Queensland Government

Queensland Treasury

SARA reference: 2006-17215 SRA
Council reference: D/55-2020
Applicant reference: GTP2005

4 September 2020

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

Attention: Bevan Koelmeyer

Dear Sir/Madam

SARA response—12 Queen Elizabeth Drive, Berserker; 36 Brown Street, Berserker

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

The development application described below was confirmed as properly referred by the State Assessment and Referral Agency (SARA) on 19 June 2020.

Response

Outcome:	Referral agency response – with conditions.
Date of response:	4 September 2020
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 Service Station Operational Works (Advertising Devices)
SARA role:	Referral Agency.	
SARA trigger:	Schedule 10, Part 9, Division 4, Subdivision 2, Table 4 (Planning Regulation 2017)	

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

	Development application for a material change of use within 25m of a State-controlled road
SARA reference:	2006-17215 SRA
Assessment Manager:	Rockhampton Regional Council
Street address:	12 Queen Elizabeth Drive, Berserker; 36 Brown Street, Berserker
Real property description:	Lot 1 on SP152745; lot 3 on RP605097
Applicant name:	RCI Group
Applicant contact details:	c/- Gideon Town Planning PO Box 450 Rockhampton QLD 4700 gg@gideontownplanning.com.au
State-controlled road access permit:	This referral included an application for a road access location, under section 62A(2) of *Transport Infrastructure Act 1994*. Below are the details of the decision: • Approved • Reference: TMR20-030297 • Date: 4 September 2020 If you are seeking further information on the road access permit, please contact the Department of Transport and Main Roads at CorridorManagement@tmr.qld.gov.au.

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 Tracey Beath, Senior Planning Officer, on (07) 4924 2917 or via email RockhamptonSARA@dsdmip.qld.gov.au who will be pleased to assist.

Yours sincerely

Anthony Walsh
Manager Planning

cc RCI Group c/- Gideon Town Planning, gg@gideontownplanning.com.au

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—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 the following plan: • Proposed Site Plan prepared by TRG dated 12 August 2020, reference TP03 and revision P7 (as amended in red by SARA to show: o permitted road access locations o signage and line marking o painting of cycle path).	Prior to the commencement of use and to be maintained at all times.
2.	(a) The permitted road access locations are to be located generally in accordance with the Proposed Site Plan prepared by TRG dated 12 August 2020, reference TP03 and revision P7 (as amended in red by SARA). (b) Road access works comprising of Commercial Driveways, (at the permitted road access locations) must be provided generally in accordance with Type A – Two Way Access Commercial Driveway Slab of the Capricorn Municipal Development Guideline dated December 2016, reference CMDG-R-042 and revision F. (c) The road access works must be designed and constructed in accordance with the Capricorn Municipal Development Guidelines, the Department of Transport and Main Roads' (DTMR) Manual of Uniform Traffic Control Devices and Road Planning and Design Manual (including DTMR specifications).	(a) At all times. (b) Prior to the commencement of use. (c) Prior to the commencement of use.
3.	The existing footpath along Queen Elizabeth Drive, specifically the kerb ramps at Brown Street, must be modified as necessary to clearly direct pedestrians across Brown Street in a direct straight path between the two kerb ramps (crossing Brown Street). The kerb ramps on both sides of Brown Street must be provided with Tactile Ground Surface Indicators (TGSIs) in accordance with the DTMR's specifications and standard drawings.	Prior to the commencement of use.
4.	The sections of the existing cycle lane on Queen Elizabeth Drive crossing the new accesses must be painted green (as a "Priority Cycle Path") generally in accordance with the Proposed Site Plan prepared by TRG dated 12 August 2020, reference TP03 and revision P7 (as amended in red by SARA) and the DTMR's Manual of Uniform Traffic Control Devices and the DTMR's specifications.	Prior to the commencement of use.
5.	(a) The development must be carried out generally in accordance with sections 2, 3, 4 and 5 of the Water Cycle Management Plan prepared by Eclipse Consulting Engineers dated 13 August 2020, reference 10061-001A-wcmp. (b) Registered Professional Engineer of Queensland (RPEQ)	(a) At all times. (b) Prior to the

	certification with supporting documentation must be provided to the Manager of Project Planning and Corridor Management at email CorridorManagement@tmr.qld.gov.au within the Department of Transport and Main Roads, confirming that the development has been designed and constructed in accordance with part (a) of this condition.	commencement of use.
6.	Signage (R5-35 (L & R), indicating “No Stopping” (supplemented with a painted yellow pavement line marking) is to be installed between the ingress and egress driveways to Queen Elizabeth Drive in accordance with the DTMR’s Manual of Uniform Traffic Control Devices.	Prior to the commencement of use.

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 access 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' at email address CorridorManagement@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 may 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 the SARA's decision are:

- the proposed development is for a service station
- traffic generated by the proposed development is not considered to adversely impact on Queen Elizabeth Drive (State-controlled road). Driveway accesses to Queen Elizabeth Drive will be appropriately located and designed. Signage and line marking will be installed to aid in management of traffic impacts and safety
- stormwater from the site will be directed away from Queen Elizabeth Drive and is not considered to adversely impact on the State-controlled road
- the development complies with relevant provisions of State code 1 of the State Development Assessment Provisions, version 2.6, subject to the 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)
- 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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Our ref TMR20-030297
Your ref
Enquiries Anton DeKlerk

Queensland Government

Department of
Transport and Main Roads

4 September 2020

RCI Group
c/- Gideon Town Planning
PO BOx 450
Rockhampton QLD 4700

Decision Notice – Permitted Road Access Location

(s62(1) *Transport Infrastructure Act 1994***)**

This is not an authorisation to commence work on a state-controlled road[1]

Development application reference number D/55-2020, lodged with Rockhampton Regional Council involves constructing or changing a vehicular access between Lot 1 SP152745 and Lot 3 RP605097, the land the subject of the application, and Queen Elizabeth Drive (also known as Road 196 Rockhampton–Yeppoon Road) (a state-controlled road).

In accordance with section 62A(2) of the *Transport Infrastructure Act 1994* (TIA), this development application is also taken to be an application for a decision under section 62(1) of TIA.

Decision (given under section 67 of TIA)

It has been decided to approve the application, subject to the following conditions:

No.	Conditions of Approval	Condition Timing
Road Access Location		
1	The permitted road accesses are to be located generally in accordance with Proposed Site Plan prepared by TRG, dated 12 August 2020, reference TP03 and revision P7, at: • Approximate Chainage 1.66km (Lat: -23.371474; Long:150.519329) • Approximate Chainage 1.69km (Lat: -23.371274; Long: 150.519466)	At all times.
2	Road access works comprising ingress (at the road access location), must be provided generally in accordance with Type A Two Way Access Commercial Driveway Slab prepared by Capricorn Municipal Development Guidelines dated December 2016, reference CMDG-R-042 and revision F. (i) The ingress must be modified to be angled in accordance with the Proposed Site Plan prepared by TRG, dated 12 August 2020, reference TP03 and revision P7, preventing egress from the site to the state-controlled road.	Prior to the commencement of use.

[1] Please refer to the further approvals required under the heading 'Further approvals'

No.	Conditions of Approval	Condition Timing
	(ii) The ingress from the state-controlled road to the site must be limited to left-in movements only. (iii) "No Entry" (R2-4) signs must be provided within the site on both sides of the ingress (facing towards the site), in accordance the Manual of Uniform Traffic Control Devices (MUTCD). (iv) "Directional arrows" must be provided in accordance with the Proposed Site Plan prepared by TRG, dated 12 August 2020, reference TP03 and revision P7.	
3	Road access works comprising egress (at the road access location), must be provided generally in accordance with Type A Two Way Access Commercial Driveway Slab consistent with Capricorn Municipal Development Guidelines dated December 2016, reference CMDG-R-042 and revision F. (i) The egress must be modified to be angled in accordance with the Proposed Site Plan prepared by TRG, dated 12 August 2020, reference TP03 and revision P7, preventing ingress to the site from the state-controlled road. (ii) The egress to the state-controlled road must be limited to left-out movements only. (iii) "All traffic turn left" (R2-14(L)) signs must be provided within the site on both sides of the egress (facing towards the site) in accordance the MUTCD. (iv) "Directional arrows" must be provided in accordance with the Proposed Site Plan prepared by TRG, dated 12 August 2020, reference TP03 and revision P7.	Prior to the commencement of use.
4	"No Stopping" (R5-35 (L & R)) signs, supplemented with a painted yellow pavement line marking between the ingress and the egress driveways must be provided in accordance with the requirements of the MUTCD.	Prior to the commencement of use.
5	"No Caravans or Trailers" sign must be provided at the first bowser, located closest to Queen Elizabeth Drive (the state-controlled road) in accordance with the Proposed Site Plan prepared by TRG, dated 12 August 2020, reference TP03 and revision P7.	At all times.
6	The use of the accesses is limited to articulated vehicles not exceeding 15.38 metres in length and rigid vehicles not exceeding 8.8 metres in length.	At all times.
7	Direct access is prohibited between Queen Elizabeth Drive (the state-controlled road) and Lot 1 SP152745 at any other location other than the permitted road access locations described in Condition 1.	At all times.

No.	Conditions of Approval	Condition Timing
8	Any other existing vehicular property access (other than described in condition 1) located between Lot 1 SP152745 and Queen Elizabeth Drive (the state-controlled road) must be permanently closed and removed and the verge areas and table drains reinstated to a condition similar to the adjacent verge areas.	Prior to the commencement of use.
9	The road accesses are to be constructed and maintained at no cost to the department in accordance with section 64(a) & (b) of the *Transport Infrastructure Act 1994*.	At all times.
10	The applicant shall be responsible for all maintenance works for the accesses in accordance with Module 9 of the Local Government Association of Queensland document 'TMR/Local Government Cost Sharing Arrangement', dated October 2017.	At all times
11	All vehicles entering and/or exiting the property via the Permitted Road Access locations must travel in a forward direction only.	At all times.
12	Reasonable steps are taken to ensure that the permitted road accesses are used by others in accordance with these conditions.	At all times.

Reasons for the decision

The reasons for this decision are as follows:

a) To maintain the safety and efficiency of the state-controlled road.
b) To ensure the vehicular accesses are consistent with the functional requirements of the state-controlled road.
c) To ensure the vehicular accesses do not compromise safety of the users of the state-controlled road network or any other transport infrastructure.
d) To ensure vehicle movements and use of the accesses will not create any significant impacts to the pavement of the state-controlled road.
e) To ensure the vehicle accesses are built to the relevant standard required to suit the largest anticipated vehicle type (15.38 metre vehicle).
f) To ensure the turning movements of vehicles entering and exiting the premises via the road accesses maintains the safety and efficiency of the state-controlled road.
g) To ensure the road works on, or associated with, the state-controlled road network is undertaken in accordance with applicable standards.

Please refer to **Attachment A** for the findings on material questions of fact and the evidence or other material on which those findings were based.

Information about the Decision required to be given under section 67(2) of TIA

1. There is no guarantee of the continuation of road access arrangements, as this depends on future traffic safety and efficiency circumstances.
2. In accordance with section 70 of the TIA, you are bound by this decision. A copy of section 70 is attached as **Attachment B**, as required, for your information.

Further information about the decision

1. In accordance with section 67(7) of TIA, this decision notice:
    a) starts to have effect when the development approval has effect; and
    b) stops having effect if the development approval lapses or is cancelled; and
    c) replaces any earlier decision made under section 62(1) in relation to the land.
2. In accordance with section 485 of the TIA and section 31 of the *Transport Planning and Coordination Act 1994* (TPCA), a person whose interests are affected by this decision may apply for a review of this decision only within 28 days after notice of the decision was given under the TIA. A copy of the review provisions under TIA and TPCA is attached in **Attachment C** for your information.
3. In accordance with section 485B of the TIA and section 35 of TPCA you may appeal against a reviewed decision. You must have applied to have the decision reviewed before an appeal about the decision can be lodged in the Planning and Environment Court. A copy of the Appeal Provisions under TIA and TPCA is attached in **Attachment C** for your information.

Further approvals

The department also provides the following information in relation to this approval:

1. Road Works approval required – Written approval is required from the department to carry out road works that are road access works (including driveways) on a state-controlled road in accordance with section 33(1) of the TIA. This approval must be obtained prior to commencing any works on the state-controlled road. The approval process may require the approval of engineering designs of the proposed works, certified by a Registered Professional Engineer of Queensland (RPEQ). Please contact the department to make an application for road works approval.
2. The section 33 application must also demonstrate that suitable sight visibility exists or is able to be provided in accordance with the requirements of the departments Road Planning and Design Manual. It should be noted that some minor vegetation clearing may be required to ensure suitable sight distance is provided. The extents of any vegetation clearing may need to be accurately determined on site during the construction works.

If you require further information about this approval or any other related query, I encourage you to contact Mr Anton DeKlerk, Principal Town Planner by email at CorridorManagement@tmr.qld.gov.au or on (07) 4931 1545.

Yours sincerely

Anton DeKlerk
Principal Town Planner

Attachments: Attachment A – Decision evidence and findings
Attachment B - Section 70 of TIA
Attachment C - Appeal Provisions
Attachment D - Proposed Site Plan prepared by TRG, dated 12 August 2020, reference TP03 and revision P7
Attachment E - Module 9 of the Local Government Association of Queensland document 'TMR/Local Government Cost Sharing Arrangement', dated October 2017

Attachment A

Decision Evidence and Findings

Findings on material questions of fact:

- Access to the site is proposed via a left-in (Entry Only) and left-out (Exit Only) to Queen Elizabeth Drive, which is a State-controlled Road (SCR). An all movements access is also proposed to Brown Street, which is a Local Government Road (LGR).
    - Whilst the entry-only access is located very close to the intersection with Brown Street, given the relatively limited frontage of the site to the SCR and the design vehicle swept paths provided, the location of the entry could be considered reasonable.
    - The exit-only egress will utilise the existing access but will be modified to be angled towards the south to better facilitate the exit-only movements and to discourage any motorists trying to enter the site via this exit point.
- Swept path drawings have been provided for a 15.4m long fuel tanker as being the largest vehicle to enter the subject site from Queen Elizabeth Drive via the entry-only access point and leave the site onto Queen Elizabeth Drive via the exit-only egress. This vehicle size will be conditioned (within the s62 approval) as being the largest vehicle to enter the subject site.
- It is noted that a 19.0m semi-trailer is an 'as-of-right' vehicle on any road in Queensland (unless specifically designated otherwise) and it would have been expected that a 19.0 semi-trailer fuel tanker to be able to enter and exit the subject site. However, the applicant confirmed that fuel deliveries can be controlled by the fuel company and that it is apparently quite common to restrict fuel delivery vehicles to the shorter 15.4m vehicle.
    - TMR therefore does not object to the applicant's proposal in restricting the maximum vehicle size to enter the site in being a 15.4m vehicle. The will be conditioned within the s62 regarding access and it will be the responsibility of the property owner to maintain compliance to the condition.
- The impact of longer vehicles such as cars towing caravans, trailers, boats and so on using the bowsers closest to Queen Elizabeth Drive at the eastern side of the site and their potential to block access for other vehicles utilising the entry-only access off Queen Elizabeth Drive was addressed by the applicant by restricting vehicles towing caravans and trailers to use the first bowser (located closest to Queen Elizabeth Drive). The applicant recommended placing a sign at the first bowser stating, "No Caravans or Trailers". Placing a sign restricting the use of the bowser might not be ideal, however TMR acknowledge there are limited options that can be implemented on a small site like this. Thus, TMR is willing to accept the proposal of a sign and will form part of the conditions (in accordance with Proposed Site Plan prepared by TRG, dated 12 August 2020, reference TP03 and revision P7).
- A Traffic Impact Assessment (TIA) report was provided in support of the application, however several assumptions have been made and some conclusions was based on these assumptions. Although TMR does not agree with all assumptions made within the report, TMR is satisfied that the proposal can be conditioned (where necessary).
- The TIA assumes that 50% of the development generated traffic (both new and drop-in) will enter the site via Brown Street. Brown Street is a residential street with a limited catchment and TMR consider it very unlikely that it will cater for 50% of all traffic visiting the site. However, TMR do acknowledge that even if the traffic split is amended to reflect 20% of traffic to the site being from the Brown Street access and the balance 80% utilised Queen Elizabeth Drive, the turn warrants chart shown in Figure 12 of the TIA would still likely

indicate the provision of a BAL for the entry-only access off Queen Elizabeth Drive. TMR is therefore satisfied that a BAL entry-only access could be suitable.

- The TIA also indicates that suitable sight distance is available from the exit-only egress to Queen Elizabeth Drive for a design speed of 70km/h. TMR does not dispute this provided there are no vehicle parked adjacent to the kerb in front of the site between the entry and exit points. Therefore, TMR will recommend imposing a condition to prevent parking on Queen Elizabeth Drive between the access points through both signage and supplementary line marking.
- It is further noted that the proposed new accesses will cause additional conflict points with the existing cycle lane located within Queen Elizabeth Drive which impacts the safety of cyclists. It will therefore be conditioned that the applicant paints the sections of the existing cycle lane crossing the new accesses green (as a "Priority for Cycle Path") in accordance with the MUTCD and TMR's specifications

Evidence or other material on which findings were based:

Title of Evidence / Material	**Prepared by**	**Date**	**Reference no.**	**Version/Issue**
Planning Report	Gideon Town Planning	28 May 2020	GTP 2005	-
Traffic Impact Assessment Report	McMurtrie Consulting Engineers	14 May 2020	075-19-20	A
Response to Information Request	Gideon Town Planning	19 August 2020	-	-
Response to Information Request – Traffic Impact Assessment	McMurtrie Consulting Engineers	11 August 2020	0751920	-
Proposed Site Plan	TRG	30 July 2020	TP03	P6
Water Cycle Management Plan	Eclipse Consulting Engineers	13 August 2020	10061-001A-wcmp	
Concept Civil / Stormwater Works	Eclipse Consulting Engineers	14 August 2020	C01 - B C02 - B C03 - B C04 - B C05 - B C06 - B C07 - B C08 - B C09 - B C10 - B	B B B B B B B B B B
Proposed sweep paths	TRG	12 August 2020	TP03A	P1

Attachment B

Section 70 of TIA

Transport Infrastructure Act 1994
Chapter 6 Road transport infrastructure
Part 5 Management of State-controlled roads

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70 Offences about road access locations and road access works, relating to decisions under s 62(1)

(1) This section applies to a person who has been given notice under section 67 or 68 of a decision under section 62(1) about access between a State-controlled road and adjacent land.

(2) A person to whom this section applies must not—

(a) obtain access between the land and the State-controlled road other than at a location at which access is permitted under the decision; or

(b) obtain access using road access works to which the decision applies, if the works do not comply with the decision and the noncompliance was within the person's control; or

(c) obtain any other access between the land and the road contrary to the decision; or

(d) use a road access location or road access works contrary to the decision; or

(e) contravene a condition stated in the decision; or

(f) permit another person to do a thing mentioned in paragraphs (a) to (e); or

(g) fail to remove road access works in accordance with the decision.

Maximum penalty—200 penalty units.

(3) However, subsection (2)(g) does not apply to a person who is bound by the decision because of section 68.

Attachment C

Appeal Provisions

Transport Infrastructure Act 1994
Chapter 16 General provisions

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485 Internal review of decisions

(1) A person whose interests are affected by a decision described in schedule 3 (the *original decision*) may ask the chief executive to review the decision.

(2) The person is entitled to receive a statement of reasons for the original decision whether or not the provision under which the decision is made requires that the person be given a statement of reasons for the decision.

(3) The *Transport Planning and Coordination Act 1994*, part 5, division 2—

(a) applies to the review; and

(b) provides—

(i) for the procedure for applying for the review and the way it is to be carried out; and

(ii) that the person may apply to QCAT to have the original decision stayed.

485B Appeals against decisions

(1) This section applies in relation to an original decision if a court (the appeal court) is stated in schedule 3 for the decision.

(2) If the reviewed decision is not the decision sought by the applicant for the review, the applicant may appeal against the reviewed decision to the appeal court.

(3) The Transport Planning and Coordination Act 1994, part 5, division 3—

(a) applies to the appeal; and

(b) provides—

(i) for the procedure for the appeal and the way it is to be disposed of; and

(ii) that the person may apply to the appeal court to have the original decision stayed.

(4) Subsection (5) applies if—

(a) a person appeals to the Planning and Environment Court against a decision under section 62(1) on a planning application that is taken, under section 62A(2), to also be an application for a decision under section 62(1); and

(b) a person appeals to the Planning and Environment Court against a decision under the Planning Act on the planning application.

(5) The court may order—

(a) the appeals to be heard together or 1 immediately after the other; or

(b) 1 appeal to be stayed until the other is decided.

(6) Subsection (5) applies even if all or any of the parties to the appeals are not the same.

(7) In this section—

original decision means a decision described in schedule 3.

reviewed decision means the chief executive's decision on a review under section 485.

31 Applying for review

(1) A person may apply for a review of an original decision only within 28 days after notice of the original decision was given to the person under the transport Act.

(2) However, if—

(a) the notice did not state the reasons for the original decision; and

(b) the person asked for a statement of the reasons within the 28 days mentioned in subsection (1)

the person may apply within 28 days after the person is given the statement of the reasons.

(3) In addition, the chief executive may extend the period for applying.

(4) An application must be written and state in detail the grounds on which the person wants the original decision to be reviewed.

32 Stay of operation of original decision

(1) If a person applies for review of an original decision, the person may immediately apply for a stay of the decision to the relevant entity.

(2) The relevant entity may stay the original decision to secure the effectiveness of the review and any later appeal to or review by the relevant entity.

(3) In setting the time for hearing the application, the relevant entity must allow at least 3 business days between the day the application is filed with it and the hearing day.

(4) The chief executive is a party to the application.

(5) The person must serve a copy of the application showing the time and place of the hearing and any document filed in the relevant entity with it on the chief executive at least 2 business days before the hearing.

(6) The stay—

(a) may be given on conditions the relevant entity considers appropriate; and

(b) operates for the period specified by the relevant entity; and

(c) may be revoked or amended by the relevant entity.

(7) The period of a stay under this section must not extend past the time when the chief executive reviews the original decision and any later period the relevant entity allows the applicant to enable the applicant to appeal against the decision or apply for a review of the decision as provided under the QCAT Act.

(8) The making of an application does not affect the original decision, or the carrying out of the original decision, unless it is stayed.

(9) In this section—

relevant entity means—

(a) if the reviewed decision may be reviewed by QCAT—QCAT; or

(b) if the reviewed decision may be appealed to the appeal court—the appeal court.

35 Time for making appeals

(1) A person may appeal against a reviewed decision only within—

(a) if a decision notice is given to the person—28 days after the notice was given to the person; or

(b) if the chief executive is taken to have confirmed the decision under section 34(5)—56 days after the application was made.

(2) However, if—

(a) the decision notice did not state the reasons for the decision; and

(b) the person asked for a statement of the reasons within the 28 days mentioned in subsection (1)(a);

the person may apply within 28 days after the person is given a statement of the reasons.

(3) Also, the appeal court may extend the period for appealing.

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*

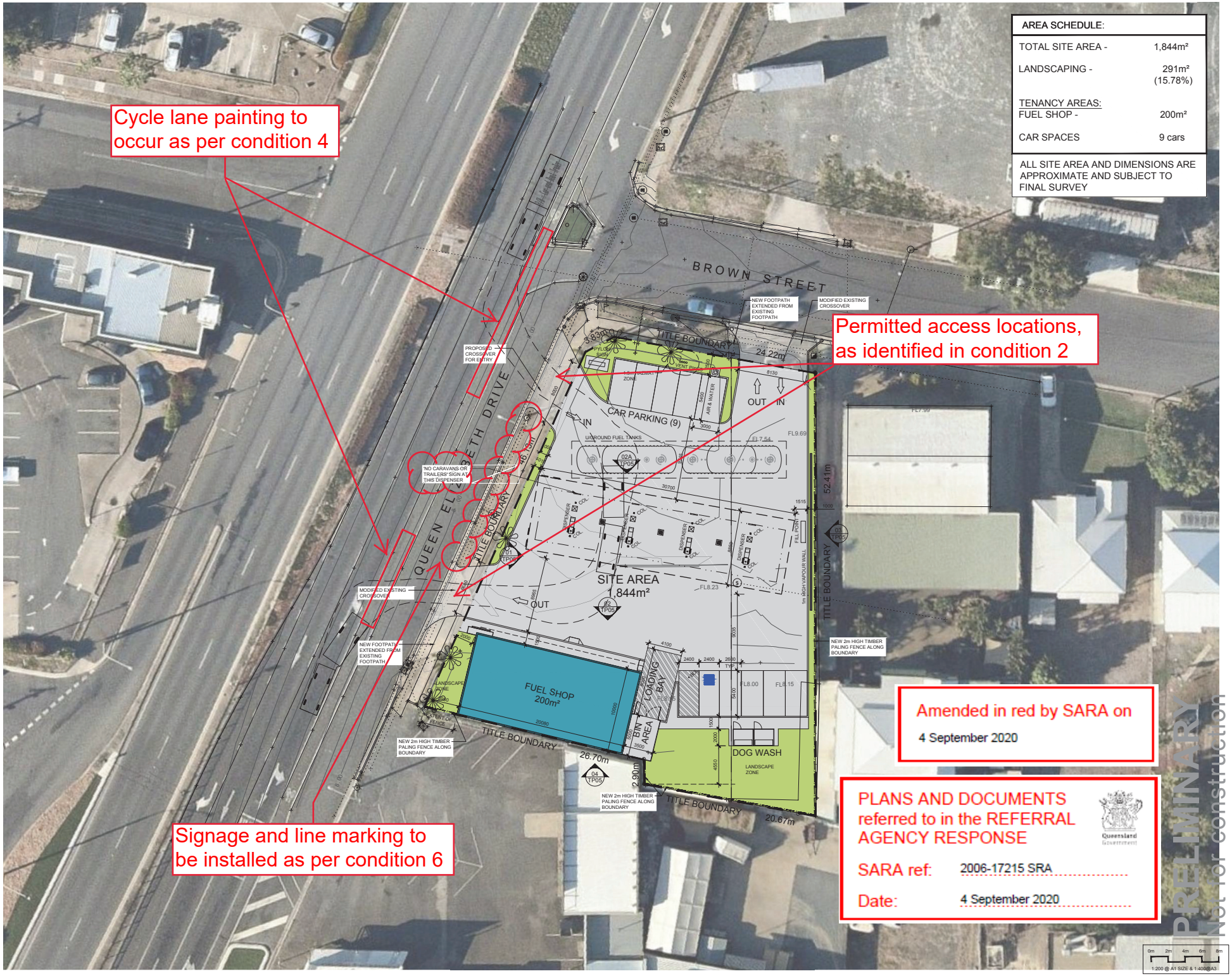
2 In the instance an applicant has made representations to the concurrence agency under section 30, and the concurrence agency agrees to make the change included in the representations, section 28.2(c) is taken to have been satisfied.

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.



AREA SCHEDULE:	
TOTAL SITE AREA -	1,844m²
LANDSCAPING -	291m² (15.78%)
TENANCY AREAS:	
FUEL SHOP -	200m²
CAR SPACES	9 cars

ALL SITE AREA AND DIMENSIONS ARE APPROXIMATE AND SUBJECT TO FINAL SURVEY

Amended in red by SARA on
4 September 2020

PLANS AND DOCUMENTS referred to in the REFERRAL AGENCY RESPONSE

Queensland Government

SARA ref: 2006-17215 SRA

Date: 4 September 2020

PRELIMINARY
Not for construction

REV	AMENDMENT DETAILS	BY	DATE
P7	CANOPY RELOCATED 500mm TO NORTH. LOADING BAY WIDENED	JS	12-08-20
P6	EGRESS CROSSOVER TO QUEEN ELIZABETH DRV. MODIFIED. HI FLOW DISPENSER REMOVED	JS	30-07-20
P5	INGRESS CROSSOVER FROM QUEEN ELIZABETH DRV. MODIFIED. LANDSCAPING AREA REVISED	JS	07-05-20
P4	CANOPY ANGLE REVISED. SHOPFRONT BOLLARD REMOVED	JS	06-05-20
P3	PRELIMINARY ISSUE	JS	29-04-20
P2	PRELIMINARY ISSUE	JS	20-04-20
P1	PRELIMINARY ISSUE	JS	17-04-20

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The Retail Group Pty Ltd ABN 85 050 134 686
RBP No. DP-AD1689

PROJECT
PROPOSED FUEL FILLING STATION DEVELOPMENT

PROJECT ADDRESS
12 QUEEN ELIZABETH DRIVE &
36 BROWN STREET
BERSERKER
QLD 4701

DRAWING TITLE
PROPOSED SITE PLAN

CLIENT
RCI GROUP

DATE	SCALE @ A1	NORTH
APR.'20	1:200	
DRAWN: JS	CHECKED: AB	
ISSUE: PRELIMINARY		

PROJECT No.	DRAWING No.	REVISION No.	SHEET
20143	TP03	P7	03 of 06

0m 2m 4m 6m 8m
1:200 @ A1 SIZE & 1:400@A3

ECLIPSE | CONSULTING ENGINEERS

PLANS AND DOCUMENTS referred to in the REFERRAL AGENCY RESPONSE

SARA ref: 2006-17215 SRA

Date: 4 September 2020

Water Cycle Management Plan

Proposed Service Station

At

12 Queen Elizabeth Drive & 36 Brown Street ROCKHAMPTON

For

RCI GROUP
PO Box 302
The Entrance NSW 2261

Ref.:	10061-001A-wcmp
Issue Date:	13 August 2020
Issue:	Request for Information
Status:	Approval

ECLIPSE Consulting Engineers Pty Ltd
304/12 Century Cct,
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This report has been reviewed by a suitably qualified civil engineer.

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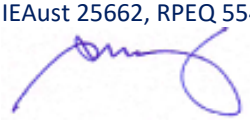
Registration/Accreditation:	MIEAust CPEng NPER3 (Structural & Civil) RPEQ RBPVic RBPNT
Details:	IEAust 25662, RPEQ 5546
Signature:	
Date:	13 August 2020

1. TABLE OF CONTENTS

2. INTRODUCTION AND BACKGROUND

2.1. Purpose

The purpose of this water cycle management report is to provide the stormwater drainage system and stormwater quality treatment design parameters and demonstrate that the proposed stormwater system will meet the requirements of Rockhampton Regional Council and Queensland State Planning Policy stormwater targets.

The principal objectives of this review are to provide:

- A summary of stormwater design parameters.
- A summary of Australia Standards used and the local/state council's stormwater requirements.
- A summary of stormwater design strategy.
- A maintenance schedule of each stormwater drainage components proposed for this development.

2.2. Site Description

The information of the site is as followed:

- Located on the corner of Queen Elizabeth Drive and Brown Street.
- Site is relatively flat but slopes gently from south to north.
- The total site area is 1,845 m^2.
- The total post development impervious area is 1,551 m^2 (84.1% of site).

Figure 2.1, below, shows an aerial photograph of the site.

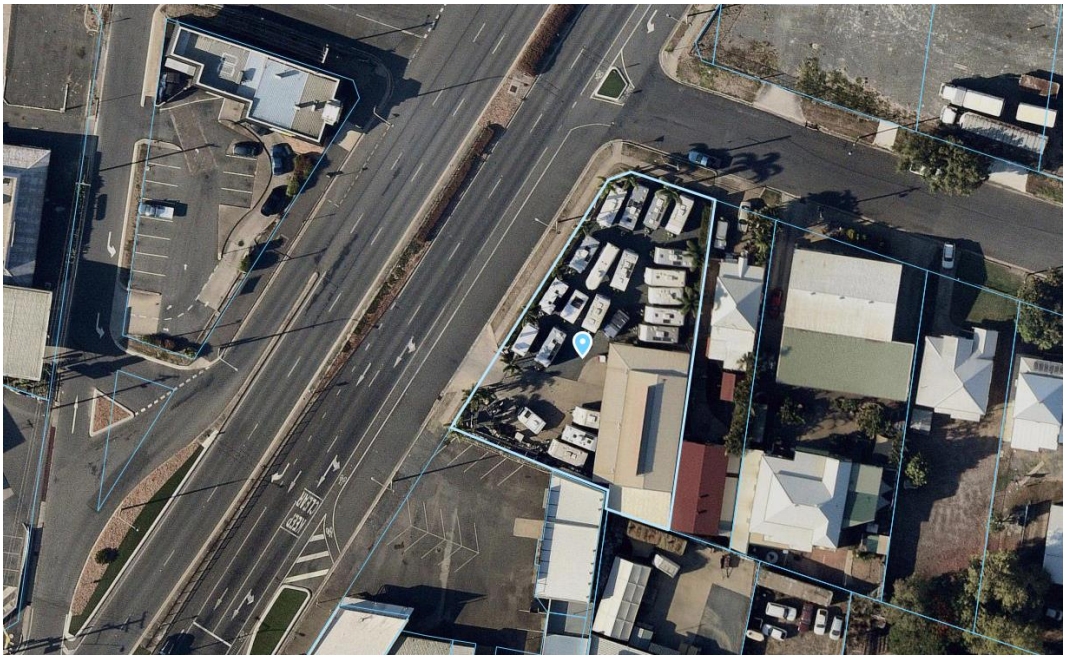


Figure 2.1: Aerial Photograph of the Site Location

2.3. Proposed Development

The proposed development works includes:

- Fuel canopy and service station.
- External pavement, driveway and car parking areas.
- Landscape areas.

Figure 2.2 below, shows the overall site plan for the development.

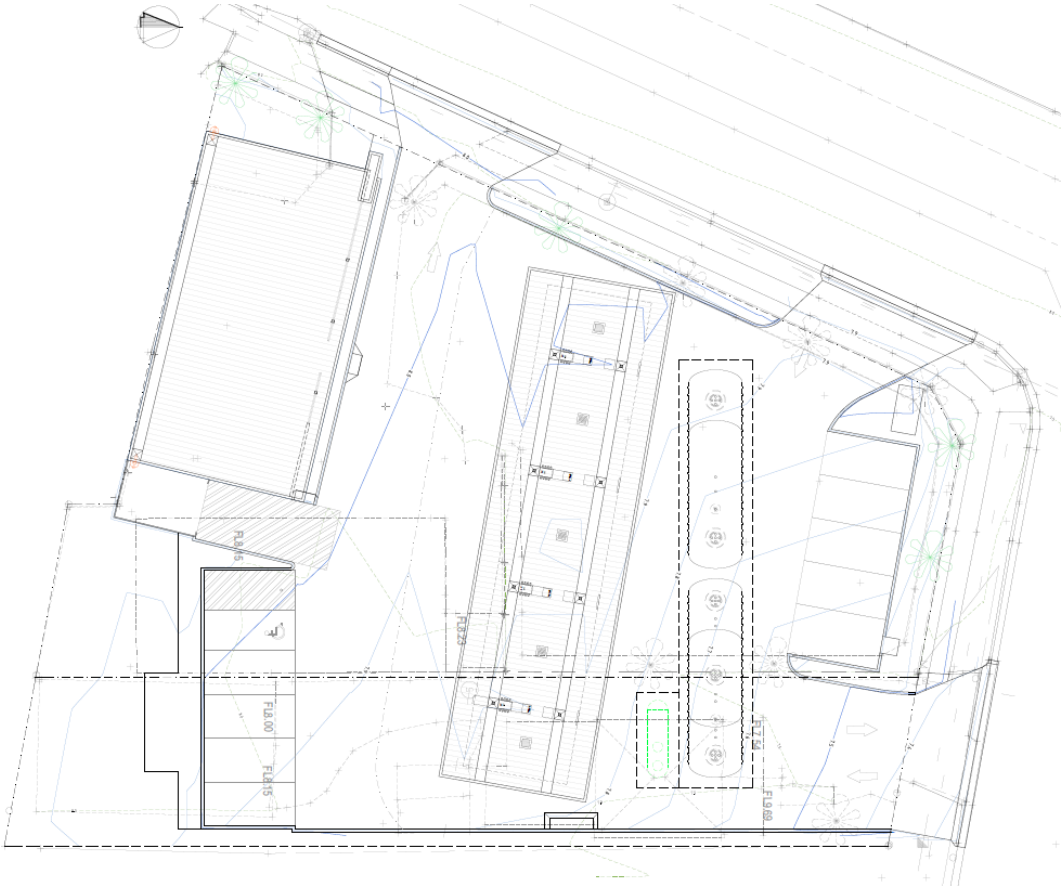


Figure 2.2: Proposed Development Site Architectural Layout

3. DESIGN STANDARDS & COUNCIL REQUIREMENTS

3.1. Australian Standards

The design will be based on the following design standards:

- AS/NZS 3500.3 Plumbing and Drainage, Part 3: Stormwater Drainage

3.2. Stormwater Requirements

The stormwater requirements for the development site have been determined by the State Planning Policy in conjunction with Rockhampton Regional Council.

3.2.1. Stormwater Quantity Requirements

Rockhampton Regional Council have advised that the following requirements must be met by the proposed development site:

- All stormwater falling on hardstand or roof areas must be directed to available street drainage.
- On-site detention is not required on this site due to its proximity to Fitzroy River and the likelihood of site inundation in both the 20 year and 100-year rainfall events. On-site detention would be ineffective.

3.2.2. Stormwater Quality Requirements

The design will be based on the following stormwater quality control, in accordance with Queensland State Planning Policy Appendix 2 Table B for developments in Central Queensland (south):

- Total Suspended Solids reduction requirement (TSS) – 85%
- Total Gross Pollutants reduction requirement (GP) – 90%
- Total Phosphorus reduction requirement (TP) – 60%
- Total Nitrogen reduction requirement (TN) – 45%

4. STORMWATER DESIGN SUMMARY

4.1. Stormwater Retention Design Summary

Water is retained on site by the following measure:

- A 7.5 kL water re-use tank is to be installed adjacent to the service station.

4.2. Stormwater Quantity Design Summary

The proposed development site has been identified as being flood affected during events less frequent than the 10% AEP storm event. In these events, the provision of on-site detention is ineffective as rainfall entering the site will be subject to the present flood level rather than the stormwater drainage system present on site. Flood levels for these rainfall events have been provided in section 4.2.1. For more frequent rainfall events, a DRAINS analysis has been undertaken to determine the hydrological impact of the development on the downstream stormwater drainage system. Details of this analysis are provided in section 4.2.2.

4.2.1. Extreme Rainfall Events – Flood Analysis

A flood certificate for proposed development site has been provided by Rockhampton Regional Council. The full document has been provided in Appendix C. A summary of the local flood levels in extreme rainfall events is provided in Table 4.1 and Figure 4.1 below

Storm Event (AEP)	Water Surface Level Min (mAHD)	Water Surface Level Max (mAHD)
1%	8.17	8.17
2%	8.17	8.17
5%	8.16	8.16
10%	8.16	8.16

Table 4.1: Local Flood Levels at the Proposed Development Site.

Figure 4.1: Flooding Map at the Proposed Development Site Provided by Rockhampton Regional Council

Figures 4.2 and 4.3 includes spot levels of the proposed development and the existing site pre-development. The levels shown indicate that in a 10% AEP storm event, 100% of the hardstand area would be inundated by floodwaters. As such, provision of detention for these rainfall events is ineffective. Additionally, provision of detention in these events would have no impact in comparison to the existing site's stormwater drainage.

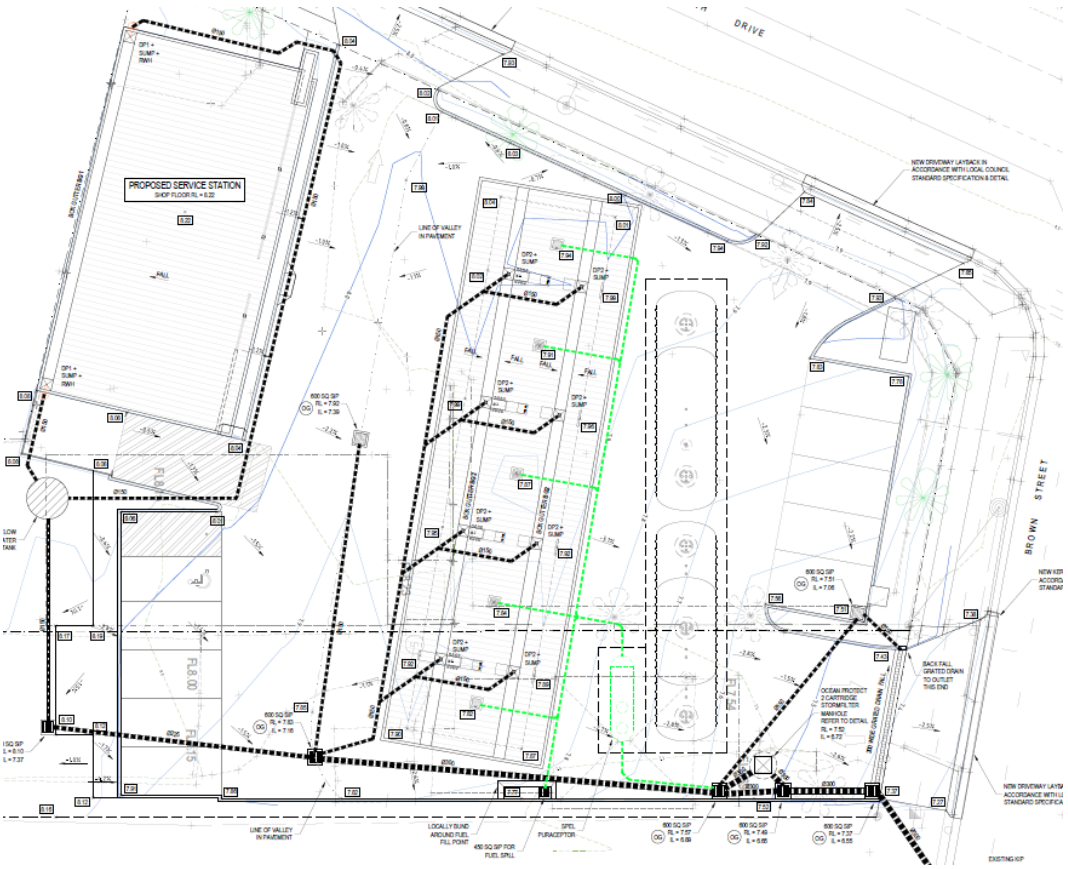


Figure 4.2: Proposed Development Site Levels with Drainage Plan Overlay

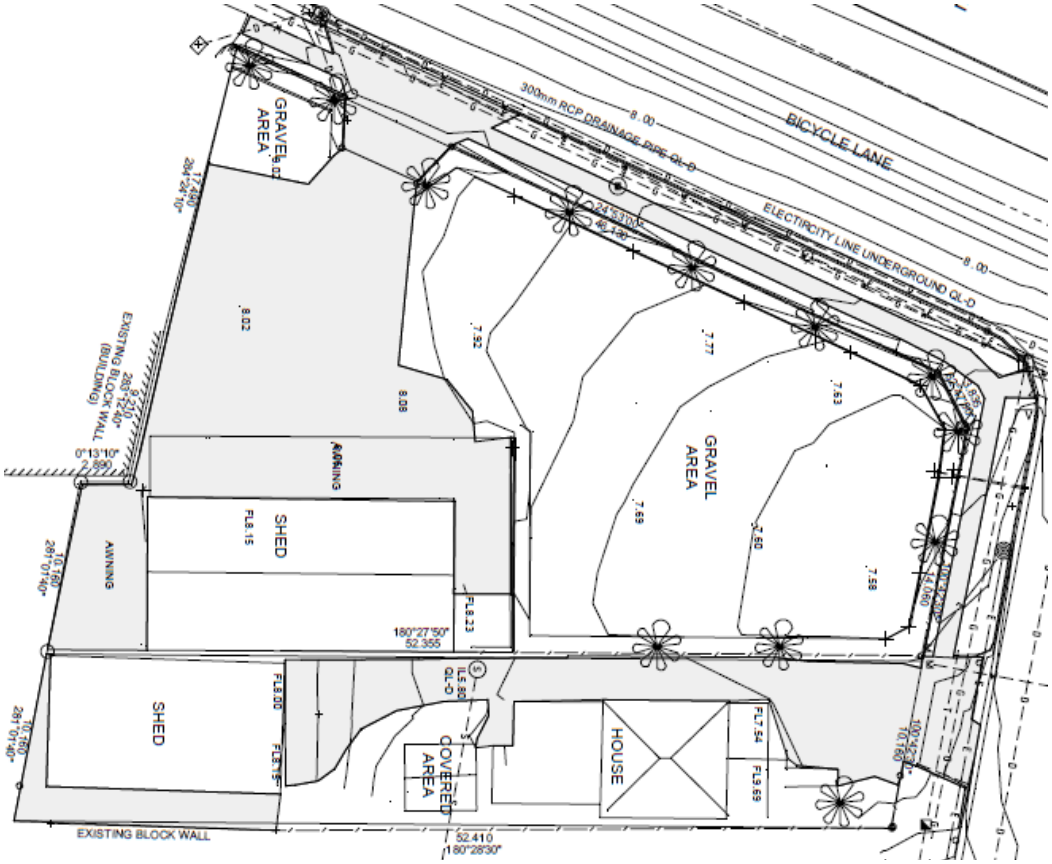


Figure 4.3: Survey with Spot Levels of Existing Site

4.2.2. Frequent Rainfall Events

A DRAINS model has been prepared to determine the impact of the development on the downstream stormwater drainage system in frequent rainfall events. A comparison is drawn between two approaches of modelling the pre-development site. Before the site was first developed, it consisted of 100% pervious area. Prior to the proposed development, the site is partially impervious. Both cases have been modelled to contract the difference between the site in its current state to the proposed development. It should be noted that the current conditions have been modelled under the assumption that gravel areas are impervious. The pre-development sites have been modelled using a lumped-node model. The post-development site has been modelled in accordance with the drainage layout in Figure 4.2 and the catchment layout in Figure 4.4. The model layout is shown in Figure 4.5. A comparison of the existing site and the proposed development to existing site conditions is shown in Table 4.2.

Condition	Impervious Area (%)	Pervious Area (%)
Pre-Development (Greenfield)	0	100
Pre-Development (Current Conditions)	50	50
Post-Development	84	16

Table 4.2: Pre-Development and Post-Development Pervious and Impervious Proportions Used for Modelling

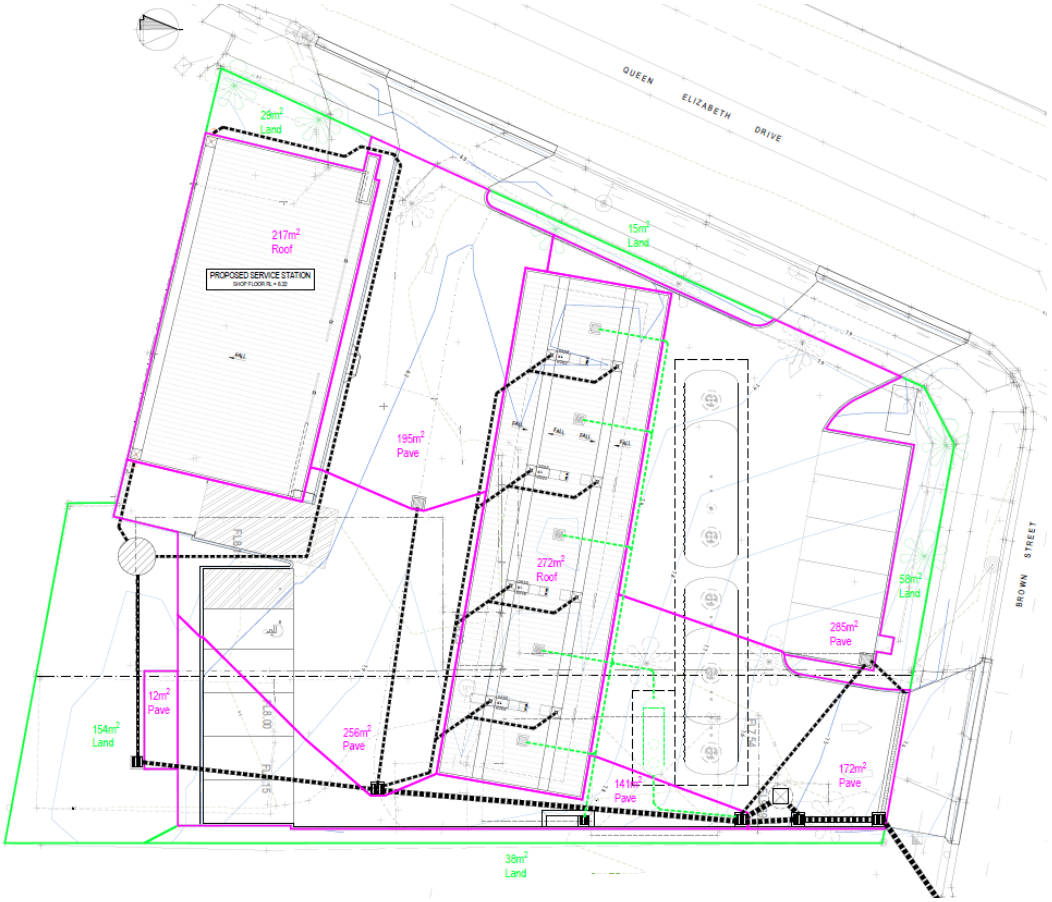


Figure 4.4: Proposed Development Catchment Layout

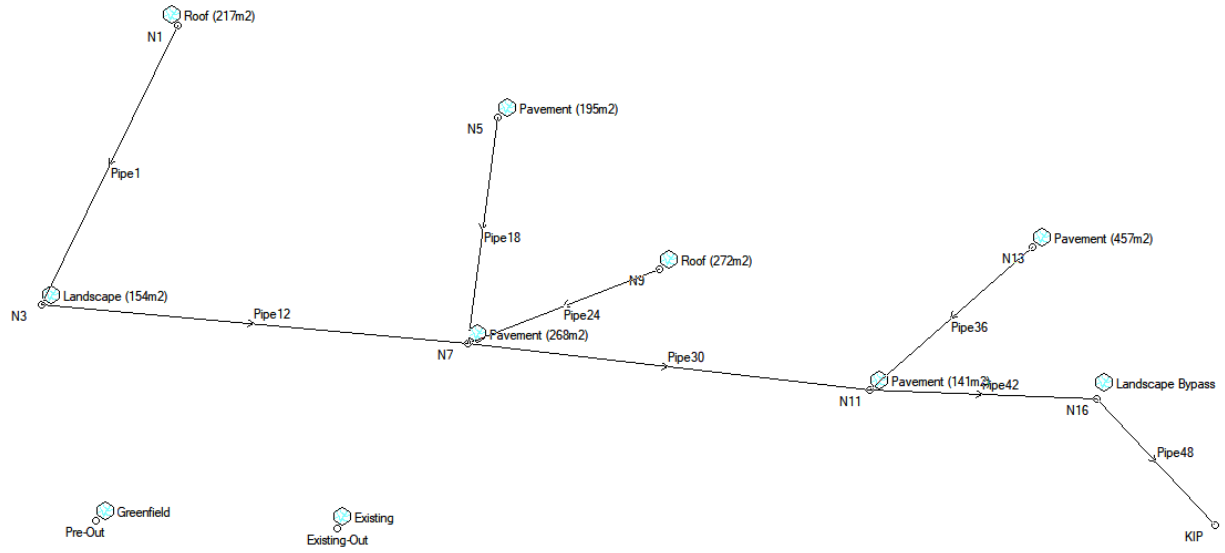


Figure 4.5: DRAINS Model Layout

The DRAINS model has produced the following results for rainfall events between 1EY and 0.2EY.

Rainfall Event (ARI)	1EY	0.5EY	0.2EY
Pre-Development (Greenfield) Flow (L/s)	37	45	61
Pre-Development (Current Conditions) Flow (L/s)	40	52	69
Post-Development Flow (L/s)	48	61	77

Table 4.3: Pre- and Post-Development Flows in Frequent Rainfall Events

The DRAINS model produced the output hydrographs shown in the figures below. The post-development hydrographs have been taken from the last pipe in the drainage system (Pipe48).

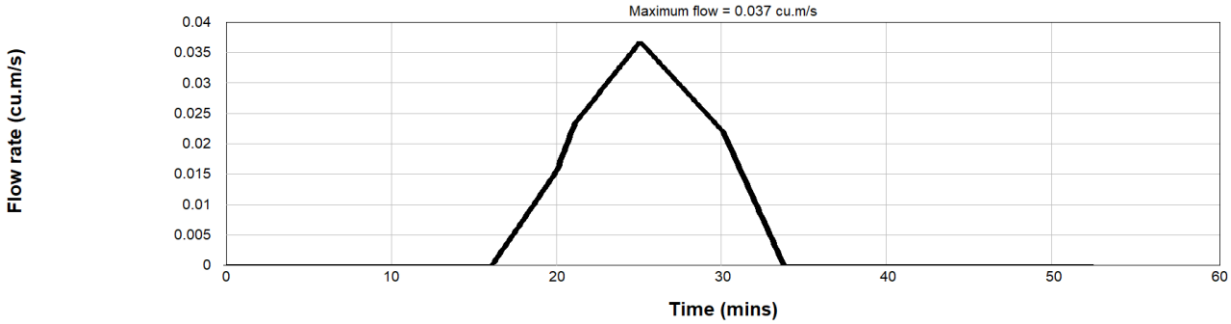


Figure 4.6: 1EY Pre-Development Median Hydrograph

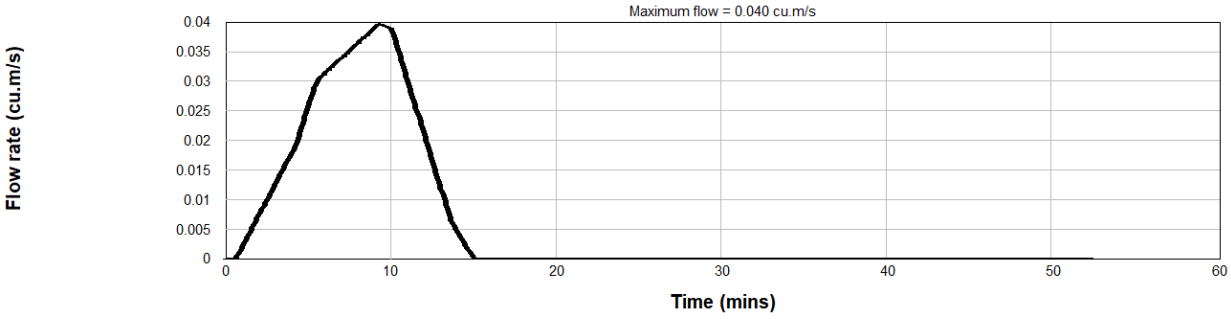


Figure 4.7: 1EY Current Conditions Median Hydrograph

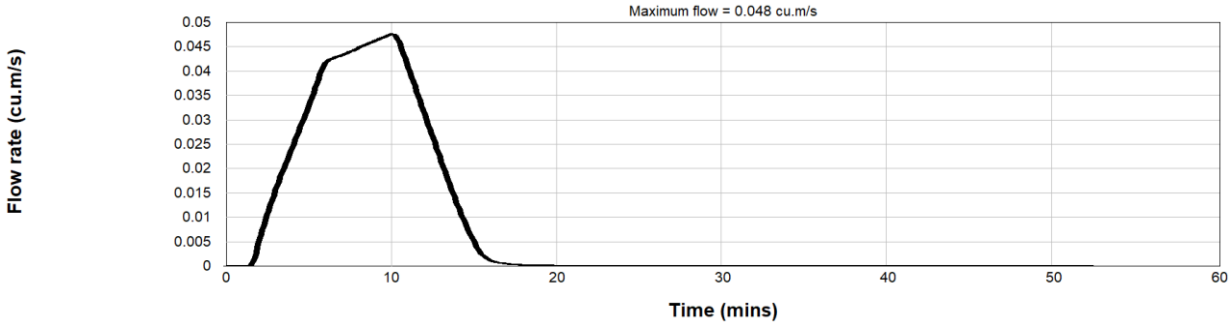


Figure 4.8: 1EY Post-Development Median Hydrograph

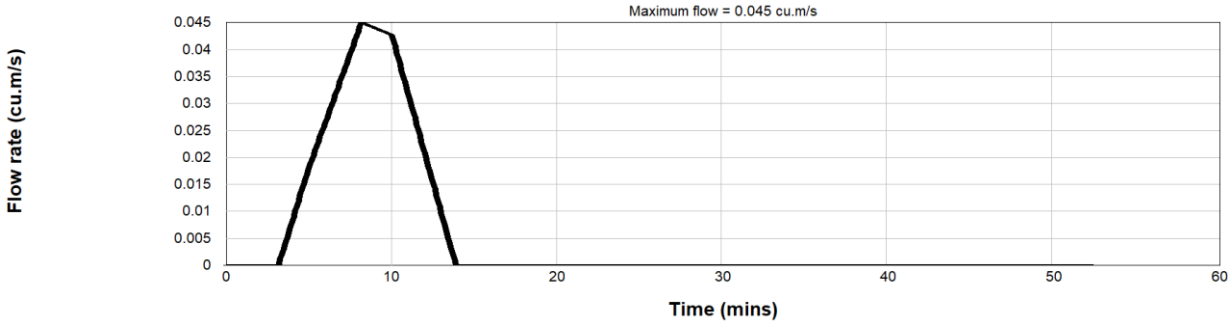


Figure 4.9: 0.5EY Pre-Development Median Hydrograph

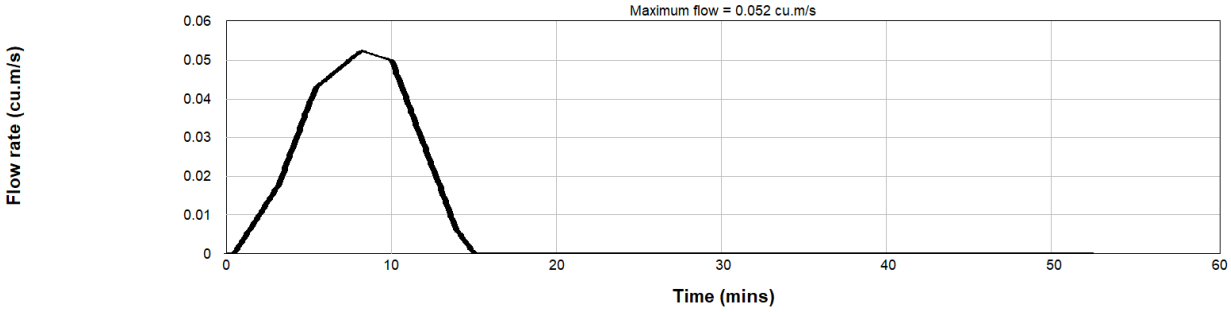


Figure 4.10: 0.5EY Current Conditions Median Hydrograph

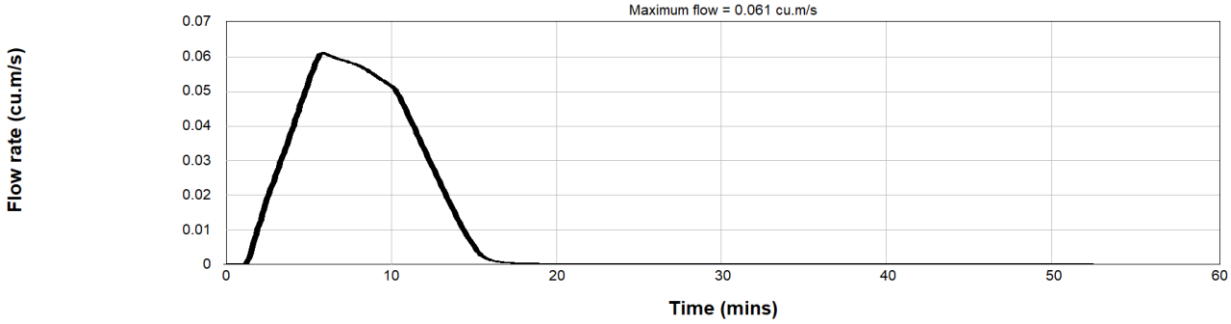


Figure 4.11: 0.5EY Post-Development Median Hydrograph

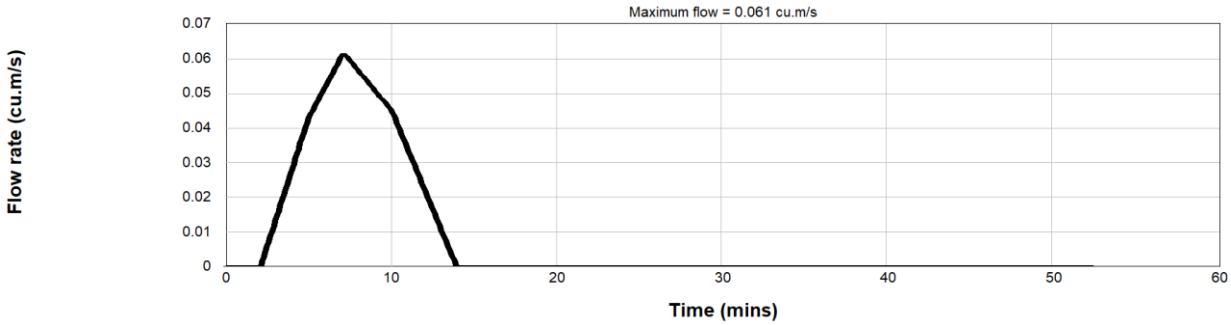


Figure 4.12: 0.2EY Pre-Development Median Hydrograph

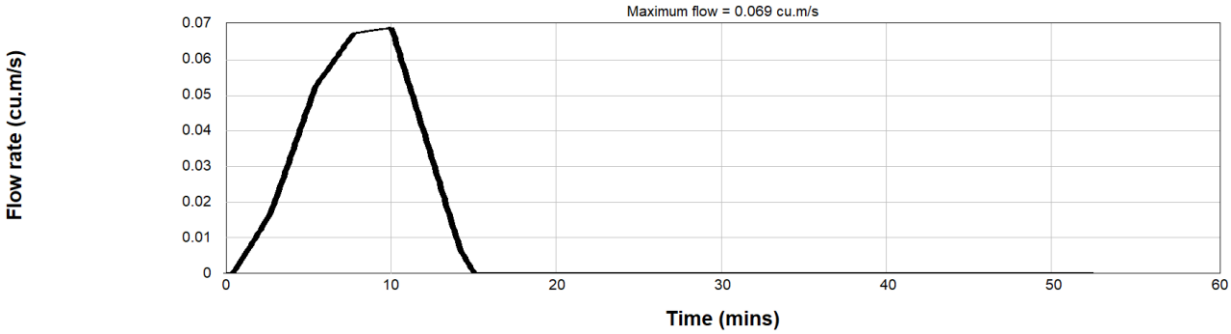


Figure 4.13: 0.2EY Current Conditions Median Hydrograph

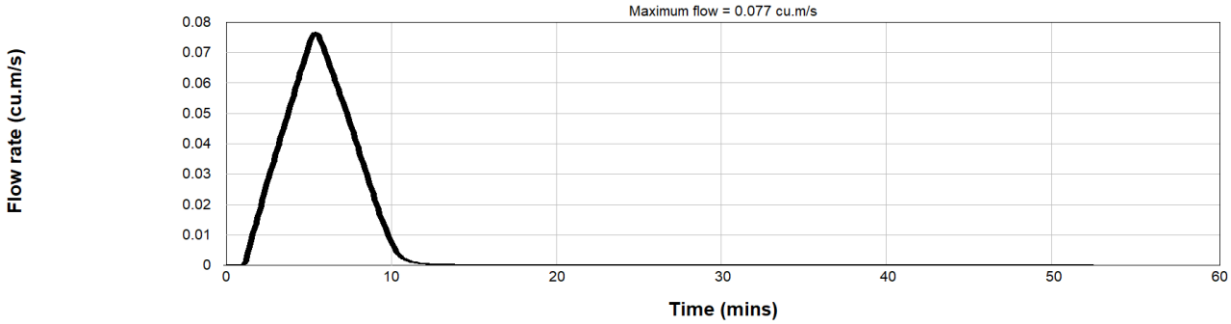


Figure 4.14: 0.2EY Post-Development Median Hydrograph

With the exception of the 1EY storm event, peak flows occur in a window of time to pre-development flows. The development is expected to cause an increase in peak flows in frequent rainfall events of 25% to 35% when compared to a green field pre-development site. Compared to the existing site conditions, a conservative estimate of the increase in stormwater output in frequent rainfall events is 10% to 20%. This analysis does not consider the overall increase of landscaped areas and the potential for reuse of captured rainfall from roof surfaces.

4.3. Stormwater Quality Design Summary

MUSIC Modelling software by e-Water CRC was used to determine the compliance with the water quality objectives as per council's requirements. The rainwater tank, Ocean Protect Ocean Guards and Ocean Protect Stormfilter system have been provided as stormwater quality improvement devices (SQIDs) to comply with the State Planning Policy's reduction parameters.

The following result shows the stormwater quality control provided for this proposed development:

- Total Suspended Solids reduction (TSS) – 85.2%
- Total Phosphorus reduction (TP) – 61.8%
- Total Nitrogen reduction (TN) – 47.2%
- Total Gross Pollutants reduction (GP) – 100%

The structure of the MUSIC Model for the proposed development is shown in Figure 4.15, below.

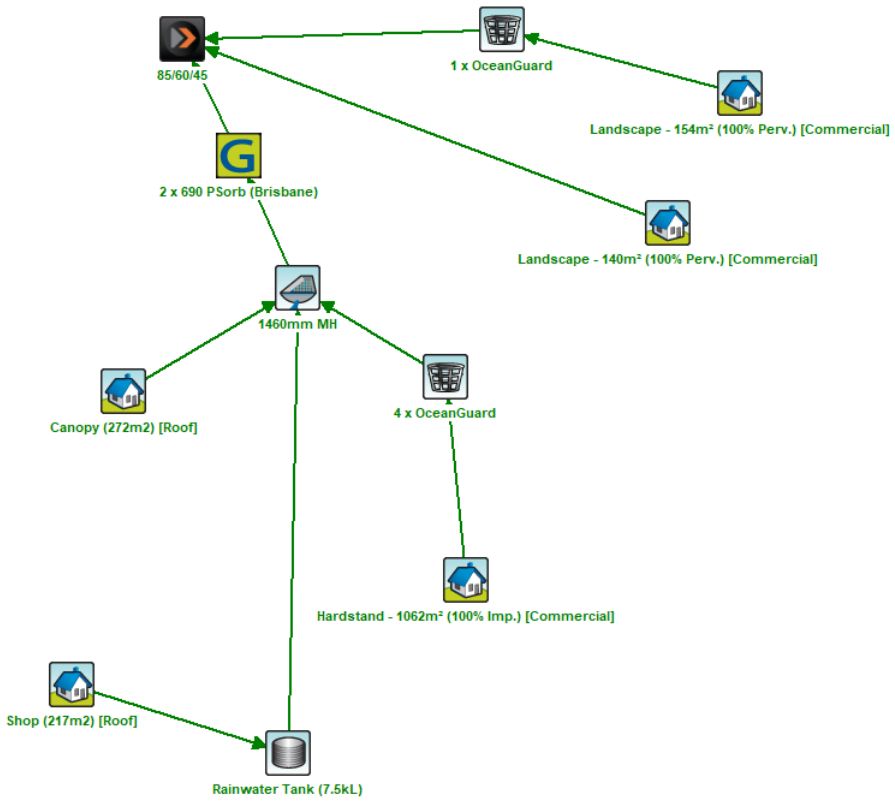


Figure 4.15: MUSIC Model Layout for the Proposed Development

The stormwater quality reduction of pollutant comparison results for the targets set by Queensland State Planning Policy and the proposed development are summarised in Table 4.3, below:

Pollutant Load	Sources (kg/yr.)	Residual Load (kg/yr.)	Post-Dev Reduction (%)	Reduction Target (%)	Result
Total Suspended Solids (TSS)	187	27.0	85.2	85	✓
Total Phosphorus (TP)	0.523	0.200	61.8	60	✓
Total Nitrogen (TN)	3.70	1.95	47.2	45	✓
Gross Pollutants (GP)	27	0	100	90	✓

Table 4.3: MUSIC Modelling Annual Load Reductions – Proposed Development Treatment Train

4.4. Stormwater Drainage Layout

The stormwater drainage system for the proposed development is outlined below:

- The roof water from the proposed service station will be drained through a box gutter and be retained in a rainwater tank.
- The roof water from the proposed fuel canopy will be drained through a box gutter.
- The stormwater from the pavement areas will discharge to surface inlet pits including gross pollutant traps.
- All stormwater exiting the developed areas of the site will be drained into a surface inlet pits before discharging into the Ocean Protect Stormfilter system, including high-flow bypass.
- The stormwater will then discharge to kerb inlet pit on Brown Street.

A full site drainage plan is shown in Figure 4.13, below.

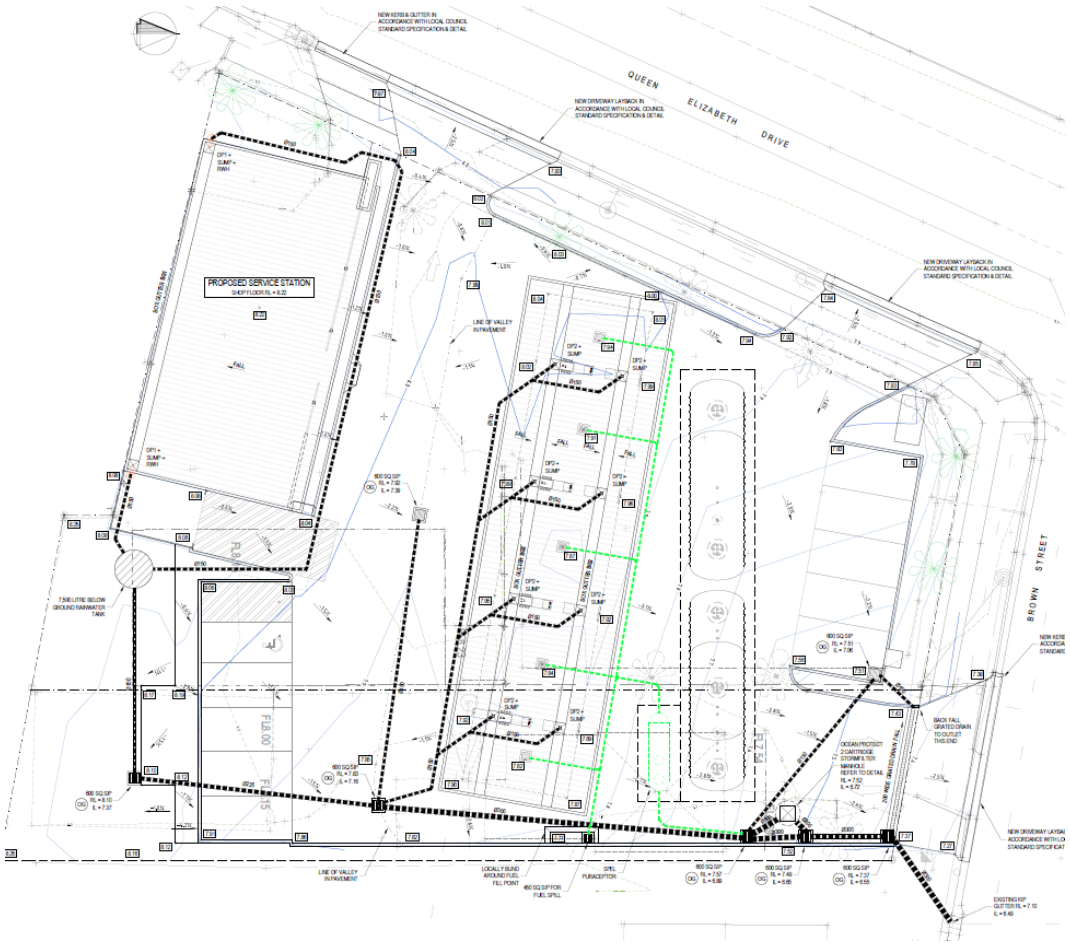


Figure 4.13: Development Site Drainage Plan

5. MAINTENANCE SCHEDULE

5.1. Maintenance Procedures

The maintenance procedures for Ocean Protect Ocean Guards and Stormfilters are provided in Appendices A and B, respectively.

An inset of the stormwater drainage plan identifying the location of the Stormfilter manhole is shown in Figure 5.1, below.

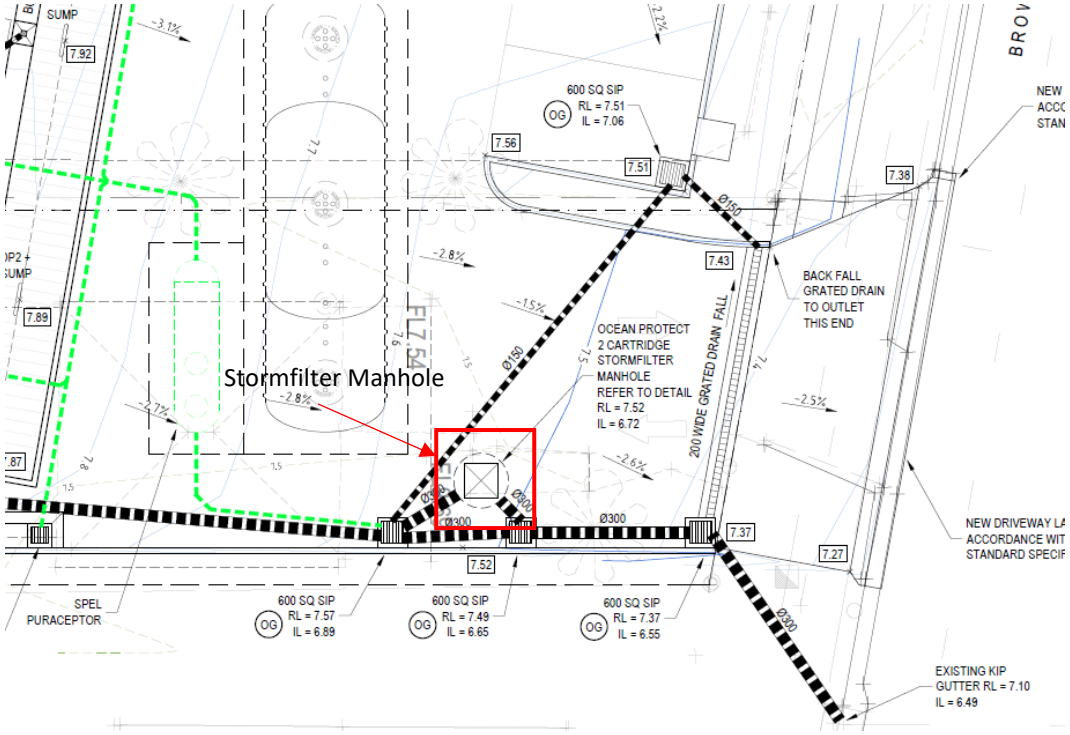


Figure 5.1: Location of the Ocean Protect Off-Line Stormfilter Manhole

APPENDIX A – Ocean Protect Ocean Guard Operations & Maintenance Manual

OCEAN PROTECT

OceanGuard™

Operations & Maintenance Manual

Table of Contents

Introduction

The primary purpose of stormwater treatment devices is to capture and prevent pollutants from entering waterways, maintenance is a critical component of ensuring the ongoing effectiveness of this process. The specific requirements and frequency for maintenance depends on the treatment device and pollutant load characteristics of each site. This manual has been designed to provide details on the cleaning and maintenance processes as recommended by the manufacturer.

The OceanGuard technology is a gully pit basket designed to fit within new and existing gully pits to remove pollution from stormwater runoff. The system has a choice of Filtration liners, designed to remove gross pollutants, total suspended solids and attached pollutants as either a standalone technology or as part of a treatment train with our StormFilter or Jellyfish Filtration products. OceanGuard pit baskets are highly effective, easy to install and simple to maintain.

Why do I need to perform maintenance?

Adhering to the maintenance schedule of each stormwater treatment device is essential to ensuring that it functions properly throughout its design life.

During each inspection and clean, details of the mass, volume and type of material that has been collected by the device should be recorded. This data will assist with the revision of future management plans and help determine maintenance interval frequency. It is also essential that qualified and experienced personnel carry out all maintenance (including inspections, recording and reporting) in a systematic manner.

Maintenance of your stormwater management system is essential to ensuring ongoing at-source control of stormwater pollution. Maintenance also helps prevent structural failures (e.g. prevents blocked outlets) and aesthetic failures (e.g. debris build up), but most of all ensures the long term effective operation of the OceanGuard.

Health and Safety

Access to pits containing an OceanGuard typically requires removing (heavy) access covers/grates, but typically it is not necessary to enter into a confined space. Pollutants collected by the OceanGuard will vary depending on the nature of your site. There is potential for these materials to be harmful. For example, sediments may contain heavy metals, carcinogenic substances or sharp objects such as broken glass and syringes. For these reasons, there should be no primary contact with the waste collect and all aspects of maintaining and cleaning your OceanGuard require careful adherence to Occupational Health and Safety (OH&S) guidelines.

It is important to note that the same level of care needs to be taken to ensure the safety of non-work personnel, as a result it may be necessary to employ traffic/pedestrian control measures when the device is situated in, or near areas with high vehicular/pedestrian activity.

Personnel health and safety

Whilst performing maintenance on the OceanGuard pit insert, precautions should be taken in order to minimise (or when possible prevent) contact with sediment and other captured pollutants by maintenance personnel. In order to achieve this the following personal protective equipment (PPE) is recommended:

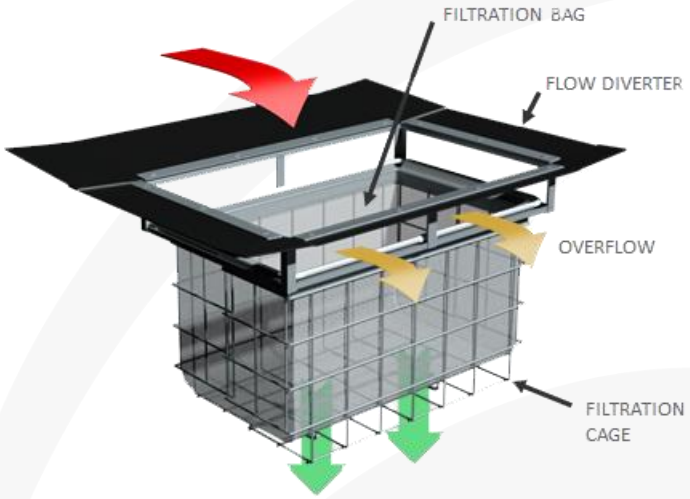
- Puncture resistant gloves
- Steel capped safety boots,
- Long sleeve clothing, overalls or similar skin protection
- Eye protection
- High visibility clothing or vest

During maintenance activities it may be necessary to implement traffic control measures. Ocean Protect recommend that a separate site specific traffic control plan is implemented as required to meet the relevant governing authority guidelines.

The OceanGuard pit insert is designed to be maintained from surface level, without the need to enter the pit. However depending on the installation configuration, location and site specific maintenance requirements it may be necessary to enter a confined space occasionally. It is recommended that all maintenance personnel evaluate their own needs for confined space entry and compliance with relevant industry regulations and guidelines. Ocean Protect maintenance personnel are fully trained and carry certification for confined space entry.

How does it Work?

OceanGuard is designed to intercept stormwater as it enters the stormwater pits throughout a site. The OceanGuard has diversion panels that sit flush with the pit walls, this ensures that as stormwater enters at the top of the pit it is directed to the middle of the insert where the Filtration bag is situated. The filtration bag allows for screening to occur removing 100% of pollutants greater than the opening of the filtration material (200micron, 1600micron bags available).



During larger rain events the large flows overflow slots in the flow diverter of the OceanGuard ensure that the conveyance of stormwater is not impeded thus eliminating the potential for surface flooding. As the flow subsides, the captured pollutants are held in the OceanGuard Filtration bag dry. The waste then starts to dry which reduces the magnitude of organic material decomposition transitioning between maintenance intervals.

Maintenance Procedures

To ensure that each OceanGuard pit insert achieves optimal performance, it is advisable that regular maintenance is performed. Typically the OceanGuard requires 2-4 minor services annually, pending the outcome of these inspections additional maintenance servicing may be required.

Primary Types of Maintenance

The table below outlines the primary types of maintenance activities that typically take place as part of an ongoing maintenance schedule for the OceanGuard.

	Description of Typical Activities	Frequency
Minor Service	Filter bag inspection and evaluation Removal of capture pollutants Disposal of material	2-4 Times Annually
Major Service	Filter Bag Replacement Support frame rectification	As required

Maintenance requirements and frequencies are dependent on the pollutant load characteristics of each site. The frequencies provided in this document represent what the manufacturer considers to be best practice to ensure the continuing operation of the device is in line with the original design specification.

Minor Service

This service is designed to return the OceanGuard device back to optimal operating performance. This type of service can be undertaken either by hand or with the assistance of a Vacuum unit.

Hand Maintenance

1. Establish a safe working area around the pit insert
2. Remove access cover/grate
3. Use two lifting hooks to remove the filtration bag
4. Empty the contents of the filtration bag into a disposal container
5. Inspect and evaluate the filtration bag
6. Inspect and evaluate remaining OceanGuard components (i.e. flow diverter, filtration cage and supporting frame)
7. Rejuvenate filtration bag by removing pollutant build up with a stiff brush, additionally the filtration bag can be washed using high pressure water
8. Re-install filtration bag and replace access cover/grate

Vacuum Maintenance

1. Establish a safe working area around the pit insert
2. Remove access cover/grate
3. Vacuum captured pollutants from the filtration bag
4. Remove filtration bag
5. Inspect and evaluate the filtration bag
6. Inspect and evaluate remaining OceanGuard components (i.e. flow diverter, filtration cage and supporting frame)
7. Rejuvenate filtration bag by removing pollutant build up with a stiff brush, additionally the filtration bag can be washed using high pressure water
8. Re-install filtration bag and replace access cover/grate

Major Service (Filter Bag Replacement)

For the OceanGuard system, a major service is a reactionary process based on the outcomes from the minor service.

Trigger Event from Minor Service	Maintenance Action
Filtration bag inspection reveals damage	Replace the filtration bag[1]
Component inspection reveals damage	Perform rectification works and if necessary replace components[1]

[1] Replacement filtration bags and components are available for purchase from Ocean Protect.

Additional Reasons of Maintenance

Occasionally, events on site can make it necessary to perform additional maintenance to ensure the continuing performance of the device.

Hazardous Material Spill

If there is a spill event on site, all OceanGuard pits that potentially received flow should be inspected and cleaned. Specifically all captured pollutants from within the filtration bag should be removed and disposed in accordance with any additional requirements that may relate to the type of spill event. All filtration bags should be rejuvenated (replaced if required) and re-installed.

Blockages

The OceanGuards internal high flow bypass functionality is designed to minimise the potential of blockages/flooding. In the unlikely event that flooding occurs around the stormwater pit the following steps should be undertaken to assist in diagnosing the issue and implementing the appropriate response.

1. Inspect the OceanGuard flow diverter, ensuring that they are free of debris and pollutants
2. Perform a minor service on the OceanGuard
3. Remove the OceanGuard insert to access the pit and inspect both the inlet and outlet pipes, ensuring they are free of debris and pollutants

Major Storms and Flooding

In addition to the scheduled activities, it is important to inspect the condition of the OceanGuard pit insert after a major storm event. The inspection should focus on checking for damage and higher than normal sediment accumulation that may result from localised erosion. Where necessary damaged components should be replaced and accumulated pollutants disposed.

Disposal of Waste Materials

The accumulated pollutants found in the OceanGuard must be handled and disposed of in a manner that is in accordance with all applicable waste disposal regulations. When scheduling maintenance, consideration must be made for the disposal of solid and liquid wastes. If the filtration bag has been contaminated with any unusual substance, there may be additional special handling and disposal methods required to comply with relevant government/authority/industry regulations.

Maintenance Services

With over a decade and a half of maintenance experience Ocean Protect has developed a systematic approach to inspecting, cleaning and maintaining a wide variety of stormwater treatment devices. Our fully trained and professional staff are familiar with the characteristics of each type of system, and the processes required to ensure its optimal performance.

Ocean Protect has several stormwater maintenance service options available to help ensure that your stormwater device functions properly throughout its design life. In the case of our OceanGuard system we offer long term pay-as-you-go contracts, pre-paid once off servicing and replacement filter bags.

For more information please visit www.OceanProtect.com.au

APPENDIX B – Ocean Protect Stormfilter Operations & Maintenance Manual

OCEAN PROTECT

StormFilter

Operations & Maintenance Manual

Table of Contents

Introduction

The primary purpose of stormwater treatment devices is to capture and prevent pollutants from entering waterways, maintenance is a critical component of ensuring the ongoing effectiveness of this process. The specific requirements and frequency for maintenance depends on the treatment device and pollutant load characteristics of each site. This manual has been designed to provide details on the cleaning and maintenance processes for the StormFilter as recommended by the manufacturer.

The StormFilter is designed and sized to meet stringent regulatory requirements. It removes the most challenging target pollutants (including fine solids, soluble heavy metals, oil, and soluble nutrients) using a variety of media. For more than two decades, StormFilter has helped clients meet their regulatory needs and, through ongoing product enhancements, the design continues to be refined for ease of use and improved performance.

Why do I need to perform maintenance?

Adhering to the inspection and maintenance schedule of each stormwater treatment device is essential to ensuring that it functions properly throughout its design life.

During each inspection and clean, details of the mass, volume and type of material that has been collected by the device should be recorded. This data will assist with the revision of future management plans and help determine maintenance interval frequency. It is also essential that qualified and experienced personnel carry out all maintenance (including inspections, recording and reporting) in a systematic manner.

Maintenance of your stormwater management system is essential to ensuring ongoing at-source control of stormwater pollution. Maintenance also helps prevent structural failures (e.g. prevents blocked outlets) and aesthetic failures (e.g. debris build up), but most of all ensures the long term effective operation of the StormFilter.

Health and Safety

Access to a StormFilter unit requires removing heavy access covers/grates, and it is necessary to enter into a confined space. Pollutants collected by the StormFilter will vary depending on the nature of your site. There is potential for these materials to be harmful. For example, sediments may contain heavy metals, carcinogenic substances or objects such as broken glass and syringes. For these reasons, all aspects of maintaining and cleaning your StormFilter require careful adherence to Occupational Health and Safety (OH&S) guidelines.

It is important to note that the same level of care needs to be taken to ensure the safety of non-work personnel. As a result, it may be necessary to employ traffic/pedestrian control measures when the device is situated in, or near areas with high vehicular/pedestrian activity.

Personnel health and safety

Whilst performing maintenance on the StormFilter, precautions should be taken in order to minimise (or, if possible, prevent) contact with sediment and other captured pollutants by maintenance personnel. The following personal protective equipment (PPE) is subsequently recommended:

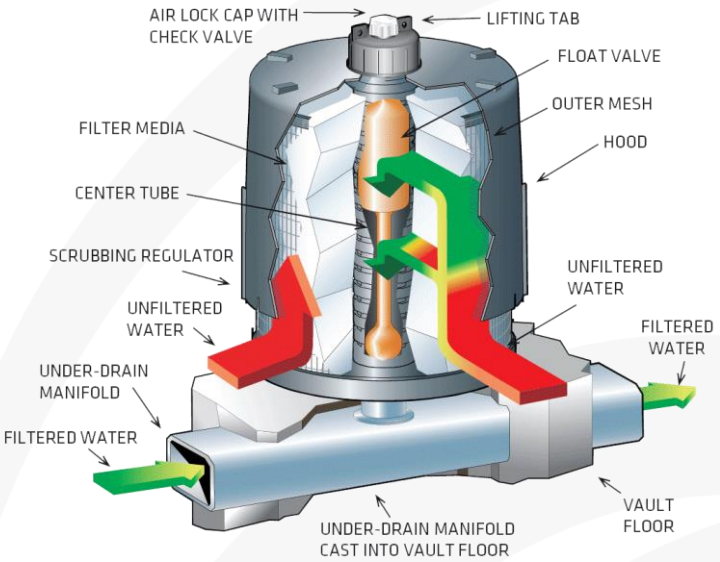
- Puncture resistant gloves
- Steel capped safety boots
- Long sleeve clothing, overalls or similar skin protection
- Eye protection
- High visibility clothing or vest

During maintenance activities, it may be necessary to implement traffic control measures. Ocean Protect recommend that a separate site-specific traffic control plan is implemented as required to meet the relevant governing authority guidelines.

Whilst some aspects of StormFilter maintenance can be performed from surface level, there will be a need to enter the StormFilter system (confined space) during a major service. It is recommended that all maintenance personnel evaluate their own needs for confined space entry and compliance with relevant industry regulations and guidelines. Ocean Protect maintenance personnel are fully trained and carry certification for confined space entry applications.

How does it Work?

Stormwater enters the cartridge chamber, passes through the filtration media and begins filling the cartridge center tube. When water reaches the top of the cartridge the float valve opens and filtered water is allowed to drain at the designed flow rate. Simultaneously, a one-way check valve closes activating a siphon that draws stormwater evenly throughout the filter media and into the center tube. Treated stormwater is then able to discharge out of the system through the underdrain manifold pipework.



As the rain event subsides, the water level outside the cartridge drops and approaches the bottom of the hood, air rushes through the scrubbing regulators releasing the water column and breaking the siphon. The turbulent bubbling action agitates the surface of the cartridge promoting trapped sediment to drop to the chamber floor. After a rain event, the chamber is able to drain dry by way of an imperfect seal at the base of the float valve.

Maintenance Procedures

To ensure optimal performance, it is advisable that regular maintenance is performed. Typically, the StormFilter requires an inspection every 6 months with a minor service at 12 months. Additionally, as the StormFilter cartridges capture pollutants the media will eventually become occluded and require replacement (expected media life is 1-3 years).

Primary Types of Maintenance

The table below outlines the primary types of maintenance activities that typically take place as part of an ongoing maintenance schedule for the StormFilter.

	Description of Typical Activities	Frequency
Inspection	Visual Inspection of cartridges & chamber Remove larger gross pollutants Perform minimal rectification works (if required)	Every 6 Months
Minor Service	Evaluation of cartridges and media Removal of accumulated sediment (if required) Wash-down of StormFilter chamber (if required)	Every 12 Months
Major Service	Replacement of StormFilter cartridge media	As required

Maintenance requirements and frequencies are dependent on the pollutant load characteristics of each site. The frequencies provided in this document represent what the manufacturer considers to be best practice to ensure the continuing operation of the device is in line with the original design specification.

Inspection

The purpose of the inspecting the StormFilter system is to assess the condition of the StormFilter chamber and cartridges. When inspecting the chamber, particular attention should be taken to ensure all cartridges are firmly connected to the connectors. It is also an optimal opportunity to remove larger gross pollutants and inspect the outlet side of the StormFilter weir.

Minor Service

This service is designed to ensure the ongoing operational effectiveness of the StormFilter system, whilst assessing the condition of the cartridge media.

1. Establish a safe working area around the access point(s)
2. Remove access cover(s)
3. Evaluate StormFilter cartridge media (if exhausted schedule major service within 6 months)
4. Measure and record the level of accumulated sediment in the chamber
   (if sediment depth is less than 100 mm skip to step 9)
5. Remove StormFilter cartridges from the chamber
6. Use vacuum unit to removed accumulated sediment and pollutants in the chamber
7. Use high pressure water to clean StormFilter chamber
8. Re-install StormFilter cartridges
9. Replace access cover(s)

Major Service (Filter Cartridge Replacement)

For the StormFilter system a major service is reactionary process based on the outcomes from the minor service, specifically the evaluation of the cartridge media.

Trigger Event	Maintenance Action
Cartridge media is exhausted[1]	Replace StormFilter cartridge media[2]

[1] Multiple assessment methods are available, contact Ocean Protect for assistance
[2] Replacement filter media and components are available for purchase from Ocean Protect.

This service is designed to return the StormFilter device back to optimal operating performance

1. Establish a safe working area around the access point(s)
2. Remove access cover(s)
3. By first removing the head cap, remove each individual cartridge hood to allow access to the exhausted media.
4. Utilise a vacuum unit to remove exhausted media from each cartridge
5. Use vacuum unit to remove accumulated sediment and pollutants in the chamber
6. Use high pressure water to clean StormFilter chamber
7. Inspect each empty StormFilter cartridges for any damage, rectify damage as required
8. Re-fill each cartridge with media in line with project specifications
9. Re-install replenished StormFilter cartridges
10. Replace access cover(s)

Additional Types of Maintenance

Occasionally, events on site can make it necessary to perform additional maintenance to ensure the continuing performance of the device.

Hazardous Material Spill

If there is a spill event on site, the StormFilter unit should be inspected and cleaned. Specifically, all captured pollutants and liquids from within the unit should be removed and disposed in accordance with any additional requirements that may relate to the type of spill event. Additionally, it will be necessary to inspect the filter cartridges and assess them for contamination, depending on the type of spill event it may be necessary to replace the filtration media.

Blockages

In the unlikely event that flooding occurs upstream of the StormFilter system the following steps should be undertaken to assist in diagnosing the issue and determining the appropriate response.

1. Inspect the upstream diversion structure (if applicable) ensuring that it is free of debris and pollutants
2. Inspect the StormFilter unit checking the underdrain manifold as well as both the inlet and outlet pipes for obstructions (e.g. pollutant build-up, blockage), which if present, should be removed.

Major Storms and Flooding

In addition to the scheduled activities, it is important to inspect the condition of the StormFilter after a major storm event. The focus is to inspect for damage and higher than normal sediment accumulation that may result from localised erosion. Where necessary damaged components should be replaced and accumulated pollutants should be removed and disposed.

Disposal of Waste Materials

The accumulated pollutants found in the StormFilter must be handled and disposed of in a manner that is in accordance with all applicable waste disposal regulations. When scheduling maintenance, consideration must be made for the disposal of solid and liquid wastes. If the filter media has been contaminated with any unusual substance, there may be additional special handling and disposal methods required to comply with relevant government/authority/industry regulations.

Maintenance Services

With over a decade and a half of maintenance experience Ocean Protect has developed a systematic approach to inspecting, cleaning and maintaining a wide variety of stormwater treatment devices. Our fully trained and professional staff are familiar with the characteristics of each type of system, and the processes required to ensure its optimal performance.

Ocean Protect has several stormwater maintenance service options available to help ensure that your stormwater device functions properly throughout its design life. In the case of our StormFilter system we offer long term pay-as-you-go contracts, pre-paid once off servicing and replacement media for cartridges.

For more information please visit www.OceanProtect.com.au

APPENDIX C – Flood Information Request – 12 Queen Elizabeth Drive, Berserker

Rockhampton Office
232 Bolsover St, Rockhampton
Gracemere Office
1 Ranger St, Gracemere
Mount Morgan Office
32 Hall St, Mount Morgan

7 August 2020

Your Ref: N/A
Telephone: 07 4936 8099 or 1300 22 55 77
Email: developmentadvice@rrc.qld.gov.au

Eclipse Consulting Engineers
anthony@eclipseconsulting.com.au

Dear Sir / Madam

FLOOD INFORMATION REQUEST – 12 QUEEN ELIZABETH DRIVE, BERSERKER QLD 4701 – LOT 1 ON SP152745

Council is in receipt of your application dated 3 August 2020 requesting flood information for 12 Queen Elizabeth Drive, Berserker, and more properly described as Lot 1 on SP152745.

Please find attached a Flood Search Property Report for your reference. The purpose of this report is to provide flood level information to support the application of Council's planning scheme Flood Hazard overlay code, floodplain planning provisions, and applicable flood planning levels.

Council records show that the abovementioned property parcel is identified as being at risk of flood in a 1% AEP Fitzroy River and Local Storm / Overland flow flooding event. Annual Exceedance Probability (AEP) is the probability of a flood event of a given magnitude being equalled or exceeded in any one year. A 1% AEP event means there is statistically a 1% (or 1 in 100) probability that an event of that magnitude will occur or be exceeded in any year.

The design flood level information contained within this report provide water surface levels for a range of typical planning and development design standards. The flood planning level for most development in the Flood Hazard overlay area is the Defined Flood Event (DFE). Council has adopted a DFE of 1% AEP as a planning standard for the management of development in Rockhampton Region. As such, for most development types - the floodplain planning provisions of Council's planning scheme apply relative to the 1% AEP defined flood event. Exceptions apply for critical infrastructure. The Defined flood event may change as Council undertakes further flood risk analysis and profiling as part of its long-term floodplain management planning for the catchment.

The flood levels contained within this flood search report have been sourced from Council's adopted flood modelling and flood study at this location, and are based on the best available information at the time of completing the study. The flood levels are measured in metres Australian Height Datum (mAHD), where mean sea level is approximately zero (0) mAHD.

Council is committed to providing residents with the most up to date flood risk information. The current flood study for this catchment area has assessed flood risk for a number of flood events including rare flood events greater than the 1%AEP flood, to provide a better understanding of the flood behaviour in the catchment. As such, the flood search report contains flood levels for flood events such as the 0.2%AEP (1 in 500 year AEP), 0.05% AEP (1 in 2000 year flood event), and the PMF (probable maximum flood). This information is being provided for completeness, and may not be applicable for development assessment purposes.

Please note: All reasonable steps have been undertaken to ensure the information presented in this report is accurate at the time of generation. Changes to the topography and condition of the local creeks and waterways may have an impact on flooding. Over time, Council may also undertake further technical studies to maintain the understanding of flooding across the city, and update the information available. Should you have any queries regarding this information please contact Council's Development Engineering section using the contact information above.

Yours faithfully

Mohit Paudyal
Senior Development Engineer
Planning and Regulatory Services

Enc Flood Search Property Report and Flood Property Map

Rockhampton Regional Council Flood Search Property Report

Property Address:	**12 Queen Elizabeth Drive, Berserker**
Lot Details:	**Lot 1 on SP152745**
Date of Issue:	**7 August 2020**

Rockhampton Regional Council

Flood Search Property Report Overview

It is possible for one or more sources of flooding to occur, especially where a property is near a creek or waterway. These flooding sources can include riverine, creek and overland flow flooding which can each behave differently and impact how a building or development is designed. All flood hazard triggers should be considered when designing and planning with flooding in mind.

The Rockhampton Regional Council Flood Search Report is provided to support planning and development, in accordance with the current version of the Rockhampton Region Planning Scheme 2015.

This report summaries flood information for this property to inform and supplement the application of the Council's planning scheme Flood Hazard overlay code, floodplain planning provisions, and the applicable flood planning levels. The contents of this report have been derived from Council's flood studies and flood modelling and should be considered along with all other applicable planning and development requirements. Flood studies and associated modelling assist Council to better understand flooding in the Rockhampton region and implement plans to avoid and mitigate its impacts on the community.

Flood modelling of the Fitzroy River has been progressively refined over a long period of time. The flood modelling addresses riverine impacts on Rockhampton City and surrounding areas, including Alton Downs, Pink Lily, Nine Mile, Fairy Bower, Midgee and Port Curtis. Local Creek and Catchment Flood Studies provide Council with information on flood behaviour of the creeks, and how they are expected to respond during varying intensities and durations of rainfall events.

Understanding your flood risk can help you prepare for flooding at your home or business. The information provided in this report utilises information from the most up to date flood studies available to Council at the date of issue of this report. All reasonable steps have been undertaken to ensure the information presented in this report is accurate at the time of generation. Changes to the topography and condition of the local creeks and waterways may have an impact on flooding. Over time, Council may undertake further technical studies to maintain the understanding of flooding across the city, and update the information available.

Copies of Council's current Flood Studies are available on Council's website at www.rrc.qld.gov.au

What is flood modelling?

Flood modelling uses sophisticated computer software to estimate how rainfall of various intensities and duration produce stormwater flows along creek and river catchments.

Flood modelling is used to estimate:

- The inundation extents of the areas that may be flooded;
- The peak depths of flood waters; and
- The hazard related to the depth of water or how quickly the water flows (velocity).

Flood modelling estimates a range of design floods based on a statistical analysis of rainfall information provided by the Bureau of Meteorology. This information is used to establish the likelihood of a rainfall or flood event.

When reading this report, please consider:

- If a property is identified as being at risk of being affected by Fitzroy River and/ or Local Creek Catchment flooding, the highest maximum flood heights should be used to establish minimum building and development levels. For large property parcels - there may be a significant difference between the minimum and maximum flood heights for a particular flood type. In these situations, you may need to seek further advice from Council regarding the flood height that is appropriate for the exact location of the proposed building or development.
- The flood maps included with this report display the flood inundation extent only. All maps generated from the Flood Studies are available on Council's website.
- The flood maps provided depict the flood inundation extents under existing climate and catchment conditions.
- If preparing a new building and/or development application, it is recommended that you confirm all flood related provisions within Council's Planning Scheme relevant to the property.

Property Details

Address: **12 Queen Elizabeth Drive, Berserker QLD 4701**
Lot and plan: Lot 1 on SP152745

Property Ground Levels:

Property ground levels can be found on the attached property flood report. The ground level data has been sourced from Aerial LiDAR survey, and as such, these levels are approximate.

Should the extent of flooding at a property need to be more accurately predicted, then individual property level information (e.g. surveyed site levels, and building floor levels) could be utilised in conjunction with Council's flood information. Council does not undertake this level of investigation or survey on behalf of property owners.

For your information:
AHD (Australian Height Datum) is the National Mapping Datum used throughout Australia. The level of 0.0m AHD is approximately mean sea level.
Elevation Data Source: The digital elevation model used in the flood modelling is generated on a regional scale and utilises ground level elevations from aerial laser surveys performed in2016. The survey data used to determine the extent and depth of potential inundation is captured and updated periodically and may not reflect inundation of land that has recently been modified, such as a new subdivision that has changed the existing landform.

Flood Information

Riverine Flood: Affected

The property is identified as being at risk of flooding from the Fitzroy River. A property flood report displaying the 1% AEP (Annual Exceedance Probability) flood extent on the property is attached. Planning and development must consider risk to people and property, natural floodplain characteristics, and flood free/low flood hazard access outcomes during a river flood event.

For your information:
AEP (Annual Exceedance Probability) is the probability of a flood event of a given size occurring or being exceeded in any one year. Information in relation to more or less likely floods and the full flood plain extent can be accessed on Council's website.

Local Storm / Overland flow Flood: Affected

The property is identified as being at risk of flooding from Local Storm Events / Overland Flow flooding. The attached map displays the 1% AEP flood extent on the property due to the Local Storm Event / Overland Flow Flooding. Planning and development must consider risk to people and property, natural floodplain characteristics, and flood free/low flood hazard access outcomes during local storm and overland flow flood events.

For your information:
AEP (Annual Exceedance Probability) is the probability of a flood event of a given size occurring or being exceeded in any one year. Information in relation to more or less likely floods and the full flood plain extent can be accessed on Council's website.

Flood Report for 12 Queen Elizabeth Drive Berserker QLD 4701

Printed from GeoCortex on 06/08/2020

Rockhampton Regional Council

Owners: J E Boswood and G A Boswood Ratepayer Address: 7 Benrhys Ct ROCKYVIEW QLD 4701

Parcel ID: SP152745/1 Land use: Sales Area Outdoor (cars etc)

Riverine Catchment: Fitzroy River 2014 Flood Study

Creek Catchment: Moores Creek Local Catchment Study 2018

Mitigation Area: North Rockhampton Flood Management Area

Horizontal Datum: MGA Z56, GDA2020 Elevation / WSL: mAHD Velocity: m/sec

Comments

N/A

Riverine

AEP 1% WSL Min:	8.03
AEP 1% WSL Max:	8.07
AEP 1% Velocity Min:	0.03
AEP 1% Velocity Max:	0.56
AEP 2% WSL Min:	7.68
AEP 2% WSL Max:	7.69
AEP 2% Velocity Min:	0.11
AEP 2% Velocity Max:	0.56
AEP 5% Velocity Min:	7.37
AEP 5% Velocity Min:	7.37
AEP 5% Velocity Min:	0.24
AEP 5% Velocity Max:	0.28
AEP 10% WSL Min:	N/A
AEP 10% WSL Max:	N/A
AEP 10% Velocity Min:	N/A
AEP 10% Velocity Max:	N/A

Creek

PMF WSL Min:	*9.24*	AEP 5% WSL Min:	*8.16*
PMF WSL Max:	*9.49*	AEP 5% WSL Max:	*8.16*
PMF Velocity Min:	*0.23*	AEP 5% Velocity Min:	*0.01*
PMF Velocity Max:	*1.19*	AEP 5% Velocity Max:	*0.00*
AEP 0.05% WSL Min:	*7.77*	AEP 10% WSL Min:	*8.16*
AEP 0.05% WSL Max:	*8.18*	AEP 10% WSL Max:	*8.16*
AEP 0.05% Velocity Min:	*0.01*	AEP 10% Velocity Min:	*0.01*
AEP 0.05% Velocity Max:	*0.10*	AEP 10% Velocity Max:	*0.01*
AEP 0.2% WSL Min:	*7.68*	AEP 18% WSL Min:	*N/A*
AEP 0.2% WSL Max:	*8.17*	AEP 18% WSL Max:	*N/A*
AEP 0.2% Velocity Min:	*0.01*	AEP 18% Velocity Min:	*N/A*
AEP 0.2% Velocity Max:	*0.01*	AEP 18% Velocity Max:	*N/A*
AEP 1% WSL Min:	*8.17*	AEP 39% WSL Min:	*N/A*
AEP 1% WSL Max:	*8.17*	AEP 39% WSL Max:	*N/A*
AEP 1% Velocity Min:	*0.01*	AEP 39% Velocity Min:	*N/A*
AEP 1% Velocity Max:	*0.01*	AEP 39% Velocity Max:	*N/A*
AEP 2% WSL Min:	*8.17*	AEP 63% WSL Min:	*N/A*
AEP 2% WSL Max:	*8.17*	AEP 63% WSL Max:	*N/A*
AEP 2% Velocity Min:	*0.01*	AEP 63% Velocity Min:	*N/A*
AEP 2% Velocity Max:	*0.01*	AEP 63% Velocity Max:	*N/A*

Property Elevation

Ground Elevation (Min):	7.60
Ground Elevation (Max):	8.35