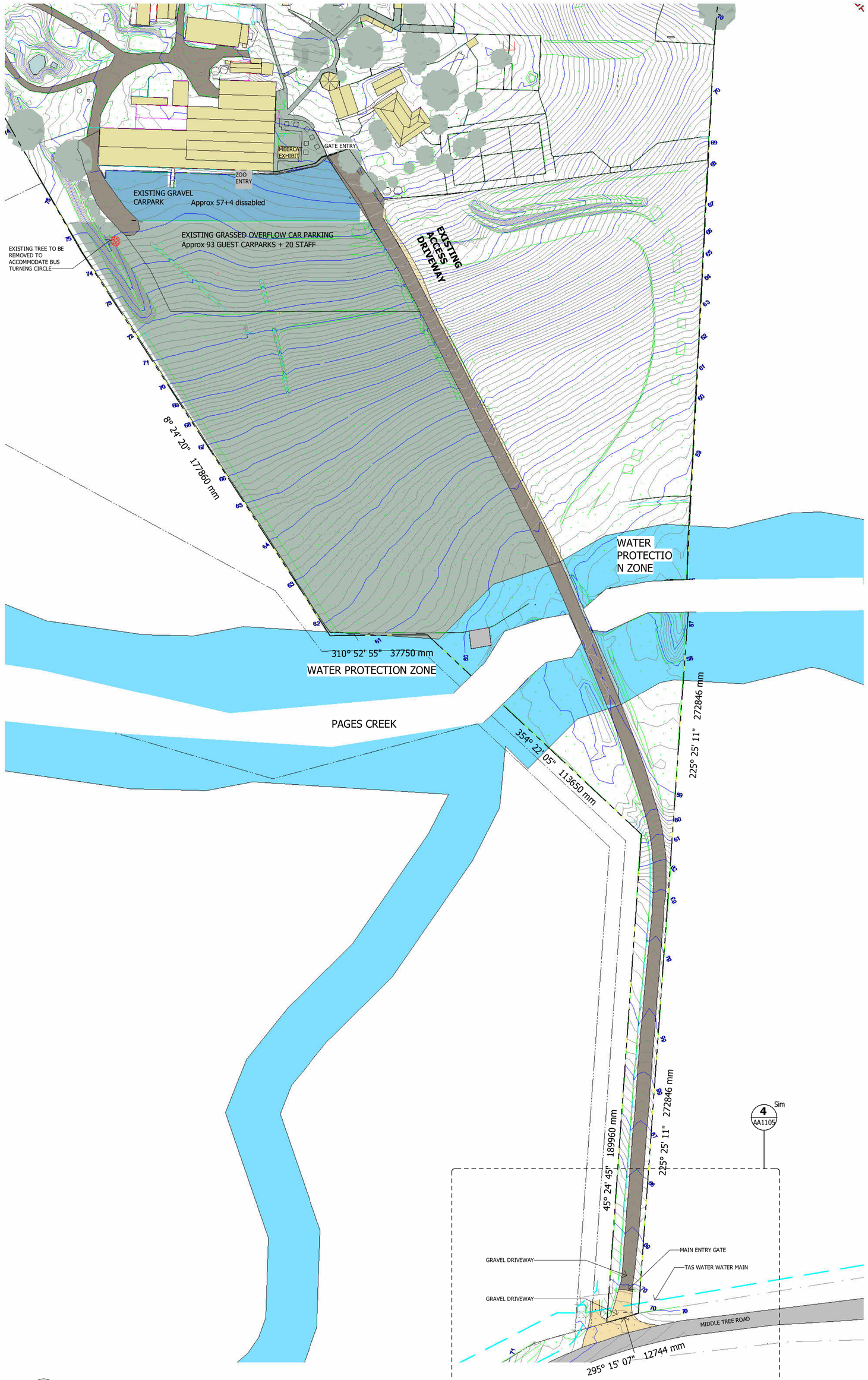
Drawing
SITE PLAN - NEW WORKS

Scale (A1)
As indicated

Date Printed
3/27/2026 10:17:50 AM

Drawing Number
AA1100

Issue
D



- / A5000 EXISTING SITE PLAN - layout
1 : 1000

Notes

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A	DEVELOPMENT APPLICATION - additional information	tbc		CB

Architect/ Designer
WILDSPACE ARCHITECTS

Client
HOBART ZOO AND AQUARIUM

Project
Hobart Zoo + Aquarium

Location
620 Middle Tea Tree Rd, Tea Tree TAS 7017

Project Number
25.005

Drawing
EXISTING CARPARKING PLAN

Scale (A1)
1 : 1000

Date Printed
3/27/2026 10:18:02 AM

Drawing Number
AA1101

Issue
A

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BAY 6+7 GRASSED OVERFLOW CARPARKING

EXISTING CARPARK
150 public car parks
20 staff car parks
No bus parking allocated

PROPOSED
262 car parks
40 staff car parks
8 bus parking spaces
4 Disabled carparks
7 long vehicle ie trailer or caravan

PEDESTRIAN ACCESS PATHWAY

9.2 CROSSOVER, HEADWALL AND 3 GUIDE POSTS TO ALL BAYS TO ALLOW FLEXIBLE USE OVER TIME IE EITHER BUS OR CAR BAY

SCHEMATIC DESIGN
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Issue	Description	Date	Chk	Auth
H	DEVELOPMENT APPLICATION - FURTHER INFO	24.04.2026	CB	
G	TAS IRRIGATION PIPELINE	07.04.2026	CB	-
F	DEVELOPMENT APPLICATION - additional information	tbc	CB	
E	DEVELOPMENT APPLICATION	19.03.2026	CB	-
D	FOR COORDINATION	18.02.2026	CB	-
C	FOR INFORMATION ONLY	28.01.2026	CB	-
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Architect/ Designer
WILDSPACE ARCHITECTS

Client
HOBART ZOO AND AQUARIUM

Project
Hobart Zoo + Aquarium

Location
620 Middle Tea Tree Rd, Tea Tree TAS 7017

Project Number
25.005

Drawing
PROPOSED CARPARK OVERALL

Scale (A1) As indicated
Date Printed 4/24
25.005 7:18 AM
Drawing Number AA1102
Issue H

MEERCAT EXHIBIT

MEERCAT EXHIBIT

GATE VEHICLE GATE ENTRY

EXISTING FENCE LINE TO BE RETAINED

GARDEN BED

DROP OFF ZONE

MAIN ENTRY TO ZOO

BUS PARKING X2

ONE WAY

RL 75.800

RL 75.806

RL 75.855

PEDESTRIAN CROSSING SLIGHTLY MOUND TO ROAD FROM ROAD LEVELS

RL 73.894

RL 73.764

CARPARK BAY 1

CAPACITY 2X BUS, 13 CARS + 4 DISABLED

2500 2500 2500 2500 2500 2500 2500 2530

13X CARPARKS

4X DISABLED CARPARKS

2 AA1120

5400

1:18.43

1:18.25

6.33%

1.2M WIDE TABLE DRAIN

TIMBER BRIDGE OVER TABLE DRAIN

GARDEN BED

1:14

RL 75.427

1-2 AA1120 Sim

NEW FENCELINE

RL 74.701

RL 74.500

RL 74.613

RL 74.701

RL 74.701

RL 75.070

GARDEN BED

GARDEN BED

GARDEN BED

1200 1200 1200 1200

1500 1165

1.2M WIDE TABLE DRAIN

RETAIN EXISTING TREES

PEDESTRIAN WALKWAY CRUSHED ROCK

RL 74.701

RL 74.632

RL 74.666

RL 74.701

RL 74.757

2500 2500 2500 2500

5400

19 CAR PARKS

4X MOTORCYCLE PARKS

2500

WHEELSTOPS LOGS R SANDSTONE BLOCKS

9 CAR SPACES

SWALE DRAIN

END WALL DRIVEAVBLE

CARPARK BAY 2

capacity x62 cars

RL 74.600

PEDESTRIAN CROSSING

CROSSOVER

RL 74.119

RL 74.332

RL 74.290

RL 74.362

1:17.32

1:17.32

1:19.85

1:19.85

RL 74.132

RL 74.036

RL 74.132

RL 74.365

RL 74.174

RL 74.116

18X CARPARKS

2500

1:106.53

16X CARPARKS

1:80.53

GARDEN BED

2000

1.2m WIDE TABLE DRAIN

1.2M WIDE TABLE DRAIN

SWALES WILL NEED ROCK BEACHING FOR EXPECTED VELOCITIES

SWALE SIZE DICTATED BY ENDWALL REQUIREMENTS. ENDWALL NEEDS TO BE 2M FROM EDGE OF ROAD AT MIN. 0.5 DEPTH TO PROVIDE 1:4 BATTER

PEDESTRIAN WALKWAY CRUSHED ROCK

GARDEN BED

RL 73.760

RL 73.510

STAIRS

RL 73.240

RL 73.078

RL 72.595

2-3 AA1120 Sim

GARDEN BED

RL 72.100

SWALE DRAIN

V DRAIN 600mmW X 300mmD

2500

1:20.00

1:20.00

1:18.81

1:18.81

1:18.17

19X CARPARKS

14X CARPARKS

2000

RL 71.738

1:14.41

PEDESTRIAN CROSSING

RL 71.760

CARPARK BAY 3

capacity x66 cars

CROSSOVER

RL 72.019

RL 71.462

PEDESTRIAN CROSSING

RL 71.420

2500

2000

16X CARPARKS

17X CARPARKS

1:14.44

1:14.88

1:14.88

NEW ACCESS DRIVEWAY

RL 74.095

STAIRS UP

RL 73.795

3-4 AA1120 Sim

GARDEN BED

GARDEN BED

GARDEN BED

SWALE DRAIN

UP

RL 69.619

CARPARK BAY 4

capacity x64 cars

4.34%

4.34%

13X CARPARKS

PEDESTRIAN CROSSING

RL 67.801

19X CARPARKS

CROSSOVER

15X CARPARKS

17X CARPARKS

1 A5000 CARPARK - PART PLAN BAY 1-3

1 : 200

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9.2 CROSSOVER, HEADWALL AND 3 GUIDE POSTS TO ALL BAYS TO ALLOW FLEXIBLE USE OVER TIME IE EITHER BUS OR CAR BAY

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Architect/ Designer

WILDSPACE ARCHITECTS

Client

HOBART ZOO AND AQUARIUM

Project

Hobart Zoo + Aquarium

Location

620 Middle Tea Tree Rd, Tea Tree TAS 7017

Project Number

25.005

Drawing

PROPOSED CARPARKING PLAN

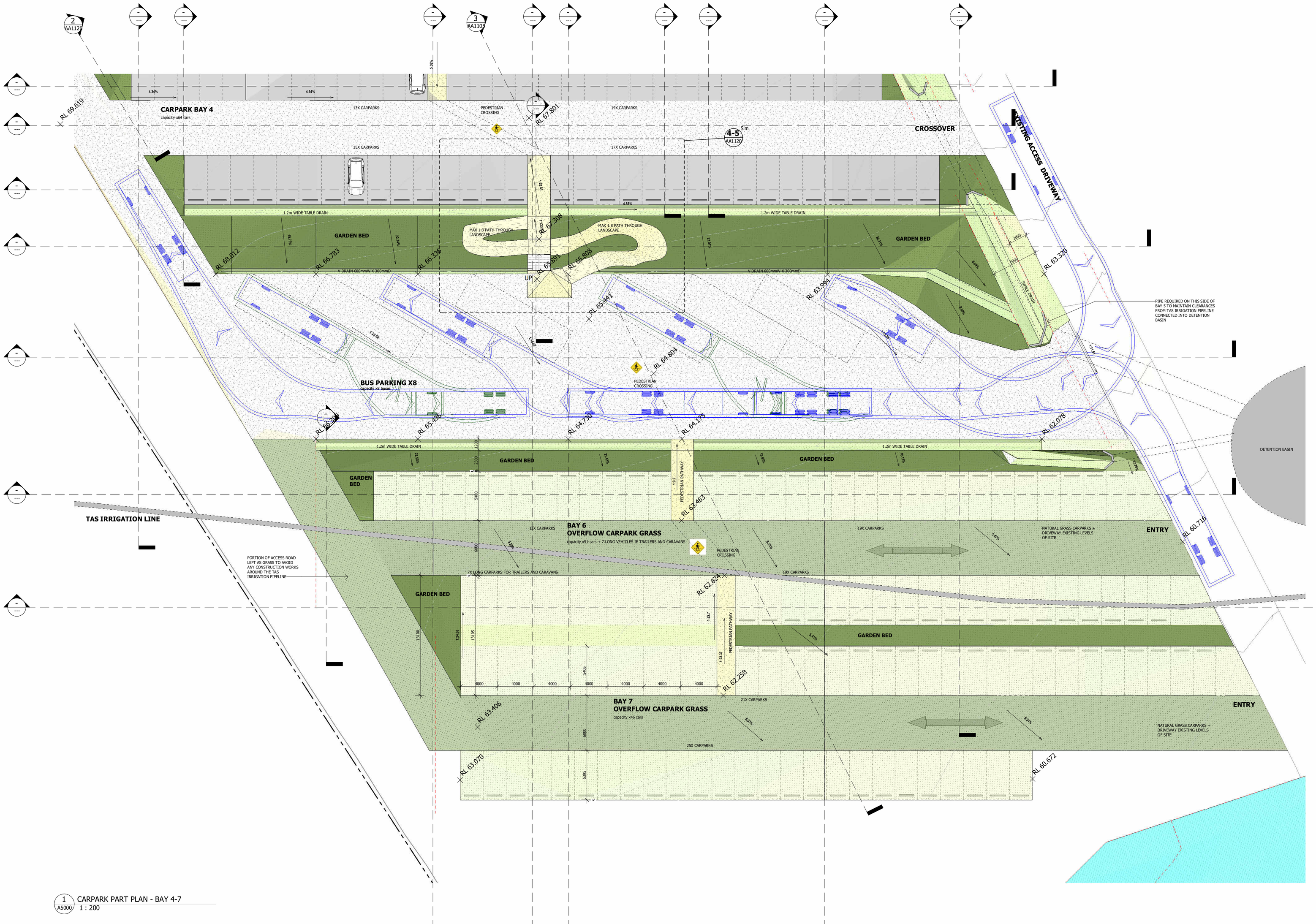
Scale (A1) As indicated

Date Printed 3/27/2026 10:18:19 AM

Drawing Number AA1103

Issue F

HOBART ZOO & AQUARIUM



1 CARPARK PART PLAN - BAY 4-7
A5000 1 : 200

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Architect/ Designer
WILDSPACE ARCHITECTS

Client
HOBART ZOO AND AQUARIUM

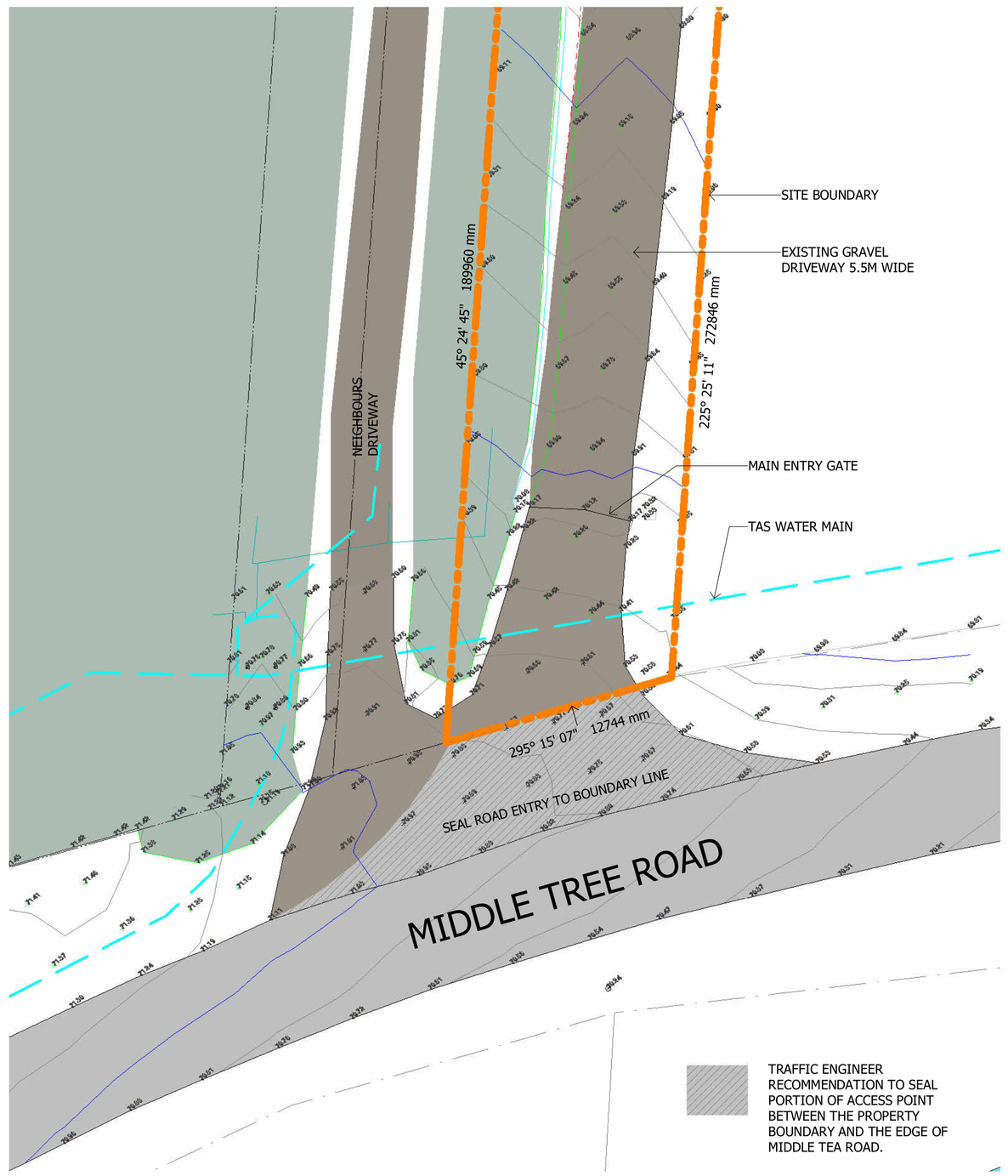
Project
Hobart Zoo + Aquarium

Location
620 Middle Tea Tree Rd, Tea Tree TAS 7017

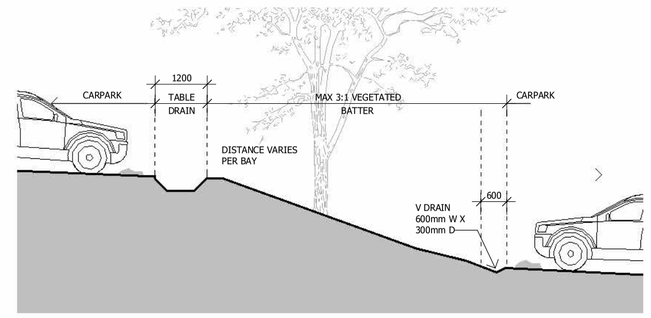
Project Number
25.005

Drawing
PROPOSED CARPARKING PLAN

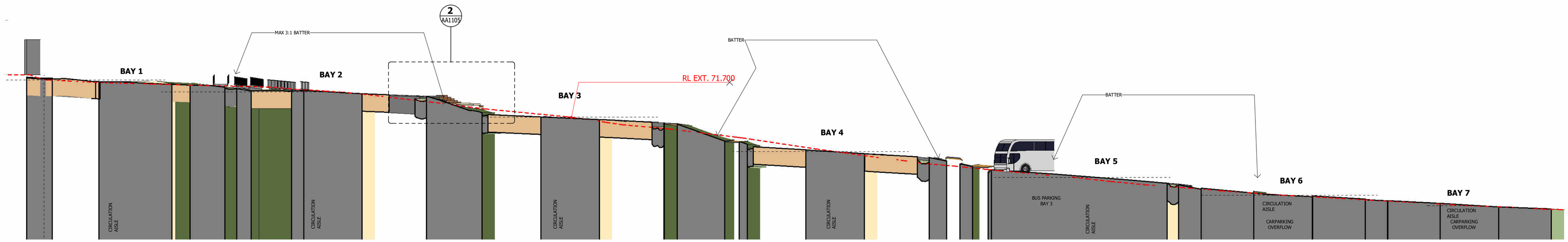
Scale (A1) As indicated
Date Printed 3/27/2026 10:18:25 AM
Drawing Number AA1104
Issue F



4 A5000 PROPOSED SITE ENTRY
1 : 200



2 DETAIL CALLOUT
1 : 100



3 PROPOSED SITE SECTION
1 : 250

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WILDSPACE ARCHITECTS

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HOBART ZOO AND AQUARIUM

Project
Hobart Zoo + Aquarium

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620 Middle Tea Tree Rd, Tea Tree TAS 7017

Project Number
25.005

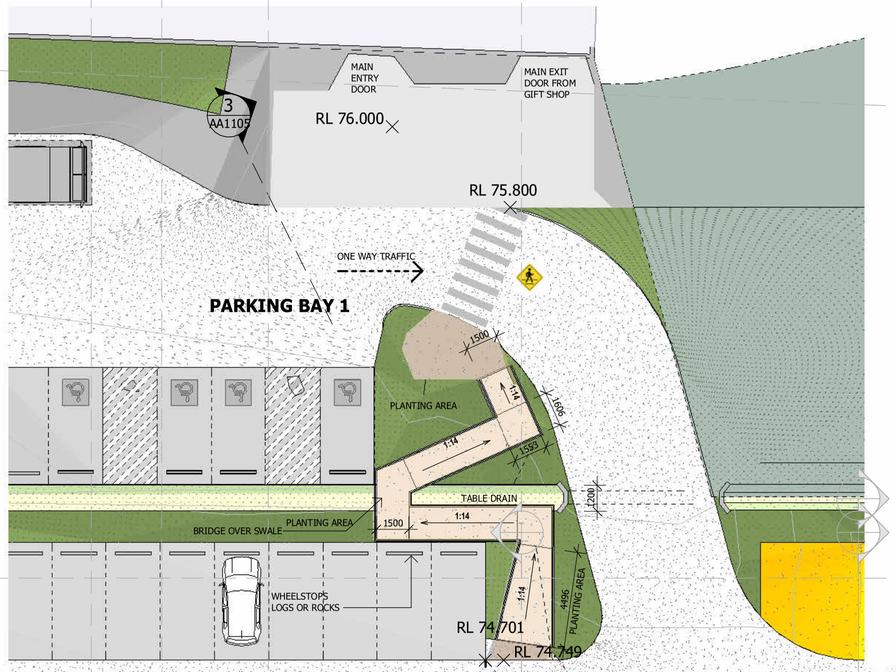
Drawing
PROPOSED CARPARK DETAILS

Scale (A1)
As indicated

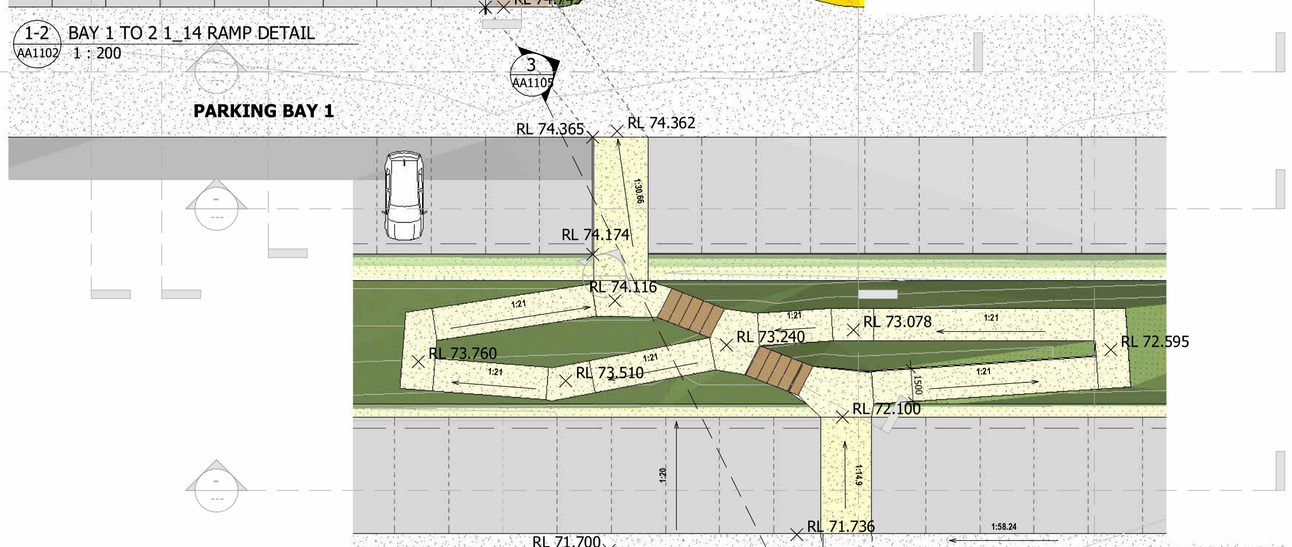
Date Printed
3/27/2026 10:18:32 AM

Drawing Number
AA1105

Issue
E

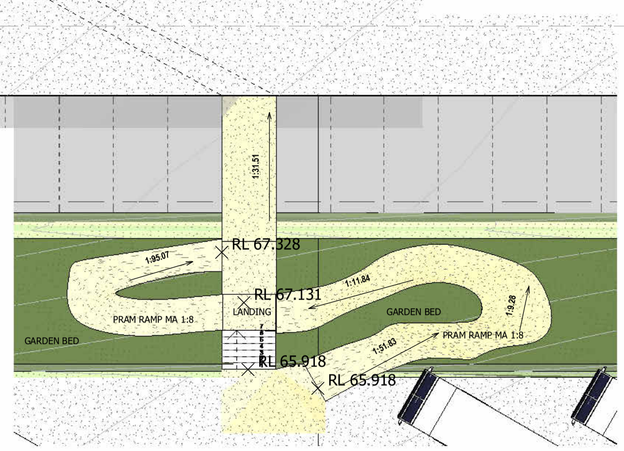


1-2 AA1102 BAY 1 TO 2 1_14 RAMP DETAIL
1 : 200

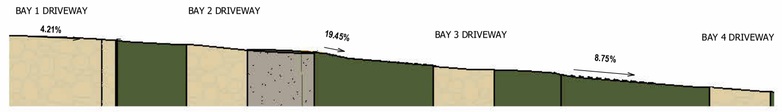


2-3 AA1102 BAY 2 TO 3 1_20 RAMP +STAIR DETAIL
1 : 200

3-4 AA1102 BAY 3 TO 4 STAIRS DETAIL
1 : 200



4-5 AA1102 BAY 4 TO 5 STAIRS + RAMP DETAIL
1 : 200



2 AA1103 PRAM ROUTE TO FRONT DOOR SECTION
1 : 500

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9.2 CROSSOVER, HEADWALL AND 3 GUIDE POSTS TO ALL BAYS TO ALLOW FLEXIBLE USE OVER TIME IE EITHER BUS OR CAR BAY

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Architect/ Designer
WILDSPACE ARCHITECTS

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HOBART ZOO AND AQUARIUM

Project
Hobart Zoo + Aquarium

Location
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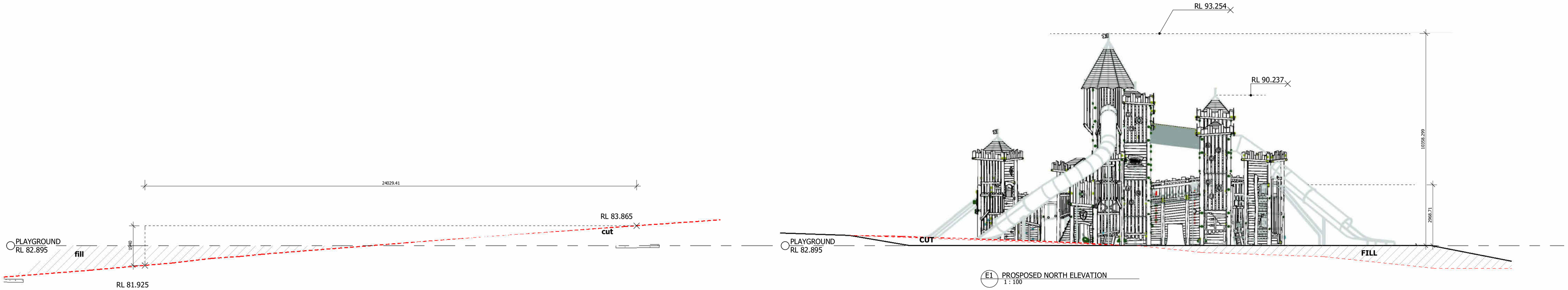
Project Number
25.005

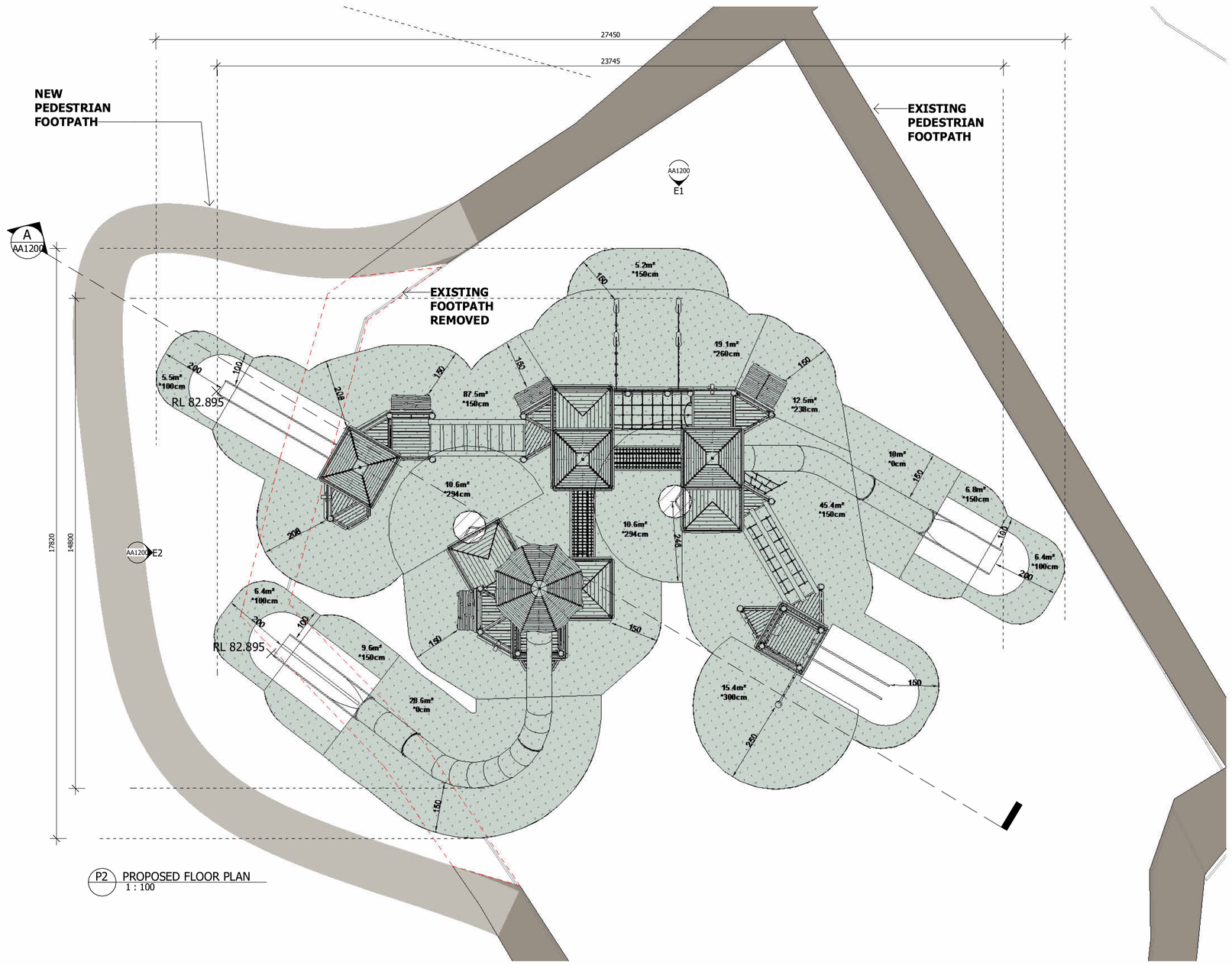
Drawing
PROPOSED CARPARKING PEDESTRIAN MOVEMENT

Scale (A1) As indicated
Date Printed 3/27/2026 10:18:39 AM
Drawing Number AA1120
Issue F

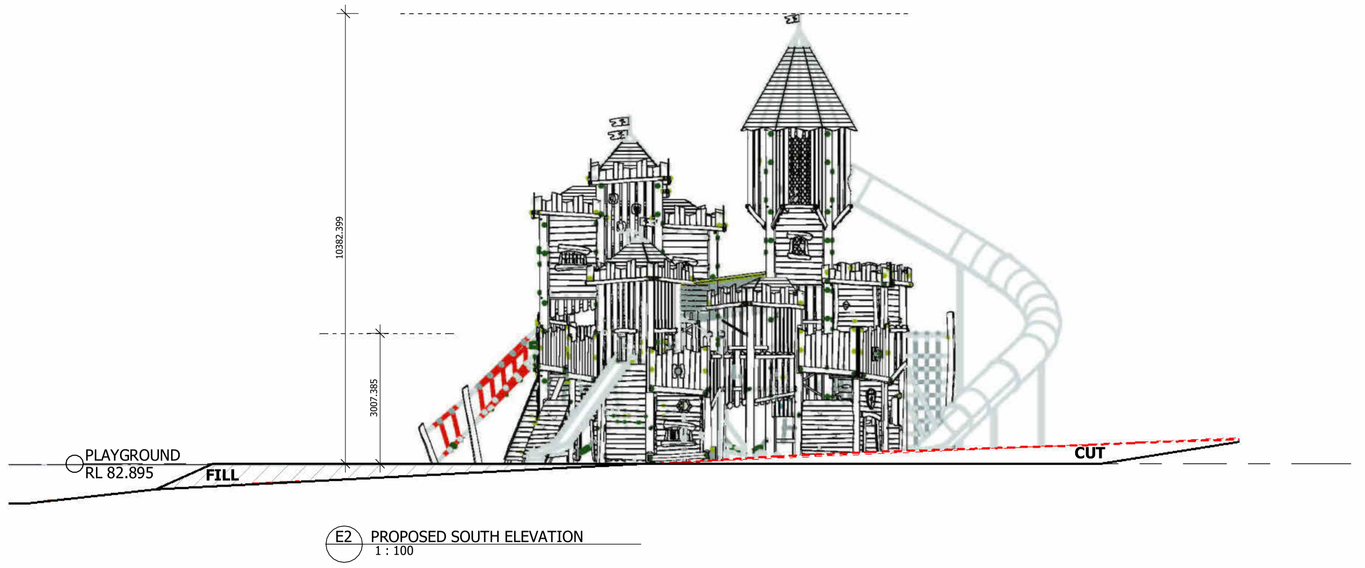


A AA1200 section from highest rl to lowest rl on site
1 : 100

E1 PROSPOSED NORTH ELEVATION
1 : 100



P2 PROPOSED FLOOR PLAN
1 : 100



E2 PROPOSED SOUTH ELEVATION
1 : 100

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Project
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Location
620 Middle Tea Tree Rd, Tea Tree TAS 7017

Project Number
24.004

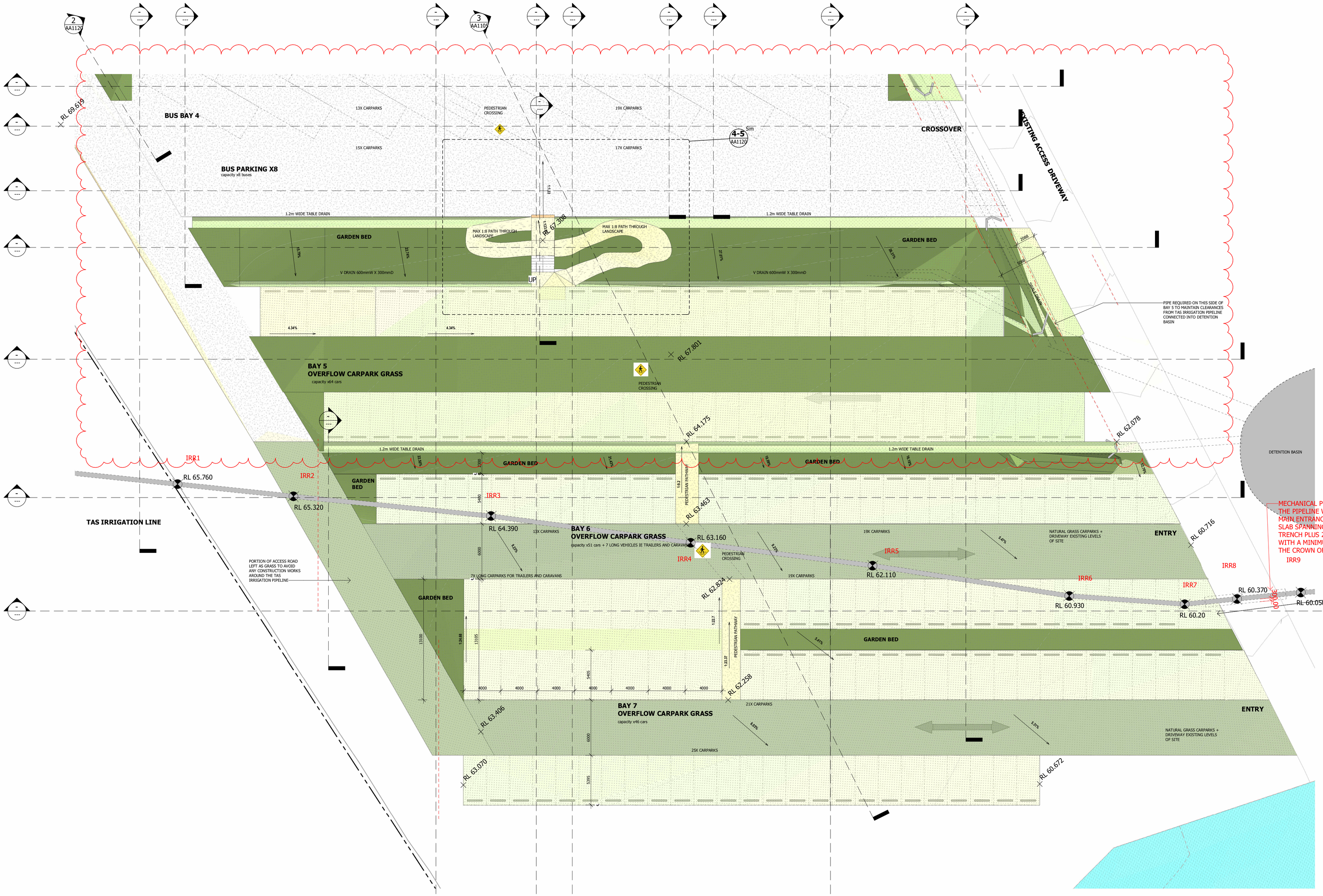
Drawing
PROPOSED PLAYGROUND

Scale (A1)
1 : 100

Date Printed
3/27/2026 10:19:03 AM

Drawing Number
AA1200

Issue
C



1 / AA1102 CARPARK PART PLAN - BAY 4-7
1 : 200

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The proposed carpark will be finished in compacted gravel with no line marking, maintaining a softer and more natural character in keeping with the zoo setting. Cars and Bus bays are indicative only. Bays 1-5 are gravel finish for the roads and carparks bay 6+7 are grass as per existing

BAY 1 = DISABLED CARPARKS 2 BUS PARKS AND 13 CARPARKS ;
BAY 2-4 NEW CARPARKING BAYS;
BAY 5 BUS PARKING ZONE
BAY 6+7 GRASSED OVERFLOW CARPARKING

EXISTING CARPARK
150 public car parks
20 staff car parks
No bus parking allocated

PROPOSED
282 car parks
40 staff car parks
8 bus parking spaces
4 Disabled carparks
7 long vehicle ie trailer or caravan

PEDESTRIAN ACCESS PATHWAY

9.2 CROSSOVER, HEADWALL AND 3 GUIDE POSTS TO ALL BAYS TO ALLOW FLEXIBLE USE OVER TIME IE EITHER BUS OR CAR BAY

MECHANICAL PROTECTION BE PROVIDED FOR THE PIPELINE WHERE IT IS CROSSED BY THE MAIN ENTRANCE ROAD. A CONCRETE COVER SLAB SPANNING THE FULL WIDTH OF THE TRENCH PLUS 200MM EITHER SIDE, BURIED WITH A MINIMUM CLEARANCE OF 150MM ABOVE THE CROWN OF THE PIPELINE.

SCHEMATIC DESIGN
NOT TO BE USED DURING CONSTRUCTION

Issue	Description	Date	Chk	Auth
H	DEVELOPMENT APPLICATION - updated carpark Bay 4	29.04.2026		
G	TAS IRRIGATION PIPELINE	07.04.2026	CB	-
F	DEVELOPMENT APPLICATION - additional information	tbc	CB	
E	DEVELOPMENT APPLICATION	19.03.2026	CB	-
D	FOR COORDINATION	18.02.2026	CB	-
C	FOR INFORMATION ONLY	28.01.2026	CB	-
B	FOR COORDINATION	21.11.2025	CB	-
A	FOR INFORMATION	26.09.2025	CB	-

Architect/ Designer
WILDSPACE ARCHITECTS

Client
HOBART ZOO AND AQUARIUM

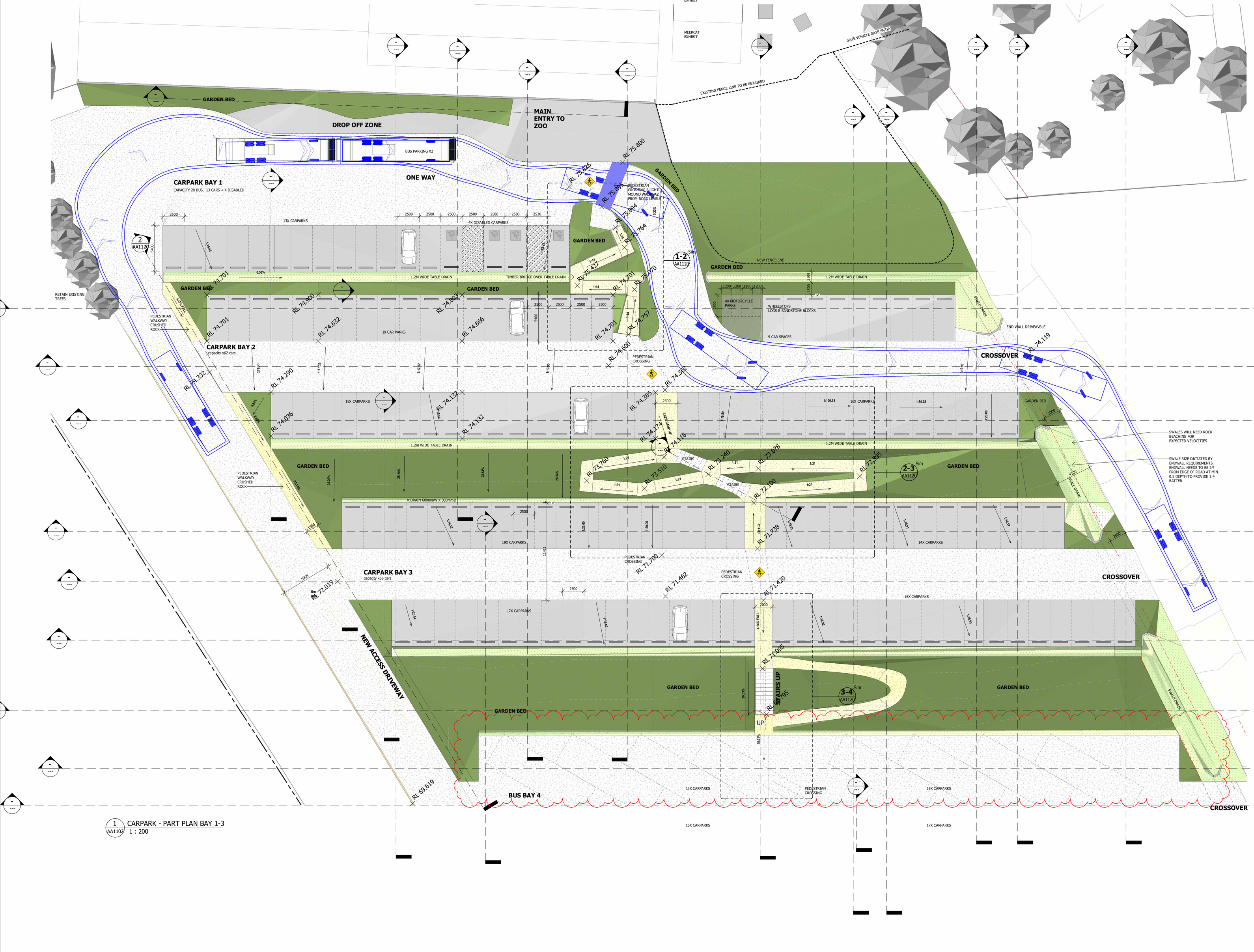
Project
Hobart Zoo + Aquarium

Location
620 Middle Tea Tree Rd, Tea Tree TAS 7017

Project Number
25.005

Drawing
PROPOSED CARPARKING PLANS

Scale (A1) As indicated
Date Printed 5/1/2026 12:55:16 PM
Drawing Number AA1104
Issue H



1 AA1102 CARPARK - PART PLAN BAY 1-3
1 : 200

Notes

Verify all dimensions and levels on site and report any discrepancies to WILDSPACE ARCHITECTS for direction prior to the commencement of work.

Drawings are to be read in conjunction with all other contract documents.

Use figured dimensions only. Do not scale from drawings. WILDSPACE ARCHITECTURE cannot guarantee the accuracy of content and format for copies of drawings issued electronically. The completion of the Issue Details Checked and Authorised section is confirmation of the status of the drawing. The drawing shall not be used for construction unless endorsed 'For Construction' and authorised for issue.

Registered Business Name ABN 43 320 705 154
Nominated Architect CLAIRE BROOKMAN NSW ARB 9388 TAS AMR 1636

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SCHEMATIC DESIGN

NOT TO BE USED DURING CONSTRUCTION

Issue	Description	Date	Chk	Auth
G	DEVELOPMENT APPLICATION - updated carpark Bay 4	29.04.2026		
F	DEVELOPMENT APPLICATION - additional information	tbc	CB	
E	DEVELOPMENT APPLICATION	19.03.2026	CB	-
D	FOR COORDINATION	18.02.2026	CB	-
C	FOR INFORMATION ONLY	28.01.2026	CB	-
B	FOR COORDINATION	21.11.2025	CB	-
A	FOR INFORMATION	26.09.2025	CB	-

Architect/ Designer
WILDSPACE ARCHITECTS

Client
HOBART ZOO AND AQUARIUM

Project
Hobart Zoo + Aquarium

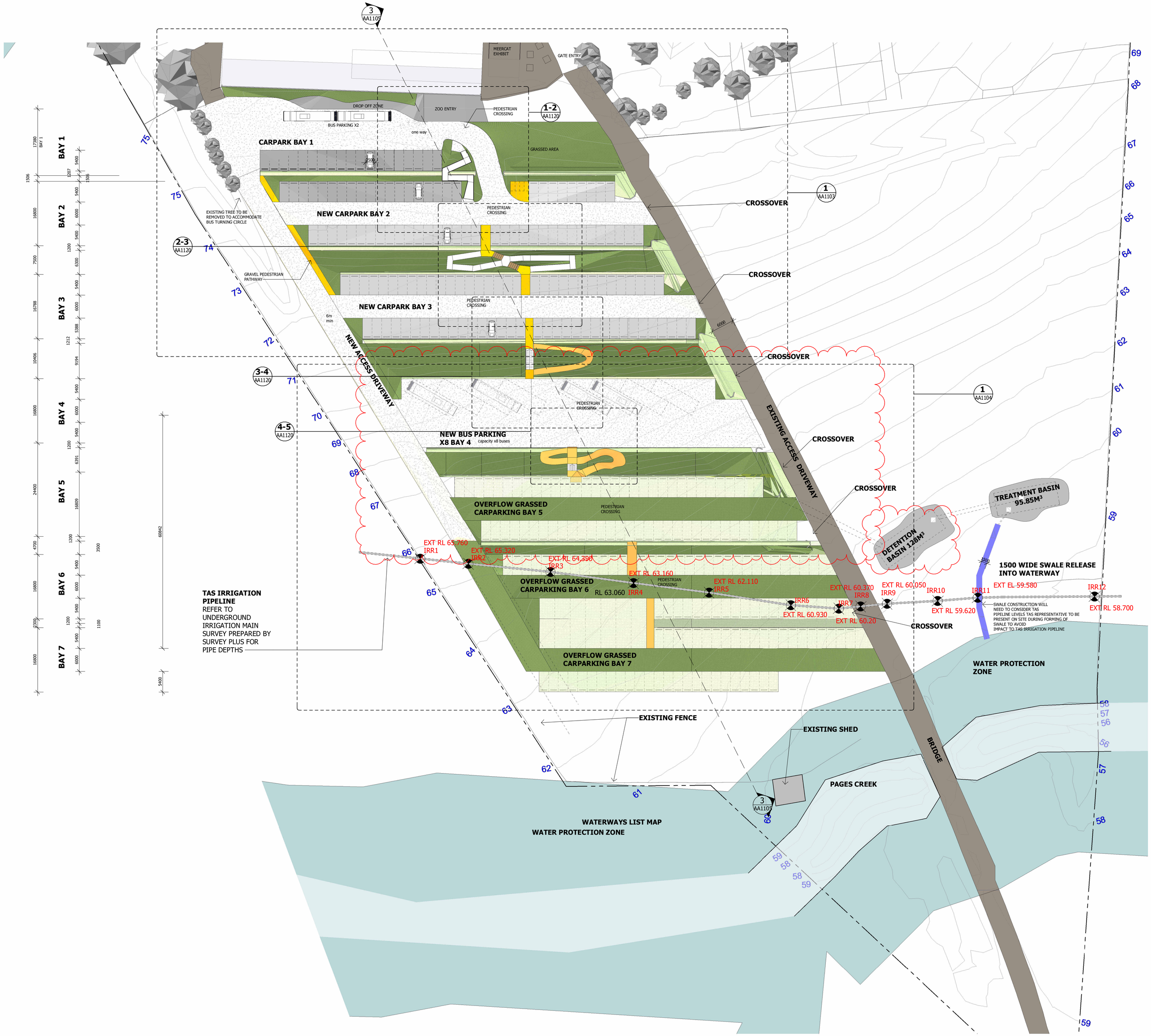
Location
620 Middle Tea Tree Rd, Tea Tree TAS 7017

Project Number
25.005

Drawing
PROPOSED CARPARKING PLAN

Scale (A1) As indicated
Date Printed 5/1/2026 12:52:41 PM
Drawing Number AA1103
Issue G

HOBART ZOO & AQUARIUM



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Registered Business Name ABN 43 320 705 154
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SCHEMATIC DESIGN
NOT TO BE USED DURING CONSTRUCTION

Issue	Description	Date	Chk	Auth
J	DEVELOPMENT APPLICATION - updated carpark Bay 4	29.04.2026		
H	DEVELOPMENT APPLICATION - FURTHER INFO	24.04.2026	CB	
G	TAS IRRIGATION PIPELINE	07.04.2026	CB	-
F	DEVELOPMENT APPLICATION - additional information	tbc	CB	
E	DEVELOPMENT APPLICATION	19.03.2026	CB	-
D	FOR COORDINATION	18.02.2026	CB	-
C	FOR INFORMATION ONLY	28.01.2026	CB	-
B	FOR COORDINATION	21.11.2025	CB	-
A	FOR INFORMATION	26.09.2025	CB	-

Architect/ Designer
WILDSPACE ARCHITECTS

Client
HOBART ZOO AND AQUARIUM

Project
Hobart Zoo + Aquarium

Location
620 Middle Tea Tree Rd, Tea Tree TAS 7017

Project Number
25.005

Drawing
PROPOSED CARPARK OVERALL

Scale (A1)
As indicated

Date Printed
5/1/25.005 37 PM

Drawing Number
AA1102

Issue
J

Statement of Intended Use

Project:	Carpark + new Playground Design Statement
Project No:	25.004
Address:	620 Middle Tea Tree Rd, Tea Tree TAS 7017
Local Government Area:	City of Brighton
Date:	27.023.2026
Revision No:	B

Table of Contents

Introduction

This statement has been prepared in support of a development application for the proposed car parking facility and new playground at Hobart Zoo and Aquarium, located within the Brighton Council municipal area. The proposal is intended to support the ongoing operation of the zoo and aquarium by improving visitor access, safety and overall experience.

The car park is designed to meet the operational needs of the facility by providing compliant accessible parking, as well as safe and efficient vehicle and pedestrian movement across the site. The proposed playground will complement the existing use by introducing an additional recreational offering for visitors, utilising the Kompan model NRO432, a prefabricated play structure suitable for outdoor use.

Together, these elements enhance the functionality and amenity of the site without altering the established use, supporting a cohesive and well-managed visitor environment.

Zone Purpose and Use Compatibility

Relevant Provisions:
Applicable Zone provisions under the Brighton Local Provisions Schedule (LPS)

Performance Outcome
Development must be consistent with the purpose of the zone and must not compromise the use, character or environmental values of the surrounding area.

Response
The proposed car park and new playground are directly associated with the established Hobart Zoo and Aquarium and are ancillary to the existing visitor use of the site. Both elements support the ongoing operation of the facility by enhancing visitor access, amenity and overall experience.

The provision of on site parking enables the orderly and safe management of visitor arrivals and departures, which is particularly important in a rural context where public transport options are limited. The proposed playground complements the primary use by providing an additional recreational offering for families, encouraging longer dwell times without altering the fundamental nature of the approved use.

The car park nor the playground facilitate and enhance the existing approved activity. Their location, scale and design are responsive to the rural setting and do not detract from the character or environmental values of the surrounding area. The proposal therefore satisfies the performance outcome by supporting the continued operation of an existing use while remaining consistent with the intent of the zone.

The car park design responds to the site's steep topography and incorporates compliant grades, clear vehicle circulation, accessible pedestrian connections and cost effective surface and drainage solutions. The playground is similarly sited and designed to integrate with the existing landscape and circulation network, ensuring safe and legible access for all users.

The playground will provide an additional recreational and educational facility for children visiting the Zoo & Aquarium. It is intended to enhance the visitor experience by offering a safe, interactive play area that complements the existing attractions on site. The equipment is designed for children of a range of ages and abilities and will be accessible during the Zoo & Aquarium's normal operating hours.

Playground Location

The playground will be located approximately 644 metres from the front boundary and 33 metres from the nearest side boundary of the site. The chosen location is currently an undeveloped greenfield area with a couple of existing gravel pathways circulating nearby. The siting ensures that the playground is central to the visitor experience while maintaining appropriate separation from boundaries and other site uses.

Playground Site Works

The proposed playground will be installed on a flat site that will be created through cut and fill earthworks to accommodate the natural fall of the land. The extent of earthworks will be minimised, and the edges of the cut and fill areas will be battered to ensure stability and integration with the surrounding landscape. Surface treatment and finishes will be completed in accordance with relevant safety and design standards for public playgrounds.

Playground Impact and Use

The playground will:

- Be used as an ancillary recreational facility to the existing Zoo & Aquarium operations.
- Generate no additional demand on parking or traffic beyond that already associated with the Zoo & Aquarium.
- Have no detrimental impact on surrounding land uses given its internal location within the site.
- Be consistent with the recreational and educational objectives of the Zoo & Aquarium.

Playground Materials + Construction

The following are the key construction, material, and dimensional specifications for the Kompan model NRO432 ("Tall Castle, X-Large") that will apply to the installation:

- Overall Dimensions (Structure Footprint) Length: 23.75 m × Width: 14.80 m × Height: 8 m
- Maximum fall height 3m
- Materials
    - Timber: Organic Robinia wood from sustainable European sources (can be supplied FSC® certified)
    - Steel: Hot dip galvanised steel for structural supports, frames, slide supports etc.
    - Slides & Tubes: PVC supports of multiple steel rods for tunnel slides
    - Ropes / Nets: Corocord / ropes using UV-stabilised PES rope strands with internal steel cable reinforcement.
    - Paint / Finishes: Environmentally friendly (water-based) paint for coloured components, excellent UV resistance;

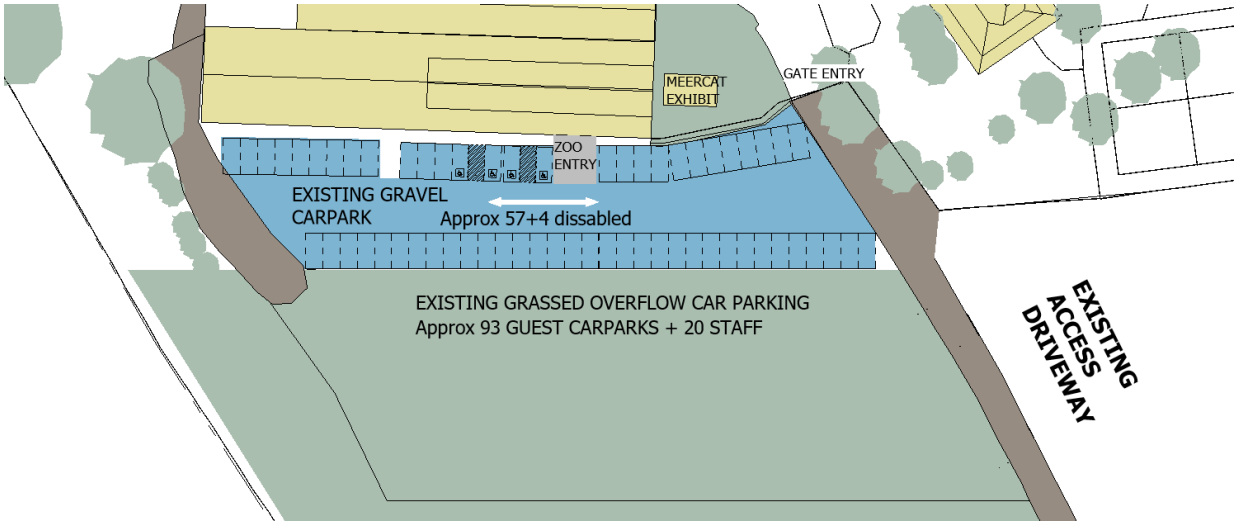
Car Parking Provision

Performance Outcome

Parking spaces must be provided to meet the reasonable demands of the use without causing unreasonable impacts on the surrounding road network, public safety or adjoining land.

Response

The **existing carpark** is gravel and located in the first bay with overflow parking currently located beyond the gravel area on the grassed area.



The proposed carpark has been designed to accommodate peak visitor demand associated with Hobart Zoo and Aquarium in the future, particularly during weekends, school holiday periods and special events.
The number of parking spaces provided is predicted to be in line with the operational needs of the zoo and reflects the rural location of the site, where alternative transport modes are limited. The proposal therefore achieves the performance outcome by providing sufficient parking while minimising off-site impacts.

	Visitor Carparks	Disabled Carparking	Staff	Buses	Long vehicles trailers and or caravans
Existing	Refer to traffic engineering report	4	20	0	
Proposed (additional)	135	4	40	8	7
Completed carpark capacity	**262**	**4**	**40**	**8**	**7**

Parking Layout + Design

The site is arranged into a series of 7 parking bays aligned along the main access spine.

- Bay 1 is the existing parking area which will now accommodate 4 disabled carparks, 13 standard carparks and 2 buses parked in a drop off zone area
- Bays 2 to 5 are new visitor parking bays of which any of the bays can be converted into a bus parking bay if required and on demand.
- Bays 6 and 7 are overflow grass parking areas

Each of the main parking bays contain parking on both sides of a central aisle with entry and exit points at either end.
A continuous pedestrian pathway runs centrally through all bays, connecting the overflow parking areas through to the main zoo entry.
Accessible 1:14 AS1428 compliant ramp is proposed between Bays 1 and 2 allowing for accessible access from bays 1 and 2 to the front entry point.
Pathways and stairs will be provided for all the other pedestrian walkways between parking bays to facilitate access and easy pram movement. These pathways will be apart of the landscape further enhancing the natural look and feel of the zoo and the visitor journey to the front entrance of the zoo.

Performance Outcome
Parking areas must be designed to provide safe, convenient and efficient vehicle manoeuvring and pedestrian movement.

Response
The carpark layout provides compliant bay dimensions, adequate aisle widths and clear internal circulation to allow safe vehicle movement and turning. Pedestrian paths are clearly defined and connect parking areas directly to the zoo entrance, reducing potential conflict between vehicles and pedestrians. The design has particular regard to the safety of families and children, who form a significant proportion of visitors to the site. Sightlines within the carpark are clear and the layout supports intuitive wayfinding, ensuring the performance outcome of safe and efficient movement is achieved. A safe drop of zone is also provided for at the main entry area.

Standard Passenger Bays guest and staff

- The carparks are intended to be 90 deg parking
- Aisle width = min 6m
- Standard passenger carparks are 2.4m width and length of 5.4m

Bus Carparking 12.5m standard bus size

- Aisle width 7.2m one way circulation
- Standard Bus bays are 4m width and length of 12.5m

- Aisle widths compliant for one way circulation
- Turning paths designed for bus movements refer to traffic report for turning paths
- Maximum ramp grades compliant with steep site conditions

Accessible Parking Strategy
All accessible parking spaces are located closest to the zoo entry in accordance with AS 2890.6 and the Disability Discrimination Act.
Key features include:

- Direct accessible path to entry
- Level landing zones
- Kerb ramps at all crossings
- Clear signage and line marking
- Shared zones provided where required
- Compliant gradients and crossfalls are provided for the 4 accessible car parking bays.
- Typical marked bays for accessible bays are 2.4m in width shared zone of 2.4m and a length of 5.4m

Traffic Flow and Circulation

The car park has been designed to provide clear, legible and efficient vehicle circulation across the site. Circulation aisles are 6 metres wide, which allows for safe and functional two way vehicle movement in accordance with accepted parking design standards.

Vehicle entry is via the existing driveway, with internal circulation enabling vehicles to move freely through the parking aisles. Exit is provided via the existing driveway or the new driveway, which connects back to the existing entry driveway and supports efficient dispersal of traffic during peak visitation periods.

The overall layout minimises conflict points, simplifies wayfinding and improves traffic flow, particularly during busy periods. Bus movements are separated from general visitor traffic where practicable to improve safety and reduce congestion.

Access to the Road Network

Performance Outcome
Access to and from the site must be designed to ensure traffic safety and minimise adverse impacts on the road network.

Response
Vehicle access to the carpark is taken from Middle Tea Tree Road via a defined access point designed to provide appropriate sight distances and safe ingress and egress. The proposal is to seal the driveway from the existing road to the site boundary. Refer to Architectural plan AA1105 for extent and location of works in relation to the middle tea road and the property boundary. Also refer to Traffic report for further details.

Bushfire-Prone Areas Code

Relevant Provisions:
Bushfire-Prone Areas Overlay

Performance Outcome
Development must be located, designed and managed to minimise bushfire risk to people, property and infrastructure.

Response
The proposed carpark is located within an area that can be effectively managed to maintain low fuel loads through ongoing vegetation management. The open nature of the carpark and the use of hardstand surfaces reduce the potential for bushfire ignition and spread within the development area.
The carpark layout provides clear access for emergency vehicles and supports safe evacuation in the event of a bushfire. The development does not increase bushfire risk to visitors, staff or adjoining land and is consistent with the intent of the Bushfire-Prone Areas Code.

Amenity and Environmental Considerations

Performance Outcome
Development must not cause unreasonable impacts on the amenity of adjoining land or the environmental values of the area.

Response
The carpark is located within the established operational footprint of the zoo and does not encroach on sensitive environmental areas. Landscaping and vegetation retention where practicable will assist in integrating the carpark into the surrounding landscape and reducing visual impact.

Noise, and traffic associated with the carpark are consistent with the existing visitor use of the site and will not result in unreasonable impacts on adjoining properties. The proposal therefore satisfies the relevant performance outcomes relating to amenity and environmental protection.

Site Levels and Gradients

The site is characterised by steep existing topography. Earthworks and grading have been designed to achieve compliant parking and access gradients while minimising cut and fill.
Design principles include:

- Maximum parking gradients in accordance with AS 2890
- Pedestrian paths designed to AS 1428
- Vegetated swale and spoon drains with 2:1 bartering between parking bays has been implemented to manage level transitions.

The final grading strategy balances constructability, cost efficiency, drainage and accessibility. Refer to Traffic and Civil Engineering reports for further details on levels and drainage strategies.

Pavement and Surface Treatments

Bays 1-5 parking and bus parking areas will be constructed with compacted gravel pavement, selected for cost efficiency, durability and ease of maintenance.
Surface treatments include:

- Compacted crushed gravel pavement to engineering specification
- Stabilised sub base layers for load bearing capacity
- Dust suppression treatment where required
- Signage for staff only and bus parking only

The bus parking bay will incorporate a strengthened pavement structure to accommodate heavy vehicle loads.
Overflow parking bays will be grassed.
Bays 6 and 7 are located for overflow and have been kept at current levels and grassed.

Drainage Strategy

Please refer to attached Civil engineering report for full details.
A cost effective surface drainage system is proposed for the car park.
The drainage strategy includes:

- Crossfall to shallow swale drains between bays
- Grassed swales for overflow parking areas
- Spoon drains along drive aisles
- Rock lined table drains where grades increase
- Detention basins where possible to reduce discharge volumes at the ends of the bays

This approach minimises underground pipework and relies on surface water management as the primary drainage solution. The system is designed to control erosion, manage stormwater flows and prevent ponding within parking areas.

The proposed detention basin is intended to provide effective stormwater management by temporarily capturing and attenuating runoff generated within the site prior to controlled discharge to the adjoining creek. The basin will remain normally dry, storing stormwater during rainfall events and releasing flows at a managed rate to replicate pre development conditions, thereby reducing peak discharge, erosion potential, and downstream impacts. Stormwater will be conveyed to the detention basin via a network of vegetated swale drains, spoon drains, and grassed batters integrated between parking bays, promoting infiltration, sediment capture, and preliminary water quality treatment. Two parking bays are designed as grassed permeable bays to further reduce runoff volumes and improve water quality through filtration. The use of vegetated swales along the sides of the parking areas provides additional treatment by slowing flows, trapping sediments, and removing pollutants prior to detention. This approach has been selected as an appropriate, low maintenance stormwater management strategy for the dry site conditions, providing effective flow control and water quality treatment before discharge to the natural creek system.

Pedestrian Circulation and Safety

A dedicated pedestrian pathway runs centrally through all parking bays from the overflow areas to the zoo entry. This provides a safe, legible and intuitive pedestrian experience for all visitors.
All parking bays connect into a continuous pedestrian network leading to the zoo entry.
Accessible parking bays connect directly to a fully compliant accessible path of travel in accordance with AS 1428.1 and NCC. The pedestrian network provides safe, legible and step free access from all parking areas to the Zoo entry.

Key safety features include:

- Raised pedestrian crossings at drive aisles with clear signage
- A continuous accessible route from the overflow parking to the main entry is achieved
- Width of pathway is minimum 2m

Bus Turning Circles

Diagrams within the Traffic engineering drawing package illustrate the swept path and turning movements of a standard rigid bus accessing and manoeuvring within Bus Park Bay 1, 2 and 3. The bus enters the site via the existing access driveway and proceeds along the internal circulation road before undertaking a controlled turning movement into the designated bus parking bay located centrally within the carpark. The parking bays are arranged to allow the bus to pull forward into position without the need for reversing, minimising conflict with other vehicles and pedestrians. Once parked, the bus is able to exit the bay by continuing forward along the internal loop road, rejoining the circulation route and departing the site via the same access driveway. The layout provides sufficient clearance to adjacent parking bays, landscaped batters, and drainage swales, ensuring safe and efficient bus movements while maintaining clear separation from general car parking areas.

Conclusion

The proposed car park upgrade and playground at 620 Middle Tea Tree Road demonstrates compliance with the applicable performance criteria of the Tasmanian Planning Scheme – Brighton. The proposal supports the ongoing operation of the Hobart Zoo and Aquarium by improving site functionality, visitor access and overall amenity.

The upgraded car park enhances traffic safety and usability through the provision of compliant accessible parking, clearly defined vehicle circulation and safe pedestrian connections between parking areas and the zoo entrance. The design responds to the site's steep topography and incorporates practical grading, cost effective gravel pavement treatments and robust drainage solutions appropriate to the rural context.

The proposed playground is a complementary addition to the existing facility and has informed the need for the coordinated upgrade of the car parking areas. It enhances the visitor experience, particularly for families, and integrates with the existing site layout and circulation network.

Overall, the proposal represents a considered and coordinated approach to improving the functionality and amenity of the site. It satisfies the intent and outcomes of the State Planning Provisions and the Brighton Local Provisions Schedule. Approval is therefore sought for the use and development as proposed.

Your sincerely

Claire Brookman - Director
WILDSPACE ARCHITECTS
Registration: TAS 1636

Statement of Intended Use

Playground - Hobart Zoo + Aquarium

Project:	Installation of Playground
Project No:	25.004
Address:	620 Middle Tea Tree Rd, Tea Tree TAS 7017
Local Government Area:	City of Brighton
Date:	20.08.2025
Revision No:	A

Proposal

This application seeks approval for the installation of a new playground within the grounds of the Hobart Zoo & Aquarium. The proposed playground will utilise the **Kompan model NRO432**, a prefabricated play structure designed for outdoor recreational use.

Intended Use

The playground will provide an additional recreational and educational facility for children visiting the Zoo & Aquarium. It is intended to enhance the visitor experience by offering a safe, interactive play area that complements the existing attractions on site. The equipment is designed for children of a range of ages and abilities and will be accessible during the Zoo & Aquarium's normal operating hours.

Location

The playground will be located approximately 644 metres from the front boundary and 33 metres from the nearest side boundary of the site. The chosen location is currently an undeveloped greenfield area with a couple of existing gravel pathways circulating nearby. The siting ensures that the playground is central to the visitor experience while maintaining appropriate separation from boundaries and other site uses.

Site Works

The proposed playground will be installed on a flat site that will be created through cut and fill earthworks to accommodate the natural fall of the land. The extent of earthworks will be minimised, and the edges of the cut and fill areas will be battered to ensure stability and integration with the surrounding landscape. Surface treatment and finishes will be completed in accordance with relevant safety and design standards for public playgrounds.

Impact and Use

The playground will:

- Be used as an ancillary recreational facility to the existing Zoo & Aquarium operations.
- Generate no additional demand on parking or traffic beyond that already associated with the Zoo & Aquarium.
- Have no detrimental impact on surrounding land uses given its internal location within the site.
- Be consistent with the recreational and educational objectives of the Zoo & Aquarium.

Materials + Construction

The following are the key construction, material, and dimensional specifications for the Kompan model NRO432 ("Tall Castle, X-Large") that will apply to the installation:

- Overall Dimensions (Structure Footprint) Length: **23.75 m** × Width: **14.80 m** × Height: **8 m**
- Maximum fall height 3m
- Materials
    - Timber: Organic Robinia wood from sustainable European sources (can be supplied FSC® certified)

- Steel: Hot dip galvanised steel for structural supports, frames, slide supports etc.
- Slides & Tubes: PVC supports of multiple steel rods for tunnel slides
- Ropes / Nets: Corocord / ropes using UV-stabilised PES rope strands with internal steel cable reinforcement.
- Paint / Finishes: Environmentally friendly (water-based) paint for coloured components, excellent UV resistance;

Conclusion

The proposed playground represents a low-impact, ancillary development that enhances the existing facilities of the Hobart Zoo & Aquarium. The works are limited to site preparation, installation of the playground equipment, and landscaping integration. Approval is therefore sought for the use and development as outlined.

Your sincerely

Claire Brookman

WILDSPACE ARCHITECTS
Registration: TAS 1636

Date: 17.09.2025
Project No: 25.004

Client	Date
Hobart Zoo and Aquarium	1 May 2026

Traffic Impact Statement

Proposed Playground and Carpark Expansion

620 Middle Tea Tree Road, Tea Tree

ratio:

Planning
Transport
Urban Design
Waste Management
Landscape Architecture
Civil Engineering

ratio.com.au

Project
620 Middle Tea Tree Road

Prepared for
Hobart Zoo and Aquarium

Our reference
24336T-REP01

Directory path	https://ratioconsultants1.sharepoint.com/sites/24336T/Shared Documents/Work/Reports/24336T-REP01-F04.docx

Version	Date	Issue	Prepared by
F01	19/02/2026	Final Report	M. Petrusma
F02	25/03/2026	Amended Final	M. Petrusma
F03	17/04/2026	Minor Update	M. Petrusma
F04	01/05/2026	Parking Update	M. Petrusma

Acknowledgement of Country

We acknowledge the Traditional Owners of the land we work, live and travel on, and appreciate the rich cultures of the Aboriginal and Torres Strait Islander Peoples and their enduring connection to country.

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1. Introduction

1.1. Background

Ratio Consultants were engaged by Hobart Zoo and Aquarium to prepare a Traffic Impact Statement (**'TIS'**) for the proposed playground and expansion of car parking facilities at 620 Middle Tea Tree Road, Tea Tree.

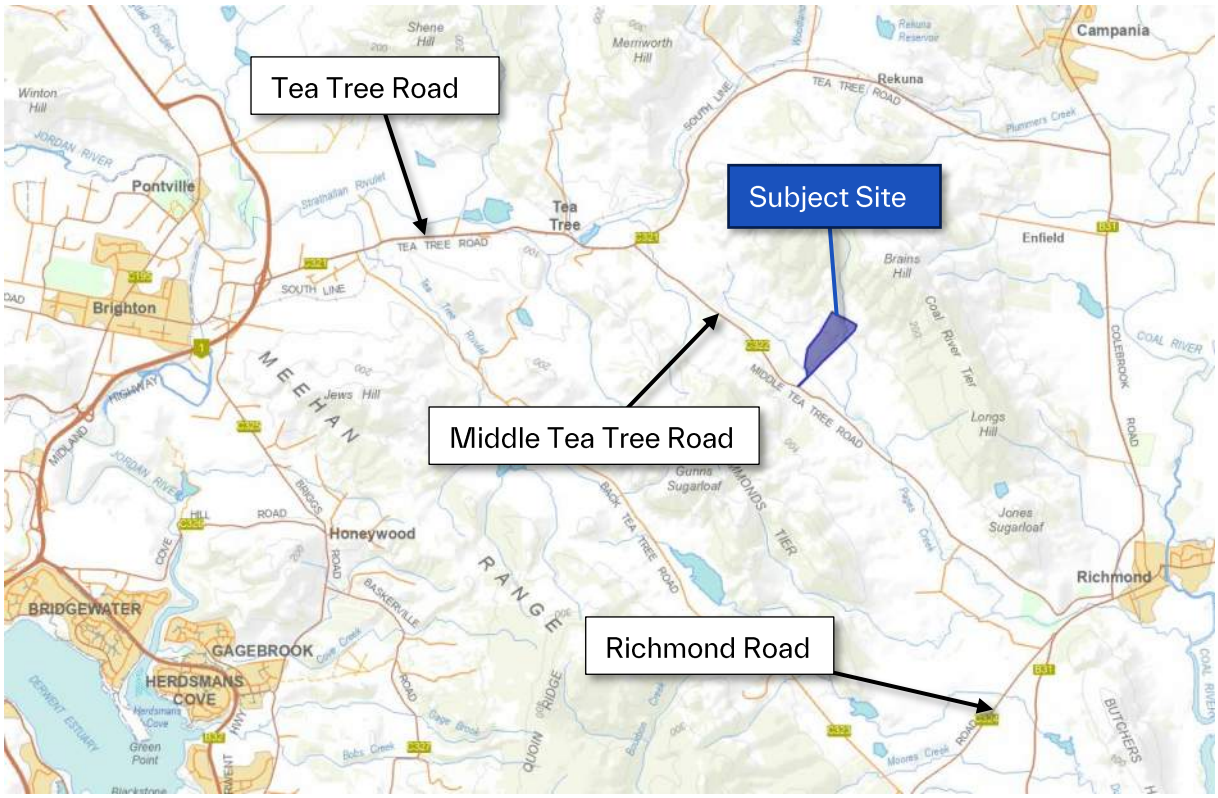
1.2. Purpose of This Report

The purpose of this report is to document the car parking arrangements, demonstrate compliance with the Planning Scheme and the relevant Australian Standards, and to assess the proposal against Clause C3.5.1 of the *Tasmanian Planning Scheme – Brighton.*

1.3. Subject Site Location

The subject site is located at 620 Middle Tea Tree Road, Tea Tree. The subject site location is presented in Figure 1-1.

Figure 1-1: Subject Site Location



Source: LISTMap © State of Tasmania (https://maps.thelist.tas.gov.au)

1.4. Referenced Materials

The following documents and materials have been referred to during the preparation of this report:

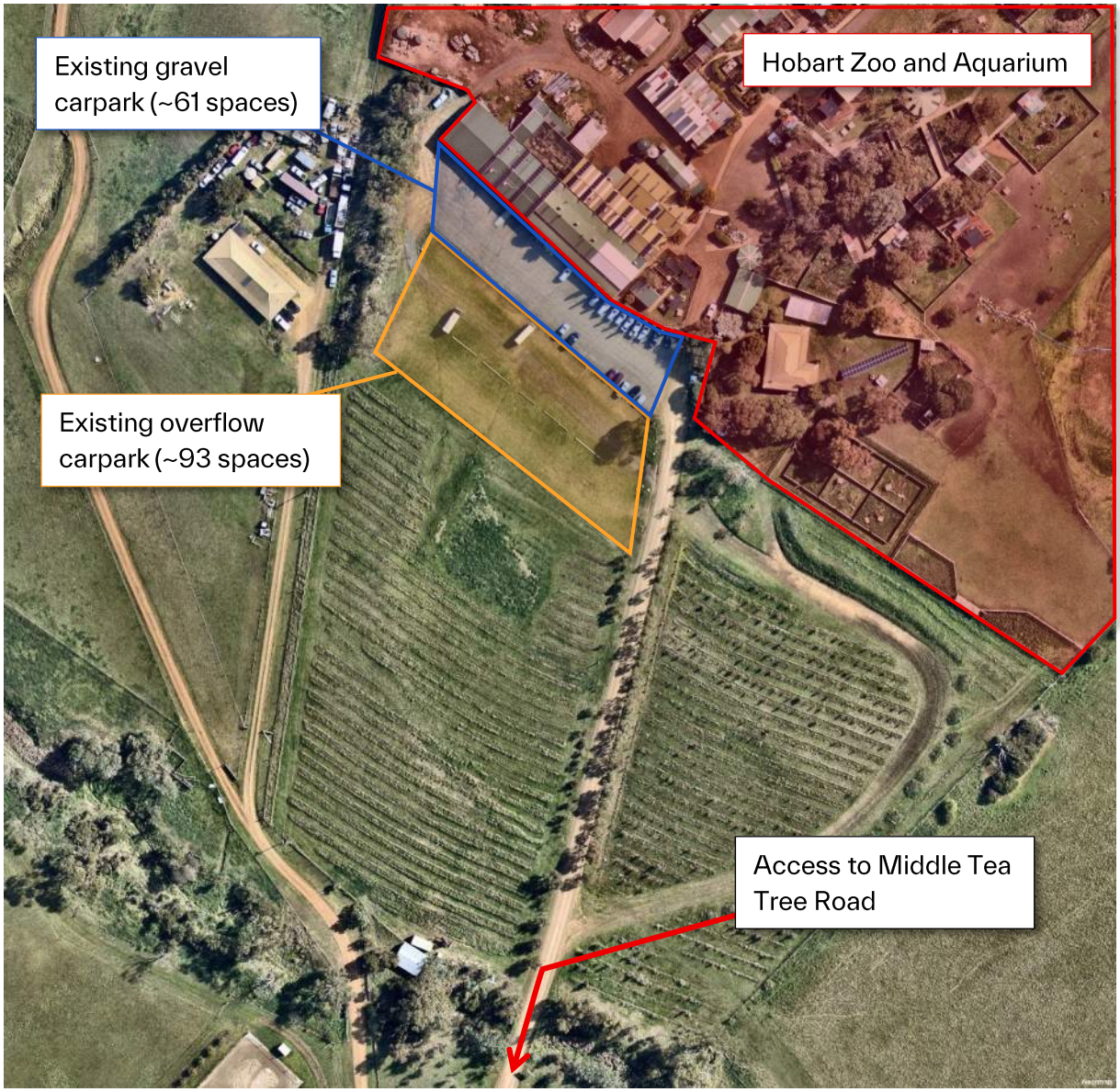
- Tasmanian Planning Scheme – State Planning Provisions (the Planning Scheme)
- Brighton Local Provisions Schedule (LPS)
- Australian / New Zealand Standard AS/NZS 2890.1, *Parking facilities – Part 1: Off-street car parking* (2002)
- Drawings prepared by Wildspace Architects
- Ticket sales numbers for December 2025 and January 2026 provided by the Hobart Zoo and Aquarium.

2. Existing Conditions

2.1. Site Layout

The overall site has an area of approximately 31 ha and has access to Middle Tea Tree Road via an approximately 12 metre wide access strip running between Nos. 610 and 622 Middle Tea Tree Road. The area of the site used for car parking is located towards the southern end of the overall site and is presented in Figure 2-1.

Figure 2-1: Existing Site Layout



Source: Nearmap Imagery © 2026 Nearmap, HERE (https://apps.nearmap.com/)

As shown in Figure 2-1, there is delineation between the car parking area and the zoo grounds. The existing carpark comprises approximately 61 gravel car parking spaces, and a further 93 overflow spaces within the adjacent grassy area. Car parks are accessed via a gravel access road (approximately 5.2 metres wide) connecting to Middle Tea Tree Road.

Immediately south of the existing carpark is an open portion of land previously used as an orchard. This land has an average grade of around 10% and is proposed to be levelled off and used for car parking associated with the zoo.

2.2. Road Network

For the purpose of this assessment, the relevant road network comprises Middle Tea Tree Road.

Middle Tea Tree Road is a rural collector road managed by Brighton Council. It has a sealed width of approximately 6 metres, providing one lane in each direction, and includes gravel shoulders either side. It runs for a total length of around 9.4 km between Tea Tree Road at the western end and Colebrook Road at the eastern end.

The default rural speed limit of 100 km/h applies to Middle Tea Tree Road.

2.3. Traffic Volumes

Historic traffic volume data for Middle Tea Tree Road was provided by Council. In 2013, Middle Tea Tree Road carried around 565 vehicles per day on average (two-way) with peak volumes in the order of 50-65 vehicles per hour.

Given that (with the exception of the zoo) there are no other significant traffic generators along Middle Tea Tree Road, and that it provides primarily an access road rather than through traffic route, it is estimated that Middle Tea Tree Road currently carries a two-way traffic volume of no more than 1,000 vehicles per day with peak volumes of up to 100 vehicles per hour (two-way).

2.4. Crash History

Crash history data was collected from the Department of State Growth for Middle Tea Tree Road 500 metres either side of the subject site access.

In the five years from 1 January 2021 to 31 December 2025, there were two crashes in the vicinity of the site both of which resulted in injury to one or more persons.

There were no identifiable trends in the crash data that might indicate any specific road safety deficiency in the local area.

3. Proposal

The proposed development includes a new playground to be constructed within the zoo grounds, as well as the expansion of existing gravel car parking areas on the site, and provision of additional overflow parking on grassed surface. In total the carpark would provide:

— 145 gravel car parking spaces

— 4 gravel motorbike parking spaces

— 2 gravel bus drop-off bays

— 8 gravel bus parking spaces

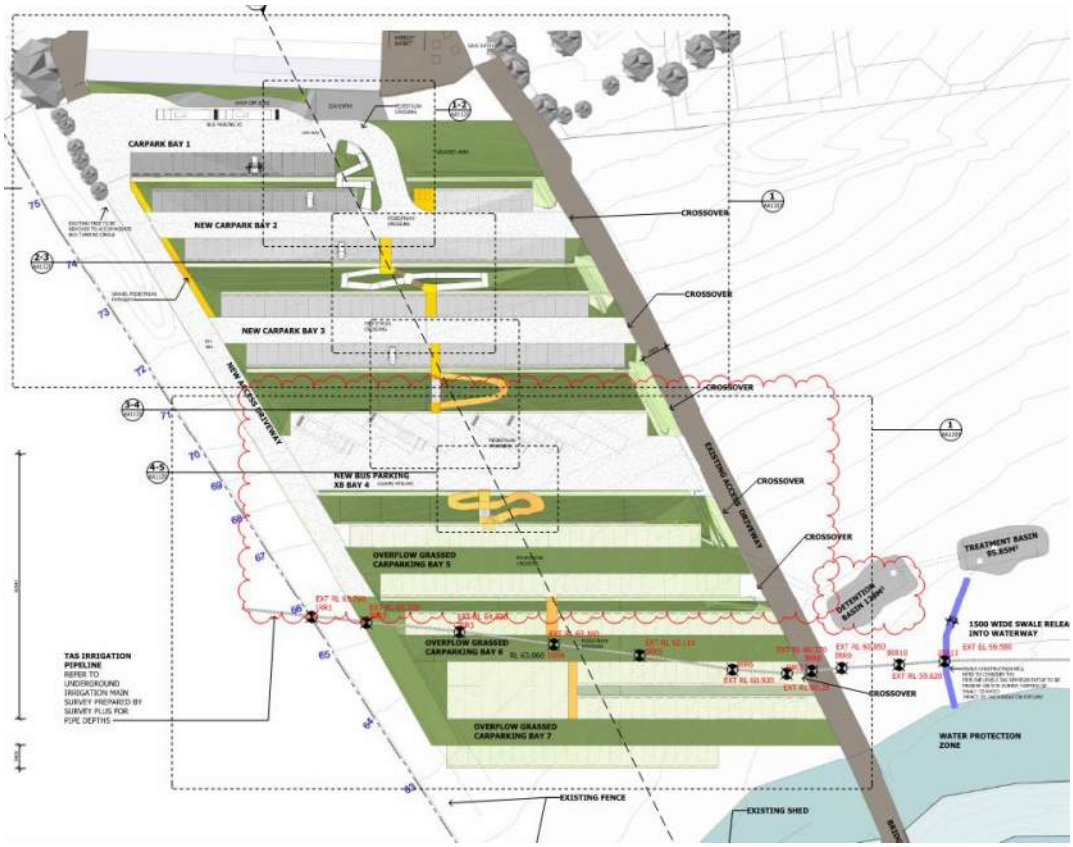
— 7 grass long-vehicle parking spaces

— 161 grass overflow car parking spaces.

A carpark plan is provided in Figure 3-1.

The carpark would be delivered in stages, and progressively expanded in response to the visitation needs of the zoo. The entire carpark expansion has been included in this current application to enable earthworks and drainage works to be constructed initially.

Figure 3-1: Proposed Carpark Layout Plan



Source: Wildspace Architects

4. Carpark and Access

4.1. Car Parking Needs

The existing car parking areas are approaching capacity.

Based on ticket sales information provided by Hobart Zoo and Aquarium for the months of December 2025 and January 2026, the estimated peak parking demands at the site are currently as follows:

— Weekday Average	40 spaces
— Weekend Average	60 spaces
— School Holidays Average	90 spaces
— School Holidays Peak	130 spaces

Given that the existing site contains 61 gravel spaces, overflow parking is regularly utilised particularly during school holiday periods and on weekends.

The estimated peak demand at the site of around 130 spaces is approaching the total parking capacity of the site including overflow (154 spaces) and further increases in zoo visitation, and additional staff hirings, warrant the provision of additional car parking at the site.

4.2. Assessment of Clause C2.5 Use Standards

Car Parking Supply

Clause C2.5.1-A1 states the following with respect to car parking numbers:

"A1 The number of on-site car parking spaces must be no less than the number specified in Table C2.1, less the number of car parking spaces that cannot be provided due to the site including container refund scheme space, excluding if:

(a) the site is subject to a parking plan for the area adopted by council, in which case parking provision (spaces or cash-in-lieu) must be in accordance with that plan;

(b) the site is contained within a parking precinct plan and subject to Clause C2.7;

(c) the site is subject to Clause C2.5.5; or

(d) it relates to an intensification of an existing use or development or a change of use where:

(i) the number of on-site car parking spaces for the existing use or development specified in Table C2.1 is greater than the number of car parking spaces specified in Table C2.1 for the proposed use or development, in which case no additional on-site car parking is required; or

(ii) the number of on-site car parking spaces for the existing use or development specified in Table C2.1 is less than the number of car parking spaces specified in Table C2.1 for the proposed use or development, in which case on-site car parking must be calculated as follows:

N = A + (C- B)

N = Number of on-site car parking spaces required
A = Number of existing on site car parking spaces
B = Number of on-site car parking spaces required for the existing use or development specified in Table C2.1.
C= Number of on-site car parking spaces required for the proposed use or development specified in Table C2.1."

Given that the proposed development is an intensification of the existing use, the exclusion in (d)(ii) applies. The use is classified as a 'Tourist Operation' for which the applicable car parking requirement from Table C2.1 is 1 space per 200 m^2 of floor area or 1 space for each 500 m^2 of the site area, whichever is greater.

Given that the site area will not change as a result of the proposed development, B and C in the above formula are equal. The proposed development therefore does not require additional car parking to be provided, and in fact significantly reduces the existing car parking deficit, and complies with the acceptable solution A1 of Clause C2.5.1.

Bicycle Parking

Clause C2.5.2-A1 states the following with respect to bicycle parking numbers:

"A1 Bicycle parking spaces must:
(a) be provided on the site or within 50m of the site; and
(b) be no less than the number specified in Table C2.1."

From Table C2.1, the bicycle parking requirement for 'Tourist Operation' is 1 space per 1,000 m^2 of floor area or 2,500 m^2 of site area, whichever is the greater. Given a site area of around 39 hectares, the proposed development would require 156 bicycle parking spaces to be provided.

The proposal relies on the performance criteria as follows:

"P1 Bicycle parking spaces must be provided to meet the reasonable needs of the use, having regard to:
(a) the likely number of users of the site and their opportunities and likely need to travel by bicycle; and
(b) the availability and accessibility of existing and any planned parking facilities for bicycles in the surrounding area."

Given the remote nature of the site, and its internal layout, the need and opportunity for travel by bicycle is very low. Middle Tea Tree Road is not conducive to cyclists and it is unlikely that there would be any demand for bicycle parking at the site. Accordingly, the proposed supply of zero bicycle parking spaces is appropriate and consistent with Clause C2.5.2-P1.

Motorcycle Parking

Clause C2.5.3-A1 states the following with respect to motorcycle parking numbers:

"A1 The number of on-site motorcycle parking spaces for all uses must:
(a) be no less than the number specified in Table C2.4; and
(b) if an existing use or development is extended or intensified, the number of on-site motorcycle parking spaces must be based on the proposed extension or intensification, provided the existing number of motorcycle parking spaces is maintained."

The number of motorcycle spaces required is calculated as a proportion of the number of car parking spaces required. Given that this does not increase, the proposed development is not required to provide motorcycle parking as per Clause C2.5.3-A1(b).

Notwithstanding, four motorcycle parking spaces are provided, in excess of requirements, to cater for this potential mode of travel to the site.

4.3. Carpark Layout

While noting that the proposed carpark will be informally arranged (without delineation of individual spaces), the proposed capacity of the expanded carpark is estimated based on a space width of 2.5 metres as follows:

Table 4-1: Proposed Carpark Capacity

Bay Number	Car Parking Capacity	Surface	Comment
Bay 1	17	Gravel	Existing gravel car parking area, includes 2x new bus drop-off bays and 4x DDA parking spaces
Bay 2	62	Gravel	Includes 4x motorcycle parking spaces
Bay 3	66	Gravel	
Bay 4	-	Gravel	Flexible layout allows 8x bus parking spaces
Bay 5	64	Grass	Overflow parking
Bay 6	58	Grass	Overflow parking, includes 7x long vehicle parking spaces
Bay 7	46	Grass	Overflow parking
Total	**313**		

The proposed parking supply of 313 spaces is considered sufficient to cater for the expected needs of the zoo for the foreseeable future, with capacity to cater for around 140% growth in current visitation.

Four of the proposed new car parking bays will have a gravel surface and will not be linemarked. The two southernmost bays will be overflow parking on a grassed surface. Each parking bay has a total width of 16.8 metres which is sufficient to accommodate one parking aisle having a width of 6.0 metres and parking space lengths of 5.4 metres either side.

This exceeds the requirements of Australian Standard AS 2890.1, *Parking facilities – Part 1: Off-street car parking* (2004) for User Class 2 parking.

Each of the proposed parking bays has a maximum gradient of 5% (1 in 20), measured in both directions, which meets the gradient requirements of AS 2890.1 and would permit stormwater to drain into the proposed drainage channels at the bottom side of each parking bay.

Earthworks batters with a typical maximum gradient of 3% (1 in 3), and having varying lengths, are proposed between each of the car parking bays to minimise the amount of earthworks required to construct the expanded carpark.

Batters will be non-traversable and it is recommended that low-profile wheelstops or other barrier be provided to prevent vehicles travelling beyond the ends of parking spaces, particularly on the bottom side of each parking bay. These could be formed from natural materials in keeping with the theme of the carpark and zoo.

Access roads at either end of the parking bays will have a width of approximately 6.0 metres, which satisfies the Standard.

Motorcycle parking spaces will have a width of 1.2 metres and a length of 2.5 metres.

There will be a pedestrian pathway running through the carpark which will link all of the proposed parking bays to the building entrance. Ramps will permit access by prams. Formal crossing points will be signposted to alert drivers to the presence of pedestrians in these areas.

Based on the above assessment, the proposed carpark layout is considered to comply with the normal requirements of Australian Standard AS 2890.1 and complies with Clause C2.6.2-A1.1 of the Planning Scheme.

4.4. Accessible Car Parking

The National Construction Code 2025 (NCC) sets out the required number of accessible car parking spaces. For a Class 9b building, Part D4 of the NCC requires 1 accessible car parking space for every 50 car parking spaces or part thereof.

Given a total supply of 145 formal (gravel) car parking spaces, a minimum of three (3) accessible spaces are required. The proposed carpark redevelopment provides four dedicated accessible car parking spaces and complies with this requirement.

Accessible car parking spaces are located as close as practicable to the main entry point to the building and are designed on relatively level terrain, with adjacent shared areas, with dimensions generally in accordance with Australian Standard AS 2890.6.

The accessible car parking spaces and shared areas should be provided with a slip resistant surface in accordance with AS 2890.6. This could comprise a concrete hardstand, a bituminous seal or other gravel bonding agent in order to ensure a safe environment for mobility impaired users.

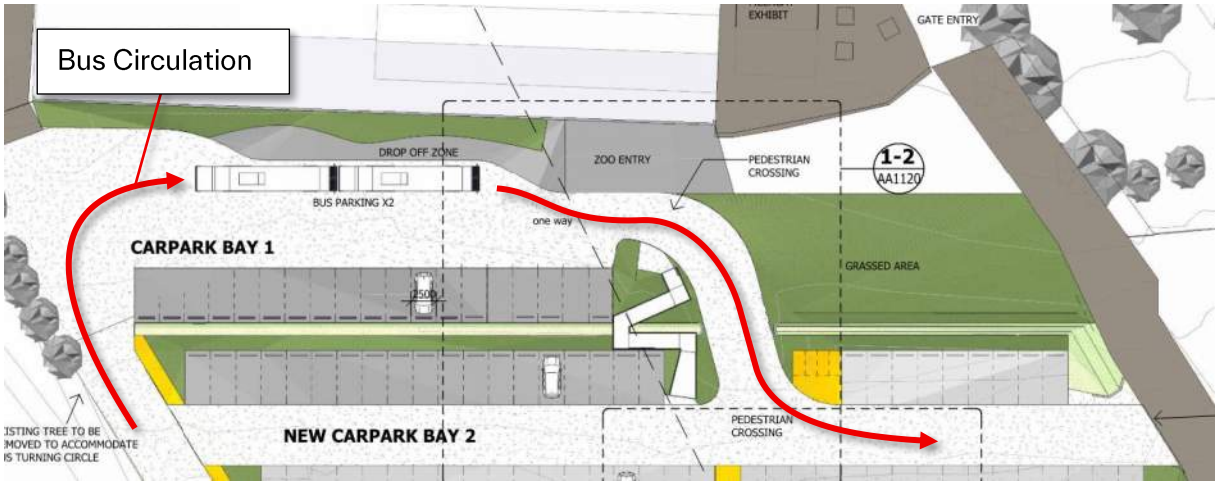
Based on the above assessment, the proposed accessible car parking spaces generally comply with Clause C2.6.2-A1.2 of the Planning Scheme.

4.5. Bus Access

The proposed amendments to the carpark provide improved bus drop-off facilities and a dedicated medium- to long-term bus parking area on the site. A bus parking bay having dimensions 26 metres x 3 metres is proposed adjacent to the main building entrance to facilitate drop-off or pick-up for up to two buses simultaneously as shown in Figure 4-1.

Note that in order to facilitate access to the bus drop-off, one existing tree may require removal.

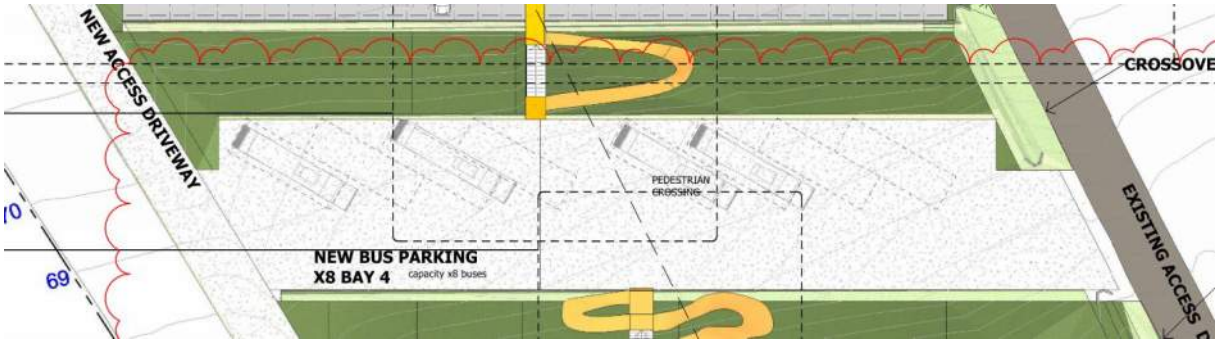
Figure 4-1: Bus Drop-off Bays



Source: Wildspace Architects

The bus parking area has been designed within a 17 metre wide parking bay to enable flexible use of these spaces. A total of 8 bus parking spaces can be accommodated in a 30-degree arrangement as shown in Figure 4-2.

Figure 4-2: Indicative Bus Parking Layout



Source: Wildspace Architects

Buses will circulate the site in a clockwise direction between the main access driveway, the front-of-house drop-off area, and the bus parking bay.

A swept path assessment demonstrating access by a standard 12.5 metre long rigid bus design vehicle is provided in Appendix A.

4.6. Carpark Surface

The proposed carpark will comprise a mix of formal, gravel car parking bays and informal overflow parking (with grass surface). Access roads will be gravel. The provision of a gravel surface is preferred to maintain the rural look and feel of the property and the car parking area.

Given that the subject site is located within the Agriculture Zone, there is no requirement under Clause C2.6.1 to provide a sealed pavement surface and the proposed gravel parking areas comply with the acceptable solution A1 because the will be constructed with a durable all-weather gravel pavement, and will adequately contain stormwater on-site in the proposed detention basin.

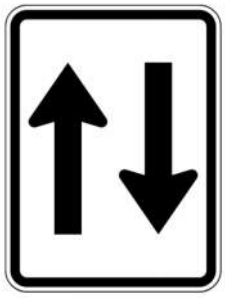
Grass overflow parking areas may be formalised and treated with a gravel surface in the future, subject to further design and investigation including stormwater considerations.

It is noted that this report recommends that the access point to Middle Tea Tree Road be sealed to the property boundary in order to minimise any potential impact of dust or debris being transported onto the road carriageway (refer Section 4.8).

4.7. Local Traffic Management

Given that the carpark will be gravel surface, the primary means of local traffic management will be communicated through signage throughout the site. It is recommended that the following signage be provided:

Table 4-2: Recommended Signage

Ref	Name	Image
R3-1	Pedestrian Crossing	
R2-4	NO ENTRY	
R2-11	Two-Way	

The Pedestrian Crossing (R3-1) sign should be used at all locations where the pedestrian link crosses a parking aisle or roadway. Each crossing should include four sign faces comprising a back-to-back sign on each side of the road.

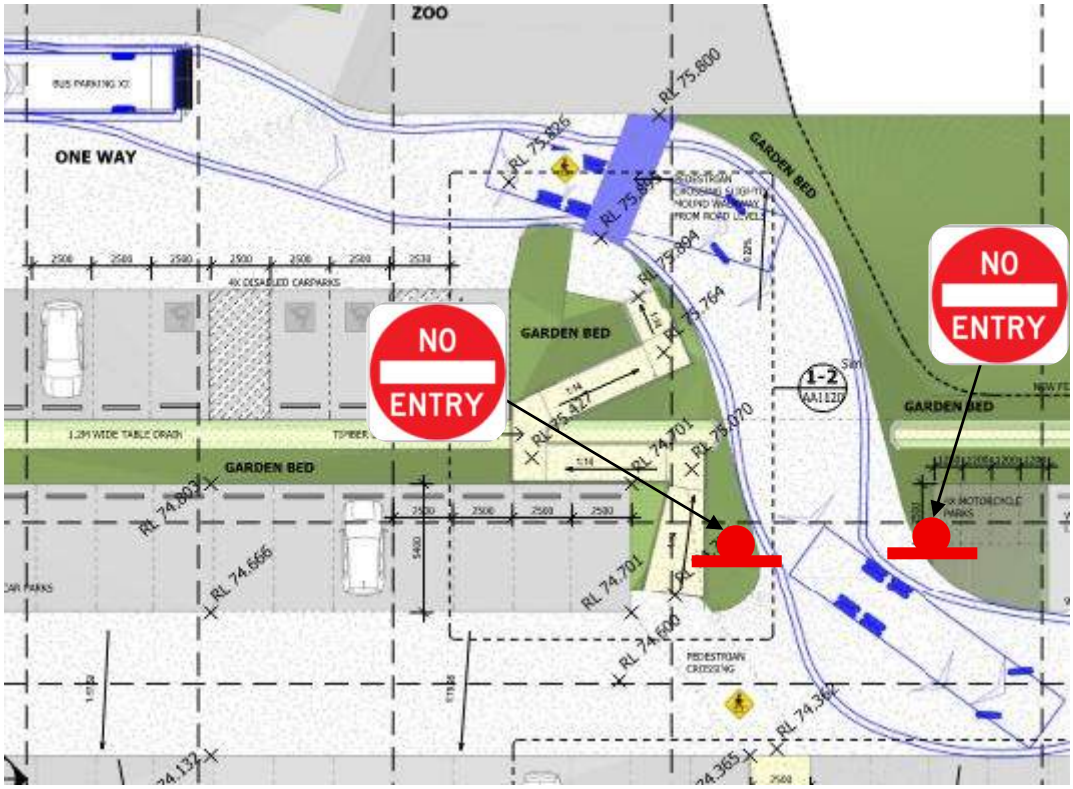
The NO ENTRY (R2-4) sign is required at the exit point from the bus drop-off area as shown in Figure 4-3 to enforce one-way traffic at this location.

The Two-Way sign (R2-11) should be provided at semi-regular intervals along the access roads running along either end of the parking bays.

In addition to the above standard signs, it is recommended that additional signage be provided to direct buses to use the parking bay dedicated to bus parking for circulation through the site

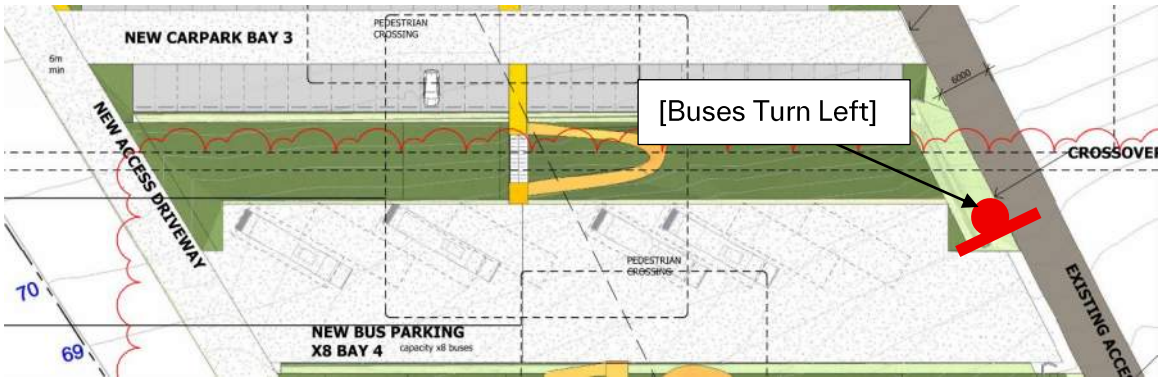
to prevent buses travelling through general parking areas. This would be a non-standard sign with a custom image and text. The recommended location is indicated in Figure 4-4.

Figure 4-3: Recommended NO ENTRY Signs



Source: Wildspace Architects

Figure 4-4: Recommended Bus Directional Sign



Source: Wildspace Architects

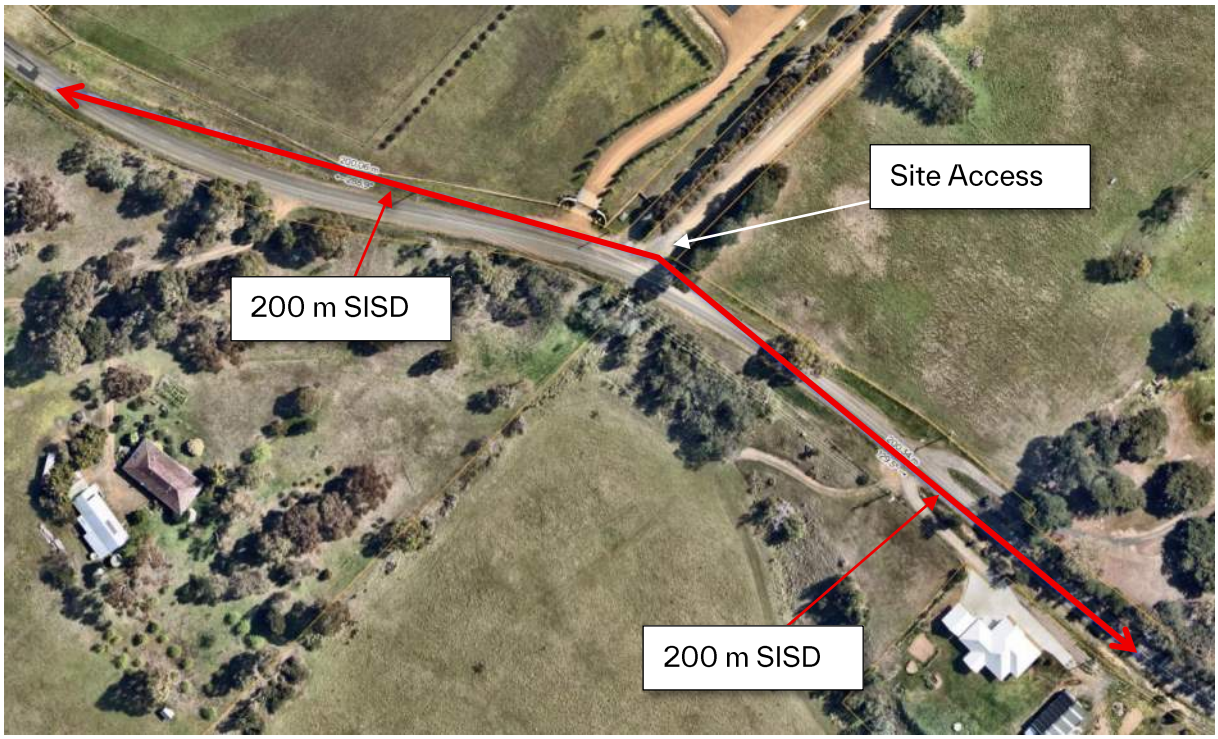
4.8. Site Access

The existing site access point at Middle Tea Tree Road comprises an approximately 5.5 metre wide gravel access road, with significant flaring at the edge of the road carriageway. A large gravel apron is shared with the two neighbouring driveways located immediately to the west, providing sufficient space for turning of cars and buses.

Given the current use of the access, and potential for increase in activity over time, it is recommended that the access point be sealed with a minimum width of 5.5 metres (plus flaring) between the property boundary and the road carriageway. This will limit the potential for dust and debris to be tracked onto the public road and will improve safety and manoeuvring, particularly in wet conditions.

The access point is located on the outer edge of the bend in the road such that there are clear sight lines in each direction for a distance of at least 160 metres (as required by AS 2890.1) and 197 metres (as recommended by Austroads). This is demonstrated in Figure 4-5.

Figure 4-5: Available 200 m Sight Distance



Source: Nearmap Imagery © 2026 Nearmap, HERE (https://apps.nearmap.com/)

Given existing peak traffic volumes on Middle Tea Tree Road are no more than around 100 vehicles per hour (one every 36 seconds or so), and a relatively high proportion of this traffic would be accessing the subject site, there are no capacity issues anticipated at the site access and vehicles do not typically experience delays when entering or leaving the site.

A swept path assessment showing the use of the access point by buses is provided in Appendix A. It is recommended that minor widening be provided to allow bus passing within the access point, and for buses turning left out of the site not to cross the centre line on Middle Tea Tree Road. The extent of widening is shown approximately in Appendix A and would be confirmed during detailed design of the access point.

It is further recommended that any widening have gravel surface (rather than sealed) so as not to encourage cars to use the access point at high speeds.

5. Traffic Assessment

5.1. Acceptable Solution

Clause C3.5.1-A1.4 of the Planning Scheme requires that:

> *"Vehicular traffic to and from the site, using an existing vehicle crossing or private level crossing, will not increase by more than:*
> *(a) the amounts in Table C3.1; or*
> *(b) allowed by a licence issued under Part IVA of the Roads and Jetties Act 1935 in respect to a limited access road."*

Given that Middle Tea Tree Road is not a limited access road, the threshold amounts in Table C3.1 are:

— For vehicles up to 5.5m long

- 20% or 40 vehicle movements per day, whichever is the greater.

— For vehicles longer than 5.5m long

- 20% or 5 vehicle movements per day, whichever is the greater.

It is noted that the above thresholds relate to *annual average daily traffic* (AADT) rather than traffic activity during the seasonal peak.

5.2. Existing Traffic Generation

Based on ticket sales information provided by the zoo, the existing daily traffic to and from the site is estimated as follows:

— Weekday Average	120 vehicles per day
— Weekend Average	210 vehicles per day
— School Holidays Average	340 vehicles per day
— School Holidays Peak	470 vehicles per day

The daily traffic profile is likely characterised by an influx of staff and visitors in the morning before and after opening at 9:00 am, followed by a relatively consistent inflow and outflow of vehicles during the middle portion of the day as guests arrive and depart, with a gradual emptying of the carpark throughout the afternoon period before closing at 5:00 pm.

Peak activity at the driveway is estimated to be around 70 vehicle movements per hour (35 in and 35 out) on the busiest day during the school holiday period. Traffic at all other times is considerably lower than this.

5.3. Traffic Generation

The traffic generation arising from this proposed development is difficult to determine as the proposed expansion of the carpark is intended to respond to the needs of the zoo over time,

and to future-proof the site for increasing visitation, rather than to generate additional visitation on its own. Similarly, the proposed playground would be part of the overall zoo site, and will not independently generate traffic.

However, it is highly unlikely that the threshold of 20% light vehicles or 5 heavy vehicles per day would be exceeded on an average annual basis and therefore the proposed development likely complies with the acceptable solution.

However, for completion, an assessment against performance criteria of Clause C3.5.1 has also been undertaken.

5.4. Performance Criteria Assessment

The performance criteria of Clause C3.5.1-P1 are assessed as follows:

> *"Vehicular traffic to and from the site must minimise any adverse effects on the safety of a junction, vehicle crossing or level crossing or safety or efficiency of the road or rail network, having regard to:*

(a) any increase in traffic caused by the use;

The proposed development is not expected to significantly increase the existing traffic travelling to and from the site. Rather, the proposed carpark expansion is intended to respond to the needs of the zoo over time by providing additional capacity to cater for growth.

(b) the nature of the traffic generated by the use;

The site generates primarily light vehicle traffic.

The proposed amendments to the car parking provides dedicated facilities for buses including a bus drop-off area and medium-term bus parking on the site.

The existing access point on Middle Tea Tree Road is appropriately sized to accommodate left and right turns by buses with wide splays and a minimum 5.5 metre wide carriageway.

(c) the nature of the road;

Middle Tea Tree Road is a rural collector road. It has a sealed width of approximately 6 metres, allowing two-way traffic, with gravel shoulders either side. The construction of the road is consistent with Tasmanian Standard Drawing TSD-R02-v3 *Rural Roads Sealed* for a Code S4 road carrying up to 2,000 vehicles per day and is suitable for buses.

(d) the speed limit and traffic flow of the road;

The speed limit on Middle Tea Tree Road is 100 km/h, consistent with other rural roads of this standard.

Existing traffic volumes are estimated to be no more than around 1,000 vehicles per day, with peak volumes of up to 100 vehicles per hour. There is spare capacity within the road to accommodate any additional traffic that might be associated with the proposed development.

(e) any alternative access to a road;

There is no alternative access available.

(f) the need for the use;

Not relevant.

(g) any traffic impact assessment; and

This traffic impact statement has been prepared for the proposal and has demonstrated that the proposed carpark layout, bus access arrangements and site access are suitable for the expected use.

(h) any advice received from the rail or road authority."

No specific advice has been received from the road authority at this stage. This report has been prepared in response to a request for further information issued by Council.

Having regard to the above discussion, the proposed development minimises the potential impacts on the safety of the site access and the safety and efficiency of the road network for the following reasons:

— The proposed carpark expansion is not expected to generate additional traffic, rather respond to natural growth in visitation to the site over time.

— The site access provides sufficient visibility in both direction for the prevailing vehicle speeds.

— This report recommends the sealing of the access point up to the property boundary to minimise the tracking of dust and debris onto the road surface.

— Existing traffic volumes on Middle Tea Tree Road are relatively low and well within the capacity of the road.

The proposed development is considered to comply with the performance criteria of Clause C3.5.1-P1 of the Planning Scheme.

5.5. Assessment of Potential Future Conditions

Capacity of Middle Tea Tree Road

In order to fully assess the capacity of Middle Tea Tree Road, a review of the potential maximum traffic generation of the zoo, under a scenario where all carparks are fully utilised, has also been undertaken.

The existing peak parking demand is estimated to be around 130 car parking spaces. The proposed carpark expansion would increase the supply to 313 spaces (including overflow parking) representing a potential 140% increase in peak visitation. Assuming a 50/50 directional split of traffic approaching from the east (Richmond) and the west (Brighton), the increase in traffic on Middle Tea Tree Road would be as follows:

Table 5-1: Potential Future Traffic on Middle Tea Tree Road

Scenario	Existing Daily Volume[1]	Additional 140% Zoo Traffic	Estimated Future Daily Volume
Weekday Average	~1,000	+169	1,169
Weekend Average	~1,000	+296	1,296
School Holidays Average	~1,220	+479	1,699

[1] Includes existing zoo traffic

School Holidays Peak	~1,350	+662	2,012

Based on Table 5-1, Middle Tea Tree Road could be expected to carry around 1,169 to 1,296 vehicles per day during normal conditions when the expanded zoo carpark is operating at full capacity. During school holiday periods, this may increase to around 1,699 vehicles per day on average with a maximum of 2,012 vehicles on the peak day.

Given that Middle Tea Tree Road has a width and construction consistent with a Code S4 road carrying an AADT of 2,000 vehicles per day, it is expected that the existing road can accommodate future traffic flows and does not require any upgrade at this time.

Site Access Treatment

The Austroads publication, *Guide to Traffic Management – Part 6: Intersections, Interchanges and Crossings Management* (2020), provides guidance on the selection of turn treatments at intersections and property accesses.

The requirements for turn lanes are based on:

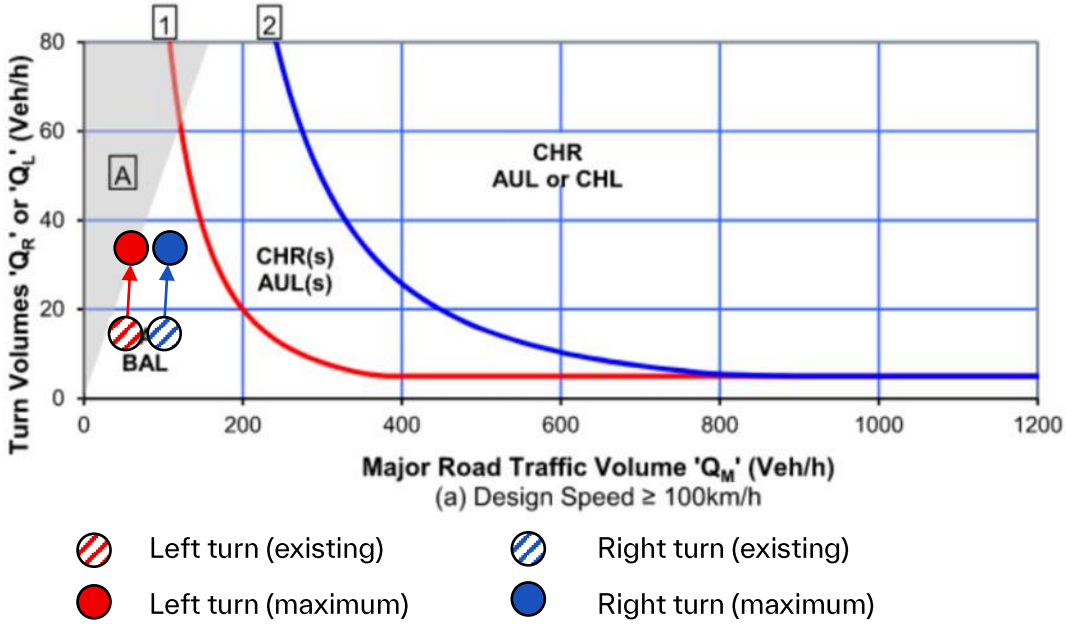
— The design speed of the frontage road

— The major road traffic volume

— The volume of traffic turning left or right into the site

In this case, it is appropriate to consider the average traffic during school holiday periods as the peak period for turns into the site. Given a speed limit of 100 km/h on Middle Tea Tree Road, and assumed peak hour traffic volumes of up to 100 vehicles per hour (two-way) with very little future background growth, the Austroads warrants for turn lanes fall squarely within the BAR/BAL area as shown in Figure 5-1:

Figure 5-1: Austroads Warrants for Turn Lanes



Based on the above, it is clear that a formal channelised turn lane is unlikely to be warranted at the site access point even when the proposed carpark is operating at maximum capacity. However, it is acknowledged that shoulder widening in the form of a Basic Left (BAL) and Basic Right (BAR) may at some point be required depending on the growth in visitation at the site.

The existing conditions are based on a total entering volume of 30 vehicles per hour on a typical school holiday during the morning peak arrival period. While a strict adoption of Austroads warrants would consider the provision of a BAL and BAR treatment, the current use and performance of the access point indicates that it currently operates with a high degree of safety, and low traffic delay and queuing, and does not require upgrade at present.

When the carpark is operating at full capacity (i.e. all spaces *including overflow spaces* being utilised) the peak arrival volumes are expected to be up to 70-75 vehicles per hour during the morning period.

It is appropriate to consider upgrading the access point to include a BAL and BAR treatment once both the left and right turning volumes exceed around 25 vehicles per hour (or a total of 50 entering vehicles per hour total). This represents an increase by around 67% of current visitation or a 5% increase year-on-year over around 10 years and is roughly equivalent to the construction of the three gravel parking bays plus the bus parking area.

The timing of this upgrade should coincide with the opening of the first overflow parking bay (Bay 5).

6. Conclusion

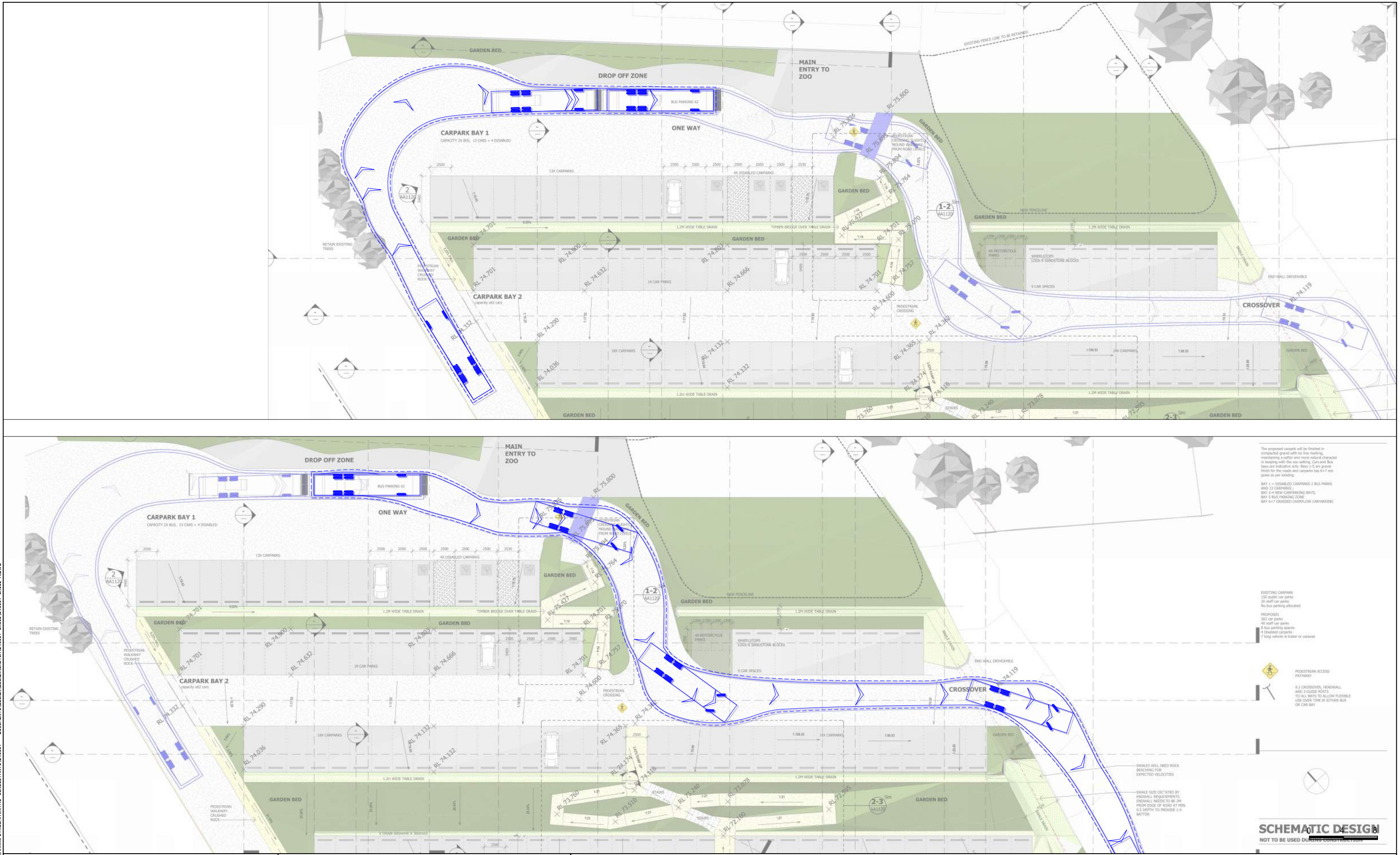
This report has investigated the potential traffic and parking impacts of the proposed playground and expansion of the carpark at the Hobart Zoo and Aquarium, 620 Middle Tea Tree Road, Tea Tree.

The key findings are as follows:

- The proposed carpark will provide a total of 313 car parking spaces (including 4 accessible parking spaces and 7 long vehicle spaces), 4 motorbike spaces, 8 bus parking spaces, and 2 dedicated bus drop-off bays.
- It will be progressively expanded over time in order to suit the visitation needs of the zoo.
- The proposed development complies with Clause C2.5.1-A1 (car parking numbers), Clause C2.5.2-P1 (bicycle parking numbers) and Clause C2.5.3-A1 (motorcycle parking numbers).
- The proposed carpark layout generally complies with the requirements of Australian Standard AS 2890.1 with respect to its dimensions and gradients.
- Low-profile wheelstops, or other barrier, should be provided to prevent vehicles travelling beyond the end of parking spaces and traversing the vegetated batters between parking bays.
- Bus access and circulation is suitable as demonstrated in Appendix A. Entry movements to the bus drop-off area may require removal of one tree.
- Signage should be used to manage traffic within the site including the use of Pedestrian Crossing (R3-1), NO ENTRY (R2-4) and Two-Way (R2-11) signs as well as bus directional signage.
- The existing site access is suitable for the existing and proposed use, however this report recommends the access point be sealed between the property boundary and the edge of Middle Tea Road and additional gravel widening provided for bus access as identified in Appendix A.
- The proposed development complies with the acceptable solution of Clause C3.5.1-A1.4.
- For completion, an assessment against Clause C3.5.1-P1 has also been undertaken and the proposed development complies with the performance criteria as well.
- An assessment of potential future traffic volumes indicates that Middle Tea Tree Road would operate generally within its capacity when the zoo is operating at the maximum capacity of the expanded carpark.
- No upgrade to the access point is considered to be required at present, however future growth in visitation at the zoo may warrant the provision of a Basic Left (BAL) and Basic Right (BAR) treatment coinciding with the opening of the first overflow parking bay.

Based on the findings of this report, and subject to any recommendations listed above, the proposed development is supported on traffic and transport grounds.

Appendix A



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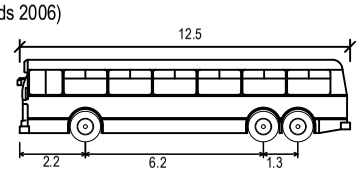

VEHICLE ENVELOPE (FORWARD)	VEHICLE ENVELOPE (REVERSE)	Overall Length	12.500m
		Overall Width	2.500m
		Overall Body Height	4.300m
		Min Body Ground Clearance	0.417m
500mm CLEARANCE (FORWARD)	500mm CLEARANCE (REVERSE)	Track Width	2.500m
		Lock to Lock Time	6.00 sec
		Curb to Curb Turning Radius	12.500m

PROPOSED CARPARK MODIFICATIONS
HOBART ZOO AND AQUARIUM
BUS DROP-OFF AREA

NOTE:
1) Base Plan Supplied By Wildspace Architects
2) Maximum Design Speed 5km/h

RATIO REFERENCE	SHEET No.	PREPARED BY	SCALE	DATE
24336T-SK002-A	1 of 4	M.P.	1:400 @A3	1/05/2026

The proposed carpark will be finished in compacted gravel with no line marking, maintaining a softer and more natural character in keeping with the zoo setting. Cars and Bus bays are indicative only. Bays 1-5 are gravel finish for the roads and carparks bay 6+7 are grass as per existing

BAY 1 = DISABLED CARPARKS 2 BUS PARKS AND 13 CARPARKS ;
BAY 2+3 NEW CARPARKING BAYS;
BAY 5 BUS PARKING ZONE
BAY 6+7 GRASSED OVERFLOW CARMARKING

EXISTING CARPARK
150 public car parks
20 staff car parks
No bus parking allocated

PROPOSED
262 car parks
40 staff car parks
8 bus parking spaces
4 Disabled carparks
7 long vehicle ie trailer or caravan

PEDESTRIAN ACCESS PATHWAY

9.2 CROSSOVER, HEADWALL AND 3 GUIDE POSTS TO ALL BAYS TO ALLOW FLEXIBLE USE OVER TIME IE EITHER BUS OR CAR BAY

SWALES WILL NEED ROCK BEACHING FOR EXPECTED VELOCITIES

SWALE SIZE DICTATED BY ENDWALL REQUIREMENTS. ENDWALL NEEDS TO BE 2M FROM EDGE OF ROAD AT MIN. 0.5 DEPTH TO PROVIDE 1:4 BATTER

SCHEMATIC DESIGN

NOT TO BE USED DURING CONSTRUCTION

Issue	Description	Date	Chk	Auth
G	DEVELOPMENT APPLICATION - updatec carpark Bay 4	29.04.2026		
F	DEVELOPMENT APPLICATION - additional information	tbc	CB	
E	DEVELOPMENT APPLICATION	19.03.2026	CB	-
D	FOR COORDINATION	18.02.2026	CB	-
C	FOR INFORMATION ONLY	28.01.2026	CB	-
B	FOR COORDINATION	21.11.2025	CB	-
A	FOR INFORMATION	26.09.2025	CB	-

Architect/ Designer

WILDSPACE ARCHITECTS

Client

HOBART ZOO AND AQUARIUM

Project

Hobart Zoo + Aquarium

Location

620 Middle Tea Tree Rd, Tea Tree TAS 7017

Project Number

25 005

ratio:

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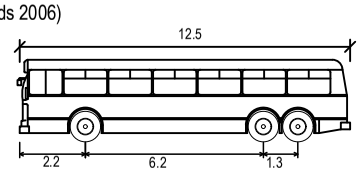

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		Overall Body Height	4.300m
		Min Body Ground Clearance	0.417m
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		Curb to Curb Turning Radius	12.500m

PROPOSED CARPARK MODIFICATIONS
HOBART ZOO AND AQUARIUM
BUS PARKING AREA ACCESS

NOTE:
1) Base Plan Supplied By Wildspace Architects
2) Maximum Design Speed 5km/h

RATIO REFERENCE	SHEET No.	PREPARED BY	SCALE	DATE
24336T-SK002-A	2 of 4	M.P.	1:400 @A3	1/05/2026

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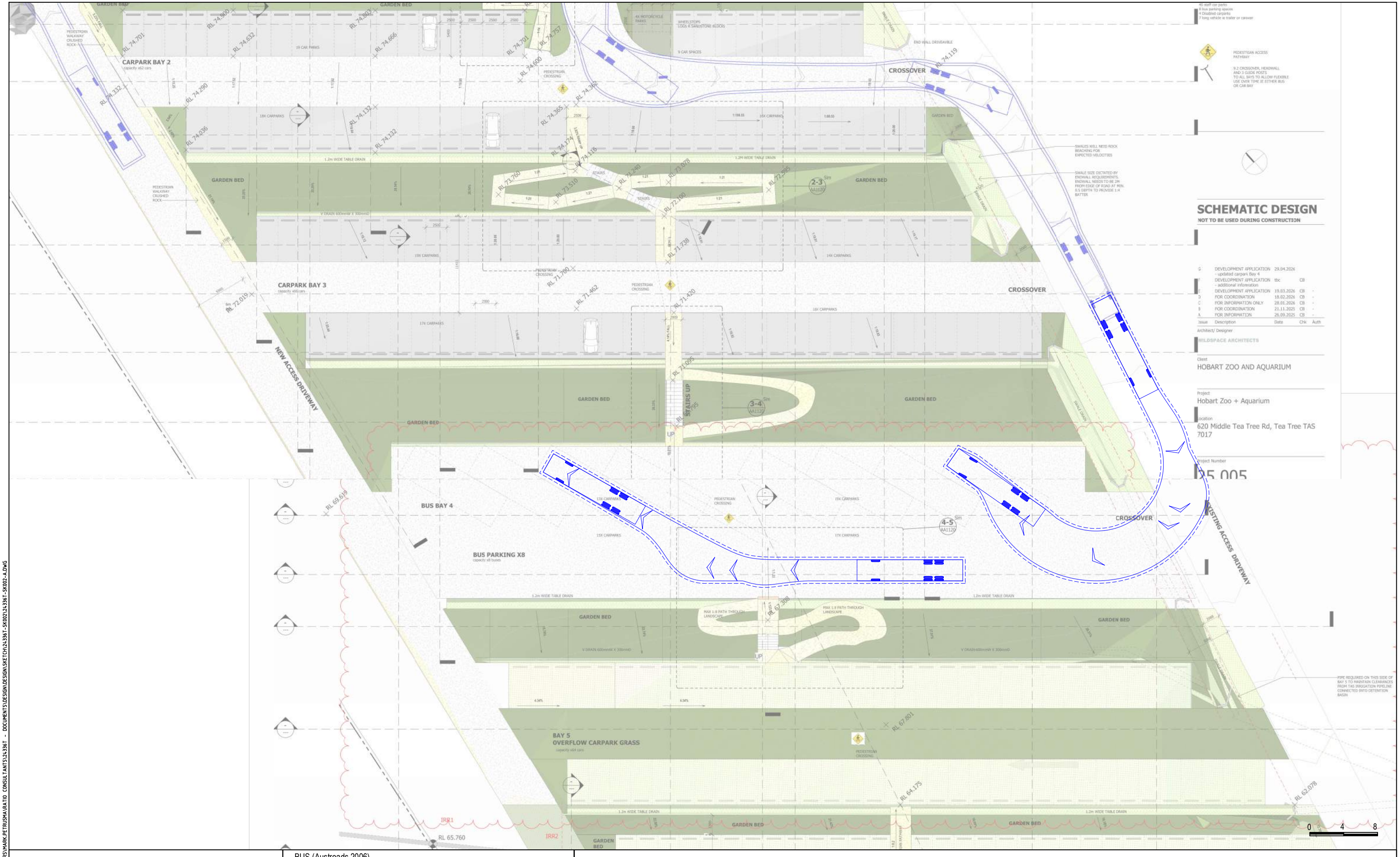

90 staff car parks
6 bus parking spaces
4 Disabled carparks
7 long vehicle ie trailer or caravan

PEDESTRIAN ACCESS PATHWAY

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NOT TO BE USED DURING CONSTRUCTION

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B	FOR COORDINATION	21.11.2025	CB	-
A	FOR INFORMATION	26.09.2025	CB	-

Architect/ Designer

WILDSPACE ARCHITECTS

Client

HOBART ZOO AND AQUARIUM

Project

Hobart Zoo + Aquarium

Location

620 Middle Tea Tree Rd, Tea Tree TAS 7017

Project Number

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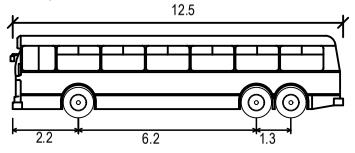

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PROPOSED CARPARK MODIFICATIONS
HOBART ZOO AND AQUARIUM
BUS PARKING AREA ACCESS

NOTE:
1) Base Plan Supplied By Wildspace Architects
2) Maximum Design Speed 5km/h

RATIO REFERENCE	SHEET No.	PREPARED BY	SCALE	DATE
24336T-SK002-A	3 of 4	M.P.	1:400 @A3	1/05/2026

Client	Date
Hobart Zoo and Aquarium	20 April 2026

Civil Engineering Advice

Hobart Zoo and Aquarium

620 Middle Tea Tree Road, Hobart, Tasmania

ratio:

Planning
Transport
Urban Design
Waste Management
Landscape Architecture
Civil Engineering

ratio.com.au

Project 620 Middle Tea Tree Road, Hobart, Tasmania	**Prepared for** Hobart Zoo and Aquarium **Our reference** 24336CV

Directory path 24336CV-REP-Civil Engineering Advice

Version	Date	Issue	Prepared by	Checked by
1	17/10/2026	Preliminary	Tim Beckmans	Hugh McCormick
2	24/03/2026	Following Client Comment	Tim Beckmans	Hugh McCormick
3	20/04/2026	Updated to include Climate Change Factor in Hydraulic Design	Lars Ralph	Hugh McCormick

Acknowledgement of Country

We acknowledge the Traditional Owners of the land we work, live and travel on, and appreciate the rich cultures of the Aboriginal and Torres Strait Islander Peoples and their enduring connection to country.

Table of Contents

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1. Introduction

1.1. Project Background

The Hobart Zoo and Aquarium are proposing to provide a new on-site car parking facility at their established site located at 620 Middle Tea Tree Road (Plan Number 12952/3) in Hobart. The new car park will support the operational needs of the zoo and aquarium, improve visitor experience, provide accessible parking and ensure safe and efficient vehicle and pedestrian movement across the site.

Ratio have been engaged by Hobart Zoo and Aquarium to provide civil engineering advice on the works associated with the proposed carpark roadworks, on-site stormwater system including stormwater detention requirements and water treatment.

1.2. Existing Site Conditions

The site is an existing rural property with undeveloped land to the north and development in the south consisting of the zoo and aquarium facility with unsealed access roads and gravel carparking.

Land topography generally slopes from the north-west to south-east of the site toward Pages Creek, with an average grade of approx. 6% across the entire property. It is noted however that the site noticeably steepens in the southern area closer to the Creek.

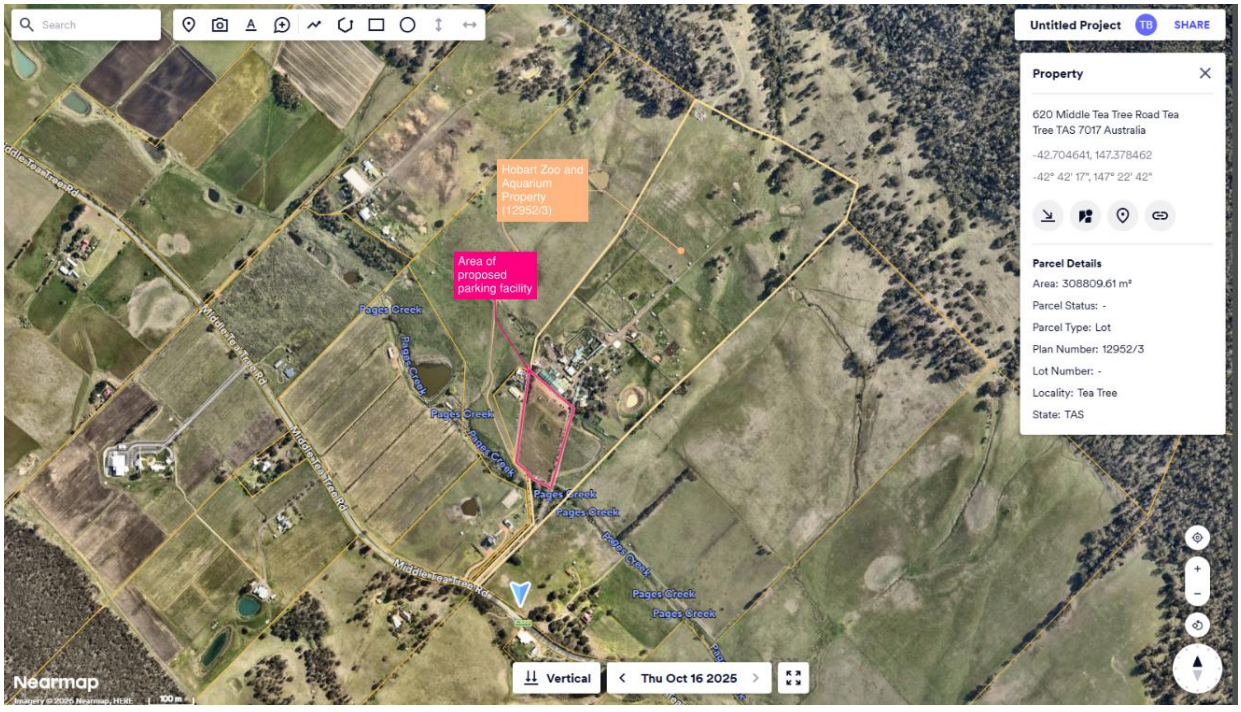


Figure 1 – Location of proposed carparking facility (image sourced from Nearmap)

1.3. Purpose of this Report

The purpose of this report is to provide Civil and Landscape advice on the proposed carpark work.

Civil Engineering:

- Provide advice on site stormwater system, including DRAINS and MUSIC models to inform the onsite stormwater detention requirements, sizing, location, flow restrictions and stormwater treatment.
- Civil report providing advice on the proposed stormwater system, treatment and carpark works.

Landscape:

- Provide advice on the batter treatment and planting, for inclusion in the Civil report. No allowance for concept plans.

2. Carpark Advice

2.1. Proposed Design

A schematic design has been prepared by Wildspace Architects for the proposed car parking and pedestrian access. The following drawings were issued to Ratio to inform the review and advice:

— Drawing number AA1102 Revision F dated and received 19 March 2026.

The design consists of an approx. 16,140 sq.m developed area for proposed parking areas and pedestrian access. It provides:

- One (1) no. existing car parking area redeveloped to provide drop off zones and bus, car and accessible parking.
- Three (3) no. new rows for gravel car parking with 5.4m x 2.5m bays and 6.2m wide aisles.
- Two (2) no. new rows for grassed overflow car parking with 5.4m x 2.5m bays and 6.2m wide aisles.
- One (1) no. new row for angled gravel bus parking and aisle total 17.7m wide
- New gravel access driveway along the western side of the site.
- New pedestrian crossing points and vacant bays located centrally in parking rows for access.
- Allocated space for stormwater detention and water treatment.

2.2. Landscape Advice

- Landscaped batter treatments between parking rows.
  - The planting within the car parking areas provides shade and visual relief, softening the expanse of hard surfaces while improving comfort for visitors and staff as they arrive and depart the zoo.
  - Canopy trees help reduce heat buildup across paved areas, contributing to a cooler microclimate and supporting the long-term health of the surrounding landscape
  - Understorey planting introduces seasonal variation in colour and texture, reinforcing a natural character that reflects the Tasmanian landscape and creates a welcoming transition from the car park to the zoo experience.
  - Together, the planting establishes a functional yet immersive arrival environment, enhancing biodiversity, improving environmental performance, and setting the tone for a visit centred on nature and wildlife.
- Planting on batters is proposed to provide soil stabilisation, reduce erosion and integrate the engineered slopes into the surrounding landscape.
  - Trees are proposed on the upper and lower portions of the batter where gradients allow, with a preference of 1:6, a maximum of 1:3, contributing to long-term slope stability, shade and landscape integration.
  - The selected species have been chosen for their ability to quick establishment, tolerate exposed conditions and provide a dense root structure to reinforce the soil profile.
  - A combination of grasses, strappy plants and low shrubs is recommended to create layered planting that stabilises both the surface and deeper soil layers. Dense planting will help achieve rapid ground coverage, reducing weed establishment and long-term maintenance requirements.
  - Species provide a robust planting mix capable of stabilising slopes, improving visual integration of the batters and contributing to the overall landscape performance of the site.
- Indicative planting schedule provided below

INDICATIVE PLANTING SCHEDULE			
BOTANIC NAME	**COMMON NAME**	**MATURE SIZE (H x W)**	**Native Status**
TREES & LARGE SHRUBS			
Acacia melanoxylon	Blackwood	15 x 10 m	Native
Allocasuarina monilifera	Necklace Sheoak	5 x 4 m	Native
Banksia marginata	Silver Banksia	8 x 4 m	Native
Bursaria spinosa	Prickly Box	4 x 3 m	Native
SHRUBS & GRASSES			
Aotus ericoides	Golden Pea	1.5 x 1.5 m	Native

Correa reflexa	Common Correa	1.5 x 2 m	Native
Diplarrena moraea	White Flag Iris	1 x 0.6 m	Native
Euryomyrtus ramosissima	Rosy Heath-Myrtle	1x1 m	Native
Gymnoschoenus sphaerocephalus	Button Grass	1.5 x 1.5 m	Native
Leptospermum lanigerum	Woolly Tea-Tree	5 x 4 m	Native
Lomatia tinctoria	Guitar Plant	2 x 2 m	Native
Poa labillardierei	Common Tussock-Grass	1.2 x 0.8 m	Native
Dianella tasmanica	Tasman Flax Lily	0.8 x0.8 m	Native
GROUNDCOVER			
Dichondra repens 'Emerald Falls'	Emerald Falls	0.1 m x spreading	Native
Myoporum parvifolium	Creeping Myoporum,	0.3 x1 m	Native
Hibbertia procumbens	Spreading Guinea-Flower	0.3 x 1 m	Native

2.3. Roads and Parking Areas

- Construction of parking areas, driveways and access roads should be completed in accordance with AS 2890.6 and the relevant Council standards.
- Longitudinal gradients and cross falls should be constructed within the allowable limits of these standards and guidelines, and intermediate changes kept to a minimum.

3. Stormwater Strategy

3.1. Brighton Council Requirements

Brighton City Council have requested information on the stormwater plans and design:

- Design and reporting should be in accordance with Tasmanian Stormwater Policy Guidance and Standards for Development as published by the Derwent Estuary Program and LGAT.
- Council is particularly interested in the design of the treatment basins to reduce pollutant run-off from the carpark, especially sediment associated with the gravel carpark.
- Figures for pre and post-development run-off should be calculated for Councils information.
- Drains should be shown on the drawings as dimensionally correct (including batters).
- The design should include any expected maintenance requirements.

3.2. Pre-Development (Existing) Conditions

The site generally consists of open surface swale drainage conveyed overland from north to south into Pages Creek. There is an existing bridge structure across the Creek, which flows in a west to east direction. Several dams are located north of the site surrounding the existing zoo and aquarium facility.

It is noted that there is a sizeable existing catchment upstream (north) of the proposed car parking facility site which drains toward it. For the purposes of this assessment, existing upstream catchments have not been considered in pre-development flow calculations. This is made on the basis that there are no works occurring upstream and the catchment will remain unchanged. It is expected that the existing upstream catchments will be considered in future design stages as required when sizing drainage infrastructure to suit the minor design rainfall event.

Calculations

Pre-development flows were estimated using DRAINS software to approximate existing conditions for comparative purposes. The following parameters were adopted:

- Hydrological Model = Initial Loss–Continuing Loss Model
- Minor Design Rainfall Event = 10% AEP
- Existing Sub-Catchment Area = 1.614 Ha
- Impervious Area (%) = 5%
- Impervious Area Retardance Coefficient (n) = 0.012
- Pervious Area (%) = 95%
- Pervious Area Retardance Coefficient (n) = 0.15

Pre-development flows for the 10% AEP minor design rainfall event were estimated to be in the order of 0.032 m^3/s.

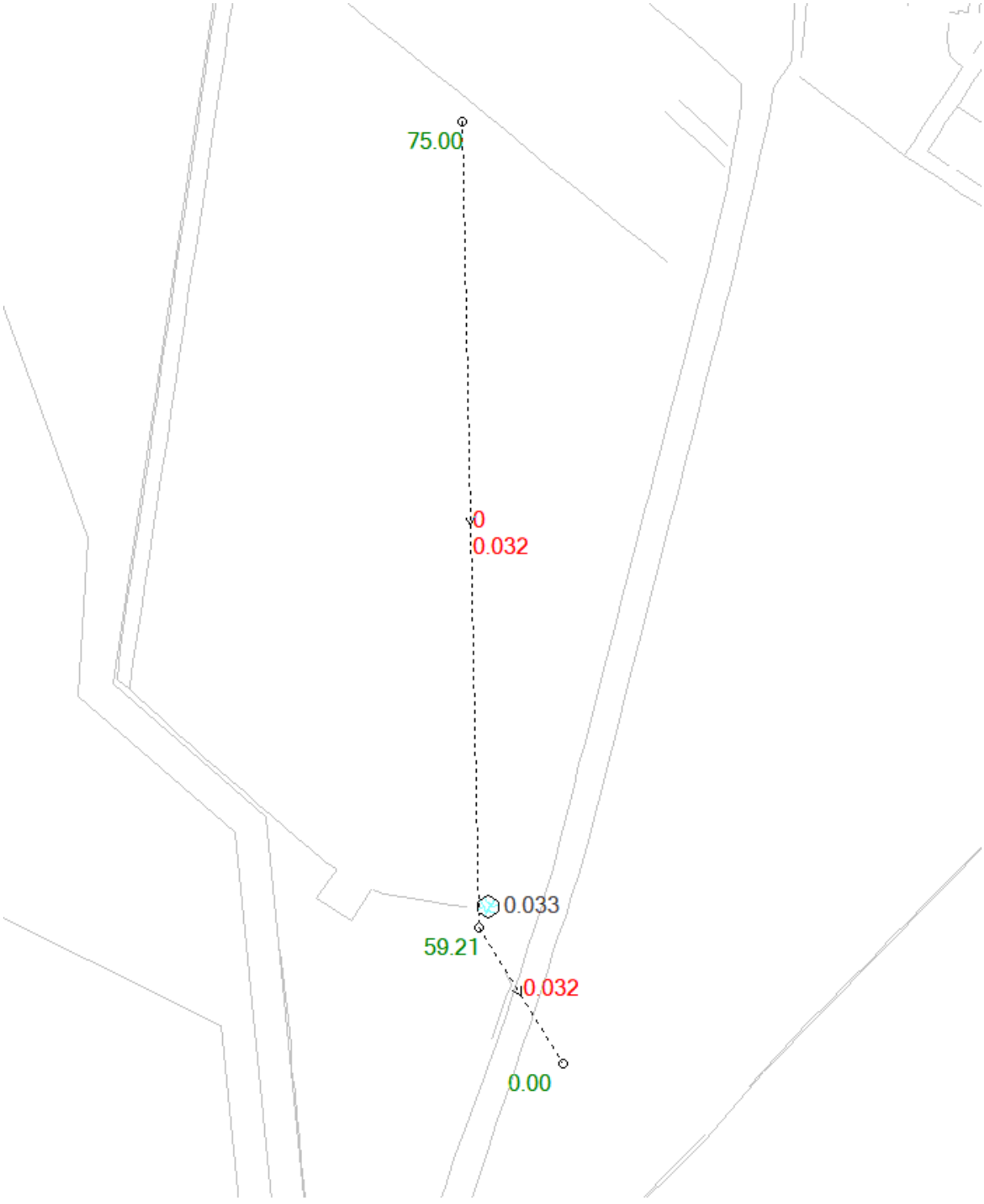


Figure 2 – Pre-Development DRAINS Model

3.3. Post-Development (Proposed) Drainage Strategy

Noting the topography of the site and the schematic design seeking to maintain existing levels and grades as much as possible, it is expected that surface runoff from impervious areas will be captured in landscaped areas and conveyed in a south-easterly direction toward Pages Creek in the bottom of the site.

Concept Drainage Layout

The following concept drainage layout has been confirmed as the preference for the development:

— Grassed swales (i.e. open surface drainage) located at the top and bottom of landscaped embankments between parking bays. These will serve to intercept runoff from the parking areas and embankments for conveyance to the east. Longitudinal grassed swales will be located along the eastern side of the parking areas, adjacent to the existing driveway access road into the development and drain toward the southern end of the site.

- Swales located at the top of embankment will be 1.2m wide trapezoidal channels with min. width flat bottom, sized appropriately for parking area catchments.
- Swales located at the bottom of embankments will be min. width catch drains with a V shape. These drains will primarily cater for landscaped embankment catchments only and therefore require less capacity than the trapezoidal channels.
- Longitudinal swales on the eastern side of the parking area, adjacent to the road, are expected to be in the order of 4 – 5m wide. This is to provide sufficient base width and depth for the outlet RCBC culverts and trafficable batters (1V:4H min.). These may require energy dissipation treatments to reduce flow velocity in future design stages.

— Underground culvert crossings beneath road access points into the parking areas, primarily along the eastern side. These are expected to be Reinforced Concrete Box Culvert (RCBC) structures installed at minimum cover to allow trafficable swale batter construction. End walls on all RCBC structures should be driveable.

— End walls and drainage connections into the proposed detention storage and water treatment area in the south-eastern corner of the site. Due to the location of overflow carparking, a skewed drainage connection into the detention storage may be required beneath the existing access road.

— The proposed drainage works should maintain compliant clearance to the existing Tasmanian irrigation pipeline running east-west through the southern part of the site and any associated easements.

Refer Appendix A for the concept drainage layout marked up on the schematic design by Wildspace Architects.

Calculations

In lieu of more detailed drainage design information, a simplified post-development model was created using DRAINS software. Post-development changes in the model were represented in the impervious and pervious areas by the proposed works. The following parameters were adopted:

- Hydrological Model = Initial Loss–Continuing Loss Model
- Minor Design Rainfall Event = 10% AEP
- Design Sub-Catchment Area = 1.614 Ha
- Impervious Area (%) = 48%
- Impervious Area Retardance Coefficient (n) = 0.012
- Pervious Area (%) = 52%
- Pervious Area Retardance Coefficient (n) = 0.10
- Climate Change Rainfall Factor (**SSP1-2.6 2050**) = 1.22 [A]

Post-development flows for the 10% AEP minor design rainfall event were estimated to be in the order of 0.123 m^3/s.

[A] The climate change factor was selected based on a 2050 design horizon in accordance with ARR 2019 recommendations, and the anticipated design life of the works. Preliminary runs of the DRAINS model showed that a 45 min burst duration, tended to govern. As such, the >1 hr duration was selected, conservatively, returning the factor of 1.22.

On-Site Detention Storage

Given the increase in impervious area by the proposed parking facilities and road, the change in flows from pre to post development will need to be appropriately managed to maintain existing discharge conditions. This can be done in the form of an On-Site Detention (OSD) storage system.

Storage system requirements are as follows:

- Pre-Development Flow (10% AEP) = 0.032 m^3/s
- Post-Development Flow (10% AEP) = 0.158 m^3/s
- Flow (10% AEP) to be retained = 0.126 m^3/s
- To retain 0.091 m^3/s and outlet pre-development flow (10% AEP) to Pages Creek, DRAINS software was used to determine the following:
- Approximate basin volume of 128 m^3 required.
- An outlet orifice sizing of 118mm would restrict flows to pre-development levels.

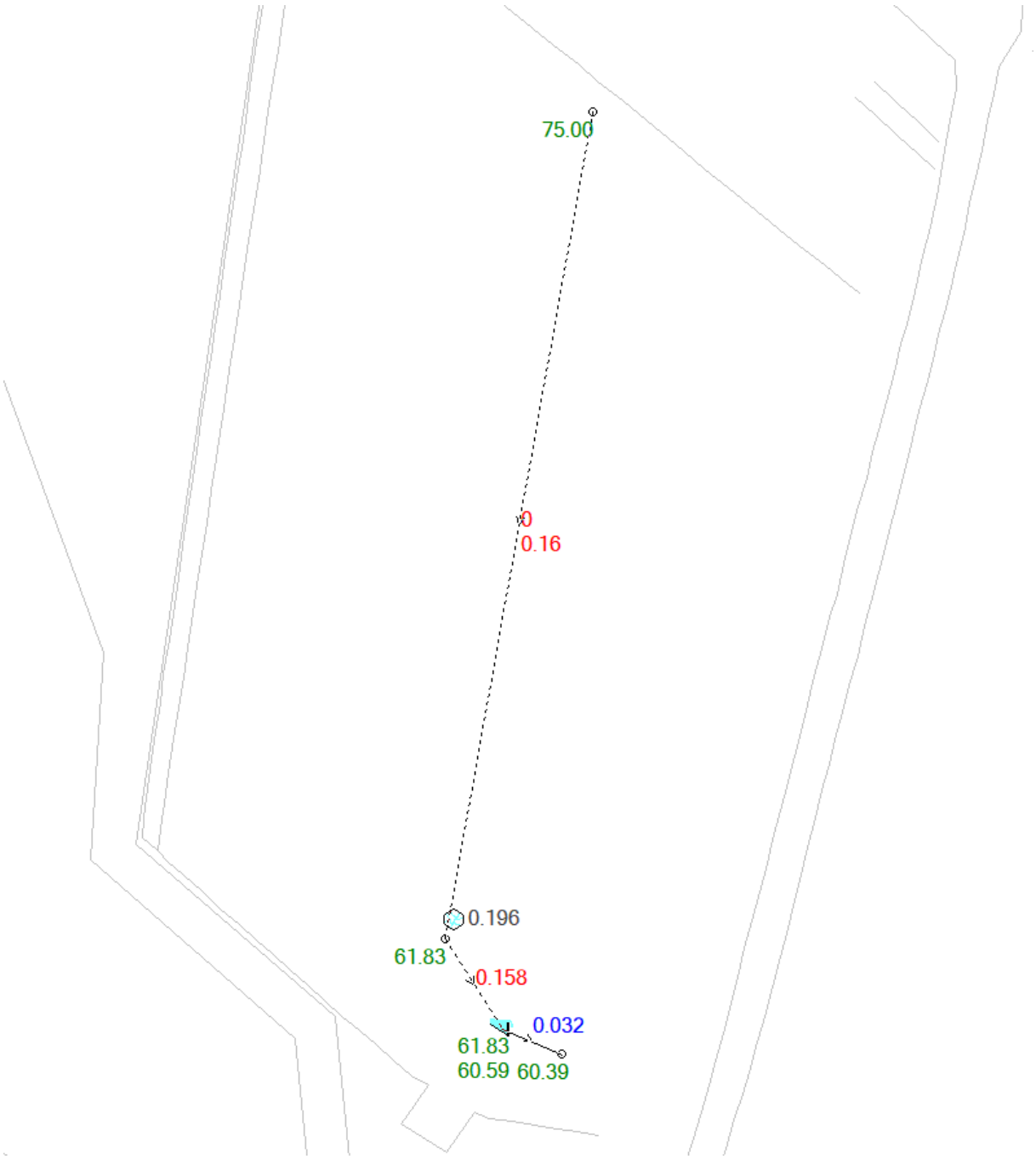


Figure 3 – Post-Development DRAINS Model

3.4. MUSIC Modelling

A stormwater quality assessment has been undertaken to demonstrate that the proposed development satisfies the water quality management objectives outlined in the Tasmanian Stormwater Policy Guidance and Standards for Development (2021)

Stormwater treatment performance has been assessed using the Model for Urban Stormwater Improvement Conceptualisation (MUSIC). The model simulates rainfall–runoff processes and pollutant generation from urban catchments and evaluates the performance of proposed Water Sensitive Urban Design (WSUD) treatment measures.

The model represents the ultimate developed condition of the site, including impervious and pervious surfaces and the proposed stormwater treatment train. The modelling assesses the effectiveness of the treatment system in reducing pollutant loads generated by the development prior to discharge from the site.

The following modelling parameters and assumptions were adopted in the MUSIC model.

MUSIC Model Parameters

Modelling Software

- MUSIC version: 1.50.1
- Simulation time step: 6-minute
- Continuous simulation period: 15 years

Rainfall Data

- Rainfall station used: Hobart Airport Pluviography
- Data source: eWater Toolkit
- Simulation period: 1/01/1970 – 1/12/1985
- PET: Monthly Pattern (Hobart Airport)

Catchment Characteristics

- Total site area modelled: 1.861 ha
- Node Source Type: Unsealed Road (Refer to Wildspace Architectural plans for surface finishes)
- Impervious fraction: 48%
- Pervious fraction: 52%
- Default parameters were adopted for source node pollutant generation and hydrological parameters.

Proposed Treatment Train

The proposed stormwater treatment train for the Hobart Zoo carpark extension directs runoff from the impervious catchment to a detention basin, via a swale, followed by a bioretention system, prior to discharge to receiving waters. The detention basin provides temporary storage and flow attenuation, promoting initial settling of suspended solids and reducing peak discharge rates. Stormwater then passes through the bioretention system, which provides filtration and biological treatment to remove fine sediments and nutrients.

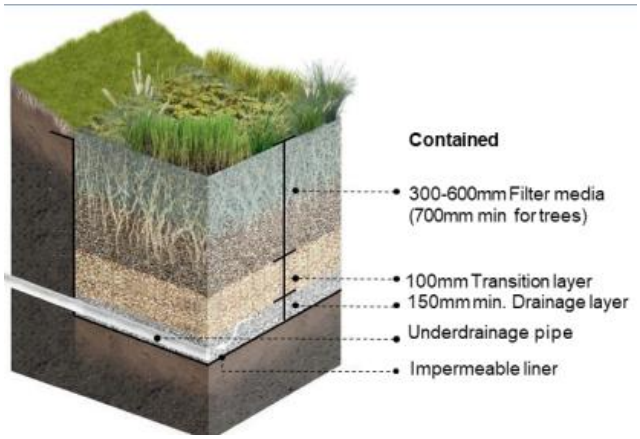


Figure 4 - Bioretention Typical Cross Section (Source: Melbourne Water)

Together, these measures provide a staged treatment process designed to achieve the standard pollutant reduction objectives outlined in the Tasmanian Stormwater Policy Guidance and Standards for Development (2021) prior to discharge from the site.

Proposed Treatment Train

- Carpark catchment → Swale →Detention Basin (108 m^3) → Bioretention System (100 m^2) → Receiving Waterway

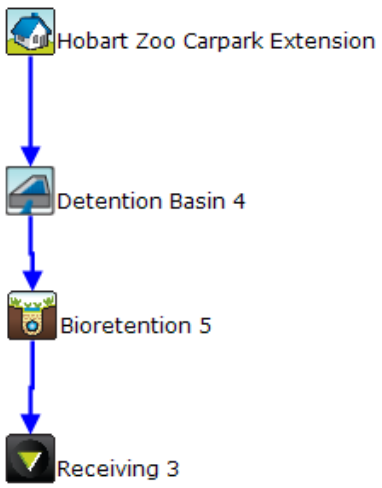


Figure 5 - Treatment Train – MUSIC Diagram

SYSTEM FEATURES AND REQUIREMENTS:

1. The model has been configured for a lightly vegetated swale (0.1 m vegetation height) with 4 m top width and 20 m length (conservative figure to account for catchment routed to the downstream swale(s).
2. The detention basin was configured in accordance with the dimensions outlined in section 3.3 of this report.
3. 100 m^2 of biofiltration media was allowed for in the model. With an extended detention depth (EDD) of 0.3 m and a filter depth of 0.5 m. The base shall be lined to prevent infiltration. Default MUSIC parameters were adopted for the remaining filter and media properties.
4. Based on MUSIC results, the detention basin and swale remove >85% of incoming TSS before discharge into the bioretention system, reducing the maintenance burden brought about by silting up of the bioretention filter media.
5. The detention basin provides hydraulic flow attenuation which assists in moderating inflows to the bioretention system and improving overall treatment reliability.
6. An inlet structure shall be specified during detailed design, which limits flow velocities across the bioretention system to within acceptable limits outlined in the Derwent Estuary Program Guidelines to protect vegetation and the filtration media. A high flow bypass of 0.1 m^3/s has been factored into the MUSIC modelling to account for bypass flows in the pollutant reduction modelling.
7. Provision should be made for maintenance access to both treatment assets, including safe access for sediment removal from the detention basin and periodic inspection and media replacement within the bioretention system.
8. The stormwater treatment measures should be refined at detailed design stage to account for potential climate change impacts. This includes considering higher flow conditions in the design of bypass structures, checking hydraulic performance under more intense rainfall, and selecting vegetation suited to changing rainfall patterns, temperatures, and inundation conditions.

TREATMENT TRAIN EFFECTIVENESS

The effectiveness of the proposed stormwater treatment train has been assessed using a MUSIC model to estimate the reduction of key stormwater pollutants generated by the Hobart Zoo carpark extension. The modelling evaluates the combined performance of the detention basin and downstream bioretention system in reducing pollutant loads prior to discharge to receiving waters. A summary of these results is outlined in the table below:

Pollutant	Policy Target Reduction (%)	Modelled Reduction (%)	Exceeds Target
Gross Pollutants	90	100	**Yes**
Total Suspended Solids (TSS)	80	94.72	**Yes**
Total Phosphorus (TP)	45	74.75	**Yes**
Total Nitrogen (TN)	45	60.36	**Yes**

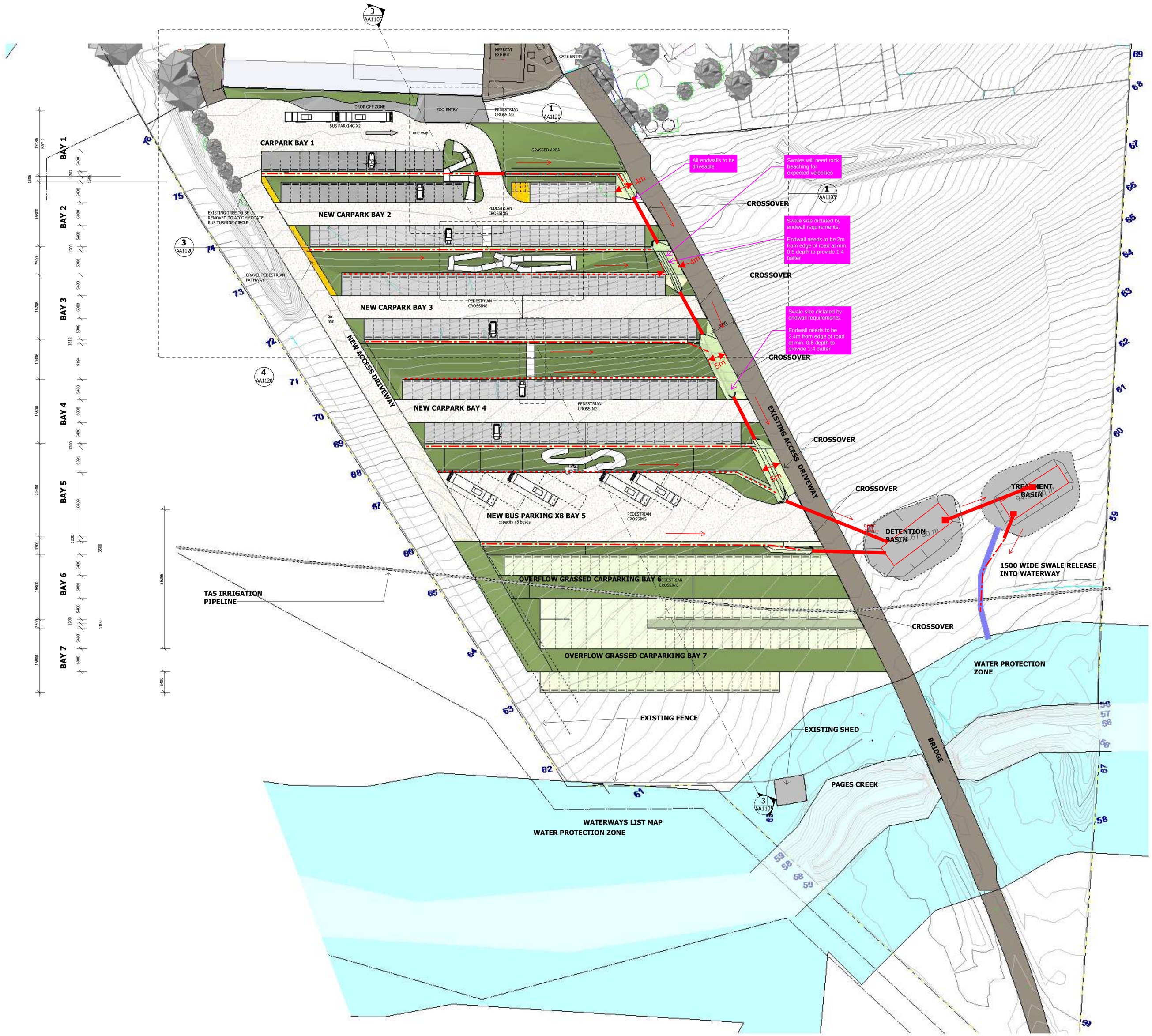
ASSUMPTIONS, LIMITATIONS AND FUTURE DESIGN DEVELOPMENT:

- **Concept-level design only** – The treatment system configuration, sizing and hydraulic arrangements presented in this report are based on the current architectural masterplan and subject to refinement during detailed design, including confirmation of catchment areas and degree of permeability.
- **Hydraulic capacity and bypass design** – The inlet structures, high-flow bypass arrangements and outlet controls adopted in the modelling are conceptual. Detailed hydraulic design will be required to confirm allowable inflow velocities, bypass thresholds and safe bypass measures for major storm events.
- **Vegetation selection and establishment** – Plant species selection, planting density and establishment requirements for the bioretention system will be confirmed during detailed design to ensure compatibility with local climatic conditions in accordance with the Derwent Estuary Program Guidelines.
- **Geotechnical investigation** – Geotechnical investigations are recommended, prior to detailed design to confirm site soil types, land contamination, infiltration rates and groundwater levels. This is particularly important given the proximity of the stormwater system to Pages Creek. The detailed design should review and verify the modelling parameters adopted in this report and ensure that the detailed design of the detention basin and bioretention system are appropriate for the in-situ ground conditions.

3.5. Recommendations

- The sketch plans show the proposed works, the batter and areas shown are estimated based of site contours, they are not accurate designs on the areas required, and it may be possible to reduce the footprint of the basins through detailed design and 3D modelling.
- MUSIC modelling has demonstrated that standard site pollutant reduction targets can be achieved via routing the site runoff through swale(s), a detention basin and into a 100 m^2 bioretention system.
- The drainage system shown is indicative of the alignment of the system that would be required, we have not modelled or sized the pipes.
- To provide more details on the proposed system, we would need to model the proposed design in 3D and prepare a detailed design of the stormwater system and basins.
- It is recommended that the Legal Point of Discharge (LPoD) be confirmed with Council for the discharge of outflows from the proposed water treatment area.

Appendix A – Concept Drainage Layout



Notes

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Verify all dimensions and levels on site and report any discrepancies to WILDSPACE ARCHITECTS for direction prior to the commencement of work.

Drawings are to be read in conjunction with all other contract documents.

Use figured dimensions only. Do not scale from drawings. WILDSPACE ARCHITECTURE cannot guarantee the accuracy of content and format for copies of drawings issued electronically. The completion of the Issue Details Checked and Authorised section is confirmation of the status of the drawing. The drawing shall not be used for construction unless endorsed 'For Construction' and authorised for issue.

The proposed carpark will be finished in compacted gravel with no line marking, maintaining a softer and more natural character in keeping with the zoo setting. Cars and Bus bays are indicative only. Bays 1-5 are gravel finish for the roads and carparks bay 6+7 are grass as per existing

BAY 1 = DISABLED CARPARKS 2 BUS PARKS AND 13 CARPARKS ;
BAY 2-4 NEW CARPARKING BAYS;
BAY 5 BUS PARKING ZONE
BAY 6+7 GRASSED OVERFLOW CARPARKING

EXISTING CARPARK
150 public car parks
20 staff car parks
No bus parking allocated

PROPOSED
262 car parks
40 staff car parks
8 bus parking spaces
4 Disabled carparks
7 long vehicle ie trailer or caravan

PEDESTRIAN ACCESS PATHWAY

9.2 CROSSOVER, HEADWALL AND 3 GUIDE POSTS TO ALL BAYS TO ALLOW FLEXIBLE USE OVER TIME IE EITHER BUS OR CAR BAY

SCHEMATIC DESIGN
NOT TO BE USED DURING CONSTRUCTION

Issue	Description	Date	Chk	Auth
F	DEVELOPMENT APPLICATION - additional information	tbc	CB	
E	DEVELOPMENT APPLICATION	19.03.2026	CB	-
D	FOR COORDINATION	18.02.2026	CB	-
C	FOR INFORMATION ONLY	28.01.2026	CB	-
B	FOR COORDINATION	21.11.2025	CB	-
A	FOR INFORMATION	26.09.2025	CB	-

Architect/ Designer
WILDSPACE ARCHITECTS

Client
HOBART ZOO AND AQUARIUM

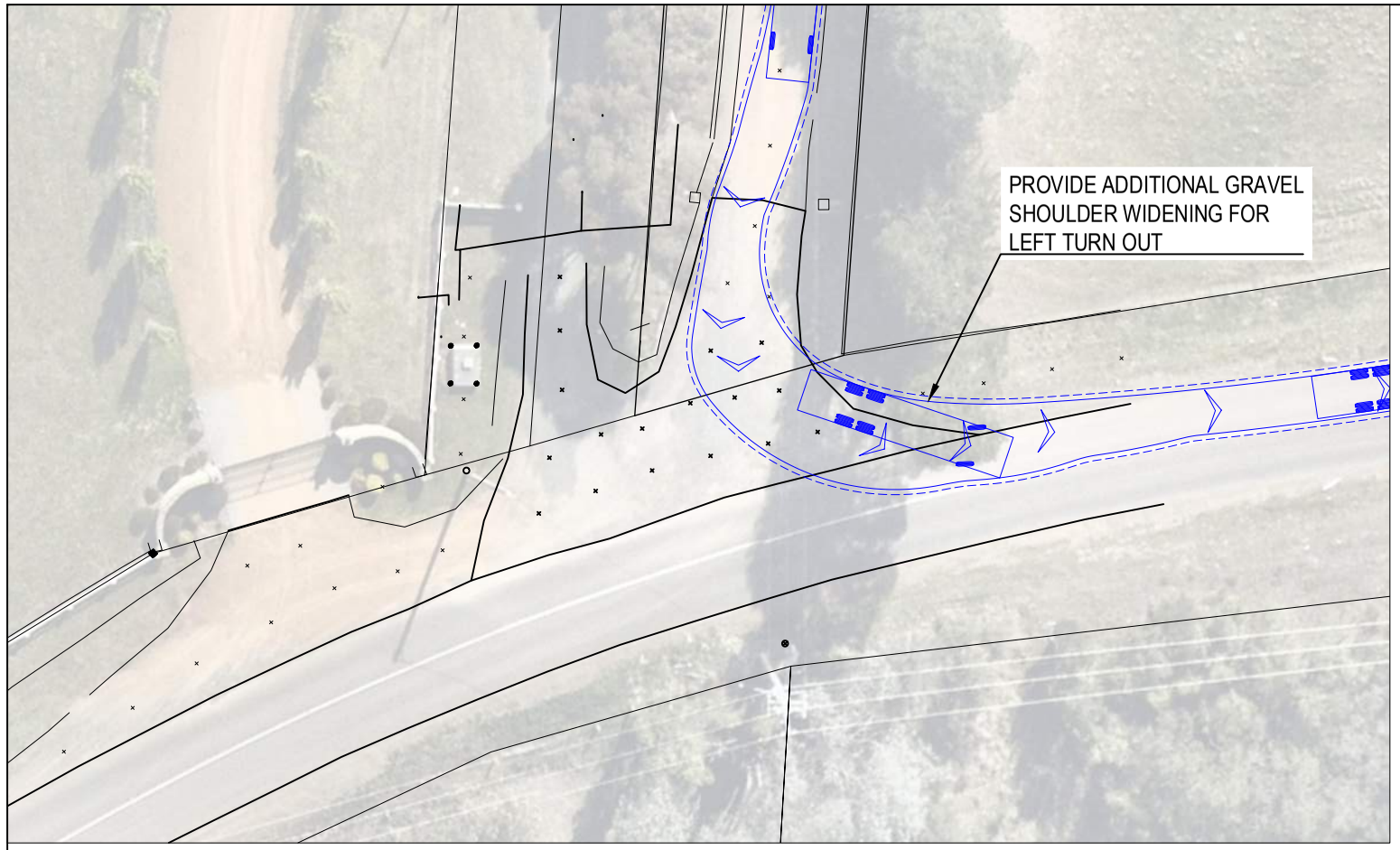
Project
Hobart Zoo + Aquarium

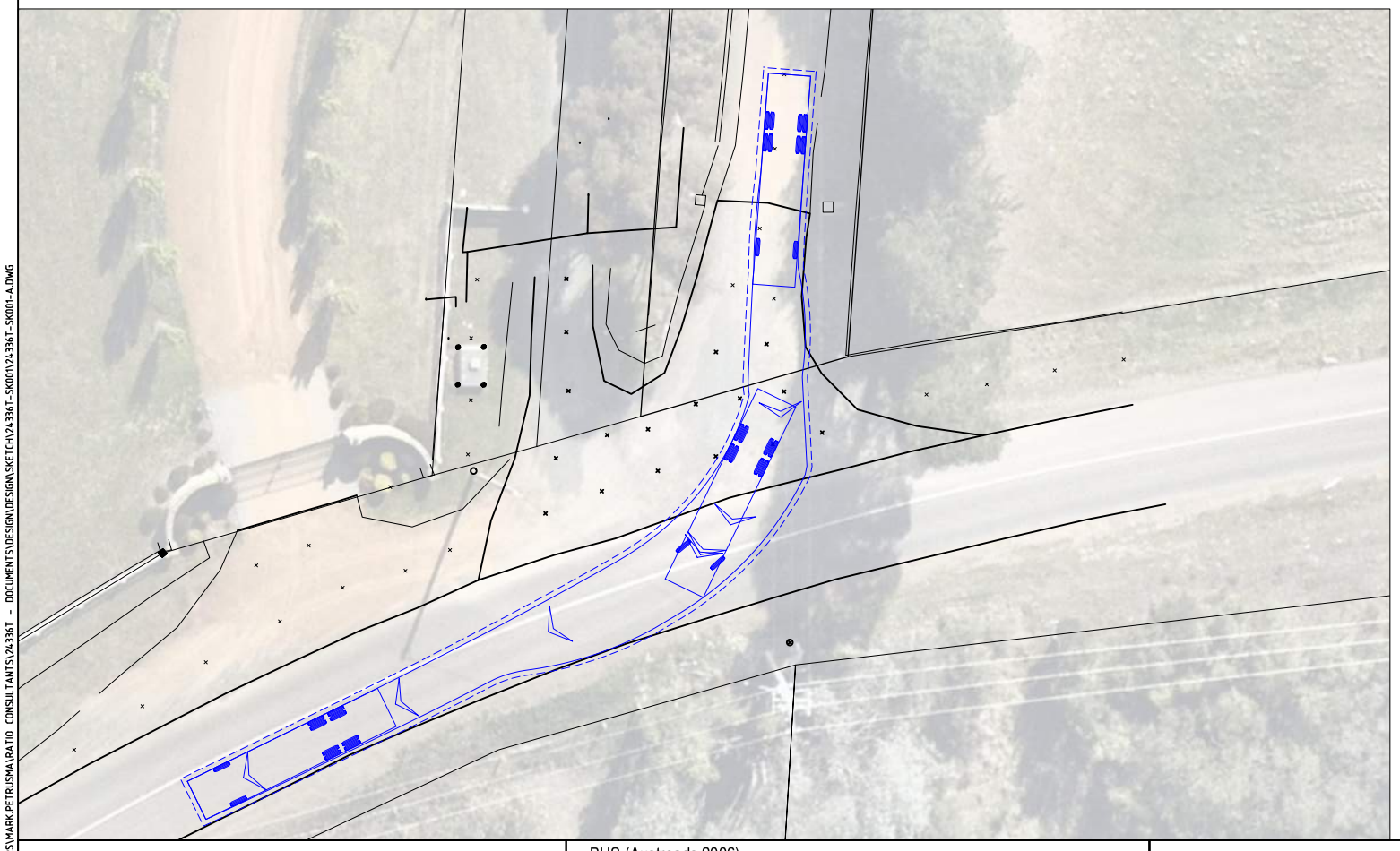
Location
620 Middle Tea Tree Rd, Tea Tree TAS 7017

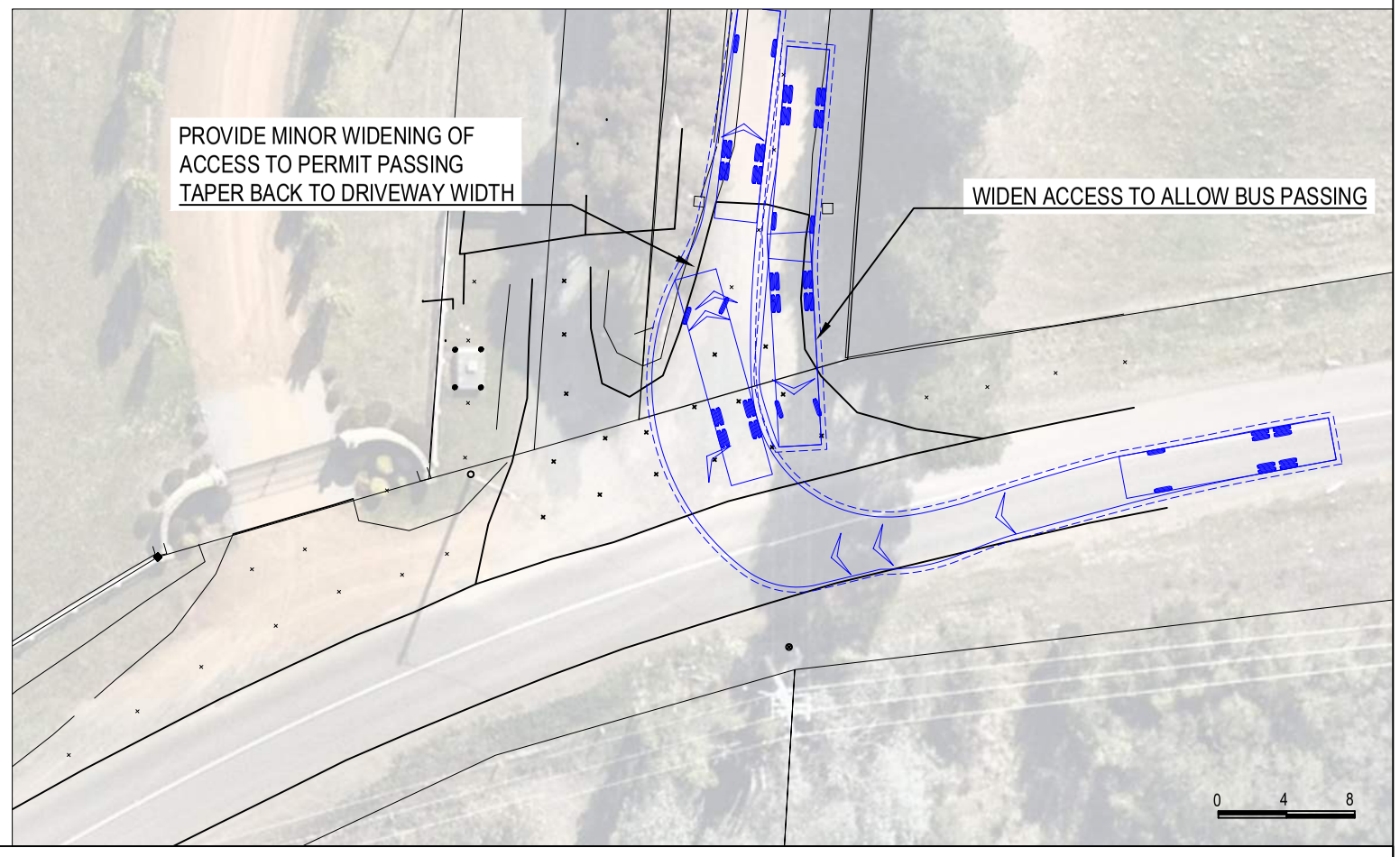
Project Number
26.002

Drawing
PROPOSED CARPARKING OVERALL

Scale (A1) As indicated
Date Printed 3/24 25.005 :20 PM
Drawing Number AA1102
Issue F







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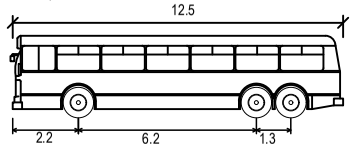

VEHICLE ENVELOPE (FORWARD)	VEHICLE ENVELOPE (REVERSE)	Overall Length	12.500m
		Overall Width	2.500m
		Overall Body Height	4.300m
		Min Body Ground Clearance	0.417m
500mm CLEARANCE (FORWARD)	500mm CLEARANCE (REVERSE)	Track Width	2.500m
		Lock to Lock Time	6.00 sec
		Curb to Curb Turning Radius	12.500m

PROPOSED CARPARK MODIFICATIONS
HOBART ZOO AND AQUARIUM
MIDDLE TEA TREE ROAD, SITE ACCESS

NOTE:
1) Base Plan Supplied By Wildspace Architects
2) Maximum Design Speed 5km/h

RATIO REFERENCE	SHEET No.	PREPARED BY	SCALE	DATE
24336T-SK001-A	4 of 4	M.P.	1:400 @A3	17/04/2026