Queensland Government

Our reference: 2103-21654 SRA
Your reference: D/21-2021

6 September 2021

The Chief Executive Officer
Rockhampton Regional Council
PO Box 1860
Rockhampton Qld 4700
enquiries@rrc.qld.gov.au

Attention: Amanda O'Mara

Dear Sir/Madam

SARA response—Coverley Street, Westwood

(Referral agency response given under section 56 of the *Planning Act 2016*)

On 29 June 2021 the State Assessment and Referral Agency (SARA) received representations from the applicant requesting SARA change its referral agency response. SARA has considered the representations and now provides this changed referral agency response which replaces the response dated 16 June 2021.

Response

Outcome:	Referral agency response – with conditions.
Date of response:	6 September 2021
Conditions:	The conditions in **Attachment 1** must be attached to any development approval.
Advice:	Advice to the applicant is in **Attachment 2**.
Reasons:	The reasons for the referral agency response are in **Attachment 3**.

Development details

Description:	Development permit	Material change of use for a Service Station with associated truck stop Operational work for Advertising Devices (one (1) freestanding sign, six (6) canopy signs and one (1) awning fascia sign)
SARA role:	Referral Agency	
SARA trigger:	Schedule 10, Part 9, Division 4, Subdivision 2, Table 4, Item 1	

Fitzroy/Central regional office
Level 2, 209 Bolsover Street,
Rockhampton
PO Box 113, Rockhampton QLD 4700

	(Planning Regulation 2017) Development application for a material change of use within 25m of a state-controlled road
SARA reference:	2103-21654 SRA
Assessment Manager:	Rockhampton Regional Council
Street address:	Coverley Street, Westwood
Real property description:	Lot 1 on RP605296; Lot 2 on RP605296; Lot 87 on W4612; Lot 88 on W4619; Lot 89 on W4612
Applicant name:	Westwood Ventures Pty Ltd
Applicant contact details:	PO Box 2088 Milton QLD 4064 brendan@reelplanning.com

Representations

An applicant may make representations to a concurrence agency, at any time before the application is decided, about changing a matter in the referral agency response (s.30 Development Assessment Rules) Copies of the relevant provisions are in **Attachment 4**.

A copy of this response has been sent to the applicant for their information.

For further information please contact Thomas Gardiner, Principal Planning Officer, on 0749242916 or via email RockhamptonSARA@dsdilgp.qld.gov.au who will be pleased to assist.

Yours sincerely

Anthony Walsh
Manager Planning

cc Westwood Ventures Pty Ltd, brendan@reelplanning.com

enc Attachment 1 - Referral agency conditions
Attachment 2 - Advice to the applicant
Attachment 3 - Reasons for referral agency response
Attachment 4 - Representations provisions
Attachment 5 - Approved plans and specifications

Attachment 1—Referral agency conditions

(Under section 56(1)(b)(i) of the *Planning Act 2016* the following conditions must be attached to any development approval relating to this application) (Copies of the plans and specifications referenced below are found at Attachment 5)

No.	Conditions	Condition timing
Material Change of Use		
Schedule 10, Part 9, Division 4, Subdivision 2, Table 4, Item 1—The chief executive administering the *Planning Act 2016* nominates the Director-General of the Department of Transport and Main Roads to be the enforcement authority for the development to which this development approval relates for the administration and enforcement of any matter relating to the following condition(s):		
1.	The development must be carried out generally in accordance with Proposed Site Plan, submitted by MCHP Architects, dated 12.08.2021, Drawing No. 20-041 DA01, Revision D, as amended in red by SARA to show: (a) the Service Station Gross Floor Area is restricted to 120m² (b) relocated car parking on the western side of the existing Shop/Hotel.	Prior to the commencement of use and to be maintained at all times.
2.	(a) The road access locations, are to be located generally in accordance with Proposed Site Plan, submitted by MCHP Architects, dated 12.08.2021, Drawing No. 20-041 DA01, Revision D, as amended in red by SARA. (b) Road access works comprising: • Access 1 (northern): Basic Right Turn (BAR)/Basic Left Turn (BAL) – ingress only (left-in / right-in movements). • Access 2 (mid-egress): Egress only for all vehicles up to an 8.8m service vehicle (left-out / right-out movements). • Access 3: (southern): Egress only (left-out / right-out movements) for all vehicles above an 8.8m service vehicle and up to a type 1 road train. must be provided at the permitted access locations. (c) The road access works must be designed and constructed in accordance with the Road Planning and Design Manual, in particular: Access 1 (northern): • The BAR/BAL must be designed and constructed in accordance with the requirements for a type 1 road train. • The access must include V5 lighting. Access 2 (mid-egress): • The access must cater for egress only (right and left out) for all vehicles other than a type 1 road train. • The access must be angled to prevent vehicles attempting to access the site from the state-controlled road at this location. Access 3 (southern):	Prior to commencement of use.

	• The access must be designed and constructed in accordance with the requirements for a type 1 road train.	
3.	The existing vehicular property access located between Lot 2 on RP605296 and the Capricorn Highway must be permanently closed and removed as shown on Proposed Site Plan, submitted by MCHP Architects, dated 12.08.2021, Drawing No. 20-041 DA01, Revision D, as amended in red by SARA. Any affected drainage infrastructure must be reinstated.	Prior to the commencement of use.
4.	The development must be carried out generally in accordance with sections 4, 5 and Appendix A of the Stormwater Management Plan prepared by McMurtrie Consulting Engineers, dated 19.05.2021, reference 067-21-21, and Revision No A.	At all times.
5.	The advertising sign must: (a) be located generally in accordance with the site ID sign location on the Proposed Site Plan, submitted by MCHP Architects, dated 12.08.2021, Drawing No. 20-041 DA01, Revision D, as amended in red by SARA and within the site boundary (b) be designed and constructed in accordance with the requirements of the Department of Transport and Main Roads' Roadside Advertising Manual, Edition 3, dated September 2019.	Prior to the commencement of use and to be maintained at all times.

Attachment 2—Advice to the applicant

General advice	
1.	Terms and phrases used in this document are defined in the *Planning Act 2016* its regulation or the State Development Assessment Provisions (SDAP) v2.6. If a word remains undefined it has its ordinary meaning.
Road works approval	
2.	Under section 33 of the *Transport Infrastructure Act 1994,* written approval is required from the Department of Transport and Main Roads to carry out road works on a state-controlled road. Please contact the Department of Transport and Main Roads' on 4931 1500 or at FitzroyDistrict@tmr.qld.gov.au to make an application for road works approval. This approval must be obtained prior to commencing any works on the state-controlled road reserve. The approval process will require the approval of engineering designs of the proposed works, certified by a Registered Professional Engineer of Queensland (RPEQ). Please contact the Department of Transport and Main Roads' as soon as possible to ensure that gaining approval does not delay construction.

Attachment 3—Reasons for referral agency response

(Given under section 56(7) of the *Planning Act 2016*)

The reasons for SARA's decision are:

- The location and design of the vehicular access points will not create a safety hazard for users of a state-controlled road or result in a worsening of operating conditions on a state-controlled road.
- The Service Station will not result in an actionable nuisance, or worsening of, stormwater, flooding or drainage impacts in a state-controlled road.
- The development application has demonstrated compliance with SDAP State code 1: Development in a state-controlled road environment subject to implementation of conditions.

Material used in the assessment of the application:

- The development application material and submitted plans
- *Planning Act 2016*
- Planning Regulation 2017
- The *State Development Assessment Provisions* (version 2.6), as published by SARA
- The Development Assessment Rules
- SARA DA Mapping system

Attachment 4—Change representation provisions

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Attachment 5—Approved plans and specifications

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Development Assessment Rules—Representations about a referral agency response

The following provisions are those set out in sections 28 and 30 of the Development Assessment Rules[1] regarding **representations about a referral agency response**

Part 6: Changes to the application and referral agency responses

28 Concurrence agency changes its response or gives a late response

28.1. Despite part 2, a concurrence agency may, after its referral agency assessment period and any further period agreed ends, change its referral agency response or give a late referral agency response before the application is decided, subject to section 28.2 and 28.3.

28.2. A concurrence agency may change its referral agency response at any time before the application is decided if—

(a) the change is in response to a change which the assessment manager is satisfied is a change under section 26.1; or

(b) the Minister has given the concurrence agency a direction under section 99 of the Act; or

(c) the applicant has given written agreement to the change to the referral agency response.[2]

28.3. A concurrence agency may give a late referral agency response before the application is decided, if the applicant has given written agreement to the late referral agency response.

28.4. If a concurrence agency proposes to change its referral agency response under section 28.2(a), the concurrence agency must—

(a) give notice of its intention to change its referral agency response to the assessment manager and a copy to the applicant within 5 days of receiving notice of the change under section 25.1; and

(b) the concurrence agency has 10 days from the day of giving notice under paragraph (a), or a further period agreed between the applicant and the concurrence agency, to give an amended referral agency response to the assessment manager and a copy to the applicant.

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1 Pursuant to Section 68 of the *Planning Act 2016*

2 In the instance an applicant has made representations to the concurrence agency under section 30, and the concurrence agency agrees to make the change included in the representations, section 28.2(c) is taken to have been satisfied.

Part 7: Miscellaneous

30 Representations about a referral agency response

30.1. An applicant may make representations to a concurrence agency at any time before the application is decided, about changing a matter in the referral agency response.[3]

[3] An applicant may elect, under section 32, to stop the assessment manager's decision period in which to take this action. If a concurrence agency wishes to amend their response in relation to representations made under this section, they must do so in accordance with section 28.

PLANS AND DOCUMENTS referred to in the REFERRAL AGENCY RESPONSE

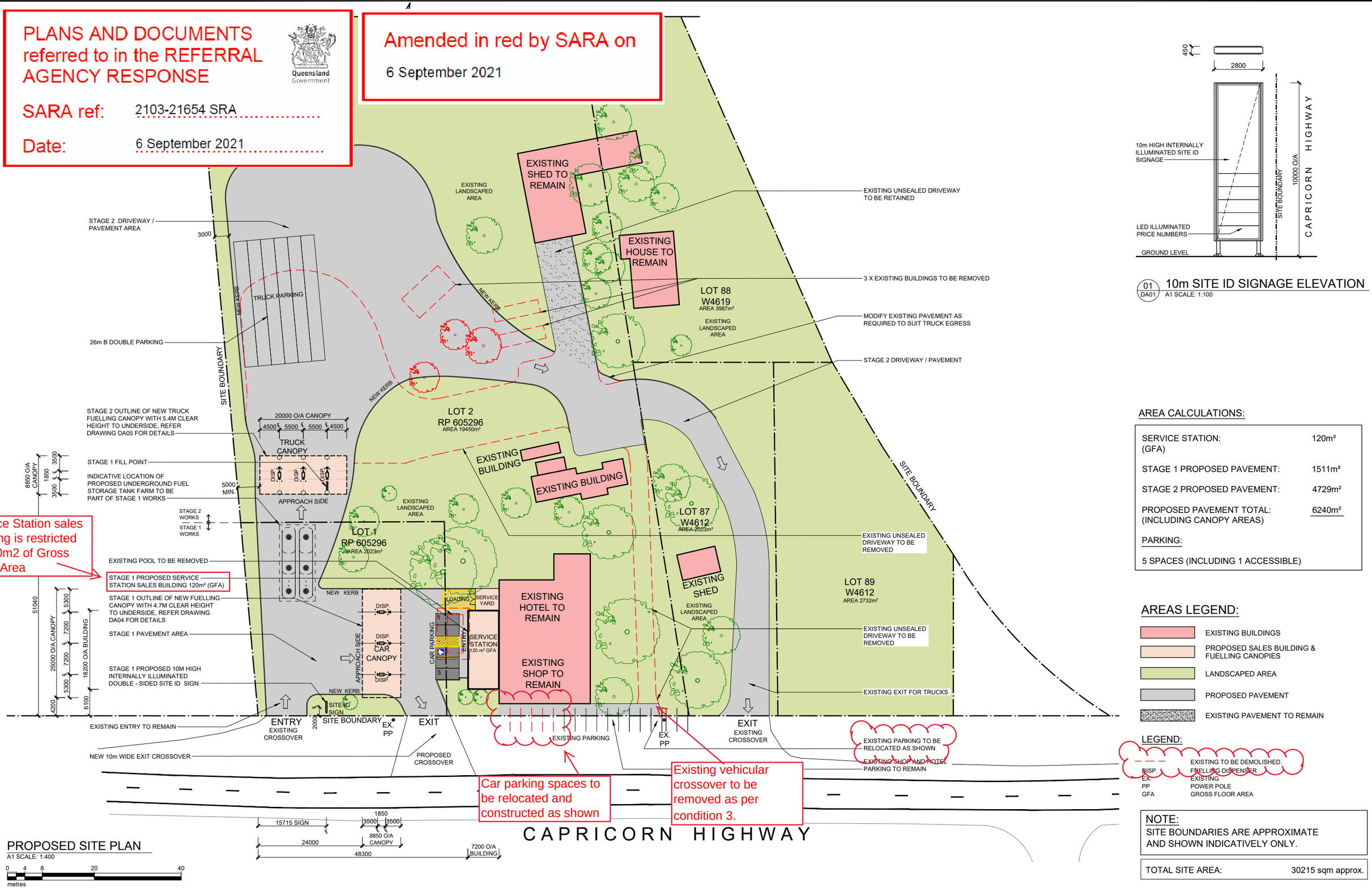
Queensland Government

SARA ref: 2103-21654 SRA

Date: 6 September 2021

Amended in red by SARA on

6 September 2021



Service Station sales building is restricted to 120m2 of Gross Floor Area

PROPOSED SITE PLAN

A1 SCALE: 1:400

0 4 8 20 40 metres

01 DA01 10m SITE ID SIGNAGE ELEVATION

A1 SCALE: 1:100

AREA CALCULATIONS:

SERVICE STATION: (GFA)	120m²
STAGE 1 PROPOSED PAVEMENT:	1511m²
STAGE 2 PROPOSED PAVEMENT:	4729m²
PROPOSED PAVEMENT TOTAL: (INCLUDING CANOPY AREAS)	6240m²

PARKING:

5 SPACES (INCLUDING 1 ACCESSIBLE)

AREAS LEGEND:

- EXISTING BUILDINGS
- PROPOSED SALES BUILDING & FUELLING CANOPIES
- LANDSCAPED AREA
- PROPOSED PAVEMENT
- EXISTING PAVEMENT TO REMAIN

LEGEND:

- EXISTING TO BE DEMOLISHED.
- DISP. FUELLING DISPENSER
- EX. PP EXISTING POWER POLE
- GFA GROSS FLOOR AREA

NOTE:
SITE BOUNDARIES ARE APPROXIMATE AND SHOWN INDICATIVELY ONLY.

TOTAL SITE AREA: 30215 sqm approx.

FOR DEVELOPMENT APPROVAL

No	Date	Amendment	By
D	12.08.2021	REVISED BUILDING & TRUCK CANOPY	PP
C	13.05.2021	CANOPY LOCATION REVISED / BUILDING REDUCED	PP
B	24.02.2021	CAR CANOPY REVISED	PP
A	23.02.2021	ORIGINAL ISSUE	PP

MCHP ARCHITECTS
ABN 21 096 632 450
SUITE 5, 38-46 ALBANY ST.
ST LEONARDS NSW 2065
TELEPHONE: 02 9436 2222
FACSIMILE: 02 9439 1340
www.mchp.com.au

Client: **SINGH BROS**

Project: **SERVICE STATION DEVELOPMENT**
LOT 1 & 2 PLAN 605296, LOTS 87 & 89 PLAN W4612 & LOT 88 W4619
4589 CAPRICORN HIGHWYAY WESTWOOD
WESTWOOD, QLD 4702

Drawing Title: **PROPOSED SITE PLAN**

A1 Scale	A3 Scale	Date	Drawn
1:400	HALF A1 SCALE	22.02.2021	PP

Drawing No: **20-041 DA01**

Revision: **D**

QUOTATION

DATE	OUR REF.
19.05.21	067-20-21

REPORT TYPE

Stormwater Management plan

PROJECT

Westwood Service Station

CLIENT

Singh Bros Qld Pty Ltd

PLANS AND DOCUMENTS
referred to in the REFERRAL
AGENCY RESPONSE

Queensland Government

SARA ref: 2103-21654 SRA

Date: 16 June 2021

mcmurtrie
CONSULTING ENGINEERS

DOCUMENT CONTROL

Revision History			
Revision No	**Date**	**Checked By**	**Issued By**
A	19.05.2021	MM	CWH

CONTENTS

1 INTRODUCTION AND APPROACH

1.1 PROJECT OVERVIEW

McMurtrie Consulting Engineers (MCE) have been commissioned by Singh Bros Qld Pty Ltd to undertake a site-based Stormwater Management Plan (SMP) for a proposed service station located at located at lot 1 Coverley street, Westwood – described as lot 1 and 2 on RP605296, lot 88 on W4619 and lots 87 and 89 on W4612.

The aim of this SWMP is to demonstrate that the proposed development will comply with Capricorn Municipal Development Guidelines (CMDG), Queensland Urban Drainage Manual (QUDM 2016), Australian Rainfall and Runoff 2016 (ARR'19) and State Planning Policy (SPP 2017).

1.2 METHODOLOGY

The assessment methodology adopted for this SWMP is summarised below.

- Broadly identify the contributing catchments to the project.
- Identify Lawful Point of Discharge (LPOD) for the site stormwater runoff.
- Identify the critical storm event and duration for this project
- Estimate peak discharge runoff for pre-development and post-development scenarios.
- Identify potential mitigation and management strategies to be implemented during the construction and operational phases to ensure no worsening to downstream catchments and infrastructure.
- Assess the stormwater quality treatment requirements for the project.

1.3 DATA SOURCES

The background data used to undertake this assessment were collected from the following sources:

- ARR'16 data hub
    - Rainfall data
    - Design storm ensemble temporal patterns
- Queensland globe satellite imagery of existing site condition
- Geoscience Australia ELVIS - Elevation Foundation Spatial Data
- Preliminary overall layout plans
- Pluviograph rainfall data for the 'Rockhampton Aero' station (BOM)

2 SITE CHARACTERISTICS

2.1 SITE LOCATION

The proposed project site is located at lot 1 Coverley street, Westwood – described as lot 1 and 2 on RP605296, lot 88 on W4619 and lots 87 and 89 on W4612. Site details have been summarised within Table 1 and a Queensland Globe Extract is presented as Figure 1.

Table 1: Site Description

Developer	Property and Location	
	Lot and Property Description	**Address**
REO Heavy Equipment Repairs	lot 1 and 2 on RP605296, lot 88 on W4619 and lots 87 and 89 on W4612	Lot 1 Coverley street, Westwood

Figure 1: Site Location ***[source: QLD Globe]***

The site is bounded by the Capricorn highway to the West, Coverley street to the east, Residential lots to the north, and a drainage course to the south. Refer Appendix A for proposed lot layout.

2.2 TOPOGRAPHY

The development site currently consists of vacant land, gravel roads and existing structures. The existing site is approximately 16 ha in land area. The existing site drains in two separate locations, Lots 1 and 2 on RP605296 and 87 W4612 drain east to west at 1% into Capricorn highway road reserve whereas Lot 88 on W4619 and lot 89 W4612 drains north to south into the existing drainage easement. The variation to the proposed site is constrained within the western half, in order to avoid burdening the mitigation infrastructure MCE propose excluding the unchanged portion of the site from assessment and providing a bund to keep the runoff separate.

3 HYDROLOGY ASSESSMENT

3.1 LAWFUL POINT OF DISCHARGE

The stormwater strategy contained within this report will discharge stormwater the existing drainage easement. This flow is not anticipated to cause an actionable nuisance to downstream properties.

3.2 HYDRAULIC MODELLING

Hydrologic calculations have been undertaken using XPSTORM 2020.1 for pre and post development scenarios. The modelling within XPSTROM environment has been undertaken to estimate the peak discharge for storms up to 1% AEP. Hydrologic modelling has been undertaken using the Laurenson Runoff Routing Method. Laurenson's Method is an industry leading hydrologic routing method that can be used for catchments ranging between 10m^2 up to 20,000km^2. The information required to apply Laurenson's Method include:

- Rainfall Intensity Data (obtained from the Bureau of Meteorology 2016 IFD utility)
- Rainfall Temporal Patterns (obtained from the ARR'19 Data Hub)
- Catchment Area (ha)
- Catchment Slope
- Initial and Continuing Infiltration Data
- Catchment Roughness (Manning's 'n')

Given the relatively limited scope of this hydraulic impact assessment a lumped catchment approach, as defined by ARR'19 and shown in Figure 2 below, was applied to the hydrologic review of the site. The lumped approach is suitable for this site given the relative consistency in land use and the ultimate purpose of the model. There is also no historical data available to allow for a comparison or calibration for this location.

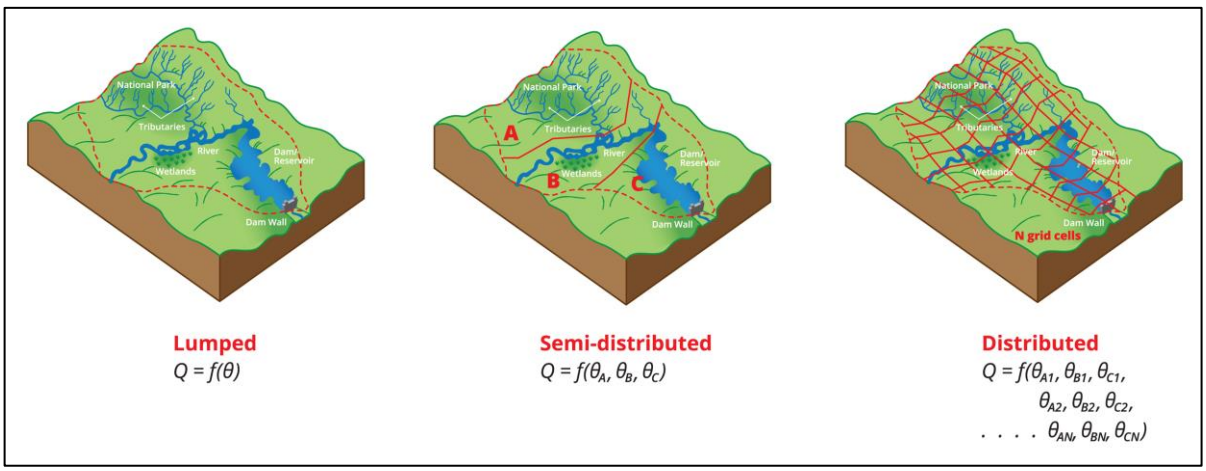


Figure 2: Catchment Analysis Options

3.2.1 CATCHMENT HYDROLOGY PARAMETERS

Below tables summarise the catchment properties of pre-development and post-development scenarios excluding the unchanged areas which are to be separate from development extents.

Table 2: Pre-Development Model Parameters (XP Storm)

Parameter		Land Description			
		Grass	Unsealed Hardstand		Roof Area
		Pervious	Pervious	Impervious	Impervious
Area (ha)		0.966	0.264	0.265	0.142
Impervious (%)		0	0	100	100
Slope (%)		1	1	1	33
Laurenson 'n' (storage non-linearity exponent)		-0.285	-0.285	-0.285	-0.285
Infiltration	Initial Loss (mm/hr)	0	0	0	0
	Continuing Loss (mm/hr)	1.9	1.9	0	0
Manning's Roughness (n)		0.030	0.023	0.023	0.022

Table 3: Post-Development Model Parameters (XP Storm)

Parameter		Land Description				
		Grass	Unsealed Hardstand		Sealed road	Roof Area
		Pervious	Pervious	Impervious	Impervious	Impervious
Area (ha)		0.708	0.022	0.023	0.741	0.141
Impervious (%)		0	0	100	100	100
Slope (%)		15	1.1	15	1.1	1.1
Laurenson 'n' (storage non-linearity exponent)		-0.285	-0.285	-0.285	-0.285	-0.285
Infiltration	Initial Loss (mm/hr)	0	0	0	0	0
	Continuing Loss (mm/hr)	1.9	1.9	0	0	0
Manning's Roughness (n)		0.030	0.023	0.023	0.015	0.022

Applying no initial losses within the model is consistent with the requirements of both ARR'87 and ARR'19. ARR'19 states that there is no evidence that infiltration losses change with respect to the recurrence interval being modelled and that continuing losses can be applied equally to frequent and rare events.

3.2.2 HYDROLOGY RESULTS

Applying the ARR'19 ensemble temporal patterns to the pre and post developed catchments allowed the identification of the critical duration for the mean minor and major storm event. Below figures are the Box and Whisker plot taken from XPSTORM software. This plot shows the comparison of storm ensembles for different durations for minor and major storm events.

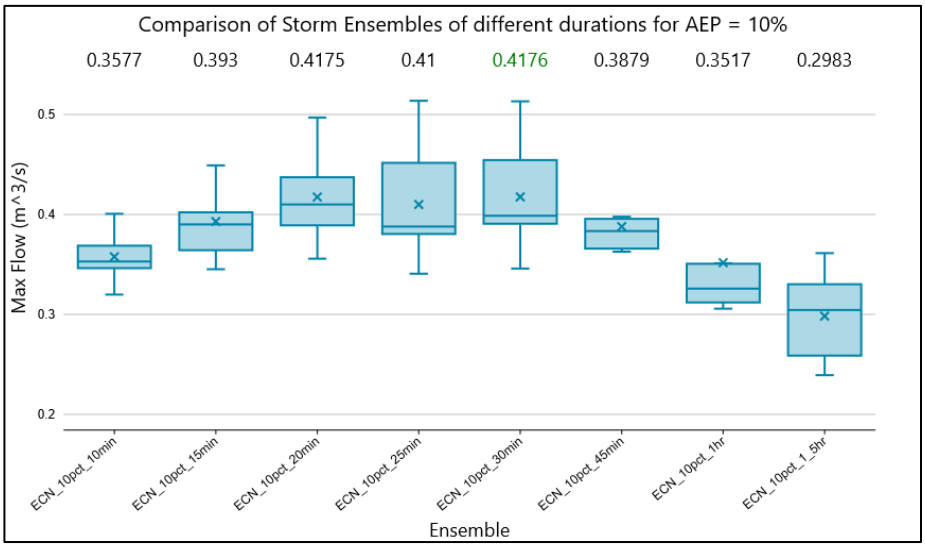


Figure 3: Comparison of Storm Ensembles of different durations for Pre-Development minor event (10% AEP) (XP Storm Model)

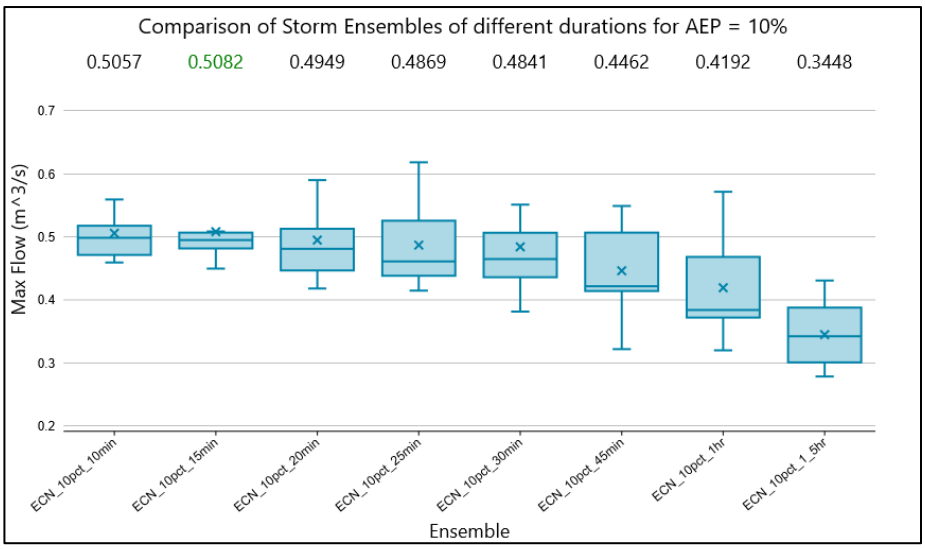


Figure 4: Comparison of Storm Ensembles of different durations for Post-Development minor event (10% AEP) (XP Storm Model)

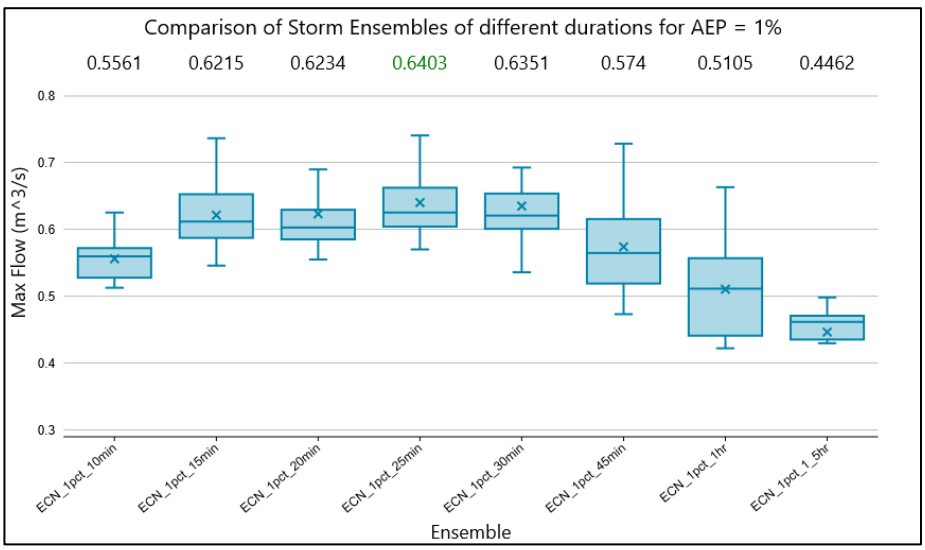


Figure 5: Comparison of Storm Ensembles of different durations for Pre-Development major event (1% AEP) (XP Storm Model)

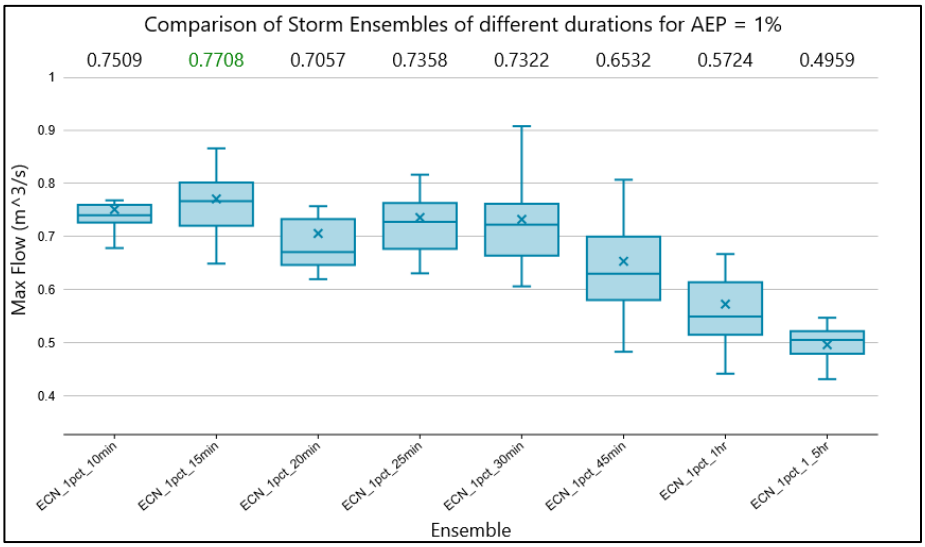


Figure 8: Comparison of Storm Ensembles of different durations for Post-Development major event (1% AEP) (XP Storm Model)

The results of each of the ensembles are summarised in Table 6. The same storm events are applied to the hydraulic analysis.

Table 4: Critical Storm Events

Annual Exceedance Probability (AEP)	Pre-Developed Site Critical Storm Event	Post-Developed Site Critical Storm Event
10% AEP (Minor Event)	10pct_30min_9	10pct_15min_1
1% AEP (Major Event)	1pct_25min_5	1pct_25min_8

4 HYDRAULIC ASSESMENT

4.1 BACKGROUND

The hydraulic assessment for the site has been carried out using XPSTORM 2020.1. The main aim of the hydraulic modelling is to demonstrate that the post-development minor and major storm peak discharge at the LPOD is equal or less than peak pre-development discharge. This aim will be achieved by detaining the site runoff via an open detention basin within the development site.

4.2 DETENTION

It is proposed to provide a 313m^3 open detention basin with 1m in depth at the southern boundary abutting the drainage easement, to ensure there will be no adverse impacts on downstream properties and infrastructure. Post-development flows from the commercial development will be directed. At this stage of the development no routing has been modelled, this is conservative as this infrastructure will provide additional detention.
Table 7 summarises the peak discharge at the LPOD for different scenarios.

Table 7: Peak Discharge at LPOD

Storm Event (AEP)	Pre-Development (m^3/s)	Post-Development without Detention (m^3/s)	Post-Development with Detention (m^3/s)		
			Pipe Outlet	Weir Outlet	Total
10% AEP (Minor Event)	0.438	0.518	0.351	0	0.351
1% AEP (Major Event)	0.642	0.754	0.477	0.049	0.526

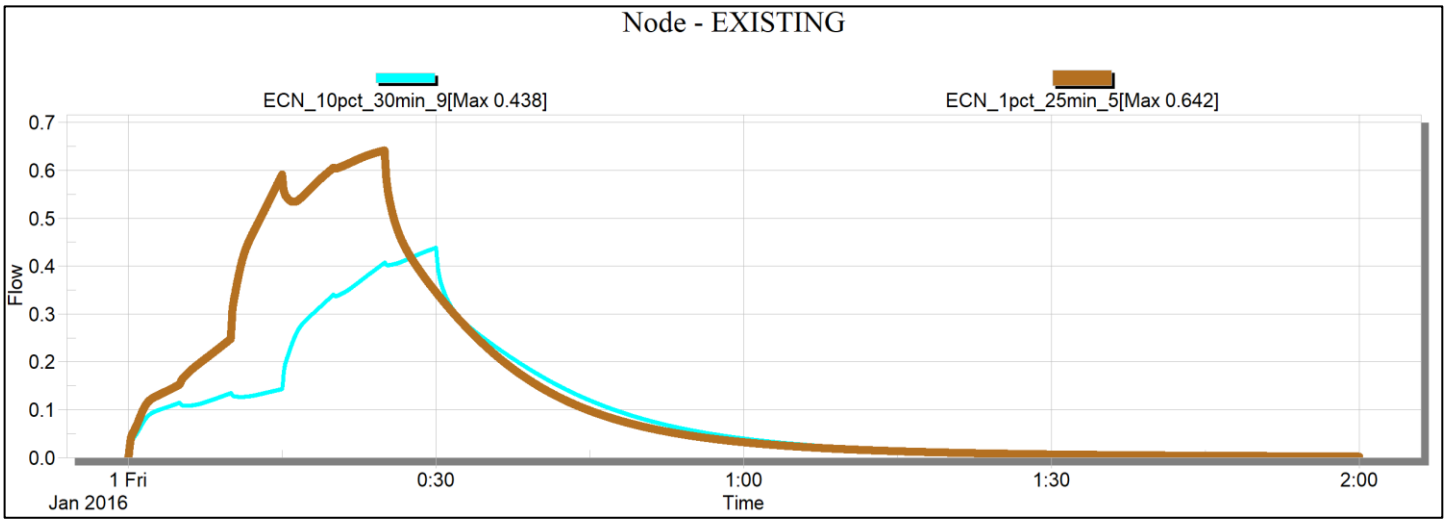


Figure 11: Pre-Development Peak Discharge at LPOD

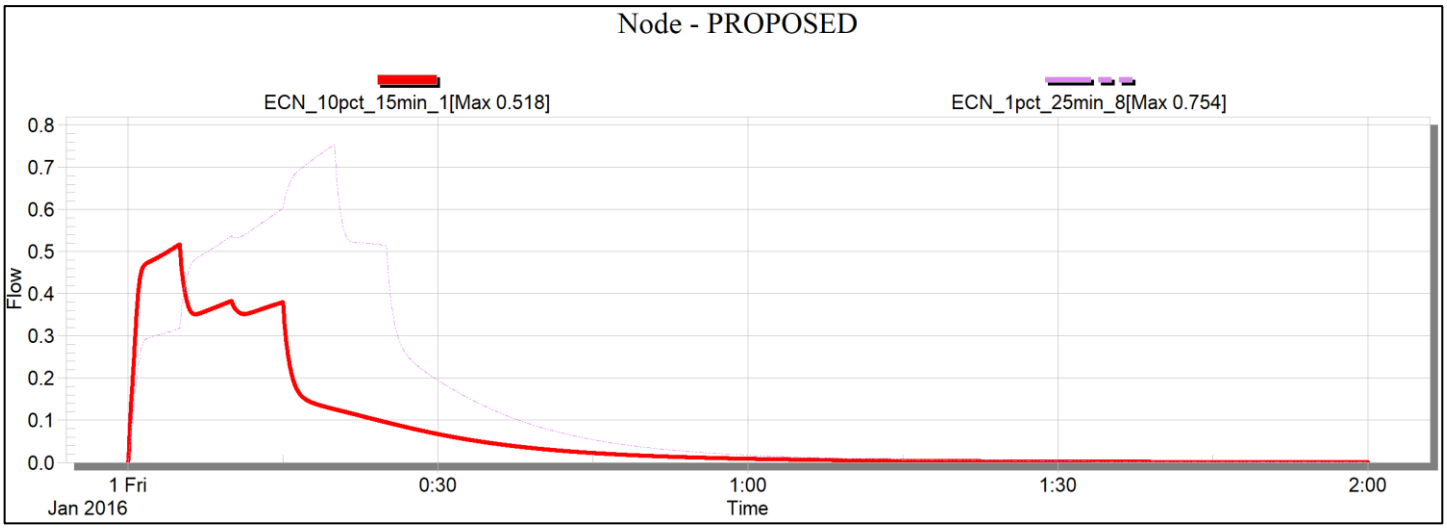


Figure 12: Post-Development Peak Discharge at LPOD (unmitigated

Table 8 summarises the detention basin parameters to achieve the target mitigated pre-development flow rates.

Table 8: Detention Basin Parameters

Total Effective Detention Volume	**313m³**
Basin invert level (stage 0 in model)	**154.1 AHD**
Extended Detention Depth over Bio-Filter (Not included in effective detention volume)	**0.3m**
Peak Water Level in 1% AEP	**154.994m AHD**
Peak Water Depth at 1% AEP	**0.894m**
Primary Discharge Structure	**450mm dia RCP**
Primary discharge Invert Level	**154.1 AHD**
Secondary Discharge Structure	**1m Weir**
Secondary Discharge Invert Level	**154.9m**

Figure 13 and 14 shows the hydraulic behaviour of the proposed 450 dia out pipe, proposed overflow weir and basin stage in post-development conditions. The post-development peak discharge rate is less than the pre-development runoff and will not adversely impact on downstream properties or structures.

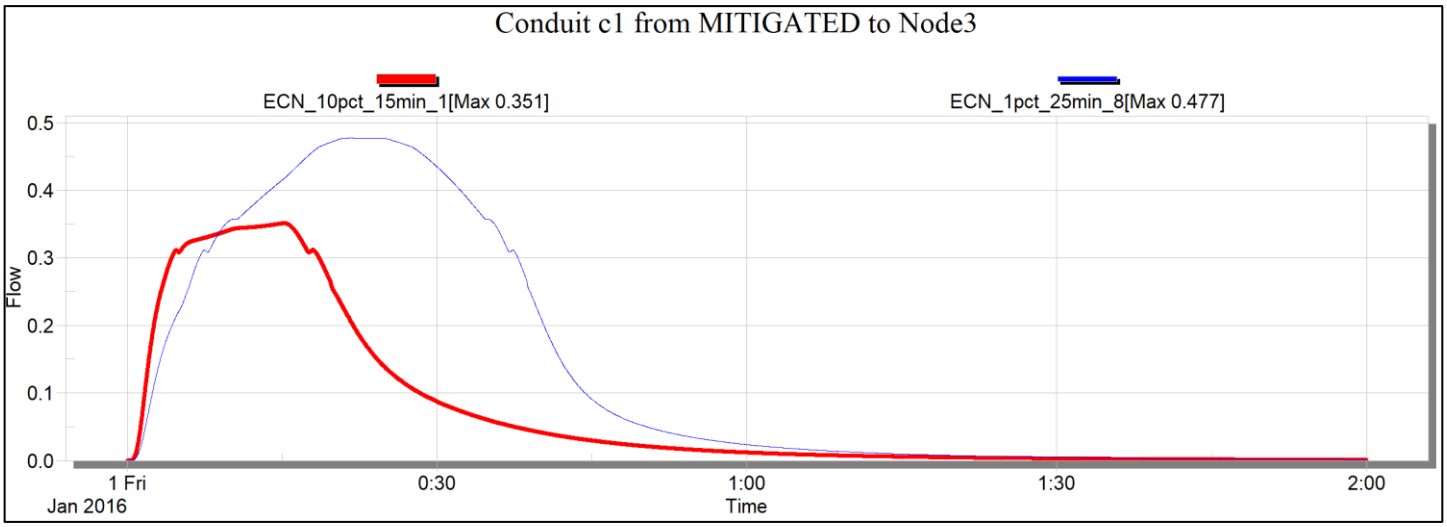


Figure 13: Post Development discharge through 450mm dia outlet

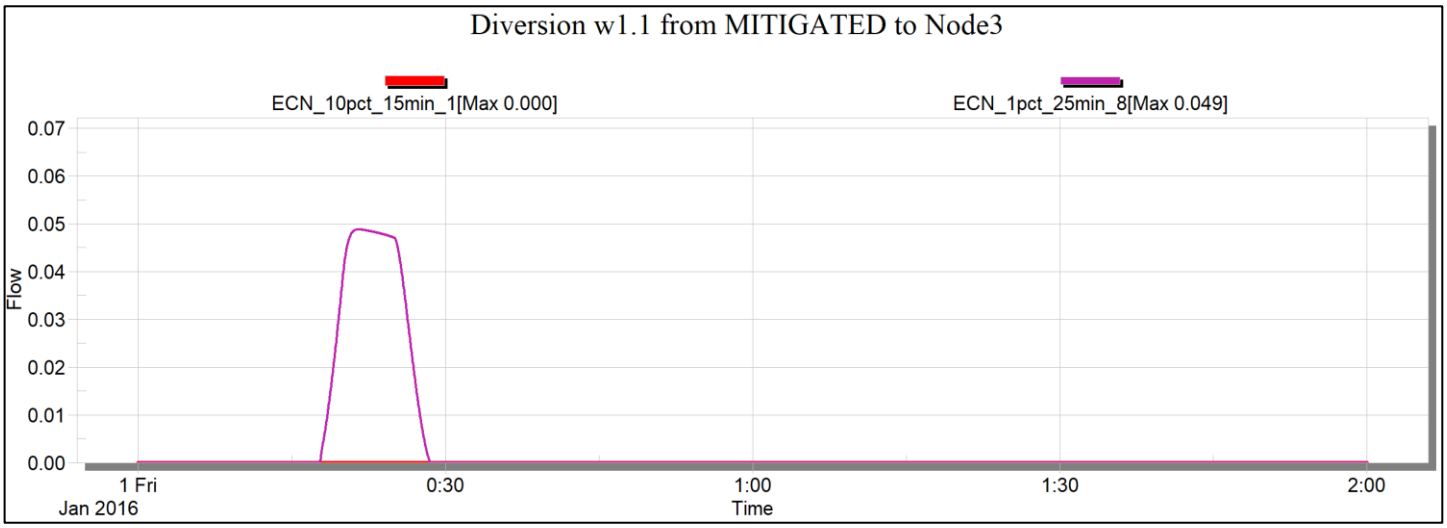


Figure 14: Post Development discharge over 1m wide overflow weir

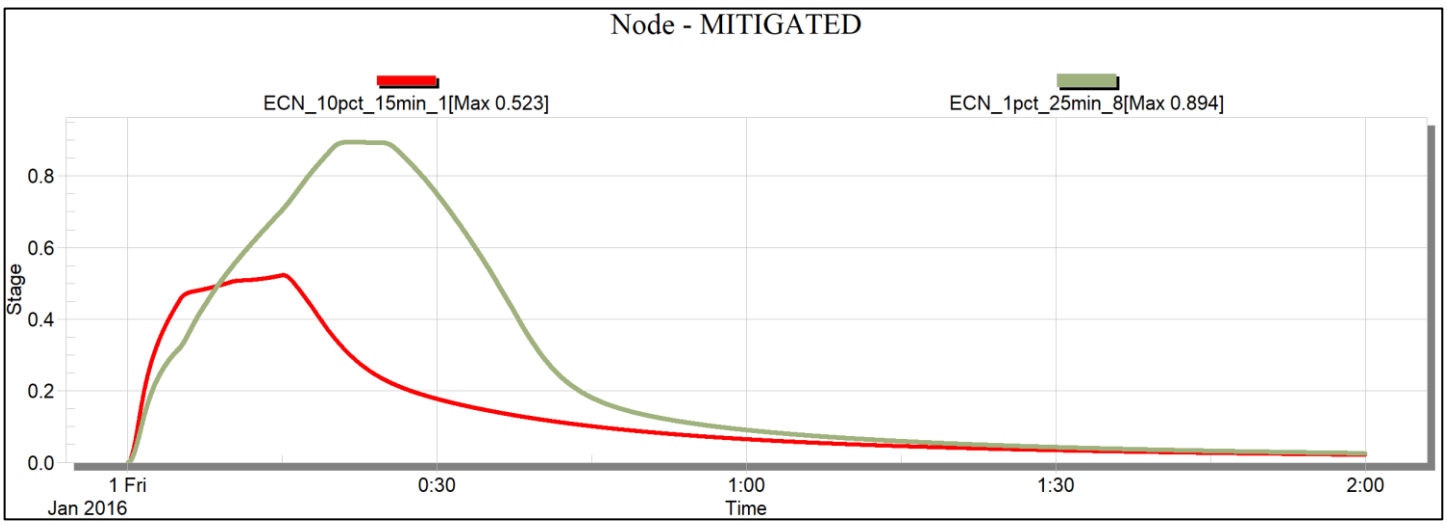


Figure 15: Post Development depth in proposed detention basin

5 QUALITY ASSESSMENT

5.1 BACKGROUND

During the construction phase of the development, disturbances to the existing ground have the potential to significantly increase sediment loads entering downstream drainage systems and watercourses.

There are two categories of pollutants generated during operational phase of the development: Those associated with SPP (suspended solids, phosphorus, nitrogen and gross pollutants), and those associated with service station operation.

In accordance with the State Planning Policy (SPP) (DILGP, July 2017), the site is situated within Western Queensland climatic region. As Westwood is less than 25,000 persons, the SPP Water Quality Objectives (WQO) do not apply and site specific operational treatment is not required.

All pollutants associated with the operation of the proposed service station will be addressed by grading a sag between all fuel bowsers and providing a proprietary underground treatment system. This system will be specified in detailed design for the operational works.

5.2 CONSTRUCTION PHASE

5.2.1 KEY POLLUTANTS

During the construction phase a number of key pollutants have been identified for this development. Table 10 illustrates the key pollutants that have been identified.

Table 10: Key Pollutants – Construction Phase

Pollutant	Sources
Litter	Paper, construction packaging, food packaging, cement bags, material off cuts.
Sediment	Exposed soils and stockpiles during earthworks and building works.
Hydrocarbons	Fuel and oil spills, leaks from construction equipment and temporary car park areas.

5.2.2 SEDIMENT AND EROSION CONTROLS

Sediment and erosion control devices (S&EC) employed on the site shall be designed and constructed in accordance with IECA Australasia Best Practice Erosion & Sediment Control Guidelines (2008).

PRE-CONSTRUCTION

- Stabilised site access/exit on Wade Street.
- Sediment fences to be located along the contour lines downstream of disturbed areas.
- Diversion drains to divert clean runoff around the construction site.
- Educate site personnel to the requirements of the Sediment and Erosion Control Plan.

CONSTRUCTION

- Maintain construction access/exit, sediment fencing, catch drains and all other existing controls as required.
- Progressively surface and revegetate finished areas as appropriate.

During construction, all areas of exposed soils allowing dust generation are to be suitably treated. Treatments will include mulching the soil and watering. Road access is to be regularly cleaned to prevent the transmission of soil on vehicle wheels and eliminate any build-up of typical road dirt and tyre dusts from delivery vehicles.
Adequate waste disposal facilities are to be provided and maintained on the site to cater for all waste materials such as litter hydrocarbons, toxic materials, acids or alkaline substances.

Appendix A – Concept Stormwater Layout

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63 Charles Street
NORTH ROCKHAMPTON Q 4701

OUR AFFILIATIONS

ENGINEERS AUSTRALIA

AS/NZS ISO 9001:2008 Quality Management System Certified
Registration Number 225

Local Buy
Register of Pre-Qualified Suppliers (RPQS)
Engineering Consultancy Services
Contract: BUS 226-0212

LEGEND

- GRASS AREA INCLUDED IN STORMWATER MANAGEMENT PLAN
- GRAVEL AREA
- ROOF AREA INCLUDED IN STORMWATER MANAGEMENT PLAN
- GRASS AREA EXCLUDED FROM STORMWATER MANAGEMENT PLAN
- ROOF AREA EXCLUDED FROM STORMWATER MANAGEMENT PLAN

N

10 0 10 20 30 40 50m

SCALE 1:500 @ A1 SCALE 1:1 000 @ A3

PREDEVELOPMENT LAYOUT PLAN

SCALE 1:500(A1) 1:1000(A3)

INFORMATION ONLY

SURVEYOR
N/A
ADDRESS:
CO-ORDINATE DATUM
HEIGHT DATUM

DRAWING No.	REFERENCE DRAWING TITLE	REV	DATE	REVISION DESCRIPTION	DFT	DFT CHK	DES	DES CHK
		A	19/05/2021	SUBMITTED FOR INFORMATION	IBB	IBB	IBB	CH

	BY	DATE
REVIEWED		
RPEQ ENG		

RPEQ No:

CLIENT

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SCALE: AS SHOWN

PREPARED BY 0672021
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CLIENT BAINSCO PTY LTD
PROJECT WESTWOOD SERVICE STATION
TITLE PREDEVELOPMENT CATCHMENT LAYOUT

A1 | DRAWING NUMBER 0672021-SMP-001 | REVISION A

DRAWING LOCATION: S:\PROJECT RECORDS\20\21067-20-21 - WESTWOOD SERVICE STATION\DESIGN\DWGS\STORMWATER LAYOUT.DWG
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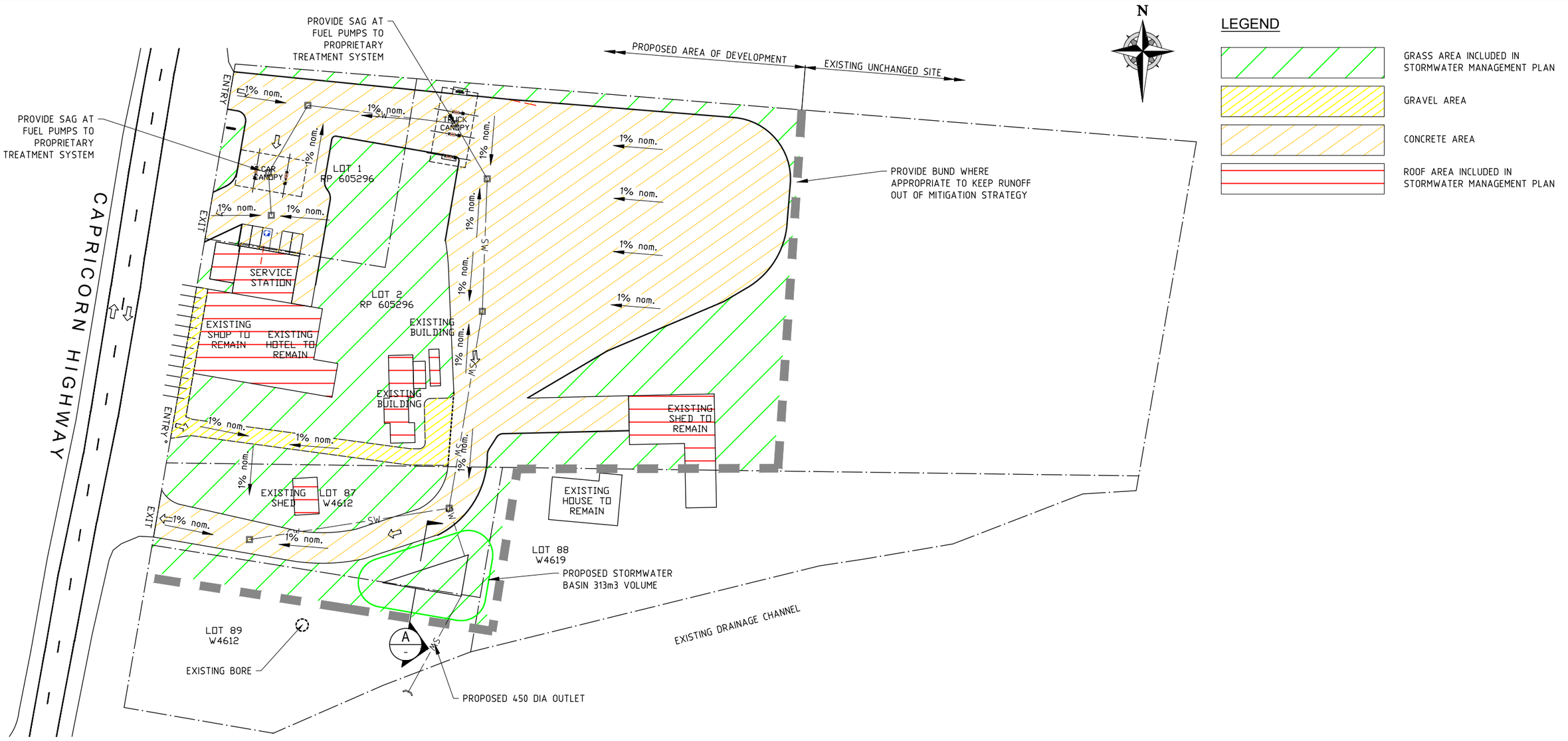
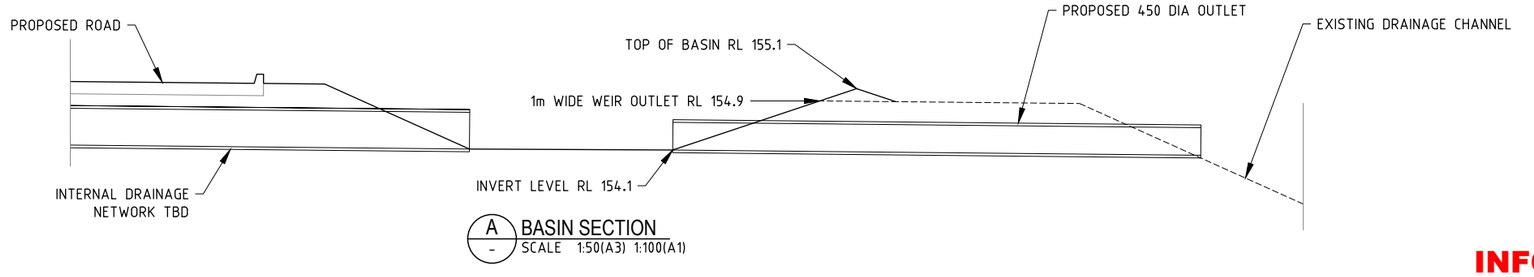


POSTDEVELOPMENT LAYOUT PLAN
SCALE 1:500(A1) 1:1000(A3)



A - BASIN SECTION
SCALE 1:50(A3) 1:100(A1)

1 0 1 2 3 4 5m
SCALE 1:50 @ A1 SCALE 1:100 @ A3

10 0 10 20 30 40 50m
SCALE 1:500 @ A1 SCALE 1:1 000 @ A3

INFORMATION ONLY

REV	DATE	REVISION DESCRIPTION	DFT	DFT CHK	DES	DES CHK
A	19/05/2021	SUBMITTED FOR INFORMATION	IBB	IBB	IBB	CH

SURVEYOR: N/A
ADDRESS:
CO-ORDINATE DATUM
HEIGHT DATUM

	BY	DATE
REVIEWED		
RPEQ ENG		

RPEQ No:

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SCALE: AS SHOWN

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CLIENT BAINSCO PTY LTD
PROJECT WESTWOOD SERVICE STATION
TITLE POSTDEVELOPMENT CATCHMENT LAYOUT

A1
DRAWING NUMBER 0672021-SMP-002
REVISION A

DRAWING LOCATION: S:\PROJECT RECORDS\20-21\067-20-21 - WESTWOOD SERVICE STATION\DESIGN\DWGS\STORMWATER LAYOUT.DWG
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