GLADSTONE REGIONAL COUNCIL

Gladstone Regional Council
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Please address all correspondence to The Chief Executive Officer

Contact Officer: Shaunte Farrington
Our Ref: DA/26/2018

6 May 2020

Vellamo Lifestyle Pty Ltd
C/- Mr Ward Veitch
Urban Planet Town Planning Consultants
PO Box 232
HERVEY BAY QLD 4655

Dear Sir

NOTICE OF DECISION
PLANNING ACT 2016 S63

DA/26/2018 - MATERIAL CHANGE OF USE - IMPACT RELOCATABLE HOME PARK
LOT 101 SP 176830, BRYANT STREET, AGNES WATER QLD 4677
LOT 101 SP 176830

Reference is made to the above Development Application and the Confirmation Notice dated 16 August 2018.

I wish to advise that the application was assessed under Delegated Authority on 28 April 2020 and was approved. The approval is supported by a Notice of Reasons and is subject to conditions as set out in the following Notice of Decision.

Should you have any questions or require further clarification in relation to any matters raised in the Decision Notice, please do not hesitate to contact Council's Planning Officer Shaunte Farrington on (07) 4970 0700.

Yours faithfully

H A ROBERTSON
MANAGER DEVELOPMENT SERVICES

GLADSTONE
REGIONAL COUNCIL

NOTICE OF DECISION - DA/26/2018
PLANNING ACT 2016 S63

Application:	Material Change of Use - Impact - Relocatable Home Park
Applicant Name & Address:	Vellamo Lifestyle Pty Ltd C/- Mr Ward Veitch Urban Planet Town Planning Consultants PO Box 232 HERVEY BAY QLD 4655
Owner:	ARDNEH Developments Pty Ltd and Auckland Point Pty Ltd
Subject Land:	Lot 101 SP 176830, Bryant Street, AGNES WATER QLD 4677
Location:	Lot 101 SP 176830
Zoning:	Emerging Community
Site Area:	11.07 hectares
Definition of Use:	*Premises used for relocatable dwellings (whether they are permanently located or not) that provides long–term residential accommodation. The use may include a manager's residence and office, ancillary food and drink outlet, kiosk, amenity buildings and the provision of recreation facilities for the exclusive use of residents.*
Submissions Received:	N/A
Application Received:	16 July 2018
Planning Scheme:	*Our Place Our Plan Gladstone Regional Council Planning Scheme Version 2*

You are advised that your application was approved. The conditions relevant to this approval are attached. These conditions are clearly identified to indicate whether the assessment manager or a concurrence agency imposed them.

1. DETAILS OF THE APPROVAL

	Development Permit	Preliminary Approval
• **Material Change of Use** made assessable by the planning scheme	✓	**x**

2. BENCHMARKS APPLIED TO THE DEVELOPMENT

The following is a description of the assessment benchmarks applying to the development:

Benchmarks Applying to the Development	Benchmark Reference
State Planning Policy July 2017	• State Interest – Liveable Communities • State Interest – Water Quality • State Interest - Natural Hazards, Risk and Resilience
Our Place Our Plan Gladstone Regional Council Planning Scheme Version 2	• Strategic Framework • Acid Sulphate Soils Overlay Code • Biodiversity Overlay Code • Bushfire Hazard Overlay Code • Emerging Communities Zone Code • Development Design Code • Landscaping Code

3. CURRENCY PERIOD FOR THE APPROVAL

The currency periods stated in section 85 of the *Planning Act 2016* apply to each aspect of development in this approval, as outlined below unless otherwise conditioned within this approval:-

✓ Material Change of Use - 6 years

4. APPROVED PLANS

The approved plans and/or documents for this development approval are listed in the following table:

Drawing Number	Revision	Description	Author	Date
SD100	6	Site Plan	PW Architecture	17/9/2019
SD101	2	Community Centre Floor Plan	PW Architecture	5/3/2018
SD102	2	Unit Floor Plans 1	PW Architecture	5/3/2018
SD101	2	Unit Floor Plans 2	PW Architecture	5/3/2018

5. OTHER NECESSARY DEVELOPMENT PERMITS

Listed below are other development permits that are necessary to allow the development to be carried out:-

1. Operational Works
2. Building Works
3. Plumbing & Drainage Works

6. NOTICE OF REASONS

The following provides the Notice of Reasons under section 63(5) of the *Planning Act 2016:*

Description of the development:

The approved development is for Material Change of Use for a Relocatable Home Park.

Assessment Benchmarks:

Benchmarks Applying to the Development	Benchmark Reference
State Planning Policy July 2017	• State Interest – Liveable Communities • State Interest – Water Quality • State Interest - Natural Hazards, Risk and Resilience
Our Place Our Plan Gladstone Regional Council Planning Scheme Version 2	• Strategic Framework • Acid Sulphate Soils Overlay Code • Biodiversity Overlay Code • Bushfire Hazard Overlay Code • Emerging Communities Zone Code • Development Design Code • Landscaping Code

Reasons for the Assessment Managers Decision:

1. The Application was properly made in accordance with the *Planning Act 2016* and the Development Rules; and
2. Conditions have been recommended to mitigate inconsistencies with the relevant benchmarks of the *State Planning Policy July 2017* and the *Our Place Our Plan Gladstone Regional Council Planning Scheme Version 2*.

Reasons for Approval despite any Non-compliance with certain Benchmarks:

Benchmarks applying to the development	Reasons for the approval despite non-compliance with benchmark
Strategic Framework – 3.4 Community Living – Strategic Outcome 3.4.1 (1)	Compliance with Strategic Framework – 3.4 Community Living – Strategic Outcome 3.4.1 (1) via a condition
Strategic Framework – 3.4 Community Living – Strategic Outcome 3.4.1 (4)	Generally compliant with Strategic Framework – 3.4 Community Living – Strategic Outcome 3.4.1 (4)
Strategic Framework – 3.4 Community Living – Strategic Element 3.4.2. – Housing Growth	Compliance with Strategic Framework – 3.4 Community Living – Strategic Element 3.4.2. – Housing Growth via conditions
Strategic Framework – 3.4 Community Living – Strategic Element 3.4.2 – Housing Mix	Generally compliant with Strategic Framework – 3.4 Community Living – Strategic Element 3.4.2 – Housing Mix
Strategic Framework – 3.5 Connecting Our Places – Strategic Outcome 3.5.1 (1) and (5)	Compliance with Strategic Framework – 3.5 Connecting Our Places – Strategic Outcome 3.5.1 (1) and (5) via a condition
Strategic Framework – 3.6 Building it Better – Strategic Outcome 3.6.1 (5)	Compliance with Strategic Framework – 3.6 Building it Better – Strategic Outcome 3.6.1 (5) via a condition
Strategic Framework – 3.6 Building it Better – Strategic Outcome 3.6.1 (8)	Compliance with Strategic Framework – 3.6 Building it Better – Strategic Outcome 3.6.1 (8) via a condition
Strategic Framework – 3.6 Building it Better – Strategic Element 3.6.2 - Building it better: New neighbourhoods	Compliance with Strategic Framework – 3.6 Building it Better – Strategic Element 3.6.2 - Building it better: New neighbourhoods via conditions
Strategic Framework – 3.7 Our Environment and Heritage – Strategic	Generally compliant with 3.7 Our Environment and Heritage – Strategic Outcome 3.7.1 (5) and

Outcome 3.7.1 (5) and Biodiversity Overlay Code	Biodiversity Overlay Code based on Concurrence Agency Decision Notice
Biodiversity Overlay Code – Table 8.2.3.3.1 – Performance Outcome 5.	Compliance with Biodiversity Overlay Code – Table 8.2.3.3.1 – Performance Outcome 5 via a condition.
Bushfire Hazard Overlay Code – Table 8.2.4.3.1 – Performance Outcome 1.	Compliance with Bushfire Hazard Overlay Code – Table 8.2.4.3.1 – Performance Outcome 1 via a condition.
Bushfire Hazard Overlay Code – Table 8.2.4.3.1 – Acceptable Outcome 3.	Compliance with Bushfire Hazard Overlay Code – Table 8.2.4.3.1 – Acceptable Outcome 3 via a condition.
Bushfire Hazard Overlay Code – Table 8.2.4.3.1 – Acceptable Outcome 4.2.	Compliance with Bushfire Hazard Overlay Code – Table 8.2.4.3.1 – Acceptable Outcome 4.2 via a condition.
Emerging Community Zone Code – Table 6.2.19.3.1 – Acceptable Outcome 4.1.	Compliance with Emerging Community Zone Code – Table 6.2.19.3.1 - Performance Outcome 4 via conditions.
Emerging Community Zone Code – Table 6.2.19.3.1 – Performance Outcome 7.	Compliance with Emerging Community Zone Code – Table 6.2.19.3.1 - Performance Outcome 7 via conditions.
Emerging Community Zone Code – Table 6.2.19.3.1 – Performance Outcome 8.	Compliance with Emerging Community Zone Code – Table 6.2.19.3.1 - Performance Outcome 8 via conditions.
Development Design Code – Table 9.3.2.3.1	Compliance with Development Design Code – Table 9.3.2.3.1 via conditions.
Landscaping Code – Table 9.3.5.3.1	Landscaping Code – Table 9.3.5.3.1 via conditions.

Relevant Matters under Section 45(5)(b) of the Act that the Development was Assessed Against:

Nil

Matters raised in Submissions and Councils response in dealing with these matters:

Submission	**Officer's Response**
Density	
The current zoning is for low density residential, which this development is not. It is very high density with very little green spaces. This does not fit in with the surrounding area.	The subject site is located within the Emerging Community Zone under the Planning Scheme which seeks to facilitate land for future urban development that is managed in a timely conversion. Further to the Zone Code, the Strategic Framework provides further guidance on housing stock, density and ultimately the transition of the land for urban purposes. The proposed development has demonstrated compliance with the Zone Code and Strategic Framework by providing urban development in the Agnes Water Urban Centre which currently has a short fall of housing mix with a density that is consistent with adjoining approvals.
Future low-medium residential developments state a minimum 300m^2 block. This development proposes a significant amount of blocks of less than 300m^2.	
Section 3.8 of the planning scheme talks about rural and coastal townships which	In accordance with Schedule 2 of the Planning Scheme, Agnes Water is

state strategic outcomes which include retaining the individual character and unique identity of the township.	considered an Urban Centre, not a Coastal or Rural Township. As such, the specific benchmarks outlined in Section 3.8.1 are not relevant. Regardless of this point, the Relocatable Home Park will construct and reflect detached dwellings. Furthermore, a condition has been recommended for the Applicant to submit a suite of building plans to illustrate varying roof lines, colours and textures to maintain the coastal design and reduce visual building bulk of the development from adjoining land.
Where creating new neighbourhoods, the GRC Planning Scheme states a number of overall outcomes which are not supported and in fact are in total contrast to what this development proposal would achieve.	As per the Planning Scheme, the proposed development has demonstrated that it contributes to a logical expansion of the settlement pattern through the efficient use of land and infrastructure, facilitates integration with existing and future urban development and provides a range of housing types and a variety of formats in the Agnes Water Urban Centre, satisfying an appropriate housing mix. As such, the proposed development is considered generally compliant with the Planning Scheme.
Predicted Population	
Predicted population growth (Table SC 3.1.1) do not support this development which may potentially increase the population growth by up to 400 persons, almost one half of the predicted population growth you estimate by 2031.	The proposed development will be constructed over 16 stages. This will allow the development to align with the expected need and associated population growth for the Agnes Water area over time.
Amenity	
This development will affect the amenity of the existing residents and to the detriment of whole town.	As per the Planning Scheme, the subject site has been identified as a location for future urban expansion to accommodate population growth. The development has demonstrated that the use type will facilitate a complementary housing mix within the Agnes Water Urban Centre. The proposed setbacks, landscaping and general siting of the development in addition to recommended conditions will assist to ensure the development integrates with the emerging residential form.
Current fencing infrastructure needs to be considered in the building approval, replacing existing four-foot fence with appropriate six to eight foot safety fence along the adjoining boundaries. The developer should be required to enter into an agreement regarding the type and design of the fencing.	As per a recommended condition, the Applicant will be required to construct a solid boundary fence to all property boundaries.
Development requires more buffer zones along all rural residential neighbours.	The proposed development will be required to amend the existing site plan to comply

Winds come from south east most the year – may effect proposed residents given the nature and operation of adjoining rural residential blocks. Ongoing noise, dust, and vibration will occur as a result of an intensive housing development.	with recommended conditions stating an increased landscaped buffer and larger plot sizes on the houses directly adjoining the existing Rural Residential lots. Complementary to these recommended amendments, the landscaping plan and proposed fencing will further reduce visual, noise and sound impacts.
Open Space	
The lack of green space within this proposal.	The proposed green space associated with the development is located within private property (i.e. not a traditional residential subdivision). The proposed landscaping is to support the residents needs while achieving suitable buffers from adjoining land to reduce any adverse bulk built form. A condition has been included for the Applicant to increase the landscaping buffer on the southern boundary (rear) directly abutting the Rural Residential lots.
Development Type	
Whilst the proposal states that the "target" market would be retired people, it would need to be mandated by the Development Body Corporation that this facility would only be available to over 55 years. There would need to be a caveat on this. This would address the majority of the social issues, such as unemployment, crime and drug related issues which are generally prevalent in this type of development.	The proposed developed is aligned with a Relocatable Home Park definition under Schedule 1 of the Planning Scheme. This use type allows for the development to target all users, not only persons over the age of 55. This development will provide the Agnes Water Urban Centre with a unique residential product that will facilitate a current under supply in the area. Furthermore, the Applicant has provided additional information pertaining to existing Relocatable Home Parks in Queensland and how they are operated. This development type is supported by the provisions of the Manufactured Homes Act which sets the framework to regulate and promote fair trading practices in the operation of the park.
Infrastructure	
Can the sewerage system cope with the extra persons in this park, not to mention future development within the Agnes Water township?	As part of the Development Application for Operational Works, the Applicant is required to submit for approval a Sewer Master Plan for the entire development. This technical report will provide additional information regarding the appropriate sizing and location of the future gravity fed sewer main. Any upgrades as a result of the development will required to be delivered at their expense.
The proposal is to put a large number of senior citizens in an area that has no footpaths, no pedestrian crossing, is on large hilled area to access from shops and other facilities.	As part of Development Application for Operational Works, the Applicant is required to construct a pedestrian footpath connecting into the existing network along Donohue Drive.

Consider the impacts this will have on the limited parking spaces that the community has to access supermarkets and shopping generally.	Car parking external to the subject site is outside the Planning Scheme assessment benchmarks for this Development Application. The subject development provides onsite parking as per the Planning Scheme requirements for the associated users.
Construction	
As there is only one entrance via Bryant Street, Council need to consider the fact that any relocatable will be transported through the centre of town and past the area where children are walking to school.	As part of the subsequent Development Application for Operational Works, the Applicant will be required to submit for approval a Construction Management Plan. This plan will detail proposed traffic movements (frequency and routes), expected duration for each relevant stage and recommendations to reduce any adverse impacts during the construction phases. As there are no other direct access routes, any alternative routes will be considered as part of the lodged Construction Management Plan subject to consent (if required).
Construction will result in a number of semi-trailers entering the town and these suburban streets disturbing the amenity of the residents in these streets and surrounds and risking children's safety.	
It would be a far better deal if the property could be accessed via Bicentennial Drive and particularly during construction	
Access to Services	
The park is to contain 190 units presumably with at least 2 occupants per unit. This will be a 20% increase in the town's population. If 2 persons are not in each unit it will come down to between 10% and 20%. This town does not have the necessary medical and other services that it requires now. We are behind similar towns who have a population less than Agnes Water i.e., Childers and Gin Gin. Our town is situated an 11/2hours from the next biggest centre where a hospital is, both north and south and still no sign of a shorter route being developed in the near future.	There is an existing approval (DA/53/2017) for a Hospital, Retirement Facility and Reconfiguring of Lot (1 into 2) at Lot 2 SP 117407, Agnes Water. This approval seeks to allow future construction of facilities such as, a Hospital, Health Care Services and Residential Care Facilities. Those future services would offer additional medical facilities for the Agnes Water and Seventeen Seventy area. The provision of services comes with the increase in demand and Council's role is to support the growth in line with the provisions of the planning scheme. The current assessment for public transport may change with the increased demand directly relating to proposed developments.
The developers are planning a low cost residential option in a town that has no public transport. What transport is available is a distance from the town and is a high cost to access unless there is a kind neighbour or friend available to assist.	
There is limited infrastructure and employment opportunities to support a development of this size. The town of Agnes Water is already majorly impacted by lack of employment opportunities.	The Planning Scheme's structure plan for Agnes Water has included appropriate zoning for commercial, industrial and community development to occur. To date, approvals which may provide further employment diversification for the Urban Centre remain current awaiting construction. With the increase of permanent residents in the Agnes Water Urban Centre, this may assist in future investment. Notwithstanding this, employment opportunities may arise from

	the construction and/or ongoing maintenance of this development.
Road Network	
Road infrastructure is not in place to accommodate the expected 95 additional vehicles per hour that this development would be expected to bring to Bryant Street and its residents, not to mention the impact this traffic would have on a steep hill leading into an already congested school zone.	Bryant Street is classified as an Urban Residential Collector within Council's Road Hierarchy Policy and as such, has been designed to be able to accommodate the increase in vehicular traffic generated by the proposed development. The Applicant will be required to construct an extension to Bryant Street road as part of the first Operational Works and dedicate the infrastructure as road reserve. The road design will be lodged, assessed and determined compliant through the Operational Works application. Furthermore, as per a recommended condition, the Applicant will be required to submit for approval a Construction Management Plan to ensure traffic conflict during the staged construction is appropriately mitigated.
Impact of increased traffic upon safe student movement. Due consideration to student safety must be planned for with the significant increase of traffic during peak movement periods. The planned increase is almost 5 times current peak traffic movement, including a significant increase in heavy vehicles and vehicles towing caravans and trailers. This must include consideration of adequate, signed and where possible supervised or traffic controlled crossings at the corner of Donohue and Bryant Street, Donohue and Tate Street and Tate and Springs Road.	
Bryant Street should not be the entrance and exit point for the entire development. It is absurd that this developer has proposed this for over 190 houses. Bryant street is not suitable for the increased traffic in peak time of 95 vehicles per hour as per the engineer's report.	
If this park is to go ahead its entrance should not be Bryant Street, it should be Bicentennial Drive or Tavern Road that leads on to Round Hill as these roads are better equipped to take the additional 95 vehicles per hour in peak time and will not cause a danger to our school children.	
Overland Flow	
It will place a major impact on storm water and other amenities, it clearly does not embrace and augment the natural environment.	As part of the subsequent Operational Works applications, the Applicant is required to construct the relevant stormwater infrastructure within the applicable stages to achieve compliance with the Engineering Policy of the Planning Scheme.
Emergency Standards	
Are these relocatable homes going to cyclone ratings as is the rest of the town.	As part of the subsequent Development Application for Building Works, the proposed Dwelling Houses will be required to meet the relevant building standards of the area.
For safety, fire management and infrastructure protection, and to eliminate	As per a recommended condition, the Applicant will be required to submit, for

any impacts or issues on existing surrounding vegetated rural residential lifestyle lots, all areas & lots within the development that directly adjoin surrounding rural residential lots need a buffer /clear zone. This buffer or clear zone could be grassed open areas for example to eliminate all risk associated with fires, wildfire, treefalls etc.	approval, a Bushfire Hazard Assessment and Evacuation Plan which will outline the ongoing operation and procedures to ensure the site has adequate measures in the case of an emergency.
Vegetation Clearing	
We have great concerns around the huge tree clearing operation that has already been undertaken on this proposed site and that the proper notifications been undertaken to allow such clearing of a huge stand of native trees.	On 19 February 2019, the Department of Environment and Science (DES) advised the Applicant that the wetland mapping amendment application in relation to the subject site was certified. The DES updated map has acknowledged that the wetland was mapped incorrectly and has since been amended. Therefore, the clearing has been addressed as part of the referral process.
Development has no allowance for native wildlife movement/corridors from surrounding mapped remnant vegetation and mapped HES/GES wetlands & protected areas.	As per the Department of State Development, Manufacturing, Infrastructure and Planning, the Concurrence Agency has specified the minimum setbacks to adjoining wetlands to ensure the existing corridors are maintained and the potential overland flow impacts are reduced.

Matters prescribed by a Regulation:

N/A

7. REFERRAL AGENCIES

The referral agencies applicable to this application are:-

- Department of State Development, Manufacturing, Infrastructure and Planning – State Assessment Referral Agency – 1808-6987 SRA
  Referral agency response dated 17 May 2019

8. SUBMISSIONS

There were 19 properly made submissions about the application. The name and address of the principal submitter for each properly made submission are as follows:-

Name of principal submitter	Address
Mrs K Chatfield	48 Seaspray Drive, Agnes Water QLD 4677
Mr J Chatfield	48 Seaspray Drive, Agnes Water QLD 4677
F. Warburton & M. Morrison	2 Shady Lane, Agnes Water QLD 4677
Mr T Buchanan	P.O. Box 238, 1 Donohue Drive, Agnes Water QLD 4677
Mr S Smith	1/2 Tate St, Agnes Water QLD 4677
Mrs T Brown	1/2 Tate St, Agnes Water QLD 4677
Mr A Smith	1/2 Tate St, Agnes Water QLD 4677
Mrs L Benedetto	13 Webster Court, Agnes Water QLD 4677

P Cassell & L Cassell	21 Bryant Street, Agnes Water QLD 4677
Mrs J Speck	383 Innamincka Way, Agnes Water QLD 4677
A Hardy & J Hardy	3/6 Donohue Drive, Agnes Water QLD 4677
R Donaldson & T Walton	211 Bicentennial Drive, Agnes Water QLD 4677
A Hall & K Hall	Lot 9 Bicentennial Drive Agnes Water QLD 4677
C Ellis & P Ellis on behalf of Ellis Electrical Supervision	257 Bicentennial Drive Agnes Water QLD 4677
R Schultz & N Schultz	273 Bicentennial Dr, Agnes Water QLD 4677
Mrs A J Gray	1 Palm Court, PO Box 503, Agnes Water QLD 4677
S Gillespie & K Gillespie	211 Bicentennial Drive, Agnes Water QLD 4677
D Jensen & T Jensen	PO Box 1, Gladstone Road, Biloela QLD 4715
Mrs J Meng	16 Bryant Street, Agnes Water QLD 4677

9. APPEAL RIGHTS

Schedule 1 of the *Planning Act 2016* details your appeal rights and the appeal rights of any submitters regarding this decision.

10. WHEN THE DEVELOPMENT APPROVAL TAKES EFFECT

This development approval takes effect:-

- From the time the decision notice is given, if there is no submitter and the applicant does not appeal the decision to the court.

OR

- If there is a submitter and the applicant does not appeal the decision, the earlier date of either:
    - When the submitter's appeal ends; or
    - The day the last submitter gives the assessment manager written notice that the submitter will not be appealing the decision.

OR

- Subject to the decision of the court, when the appeal is finally decided, if an appeal is made to the court.

This approval will lapse if:-

- for a material change of use, the first change of use under the approval does not start within the relevant period stated in section 3 of this Notice of Decision;
- for a reconfiguration, a plan for the reconfiguration is not given to the local government within the relevant period stated in section 3 of this Notice of Decision;
- for a development approval other than a material change of use or reconfiguration, the development does not substantially start within the relevant period stated in section 3 of this Notice of Decision.

Should you wish to discuss this matter further, please contact Council's Planning Officer Shaunte Farrington on (07) 4970 0700.

Yours faithfully

H A ROBERTSON
MANAGER DEVELOPMENT SERVICES

Attached: **Conditions**
Appeal Rights
Approved Plans
Referral Agency Response

GLADSTONE
REGIONAL COUNCIL

ASSESSMENT MANAGER CONDITIONS - DA/26/2018

Approved Documentation

1. Development is to be carried out generally in accordance with the submitted application including the following plans and supporting documentation except where amendments are required to satisfy the conditions of this approval:

Drawing Number	Revision	Description	Author	Date
SD100	6	Site Plan	PW Architecture	17/9/2019
SD101	2	Community Centre Floor Plan	PW Architecture	5/3/2018
SD102	2	Unit Floor Plans 1	PW Architecture	5/3/2018
SD101	2	Unit Floor Plans 2	PW Architecture	5/3/2018

And supporting documents

Document Number	Revision	Description	Author	Date
FC-16-078	0	Conceptual Stormwater Management Plan (Quality)	Engineering Solutions Qld Pty Ltd	4/4/2018
FC-16-078	1	Conceptual Stormwater Management Plan (Quantity)	Engineering Solutions Qld Pty Ltd	25/10/2018
FC-16-078	A	Sewerage Supply Analysis	Engineering Solutions Qld Pty Ltd	17/10/2018
FC-16-078	0	Engineering Services Report	Engineering Solutions Qld Pty Ltd	17/4/2018
-	1	Agnes Water Relocatable Home Park Economic Need Assessment	MacroPlan	October 2019

Special Conditions

2. Stage 1 is to be completed within four (4) years from the subject approval taking effect. Each subsequent stage is to be completed within two (2) years of the commencement of use of the previous stage.

3. Prior to lodging the first Development Application to Council, the Applicant must amend the Site Plan to include the following changes:

    a. Each dwelling site adjoining a Rural Residential Zone must be a minimum of 300m^2 in area; and

b. The proposed rear landscape buffer directly adjoining the Rural Residential Zone is to be increased to 5m off the boundary. The relevant dwellings must maintain an offset a minimum of 1.5m off the dwelling site boundary in addition to the landscape buffer.

4. Prior the lodging the first Development Application to Council, the Applicant must submit to Council for approval detailed Building Plans for the proposed dwelling types further outlining:

    a. a variety of at least four (4) different textures, colours and designs within the external façade of the building must complement the established costal character of the area. Details of the proposed colour scheme, materials and finishes for all external areas of the building; and
    b. dwelling heights must not exceed 4.5 metres and one storey from ground level.

5. At all time, the Relocatable Home Park must operate in accordance with the *Manufactured Homes (Residential Uses) Act 2003*.

6. At all times, the Relocatable Home Park must not exceed the development yield of 190 sites.

7. At all times, strata titling of individual sites will not be permitted.

8. Communal facilities must be accessible for the sole use of the residents and their guests and must be provided in a central location. Construction shall be in accordance with the *Disability Discrimination Act 1992*.

9. Upon commencement of the use, the identified RV parking must remain as ancillary parking for the Relocatable Home Park residents.

    Note: Use of the site for accommodation in Caravans/RVs for the general public for short term holiday purposes is not permitted.

Operational Works

10. A Development Permit for Operational Works must be obtained from Council prior to the commencement of construction of each applicable stage. The Development Application for Operational Works is to include the following:

    a. Earthworks (including retaining walls) (as applicable);
    b. Road works (including extensions, private access gates, signage and footpaths) (Stage 1);
    c. Water Infrastructure (Stage 1);
    d. Sewer Infrastructure (Stage 1);
    e. Stormwater Management (quantity, quality, flood and drainage control) (as applicable);
    f. Erosion and Sediment Control (as applicable);
    g. Construction Management (as applicable);
    h. Street lighting, electrical and telecommunications (Stage 1); and
    i. Landscaping, environmental protection and associated works (as applicable).

11. As part of each Operational Works application, the submission of a Construction Management Plan for the proposed works for each stage must be submitted for approval by Council. The Construction Management Plan must identify:-

a. How the relocatable homes will be transported to site;
b. The route/s that construction/delivery traffic will utilise;
c. Times of the day delivery to site is scheduled;
d. Number of vehicle trips to/from site scheduled per day;
e. Details of approvals from other authorities;
f. Provide evidence of information being issued to adjoining residents; and
g. Any other critical elements raised by Council in consideration of the Operational Works application.

12. As part of the first Development Application for Operational Works, the Applicant is to provide a Water Master Plan (including modelling) for approval by Council for the entire development site. The assessment shall include a staging assessment to ensure all infrastructure is appropriately sized.

13. As part of the first Development Application for Operational Works, the Applicant must extend Council's water supply infrastructure, within the western verge of Bryant Street, to the end of the proposed cul-de-sac.

14. As part of the first Development Application for Operational Works, a water service connection is to be provided from Council's water supply infrastructure to the front property boundary (Bryant Street). The location and size of the water service (and any associated fire service) is to be determined in consultation with Council.

    Advisory Note: Only (one) water connection point is permitted to the development, further stages must connect to the existing connection point.

15. As part of the first Development Application for Operational Works, connections to Council's live water reticulation network must be carried out by Council. The cost of these works is to be borne by the Applicant.

    Advisory Note: Council's Application for Water Service is found at http://www.gladstone.qld.gov.au/forms.

16. As part of the first Development Application for Operational Works, the proposed development must provide a master meter at the property boundary and sub meters for each dwelling in accordance with the Queensland Plumbing and Drainage Code. Sub-meters must be purchased from Council.

    Note: Water meter boxes located within trafficable areas must be raised or lowered to suit the finished surface level and must be provided with heavy duty trafficable lids.

17. As part of the first Development Application for Operational Works, the Applicant is to provide a Sewer Master Plan (including modelling) for the approval by Council for the entire development site. The assessment shall include a staging assessment to ensure all infrastructure is appropriately sized.

18. As part of the first Development Application for Operational Works, the Applicant is to construct a gravity sewer main from Manhole 217072 or 217073, along the northern verge of Bicentennial Drive and north through Lot 28 RP858105, such that the proposed development can obtain a connection Council's sewerage network.

19. As part of the first Development Application for Operational Works, all sanitary drainage is to drain into a new 1050mm diameter privately owned maintenance hole within the south-western corner of the development site, prior to connecting to

Council's sewerage infrastructure. The location and size of the sewer service is to be determined in consultation with Council.

20. As part of the first Development Application for Operational Works, connections to Council's live sewerage network must be carried out under the supervision of Council. The cost of these works are to be borne by the Applicant.

    Advisory Note: Council's Application for Sewer is found at http://www.gladstone.qld.gov.au/forms.

21. As part of Operational Works, the retention basins must be constructed at the following stages of the development:

    a. Stage 1 – Western Basin; and
    b. Stage 7 – Eastern Basin.

22. As part of the first Development Application for Operational Works, the Applicant is to extend Bryant Street as an 11m wide Residential Collector, within a 22m (minimum) wide road reserve, to an appropriately designed cul-de-sac, on the alignment shown on the approved Site Plan, in accordance with Council's Road Hierarchy Policy.

23. As part of the first Development Application for Operational Works, the Applicant is to submit a Traffic Impact Assessment Report that:

    a. Provides swept path analysis for the largest design vehicle accessing the development within the internal road network;
    b. Demonstrate that emergency vehicle access and parking facilities will be provided onsite;
    c. Demonstrate sufficient queuing area is provided between the cul-de-sac and vehicular control point (entrance gate), such that the influx of traffic will not adversely affect traffic or pedestrian flows along Bryant Street, in accordance with AS2890.
    d. As part of the first Development Application for Operational Works, the Applicant must construct a 2 metre wide concrete footpath for the full extent of Bryant Street , along the eastern verge, connecting into the existing footpath located along Donohue Drive, in accordance with Council's Standard Drawing Concrete Pathway/Bikeway Details.

    Advisory Note: Council's standard drawing is located within the Capricorn Municipal Development Guidelines - Drawings and Specifications at http://www.cmdg.com.au/index.htm.

24. As part of any Development Application for Operational Works, any new retaining walls which are visible from the road reserve, must receive a surface treatment such as rendering or cladding to maintain the visual amenity of the streetscape. The treatments must complement with the proposed colour pallet of the proposed buildings.

25. As part of the first Development Application for Operational Works, a Master Landscaping and Rehabilitation Plan is to be provided in accordance with Table 9.3.5.3.2 - Plant Species List of the Landscaping Code of the *Our Place Our Plan Gladstone Regional Council Planning Scheme* and the Capricorn Municipal Development Guidelines - Landscaping C273 Construction Specification. The Master Landscaping Plan is to be certified by a Landscape Architect and/or a suitably qualified environmental consultant. It must include a detailed ongoing rehabilitation

and maintenance plan for the area marked as “Revegetated Open Space and Activity Area” including the revegetation, enhancement and weed management of the disturbed area.

Advisory Note: Council's standard drawing is located within the Capricorn Municipal Development Guidelines - Drawings and Specifications at http://www.cmdg.com.au/index.htm.

26. As part of the first Development Application for Operational Works, the Applicant must construct a minimum 1.8m high solid acoustic fence to all property boundaries.

27. Development Applications for Operational Works shall be designed and constructed in accordance with Australian Standards, the Engineering Design Planning Scheme Policy under the *Our Place Our Plan Gladstone Regional Council Planning Scheme* or any other applicable standards at the time of lodgement. Prior to the commencement of the use, all Operational Works conditioned by this approval must be accepted "on maintenance" by Council.

Advisory Note: The Capricorn Municipal Development Guidelines within the Engineering Design Planning Scheme Policy is the current document for preparing any Development Application for Operational Works which is found at http://www.cmdg.com.au/index.htm.

Bushfire Hazard

28. Prior to the commencement of the use for Stage 1, the Applicant must submit a Bushfire Hazard Assessment and Evacuation Plan to Council for approval. The Management Plan is to:

    a. Be prepared by a suitably qualified person experienced in the area of bushfire management;
    b. Be provided for the whole of the site;
    c. Provide an evacuation and emergency plan in the event of a bushfire event;
    d. Identify of the location and severity of all bushfire risks including vegetation, topography and bushfire history;
    e. Identify fire risk reduction features including fire-fighting facilities to be installed and their ongoing maintenance schedule;
    f. Demonstrate that each stage is adequately serviced with onsite firefighting equipment; and
    g. Be implemented by the Applicant for the life of the approval.

29. The Applicant is to construct all internal roads with a minimum formed width of 6m and with a maximum grade of 12.5%.

Building, Plumbing and Drainage Works

30. The Applicant is required to obtain a Development Permit and Building Final for Building Works for each site in accordance with the *Planning Act 2016*. Construction is to comply with the *Building Act 1975*, the National Construction Code and the requirements of other relevant authorities.

31. The Applicant is required to obtain a Development Permit for Plumbing and Drainage Works and Plumbing and Drainage Final for each site in accordance with the *Planning Act 2016*. Construction is to comply with the *Plumbing and Drainage Act 2018* and the requirements of other relevant authorities.

32. As part of Building Works, all outdoor lighting is to comply with Australian Standard AS4282 – Control of the Obtrusive Effects of Outdoor Lighting.

33. As part of any Building Works, the location of the proposed buildings shall comply with Council Policy P-2015/36 Building Over or Adjacent to Council Infrastructure.

34. As part of any Building Works, where a habitable room window is within 9m of another habitable room window or private open space of another Dwelling adjacent to the premise:

    a. Windows are provided with fixed translucent glazing, such as frosted or textured glazing, for any part of the window less than 1.5m above floor level; or
    b. Windows are provided with fixed with permanent external screens that are:

        i. Solid translucent screens; or
        ii. Perforated panels or trellises that have a maximum of 50% openings, with a maximum opening dimension of 50mm, and that are permanently fixed and durable; and
        iii. Offset a minimum of 300mm from the wall of the building.

35. Prior to the commencement of the use for each stage, all plant and equipment (including air conditioners, exhaust fans and the like) are to be housed, screened and located so that these do not cause environmental nuisance or harm to residential uses in the surrounding area.

36. Prior to the commencement of the use for each stage, all lighting at ground level and associated with illuminating ground level areas must be focused downwards and be provided with hoods, shades or other permanent devices to direct illumination downwards and not allow upward lighting to adversely affect the residential uses on this site and the adjoining the sites.

Stormwater Infrastructure

37. Prior to the commencement of the use, all stormwater infrastructure is to be constructed on the site generally in accordance with the approved Site Based Stormwater Management Plan and any associated Operational Works approval, including quality and quantity infrastructure. The stormwater infrastructure is to be in accordance with the Engineering Design Planning Scheme Policy under the Gladstone Regional Planning Scheme, State Planning Policy and Queensland Urban Drainage Manual.

Transportation Services

38. Prior to the commencement of the use of Stage 1, a C2 Commercial Driveway is to be constructed in accordance with Council's Standard Drawing Urban Commercial/Industrial Driveway.

    Advisory Note: Council's standard drawing is located within the Capricorn Municipal Development Guidelines - Drawings and Specifications at http://www.cmdg.com.au/index.htm.

39. Prior to the commencement of Stage 1, a minimum of 8 visitor car parking, and 16 RV parking spaces are to be constructed on site generally in accordance with the

approved plans, including designated disabled car parking spaces. The communal spaces and associated vehicle movement areas are to be constructed, sealed, line marked, provided with wheel stops and maintained in accordance with the Engineering Design Planning Scheme Policy under the *Our Place Our Plan Gladstone Regional Council Planning Scheme* and AS2890.1.

40. Prior to the commencement of the use of Stage 1, a minimum of four (4) bicycle spaces are to be constructed onsite within 20m of the communal facilities. All bicycle spaces are to be constructed in accordance with AS2890.3 (2015).

41. Prior to the commencement of the use, any damage to the driveway crossing and kerb and channel shall be repaired at the owner's expense and to Council's Standard Drawing Urban Commercial/Industrial Driveway.

    Advisory Note: Council's standard drawing is located within the Capricorn Municipal Development Guidelines - Drawings and Specifications at http://www.cmdg.com.au/index.htm.

42. Prior to the commencement of the use for each stage, all grassed footpath areas disturbed by the development are to be top dressed and turfed following completion of construction activity.

43. Prior to the commencement of the use, any manholes located on the proposed driveway are to be covered with Class D Covers to AS 3996, maintained at finished surface levels and must remain accessible at all times.

44. At all times, each relocatable home site must access the internal road network only. Direct access to any Council road not permitted.

45. At all times, individual relocatable home sites must be able to accommodate a minimum of two car parking spaces and, if applicable, one recreational vehicle parking space.

Landscaping

46. Prior to commencement of the use for each stage, all landscaping areas are to be constructed with an appropriate irrigation system. Details of the irrigation system are to be provided as part of the Master Landscaping Plan.

Waste Management

47. Prior to the commencement of the use of each stage, refuse bins are to be provided in accordance with the approved Waste Management at a rate of:

    a. Residential Dwellings: 1 x 240L General Waste wheelie bin and 1 x 240L Recyclable Waste wheelie bin per dwelling; and
    b. Community Facilities: 1 x 1.1m3 General Waste Bulk Bins and 1 x 1.1m3 Recyclable Waste Bulk Bins.

48. Prior to the commencement of the use of each stage, the waste storage area/s at the community facilities are to be sufficient in size to house all waste collection containers including recycling waste containers. The waste storage area/s must be suitably enclosed and imperviously paved, with a hose cock and hose fitted in close proximity to the enclosure to ensure the area can be easily and effectively cleaned.

49. Prior to the commencement of the use of each stage, open storage areas shall be adequately screened so as not to detract from the visual amenity of the area. One way of achieving compliance with this condition is as follows:

    a. Outdoor storage areas are situated in locations not visible from the street; and
    b. A 1.8m solid screen fence is located around storage areas.

Electrical, Telecommunication and Gas services

50. All electrical (and telecommunication) conduits are to be installed (including conduits under roads, under concrete pathways and beneath retaining walls etc.) together with the associated infrastructure (including electrical pits, light pole and sub-station footings etc.).

51. Prior to the commencement of Stage 1, a Certificate of Supply shall be provided to demonstrate connection of electricity supply to the subject site.

    Advisory Note: The Ergon Energy Rockhampton Office are available on (07) 49311012.

52. Prior to commencement of Stage 1, a Certificate of Supply shall be provided to demonstrate connection of telecommunication supply to the subject site.

    Advisory Note: The Telstra Smart Communities Team are available on 1800 226 543.

Survey Plan Endorsement

53. The Applicant is to provide registered easement documents in favour of Council and at no cost to Council over relevant infrastructure (access, water supply, sewerage, stormwater, etc) within the development and over other parts of the development property as may be deemed necessary by Council having considered the engineering drawings submitted with the Operational Works application for a particular stage of the development.

Lawful Commencement

54. Prior to the commencement of the use for each stage, the Applicant is to request a Compliance Inspection be undertaken by Council to confirm that all conditions of this Development Permit are considered compliant.

55. Upon receipt of confirmation from Council that the relevant conditions of this staged Development Permit are considered compliant, the Applicant is to notify Council within 20 business days that this approved use has lawfully commenced.

END OF CONDITIONS

Advice to Applicant:

An Adopted Infrastructure Charge Notice in relation to the infrastructure charges applicable to this development has been provided separately.

Schedule 1 Appeals

section 229

1 Appeal rights and parties to appeals

(1) Table 1 states the matters that may be appealed to—

(a) the P&E court; or

(b) a tribunal.

(2) However, table 1 applies to a tribunal only if the matter involves—

(a) the refusal, or deemed refusal of a development application, for—

(i) a material change of use for a classified building; or

(ii) operational work associated with building work, a retaining wall, or a tennis court; or

(b) a provision of a development approval for—

(i) a material change of use for a classified building; or

(ii) operational work associated with building work, a retaining wall, or a tennis court; or

(c) if a development permit was applied for—the decision to give a preliminary approval for—

(i) a material change of use for a classified building; or

(ii) operational work associated with building work, a retaining wall, or a tennis court; or

(d) a development condition if—

(i) the development approval is only for a material change of use that involves the use of a building classified under the Building Code as a class 2 building; and

(ii) the building is, or is proposed to be, not more than 3 storeys; and

(iii) the proposed development is for not more than 60 sole-occupancy units; or

(e) a decision for, or a deemed refusal of, an extension application for a development approval that is only for a material change of use of a classified building; or

(f) a decision for, or a deemed refusal of, a change application for a development approval that is only for a material change of use of a classified building; or

(g) a matter under this Act, to the extent the matter relates to the Building Act, other than a matter under that Act that may or must be decided by the Queensland Building and Construction Commission; or

(h) a decision to give an enforcement notice—

(i) in relation to a matter under paragraphs (a) to (g); or

(ii) under the *Plumbing and Drainage Act 2018*; or

(i) an infrastructure charges notice; or

(j) the refusal, or deemed refusal, of a conversion application; or

(l) a matter prescribed by regulation.

(3) Also, table 1 does not apply to a tribunal if the matter involves—

(a) for a matter in subsection (2)(a) to (d)—

(i) a development approval for which the development application required impact assessment; and

(ii) a development approval in relation to which the assessment manager received a properly made submission for the development application; or

(b) a provision of a development approval about the identification or inclusion, under a variation approval, of a matter for the development.

(4) Table 2 states the matters that may be appealed only to the P&E Court.

(5) Table 3 states the matters that may be appealed only to the tribunal.

(6) In each table—

(a) column 1 states the appellant in the appeal; and

(b) column 2 states the respondent in the appeal; and

(c) column 3 states the co-respondent (if any) in the appeal; and

(d) column 4 states the co-respondents by election (if any) in the appeal.

(7) If the chief executive receives a notice of appeal under section 230(3)(f), the chief executive may elect to be a co-respondent in the appeal.

(8) In this section—

storey see the Building Code, part A1.1.

Table 1
Appeals to the P&E Court and, for certain matters, to a tribunal

1. Development applications

For a development application other than an excluded application, an appeal may be made against—

(a) the refusal of all or part of the development application; or

(b) the deemed refusal of the development application; or

(c) a provision of the development approval; or

(d) if a development permit was applied for—the decision to give a preliminary approval.

Table 1 Appeals to the P&E Court and, for certain matters, to a tribunal			
Column 1 Appellant	Column 2 Respondent	Column 3 Co-respondent (if any)	Column 4 Co-respondent by election (if any)
The applicant	The assessment manager	If the appeal is about a concurrence agency's referral response—the concurrence agency	1 A concurrence agency that is not a co-respondent 2 If a chosen assessment manager is the respondent—the prescribed assessment manager 3 Any eligible advice agency for the application 4 Any eligible submitter for the application
2. Change applications For a change application other than an excluded application, an appeal may be made against— (a) the responsible entity's decision on the change application; or (b) a deemed refusal of the change application.			

Table 1
Appeals to the P&E Court and, for certain matters, to a tribunal

Column 1 Appellant	Column 2 Respondent	Column 3 Co-respondent (if any)	Column 4 Co-respondent by election (if any)
1 The applicant 2 If the responsible entity is the assessment manager—an affected entity that gave a pre-request notice or response notice	The responsible entity	If an affected entity starts the appeal—the applicant	1 A concurrence agency for the development application 2 If a chosen assessment manager is the respondent—the prescribed assessment manager 3 A private certifier for the development application 4 Any eligible advice agency for the change application 5 Any eligible submitter for the change application
3. Extension applications For an extension application other than an extension application called in by the Minister, an appeal may be made against— (a) the assessment manager's decision on the extension application; or (b) a deemed refusal of the extension application.			

Table 1
Appeals to the P&E Court and, for certain matters, to a tribunal

Column 1 Appellant	Column 2 Respondent	Column 3 Co-respondent (if any)	Column 4 Co-respondent by election (if any)
1 The applicant 2 For a matter other than a deemed refusal of an extension application—a concurrence agency, other than the chief executive, for the application	The assessment manager	If a concurrence agency starts the appeal—the applicant	If a chosen assessment manager is the respondent—the prescribed assessment manager
4. Infrastructure charges notices An appeal may be made against an infrastructure charges notice on 1 or more of the following grounds— (a) the notice involved an error relating to— (i) the application of the relevant adopted charge; or *Examples of errors in applying an adopted charge—* • the incorrect application of gross floor area for a non-residential development • applying an incorrect 'use category', under a regulation, to the development (ii) the working out of extra demand, for section 120; or (iii) an offset or refund; or (b) there was no decision about an offset or refund; or (c) if the infrastructure charges notice states a refund will be given—the timing for giving the refund; or (d) for an appeal to the P&E Court—the amount of the charge is so unreasonable that no reasonable relevant local government could have imposed the amount.			

Table 1 Appeals to the P&E Court and, for certain matters, to a tribunal			
Column 1 Appellant	Column 2 Respondent	Column 3 Co-respondent (if any)	Column 4 Co-respondent by election (if any)
The person given the infrastructure charges notice	The local government that gave the infrastructure charges notice	—	—
5. Conversion applications An appeal may be made against— (a) the refusal of a conversion application; or (b) a deemed refusal of a conversion application.			
Column 1 Appellant	Column 2 Respondent	Column 3 Co-respondent (if any)	Column 4 Co-respondent by election (if any)
The applicant	The local government to which the conversion application was made	—	—
6. Enforcement notices An appeal may be made against the decision to give an enforcement notice.			
Column 1 Appellant	Column 2 Respondent	Column 3 Co-respondent (if any)	Column 4 Co-respondent by election (if any)
The person given the enforcement notice	The enforcement authority	—	If the enforcement authority is not the local government for the premises in relation to which the offence is alleged to have happened—the local government

Table 2
Appeals to the P&E Court only

1. Appeals from tribunal

An appeal may be made against a decision of a tribunal, other than a decision under section 252, on the ground of—

(a) an error or mistake in law on the part of the tribunal; or

(b) jurisdictional error.

Column 1 Appellant	Column 2 Respondent	Column 3 Co-respondent (if any)	Column 4 Co-respondent by election (if any)
A party to the proceedings for the decision	The other party to the proceedings for the decision	—	—

2. Eligible submitter appeals

For a development application or change application other than an excluded application, an appeal may be made against the decision to approve the application, to the extent the decision relates to—

(a) any part of the development application or change application that required impact assessment; or

(b) a variation request.

Column 1 Appellant	Column 2 Respondent	Column 3 Co-respondent (if any)	Column 4 Co-respondent by election (if any)
1 For a development application—an eligible submitter for the development application 2 For a change application—an eligible submitter for the change application	1 For a development application—the assessment manager 2 For a change application—the responsible entity	1 The applicant 2 If the appeal is about a concurrence agency's referral response—the concurrence agency	Another eligible submitter for the application

Table 2
Appeals to the P&E Court only

3. Eligible submitter and eligible advice agency appeals

For a development application or change application other than an excluded application, an appeal may be made against a provision of the development approval, or a failure to include a provision in the development approval, to the extent the matter relates to—

(a) any part of the development application or change application that required impact assessment; or

(b) a variation request.

Column 1 Appellant	Column 2 Respondent	Column 3 Co-respondent (if any)	Column 4 Co-respondent by election (if any)
1 For a development application—an eligible submitter for the development application 2 For a change application—an eligible submitter for the change application 3 An eligible advice agency for the development application or change application	1 For a development application—the assessment manager 2 For a change application—the responsible entity	1 The applicant 2 If the appeal is about a concurrence agency's referral response—the concurrence agency	Another eligible submitter for the application

4. Compensation claims

An appeal may be made against—

(a) a decision under section 32 about a compensation claim; or

(b) a decision under section 265 about a claim for compensation; or

(c) a deemed refusal of a claim under paragraph (a) or (b).

Table 2 Appeals to the P&E Court only			
Column 1 Appellant	Column 2 Respondent	Column 3 Co-respondent (if any)	Column 4 Co-respondent by election (if any)
A person dissatisfied with the decision	The local government to which the claim was made	—	—
5. Registered premises An appeal may be made against a decision of the Minister under chapter 7, part 4.			
Column 1 Appellant	Column 2 Respondent	Column 3 Co-respondent (if any)	Column 4 Co-respondent by election (if any)
1 A person given a decision notice about the decision 2 If the decision is to register premises or renew the registration of premises—an owner or occupier of premises in the affected area for the registered premises who is dissatisfied with the decision	The Minister	—	If an owner or occupier starts the appeal—the owner of the registered premises
6. Local laws An appeal may be made against a decision of a local government, or conditions applied, under a local law about— (a) the use of premises, other than a use that is the natural and ordinary consequence of prohibited development; or (b) the erection of a building or other structure.			

Table 2 Appeals to the P&E Court only			
Column 1 Appellant	Column 2 Respondent	Column 3 Co-respondent (if any)	Column 4 Co-respondent by election (if any)
A person who— (a) applied for the decision; and (b) is dissatisfied with the decision or conditions.	The local government	—	—

Table 3 Appeals to a tribunal only			
1. Building advisory agency appeals An appeal may be made against giving a development approval for building work to the extent the building work required code assessment against the building assessment provisions.			
Column 1 Appellant	Column 2 Respondent	Column 3 Co-respondent (if any)	Column 4 Co-respondent by election (if any)
A building advisory agency for the development application related to the approval	The assessment manager	The applicant	1 A concurrence agency for the development application related to the approval 2 A private certifier for the development application related to the approval

Table 3
Appeals to a tribunal only

2. Inspection of building work

An appeal may be made against a decision of a building certifier or referral agency about the inspection of building work that is the subject of a building development approval under the Building Act.

Column 1 Appellant	Column 2 Respondent	Column 3 Co-respondent (if any)	Column 4 Co-respondent by election (if any)
The applicant for the development approval	The person who made the decision	—	—

3. Certain decisions under the Building Act and the *Plumbing and Drainage Act 2018*

An appeal may be made against—

(a) a decision under the Building Act, other than a decision made by the Queensland Building and Construction Commission, if an information notice about the decision was given or required to be given under that Act; or

(b) a decision under the *Plumbing and Drainage Act 2018*, other than a decision made by the Queensland Building and Construction Commission, if an information notice about the decision was given or required to be given under that Act.

Column 1 Appellant	Column 2 Respondent	Column 3 Co-respondent (if any)	Column 4 Co-respondent by election (if any)
A person who received, or was entitled to receive, an information notice about the decision	The entity that made the decision	—	—

4. Local government failure to decide application under the Building Act

An appeal may be made against a local government's failure to decide an application under the Building Act within the period required under that Act.

Table 3 Appeals to a tribunal only			
Column 1 Appellant	Column 2 Respondent	Column 3 Co-respondent (if any)	Column 4 Co-respondent by election (if any)
A person who was entitled to receive notice of the decision	The local government to which the application was made	—	—
5. Failure to make a decision about an application or other matter under the *Plumbing and Drainage Act 2018* An appeal may be made against a failure to make a decision under the *Plumbing and Drainage Act 2018*, other than a failure by the Queensland Building and Construction Commission to make a decision, within the period required under that Act, if an information notice about the decision was required to be given under that Act.			
Column 1 Appellant	Column 2 Respondent	Column 3 Co-respondent (if any)	Column 4 Co-respondent by election (if any)
A person who was entitled to receive an information notice about the decision	The entity that failed to make the decision	—	—

HOUSE LOTS TOTAL: 190

Type 1 - 280m² LOTS (84)
Type 2 - 280m² LOTS (57)
Type 3 - 245m² LOTS (38)
Type 4 - 300+m² LOTS (variable sizes) (11)

1 Site plan
1 : 2000

SITE PLAN - INDICATIVE CONSTRUCTION STAGING

KTQ Developments, Vellamo Lifestyle Living Development, Agnes Water

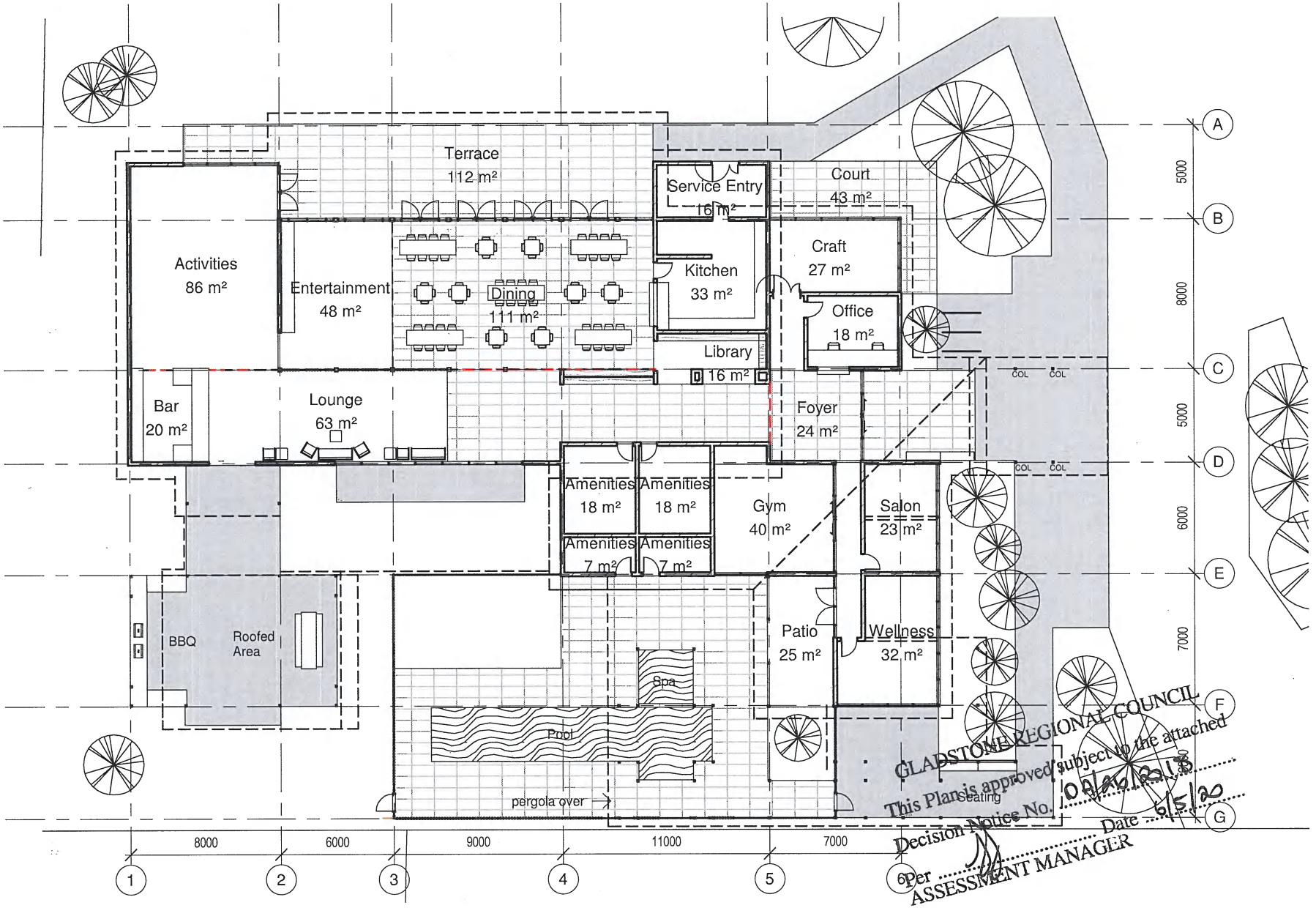
CLIENT 20170038 SD100 6

17.09.2018

0 200

70 Robertson Street, Fortitude Valley QLD 4006 T: 07 3252 1711 E: brisbane@pwarch.com.au
Unit 13, 62 Main Street, Plalba Q 4655 T: 07 4124 5088 F: 07 4124 5313 E: hbay@pwarch.com.au

PARLIPS WARING ARCHITECTURE



GLADSTONE REGIONAL COUNCIL
This Plan is approved subject to the attached
Decision Notice No. 0916/2018
Date 6/5/20
Per ..... ASSESSMENT MANAGER

1 Ground Level - Community Centre
1 : 200

FLOOR PLAN

KTQ Developments, Vellamo Lifestyle Living Development, Agnes Water

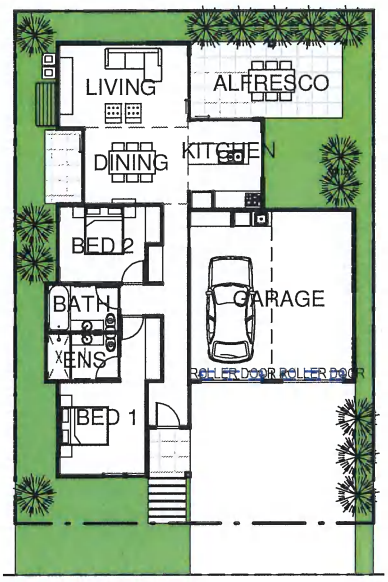
CLIENT

20170038 SD 101 2

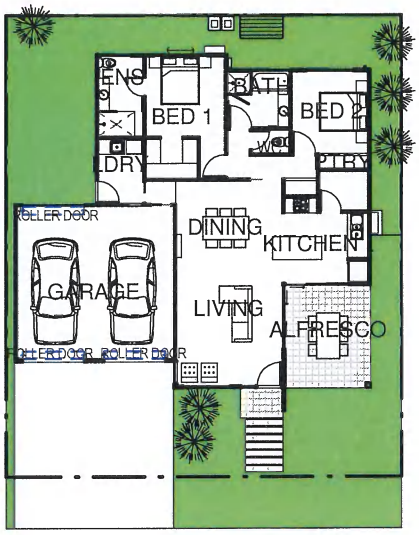
05.03.2018

0 10 20

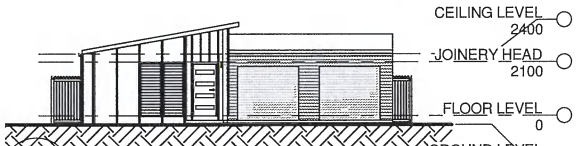
PARUPS WARING ARCHITECTURE
70 Robertson Street, Fortitude Valley QLD 4006 T: 07 3252 1711 E: brisbane@pwarch.com.au
Unit 13, 62 Main Street, Pialba Q 4655 T: 07 4124 5088 F: 07 4124 5313 E: hbay@pwarch.com.au



1 Ground Level - Type 1
1 : 200

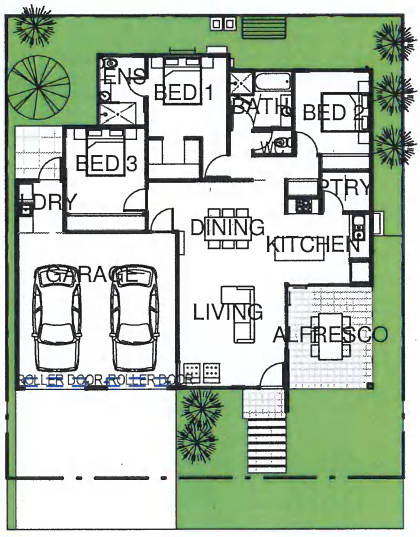


2 Ground Level - Type 2 - 2 Bedroom
1 : 200

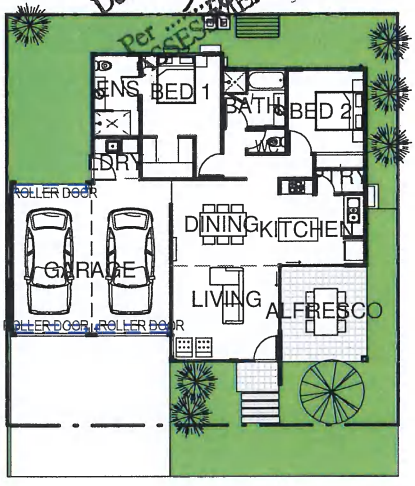


5 Unit Type 1 - Front Elevation
1 : 200

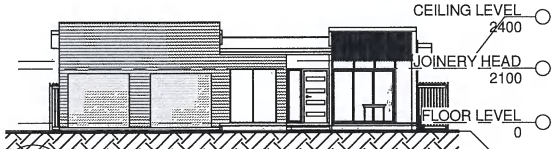
6 Unit Type 2 - Front Elevation
1 : 200



3 Ground Level - Type 2 - 3 Bedroom
1 : 200



4 Ground Level - Type 3
1 : 200



7 Unit Type 2.3 - Front Elevation
1 : 200

8 Unit Type 3 - Front Elevation
1 : 200

UNIT FLOOR PLANS 1

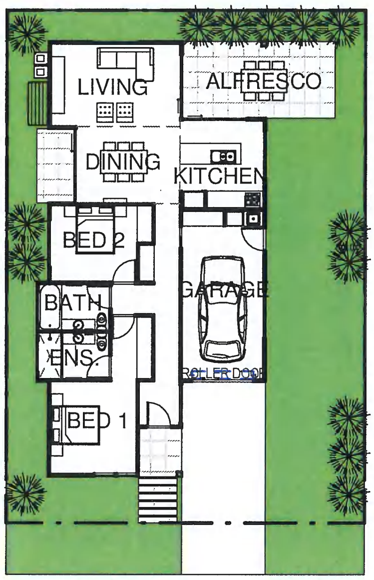
KTQ Developments, Vellamo Lifestyle Living Development, Agnes Water

CLIENT 20170038 SD102 2

05/03/18

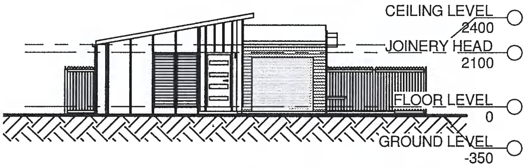
0 10 20

70 Robertson Street, Fortitude Valley QLD 4006 T: 07 3252 1711 E: brisbane@pwarch.com.au
Unit 13, 62 Main Street, Pialba Q 4124 P: 07 4124 5088 F: 07 4124 5313 E: hbay@pwarch.com.au
PARKER WARING ARCHITECTURE

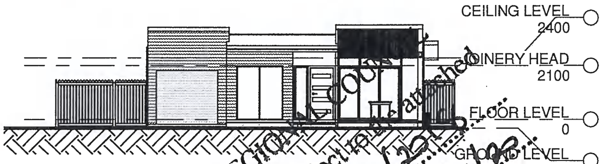


1 Ground Level - Type 1 Single Garage
1 : 200

2 Ground Level - Type 2 Single Garage
1 : 200



4 Unit Type 1 - Single Garage - Front Elevation
1 : 200



5 Unit Type 2 - Single Garage - Front Elevation
1 : 200

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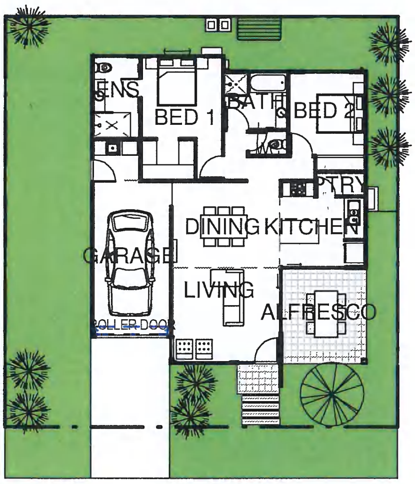
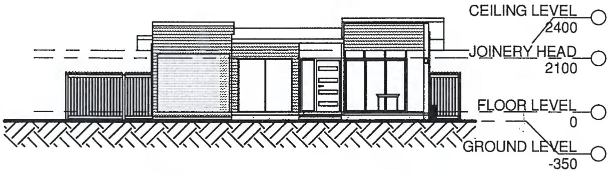


3 Ground Level - Type 3 Single Garage
1 : 200



6 Unit Type 3 - Single Garage - Front Elevation
1 : 200

UNIT FLOOR PLANS 2

KTQ Developments, Vellamo Lifestyle Living Development, Agnes Water

CLIENT

20170038 SD 103 2

05/03/18

0 10 20

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Date 6/5/20
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CONCEPTUAL STORMWATER MANAGEMENT PLAN (Quality)

Vellamo Lifestyle Living Development
Agnes Water

Client: Vellamo Lifestyle Pty Ltd

ESQ Project No: FC-16-078

Date: 4 April 2018

'Clients – Service – Solutions'

Document Control Record

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Revision No.	Description of Revision	Date	Approval
0	Original Issue		

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1 Introduction

This Conceptual Stormwater Management Plan (Quality) has been prepared to support a development application to Gladstone Regional Council (GRC) for the proposed Vellamo Lifestyle Living Development, a 190-dwelling lifestyle village at Bryant St in Agnes Waters. The subject site is located on Lot 101 on SP176830.

1.1 Scope of Report

This report has been prepared on behalf of KTQ Developments and presents a comprehensive review of available Stormwater Quality Improvement Devices (SQID) and stormwater Best Management Practices (BMP) to ensure that the proposed development adequately addresses the management of stormwater quality during both the construction and operational phases of the development.

The objective of this report is to present practical stormwater designs which can be integrated into the development proposal to ensure that the development minimises potential impacts on the downstream receiving environments during both the construction and operational phases of development. The report has been prepared to meet the requirements for the State Planning Policy Code: Water Quality, specifically the requirements of Appendix 2. This will ensure that the development supports the protection of the environmental values of the receiving environment.

1.2 Construction Phase Objectives

To minimise the impacts of the construction phase activities, a set of site specific best practice management procedures will be specified. These measures will be designed to control the severity and extent of soil erosion and pollutant transport from the development site. Table 1.1 outlines the construction phase objectives.

Table 1.1 Construction Phase Objectives

Construction Phase Objectives (Erosion and Sediment Control)	Minimise exposure of disturbed soils at any time.
	Divert water run-off from undisturbed areas around disturbed areas.
	Collect and drain stormwater from disturbed soils to sediment basins for design storm events.
	Discharge of sediment laden stormwater is avoided for events up to and including the nominated design storm, where practicable, and minimised when the nominated design storm is exceeded.
	Site discharge during sediment basin dewatering not to exceed the following. TSS – 50 mg/L Turbidity – 10% of receiving water turbidity pH – 6.5 to 8.5

1.3 Operational Phase Objectives

The overarching objective for stormwater management during the operational phase of the development is to ensure that the development does not cause an unacceptable impact to downstream properties and receiving environments. Table 1.2 outlines the operational phase objectives.

Table 1.2 Operational Phase Objectives

Operational Phase Objectives (Quality)	Stormwater discharged from the site achieves the specified load-based reduction targets in accordance with the State Planning Policy – Water Quality, Appendix 2, Table B. For the development site, relevant targets are as follows. TSS – 85% TP – 70% TN – 45% Gross Pollutants – 90%

1.4 Subject Site Location

The subject site is located within Gladstone Regional Council area in Agnes Waters. The site is located at the southern end of Bryant Street and is approximately 150m north of Bicentennial Drive. The site is 850m west and 650m south of the Coral Sea. The area is a greenfield site with sparse trees and sandy loam soil. Figure 1.1 illustrates a map depicting the location of the site and surrounding road network.

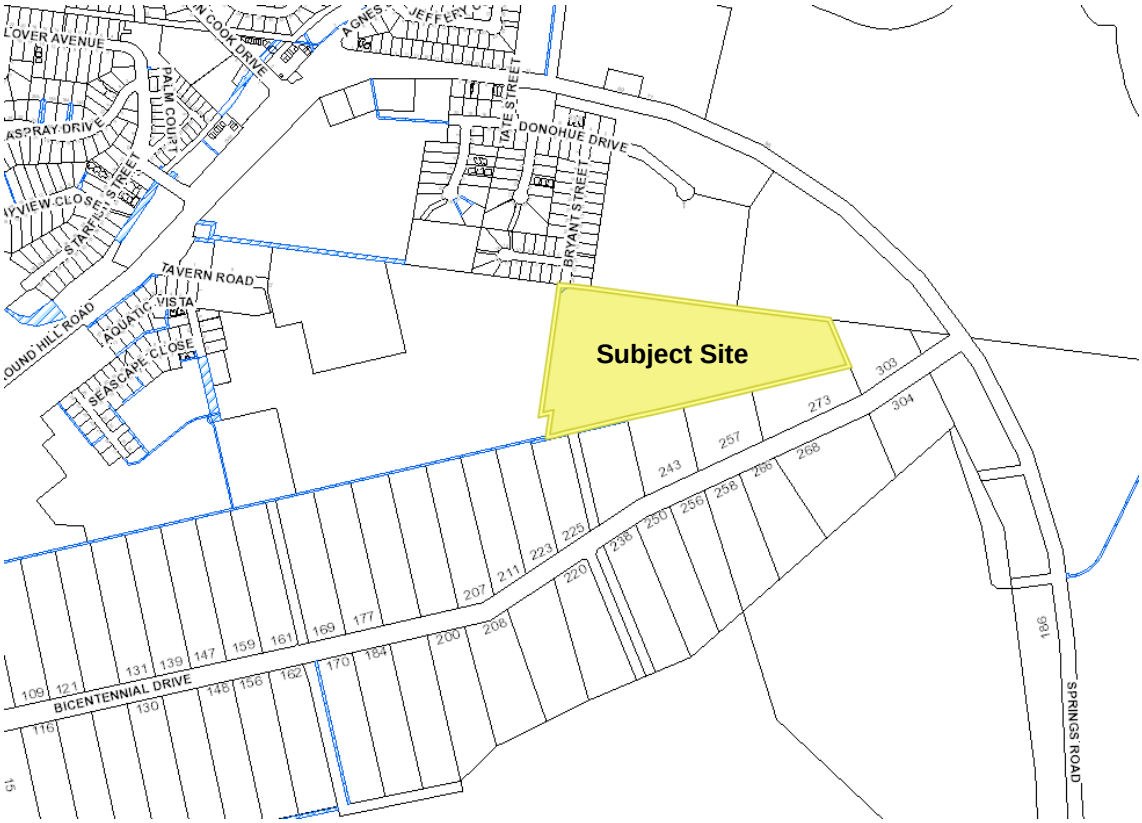


Figure 1.1 Site locality plan (GRC Interactive Mapping).

Figure 1.2 shows an aerial photo of the subject site (sourced from GRC Interactive Mapping).

Figure 1.2 Aerial photo of the subject site (GRC Interactive Mapping).

2 Proposed Development

It is proposed to develop the subject site into a 190-dwelling lifestyle village. The total area of the site is approximately 11.1 hectares and the 190 lots will vary in size ranging from 280m² to 350m². Figure 2.1 shows the proposed layout.

Figure 2.1 Site Plan.

3 Developed Case – Water Quality

In order to determine the potential impact of the development on the water quality of downstream receiving environments, an assessment has been undertaken for both the construction phase and the operational stage of the development.

3.1 Operational Phase

The proposed development will result in an increase of impervious surfaces and an intensification of land use and will therefore result in higher pollutant loads being exported off the site during rain events.

The Model for Urban Stormwater Improvement Conceptualisation (MUSIC) has been used to estimate the potential pollutant loads generated by the development. The following sections outline the parameters relied upon within the MUSIC modelling.

3.1.1 Rainfall and Evapotranspiration Data

The data for rainfall and Potential EvapoTranspiration (PET) is taken from the GRC MUSIC Template, downloaded 6 March 2018, supplied by Gladstone Regional Council's website. The template uses a rainfall period of 10 years from 1/01/1980 to 31/12/1989. Figure 3.1 shows the time series graph for the rainfall and PET data.

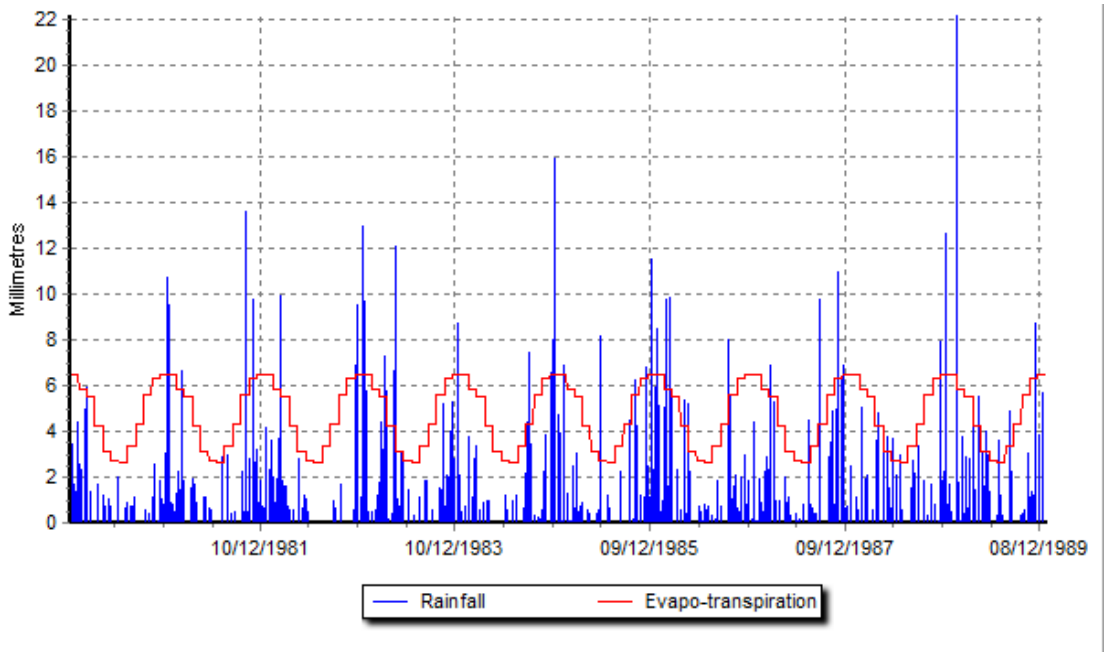


Figure 3.1 Rainfall and PET Time Series.

3.1.2 Developed Catchment Parameters

The developed site has been split into two catchments based on the existing ridge at the site. Figure 3.2 shows the site topography and the catchments.

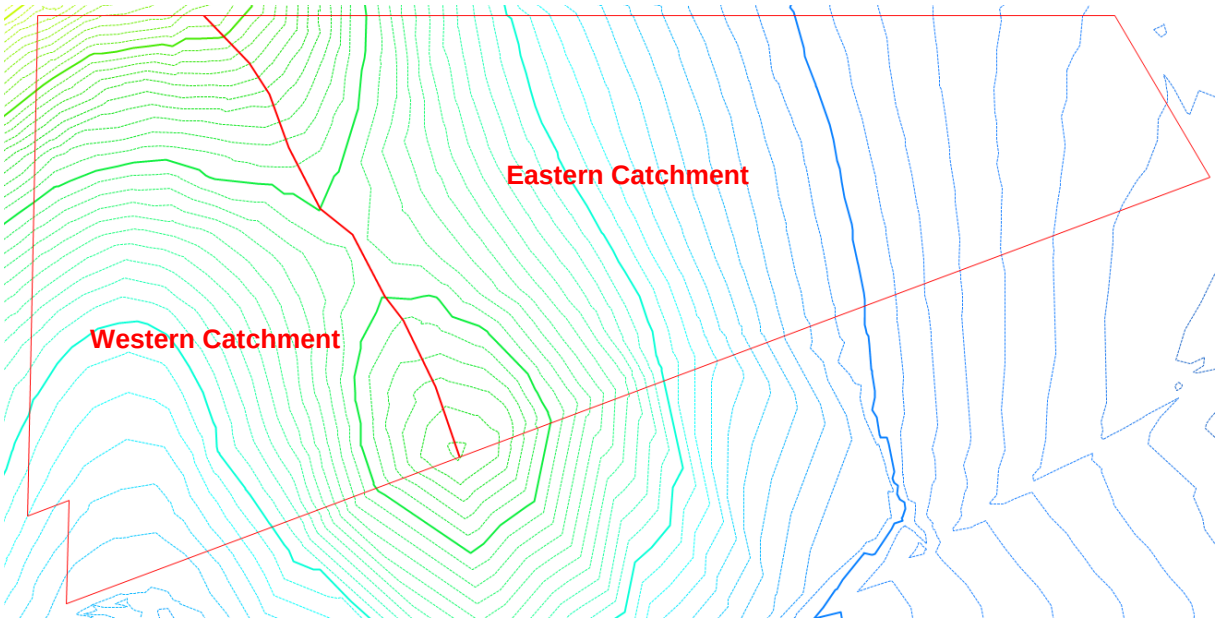


Figure 3.2 Site topography.

Table 3.1 summarises the catchment areas and design impervious areas.

Table 3.1 MUSIC Sub Catchment Areas

Catchment ID	Land Use	Area (ha)	Impervious %
East	Residential - Mixed	6.845	50
West	Residential - Mixed	4.225	50

The pollutant export and runoff parameters for each sub catchment adopted have been based on the values in Healthy Waterways Water by Design MUSIC Modelling Guidelines (HW, 2010). Table 3.2 provides a summary of the source node parameters used.

Table 3.2 Rainfall and Runoff Parameters

Parameter	All Nodes
Land Use	Residential
Rainfall Threshold (mm)	1.00
Soil Storage Capacity (mm)	500
Initial Storage (% capacity)	10
Field Capacity (mm)	200
Infiltration Capacity Coefficient A	211
Infiltration Capacity Coefficient B	5.0
Initial Depth (mm)	50
Daily Recharge Rate (%)	28.00
Daily Baseflow Rate (%)	27.00
Daily Deep Seepage Rate (%)	0.00

Table 3.4 provides a summary of the pollutant export parameters adopted.

Table 3.3 Pollutant Export Parameters

Flow Type	Surface Type	Total Suspended Solids (log mg/L)		Total Phosphorous (log mg/L)		Total Nitrogen (log mg/L)	
	Urban Residential	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
Base Flow	Mixed	1.00	0.34	-0.97	0.31	0.20	0.20
Storm Flow	Mixed	2.18	0.39	-0.47	0.32	0.26	0.23

3.1.3 MUSIC Results

Based on the parameters outlined above, the pollutant loads generated by the MUSIC have been summarised in Table 3.4 below.

Table 3.4 Total Developed Input Pollutant Loads

Pollutant	Inflows (kg/yr)
TSS	11700
TP	22.3
TN	110
GP	1520

To ensure that pollutant loads are reduced within the stormwater discharged from the site to levels suitable for the receiving environment and in accordance with State and Local government guidelines. A treatment train of conceptual stormwater measures has been adopted and is detailed within Section 5 of this report.

3.2 Construction Phase

During the construction phase of the development, areas of the site will be cleared of vegetation and soil surfaces will be exposed. During rainfall events, there will therefore be a risk that eroded sediments are transported off site and into the downstream receiving environment.

According to the Best Practice Erosion and Sediment Control – Erosion Hazard Assessment Form, published by International Erosion Control Association (ICEA), Australasia, the catchments exceed trigger value for area of disturbance. The assessment stated that “Development proposals with an expected soil disturbance in excess of 1ha must submit an Erosion and Sediment Control Plan.”

4 Stormwater Management – Construction Phase

To ensure that the discharge of sediment laden stormwater is avoided (for events up to and including the nominated design storm), where practicable, and minimised when the nominated design storm is exceeded, a set of best practice site management procedures has been developed for the subject site. These controls have been prepared with consideration to the following key principles.

- Integrate erosion and sediment control issues into site and construction planning.
- Develop effective and flexible erosion and sediment control measures (ESC) based on anticipated soil, weather and construction conditions.
- Minimise the extent and duration of soil disturbance.
- Control water movement through the site.
- Minimise soil erosion.
- Promptly stabilise disturbed areas.
- Maximise sediment retention on site.
- Maintain all ESC measures in proper working order at all times.
- Monitor the site and adjust ESC practices to maintain the required performance standard.

Due consideration will be given to stripped topsoil being retained and reused in drains, disturbed areas and rehabilitation of the site. The construction contractor is responsible for the implementation, inspection, repair and modification of all control measures.

4.1 Specific Erosion and Sediment Control Measures

The following erosion and sediment controls have been developed in accordance with IECA Best Practice Erosion and Sediment Control guidelines. It should be noted that these designs are suitable for development assessment purposes only and should be refined in greater detail as part of a subsequent Operational Works design package.

4.1.1 Sediment Basins

The IECA Best Practice Erosion and Sediment Control guidelines recommends that a sediment basin be used onsite. The proposed lake and detention basin can be established as a sediment basin during the construction phase. Following the construction works, the basins can be cleaned out and established as per their design function.

4.1.2 Sediment Fences

To minimise the loss of sediment from the disturbed area, sediment fences are to be installed along the downstream perimeter of the development site.

Sediment fences are to comprise of purpose-made woven or composite (non-woven with woven backing), geotextile fabric. Fences are to be erected vertically and supported by posts to create a fabric sediment trap. The bottom of the fence is to be buried to prevent water escaping under the fence.

4.1.3 Rock Pad Entry and Exit

A well-defined rock-lined surface (pad) is to be placed immediately adjacent to the access roads. All vehicles are to enter the site during the construction phase via the designated rock pad entry. The pad is used to extract and retain sediment from the types of construction and site vehicles leaving the site.

4.2 Water Quality Monitoring and Maintenance

To ensure that the stormwater management measures detailed within this management plan are functioning correctly and to ensure that impacts to downstream receiving environments are mitigated, appropriate construction phase water quality monitoring is to be undertaken. The following sections detail the minimum requirements for surface water monitoring and control device maintenance.

4.2.1 Construction Phase Water Quality Management

Prior to the commencement of any site activities, it is recommended that background water quality data be collected. This data will assist in demonstrating compliance during the construction phase.

Sampling should be taken at appropriate locations both upstream and downstream of the discharge points from the development and should comprise of the collection of water samples after the following rainfall events.

- Three storm events of greater than 25mm.
- Three smaller rainfall events.

Samples should be collected for total suspended solids (TSS), pH, dissolved oxygen (DO) and hydrocarbons. Sampling is to be performed in accordance with procedures set out in the Environmental Protection Authority's Water Quality Sampling Manual. A NATA registered laboratory is to be used to analyse the collected samples.

Monitoring during the construction phase should be taken at the outlet of sediment control measures and at the sites discharge point/s. Tables 4.1 and 4.2 specify the parameters and sampling frequencies required. Results of the monitoring program are to be compiled monthly into an ongoing Water Quality Monitoring Report. A copy of the report and monitoring data is to be maintained on-site by the civil works contractor.

Table 4.1 Construction Phase Water Quality Sampling Frequencies

Sampling Parameter	Sampling Frequency
Total Suspended Solids (TSS)	Monthly following a single rain event in excess of 25 mm per day until the site is fully stabilised.
pH	
Dissolved Oxygen (DO)	
Hydrocarbons	

In accordance with the State Planning Policy (December 2013), Table 4.2 sets the water quality criteria for discharge water released from the development site.

Table 4.2 Construction Phase Water Quality Discharge Criteria

Water Quality Parameter	Discharge Criteria
Total Suspended Solids (TSS)	<50 mg/L
Turbidity (NTU)	Not >10% of background receiving water turbidity
pH	6.5 – 8.5
Dissolved Oxygen (DO)	Minimum of 6 mg/L
Hydrocarbons	No visible oil or grease sheen on released waters

Where captured discharge does not meet the discharge criteria as set out above, the following corrective actions are recommended.

- Total Suspended Solids (TSS)
    - Artificial flocculation is to be applied on retained runoff to assist in the settling process. Application of Gypsum by hand broadcast over the surface is recommended, ensuring an even spread over the basin surface at a rate of 32kg per 100 m^3 of water. Gypsum should be applied within 24 hours of the conclusion of any storm event and before any pump out to receiving waters.
- pH
    - Addition of hydrated lime to raise or lower pH to within desired discharge criteria. To be undertaken in accordance with the dosing rates specified in Table 5 of the State Planning Policy 2/02 Guideline – Acid Sulfate Soils.

- Dissolved Oxygen
    - Mechanical aeration until DO reaches desired discharge criteria.
- Hydrocarbons
    - Locate source of hydrocarbons to prevent further contamination and commission a licensed waste contractor to remove from contaminated water. A floating boom may be required to contain spills and prevent discharge to downstream receiving environments.

4.2.2 Construction Phase Device Maintenance

All erosion and sediment control devices must be maintained in proper working order at all times, this includes ensuring that the hydraulic capacity of each device is not compromised at any time. Table 4.3 details the maintenance requirements for the specific erosion and sediment controls.

Table 4.3 Erosion and Sediment Device Maintenance Requirements

Device/Control Measure	Maintenance Trigger	Action
Silt fences and rock pad entry/exit.	The capacity of the devices falls below 75% of its design capacity.	By the end of the day, during any stay in rainfall.
Temporary Sediment Basins	Evidence of sediment build-up or scour of inlets and outlets to temporary basins.	By the end of day during any stay in rainfall.

All material removed during maintenance, whether solid or liquid, is to be disposed of in a manner that does not cause ongoing soil erosion or environmental harm.

5 Stormwater Management – Operational Phase

Previous sections of this report have demonstrated that development of the site has the potential to impact the quality of stormwater discharged from the subject site. In order to ensure that the operational phase objectives outlined within Section 1.3 of this report can be achieved, a network of stormwater management measures are proposed for inclusion within the development.

To achieve these objectives, flows will need to be adequately managed prior to discharge.

5.1 Schematic Design Plan

With consideration given to the existing site characteristics, the proposed development configuration and the range of available stormwater management control measures, Figure 5.1 presents a schematic design plan of the proposed conceptual drainage and treatment system proposed for incorporation within the development.

It is proposed that stormwater from the site be collected within an underground stormwater drainage network of pits and pipes. The network will be routed to detention basins and lake for treatment in the eastern and western catchments respectively.

5.2 Internal Drainage

In the post-development scenario, it is proposed that stormwater runoff from minor events (Q_2) be collected and conveyed via an underground pipe network into the detention basins and lake in the eastern and western catchments respectively.

During larger storm events (Q_2 to Q_{100}), stormwater in excess of the pipe drainage network will be conveyed as overland flow to the major flow paths for conveyance. Separation of the minor and major conveyance systems will need to be investigated further at detailed design phase for Operational Works.

5.3 Quality Control – Pollutant Reduction

In accordance with the State Planning Policy – Water Quality, stormwater generated on the subject site is to be collected and treated prior to discharge. This will help to protect the environmental values of the downstream receiving waters.

The site is required to meet minimum mean annual load-based reductions of 85% for Suspended Sediment; 70% for Total Phosphorus; 45 % Total Nitrogen; and 90% for Gross Pollutants.

5.3.1 MUSIC Modelling

In order to determine the design requirements for the proposed stormwater treatment measures, key “Treatment Nodes” were added to the MUSIC model prepared for the developed case assessment undertaken within Section 3 of this report. The following outlines the modelling parameters relied upon for each “Treatment Node”. Figure 5.1 shows the MUSIC model setup for the site.

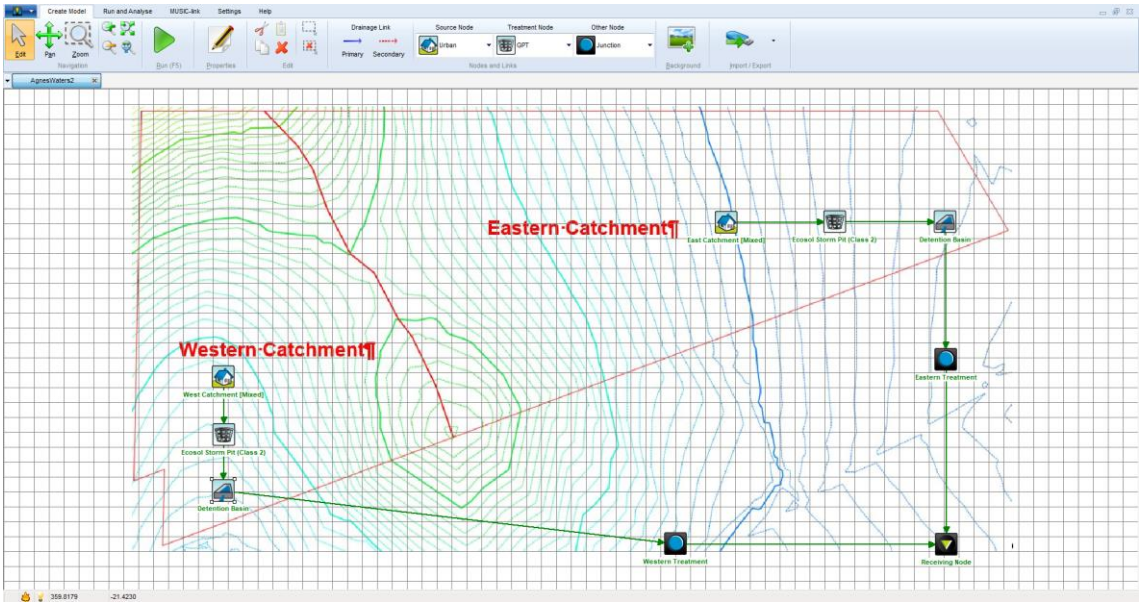


Figure 5.1 MUSIC Model Setup.

Eastern Catchment Detention Basin

It is proposed that a detention basin be incorporated into the development layout to provide the necessary load-based reductions. A detention basin operates by capturing waters and releasing it slowly, lowering peak flow, during and after an event. The principle treatment method relies on the physical settling of suspended solids.

In accordance with Water by Design Guidelines, Table 5.1 summarises the treatment node parameters used in the MUSIC modelling.

Table 5.1 Eastern Catchment Detention Basin Parameters.

Eastern Catchment	Detention Basin
Surface area (m^2)	1450
Extended detention depth (m)	1.2
Saturated hydraulic conductivity (mm/hour).	108
Evaporative Loss as % of PET	100
Low Flow Pipe Diameter	900
Overflow Weir Width	20
Notional Detention Time (hrs)	0.227

Western Catchment Detention Basin

It is proposed that the lake be converted into a detention basin and be incorporated into the development layout to provide the necessary load-based reductions. A detention basin operates by capturing waters and releasing it slowly, lowering peak flow, during and after an event. The principle treatment method relies on the physical settling of suspended solids.

In accordance with Water by Design Guidelines, Table 5.2 summarises the treatment node parameters used in the MUSIC modelling.

Table 5.2 Western Catchment Detention Basin Parameters.

Western Catchment	Detention Basin
Surface area (m^2)	850
Extended detention depth (m)	1.2
Saturated hydraulic conductivity (mm/hour).	108
Evaporative Loss as % of PET	100
Low Flow Pipe Diameter	675
Overflow Weir Width	20
Notional Detention Time (hrs)	0.244

Ecosol Storm Pit (Class 2)

It is proposed that a gross pollutant trap, Ecosol Storm Pit (Class 2), be incorporated as an end of line treatment into the development layout to provide the necessary load-based reductions. The gross pollutant trap is used to remove gross pollutants, silt and sediment. In accordance with Ecosol Guidelines, Table 5.3 summarises the treatment node parameters used in the MUSIC modelling.

Table 5.3 Ecosol Storm Pit (Class 2) Parameters.

Pollutant	Removal Rate (%)	Entered Input Value	Entered Output Value
Total Suspended Solids	80	1000	200
Total Phosphorus	90	1000	100
Total Nitrogen	63	1000	370
Gross Pollutants	100	1000	0

Modelling Results

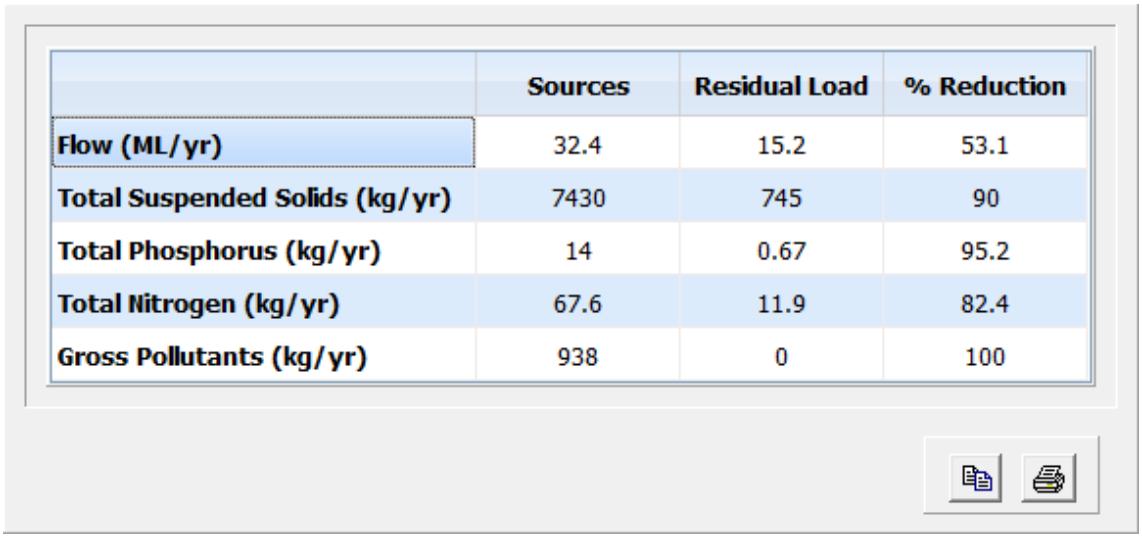
Results of the MUSIC modelling for the treatment train effectiveness are summarised in the tables below. The results indicate the 85%, 70% and 45% reduction targets for TSS, TP and TN respectively are achieved for the rainfall data set simulated. Table 5.4 shows the Treatment Train Effectiveness for the eastern catchment.

Table 5.4 Eastern Catchment Treatment Train Effectiveness

Catchment ID	Pollutant	Inflows (kg/yr)	Outflows (kg/yr)	Reduction Achieved (%)	Water Quality Objective (%)
Eastern Catchment	TSS	7430	745	90	85
	TP	14	0.67	95.2	70
	TN	67.6	11.9	82.4	45
	GP	938	0	100	90

NOTE: All simulations have been run with pollutant export estimation set to “stochastic generation”.

Figure 5.2 shows a screen capture of the MUSIC modelling results for the eastern catchment.



	Sources	Residual Load	% Reduction
Flow (ML/yr)	32.4	15.2	53.1
Total Suspended Solids (kg/yr)	7430	745	90
Total Phosphorus (kg/yr)	14	0.67	95.2
Total Nitrogen (kg/yr)	67.6	11.9	82.4
Gross Pollutants (kg/yr)	938	0	100

Figure 5.2 Eastern Catchment Screen Capture of MUSIC Modelling Results.

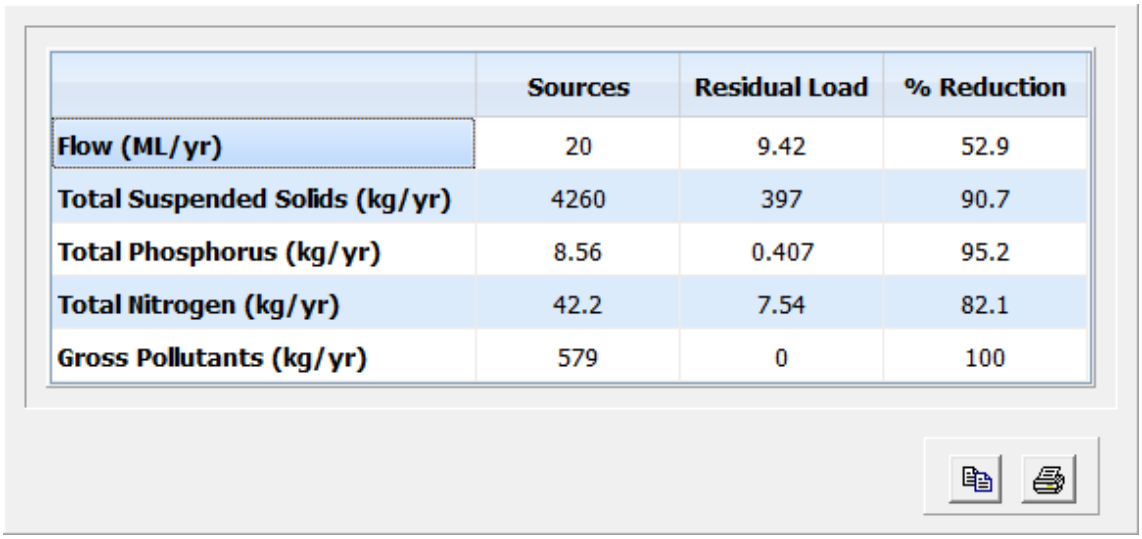
Table 5.5 shows the Treatment Train Effectiveness for the western catchment.

Table 5.5 Western CatchmentTreatment Train Effectiveness

Catchment ID	Pollutant	Inflows (kg/yr)	Outflows (kg/yr)	Reduction Achieved (%)	Water Quality Objective (%)
Western Catchment	TSS	4260	397	90.7	85
	TP	8.56	0.41	95.2	70
	TN	42.2	7.54	82.1	45
	GP	579	0	100	90

NOTE: All simulations have been run with pollutant export estimation set to “stochastic generation”.

Figure 5.3 shows a screen capture of the MUSIC modelling results for the western catchment.



	Sources	Residual Load	% Reduction
Flow (ML/yr)	20	9.42	52.9
Total Suspended Solids (kg/yr)	4260	397	90.7
Total Phosphorus (kg/yr)	8.56	0.407	95.2
Total Nitrogen (kg/yr)	42.2	7.54	82.1
Gross Pollutants (kg/yr)	579	0	100

Figure 5.3 Western Catchment Screen capture of MUSIC modelling results.

5.4 Water Quality Monitoring and Maintenance

To ensure that the stormwater management measures detailed within this management plan function correctly in the long term, and to ensure that impacts to downstream receiving environments are mitigated, appropriate operational phase water quality monitoring and maintenance is to be undertaken. The following sections detail the minimum requirements for surface water monitoring and control device maintenance.

5.4.1 Operational Phase Water Quality Monitoring

Monitoring during the operational phase will be undertaken to determine the impact of activities on the receiving waters. Surface water quality monitoring is to be undertaken at discharge points from the site. Samples should be collected for total suspended solids (TSS), pH, dissolved oxygen (DO), TP, TN and hydrocarbons. Sampling is to be performed in accordance with procedures set out in the Environmental Protection Authority's Water Quality Sampling Manual. A NATA registered laboratory is to be used to analyse the collected samples.

Table 5.6 specifies the parameters and sampling frequencies required. Results of the monitoring program are to be compiled monthly into an ongoing Water Quality Monitoring Report. A copy of the report and monitoring data is to be maintained at all times**.**

Table 5.6 Operational Phase Water Quality Parameters and Sampling Frequencies

Sampling Parameter	Sampling Frequency
Total Suspended Solids (TSS)	Water quality monitoring will be completed following a rainfall event of 25 mm or greater in and 24-hour period monthly for a minimum period of 12 months, or as specified by the Local Authority conditions of approval for the development.
pH	
Dissolved Oxygen (DO)	
TN	
TP	
Hydrocarbons	

Table 5.7 sets the water quality criteria for discharge water released from the development site.

Table 5.7 Operational Phase Water Quality Discharge Criteria

Water Quality Parameter	Discharge Criteria
Total Suspended Solids (TSS)	No net deterioration of the downstream receiving environment as a result of discharge from the development.
Turbidity (NTU)	
pH	
Dissolved Oxygen (DO)	
TN	
TP	
Hydrocarbons	

5.4.2 Operational Phase Device Maintenance

In order for each of the proposed stormwater treatment devices to achieve the necessary pollutant removal efficiencies, regular maintenance will be necessary. Poorly maintained devices will result in under performance and in some instances, may cause leaching of pollutants to downstream receiving environments. Based on the proposed treatment train, Table 5.8 details appropriate maintenance regimes for the detention basin and lake.

Table 5.8 Operational Phase Device Management Requirements

Treatment Device	Maintenance Action
Detention Basins	Routine inspection to identify obvious increased sediment deposition. Remove sediment when flow within the bio-retention is impeded or smothering of vegetation occurs.
	Routine inspection of inlet and outlet pipes to identify and areas of scour, litter build-up or blockages.
	Removal and management of invasive weeds.
	Removal and replacement of dead and dying vegetation.
	Regular inspection and removal of litter and gross pollutants.

All material removed during maintenance, whether solid or liquid, is to be disposed of in a manner that does not cause ongoing soil erosion or environmental harm.

6 Conclusions

This report presents a set of conceptual sediment and erosion controls which have been designed to minimise the discharge of sediment laden stormwater to downstream receiving environments. These measures include sediment fences to ensure sediment laden runoff is retained on-site, and temporary sediment basins in the location of the bio-retention basins. In addition, a rock entry/exit pad is to be located at all construction site entry points. These measures will need to be adequately maintained during the construction phase to ensure optimal performance.

To address stormwater quality during the operational phase, the overall catchment was split into two catchments. The sub-catchment runoff will be conveyed through pipes before arriving at the proposed end of line gross pollutant trap treatment areas at the downstream end of the catchments.

It has been demonstrated that the use of the gross pollutant traps and the detention basins to treat stormwater, pollutant removal efficiencies of 85%, 70% and 45% can be achieved for TSS, TP and TN respectively.

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CONCEPTUAL STORMWATER MANAGEMENT PLAN (Quantity)

Relocatable Home Park (Lifestyle Village)
Lot 101 on SP176830 Bryant Street, Agnes Water

Client: Vellamo Lifestyle Pty Ltd

Project No: FC-16-078

Date: 25 October 2018

'Clients – Service – Solutions'

Document Control Record

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Date:	25.10.2018

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Position:	RPEQ (Civil) 12825
Date:	25.10.2018

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0	Original Issue	04.04.18	Ken Delaney
1	RFI Response	25.10.2018	Greg Jackson

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Reliance, Uses & Limitations

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1 Introduction

This Conceptual Stormwater Management Plan (Quantity) (CSMP) has been prepared to support a development application to Gladstone Regional Council (GRC) for the proposed Vellamo Lifestyle Living Development, a 190-dwelling lifestyle village at Bryant Street in Agnes Water. The subject site is located on Lot 101 on SP176830.

1.1 Scope of Report

Specifically, this report details the following:

1. Evaluate the existing catchment analysis to provide a base case for analysis of development runoff.
2. Developed catchment analysis for the future residential development.
3. Quantity mitigation requirements to reduce development runoff to pre-development levels.

The mitigation requirements outlined in this report are subject to detailed design of the proposed development and as such, are estimates only. The treatment measures will need to be checked at the Operational Works stage to ensure their performance will be satisfactory.

1.2 Objective

The objective of this Stormwater Quantity Management Plan is to ensure the following:

- Prevention of negative impact to adjacent properties through the increase in imperviousness and changes to the levels across the developed site.

This objective will be achieved through the implementation of management strategies designed to mitigate increased runoff from the development of the subject site.

1.3 Subject Site

The subject site is located at Bryant Street in Agnes Water, on land described as Lot 101 on SP176830. The site is 11.07 hectares and has frontage to the southern extent of Bryant Street.

The subject site is contained within the emerging communities zone in accordance with the *Our Place Our Plan GRC Planning Scheme*. The site is also within low density residential designation on the Agnes Water and Seventeen Seventy Structure Plan. The locality around the site is largely developed (or is being developed) with detached dwellings on both traditional low density lots and larger rural residential land.

Figure 1.1 displays a locality map of the site and Figure 1.2 displays an aerial photograph of the site.

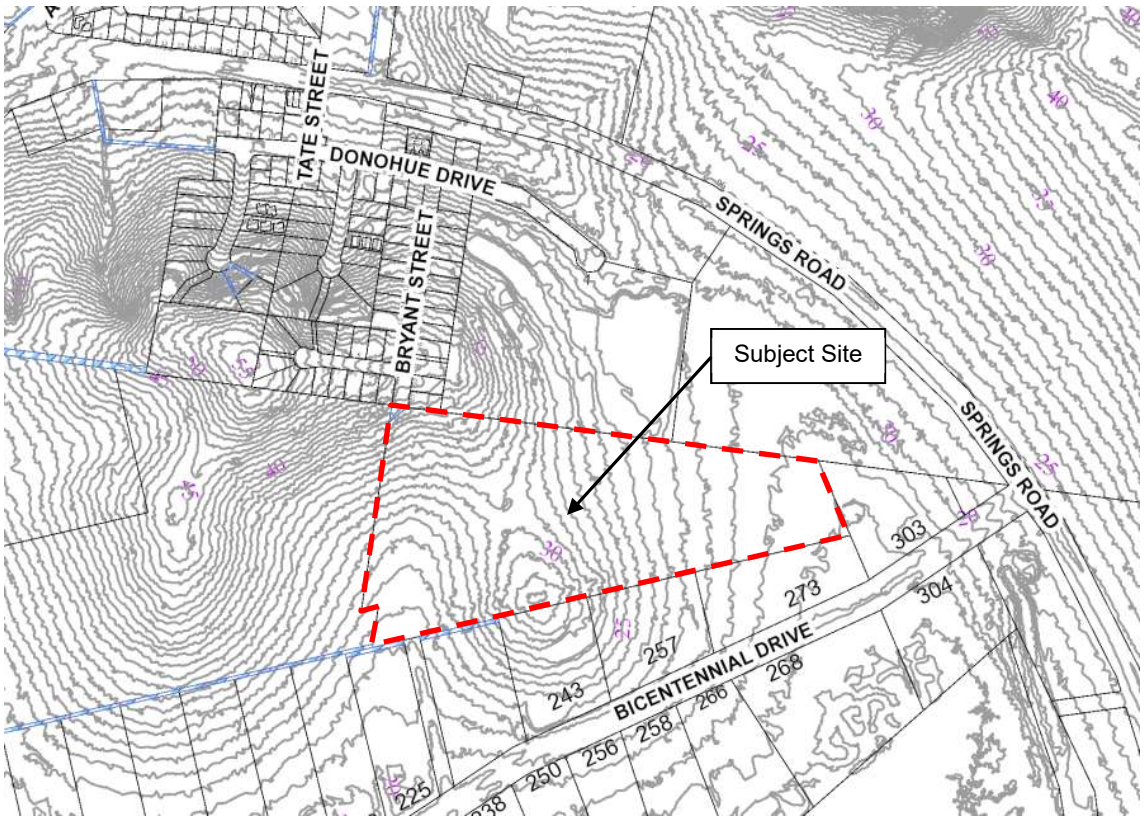

Figure 1.1 Site locality plan (GRC Interactive Mapping).

Figure 1.2 Aerial photo of the subject site (GRC Interactive Mapping).

1.3.1 Land Use and Vegetation

The site is greenfield, with sparse trees and sandy loam soil. Vegetation clearing works have taken place on the site, from a previous development approval for operational works that included vegetation clearing.

1.3.2 Topography and Catchments

Surface levels in the area of the subject site vary between RL 38m AHD and RL 18m AHD. A crest runs north-south through the site, with the western section of the site falling from Bryant Street towards the south and the eastern section of the site falling towards the properties at 273 and 303 Bicentennial Drive.

Figure 1.3 shows the topography for the site and the stormwater catchment boundaries.

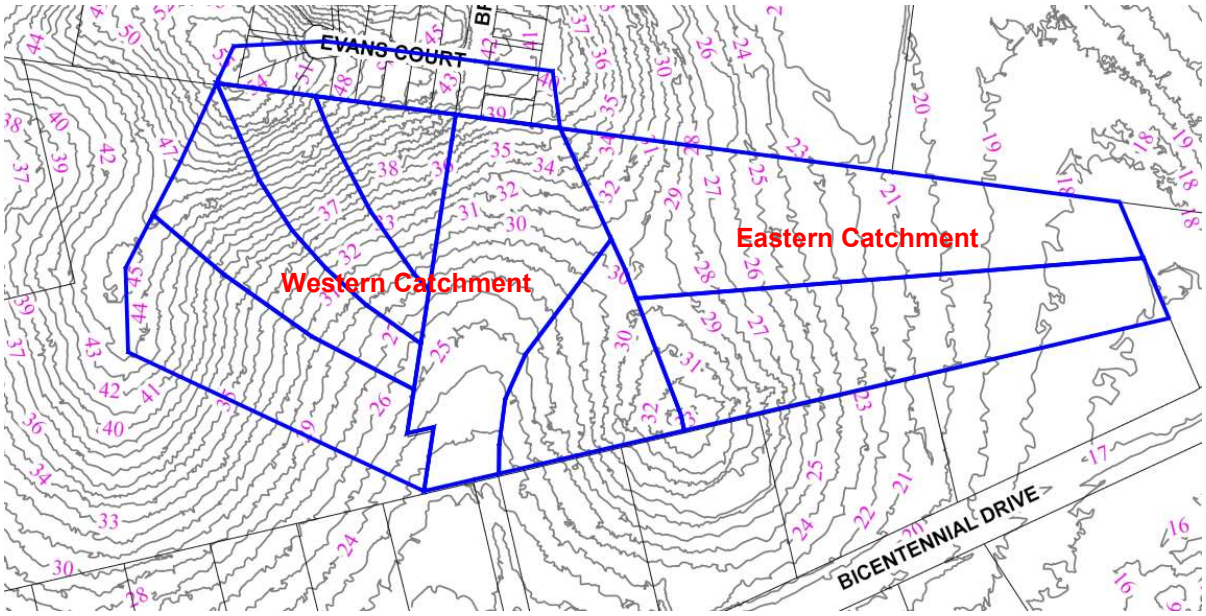

Figure 1.3 Site topography.

1.3.3 Downstream Environment

Directly downstream of the site is an existing open drain within a drainage easement that conveys flows from the overland flow path through the subject site further south. This open drain then flows into the table drain running along Bicentennial Drive then underneath the road via a culvert crossing. This eventually outlets into Deepwater Creek through overland water courses.

1.4 Description of Development

Vellamo Lifestyle Pty Ltd are proposing to develop the subject site into a Lifestyle Village (defined as a relocatable home park) for retirement living in a gated, secure facility that comprises the following:

- 190 lots for detached dwellings in different formats based on client demands, ranging in size from 280m² to 350m².
- Community facilities centre.
- Community recreational facilities.
- RV parking.
- Open spaces.

The subject site is proposed to be developed, particularly, for age groups of 50 plus. The development will offer a variety of housing formats in a single storey configuration. To complement the residential land use, the site will be provided with a range of private recreation, community and administrative services. Adjacent to the site entry will be an RV storage/parking facility for residents use and at the residential entry, will be the main community centre providing the following:

- Service and community parking.
- Electronic entry gates.
- Tennis, bocce and lawn bowls facilities.
- A “men’s shed”.
- A community centre.
- Passive recreation space.
- Buffers to adjoining land (landscaping).

The eastern and south-western ends of the site also provide passive open space areas that will be suitably revegetated and provide stormwater detention basins/lakes.

All residential dwellings have internal private road access (two-way), facilities for parking (both garage and open parking facilities) and landscaped buffers to external boundaries. Figure 1.4 illustrates the proposed development plan and Appendix A provides an A3 copy of the development layout.

Figure 1.4 Site Plan.

2 Stormwater Hydrology

2.1 Introduction

Development of the subject site will increase the imperviousness, along with changing the surface profile of the land and providing better flow paths for runoff, ultimately increasing the likely discharge. This Section will investigate ways to mitigate the increase in discharge while maintaining stormwater quality.

2.2 Methodology

To carry out the modelling for this investigation, a One-Dimensional dynamic stormwater modelling engine ILSAX – within 12d Model was adopted to investigate the routing of storm flows from surface water flows into a proposed stormwater network.

This method of hydrologic calculation was combined with the in-built 12d hydraulic calculation engine based on the St. Venant equation. The site has no complex upstream catchments as the majority of the external catchments are open fields with no piped networks or manmade drains. As such the use of a one-dimensional model was deemed to be adequate as the upstream catchments will not exhibit any partial area effects or complex outflow behaviour to be routed through the subject site.

2.3 Infiltration Parameters

This modelling approach requires the use of the Horton Infiltration method which uses a set of values predefined by a set soil type. Table 2.1 outlines the infiltration parameters used in the model for the catchment. A Type C soil type has been selected which is a slow infiltrating soil with no high table water level which is typically representative of clay based soils. Both catchments used the same parameters.

Table 2.1 Model Parameters

Soil Type	Initial Loss (mm/hr)	Final Loss (mm/hr)	Decay Rate
Type C	125	6	2

2.4 Rainfall Data

To determine the peak discharge from the site in the undeveloped case a series of storm events were run through the model to find the peak discharge for each catchment in each storm event. The rainfall values were obtained from the Intensity-Frequency-Duration (IFD) table supplied by the Bureau of Meteorology, with the total rainfall distributed over time in accordance with the Temporal Patterns for Zone 3, as described in Table 3.2 of AR&R (1987).

2.5 Hydrologic Analysis

2.5.1 Model Setup

The eastern and western catchments were modelled individually. Each model was used to obtain the existing, developed and mitigated outflows from the site. Table 2.2 outlines the setup for the Eastern Catchment.

Table 2.2 Eastern Catchment Model Setup

Catchment ID	Area (ha)	Impervious (%)	Slope (%)
Internal 1	3.719	70	2.93
Internal 2	3.152	70	2.91
Total	6.871		

Table 2.3 outlines the catchments in the Western Catchment model.

Table 2.3 Western Catchment Model Setup

Catchment ID	Area (ha)	Impervious (%)	Slope (%)
External 1	1.106	70	4.73
External 2	0.882	20	10.69
External 3	1.274	20	7.86
External 4	1.513	20	6.06
External 5	2.10	20	4.12
Internal 1	1.502	70	6.57
Internal 2	2.724	70	3.98
Total	11.101		

A catchment map locating each catchment name to their respective area has been provided in Appendix B.

2.5.2 Existing Catchment Results

The existing case model was run for multiple storm durations in the selected storm events. The existing case flows for the Eastern and Western catchments can be found tabulated in Tables 2.4 and 2.5 Respectively.

Table 2.4 Eastern Catchment Existing Case Peak Flows

Rainfall Event	Existing (m^3/s)
Q2	1.306
Q5	1.766
Q10	2.037
Q20	2.417
Q50	2.987
Q100	3.366

Table 2.5 Western Catchment Existing Case Peak Flows

Rainfall Event	Existing (m^3/s)
Q2	2.731
Q5	3.700
Q10	4.260
Q20	5.010
Q50	5.810
Q100	6.530

2.5.3 Developed Catchment Results

The fraction impervious for the internal catchments was then raised to 70% (as per QUDM Table 4.5.1) in order to reflect the changes to the surface that the development of the subject site will cause. The increases in flow for the unmitigated developed case model can be seen in Table 2.6 for the Eastern catchment and Table 2.7 for the Western catchment.

Table 2.6 Eastern Catchment Peak Flows

Rainfall Event	Existing (m^3/s)	Developed (m^3/s)	Increase	Percentage
Q2	1.306	1.546	0.24	18.38%
Q5	1.766	2.004	0.238	13.48%
Q10	2.037	2.273	0.236	11.59%
Q20	2.417	2.651	0.234	9.68%
Q50	2.987	3.092	0.105	3.52%
Q100	3.366	3.469	0.103	3.06%

Table 2.7 Western Catchment Peak Flows

Rainfall Event	Existing (m^3/s)	Developed (m^3/s)	Increase	Percentage
Q2	2.731	3.004	0.273	10.00%
Q5	3.700	3.981	0.281	7.59%
Q10	4.260	4.532	0.272	6.38%
Q20	5.010	5.332	0.322	6.43%
Q50	5.810	6.095	0.285	4.91%
Q100	6.530	6.854	0.324	4.96%

2.5.4 Mitigated Catchment Results

A detention basin is proposed for both the Eastern and Western catchments and have been designed in order to reduce flows to at least that of the predeveloped state in all storm events. Table 2.8 outlines the basin characteristics for the eastern and western detention basins although these parameters will require further investigation at the detailed design phase.

Table 2.8 Western Catchment Model Setup

Catchment	Basin Size (m^2)	Outlet Pipe (mm)	Invert Level (m AHD)	Pipe Slope (%)
Eastern	1300	4/450	16.3	1.0
Western	300	4/375	21.2	0.8

The eastern detention basin features a weir for which the invert level is set at 17m AHD. The weir will be 10m wide and will convey flows in the major events only. It is anticipated that the flow depth over the weir will be 200mm in a Q100.

The western detention basin also has a weir for which the invert level is set at 21.8m AHD. The weir will also be 10m wide and will convey flows in the major events only. It is anticipated that the flow depth over the weir will be 150mm in a Q100.

The model was then rerun using these basin parameters and the peak flows for each storm event have been tabulated below in Table 2.9 for the Eastern Catchment and 2.10 for the Western Catchment.

Table 2.9 Eastern Catchment Peak Mitigated Flows

Rainfall Event	Existing (m^3/s)	Mitigated (m^3/s)	Difference (m^3/s)	Percentage
Q2	1.306	1.009	-0.297	-22.74%
Q5	1.766	1.581	-0.185	-10.48%
Q10	2.037	1.945	-0.092	-4.52%
Q20	2.417	2.401	-0.016	-0.66%
Q50	2.987	2.943	-0.044	-1.47%
Q100	3.366	3.352	-0.014	-0.42%

Table 2.10 Western Catchment Peak Mitigated Flows

Rainfall Event	Existing (m^3/s)	Mitigated (m^3/s)	Difference (m^3/s)	Percentage
Q2	2.73	2.58	-0.15	-5.53%
Q5	3.70	3.29	-0.41	-11.05%
Q10	4.26	3.72	-0.54	-12.77%
Q20	5.01	4.31	-0.70	-13.97%
Q50	5.81	4.22	-1.59	-27.40%
Q100	6.53	5.43	-1.10	-16.85%

3 Conclusions

This study had investigated the impact of the proposed development on adjacent properties and receiving networks. It has investigated potential measures to mitigate the impacts.

Based on this study, the following conclusions have been drawn:

- Tables 2.9 and 2.10 show that both proposed detention basins successfully mitigate the post development flows to pre-development conditions.
- It is not expected that the proposed development will negatively impact the existing upstream or downstream properties. As the development is catering for flows from the upstream catchments and not increasing the flow downstream of the development.

In summary, modelling suggests that based on the conceptual design data, it is possible to mitigate any negative effect to the surrounding sites and convey the increased flows from the site in such a way that it will not negatively affect the existing stormwater infrastructure or downstream catchments. Further investigation will be required for the operational works stage in order to assess the internal site drainage with finished surface levels and final road grading.

Appendix A
Development Layout

HOUSE LOTS TOTAL: 190

Type 1 - 280m² LOTS (84)
Type 2 - 280m² LOTS (57)
Type 3 - 245m² LOTS (38)
Type 4 - 300+m² LOTS (variable sizes) (11)

1 Site plan
1 : 2000

SITE PLAN

KTQ Developments, Vellamo Lifestyle Living Development, Agnes Water

CLIENT 20170038 SD 100

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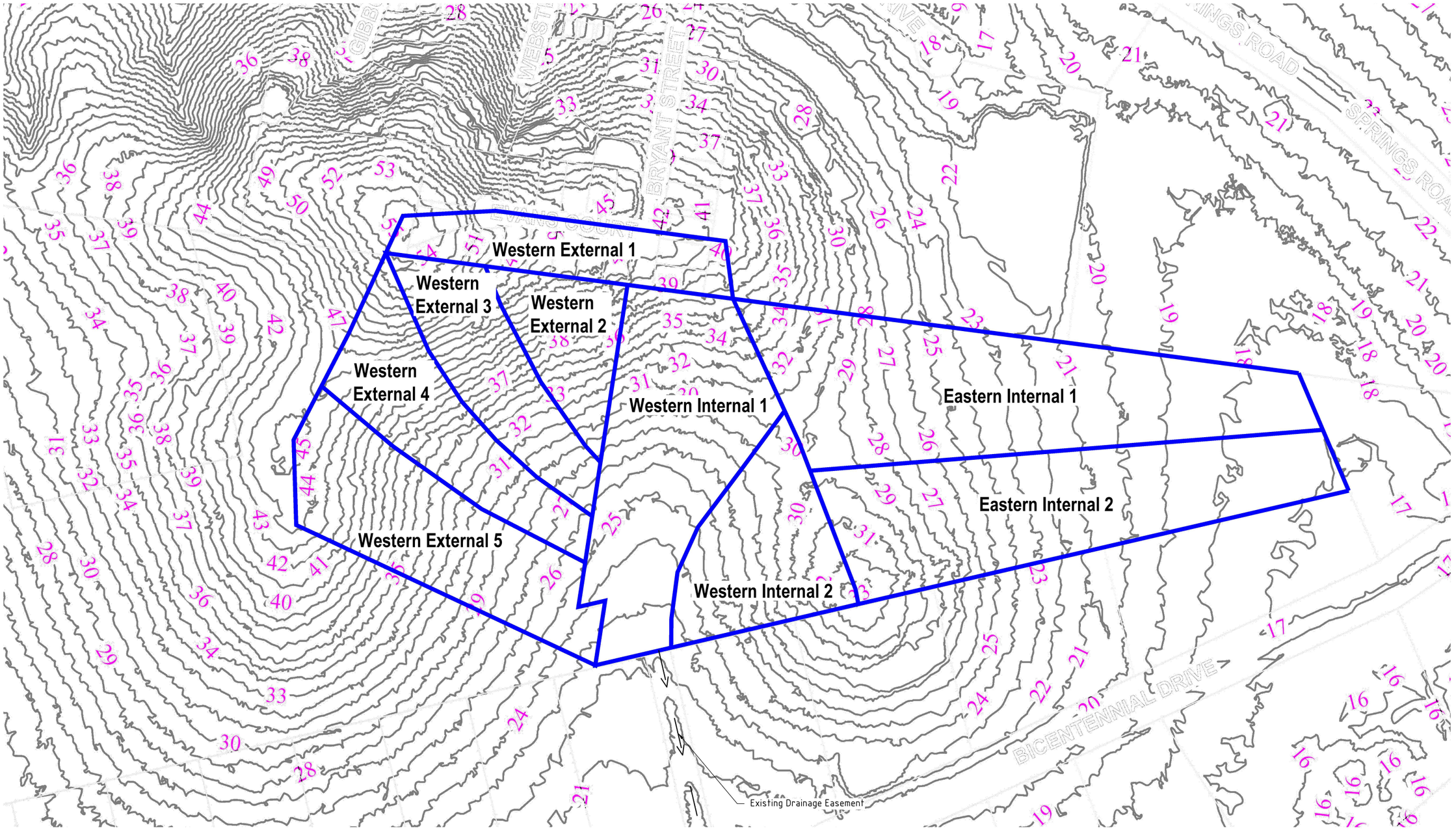
Appendix B
Catchment Map



REVISION: 1
25/10/2018

Job No.
FC-16-078

DWG No.
Z-010

CATCHMENT LAYOUT PLAN
RELOCATABLE HOME PARK
LOT 101 BRYANT STREET, AGNES WATERS
FOR VELLAMO LIFESTYLE PTY. LTD.

DO NOT SCALE FROM PLAN

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GLADSTONE REGIONAL COUNCIL
This Plan is approved subject to the attached
Provision Notice No. 08/26/2018
Per ..... Date 6/5/20
ASSESSMENT MANAGER

SEWERAGE SUPPLY ANALYSIS

Relocatable Home Park (Lifestyle Village)
Lot 101 on SP176830 Bryant Street, Agnes Water

Client: Vellamo Lifestyle Pty Ltd

Project No: FC-16-078
Revision A

Date: 17 October 2018

'Clients – Service – Solutions'

Document Control Record

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Date:	17.04.2018

Approved by:	Greg Jackson
Position:	RPEQ (Civil) 12825
Date:	17.04.2018

Revision No.	Description of Revision	Date	Approval
0	Original Issue	17.04.2018	
A	Sewer calculations updated.	17.10.2018	

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1 Introduction

1.1 Purpose of Report

This report has been prepared to accompany and be considered part of an application to Gladstone Regional Council (GRC) for a Material Change of Use to allow development of the subject site. The development will be undertaken in accordance with the provisions of the *Our Place Our Plan Gladstone Regional Council Planning Scheme* in the form of a Relocatable Home Park, which will be developed under the Manufactured Homes (Residential Uses) Act 2003 or the Relocatable Home Park Act.

This Lifestyle Village proposal is generally consistent with the requirements of the *Our Place Our Plan GRC Planning Scheme* and the relevant State Development Assessment Provisions.

1.2 Scope of Report

The main objective of this report is to investigate the sewerage requirements for the proposed development and recommend an appropriate discharge strategy. Specifically, this report details the following.

- The sewer supply demands for the proposed development.
- Preliminary advice regarding the infrastructure required to service the proposed development.

This report has been prepared, with referral to, the *Sewer Planning Strategy* prepared by Covey Associates Pty Ltd Consulting Engineers, during June 2013, *Report Number: 80316 RPT REV C*.

2 Site Identification

2.1 Property Description

The subject site is located at Bryant Street in Agnes Water, on land described as Lot 101 on SP176830. The site is 11.07 hectares and has frontage to the southern extent of Bryant Street.

The subject site is contained within the emerging communities zone in accordance with the *Our Place Our Plan GRC Planning Scheme*. The site is also within low density residential designation on the Agnes Water and Seventeen Seventy Structure Plan. The locality around the site is largely developed (or is being developed) with detached dwellings on both traditional low density lots and larger rural residential land.

Figure 1 displays a locality map of the site and Figure 2 displays an aerial photograph of the site.

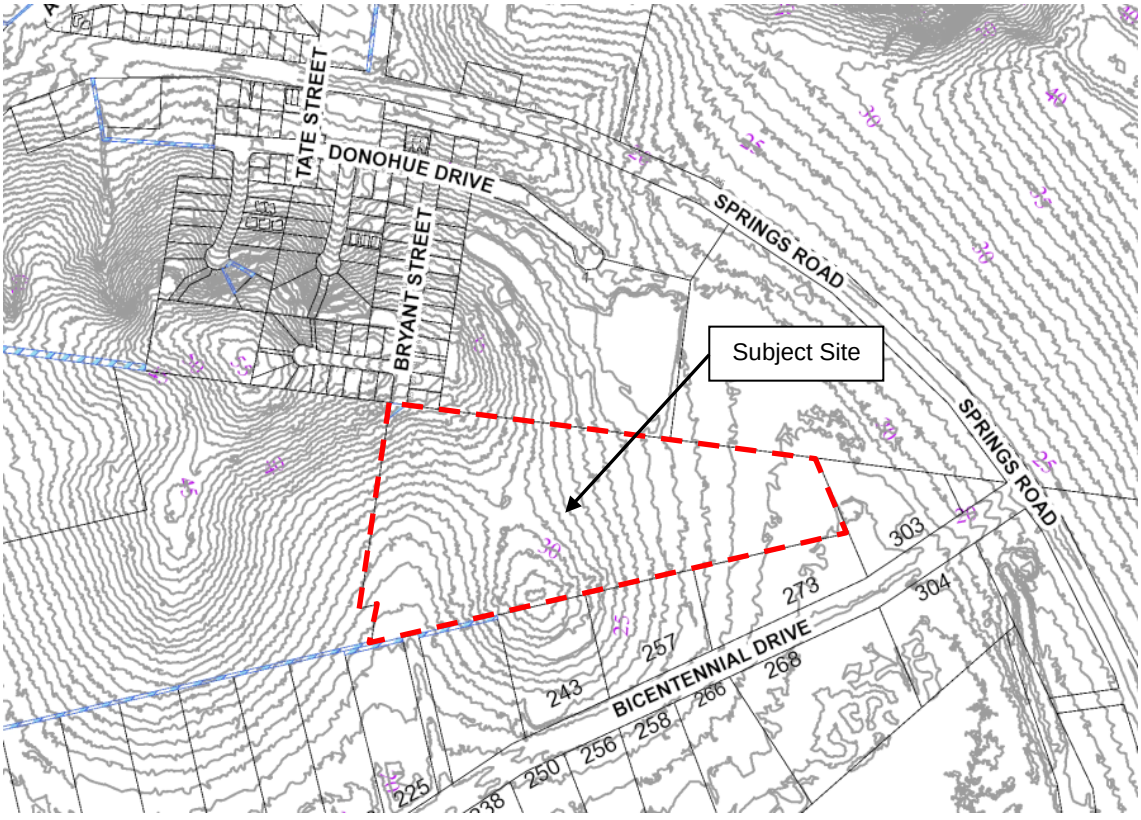

Figure 1 Locality map of the proposed development site (GRC Mapping).

Figure 2 Aerial photo of the proposed development site (GRC Mapping).

2.2 Physical Description

Bicentennial Drive is to the south of the subject site, Springs Road and Agnes Water State School are to the north, and Round Hill Road is to the north-west of the site. Bryant Street is constructed with kerb and channel and to a bitumen sealed standard.

Surface levels in the area of the subject site vary between RL 38m AHD and RL 18m AHD. A crest runs north-south through the site, with the western section of the site falling from Bryant Street towards the south and the eastern section of the site falling towards the properties at 273 and 303 Bicentennial Drive.

The site is greenfield, with sparse trees and sandy loam soil. Vegetation clearing works have taken place on the site, from a previous development approval for operational works that included vegetation clearing.

Figure 3 illustrates the subject site with contours and the crest highlighted.

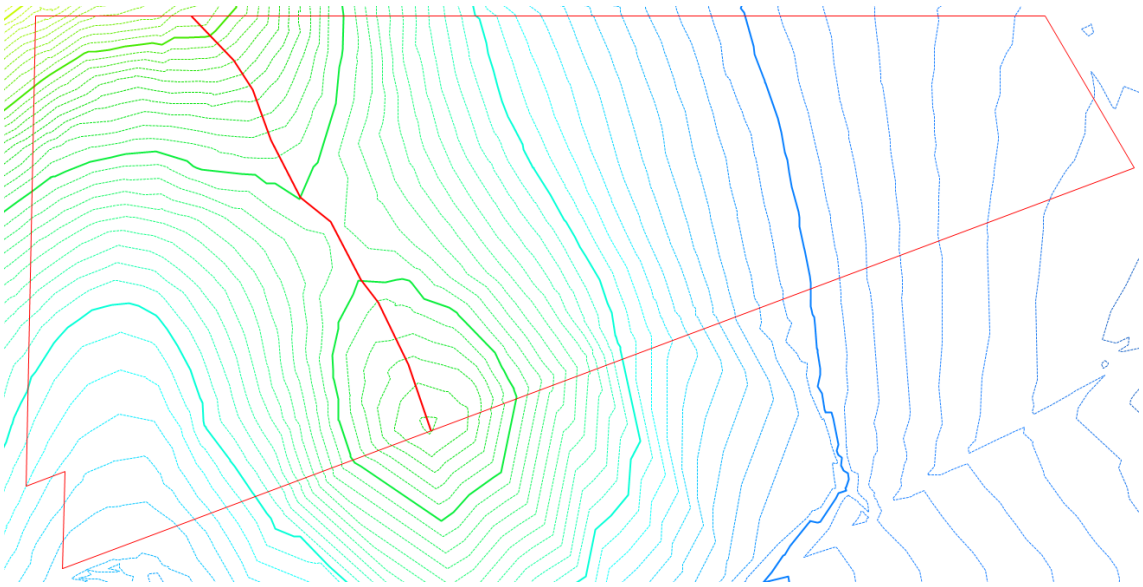

Figure 3 The subject site illustrating contours and crest.

3 Proposed Development

Vellamo Lifestyle Pty Ltd are proposing to develop the subject site into a Lifestyle Village (defined as a relocatable home park) for retirement living in a gated, secure facility that comprises the following.

- 190 lots for detached dwellings, each with three bedrooms, in different formats based on client demands, ranging in size from 280m² to 350m².
- Community facilities centre.
- Community recreational facilities.
- RV parking.
- Open spaces.

The subject site is proposed to be developed, particularly, for age groups of 50 plus. The development will offer a variety of housing formats in a single storey configuration. To complement the residential land use, the site will be provided with a range of private recreation, community and administrative services. Adjacent to the site entry will be an RV storage/parking facility for residents use and at the residential entry, will be the main community centre providing the following.

- Service and community parking.
- Electronic entry gates.
- Tennis, bocce and lawn bowls facilities.
- A “men’s shed”.
- A community centre.
- Passive recreation space.
- Buffers to adjoining land (landscaping).

The eastern and south-western ends of the site also provide passive open space areas that will be suitably revegetated and provide stormwater detention basins/lakes.

All residential dwellings have internal private road access (two-way), facilities for parking (both garage and open parking facilities) and landscaped buffers to external boundaries. Figure 4 illustrates the proposed development plan and Appendix A provides an A3 copy of the development layout.

Figure 4 Proposed development plan (Parups Waring Architecture)

4 Sewerage Discharge Strategy

4.1 Existing Infrastructure

The subject site has no existing adjacent waste water infrastructure. The closest sewer gravity main is approximately 625 metres to the west of the site, running north-south between property Numbers 161 and 169 Bicentennial Drive.

4.2 Design Criteria

This Sewer Supply Analysis is supporting an application to GRC for preliminary approval and at this stage, seeks only to establish development parameters and land uses over the subject site for the development. Detailed design of the sewerage system will be provided with the Operational Works application for the project.

The development scenario presented with this application is of a preliminary nature and as such, the equivalent dwellings have been estimated based on the proposed layout plan. The following design criteria have been adopted based on data supplied within the *Capricorn Municipal Development Guidelines, Sewerage System, D12, Design Guidelines, Rev K, October 2018*. Table 4.1 highlights the data.

GRC adopt an Equivalent Person (EP) as the basis for sewer supply infrastructure planning. Based on these parameters and the guidelines specified in the *Capricorn Municipal Design Guidelines*, the following criteria has been adopted.

Table 4.1 Demand and Peaking Factors

Average Dry Weather Flow	ADWF	225 L/EP/day	225 L/EP/day
Peak Dry Weather Flow	PDWF	2.5 x ADWF	562.5 L/EP/day
Peak Wet Weather Flow	PWWF	5.0 x ADWF	1125 L/EP/day

$$One\ Residential\ Allotment = One\ Equivalent\ Tenement = 2.6\ Equivalent\ Persons$$

The estimated sewerage load (EP) population of the development has been determined from the proposed development plan provided by Parups Waring Architecture. The sewerage load is highlighted in Table 4.2 as follows.

Table 4.2 Development Sewerage Load

Development	Tenements (ET)	Density	Population (EP)
Lot 101 SP176830	190	2.6 EP/ET	494

Based on the design criteria, Table 4.3 provides a summary of projected sewerage supply demands for the proposed development.

Table 4.3 Estimated Development Sewerage Load

Development	Population (EP)	ADWF (L/s)	PDWF (L/s)	PWWF (L/S)
Lot 101 SP176830	494	1.29 L/s	3.22 L/s	6.43 L/s

4.3 Sewerage Supply Infrastructure

As stated in Section 4.1 above, the closest sewer infrastructure is approximately 625 metres to the west of the site. Following the completion of Covey's Sewer Planning Strategy for the immediate area and assessment of the proposed development on Lot 101 on SP176830, the following is recommended to service the subject site.

- Installation of a sewer pump station (SPS B) on the corner of property Numbers 273 and 303 Bicentennial Drive.
- A rising main is to be constructed from SPS B along the southern boundary of Lot 101 on SP176830 to the crest of the subject site, which is approximately at the rear of the northern boundary of Number 243 Bicentennial Drive, in the centre.
- From this high point, gravity sewer mains are to be installed along the southern boundary of the subject site, through the easement between Lot 8 on RP858105 and Lot 9 on RP858105 and along the northern boundary of Bicentennial Drive to connect to the existing GRC infrastructure, which is ultimately collected by SPS A.

Connections to existing GRC infrastructure will require specific approvals, which will be sought during the detailed design stage of the development. Figure 5 below illustrates the proposed sewerage infrastructure for the Lifestyle Village.

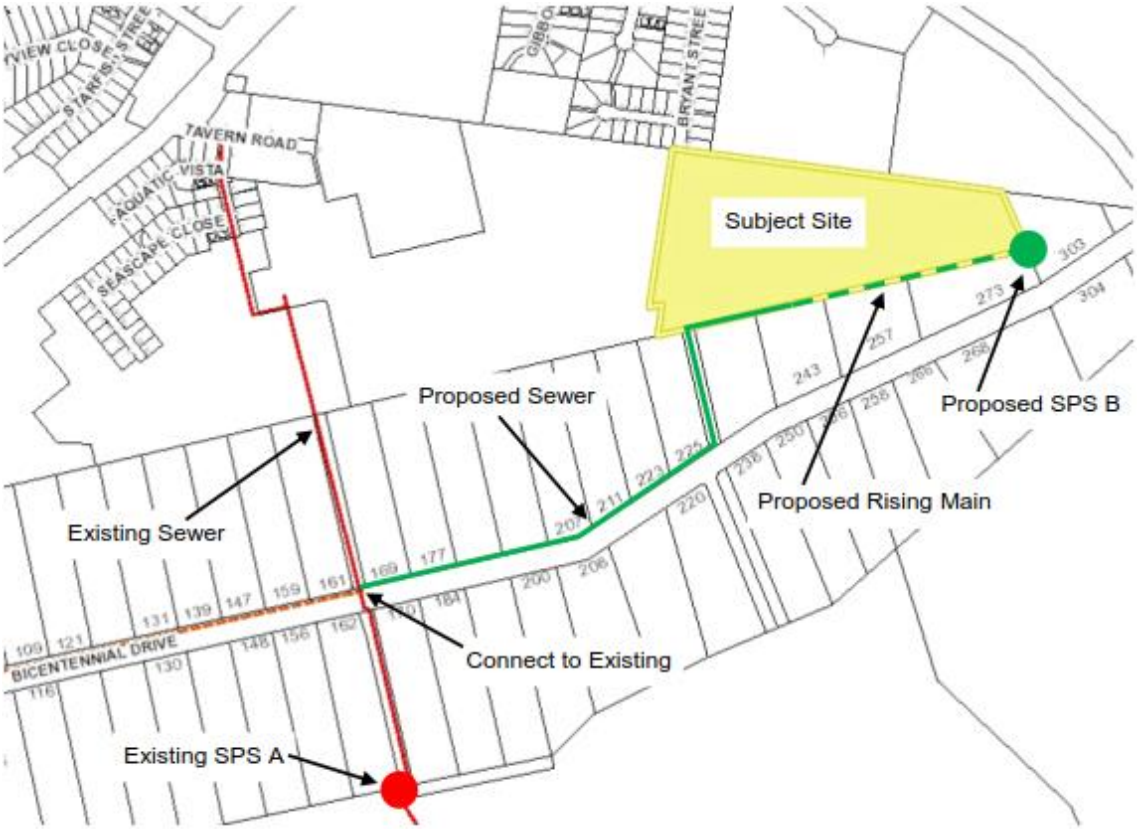

Figure 5 Proposed sewerage infrastructure.

5 Conclusion

This report has investigated the preliminary sewerage requirements for the proposed Lifestyle Village and a recommended discharge strategy has been put forward.

Based on the results of the report, the installation of a pump station, section of rising main and lengths of gravity main will deliver the waste water from the subject site to the existing GRC sewerage system.

It is believed that the Lifestyle Village can be suitably serviced by a sewerage supply network, subject to further design during the detailed design stage of the project.

Appendix A
Development Layout

HOUSE LOTS TOTAL: 190

Type 1 - 280m² LOTS (84)
Type 2 - 280m² LOTS (57)
Type 3 - 245m² LOTS (38)
Type 4 - 300+m² LOTS (variable sizes) (11)

1 Site plan
1 : 2000

SITE PLAN

KTQ Developments, Vellamo Lifestyle Living Development, Agnes Water

CLIENT 20170038 SD 100

0 200

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Engineering Solutions Qld Pty Ltd

GLADSTONE REGIONAL COUNCIL
This Plan is approved subject to the attached
Decision Notice No. ...DA/21/2018.....
Per ..... Date ...6/5/18...
ASSESSMENT MANAGER

ENGINEERING SERVICES REPORT

Relocatable Home Park (Lifestyle Village)
Lot 101 on SP176830 Bryant Street, Agnes Water

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Project No: FC-16-078

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1 Introduction

1.1 Purpose of Report

This report has been prepared to accompany and be considered part of an application to Gladstone Regional Council (GRC) for a Material Change of Use to allow development of the subject site. The development will be undertaken in accordance with the provisions of the *Our Place Our Plan Gladstone Regional Council Planning Scheme* in the form of a Relocatable Home Park, which will be developed under the Manufactured Homes (Residential Uses) Act 2003 or the Relocatable Home Park Act.

This Lifestyle Village proposal is generally consistent with the requirements of the *Our Place Our Plan GRC Planning Scheme* and the relevant State Development Assessment Provisions.

The main objective of this report is to determine the suitability of the land for the proposed development in relation to civil engineering design parameters.

1.2 Scope of Report

This report describes the existing physical conditions of the site and the suitability of the land for the proposed development with particular respect to:

- assessment of the carpark layout and road hierarchy adjoining the site;
- assessment of access and service arrangements;
- minor event stormwater drainage system;
- supply of electrical and communication works including lighting; and
- compliance with relevant planning scheme codes.

This report represents an assessment of the facts and circumstances pertaining to the issues listed above, as they are identified to the writer at the time of preparation of this document.

2 Site Identification

2.1 Property Description

The subject site is located at Bryant Street in Agnes Water, on land described as Lot 101 on SP176830. The site is 11.07 hectares and has frontage to the southern extent of Bryant Street.

The subject site is contained within the emerging communities zone in accordance with the *Our Place Our Plan GRC Planning Scheme*. The site is also within low density residential designation on the Agnes Water and Seventeen Seventy Structure Plan. The locality around the site is largely developed (or is being developed) with detached dwellings on both traditional low density lots and larger rural residential land.

Figure 1 displays a locality map of the site and Figure 2 displays an aerial photograph of the site.

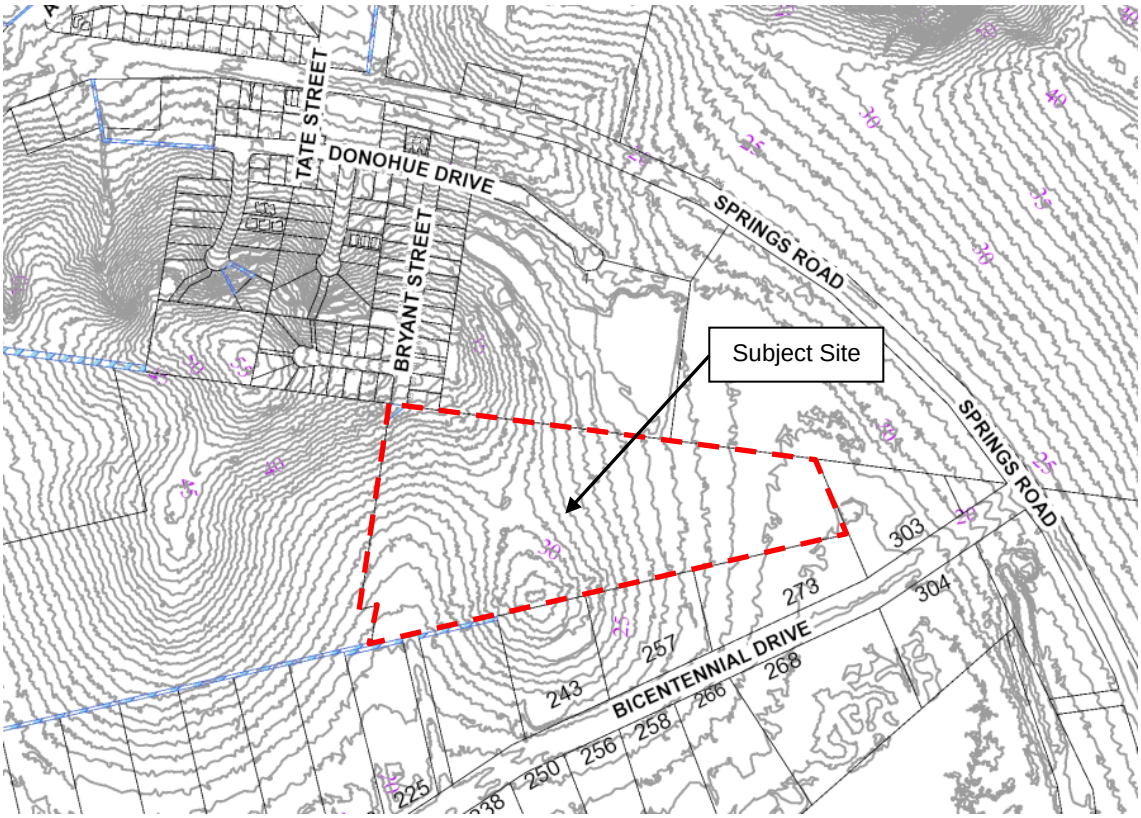

Figure 1 Locality map of the proposed development site (GRC Mapping).

Figure 2 Aerial photo of the proposed development site (GRC Mapping).

2.2 Physical Description

Bicentennial Drive is to the south of the subject site, Springs Road and Agnes Water State School are to the north, and Round Hill Road is to the north-west of the site. Bryant Street is constructed with kerb and channel and to a bitumen sealed standard.

Surface levels in the area of the subject site vary between RL 38m AHD and RL 18m AHD. A crest runs north-south through the site, with the western section of the site falling from Bryant Street towards the south and the eastern section of the site falling towards the properties at 273 and 303 Bicentennial Drive.

The site is greenfield, with sparse trees and sandy loam soil. Vegetation clearing works have taken place on the site, from a previous development approval for operational works that included vegetation clearing.

Figure 3 illustrates the subject site with contours and the crest highlighted.

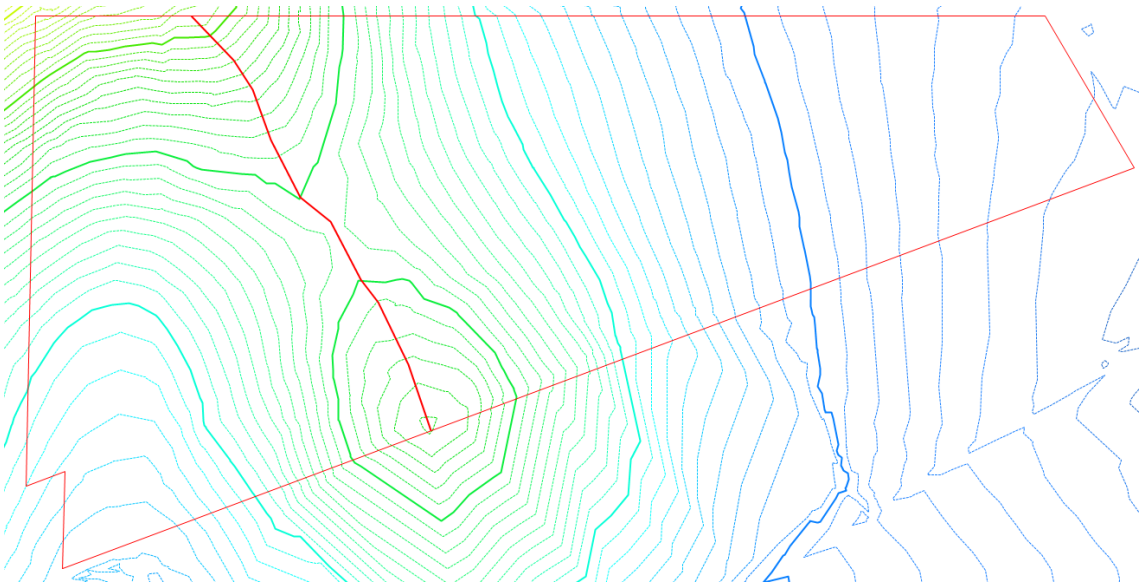

Figure 3 The subject site illustrating contours and crest.

3 Proposed Development

Vellamo Lifestyle Pty Ltd are proposing to develop the subject site into a Lifestyle Village (defined as a relocatable home park) for retirement living in a gated, secure facility that comprises the following.

- 190 lots for detached dwellings in different formats based on client demands, ranging in size from 280m² to 350m².
- Community facilities centre.
- Community recreational facilities.
- RV parking.
- Open spaces.

The subject site is proposed to be developed, particularly, for age groups of 50 plus. The development will offer a variety of housing formats in a single storey configuration. To complement the residential land use, the site will be provided with a range of private recreation, community and administrative services. Adjacent to the site entry will be an RV storage/parking facility for residents use and at the residential entry, will be the main community centre providing the following.

- Service and community parking.
- Electronic entry gates.
- Tennis, bocce and lawn bowls facilities.
- A “men’s shed”.
- A community centre.
- Passive recreation space.
- Buffers to adjoining land (landscaping).

The eastern and south-western ends of the site also provide passive open space areas that will be suitably revegetated and provide stormwater detention basins/lakes.

All residential dwellings have internal private road access (two-way), facilities for parking (both garage and open parking facilities) and landscaped buffers to external boundaries. Figure 4 illustrates the proposed development plan and Appendix A provides an A3 copy of the development layout.

Figure 4 Proposed development plan (Parups Waring Architecture)

4 Engineering Design Parameters

4.1 Site Access and Roadworks

Access to the development will be via Bryant Street. (Bryant Street is the point of connectivity provided for the existing development approval over the site). Typically, the traffic generation associated with the development of “retirement facilities” is significantly lower than traditional residential sites. Bryant Street has a bitumen seal with kerb and channel and has been chosen to provide safe vehicle movements on and off the site onto the public road system.

This proposed manufactured home park comprises 190 sites under the Manufactured Home Park Act. It has been assumed that the development will be completed by 2020, with a ten-year design horizon of 2030. A traffic generation rate of 0.5 vehicles per hour (vph) per lot has been assumed for the park.

Arrivals and departures from the development are expected to occur predominantly as per typical residential arrival and departure patterns. Typical arrival/departure ratios are 0.3/0.7 for AM peaks and 0.6/0.4 for PM peaks. Table 4.1 shows the trips generated by the proposed development.

Table 4.1 Trip Generation Calculation Summary

Number of Lots	Generation Rate (vph/lot)	Peak Volume (vph)
190	0.5	95

It is expected that the development will generate approximately 95 vehicles per hour.

All internal roads will be designed and constructed in accordance with GRC standards. Detailed design of the internal road system will be provided with the Operational Works application for the Lifestyle Village.

4.2 Stormwater Management - Quantity

A Conceptual Stormwater Management Plan (Quantity) has been prepared to support the application to GRC for the proposed Lifestyle Village. This report specifically details the following.

- Evaluation of the existing catchment to provide a base case for analysis of development runoff.
- A catchment analysis of the future developed residential development.
- Stormwater quantity mitigation requirements to reduce development runoff to pre-development levels.

The mitigation requirements outlined in the SMP are subject to detailed design of the proposed development and as such, are estimates only. The treatment measures proposed should be checked at the operational works stage to ensure a satisfactory performance.

The SMP has investigated the impact of the proposed development on the site and on adjacent properties. It has been found that the development of the eastern side of the site will reduce flows by up to 126 litres per second (or up to 3.8% below existing conditions). The development of the western side of the site will reduce flows by up to 403 litres per second (or up to 26.3% below existing conditions). Refer to the Conceptual Stormwater Management Plan (Quantity) for further details.

Detailed design of the stormwater drainage system will be provided with the Operational Works application for the project.

4.3 Stormwater Management - Quality

A Conceptual Stormwater Management Plan (Quality) has been prepared to support the application to GRC for the proposed Lifestyle Village. This report presents a comprehensive review of available Stormwater Quality Improvement Devices (SQID) and stormwater Best Management Practices (BMP) to ensure that the proposed development adequately addresses the management of stormwater quality during both the construction and operational phases of the development.

The proposed development will result in an increase of impervious surfaces and an intensification of land use and will, therefore, result in higher pollutant loads being exported off the site during

rain events. The Model for Urban Stormwater Improvement Conceptualisation (MUSIC) has been used to estimate the potential pollutant loads generated by the development. MUSIC has demonstrated that the use of gross pollutant traps and detention basins on-site can effectively treat stormwater from the subject site. The modelling for the treatment train effectiveness indicate that the reduction targets for Total Suspended Solids (TSS), Total Phosphorous (TP) and Total Nitrogen (TN) can be achieved for the rainfall data set simulated.

The sub-catchment runoff from the site will be conveyed through pipes before arriving at the proposed end of line gross pollutant trap treatment areas at the downstream end of the catchments.

During the construction phase of the development, mitigation measures include: sediment fences to ensure sediment laden run-off is retained on-site; temporary sediment basins in the location of the detention basins; and rock entry/exit pads located at all site entry points.

Refer to the Conceptual Stormwater Management Plan (Quality) for further details.

4.4 Water Reticulation

It is proposed to supply the development by connecting to the existing 375mm diameter main located in Bryant Street, which lies to the north of the subject site. This will be a single point of connection undertaken by GRC.

During the detailed design stage of the project, pressure tests will be undertaken on this main to determine and satisfy the requirements for adequate fire fighting apparatus for the development.

Figure 5 illustrates the existing 375 mm diameter water main located in Bryant Street, which is proposed to supply the development.

Alignments and points of connection will be determined in collaboration with GRC at the detailed design stage of the development.

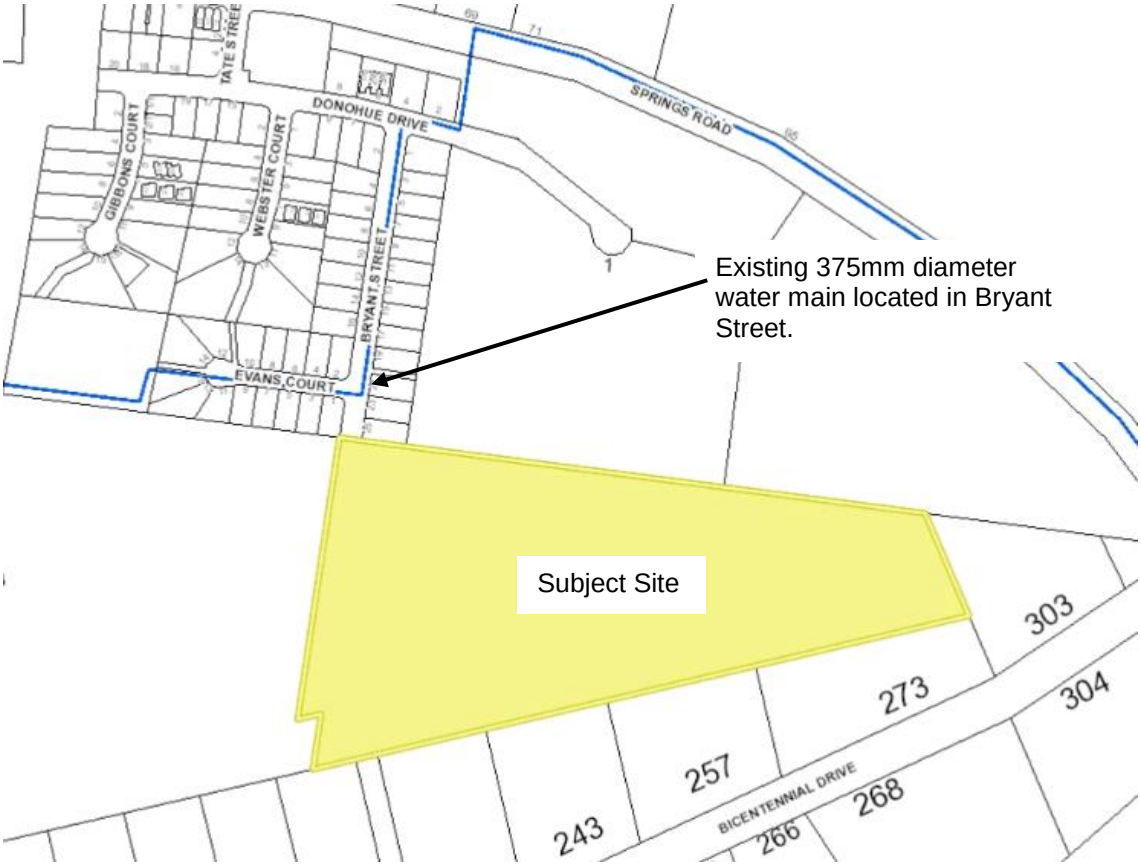

Figure 5 Existing water infrastructure proposed to supply the development.

4.5 Sewer Reticulation

A sewer network analysis has been prepared for the site and is included as an attachment to this Engineering Services Report. The analysis has been compiled in order to investigate the sewerage requirements of the proposed development and recommend an appropriate discharge strategy. The report has been prepared, with referral to, the *Sewer Planning Strategy* prepared by Covey Associates Pty Ltd Consulting Engineers, during June 2013, *Report Number: 80316 RPT REV C*.

The subject site has no existing adjacent waste water infrastructure. The closest sewer gravity main is approximately 625 metres to the west of the site, running north-south between property Numbers 161 and 169 Bicentennial Drive.

The development will produce an Average Dry Weather Flow (ADWF) of 1.29 L/s, a Peak Dry Weather Flow (PDWF) of 2.3 L/s and a Peak Wet Weather Flow (PWWF) of 6.43 L/s. Based on the results of the analysis, the installation of a pump station, section of rising main and lengths of gravity main will deliver the waste water from the subject site to the existing GRC sewerage system.

It is believed that the Lifestyle Village can be suitably serviced by a sewerage supply network, subject to further design during the detailed design stage of the project. Refer to the Sewer Supply Analysis Report for further details.

4.6 Electricity Supply

There are existing power supply services in the immediate vicinity of the subject site. Ergon Energy has advised that adequate power supply can be provided to the proposed subdivision.

4.7 Telecommunications Supply

There are existing telecommunications supply services in the immediate vicinity of the subject site. Telstra has advised that adequate telecommunications supply can be provided to the proposed subdivision.

The site will be fully serviced with contemporary urban infrastructure services, including available levels of telecommunication services.

5 Conclusion

The findings of this Engineering Services Report support the proposed use of the subject site for a Relocatable Home Park (Lifestyle Village).

All required essential services can be suitably provided and all necessary roadworks, site access and stormwater management can be designed without adversely affecting the safety and amenity of the immediate locality.

We trust that this report addresses all major civil engineering aspects to be considered in conjunction with the Town Planning Report accordingly.

Future applications for Operational Works approval will provide detailed design of alignments, final sizing and locations of infrastructure required for the development.

Appendix A
Development Layout

HOUSE LOTS TOTAL: 190

Type 1 - 280m² LOTS (84)
Type 2 - 280m² LOTS (57)
Type 3 - 245m² LOTS (38)
Type 4 - 300+m² LOTS (variable sizes) (11)

1 Site plan
1 : 2000

SITE PLAN

KTQ Developments, Vellamo Lifestyle Living Development, Agnes Water

CLIENT 20170038 SD 100

0 200

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Agnes Water Relocatable Home Park

Economic Need Assessment

PREPARED FOR KTQ Developments

October 2019

macroplan

Important Notice

MacroPlan staff responsible for this report:

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Reanne Plummer, Economic Analyst

Version	Version No.	Author(s)	Date	Review
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Table of contents

Section 1: Introduction

1.1 Scope

This report has undertaken an economic need assessment of the proposed relocatable home park (RHP) development located at Bryant Street, Agnes Water QLD. The proposed development will deliver a RHP (i.e. consistent with the Queensland Manufactured Homes (Residential Parks) Act 2013) to establish an alternative residential product within the local area. The development will be a secure lifestyle-oriented village accessible to residents of all ages, with 190 dwellings planned onsite.

It is noted that throughout this report the proposed development is referred to as a RHP so as to use consistent terminology with the Gladstone Regional Council (GRC) Planning Scheme. The proposed development will not however resemble existing RHPs within the Gladstone region, rather it will be consistent and competitive with modern developments typically referred to as Manufactured Housing Estates (MHEs).

The role and function that the proposed development will establish as a modern RHP, has been used to define potential socio-demographic user groups and demand drivers, as well as competitive supply, throughout this assessment. The scope of this report focuses on assessing the economic need for the RHP at the subject site based on local catchment conditions, competing supply, and demand generated by existing and future demographic and locational drivers.

This report demonstrates that there is a clear and overwhelming economic and community need for the proposed RHP development within the Gladstone region.

1.2 Subject site and locational context

The subject site is located at Lot 101 SP176830 Bryant Street in Agnes Water, centrally located between the regional hubs of Bundaberg (123km to the south) and Gladstone (125km to the north).

Agnes Water is one of the major urban townships of the southern Gladstone region and is a significant tourism hub. It has a strong level of tourism amenity and is considered a popular holiday destination with approximately 226,000 overnight visitors in 2017[1].

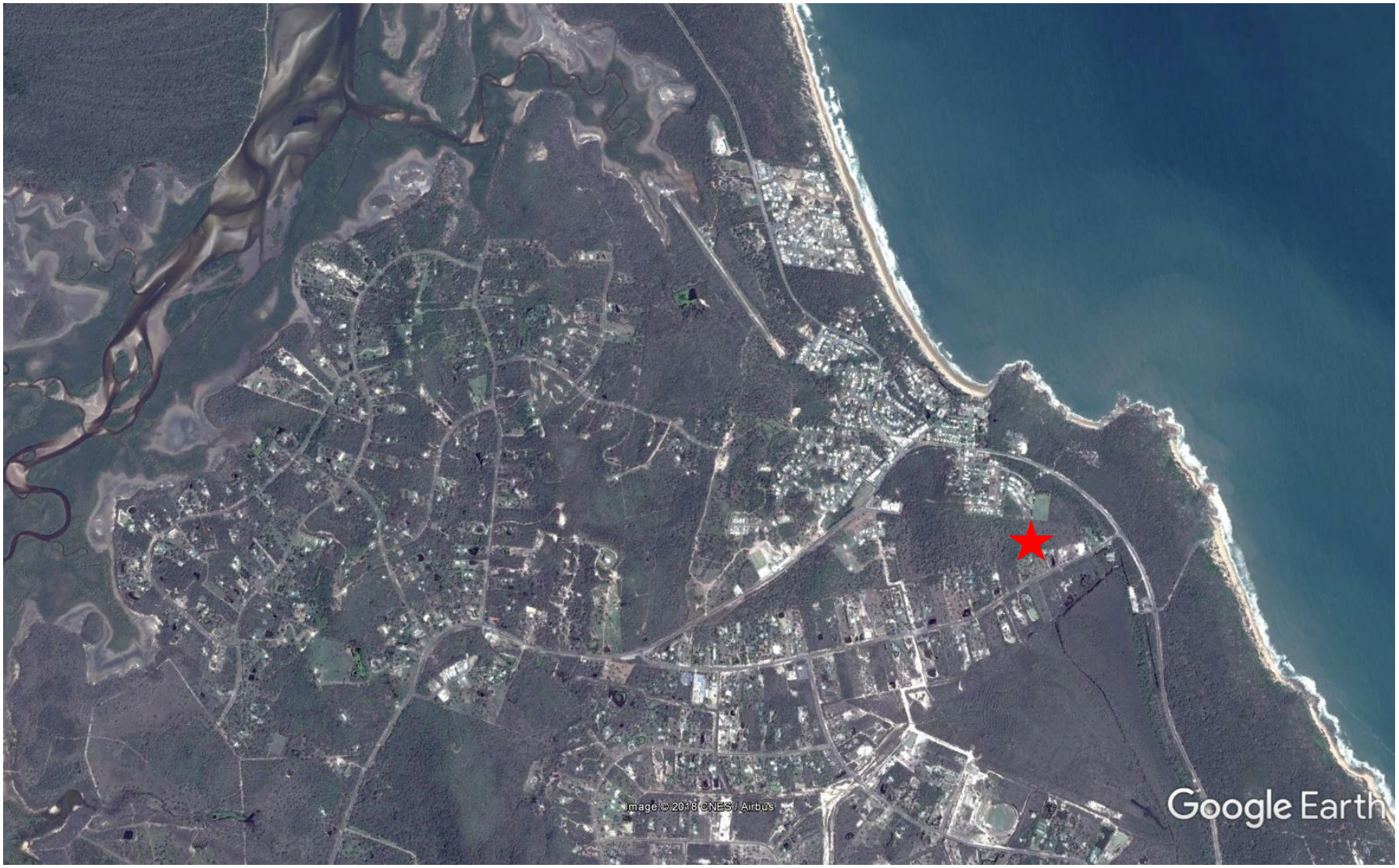
As shown in Figure 2 below the local area is predominantly low-density residential neighbourhoods including rural residential communities, however, the town centre and population serving amenities are clustered within the defined urban area just north of the subject site.

The subject site is zoned as emerging community under the existing Gladstone planning scheme, which supports new residential and neighbourhood development. The site also benefits from a number of surrounding local amenities, including:

[1] Tourism Research Australia National and International Visitor Survey (2018)

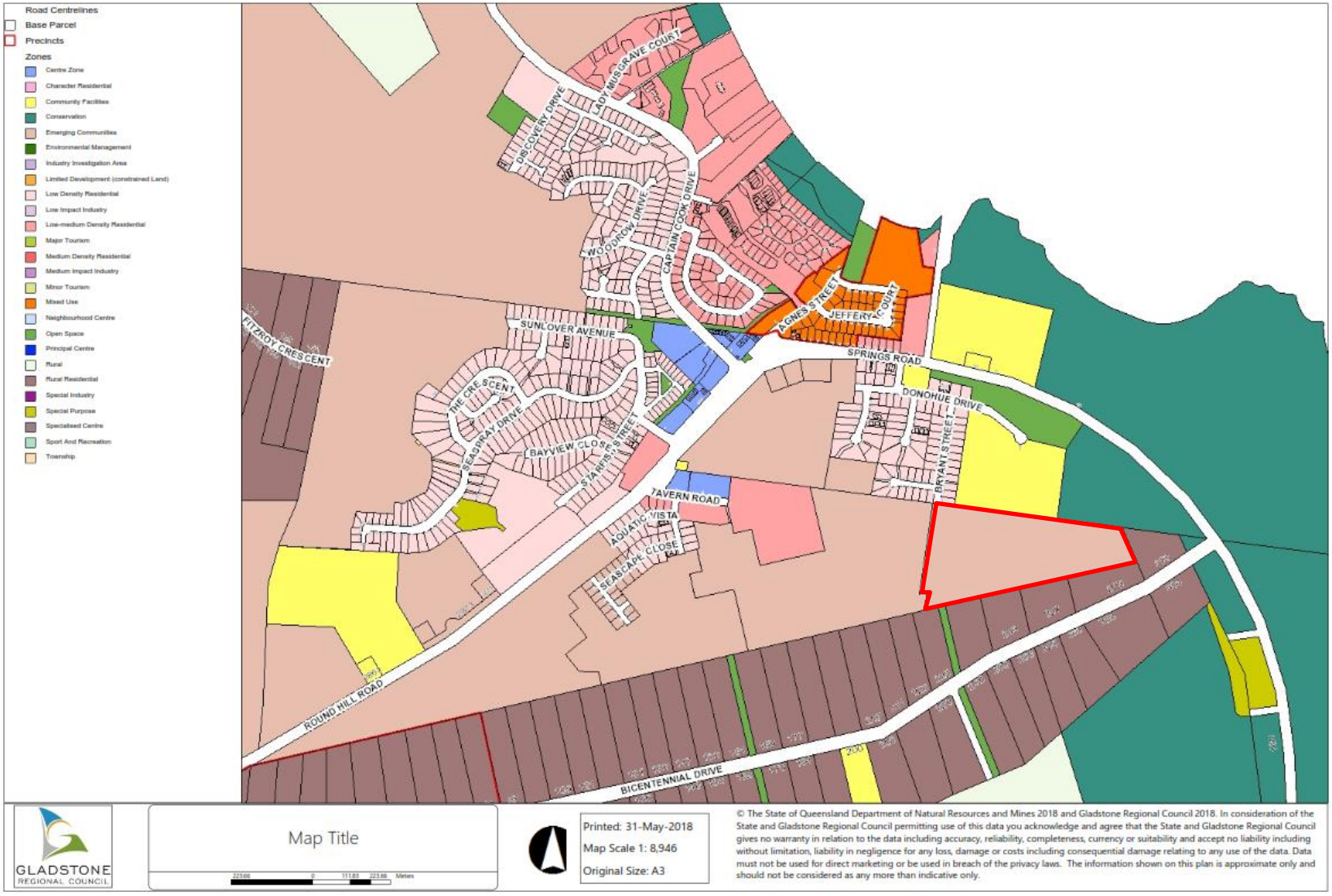
- An existing café and local shuttle company (1770 shuttle) located at the southern boundary of the subject site;
- The Agnes Water town centre is approximately 1km from north-west of the subject site and includes two supermarkets (Foodworks and Spar), chemist, dental and medical centre, bank, and several local cafes and takeaway outlets;
- There are several community uses situated approximately 400m to the north of the site including the Agnes Water Museum, Agnes Water and Town of 1770 Visitor Centre, community centre, library and Agnes Water Rural Transaction Centre (encompassing local Centrelink office); and
- Agnes Water Tavern approximately 600m west of the subject site.

Figure 1Site Location



Source: Google Earth (15th of February 2016), Macroplan

Figure 2 Site Overview



Source: Gladstone Regional Council Planning Scheme (2015)

1.3 Planning context

The GRC Planning Scheme – version 2 (3 July 2017) has been reviewed to assess the proposed development's consistency with regional planning objectives and intent.

In terms of housing mix and affordability, including specific mention of retirement living and RHP dwellings, the planning scheme sets out the following:

> *3.4.2 Strategic Framework – Elements (Housing mix and Affordability)*
>
> *Residential development provides for a **mix of housing types** that support **a wide range of housing needs** throughout the region. These are expressed in detached and attached residential building typologies in relevant zones in urban revitalisation areas, mixed uses centres and the Gladstone CBD. Dwelling houses and dual occupancy also contribute to the housing mix in existing suburban neighbourhoods and in rural and coastal townships and rural residential areas.*
>
> ***New Neighbourhoods** (where most new housing will occur) **must deliver a range of detached and attached housing types of different sizes and configurations**.*
>
> *The ability to 'age in place' helps achieve well balanced and functional communities and forms part of the broader housing objective of providing greater housing choice to meet needs throughout different phases of life. Retirement villages, aged care accommodation **and other forms of accommodation** for older people occurs in locations with convenient access to health and community services, public transport and centres.*
>
> ***The diverse range of housing options also caters for award workers and low-income households**. This is partly achieved through the retention of existing affordable housing**, including relocatable home parks** and permanently occupied caravan parks.*
>
> *(P3 – 24 emphasis added)*

The proposal is consistent with this intent to provide a mix of residential product that supports a wide range of housing needs and responds to the retirement and affordable residential needs, based on the location of the subject site and the provision of existing community services and facilities throughout the proximate local area. The site is within a convenient distance to medical and community services and the Agnes Water town centre as discussed in the location context above.

While there are currently no public transport options in Agnes Water the local shuttle company 1770 (which is located to the southern boundary of the site) provides transportation locally and to regional hubs including both the Gladstone and Bundaberg Airport or Miriam Vale Train station. In addition, the site is located less than 1 km from the Greyhound Bus Stop, at the junction of Capitan Cook drive and Round Hill Road, which provides routes to and from Bundaberg and Gladstone.

Notably the emerging community zone is intended to support new neighbourhoods and residential growth over the life of the planning scheme as set out in the strategic framework:

3.6.2 Strategic Framework – Elements (Building it Better: New Neighbourhoods)

New neighbourhoods represent the region's new growth areas and greenfield land supply. *These areas will provide the majority of new dwellings and development areas for the region and* ***only occurs where*** *it can be demonstrated that there is both* ***overwhelming*** *community and economic need.*

New neighbourhoods only occur within, or as planned urban extensions of, the urban areas of Gladstone, Boyne Island, Tannum Sands, Calliope and to a lesser extent ***in Agnes Water****.* ***This is represented by land included in the Emerging community zone****.*

With the exception of Calliope, residential development in new neighbourhoods provides for a ***minimum average of 15 dwellings per hectare net*** *which is a moderately increased number of dwellings per hectare of land compared to existing conventional suburban development in the region…*

A diverse range of low–medium residential *detached and attached housing types are* ***appropriate in new neighbourhoods****…****Residential buildings in these areas must compliment neighbourhood character****, present to the street and include design elements that reduce building bulk, minimise overshadowing and create pleasant living environments.*

(P3 – 37-38 emphasis added)

6.2.19 Emerging community

…

The purpose of the emerging community zone code is to:

(a) …

(b) ***Manage*** *the timely conversion of non–urban land to urban purposes* ***when needed*** *to meet community needs.*

(c) ***Development*** *for the purpose of* ***new urban communities*** *is undertaken only where there is* ***overriding community and economic need*** *and in accordance with a Plan of development.*

(P6 – 224 emphasis added)

The proposed RHP is consistent with the emerging community zone, contributing to new neighbourhood growth in the Agnes Water community, providing a mix of residential accommodation that supports a wide range of housing needs and that aligns with existing latent demand and growing residential needs within the surrounding region (assessed throughout this report).

Section 2: Development Proposal

The following provides an overview of the proposed development onsite as well as a review of the characteristics and attributes of the product type proposed (relocatable home park) and how these are unique or differ to traditional residential product types.

2.1 Proposed development

The proposed development onsite will deliver 190 dwellings under the Manufactured Homes (Residential Uses) Act 2003, with this type of dwelling referred to as 'Relocatable Home Park' (RHP) within the GRC Planning Scheme.

The definition for RHPs in the GRC Planning Scheme is presented below:

Premises used for relocatable dwellings (whether they are permanently located or not) that provides long–term residential accommodation. The use may include a manager's residence and office, ancillary food and drink outlet, kiosk, amenity buildings and the provision of recreation facilities for the exclusive use of residents.

The RHP will be developed as a lifestyle village, with a range of residential options and amenities provided onsite to suit the varying needs of future residents. The residential dwellings will be detached dwellings that will vary in size depending on the household structure and needs of residents, with lots ranging in size from 245sq.m to >300sq.m.

The amenities onsite will include:

- Gated security access;
- RV parking;
- Parks and open space throughout the site;
- Tennis, bocce and lawn bowls facilities;
- A men's shed; and
- Community centre.

The project master plan is presented as Figure 3 over the page.

Figure 3 Proposed master plan

2.2 Review of RHP product and attributes

In the email sent by Council on the 21 August 2019, a statement was made that the proposed development would not be unique as it will provide unrestricted residential accommodation, in terms of the age of future residents. This statement is provided below:

> *As the proposed development cannot be restricted ad infinitum to the over 55s age group, the proposal does not provide a unique residential product in either the Agnes Water Locality or the wider Gladstone Regional Council area. This development may also further contribute to the current oversupply of housing types and further degrade the market.*

While it is acknowledged that the proposed development is not unique in terms of the age demographic it will serve, there are a range of product attributes that are certainly unique and that respond to specific residential needs for many people within the community. These unique product attributes can be compared to both traditional residential product as well as retirement product. Comparing these attributes to retirement product is relevant as due to the attributes of a RHP, including affordability, ownership and fees and maintenance, RHPs are often an alternative or substitute to retirement product for people aged 50 and over.

A comparison of residential product attributes for traditional residential dwellings, retirement product and a RHP is provided in the table below.

Table 1 Residential attributes comparison

	Regular Owner Occupied Residential	Retirement	Relocatable Home Park (i.e. MHE)
Ownership	Ownership of house and land	Leasehold/licence to occupy of both house and land	Ownership of house and lease on land
Entry Price	Market value	Typically 70-80% of median house price	Typically 70-80% of median house price
Average size	3+ bedroom	<3 bedroom	<3 bedroom
Stamp Duty	Yes	No	No
Ongoing Costs	Rates and Body Corporate Fees*	Service Charge	Site Fees
Eligibility for government rent assistance	No	No	Yes
Capital Gains	Yes	Not always -Dependent of operator's financial structure	Yes
Exit Fee	No	Yes	No
Required maintenance	High-Medium	Low	Low

**Body Corporate is applicable to strata or group title properties only*

Source: Macroplan

The following further defines those combined attributes and characteristics of RHPs that differentiate it from other residential product types.

Affordability

- Upfront costs of entering a park are typically lower than the upfront costs of entering a comparable retirement property or residential property. This is due in part to the resident not needing to purchase their land or pay any stamp duty on the acquisition.
- The ongoing costs of living in a park (site rent) are in most cases less than the ongoing costs of living in a retirement property (service charges) and relatively on par or not much more than a residential property (rates and body corporates).
- Some residents may be eligible to receive rent assistance towards their weekly site rents. Such rent assistance is not available when owning residential property or living within a retirement property.

Product size

- RHP are typically homes with three bedrooms or less. These developments fill a housing need for downsizers and smaller household types that prefer detached housing over attached units and townhouses.
- Homes will also typically have a single carport or garage to reflect the needs of residents and further reduce purchase costs/increase affordability (compared to traditional product that often has double garages).

Communal amenities

- Modern residential parks provide residents with resort style facilities such as gated security, recreational facilities and parks, at a relatively low cost, as the costs for providing and maintaining these facilities are shared among all owners.

Ownership and regulation

- Residents retain capital gains as they would in a residential property sale, this is often not the case in retirement village.
- Residents have the right to participate in the affairs and decisions made for the RHP.

Maintenance

- Park managers are responsible for maintenance of facilities and common areas, which frees up time for residents and shares costs throughout the park to further increase affordability.

These combined attributes are unique to RHPs and as such, the RHP will be unique within the Gladstone region. It is acknowledged that there are 31 manufactured housing 'sites' registered within the Gladstone region, however these are distributed throughout five separate caravan parks ranging from one to 19 sites per park and are not reflective of a modern RHP or what is proposed onsite.

2.3 Key target groups

Based on the attributes and characteristics of modern RHPs, there are several key target groups that are likely to represent residential needs that align with a RHP. These target groups are identified based on socio-demographic and economic indicators and have been summarised over the page.

Downsizers

Older couples, typically aged 50+, who no longer have dependent children living at home and want to downsize from their comparably large family home to a smaller dwelling (but not necessarily an attached unit). RHP offer product which is size appropriate, is affordable, provides a range of community amenities and very low maintenance requirements. These residential needs tend to increase as people get older and have a stronger desire to live in a lifestyle-oriented community.

In this regard, RHPs are also a common alternative and substitute to traditional retirement options, with RHPs representing a large proportion of overall retirement supply in many regions. For example, the supply of RHP dwellings (delivered under the Manufactured Homes (Residential Uses) Act 2003) versus traditional retirement village dwellings (delivered under the Retirement Villages Act) in the Fraser Coast region was recorded as 1,046 RHP dwellings to 1,081 RV dwellings in early 2019. It is also noted that planned retirement development throughout the Fraser Coast region predominantly comprise RHP dwellings, which is an indication of not just the substitution this product type provides but also the preference for this product within the retirement market and within the Central Queensland region.

Low income households

The affordability of RHP product provides strong appeal to low income households, including households of all ages. RHP can provide residential product that is appropriate to a low-income family/person, based on size of product and onsite amenities, typically at a cost less than traditional residential houses.

Single parent households

Single parent households (with dependent children) will often have a higher need for affordable residential product, as well as benefit from access to onsite amenities and low maintenance requirements. Modern RHPs can often foster a strong community environment which also creates social benefits that appeal to single parent households as well as a range of other household types.

Single person households

Single person households can sometimes have a higher need for affordable residential product as well as smaller sized detached residential product. These residential needs of single person households can be well suited to RHPs given the scale and affordability of product.

The residential needs of these various socio-demographic groups, which often overlap, do not typically align with traditional residential product. When there is limited choice in residential product, the residential needs of these groups are often compromised and factors such as affordability, maintenance requirement, access to amenities, etc can be negatively impacted. As such, there needs to a suitable mix of housing types that align with the various needs of the growing community.

The GRC Planning Scheme acknowledges the need for a housing mix and affordability. Furthermore, the planning scheme identifies RHPs as contributing to the necessity for a mix of housing types and for housing affordability in the following statement:

> *The diverse range of housing options also caters for award workers and low-income households. This is partly achieved through the retention of existing affordable housing, including relocatable home parks and permanently occupied caravan parks.*

As stated previously, the existing supply of RHPs in the Gladstone Region is limited to 31 sites or individual dwellings dispersed across five caravan parks. For a region of almost 63,000 people and 22,500 dwellings in 2018, this existing RHP supply represents 0.1% of all residential supply in the region, therefore providing a minimal contribution to housing mix and affordability. As the population of the region continues to grow, this contribution will become increasingly insignificant, whereas the need for enhanced housing mix and affordability will increase (analysed in later sections of this report).

Section 3: Socio-Demographic Review

The following section delineates the estimated catchment for the proposed development at the subject site and provides an overview of the socio-demographics of this identified catchment area.

3.1 Catchment area

A main trade area has been delineated for the subject site based on its general position within the surrounding region, the competitive residential market, the historical patterns of aged migration (Fig. 4) (given the increased relevance of modern RHP developments to the over 50s community), and the spatial distribution of existing and proposed competition.

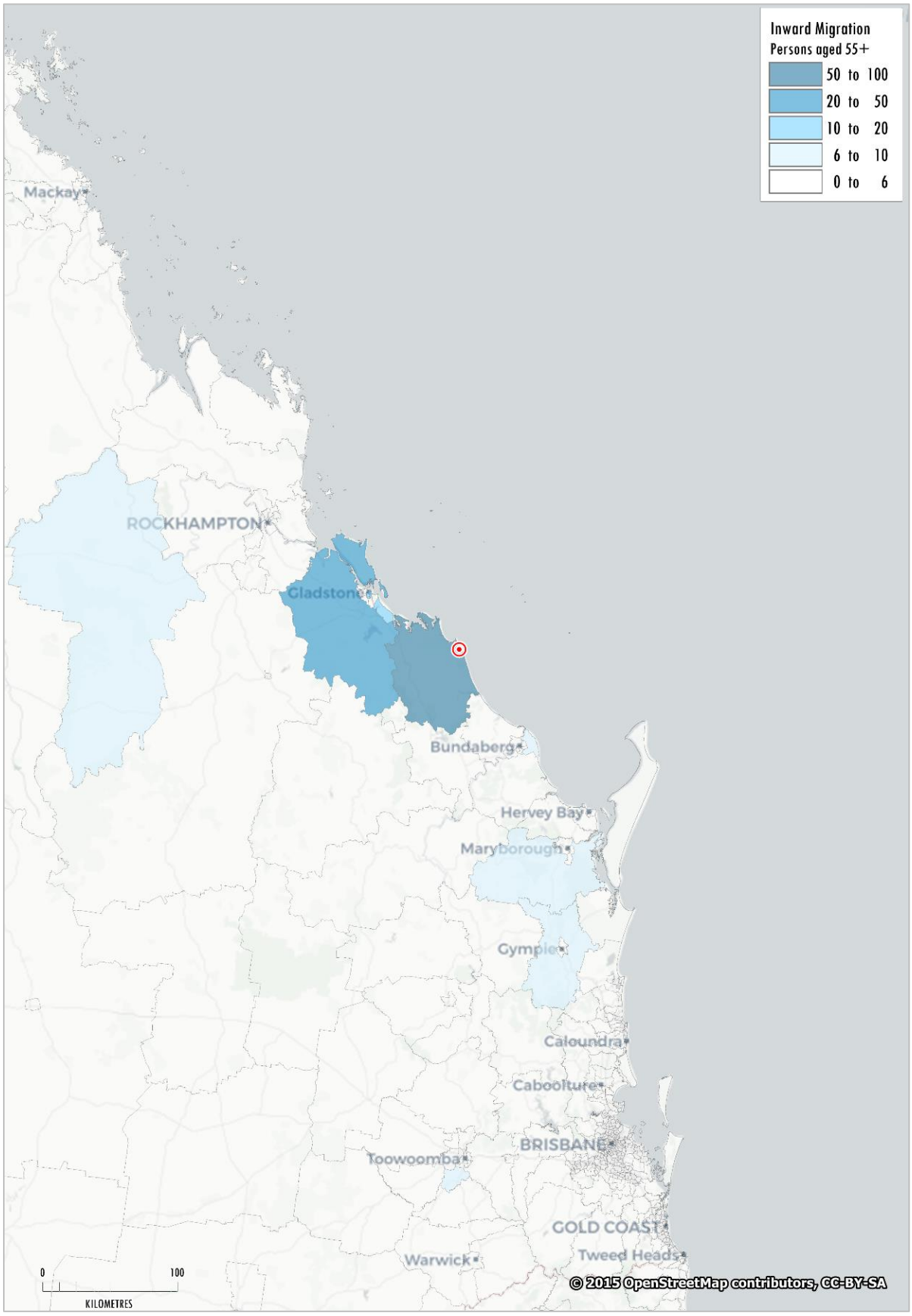
The migration data illustrated in Figure 4, is based on the Census of Population and Housing data from 2016. The data itself illustrates total in-migration to the Agnes Water – Miriam Vale SA2 of persons aged 55+ between 2011 and 2016.

As illustrated in Figure 4, the Agnes Water – Miriam Vale SA2 has attracted a large proportion of its inward migration for the surrounding Gladstone LGA. Between 2011 and 2016, there were some 449 persons aged 55+ who migrated into the Agnes Water-Miriam Vale, 21% of this was migration within the Agnes Water- Miriam Vale SA2 itself with another 18% from other areas of the Gladstone LGA. Additional inward migration from beyond this local Gladstone region is widely distributed throughout larger urban centres including Brisbane and the Sunshine Coast, as well as throughout smaller townships in regional Queensland.

Based on consideration of this migration data as well as the accessibility of the subject site to the broader region, a single main trade area has been defined as including the Gladstone regional area. This catchment is likely to support a large proportion of future demand, although additional demand will be derived from urban and regional centres outside of this catchment, similar to what has been demonstrated by past migration.

The main trade area is illustrated in Figure 5.

Figure 4 Aged Migration to Agnes Water – Miriam Vale SA2 (Persons Aged 55+)



Source: ABS, Census of Population and Housing 2016; Macroplan, 2018

Figure 5 Agnes Water catchment

3.2 Socio-demographic profile

Figures 6 and 7 detail the socio-demographic profile of the trade area population, compared with respective benchmarks for non-metropolitan Qld and Australia. Key points to note from this profile include the following:

- The catchment has significantly lower proportions of older residents aged 60+, compared to the non-metro and Australia wide benchmarks. This is in part a result of the lack of appropriate retirement housing and provisions in the region;
- Residents have higher than average per capita and household incomes,
- Household sizes at 2.5 persons per household are in between the non-metro and Australian benchmarks,
- There is a very low representation of persons born overseas which is consistent with the QLD non-metropolitan benchmark; and
- The levels of home ownership are slightly below that of the non-metro QLD average and Australian average at 63.8%.

The trade area is generally comprised of young and middle-aged families with a low proportion of older residents aged 60+. This is a result of older residents leaving the Gladstone region, typically as a result of a lack of suitable accommodation. This trend is confirmed by a number of local newspaper articles[2] that specifically reference the volume of elderly residents forced to leave the region as a result of insufficient retirement accommodation.

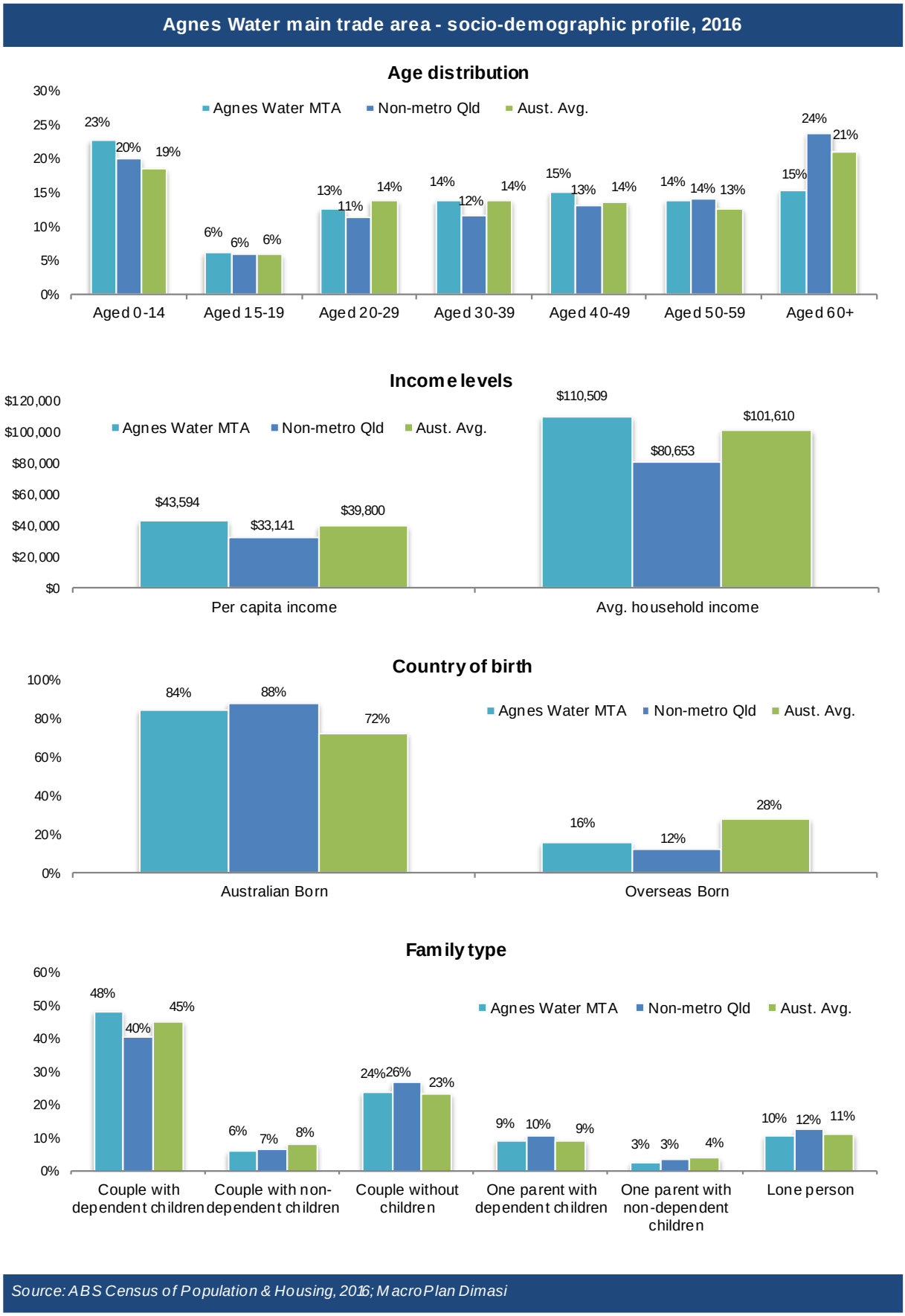
[2] https://www.gladstoneobserver.com.au/news/demand-for-retirement-home-at-tannum-sands-too-big/3292903/
https://www.gladstoneobserver.com.au/news/14-massive-exciting-gladstone-region-projects-expe/3156742/

Figure 6 Main trade area catchment - socio demographic profile 2016

Agnes Water main trade area - socio-demographic profile, 2016			
Census item	Main TA	Non-metro Qld avg.	Aust. avg.
Per capita income	$43,594	$33,141	$39,800
Var. from Non-metro Qld bmark	*315%*		
Avg. household income	$110,509	$80,653	$101,610
Var. from Non-metro Qld bmark	*37.0%*		
Avg. household size	2.5	2.4	2.6
Age distribution (% of population)			
Aged 0-14	22.7%	20.0%	18.7%
Aged 15-19	6.2%	6.0%	6.1%
Aged 20-29	12.7%	11.3%	13.8%
Aged 30-39	13.9%	11.8%	14.0%
Aged 40-49	15.2%	13.0%	13.5%
Aged 50-59	14.0%	14.0%	12.7%
Aged 60+	15.3%	23.9%	21.1%
Average age	35.5	39.6	38.6
Housing status (% of households)			
Owner (total)	63.8%	65.0%	67.4%
• Owner (outright)	24.9%	34.6%	31.9%
• Owner (with mortgage)	38.9%	30.4%	35.5%
Renter	36.0%	34.2%	31.8%
Birthplace (% of population)			
Australian born	84.3%	88.0%	71.9%
Overseas born	15.7%	12.0%	28.1%
• Asia	3.7%	2.5%	11.2%
• Europe	4.8%	5.1%	9.6%
• Other	7.2%	4.4%	7.4%
Family type (% of population)			
Couple with dep't child.	48.0%	40.1%	44.8%
Couple with non-dep't child.	5.9%	6.5%	7.7%
Couple without child.	23.8%	26.5%	22.8%
One parent with dep't child.	8.7%	10.3%	8.8%
One parent w non-dep't child.	2.5%	3.3%	3.7%
Lone person	10.4%	12.4%	11.0%

Source: ABS Census of Population & Housing, 2016; MacroPlan Dimasi

Figure 7 Main trade area catchment - socio demographic profile 2016



Source: ABS Census of Population & Housing, 2016; MacroPlan Dimasi

Section 4: Competitive Supply Review

This section assesses the existing and planned future supply for both RHP dwellings and for retirement accommodation within the catchment. Retirement supply has been assessed given that modern RHP developments are typically comparable and are often a substitute to traditional retirement property. The focus on both product types acknowledges the role that the planned development will support by establishing RHP supply that will be relevant to the overall catchment as well as provide a substitute for traditional retirement village supply within the catchment.

4.1 Relocatable home park supply

4.1.1 Existing facilities

The existing supply of RHP dwellings, which are those that provide long-term residential accommodation, is limited to 31 dwellings (i.e. 'sites') within six caravan park and tourist parks throughout the Gladstone region. Much of the supply within these caravan and tourist parks is short-term accommodation for visitors and tourists, with only a small number of RHP dwellings per park.

Based on a review of the 'Residential Parks with Manufactured Homes' database[3], the supply of existing RHP dwellings throughout the Gladstone region is summarised below:

- Calliope Caravan Park – 3 dwellings
- Kin Kora Village Tourist and Residential Home Park – 19 dwellings
- Boyne River Tourist Park – 6 dwellings
- Tannum Beach Caravan Park – 1 dwelling
- Bougainvillea Caravan Park – 2 dwellings

It is noted that this supply is old in character and does not resemble the appearance, amenity or product offer that modern RHP developments provide. They therefore have less of an appeal and respond to a smaller socio-demographic group than typical modern RHPs.

4.1.2 Development pipeline

There are no approved RHP developments throughout the Gladstone region. It is noted that there is an approval on the adjoining site to the west for the 'Stockwell Agnes Water Lifestyle Resort' which is classified as a Manufactured Housing Estate, however it has been approved by GRC as a 'Retirement Facility' and will be exclusive to people aged 50+. (This project is included in the development pipeline for retirement supply below)

[3] Source: Queensland Department of Housing and Public Works

4.2 Retirement supply

4.2.1 Existing facilities

Macroplan have completed an assessment of all retirement accommodation within the defined trade area to quantify existing supply. The assessment of existing supply identified the following three retirement villages:

- Settlers Gladstone – retirement village comprising 56 independent living units (ILUs);
- Eureka Gladstone – seniors' rental village comprising 52 serviced apartments; and
- Gladstone Heritage – seniors' rental village comprising 98 ILUs.

These three retirement villages comprise a collective total of 206 retirement units.

4.2.2 Development pipeline

In addition to assessing existing retirement accommodation supply, Macroplan has completed a review of planned and proposed retirement accommodation within the catchment. This assessment focuses on identifying what is considered likely future supply based on the current status and stage of planning/development for each future retirement accommodation project.

The review of planned and proposed retirement accommodation identified five potential projects. A summary of this potential supply is presented in Table 2, with additional details for each facility presented on the following pages.

Table 2 Pipeline Catchment Seniors Living Options

Project Title	Project Address	Suburb	Project Stage	Units
Philip Street Communities Precinct	Philip Street	Gladstone	Development Approval	200
Flinders Village	75 Tannum Sand Road	Tannum Sands	Preliminary Approval	183
Agnes Water Retirement facility and hospital	Capitan Cook Drive (Lot 2 SP117407)	Agnes Water	Preliminary Approval	Unknown
Stockwell Agnes Water Lifestyle Resort	Round Hill Road	Agnes Water	Development Approval	360

Source: Macroplan, Cordell Connect, Gladstone Regional Council

- Phillip Street Communities Precinct: This precinct development is supported by $28 million in combined Federal Government, Local Government and Gladstone Foundation funding. A 200-dwelling retirement village is proposed and approved within the precinct, with Council intending to provide the nominated land area to a suitable developer/operator for $1 in exchange for a 99-year lease. Stage 1 of the project which will see the delivery of an entrance road, stormwater, 4 buildings and a landscaped parkland to be enjoyed by the whole community. On-site works are due to commence in the second half of 2019.

- Flinders Village: In December 2017 Council approved an amendment to the existing preliminary approval, supporting a total of 183 retirement dwellings, including 103 villas and 80 care suits, at 75 Tannum Sands Road, Tannum Sands. These plans have since been updated in the latest development application submitted to council in July 2019. New plans are for a for an 84-bed Residential aged care and 100 units retirement facility. The application is still under assessment.

- Agnes Water Retirement Facility and Hospital: Preliminary approval was granted on the 20th of November 2018 for a retirement village and hospital along Captain Cook Drive (Lot 2 SP 117407) Agnes Water. The number of retirement dwellings is not indicated in provided plans and the timing and future of this development are uncertain.

- Stockwell Agnes Water Lifestyle Resort: Is an approved Retirement Facility (Manufactured Housing Estate) off Round Hill Road, directly adjacent the Agnes Water Tavern. The application was lodged on the 23rd of October 2018 was fully approved in May 2019 for 360 dwellings over ten stages. The development is proposed to include a bowling green, clubhouse, pool and tennis courts and will be exclusively for residents over the age of 50. It is noted in Cordells that the project is expected to commence late 2020.

Section 5: Demand Assessment

This section assesses the current and forecast demand conditions for RHP and retirement accommodation product within the catchment area. This demand assessment acknowledges that there will be two sub-markets based on age. These include the under-50s year old group, which will generate demand for RHP dwellings, and the over-50s group that will generate demand for both RHP dwellings and retirement accommodation dwellings.

The demand assessment has been presented based on these two age specific sub-markets to clearly demonstrate the demand, supply and market gap conditions relevant to each sub-market.

Demand attributes, including consideration of regional and state-wide trends, product utilisation/penetration rates and population forecasts, have also been assessed and presented below.

5.1 Demand overview

As discussed in section 2, as an RHP development the proposal responds to a number of key demographic groups including low income household, singles parent households, single person households and downsizers/retirees.

Observed utilisation rates of RHP's are typically higher among the older age cohorts due to a number of factors including average household size, higher propensity to downsize to free up capital for retirement, and the growing comparability of RHP and traditional retirement villages.

In the past, RHP consisted of mainly small caravan sites with very little amenity and communal facilities. Modern residential park living has now shifted from a caravan and annexe to higher quality manufactured homes that present as a fixed building with rendered facades, decks, pergolas and carports, and offer resort-style community facilities whilst retaining affordability. Due to this shift in product type, RHPs now serve a similar function for downsizers in the community as traditional retirement product and are highly comparable and competitive for the over 50's cohort.

Due to the different role and functions RHP serves across the different age cohorts in the community and the comparability between retirement and RHP, the following assessment looks at both the underlying demand for RHP and retirement.

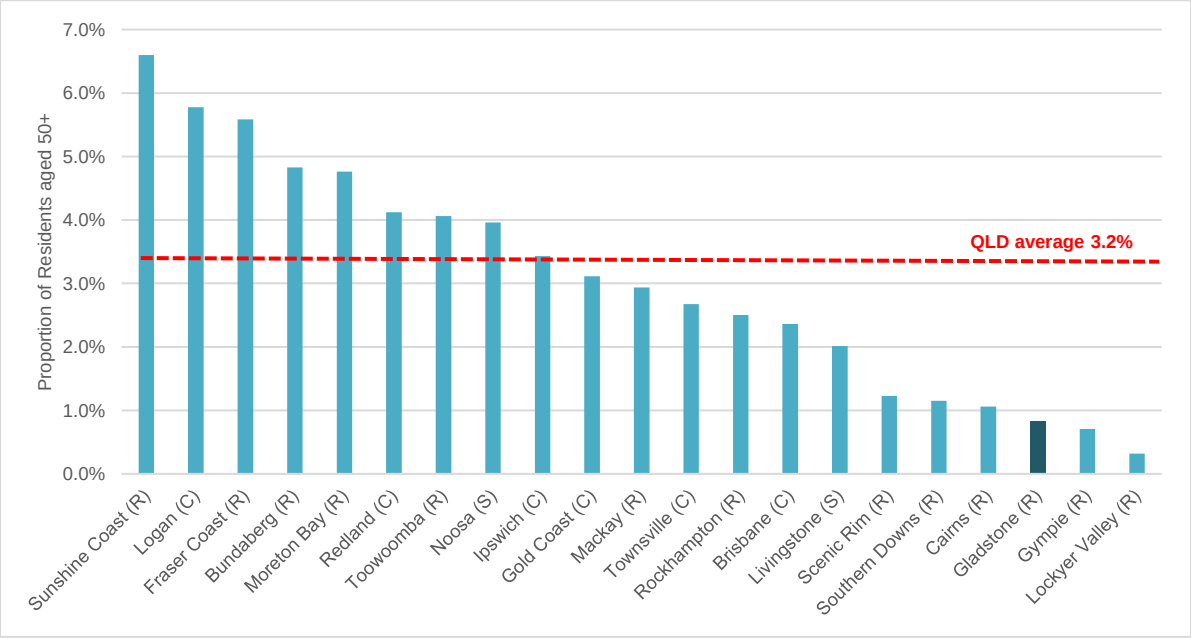
Across Queensland, the current rate of people living within RHPs (i.e. manufactured homes in residential parks) is estimated at 0.5% across all age cohorts. Currently within the Gladstone region this is estimated at just 0.06%, with only 31 manufactured homes in RHPs.

Gladstone also attributes a lower penetration of seniors in retirement village compared to the state average. During the 2016 census 0.8% of residents aged 50+ living in a self-contained retirement village compared to 3.2% across the state. It is important to note that this is not a reflection of any lack of demand, rather it is due to a significant lack of retirement accommodation supply within the Gladstone region. There is a strong trend of older people

(aged 60+) migrating from the Gladstone region due to the lack of retirement accommodation supply, with the socio-demographic profile for the region (see Section 3) reflecting this.

As illustrated in the Figure 8, compared to other major LGAs across Queensland (those with populations greater than 35,000) only Gympie and Lockyer Valley have lower rates of penetration for retirement accommodation. Other larger Central Queensland centres, such as Bundaberg (4.8%), Mackay (2.9%) and Rockhampton (2.5%), all have significantly higher levels of retirement living provisions and subsequently more accessibility to age-appropriate housing.

Figure 8 Retirement Village Penetration Rate 50+ by LGA – QLD 2016



Source: ABS 2016 Census of Population and Housing, Persons Location on Census Night

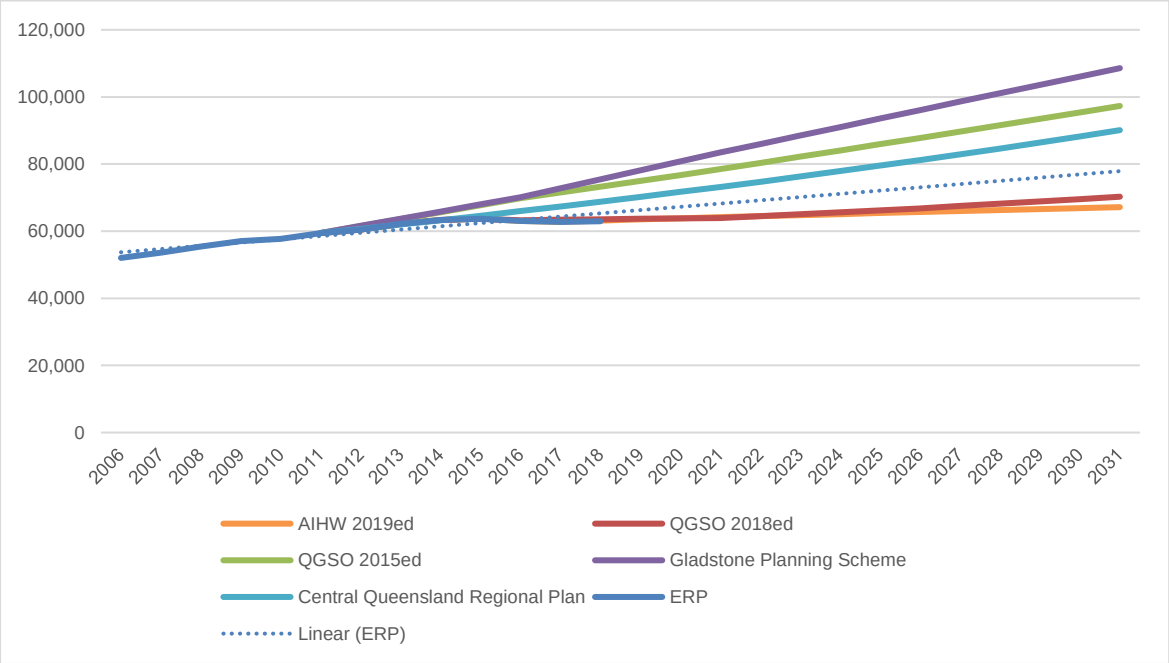
It is also noted that Gladstone LGA has a higher residential population than Noosa (52,147 residents), Scenic Rim (40,078 residents), Livingstone (36,270 residents) and Southern Downs (35,115 residents) however all have higher levels of retirement penetration.

5.2 Population forecasts

There is a range of population projections which have been developed in recent years for the Gladstone region, these sources including Central Queensland Region Plan, GRC Planning Scheme, Queensland Government Statistician's Office and Australian Institute of Health and Welfare.

For the purpose of comparison and selection of a suitable dataset that is relevant to the catchment, we have compared the main sources of projections available in Figure 9.

Figure 9 Population Projections 2006-2031



Source: Australian Institute of Health and Welfare Population Projection, 2017 (base); ABS Stats ERP by SA2 (ASGS 2016), Age and Sex, 2006 Onwards; Gladstone Regional Council Planning Scheme v2 (2017), Central Queensland Regional Plan (2013), QGSO Projected population (medium series), by five–year age group, persons, by statistical area level 2 (SA2), SA3 and SA4, Queensland, 2016 to 2041

As illustrated, the actual ERP for the Gladstone area has trended at an average of 1.6% per annum over the past twelve years. The trend indicates that prior to 2015 the area had experienced strong and steady growth, however, as an impact of specific mining projects in the area, there has been a slight decline in population on the past three years.

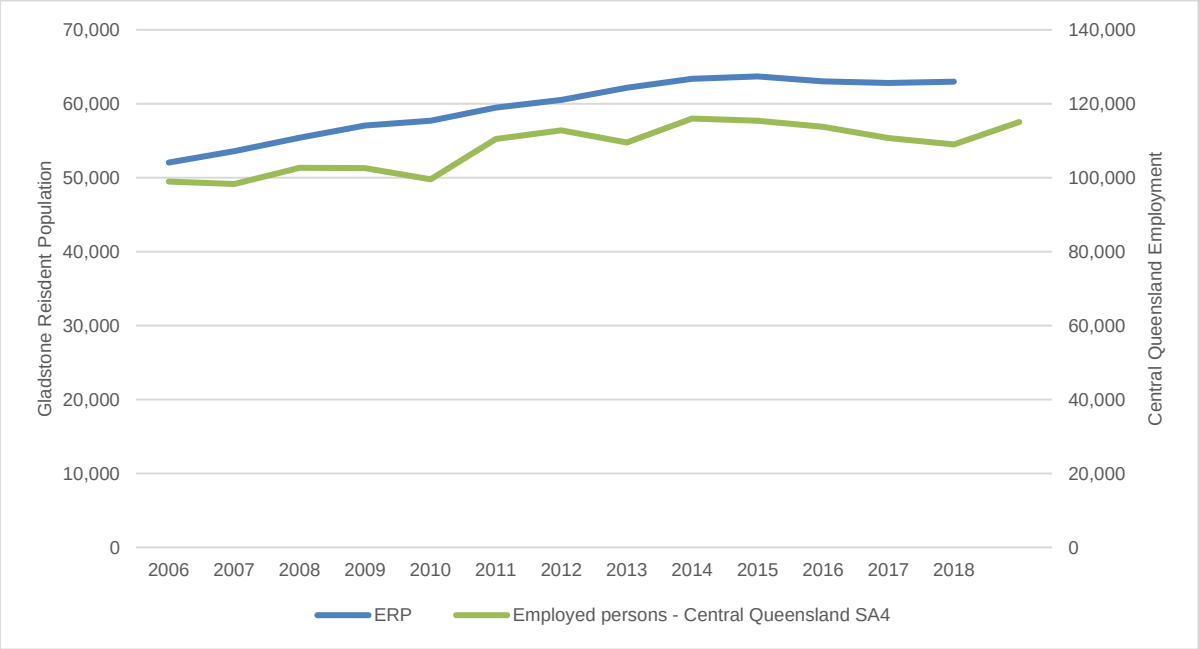
This recent short-term trend has formed the basis for more recently released projections for AIHW and QGSO, which have adjusted their projections for the area to be substantially less than previous irritations. These new projections are believed to overestimate the impacts of the recent decline and do not reflect the recent increase in resource sector employment.

As shown in Figure 10, population trends in Gladstone have followed employment trends throughout the Central Queensland region over the past twelve years. For example, following a sharp decline in employment in 2014, population also declined. The most recent employment statistics for the region indicate a strong increase in employment during the past twelve months which is expected to correlate in growth in population.

This sharp increase in employment has been driven by the recovery of the mining sector in Central Queensland in the past twelve months. In July, The Queensland Resource Council reported a new State record for the volume of coal exported, with the Port of Gladstone recording a 5 million tonne increase in coal exports resulting from improved efficiencies and growing demand from overseas customers.

This growth throughout the Central Queensland region is expected to be further assisted by the recently approved Adani Mining project, which is forecast to yield 2,475 construction jobs and 3,920 operational jobs and support up to 8,000 additional jobs in supporting industries. This $16.5 billion project is also expected to induce further investment in Central Queensland due to its scale and significance.

Figure 10 Employment vs Residents Population Growth 2006-2019



Source: QGSO Labour force by region (2019), ABS Stats ERP by SA2 (ASGS 2016), Age and Sex, 2006 Onwards

On this basis, it is our belief that the short-term impacts of mining employment in the area are temporary and over the long term the residential population is likely to continue at a rate reflecting the long-term trend. For the purpose of assessing future demand for Gladstone, we have deemed a continuation of long-term growth trends (average of 1.6% growth per annum) to be the most accurate and appropriate projections. These projections have been utilised as the base dataset.

As illustrated in Table 3 below, in 2018 there were 62,979 people in the catchment. Based on the above growth rate of 1.6% per annum, this is expected to increase to 77,030 people by 2031, or an additional 1,081 persons per annum. Notably, the strongest rates of growth are expected in the older age cohorts (65+), while there is anticipated losses and low growth in young families and those pre-retirement age (45-55).

Table 3 Population Projections – Gladstone (2018-2031)

Population Projections				
Age Cohort	**2018**	**2021**	**2026**	**2031**
0–4	4,660	4,707	5,013	5,302
5–9	5,004	5,189	5,346	5,808
10–14	4,833	5,310	5,495	5,743
15–19	4,104	4,381	5,100	5,250
20–24	3,507	3,627	3,880	4,372
25–29	4,068	4,010	4,078	4,254
30–34	4,355	4,281	4,391	4,550
35–39	4,251	4,429	4,567	4,850
40–44	4,385	4,273	4,734	5,004
45–49	4,713	4,566	4,323	4,886
50–54	4,342	4,480	4,577	4,468
55–59	4,161	4,171	4,275	4,435
60–64	3,494	3,876	4,070	4,238
65–69	2,676	3,169	3,926	4,144
70–74	1,981	2,537	3,124	3,819
75–79	1,212	1,536	2,338	2,837
80–84	655	825	1,227	1,874
85+	579	668	858	1,197
Total	**62,979**	**66,036**	**71,321**	**77,030**
Average Annual Growth (no.)				
Age Cohort		**2018 - 2021**	**2021 - 2026**	**2026 - 2031**
0–4		16	61	58
5–9		62	31	92
10–14		159	37	50
15–19		92	144	30
20–24		40	51	98
25–29		-20	14	35
30–34		-24	22	32
35–39		60	27	57
40–44		-37	92	54
45–49		-49	-49	113
50–54		46	19	-22
55–59		3	21	32
60–64		127	39	34
65–69		164	151	44
70–74		185	117	139
75–79		108	161	100
80–84		57	80	129
85+		29	38	68
Total		**1,019**	**1,057**	**1,142**
Average Annual Growth (%)				
Age Cohort		**2018 - 2021**	**2021 - 2026**	**2026 - 2031**
0–4		0.3%	1.3%	1.1%
5–9		1.2%	0.6%	1.7%
10–14		3.2%	0.7%	0.9%
15–19		2.2%	3.1%	0.6%
20–24		1.1%	1.4%	2.4%
25–29		-0.5%	0.3%	0.8%
30–34		-0.6%	0.5%	0.7%
35–39		1.4%	0.6%	1.2%
40–44		-0.9%	2.1%	1.1%
45–49		-1.0%	-1.1%	2.5%
50–54		1.1%	0.4%	-0.5%
55–59		0.1%	0.5%	0.7%
60–64		3.5%	1.0%	0.8%
65–69		5.8%	4.4%	1.1%
70–74		8.6%	4.3%	4.1%
75–79		8.2%	8.8%	3.9%
80–84		8.0%	8.3%	8.8%
85+		4.8%	5.1%	6.9%
Total		**1.6%**	**1.6%**	**1.6%**

5.3 Needs assessment

The following analysis determines economic need for RHP based on the variable demand drivers for the product type. The analysis has been presented to identify and demonstrate the varying demand profiles represented by the under-50s and over-50s age submarkets. This is to highlight the varying residential need factors for each sub-market including how each sub-market is affected by current and forecast supply conditions.

The key difference in these sub-markets is that the under-50s market generates demand for RHP product only, while the over-50s market generates need for both RHP and retirement accommodation, with modern RHPs typically seen as a substitute and comparable to traditional retirement villages.

Critical to this assessment is an understanding of key demand and supply inputs, including a baseline of current market conditions and forecast growth. The economic modelling has factored in the following key considerations:

- Undertaking catchment population forecast and calculating the total number of forecast residents within each age cohort;
- Calculating the total supply of RHP (31) and retirement accommodation (206) products delivered to within the study area;
- Assuming an appropriate penetration rate for RHP and retirement accommodation;
- Assuming a person to dwelling ratio (1.3) that reflects trends in each of the market segments; and
- Forecasting a future new dwelling requirement, based on the above.

As outlined above, critical to establishing a base level of underlying demand is the selection of an appropriate benchmark rate of penetration or need. This has been considered separately for the under-50s (as RHP only) and over-50s (as RHP + retirement) in the following sub-sections.

5.3.1 Under-50s RHP need

The under-50s submarket generates demand for RHP based on the attributes this product offers, including affordability, smaller dwelling size, access to onsite amenities, low maintenance and shared maintenance costs.

In order to understand the current balance between demand and supply, the market utilisation rate or penetration rate must be determined. The catchment is significantly under provisioned in terms of RHP supply and thus a continuation of the current rates of provision is not sufficient to respond to the latent demand in the market. As such we have utilised the existing penetration rate calculated for Queensland based on existing supply and data from 2016 ABS Census.

Table 4 Under-50s RHP penetration rates

Penetration Rate Assumption				
Age Cohort	**2019**	**2021**	**2026**	**2031**
0–4	0.3%	0.3%	0.3%	0.3%
5–9	0.2%	0.2%	0.2%	0.2%
10–14	0.2%	0.2%	0.2%	0.2%
15–19	0.2%	0.2%	0.2%	0.2%
20–24	0.3%	0.3%	0.3%	0.3%
25–29	0.3%	0.3%	0.3%	0.3%
30–34	0.3%	0.3%	0.3%	0.3%
35–39	0.3%	0.3%	0.3%	0.3%
40–44	0.4%	0.4%	0.4%	0.4%
45–49	0.4%	0.4%	0.4%	0.4%
Total	0.3%	0.3%	0.3%	0.3%

Source: ABS 2016 Census of Population and Housing, Persons Location on Census Night, Residential Parks with Manufactured Homes recorded with the Department of Housing and Public Works (July 2019)

Table 5 Under-50s RHP demand – Current and forecast

Total Underlying RHP Demand - Dwellings				
Age Cohort	**2019**	**2021**	**2026**	**2031**
0–4	10	10	11	11
5–9	8	8	8	9
10–14	8	9	9	9
15–19	6	6	8	8
20–24	8	9	9	10
25–29	9	9	10	10
30–34	11	11	12	12
35–39	11	12	12	13
40–44	12	12	13	14
45–49	14	14	13	15
Total	**99**	**100**	**104**	**111**

Source: Macroplan

Based on these benchmark penetration rates, the underlying demand for RHP dwellings attributed to people aged under-50 is currently 99 dwellings and is expected to increase to 111 dwellings by 2031. Taking into consideration the existing 31 dwellings, there is currently **latent demand for an estimated 68 RHP dwellings in 2019, which is anticipated to grow to 80 dwellings by 2031.**

There are currently no planned RHP developments accessible to residents aged under-50. As such, as the population grows, the undersupply of RHP dwellings will continue to grow and the community will continue to be negatively impacted by a constrained supply of what is identified in the GRC Planning Scheme as an affordable residential product.

Table 6 Under-50s RHP market gap

Total Underlying RHP Demand - Dwellings				
	2019	2021	2026	2031
Demand	99	100	104	111
Existing Supply	31	31	31	31
Gross Under-50s RHP Gap	-68	-69	-73	-88

Source: Macroplan

5.3.2 Over-50s RHP + retirement accommodation need

The over-50s submarket generates demand for both RHP and retirement accommodation. This is because modern RHP developments are often delivered as lifestyle-oriented communities that are comparable to and a substitute for traditional retirement product. The proposed development is also likely to attract some demand from over-50s residents who would otherwise be considering a traditional retirement village dwelling, hence the assessment of RHP and retirement accommodation for this submarket.

The utilisation rates presented in Table 7 below are for RHP and retirement accommodation collectively and are based off of the Queensland state average. Current utilisation rates in the Gladstone region are much lower the state average due to a lack of supply, however we consider the state benchmark to be an appropriate measure of demand and need, noting that regions close to Gladstone (such as the Fraser Coast region) demonstrate significantly higher utilisation rates than the state benchmark.

Table 7 Over-50s RHP + retirement accommodation penetration rates

Penetration Rate Assumption				
Age Cohort	**2019**	**2021**	**2026**	**2031**
50–54	0.8%	0.8%	0.7%	0.7%
55–59	1.2%	1.1%	1.1%	1.0%
60–64	2.0%	2.0%	1.8%	1.7%
65–69	4.1%	3.9%	3.5%	3.2%
70–74	7.2%	6.9%	6.2%	5.6%
75–79	11.4%	10.9%	9.7%	8.7%
80–84	15.6%	14.9%	13.1%	11.7%
85+	17.2%	16.4%	14.4%	12.8%
Total	4.0%	4.0%	4.1%	4.1%

Source: ABS 2016 Census of Population and Housing, Persons Location on Census Night

Table 8 Over-50s RHP + retirement accommodation demand – Current and forecast

Total Underlying RV Demand - Dwellings				
Age Cohort	**2019**	**2021**	**2026**	**2031**
50–54	26	27	26	25
55–59	38	37	35	35
60–64	57	59	57	56
65–69	89	95	106	103
70–74	120	135	148	163
75–79	115	129	174	189
80–84	87	95	124	168
85+	78	84	95	118
Total	**611**	**661**	**766**	**856**

Source: Macroplan

Based on these benchmark penetration rates there is underlying demand in the catchment for an estimated 611 RHP/retirement accommodation dwellings supported by residents aged over-50, which is anticipated to grow to 856 dwellings by 2031.

There are currently 206 existing retirement living units within the council area which is responding to only part of this demand. There remains underlying **latent demand for an estimated 405 RHP + retirement dwellings in 2019, which is anticipated to grow to 650 by 2031.**

Table 9 Over-50s RHP / retirement accommodation market gap

Total Underlying RHP Demand - Dwellings				
	2019	**2021**	**2026**	**2031**
Demand	611	661	766	856
Existing Supply	206	206	206	206
Gross RV Gap	-405	-455	-560	-650

Source: Macroplan

The future development pipeline of residential product relevant to the over-50s market includes the Philip Street Communities Precinct (200 dwellings) and the Stockwell Agnes Water Lifestyle Resort (360 dwellings). Combined, these two projects may support up to 560 dwellings, however, the existing undersupply within the catchment is significant (404 dwellings) and an additional project contributing to the reduction of this undersupply would benefit the over-50s community within the catchment.

Over the longer term to 2031, even if the two approved developments are able to deliver all planned supply within each, there will still be an estimated undersupply of 90 dwellings by 2031. While this demonstrates that there is need for additional retirement accommodation over the medium to long term, the two approved developments will provide limited choice and competition in product and the over 50s community would significantly benefit from the additional choice and competition that the proposed development would deliver over the short to medium term.

Section 6: Economic Need Implications

Based on the analysis presented throughout this report, there is a demonstrated overriding economic and community need supporting the approval of the proposed RHP development at Agnes Water. The project will establish a RHP that will provide affordable residential product for all age groups, but that also naturally provides a comparable and suitable substitute to traditional retirement product.

As such, the proposed development accommodate demand generated by people aged under-50 based on their needs for RHP as an affordable and alternative residential product, and from people aged over-50 based on their needs for RHP and retirement accommodation.

Based on demand supported by the under-50s submarket, there is **a current estimated undersupply of 68 RHP dwellings, which may increase to 88 dwellings by 2031**. This is a significant proportion of overall RHP demand from this sub-market and indicates a severe undersupply of what has been identified in the GRC Planning Scheme as an affordable residential product type.

There are no planned developments that will make a positive contribution to this undersupply, other than the proposed development onsite. This highlights overriding need for the proposal based on the needs of this under-50s submarket.

Based on demand supported by the over-50s submarket, there is **a current estimated undersupply of 405 RHP and retirement accommodation dwellings, which may increase to 650 dwellings by 2031**. This significant undersupply of retirement accommodation is a well reported fact in the region and the cause for over-50s residents migrating out of Gladstone to surrounding regions such as the Fraser Coast region where there is significantly more supply including modern RHP supply (i.e. MHE developments).

There are two planned developments that will increase the supply of over-50s residential product in the region, with these projects representing a combined 560 dwellings. While this is a significant increase in supply in the region, it is across only two developments therefore representing limited choice and competition in the market. Even based on this scale of planned supply, there is still **estimated to be an undersupply of 90 dwellings by 2031** given the aging population in the region.

The over-50s community would significantly benefit from the proposed development given the contribution and capacity it will provide to reducing the current undersupply in the market over the short to medium term, as well as the increased product choice and competition that will be provided over the long term.

In conclusion, there is strong economic and community need conditions supporting the proposed RHP development at Agnes Water. The development will assist in reducing the existing significant undersupply of both RHP dwellings and retirement accommodation dwellings within the catchment while also increasing choice and competition in these product types for the benefit of the community.

Importantly, the proposed development will enhance the housing mix and supply of affordable housing within the Gladstone region. This is consistent with objectives outlined in the Section 3 Strategic Framework of the GRC Planning Scheme, under 'housing mix and affordability' (Section 3.4.2).

On this basis, Macroplan considers that there is considered overriding economic and community need conditions supporting the proposed development at the subject site and that the development application should be considered in the affirmative.

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macroplan

Queensland Government

Department of
State Development, Manufacturing, Infrastructure and Planning

SARA reference: 1808-6897 SRA
Council reference: DA/26/2018
Applicant reference: 16075

###Secondary1###

Chief Executive Officer
Gladstone Regional Council
PO Box 29
Gladstone Qld 4680
info@gladstonerc.qld.gov.au

Attention: Helen McLaren-Griess

Dear Sir/Madam

SARA response—Bryant Street, Agnes Water

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

The development application described below was confirmed as properly referred by the Department of State Development, Manufacturing, Infrastructure and Planning on 27 August 2018.

Response

Outcome:	Referral agency response – with conditions.
Date of response:	17 May 2019
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 Relocatable home park
SARA role:	Referral Agency	
SARA trigger:	Schedule 10, Part 20, Division 4, Subdivision 3, Table 1 (Planning Regulation 2017)—Wetland protection area Schedule 10, Part 9, Division 4, Subdivision 1, Table 1 (Planning Regulation 2017)—State transport infrastructure	

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

SARA reference:	1808-6897 SRA
Assessment Manager:	Gladstone Regional Council
Street address:	Bryant Street, Agnes Water
Real property description:	101SP176830
Applicant name:	Vellamo Lifestyle Pty Ltd
Applicant contact details:	PO Box 232 Hervey Bay QLD 4655 ward@urbanplanet.com.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 Carl Porter, Principal Planning Officer, on 07 4924 2918 or via email RockhamptonSARA@dsdmip.qld.gov.au who will be pleased to assist.

Yours sincerely

Anthony Walsh
Manager Planning

cc Vellamo Lifestyle Pty Ltd, ward@urbanplanet.com.au

enc Attachment 1 - Referral agency conditions
Attachment 2 - Advice to the applicant
Attachment 3 - Reasons for referral agency response
Attachment 4 - Change representation 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 20, Division 4, Subdivision 3, Table 1 (Planning Regulation 2017) Wetland protection area—The chief executive administering the *Planning Act 2016* nominates the Director-General of Department of Environment and Science 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: • Site Plan-Indicative Construction Staging, prepared by Parups Waring Architecture, dated 08/03/2019, drawing no. 20170038, SD100, 6 (as amended in red to demonstrate the minimum setback from the HES referable wetland). Note: The HES referable wetland is the wetland shown on the map of referable wetlands as defined in the Environmental Protection Regulation 2008.	Prior to the commencement of use and to be maintained at all times
2.	Erosion and sediment control measures which are in accordance with the *Best Practice Erosion and Sediment Control (BPESC) guidelines for Australia (International Erosion Control Association)*, are to be installed and maintained to prevent the release of sediment to the HES referable wetland. Note: The HES referable wetland is the wetland shown on the map of referable wetlands as defined in the Environmental Protection Regulation 2008.	For the duration of the works
3.	Stormwater discharge must be treated in accordance with the Queensland Best Practice Environmental Management Guidelines before stormwater flow enters the HES wetland. Note: The HES referable wetland is the wetland shown on the map of referable wetlands as defined in the Environmental Protection Regulation 2008.	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) v2.3. If a word remains undefined it has its ordinary meaning.

Attachment 3—Reasons for referral agency response

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

The reasons for the department's decision are, the development:

- is for a relocatable home residential facility
- is a significant distance from any state-controlled roads
- does not compromise the safety and efficiency of the state-controlled road network
- can be conditioned to mitigate adverse impacts to the HES referable wetland with regard to:
    - a suitable buffer to the wetland
    - erosion and sediment control
    - stormwater quality entering the wetland
- complies with State code 6
- complies with State code 9 with 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 2.3), as published by the department
- 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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HOUSE LOTS TOTAL: 190

Type 1 - 280m² LOTS (84)
Type 2 - 280m² LOTS (57)
Type 3 - 245m² LOTS (38)
Type 4 - 300+m² LOTS (variable sizes) (11)

1 Site plan
1 : 2000

PLANS AND DOCUMENTS referred to in the REFERRAL AGENCY RESPONSE

Queensland Government

SARA ref: 1808-6897 SRA

Date: 17 May 2019

Amended in red by SARA on

17 May 2019

SITE PLAN - INDICATIVE CONSTRUCTION STAGING

KTQ Developments, Vellamo Lifestyle Living Development, Agnes Water

CLIENT 20170038 SD 100 6

08.03.2019

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