



Consulting Engineers and
Project Management

ENGINEERING SERVICES REPORT
WEINAM CREEK PDA – COAST GUARD SITE
FOR
REDLAND INVESTMENT CORP
PROJECT NO: FC-22-014
DATE: 3 MAY 2024

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2024/1543

Date: 24 December 2025



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DOCUMENT CONTROL RECORD

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CONTENTS

1	INTRODUCTION	1
1.1	SCOPE OF REPORT	1
1.2	SUBJECT SITE LOCATION AND DESCRIPTION	1
2	PROPOSED DEVELOPMENT	2
3	ENGINEERING SERVICES	2
3.1	SITE ACCESS AND INTERNAL CAR PARK	2
3.2	STORMWATER MANAGEMENT – QUANTITY	3
3.3	STORMWATER MANAGEMENT – QUALITY	3
3.4	WATER RETICULATION	4
3.5	SEWER RETICULATION	4
3.6	ELECTRICITY AND COMMUNICATION SUPPLY	4
4	CONCLUSION.....	5

FIGURE INDEX

FIGURE 1	AERIAL PHOTO OF THE SITE AND LOCALITY	2
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APPENDICIES

APPENDIX A PROPOSED DEVELOPMENT LAYOUT
APPENDIX B TURNPATH SIMULATION

1 INTRODUCTION

This Engineering Services Report has been prepared to support an application to Economic Development Queensland (EDQ) for redevelopment of the existing Coast Guard site with the Weinam Creek Priority Development Area (WCPDA).

1.1 SCOPE OF REPORT

The purpose of this report is to analyse the proposal, investigate site conditions and determine the engineering services that will be required to support the proposed development, and to also provide preliminary advice on the overall infrastructure servicing strategy for this development.

As such the report discusses the physical features of the site, describes the intended development, and lays out the overall servicing strategy of the proposed development covering the following:

- Civil works including earthworks, sediment, and erosion control.
- Traffic and Roadworks
- Stormwater Management (Quality and Quantity Control)
- Sewer Supply
- Water Supply
- Utilities including power and comms

Please note the advice in this report is conceptual only, and establishing accurate infrastructure needs and detail design are outside the scope of this report.

1.2 SUBJECT SITE LOCATION AND DESCRIPTION

The subject site is located with a lease on Lot 1 on SP309584. It is currently utilised by the Coast Guard and has an existing building on site with car parking. The southern boundary of the site borders Weinam Creek and an existing boat ramp is on the western boundary. Access to the site is currently via Banana Street

Figure 1 below is a map that was sourced from Redland City Council Interactive Mapping which shows the general location of the site in relation to adjacent roads and neighbouring properties.



FIGURE 1 AERIAL PHOTO OF THE SITE AND LOCALITY

2 PROPOSED DEVELOPMENT

The Coast Guard plan to further develop the site to include an additional building along with car parking for emergency services vehicles.

The development of the site is contingent of the construction of Stage 3C of the WCPDA approval for access and services.

The development layout is provided in Appendix A of this report.

3 ENGINEERING SERVICES

3.1 SITE ACCESS AND INTERNAL CAR PARK

Access to the proposed development will be via the proposed loop road required as part of Stage 3C of the PDA fronting this site.

The site access has been considered for the use of the boat and trailer required by the Coast Guard to access the existing boat ramp adjoining the site to the west with run paths provided in Appendix B of this report.

We also note the conditions of the PDA approval for the requirement to have a signalised traffic management device for emergency use of the road fronting this site by the Coast Guard. These signals and associated infrastructure are to be provided by Redland Investment Corporation as part of the construction of the works for Stage 3C of the PDA.

Internally, car parks are proposed for emergency service vehicles and turn paths for these vehicles manoeuvring on site are provided in Appendix B. The car parking and Manoeuvring areas are proposed to be constructed using flexible pavement with AC wearing course.

3.2 STORMWATER MANAGEMENT – QUANTITY

As part of the WCPDA Master Plan approval, a Flood Risk Assessment and a Site Based Stormwater Management Plan were undertaken to inform the flood impacts for the catchment. In the location of the proposed Coast Guard Shed, the following levels extracted from these reports are relevant to this proposed shed.

- Highest Astronomical Tide – Current Conditions – RL 1.57m AHD
- Highest Astronomical Tide – 2100 Conditions – RL 2.37m AHD
- Q100 Storm Tide Elevation – 2100 Conditions – RL 3.22m AHD
- Q100 Flood Level in Weinam Creek – RL 1.0m AHD.

The proposed shed FFL of RL 2.4m AHD will be above the HAT Level at 2100.

It is further noted that the proposed shed will not be habitable and given warning times are generally adequate for evacuation purposes in coastal inundation events, an FFL of RL 2.4m AHD would seem reasonable for this use.

The internal stormwater networks for the site if proposed to be collected in an underground Q10 piped stormwater network, discharging to the stormwater network to be constructed as part of Stage 3C of the PDA approval in the loop road.

The entire site will be graded to ensure no run-off discharges to Weinam Creek. These details will form part of subsequent approvals as part of the detailed design and documentation for the development.

3.3 STORMWATER MANAGEMENT – QUALITY

A Conceptual Stormwater Management Plan (Quality) has been prepared for this site and accompanies this application for the development. The CSMP Quality report presents a set of site-

specific controls to mitigate effects both during construction and during the operation phase of the proposed development.

During construction stage the report recommends use of multiple sediment and erosion control devices like a rock entry/exit pad to be located at all construction site entry points, silt fences around downstream catchment boundaries, diversion bunds around upstream boundaries and other devices to ensure sediment laden runoff is either retained on-site or treated prior to discharging to downstream receiving environments.

It has been successfully demonstrated through the MUSIC modelling that by incorporating treatment device like a proprietary GPT system, the proposed development can adequately treat stormwater runoff and pollutant removal efficiencies of 80%, 60% and 45% can be achieved for TSS, TP and TN, respectively.

3.4 WATER RETICULATION

As part of the works required by Redland Investment Corporation, a new water main is being constructed to the frontage of the Coast Guard site as part of stage 3C of the PDA approval. This main is a DN150 main in accordance with the approved water supply network report for the PDA.

Connection of this new main to the existing building as well as the new structure will ensure adequate water supply for this project.

3.5 SEWER RETICULATION

As part of the works required by Redland Investment Corporation, the existing sewer rising main which traverses the Coast Guard is to be removed and re constructed in the future road reserve fronting the site in accordance with the requirements of the PDA approvals.

A new connection to the Coast Guard site will be provided as part of these works (Stage 3C) to allow internal connection from the existing and proposed buildings.

3.6 ELECTRICITY AND COMMUNICATION SUPPLY

The site currently has Electricity and Communication connections. No further upgrades to this supply are required for this project.

It is noted however that with the construction of the frontage works for stage 3C of the PDA approval new underground services for the electrical supply will be provided.

4 CONCLUSION

The findings of this Engineering Services Report support the use of the subject site for the proposed development. All required essential services can be sufficiently provided and all necessary roadworks, site access and stormwater management can be designed without adversely affecting the safety and amenity of the immediate locality.

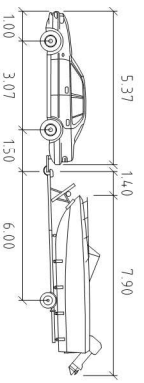
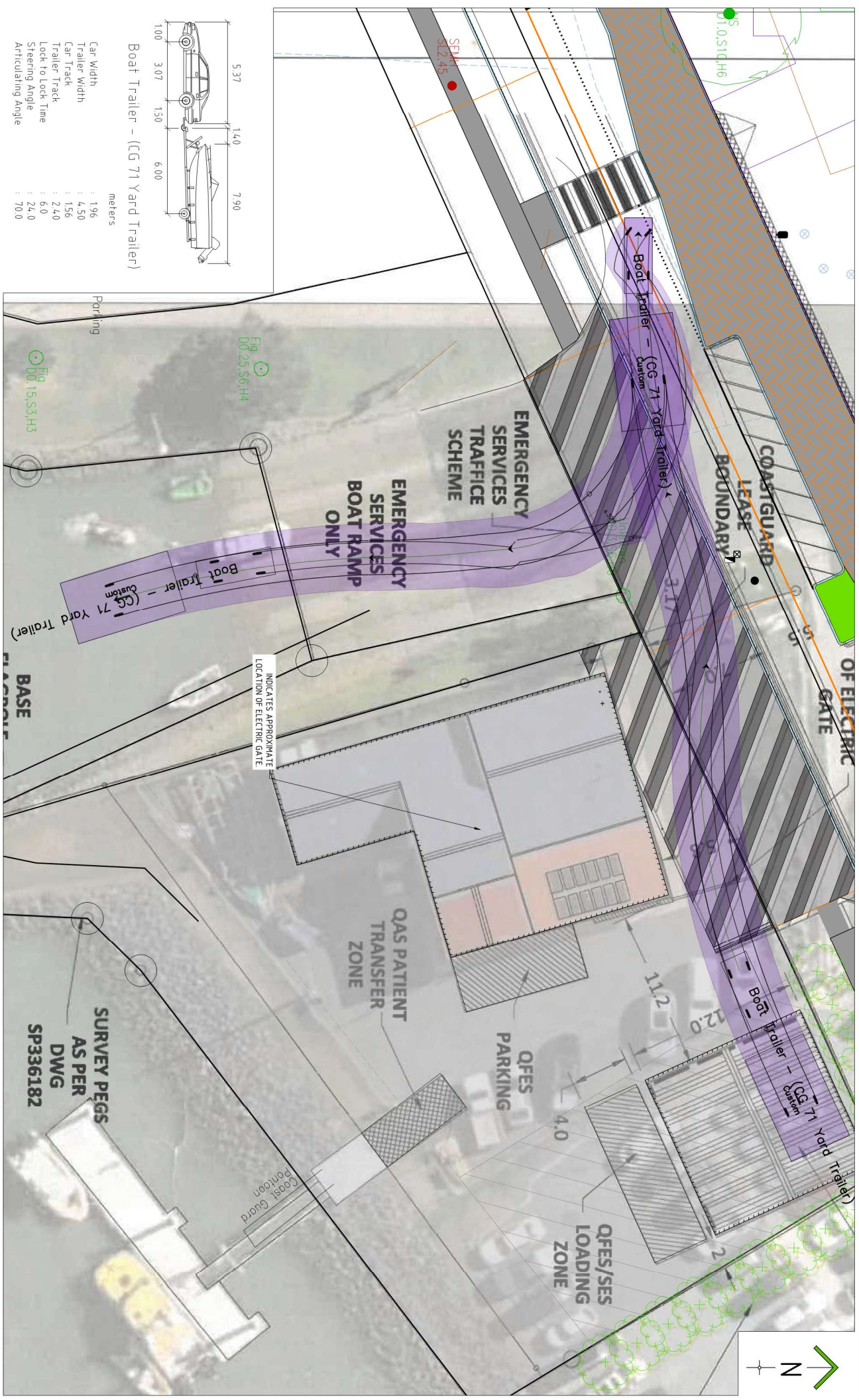
Future applications will provide detailed design of all infrastructure needs of this development.

APPENDIX A

PROPOSED DEVELOPMENT LAYOUT

APPENDIX B

TURNPATH SIMULATION



Car Width	: 1.96
Trailer Width	: 4.50
Car Track	: 1.56
Trailer Track	: 2.40
Lock to Lock Time	: 6.0
Steering Angle	: 24.0
Articulating Angle	: 70.0

Boat Trailer - (CG 71 Yard Trailer)

Parking

Fig D0.25, S6, H4

Fig D0.15, S3, H3

INDICATES APPROXIMATE LOCATION OF ELECTRIC GATE

BASE

QAS PATIENT TRANSFER ZONE

QFES PARKING

QFES/SES LOADING ZONE

SURVEY PEGS AS PER DWG SP336182

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14/03/2024

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FC-22-014

DWG No.
Z-059

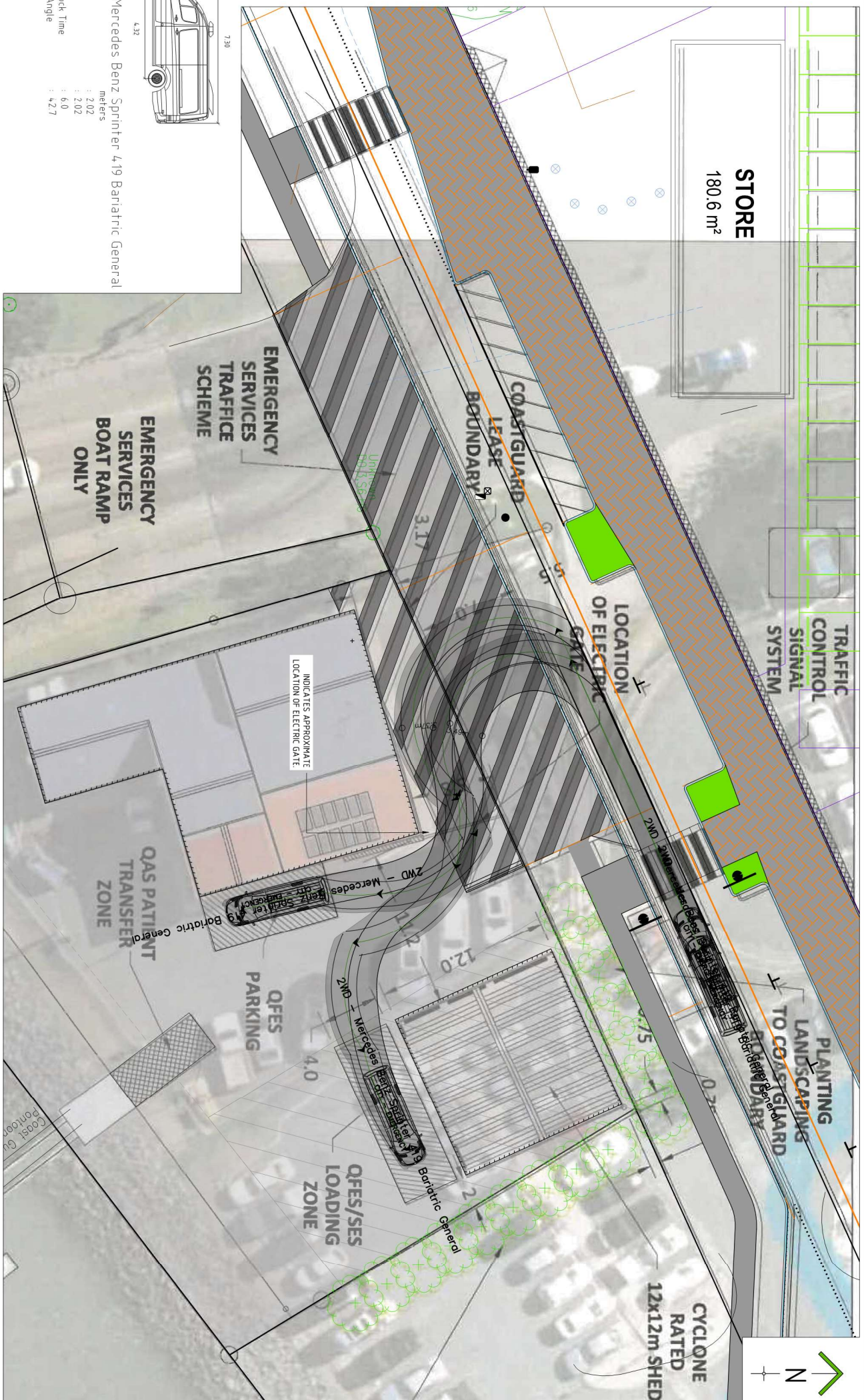
CONCEPTUAL TURNPATH LAYOUT FOR COASTGUARD PROPOSED DEVELOPMENT (BOAT TRAILER)

WEINAM CREEK PDA - STAGE 3C
BANANA STREET, WEINAM CREEK.
FOR REDLAND INVESTMENT CORPORATION



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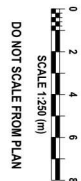




2WD - Mercedes Benz Sprinter 4.19 Bariatric General meters
Width : 2.02
Track : 2.02
Lock to Lock Time : 6.0
Steering Angle : 42.7

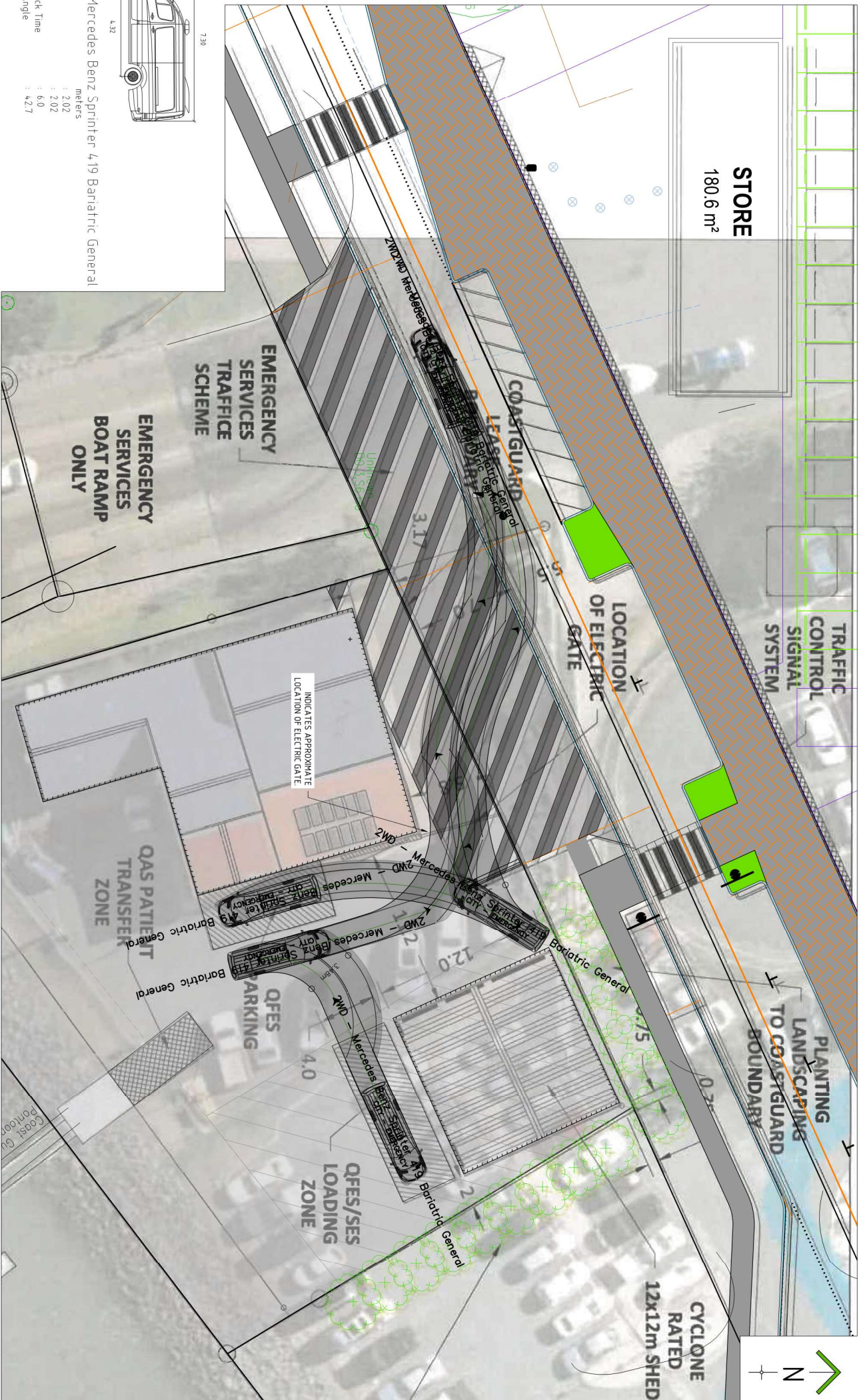
REVISION: 14/03/2024
Job No. FC-22-014
DWG No. Z-067

CONCEPTUAL TURNPATH LAYOUT FOR COASTGUARD PROPOSED DEVELOPMENT- ENTRY FORWARD PARKING
WEINAM CREEK PDA - STAGE 3C
BANANA STREET, WEINAM CREEK.
FOR REDLAND INVESTMENT CORPORATION



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STORE
180.6 m²

TRAFFIC
CONTROL
SIGNAL
SYSTEM

LOCATION
OF ELECTRIC
GATE

COASTGUARD

2WD - Mercedes Benz Sprinter 4.19 Bariatric General

INDICATES APPROXIMATE
LOCATION OF ELECTRIC GATE.

EMERGENCY
SERVICES
TRAFFIC
SCHEME

EMERGENCY
SERVICES
BOAT RAMP
ONLY

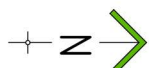
QAS PATIENT
TRANSFER
ZONE

QFES
PARKING

QFES/SSES
LOADING
ZONE

PLANTING
LANDSCAPING
TO COASTGUARD
BOUNDARY

CYCLONE
RATED
12x12m SHED



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FC-22-014

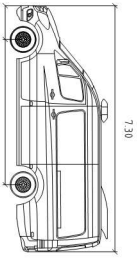
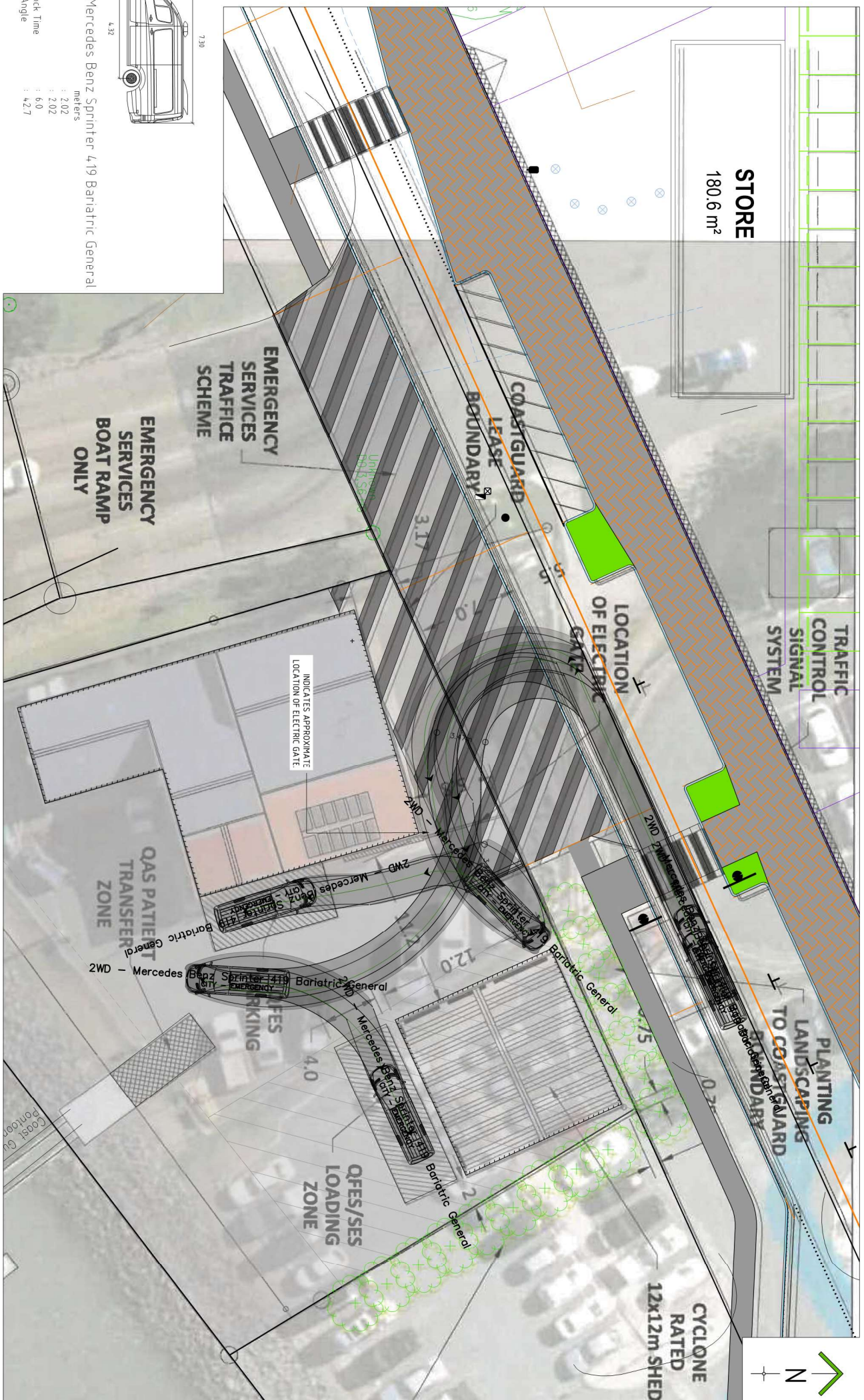
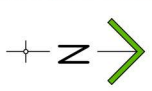
DWG No
Z-068

CONCEPTUAL TURNPATH LAYOUT FOR COASTGUARD PROPOSED DEVELOPMENT - EXIT FORWARD PARKING
WEINAM CREEK PDA - STAGE 3C
BANANA STREET, WEINAM CREEK.
FOR REDLAND INVESTMENT CORPORATION

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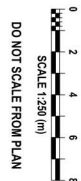
2WD - Mercedes Benz Sprinter 4x19 Bariatric General

- Width : 2.02 meters
- Track : 2.02
- Lock to Lock Time : 6.0
- Steering Angle : 42.7

REVISION:
14/03/2024

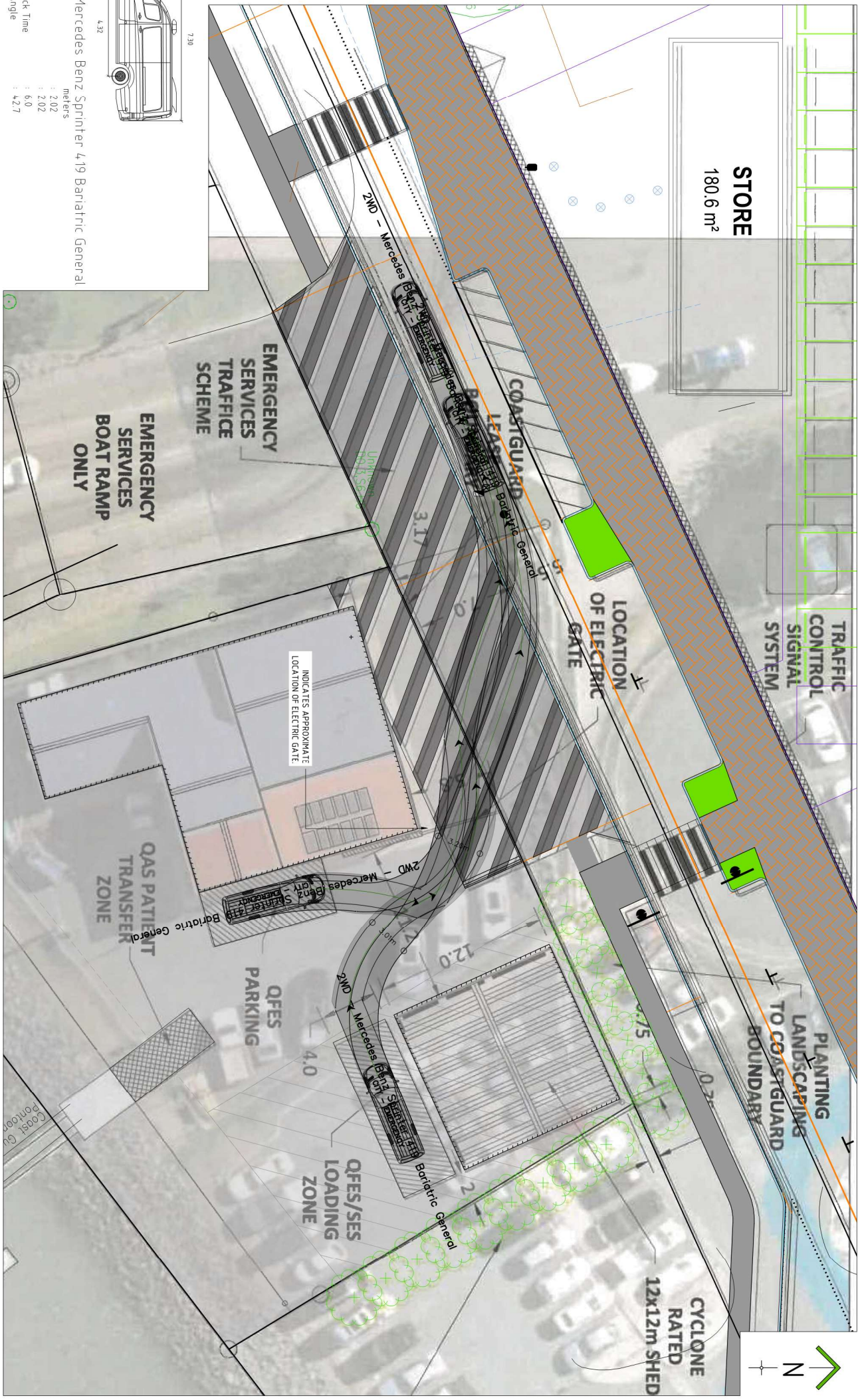
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DWG No
Z-069

CONCEPTUAL TURNPATH LAYOUT FOR COASTGUARD PROPOSED DEVELOPMENT- ENTRY REVERSE PARKING
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BANANA STREET, WEINAM CREEK.
FOR REDLAND INVESTMENT CORPORATION



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